



## City of Ormond Beach

### City Commission Meeting

City Hall Commission Chambers

22 South Beach St., Ormond Beach FL 32174

**February 17, 2026, 7:00 PM**

*Jason Leslie, Mayor  
Lori Tolland, Zone 1  
Travis Sargent, Zone 2  
Kristin Deaton, Zone 3  
Harold Briley, Zone 4*

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## Agenda

**1. CALL TO ORDER**

**2. INVOCATION**

**3. PLEDGE OF ALLEGIANCE**

**4. PRESENTATIONS AND PROCLAMATIONS**

A. Annual Comprehensive Financial Report Presentation Fiscal Year 2024-2025

**5. AUDIENCE REMARKS - REGARDING ITEMS NOT ON THE AGENDA & ON THE CONSENT AGENDA**

**6. APPROVAL OF MINUTES**

A. Minutes from City Commission meeting - February 3, 2026

**7. CONSENT AGENDA**

The action proposed is stated for each item on the Consent Agenda. Unless a City Commissioner removes an item from the Consent Agenda, no discussion on individual items will occur and a single motion will approve all items.

A. Utility Easement - Halifax River Utility Crossing

**RESOLUTION NO. 2026-12:** A RESOLUTION AUTHORIZING THE ACCEPTANCE OF A PUBLIC UTILITY, ACCESS AND MAINTENANCE EASEMENT FROM ORMOND BEACH HISTORICAL SOCIETY, INC., FOR PROPERTY LOCATED 42 NORTH BEACH STREET; AND SETTING FORTH AN EFFECTIVE DATE.

B. Mutual Aid Agreement - Combined Operational Assistance and Voluntary Cooperation, Volusia County

**RESOLUTION NO. 2026-17:** A RESOLUTION AUTHORIZING THE EXECUTION OF A MUTUAL AID COMBINED OPERATIONAL ASSISTANCE AND VOLUNTARY COOPERATION AGREEMENT FOR VOLUSIA COUNTY, FLORIDA BETWEEN THE CITY, VOLUSIA SHERIFF'S OFFICE AND PARTICIPATING MEMBER AGENCIES; AND SETTING FORTH AN EFFECTIVE DATE.

C. Contract Name Change - Utility Billing Print and Mailing Specialists

**RESOLUTION NO. 2026-18:** A RESOLUTION APPROVING AN AMENDMENT TO THE AGREEMENT BETWEEN THE CITY AND CATHEDRAL CORPORATION, FOR THE LIMITED PURPOSE OF ACKNOWLEDGING THE CORRECT IDENTITY OF THE ENTITY PROVIDING UTILITY BILLING AND RELATED SERVICES UNDER THE AGREEMENT; ACKNOWLEDGING A NAME CHANGE FROM CATHEDRAL CORPORATION TO FSSI EAST INC.; ACKNOWLEDGING THEIR NEW CORPORATE OFFICE ADDRESS; AUTHORIZING THE EXECUTION OF AN AMENDMENT TO AGREEMENT CONSISTENT THEREWITH; AND SETTING FORTH AN EFFECTIVE DATE.

D. The Casements Guild Lease Agreement Renewal

**RESOLUTION NO. 2026-19:** A RESOLUTION AUTHORIZING THE EXECUTION OF A LEASE AGREEMENT BETWEEN THE CITY AND THE CASEMENTS GUILD FOR THE CITY OF ORMOND BEACH, INC.; AND SETTING FORTH AN EFFECTIVE DATE.

E. Bid Award - 2026 Roadway Resurfacing

**RESOLUTION NO. 2026-20:** A RESOLUTION ACCEPTING THE BID OF SPARKS CONCRETE, LLC D/B/A SPARKS CONCRETE & ASPHALT REGARDING THE 2026 ROADWAY RESURFACING PROJECT, UNDER BID NO. 2026-08; REJECTING ALL OTHER BIDS; AUTHORIZING THE EXECUTION OF A CONTRACT AND PAYMENT THEREFOR; AND SETTING FORTH AN EFFECTIVE DATE.

F. Work Authorization - Water Treatment Plant Aerator Structure Rehabilitation, SGS Contracting Services

**RESOLUTION NO. 2026-21:** A RESOLUTION ACCEPTING A PROPOSAL FROM SGS CONTRACTING SERVICES, INC. TO PROVIDE UNDERGROUND UTILITY CONSTRUCTION MANAGEMENT SERVICES REGARDING THE WATER TREATMENT PLANT AERATOR STRUCTURE REHABILITATION PROJECT; AUTHORIZING THE EXECUTION OF A WORK AUTHORIZATION THERETO; AND SETTING FORTH AN EFFECTIVE DATE.

G. Amended Work Authorization - Riverside Drive Force Main Replacement

**RESOLUTION NO. 2026-22:** A RESOLUTION AUTHORIZING THE EXECUTION OF AN AMENDED WORK AUTHORIZATION WITH J.D. WEBER CONSTRUCTION CO. REGARDING THE RIVERSIDE DRIVE FORCE MAIN REPLACEMENT PROJECT; AUTHORIZING PAYMENT THEREFORE; AND SETTING FORTH AN EFFECTIVE DATE.

H. Request to Purchase - International CV Dump Truck

**RESOLUTION NO. 2026-23:** A RESOLUTION AUTHORIZING THE APPROVAL AND EXECUTION OF A PURCHASE AUTHORIZATION FOR THE PURCHASE OF ONE 2025 INTERNATIONAL 11' DUMP TRUCK FROM CUMBERLAND INTERNATIONAL



TRUCKS LLC, UNDER FLORIDA SHERIFFS ASSOCIATION BID NO. FSA 25-VEH23.0; DECLARING VEHICLE #259 TO BE SURPLUS PROPERTY AND AUTHORIZING THE DISPOSITION THEREOF; AND SETTING FORTH AN EFFECTIVE DATE.

- I. **Disposition Item:** Auto Renew - Radio Control Club
- J. **Disposition Item:** Intent To Bid - Fire Station 93 Generator Wind Wall And Pad Construction
- K. **Disposition Item:** City Manager's Monthly Report, February 2026

## 8. **FIRST READING OF ORDINANCES**

- A. Ordinance Regarding Authority to Record Liens

**ORDINANCE NO. 2026-03:** AN ORDINANCE AMENDING SECTION 8-4, UNSAFE BUILDING ABATEMENT, OF ARTICLE I, IN GENERAL, OF CHAPTER 8, BUILDINGS AND CONSTRUCTION REGULATIONS, OF THE CODE OF ORDINANCES OF THE CITY OF ORMOND BEACH, TO AMEND THE AUTHORITY FOR THE RECORDING OF LIENS; REPEALING ALL INCONSISTENT ORDINANCES OR PARTS THEREOF; PROVIDING FOR SEVERABILITY; AND SETTING FORTH AN EFFECTIVE DATE.

## 9. **DISCUSSION AND DIRECTION ITEMS**

- A. Downtown Sidewalks

## 10. **REPORTS, SUGGESTIONS, REQUESTS**

## 11. **ADJOURNMENT**

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Website Address – [www.ormondbeach.org](http://www.ormondbeach.org)

**NOTICE** – Pursuant to Section 286.0105 of the Florida Statutes, if any person decides to appeal any decision made by the City Commission with respect to any matter considered at this public meeting, such person will need a record of the proceedings and for such purpose, such person may need to ensure that a verbatim record of the proceedings is made, including the testimony and evidence upon which the appeal is to be based.



For special accommodations, please notify the City Clerk's Office at least 72 hours in advance.  
Phone: 386-610-0400



Help for the hearing impaired is available through the Assistive Listening System. Receivers can be obtained from the City Clerk's Office.

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**City of Ormond Beach**  
**City Commission Agenda**  
**Staff Report**

|                                 |                                                                                                                                                |                 |                                |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------------|
| <b>Agenda Date</b>              | February 17, 2026                                                                                                                              | <b>Item No</b>  | 4.A.                           |
| <b>Section</b>                  | PRESENTATIONS AND PROCLAMATIONS                                                                                                                | <b>Category</b> | Presentation and Proclamations |
| <b>Subject</b>                  | Annual Comprehensive Financial Report Presentation Fiscal Year 2024-2025                                                                       |                 |                                |
| <b>Recommended Action</b>       | No action is required.                                                                                                                         |                 |                                |
| <b>Strategic Goal</b>           | Governance - Strive to achieve the public's trust through honest, transparent, respectful, and equitable behavior in conducting City business. |                 |                                |
| <b>Department Staff Contact</b> | Finance<br>Kelly McGuire, Finance Director                                                                                                     |                 |                                |

Summary

The Annual Comprehensive Financial Report (ACFR) provides a complete set of financial statements that are prepared in conformity with generally accepted accounting principles (GAAP) and represents the financial position of the City and results of operations as of September 30, 2025.

The City has received an unqualified opinion from James Moore and Company for the ACFR. The ACFR provides an overview and narrative of financial activity and trends along with detailed and consolidated financial statements for all City Funds. Notes to the financial statements are provided (beginning on page 40 of the report) to enhance the reader's understanding of the report.

**Financial Summary of Major Funds:**

**General Fund (includes Economic Development Fund) -**

Revenues for the year totaled \$51.31 million as compared to the budget of \$50.40 million. The positive variance is a result of higher than expected construction permit fees and collection of delinquent taxes.

Expenditures for the year totaled \$52.48 million and were 99.6% of the final budget amount.

There was a sizable positive variance associated with vacancies in the Public Works division.

Total fund balance for the General Fund and Economic Development Funds combined decreased by \$1,172,659 and consists of:

|                                               |                    |
|-----------------------------------------------|--------------------|
| Non-spendable                                 | 1,753,277          |
| Restricted                                    | 584,634            |
| Assigned -                                    |                    |
| Economic Development Fund                     | 147,268            |
| Commission approved for use in FY 2026 Budget | 1,337,179          |
| <b>Net General Fund Reserves</b>              | <b>\$8,966,548</b> |

The above figures represent the combined totals of the General Fund and Economic Development Fund as presented in the ACFR. The Economic Development Fund had \$1,581,910 in revenue and \$2,134,810 in expenditures for FY 2024-2025.

The General Reserve balance is 19.9% of General Fund 2024-25 expenditures. The policy is to retain fund balance in an amount that is no less than 15% of General Fund expenditures. The Government Finance Officers Association recommends a minimum reserve of 2 months or 16.7%.

Downtown Redevelopment Trust Fund - The Redevelopment Trust Fund is a special revenue fund that reports the financial activities of the Ormond Beach Downtown Community Redevelopment Area. At September 30, 2025, the restricted fund balance of the Redevelopment Trust Fund was \$4,045,199, reflecting a decrease of \$1,420,609 which has been assigned for future planned capital improvements. The Fund received \$1,355,337 in tax increment and miscellaneous revenues and \$700,392 in transfers from the General Fund in FY 2025. These funds are legally restricted to complete projects identified in the Granada Boulevard Master Plan.

Water and Wastewater Funds - Revenues and transfers totaled \$30.74 million. Expenses and transfers out totaled \$26.80 million. Expenses shown in the audit report include depreciation, while expenses shown in the Budget Status report exclude depreciation.

Net assets for all Water & Wastewater Funds totaled \$93.70 million, an increase of \$6.90 million which reflects the City's investment in capital assets and improvements. This amount represents the "net worth" of the utility system. Net assets are not a "checkbook" or cash balance. The Statement of Revenues and Expenses, and Changes in Fund Net Assets represents the consolidated results of all operating, debt service, renewal and replacement, and capital funds of the water and sewer utility system.

Solid Waste Fund - Revenues for the year were \$15.80 million. Expenses and transfers to the General Fund of franchise fees were \$15.40 million. Net assets of the fund remained relatively unchanged and were \$1.4 million at fiscal year-end.

A draft of the ACFR has been attached to this agenda item. The final report will be posted to the Finance Department website upon receipt from the City's auditors.

Financial Impact

None

Citizen Impact

The annual audit process and presentation of the findings provides public transparency in governmental finances.

Attachments

1. Ormond ACFR Draft 02062026 (2)

**CITY OF ORMOND BEACH, FLORIDA**  
**ANNUAL COMPREHENSIVE FINANCIAL REPORT**  
**FISCAL YEAR ENDED SEPTEMBER 30, 2025**

DRAFT

Prepared by:  
Finance Department  
Kelly McGuire, Finance Director  
Chris Byle, Assistant Finance Director

# Table of Contents

## Introductory Section

|                                                                        |        |
|------------------------------------------------------------------------|--------|
| Table of Contents .....                                                | i - iv |
| Principal City Officials .....                                         | 2      |
| Letter of Transmittal .....                                            | 3 - 6  |
| Organizational Chart .....                                             | 7      |
| Certificate of Achievement for Excellence in Financial Reporting ..... | 8      |

## Financial Section

|                                                                                                                                                |         |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Independent Auditors' Report .....                                                                                                             | 10 - 12 |
| Management's Discussion and Analysis .....                                                                                                     | 13 - 24 |
| Basic Financial Statements                                                                                                                     |         |
| Government-wide Financial Statements                                                                                                           |         |
| Statement of Net Position .....                                                                                                                | 26      |
| Statement of Activities .....                                                                                                                  | 27      |
| Fund Financial Statements                                                                                                                      |         |
| Balance Sheet—Governmental Funds .....                                                                                                         | 28      |
| Reconciliation of the Balance Sheet – Governmental Funds to the Statement of Net Position .....                                                | 29      |
| Statement of Revenues, Expenditures and Changes in Fund Balances—Governmental Funds .....                                                      | 30      |
| Reconciliation of the Statement of Revenues, Expenditures and Changes in Fund Balances—Governmental Funds to the Statement of Activities ..... | 31      |
| Statement of Revenues, Expenditures and Changes in Fund Balances – Budget and Actual – General Fund .....                                      | 32      |
| Statement of Revenues, Expenditures and Changes in Fund Balance – Budget and Actual – Redevelopment Trust Fund .....                           | 33      |
| Statement of Revenues, Expenditures and Changes in Fund Balance – Budget and Actual – Ormond Crossings Trust Fund .....                        | 34      |
| Statement of Revenues, Expenditures and Changes in Fund Balance – Budget and Actual – Stormwater Drainage Utility Fund .....                   | 35      |
| Statement of Revenues, Expenditures and Changes in Fund Balance – Budget and Actual – Municipal Airport Fund .....                             | 36      |
| Statement of Net Position – Proprietary Funds .....                                                                                            | 37      |
| Statement of Revenues, Expenses and Changes in Net Position – Proprietary Funds .....                                                          | 38      |
| Statement of Cash Flows – Proprietary Funds .....                                                                                              | 39      |
| Statement of Fiduciary Net Position – Fiduciary Funds .....                                                                                    | 40      |
| Statement of Changes in Fiduciary Net Position – Fiduciary Funds .....                                                                         | 41      |
| Notes to Financial Statements .....                                                                                                            | 42 - 89 |
| Required Supplementary Information                                                                                                             |         |
| Schedule of Changes in the City's Total OPEB Liability and Related Ratios .....                                                                | 91      |
| Schedules of Changes in Net Pension Liability and Related Ratios .....                                                                         | 92 - 94 |
| Schedules of Contributions .....                                                                                                               | 95 - 97 |
| Schedules of Investment Returns .....                                                                                                          | 98      |

## Combining Nonmajor Governmental Funds Financial Statements and Other Schedules

|                                                                                                                                             |           |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Combining Balance Sheet – Nonmajor Governmental Funds .....                                                                                 | 103 - 104 |
| Combining Statement of Revenues, Expenditures and Changes in Fund Balances –<br>Nonmajor Governmental Funds .....                           | 105 - 106 |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Local Law Enforcement Trust Fund.....                 | 107       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Federal Law Enforcement Trust Fund.....               | 108       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Pension Contribution Pass-Through Fund.....           | 109       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Public Recreational Facility Use Fund .....           | 110       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Grants Fund .....                                     | 111       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Financing Debt Service Fund .....                     | 112       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – 2002 General Obligation Debt Service Fund .....       | 113       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – 2003 General Obligation Debt Service Fund .....       | 114       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – 2005 Capital Improvement Note Debt Service Fund ..... | 115       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – 2010 General Obligation Debt Service Fund .....       | 116       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – General Improvement Fund.....                         | 117       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Equipment Renewal and Replacement Fund.....           | 118       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Public Safety Vehicles and Equipment Fund .....       | 119       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Transportation Improvement Fund.....                  | 120       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Recreational Facility Impact Fee Fund.....            | 121       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Local Roads Impact Fee Fund.....                      | 122       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Stormwater Drainage Impact Fee Fund.....              | 123       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Facilities Renewal and Replacement Fund.....          | 124       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Police Impact Fees Fund .....                         | 125       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Fire Impact Fees Fund.....                            | 126       |
| Schedule of Revenues, Expenditures and Changes in Fund Balance<br>Budget and Actual – Leisure Services Fund .....                           | 127       |

## Supporting Schedules

|                                     |     |
|-------------------------------------|-----|
| Water and Sewer Bond Covenants..... | 129 |
|-------------------------------------|-----|

## Statistical Section

|             |                                                                                                                          |           |
|-------------|--------------------------------------------------------------------------------------------------------------------------|-----------|
| Schedule 1  | – Net Position by Component – Last Ten Fiscal Years .....                                                                | 132       |
| Schedule 2  | – Changes in Net Position – Last Ten Fiscal Years.....                                                                   | 133 - 134 |
| Schedule 3  | – Fund Balances, Governmental Funds – Last Ten Fiscal Years .....                                                        | 135       |
| Schedule 4  | – Changes in Fund Balances, Governmental Funds – Last Ten Fiscal Years .....                                             | 136       |
| Schedule 5  | – General Fund Balance Compared to Annual Expenditures –<br>Last Ten Fiscal Years .....                                  | 137       |
| Schedule 6  | – General Governmental Expenditures and Other Uses by Function –<br>Last Ten Fiscal Years .....                          | 138       |
| Schedule 7  | – Tax Revenues by Source, Governmental Funds – Last Ten Fiscal Years .....                                               | 139       |
| Schedule 8  | – Gross Taxable Value and Composition by Major Property Classification –<br>Last Ten Fiscal Years .....                  | 140       |
| Schedule 9  | – Direct and Overlapping Property Tax Rates and Tax Levies –<br>Last Ten Fiscal Years .....                              | 141       |
| Schedule 10 | – Principal Property Taxpayers – Current Fiscal Year and Ten Years Ago.....                                              | 142       |
| Schedule 11 | – Property Tax Levies and Collections – Last Ten Fiscal Years.....                                                       | 143       |
| Schedule 12 | – Franchise and Utilities Service Tax Revenues by Source .....                                                           | 144       |
| Schedule 13 | – Schedule of Property Valuations and Property Tax Millage – .....                                                       | 145       |
| Schedule 14 | – General Governmental Revenues and Other Sources by Function –<br>Last Ten Fiscal Years .....                           | 146       |
| Schedule 15 | – Schedule of Impact Fees – Last Ten Fiscal Years.....                                                                   | 147       |
| Schedule 16 | – Interest Earned – All Funds – Last Ten Fiscal Years .....                                                              | 148       |
| Schedule 17 | – Ratio of Outstanding Debt by Type – Last Ten Fiscal Years.....                                                         | 149       |
| Schedule 18 | – Ratio of Net General Bonded Debt to Assessed Value and.....<br>Net Bonded Debt Per Capita – Last Ten Fiscal Years..... | 150       |
| Schedule 19 | – Ratio of Annual Debt Service for General bonded Debt to Total .....                                                    | 151       |
| Schedule 20 | – Computation of Direct and Overlapping Debt.....                                                                        | 152       |
| Schedule 21 | – Revenue Bond Coverage – Water and Sewer System Fund – .....                                                            | 153       |
| Schedule 22 | – Legal Debt Margin Information – Last Ten Fiscal Years.....                                                             | 154       |
| Schedule 23 | – Pledged-Revenue Coverage – Last Ten Fiscal Years.....                                                                  | 155       |
| Schedule 24 | – Demographic and Economic Statistics – Last Ten Fiscal Years .....                                                      | 156       |
| Schedule 25 | – Principal Employers – Current Year and Four Years Ago.....                                                             | 157       |
| Schedule 26 | – Authorized Positions by Department/Division/Section – Last Ten Fiscal Years .....                                      | 158       |
| Schedule 27 | – Operating Indicators by Function/Program – Last Ten Fiscal Years .....                                                 | 159       |
| Schedule 28 | – Capital Asset Statistics by Function/Program – Last Ten Fiscal Years.....                                              | 160 - 161 |
| Schedule 29 | – Changes in Net Position, Enterprise Funds – Last Ten Fiscal Years .....                                                | 162       |
| Schedule 30 | – Operating Revenues by Source, Enterprise Funds – Last Ten Fiscal Years.....                                            | 163       |
| Schedule 31 | – Operating Expenses, Enterprise Funds – Last Ten Fiscal Years .....                                                     | 164       |
| Schedule 32 | – Water Treated and Consumed and Wastewater Treated –<br>Last Ten Fiscal Years .....                                     | 165       |
| Schedule 33 | – Water and Sewer Residential Service Rates, Inside City –<br>Last Ten Fiscal Years .....                                | 166       |
| Schedule 34 | – Major Water and Wastewater Customers –<br>Current Year and Nine Years Ago.....                                         | 167 - 168 |
| Schedule 35 | – Municipal Firefighters' Retirement Trust Revenues by Source.....<br>And Expense by Type – Last Ten Fiscal Years.....   | 169       |
| Schedule 36 | – General Employees' Pension Revenues by Source and Expense by Type – .....                                              | 170       |
| Schedule 37 | – Municipal Police Officers' Retirement Trust Revenues by Source .....                                                   | 171       |
| Schedule 38 | – Other Post-Employment Benefits (OPEB) Statistical Information .....                                                    | 172       |



### Single Audit

|                                                                                                                                                                                             |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Schedule of Expenditures of Federal Awards and State Financial Assistance .....                                                                                                             | 174       |
| Notes to the Schedule of Expenditures of Federal Awards and State Financial Assistance .....                                                                                                | 175       |
| Schedule of Findings and Questioned Costs .....                                                                                                                                             | 177       |
| Independent Auditors' Report on Compliance for Each Major Federal Program and State Project and<br>Report on Internal Control Over Compliance in Accordance with the Uniform Guidance ..... | 178 - 180 |

### Other Reports

|                                                                                                                                                                                                                             |           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Independent Auditors' Report on Internal Control Over Financial Reporting and On Compliance<br>and Other Matters Based on an Audit of Financial Statements in Accordance with<br><i>Government Auditing Standards</i> ..... | 182 - 183 |
| Management Letter of Independent Auditors' Required by Chapter 10.550,<br>Rules of the State of Florida Office of the Auditor General .....                                                                                 | 184 - 186 |
| Independent Accountants' Examination Report .....                                                                                                                                                                           | 187       |
| Management's Response to Findings .....                                                                                                                                                                                     | 188       |

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## Introductory Section

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# **City of Ormond Beach, Florida**

## **Annual Comprehensive Financial Report For the Fiscal Year Ended September 30, 2025**



### **Principal Officials as of February 9, 2026**

#### **Mayor**

Jason Leslie

#### **Commissioners**

Zone 1—Lori Tolland

Zone 2—Travis Sargent

Zone 3—Kristin Deaton

Zone 4—Harold Briley

#### **City Manager**

Joyce Shanahan

#### **City Attorney**

Randal A. Hayes



# CITY OF ORMOND BEACH

Finance Department 22 S. Beach St. Ormond Beach, FL 32174

February 9, 2026

To the Honorable Mayor, City Commissioners and Citizens of the City of Ormond Beach:

State law requires that all general-purpose local governments publish within nine months of the close of each fiscal year a complete set of financial statements presented in conformity with generally accepted accounting principles (GAAP) and audited in accordance with generally accepted auditing standards by a firm of licensed certified public accountants. We hereby issue the annual comprehensive financial report of the City of Ormond Beach, Florida (the City) for the fiscal year ended September 30, 2025.

This report consists of management's representations concerning the finances of the City. Consequently, management assumes full responsibility for the completeness and reliability of all of the information presented in this report. To provide a reasonable basis for making these representations, management of the City has established a comprehensive internal control framework that is designed both to protect the City's assets from loss, theft, or misuse and to compile sufficient reliable information for the preparation of the City's financial statements in conformity with GAAP. Because the cost of internal controls should not outweigh their benefits, the City's comprehensive framework of internal controls has been designed to provide reasonable rather than absolute assurance that the financial statements will be free from material misstatement. As management, we assert that, to the best of our knowledge and belief, this financial report is complete and reliable in all material respects.

James Moore & Co., P.L., a firm of licensed certified public accountants has audited the City's financial statements. The goal of the independent audit was to provide reasonable assurance that the financial statements of the City for the fiscal year ended September 30, 2025, are free of material misstatement. The independent audit involved examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements; assessing the accounting principles used and significant estimates made by management; and evaluating the overall financial statement presentation. The independent auditors concluded based upon the audit, that there was a reasonable basis for rendering an unmodified opinion that the City's financial statements for the fiscal year ended September 30, 2025, are fairly presented in conformity with GAAP. The independent auditors' report is presented as the first component of the financial section of this report.

The independent audit of the financial statements of the City was part of a broader, mandated "Single Audit" designed to meet the special needs of federal and state grantor agencies. The standards governing Single Audit engagements require the independent auditor to report not only on the fair presentation of the financial statements, but also on the audited government's internal controls and compliance with legal requirements, with special emphasis on internal controls and legal requirements involving the administration of federal and state awards. These reports are in the Single Audit section of this report.

GAAP requires that management provide a narrative introduction, overview, and analysis to accompany the basic financial statements in the form of Management's Discussion and Analysis (MD&A). This letter of transmittal is designed to complement the MD&A and should be read in conjunction with it. The City's MD&A can be found immediately following the independent auditors' report.

## **Profile of the City of Ormond Beach, Florida**

The City of Ormond Beach, Florida, incorporated in 1880, is located just north of Daytona Beach, in Volusia County, approximately 60 miles from Orlando via Interstate 4, and approximately 75 miles from Walt Disney World. It is primarily a residential community and year-round resort center with industrial development nearby. It covers a large area for a municipality of its population, having about 36.5 square miles of land and three square miles of water area.

The City has operated under the commission-manager form of government since 1963. Policy-making and legislative authority are vested in the City Commission consisting of the mayor and four other members. The City Commission is responsible, among other things, for passing ordinances, resolutions, adopting the budget, appointing committees, and hiring both the City manager and attorney. The City Manager is responsible for carrying out the policies and ordinances of the City Commission, for overseeing the day-to-day operations of the City and for appointing the heads of various departments. The commission is elected on a non-partisan basis. The Mayor and Commission members serve two-year terms.

The City provides a full range of services, including police, fire and rescue, street construction and maintenance, stormwater drainage, planning and zoning, parks and recreation, cultural events and general administrative services. In addition, water, sewer and reclaimed water services, and solid waste collection are provided under an enterprise fund concept with user charges established by the City Commission to ensure adequate coverage of operating expenses and payments on outstanding debt. The City provides water and sewer service outside the city limits to certain unincorporated parts of Volusia County. The City of Ormond Beach contracts with private enterprise for solid waste collection. Self-insurance activities are provided through an internal service fund.

The City is empowered to levy a property tax on both real and personal properties located within its boundaries which, in part, funds the services to the City's estimated 40,000 residents. It also is empowered by state statute to extend its corporate limits by annexation, which occurs periodically when deemed appropriate by the City Commission.

The annual budget serves as the foundation for the City's financial planning and control. Requests for personnel and capital improvements must be submitted by early April. All departments of the City are required to submit requests for appropriation to the City Manager by the end of April. The City Manager uses these requests as the starting point for developing a proposed budget. A budget workshop is held in July where the tentative millage rate is set. The City Commission is required to hold two public hearings on the proposed budget and to adopt a final budget and millage rate no later than September 30, the close of the City's fiscal year. The appropriated budget is prepared by fund, function and department. Department heads may make transfers of appropriations within a department or program. The City Manager is authorized to transfer budgeted amounts between departments. Transfers of appropriations between funds, however, require the special approval of the City Commission. The General Fund budget to actual comparison is presented on page 32 as part of the basic financial statements for governmental funds.

## **Factors Affecting Financial Condition**

The information presented in the financial statements is perhaps best understood when it is considered from the broader perspective of the specific environment within which the City operates.

### **Local economy**

The City's current economic environment remains relatively stable. According to the U.S. Bureau of Labor Statistics, unemployment for the Deltona- Daytona Beach-Ormond Beach area was 5.0% as of September 30, 2025, up slightly from 4.1% one year earlier.

Permit and construction revenue are increasing steadily. Sales tax and revenue sharing exceeded intentionally conservative budget estimates due to the unknown continuing impact of inflation.

### **Financial policies**

The City Commission understands the importance of maintaining adequate fund balance (i.e. reserve) to address unanticipated expenditures and emergency situations while limiting the use of fund balance for ongoing expenditures. As such, the City Commission has set a goal of maintaining the General Fund reserves at a minimum of 15% of total annual expenditures. Furthermore, the City's financial policies stipulate that recurring revenues should fund recurring expenditures and fund balance should only be relied upon for one-time outlays, capital projects, or emergency situations.

### **Long-term financial planning**

The City's long term financial planning initiatives are comprised of completion of various master plans for the airport, water and sewer utilities, stormwater, roads and sidewalks, and various leisure services facilities that typically extend 10 years. After consideration of the master plans, a 5 year Capital Improvement Plan that contains anticipated projects costs and funding sources for the projects is prepared each year. In addition, the City performs multi-year budget projections and analysis for operating purposes through a financial trends study and presentation to City Commissioners and citizens of major operating funds to identify important financial issues.

### **Awards**

The Government Finance Officers' Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the City for its annual comprehensive financial report (ACFR) for the fiscal year ended September 30, 2024. This was the fourteenth consecutive year that the City has achieved this prestigious award. In order to be awarded a Certificate of Achievement a government unit must publish an easily readable and efficiently organized annual comprehensive financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe our current annual comprehensive financial report continues to meet the Certificate of Achievement Program's requirements, and we are submitting it to GFOA to determine its eligibility for another certificate.

### Acknowledgments

The preparation of this report would not have been possible without the efficient and dedicated services of all members of the Finance Department. I would like to express our appreciation to those who assisted and contributed to the preparation of this report. In closing, without the leadership and support of the City Commission, preparation of this report would not have been possible.

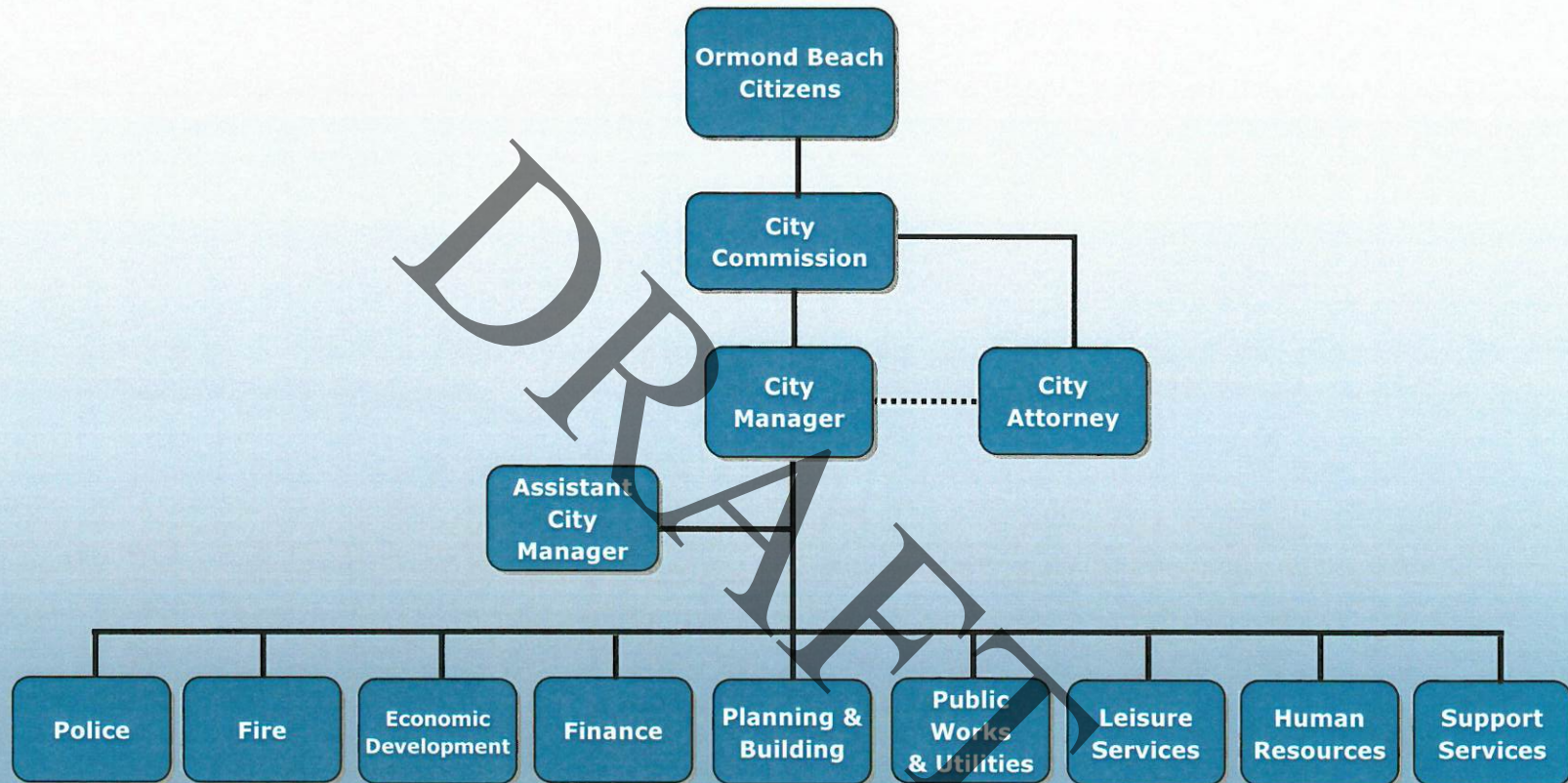
Respectfully,

*Kelly A. McGuire*

Kelly A. McGuire  
Finance Director

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## City of Ormond Beach Organizational Chart



This is to certify that this is the official organizational chart of the City of Ormond Beach referred to in Article II, Chapter 2, of the City of Ormond Beach, Florida, Code of Ordinances, adopted by Resolution No. 2016-154 on November 1, 2016.



  
Ed Kelley, Mayor

  
J. Scott McKee, City Clerk





Government Finance Officers Association

**Certificate of  
Achievement  
for Excellence  
in Financial  
Reporting**

Presented to

**City of Ormond Beach  
Florida**

For its Annual Comprehensive  
Financial Report  
For the Fiscal Year Ended

September 30, 2024

*Christopher P. Morill*

Executive Director/CEO

## Financial Section

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## **INDEPENDENT AUDITORS' REPORT**

To the Honorable Mayor and City Commission,  
City of Ormond Beach, Florida:

### **Report on the Audit of the Financial Statements**

#### ***Opinions***

We have audited the financial statements of the governmental activities, the business-type activities, each major fund, and the aggregate remaining fund information of the City of Ormond Beach, Florida (the City), as of and for the year ended September 30, 2025, and the related notes to the financial statements, which collectively comprise the City's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements present fairly, in all material respects, the respective financial position of the governmental activities, the business-type activities, each major fund, and the aggregate remaining fund information of the City, as of September 30, 2025, and the respective changes in financial position and, where applicable, cash flows thereof and budgetary comparison statements for the year then ended in accordance with accounting principles generally accepted in the United States of America.

#### ***Basis for Opinions***

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards* (GAS), issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the City and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

#### ***Responsibilities of Management for the Financial Statements***

The City's management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the City's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

### ***Auditors' Responsibilities for the Audit of the Financial Statements***

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and GAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and GAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the City's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the City's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

### ***Required Supplementary Information***

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and required supplementary information, as listed in the table of contents, be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### ***Supplementary Information***

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the City's basic financial statements. The combining and individual fund financial statements and other/supporting schedules are presented for purposes of additional analysis and are not a required part of the basic financial statements. The accompanying schedule of expenditures of federal awards and state financial assistance, as required by Title 2 U.S. Code of Federal Regulations (CFR), Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance), and by Section 215.97, Florida Statutes, Florida Single Audit Act, is presented for purposes of additional analysis and is not a required part of the basic financial statements.

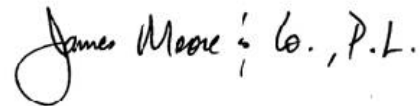
The combining and individual fund financial statements and other/supporting schedules and schedule of expenditures of federal awards and state financial assistance are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the financial statements as a whole.

### ***Other Information***

Management is responsible for the other information included in the annual comprehensive financial report. The other information comprises the introductory and statistical sections but does not include the basic financial statements and our auditors' report thereon. Our opinions on the basic financial statements do not cover the other information, and we do not express an opinion or any form of assurance thereon. In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

### ***Other Reporting Required by Government Auditing Standards***

In accordance with *Government Auditing Standards*, we have also issued our report dated February 9, 2026, on our consideration of the City's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the City's internal control over financial reporting and compliance.



Daytona Beach, Florida  
February 9, 2026

## MANAGEMENT'S DISCUSSION AND ANALYSIS

As management of the City of Ormond Beach, we offer readers of the City of Ormond Beach's financial statements this narrative overview and analysis of the financial activities of the City of Ormond Beach for the fiscal year ended September 30, 2025. We encourage readers to consider the information presented here in conjunction with additional information that we have furnished in our letter of transmittal, which begins on page 3 of this report.

### **Financial Highlights**

- The assets plus deferred outflows of resources of the City of Ormond Beach exceeded its liabilities plus deferred inflows of resources at the close of the most recent fiscal year by \$232,714,623 (net position). Of this amount, \$197,256,292 represents investment in capital assets (net of related debt), and restricted and unrestricted net position of \$36,274,561 and \$(816,230) respectively.
- The City's total net position increased by \$12,656,176 (or 5.8%) based on current year activities. Of this amount, governmental sources produced an increase of \$8,295,760 and Business-type activities produced an increase of \$4,360,416.
- As of the close of the current fiscal year, the City of Ormond Beach's governmental funds reported combined ending fund balances of \$48,143,171, a decrease of \$2,055,396 (or 4.0%) in comparison with the prior year. The decrease is primarily attributed to completion of delayed and deferred. Approximately 18% or \$7,164,702 of the total amount is unassigned fund balance and is available for spending at the City's discretion.
- The City's proprietary funds reported a combined ending net position of \$95,562,266, an increase of \$4,360,416 (or 4.8%) based on current year activities. Approximately 6.2% of this total amount, \$5,930,119 is comprised of unrestricted net position which is available for spending at the City's discretion.
- The City of Ormond Beach's total bonded (General Obligation and Revenue Bonds) debt decreased by \$4,369,035 during the current fiscal year.

### **Overview of the Financial Statements**

This discussion and analysis are intended to serve as an introduction to the City of Ormond Beach's basic financial statements. The City of Ormond Beach's basic financial statements comprise three components:

1) government-wide financial statements, 2) fund financial statements, and 3) notes to the financial statements. This report also contains other supplementary information in addition to the basic financial statements themselves.

### ***Government-wide financial statement***

The government-wide financial statements are designed to provide readers with a broad overview of the City of Ormond Beach's finances, in a manner similar to a private-sector business.

The statement of net position presents information on all of the City's assets and liabilities, with the difference between the two reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the City is improving or deteriorating.

The statement of activities presents information showing how the City's net position changed during the most recent fiscal year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, regardless of the timing of related cash flows. Thus, revenues and expenses are Reported in this statement for some items that will only result in cash flows in future fiscal periods (e.g., uncollected franchise fees or earned but unsecured personal leave, etc.).

Both of the government-wide financial statements distinguish functions of the City that are principally supported by taxes, licenses and permits, and intergovernmental revenues (governmental activities) from other functions that are intended to recover all or a significant portion of their costs through user fees and charges (business-type activities). The governmental activities of the City include general government, public safety, public works and culture and recreation services. The business-type activities of the City include water and sewer and solid waste. The government-wide financial statements begin on page 26 of this report.

### ***Fund financial statements***

A fund is a grouping of related accounts that is used to maintain control over resources that have been segregated for specific activities or objectives. The City of Ormond Beach, like other state and local governments, uses fund accounting to ensure and demonstrate compliance with finance-related legal requirements. All of the funds of the City can be divided into three categories: governmental funds, proprietary funds, and fiduciary funds.

### ***Governmental funds***

Governmental funds are used to account for essentially the same functions reported as governmental activities in the government-wide financial statements. However, unlike the government-wide financial statements, governmental fund financial statements focus on near-term inflows and outflows of spendable resources, as well as on balances of spendable resources available at the end of the fiscal year. Such information may be useful in evaluating a City's near-term financing requirements. Because the focus of governmental funds is narrower than that of the government-wide financial statements, it is useful to compare the information presented for governmental funds with similar information presented for governmental activities in the government-wide financial statements. By doing so, readers may better understand the long-term impact of the government's near-term financing decisions. Both the governmental fund balance sheet and the governmental fund statement of revenues, expenditures, and changes in fund balances provide a reconciliation to facilitate this comparison between governmental funds and governmental activities.

The City of Ormond Beach maintains twenty-two individual governmental funds. Information is presented separately in the governmental fund balance sheet and in the governmental fund statement of revenues, expenditures, and changes in fund balances for the General Fund, the Redevelopment Trust Fund, and the Ormond Crossings Trust Fund, which are considered to be major funds. Data from the other governmental funds are combined into a single, aggregated presentation. Individual fund data for each of

these nonmajor governmental funds is provided in the form of combining statements beginning on page 100 of this report.

The City of Ormond Beach adopts an annual appropriated budget for its General, Special Revenue, Debt Service, Capital Projects and Enterprise Funds. Budgetary comparison schedules have been provided for the City's governmental funds to demonstrate compliance with this budget.

### ***Proprietary funds***

The City of Ormond Beach maintains two different types of proprietary funds. Enterprise funds are used to report the same functions presented as business-type activities in the government-wide financial statements. The City of Ormond Beach uses enterprise funds to account for its water and sewer, and solid waste activities. Internal service funds are an accounting device used to accumulate and allocate costs internally among the City of Ormond Beach's various functions. The City of Ormond Beach uses an internal service fund to account for self-insurance. Because these services predominantly benefit governmental rather than business-type functions, they have been included within governmental activities in the government-wide financial statements.

Proprietary funds provide the same type of information as the government-wide financial statements, only in more detail. The proprietary fund financial statements provide separate information of the water and sewer, and solid waste activities, which are the major funds of the City of Ormond Beach. The internal service fund for self-insurance activities is presented in a separate column in the proprietary fund statements. The proprietary fund financial statements begin on page 35 of this report.

### ***Fiduciary funds***

Fiduciary funds are used to account for resources held for the benefit of parties outside the City (e.g., pension beneficiaries). Fiduciary funds are not reflected in the government-wide financial statement because the resources of those funds are not available to support the City's own programs. The accounting used for fiduciary funds is much like that used for proprietary funds. The basic fiduciary fund financial statements, which include the pension trust funds, begin on page 38 of this report.

### ***Notes to the financial statements***

The notes provide additional information that is essential to a full understanding of the data provided in the government-wide and fund financial statements. The notes to the financial statements begin on page 40 of this report.

### ***Other information***

In addition to the basic financial statements and accompanying notes, this report also presents certain required supplementary information concerning the City of Ormond Beach's schedule of contributions and its progress in funding its obligations to provide pension and other postemployment benefits to its employees. Required supplementary information can be found beginning on page 88 of this report.

The combining statements and other schedules referred to earlier in connection with nonmajor governmental funds are presented immediately following the required supplementary information. Combining fund statements and other schedules can be found on beginning on page 100 of this report.



### *Government-wide financial analysis*

As noted earlier, net position may serve over time as a useful indicator of a City's financial position. In the case of the City of Ormond Beach, assets plus deferred outflows of resources exceed liabilities plus deferred inflows of resources by \$232,714,623 at the close of the most recent fiscal year.

By far the largest portion of the City of Ormond Beach's net position \$197,256,292 (84.8%) reflects its investment in capital assets (e.g. land, buildings, infrastructure, and equipment), less any related debt used to acquire those assets that are still outstanding. The City of Ormond Beach uses these capital assets to provide services to citizens; consequently, these assets are not available for future spending. Although the City of Ormond Beach's investment in capital assets is reported net of related debt, it should be noted that the resources needed to repay this debt must be provided from other sources, since the capital assets themselves cannot be used to liquidate these liabilities.

#### **CITY OF ORMOND BEACH'S NET POSITION SEPTEMBER 30, 2025 (In Thousands)**

|                                       | <b>Governmental<br/>Activities</b> |                  | <b>Business-type<br/>Activities</b> |                 | <b>Total</b>     |                  |
|---------------------------------------|------------------------------------|------------------|-------------------------------------|-----------------|------------------|------------------|
|                                       | <b>2025</b>                        | <b>2024</b>      | <b>2025</b>                         | <b>2024</b>     | <b>2025</b>      | <b>2024</b>      |
| Current and other assets              | \$49,461                           | \$51,782         | \$39,546                            | \$44,133        | \$89,007         | \$95,915         |
| Capital assets                        | 127,525                            | 120,028          | 91,299                              | 83,125          | 218,824          | 203,153          |
| <b>Total Assets</b>                   | <b>176,986</b>                     | <b>171,810</b>   | <b>130,845</b>                      | <b>127,258</b>  | <b>307,831</b>   | <b>299,068</b>   |
| <b>Deferred outflows of resources</b> | <b>4,326</b>                       | <b>3,097</b>     | <b>146</b>                          | <b>224</b>      | <b>4,472</b>     | <b>3,321</b>     |
| Current and other liabilities         | \$4,116                            | 4,632            | 5,692                               | 2,507           | 9,808            | 7,139            |
| Long-term liabilities outstanding     | 26,039                             | 29,639           | 28,302                              | 32,527          | 54,341           | 62,166           |
| <b>Total Liabilities</b>              | <b>30,155</b>                      | <b>34,271</b>    | <b>33,994</b>                       | <b>35,034</b>   | <b>64,149</b>    | <b>69,305</b>    |
| <b>Deferred inflows of resources</b>  | <b>14,005</b>                      | <b>11,799</b>    | <b>1,435</b>                        | <b>1,246</b>    | <b>15,440</b>    | <b>13,045</b>    |
| Net Position:                         |                                    |                  |                                     |                 |                  |                  |
| Net investment in capital assets      | 121,511                            | 113,280          | 75,745                              | 53,439          | 197,256          | 166,719          |
| Restricted                            | 23,717                             | 22,550           | 13,887                              | 16,495          | 37,604           | 39,045           |
| Unrestricted (deficit)                | (8,076)                            | (6,973)          | 5,930                               | 21,268          | (2,146)          | 14,295           |
| <b>Total Net Position</b>             | <b>\$137,152</b>                   | <b>\$128,857</b> | <b>95,562</b>                       | <b>\$91,202</b> | <b>\$232,714</b> | <b>\$220,059</b> |

A portion of the City's net position, \$37,604,453 (16.2%) represents resources that are subject to external restrictions on how they may be used. The net pension liability of \$12,384,133 declined by more than 18%.

General revenues and transfers increased from the prior fiscal year by \$3,022,779 as a result of a strong housing and interest rate market.

The City received \$6,232,288 in capital grants, impact fees, and developer contributions, which are considered non-recurring additions during the current fiscal year.

Operating grants totaled \$9,338,913 much of which was attributable to reimbursement for hurricane damage expenses.

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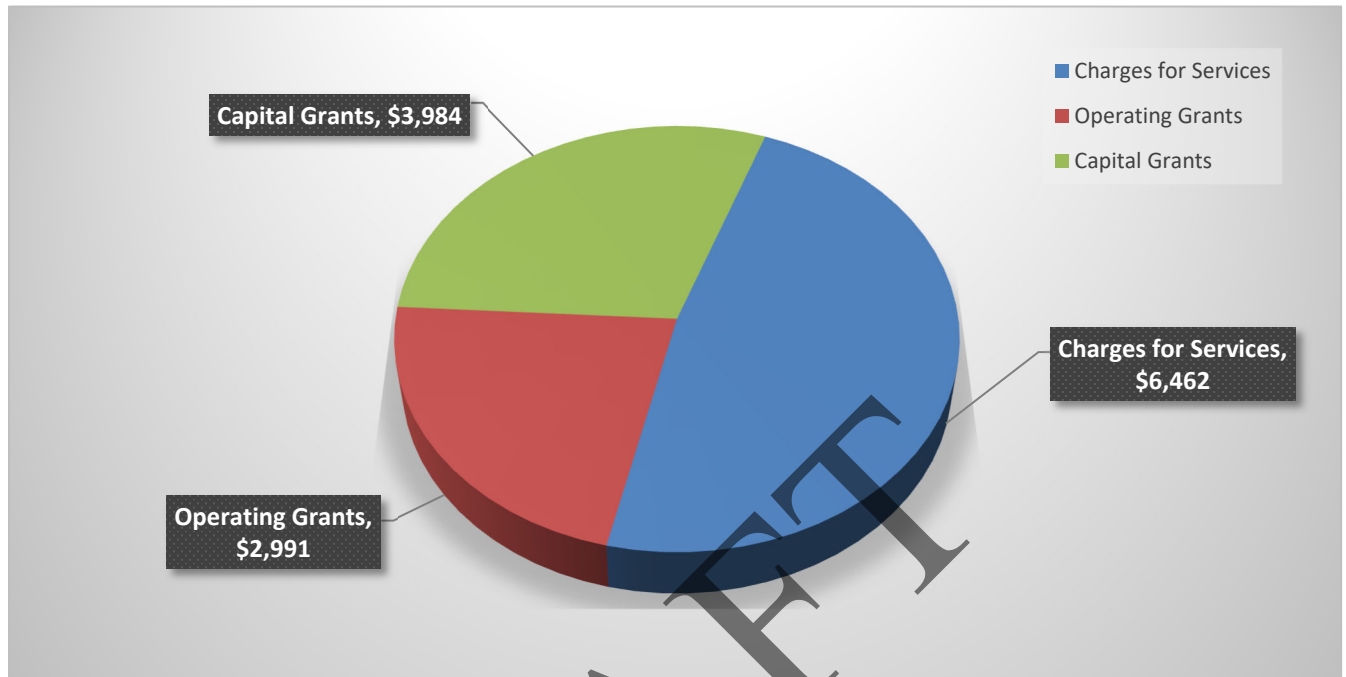
The following table contains a summary of activities during the fiscal year ended September 30, 2025.

**CITY OF ORMOND BEACH'S CHANGE IN NET POSITION**

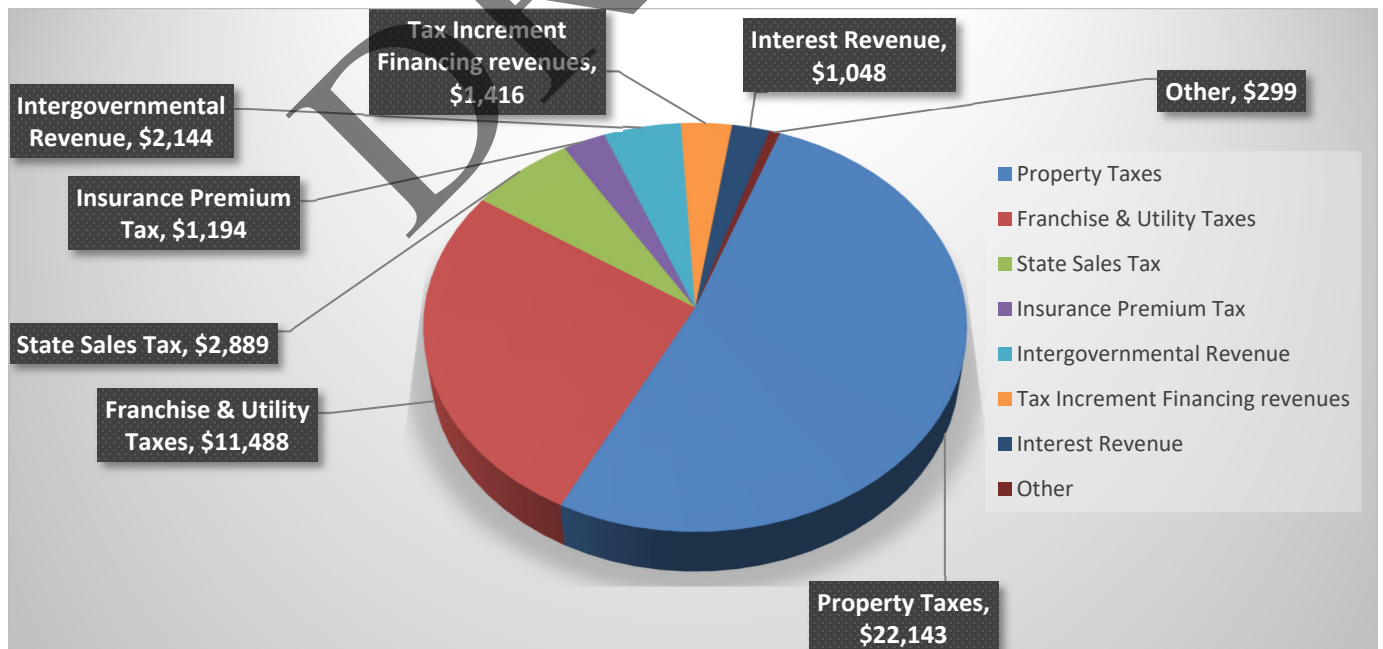
(In Thousands)

|                                           | <b>Governmental Activities</b> |                  | <b>Business-type Activities</b> |                 | <b>Total</b>     |                  |
|-------------------------------------------|--------------------------------|------------------|---------------------------------|-----------------|------------------|------------------|
|                                           | <b>2025</b>                    | <b>2024</b>      | <b>2025</b>                     | <b>2024</b>     | <b>2025</b>      | <b>2024</b>      |
| <b>Revenues:</b>                          |                                |                  |                                 |                 |                  |                  |
| <b>Program revenues:</b>                  |                                |                  |                                 |                 |                  |                  |
| Charges for services                      | \$6,462                        | \$5,994          | \$36,502                        | \$34,752        | \$42,964         | \$40,746         |
| Operating grants & contributions          | 2,991                          | 2,647            | 6,347                           | 3,920           | 9,338            | 6,567            |
| Capital grants & contributions            | 3,984                          | 2,114            | 2,248                           | 2,006           | 6,232            | 4,120            |
| General revenues:                         |                                |                  |                                 |                 |                  | -                |
| Property taxes                            | 22,143                         | 19,699           | 0                               | 0               | 22,143           | 19,699           |
| Franchise/Utility taxes                   | 11,488                         | 11,041           | 0                               | 0               | 11,488           | 11,041           |
| State sales tax                           | 2,889                          | 2,934            | 0                               | 0               | 2,889            | 2,934            |
| Insurance premium taxes                   | 1,194                          | 1,133            | 0                               | 0               | 1,194            | 1,133            |
| Intergovernmental revenue                 | 2,144                          | 2,121            | 0                               | 0               | 2,144            | 2,121            |
| Tax increment financing revenues          | 1,416                          | 1,034            | 0                               | 0               | 1,416            | 1,034            |
| Interest revenue                          | 1,048                          | 1,295            | 872                             | 905             | 1,920            | 2,200            |
| Other                                     | 299                            | 304              | (4)                             | 1               | 295              | 305              |
| <b>Total Revenues</b>                     | <b>\$56,058</b>                | <b>\$50,316</b>  | <b>\$45,965</b>                 | <b>\$41,584</b> | <b>102,023</b>   | <b>\$91,900</b>  |
| <b>Expenses:</b>                          |                                |                  |                                 |                 |                  |                  |
| General Government                        | \$8,446                        | \$8,198          | \$0                             | \$0             | \$8,446          | \$8,198          |
| Public Safety                             | 24,451                         | 22,886           | 0                               | 0               | 24,451           | 22,886           |
| Public Works                              | 9,026                          | 9,186            | 0                               | 0               | 9,026            | 9,186            |
| Human Services                            | 120                            | 111              | 0                               | 0               | 120              | 111              |
| Culture & Recreation                      | 9,971                          | 9,748            | 0                               | 0               | 9,971            | 9,748            |
| Economic Development                      | (7)                            | 64               | 0                               | 0               | (7)              | 64               |
| Interest on long-term debt                | 287                            | 153              | 0                               | 0               | 287              | 153              |
| Water & Sewer                             | 0                              | 0                | 23,416                          | 22,494          | 23,416           | 22,484           |
| Solid Waste                               | 0                              | 0                | 13,658                          | 9,909           | 13,658           | 9,909            |
| <b>Total Expenses</b>                     | <b>52,294</b>                  | <b>50,346</b>    | <b>37,074</b>                   | <b>32,403</b>   | <b>89,368</b>    | <b>82,749</b>    |
| Increase in net position before transfers | 3,764                          | (30)             | \$8,891                         | 9,181           | 12,655           | 9,151            |
| Transfers                                 | 4,531                          | 4,601            | (4,531)                         | (4,601)         | 0                | 0                |
| Increase (decrease) in net position       | 8,295                          | 4,571            | 4,360                           | 4,580           | 12,655           | 9,151            |
| <b>Net position, beginning of year</b>    | <b>128,857</b>                 | <b>124,286</b>   | <b>\$91,203</b>                 | <b>86,623</b>   | <b>220,060</b>   | <b>210,909</b>   |
| <b>Net position, end of year</b>          | <b>\$137,152</b>               | <b>\$128,857</b> | <b>\$95,563</b>                 | <b>\$91,203</b> | <b>\$232,715</b> | <b>\$220,060</b> |

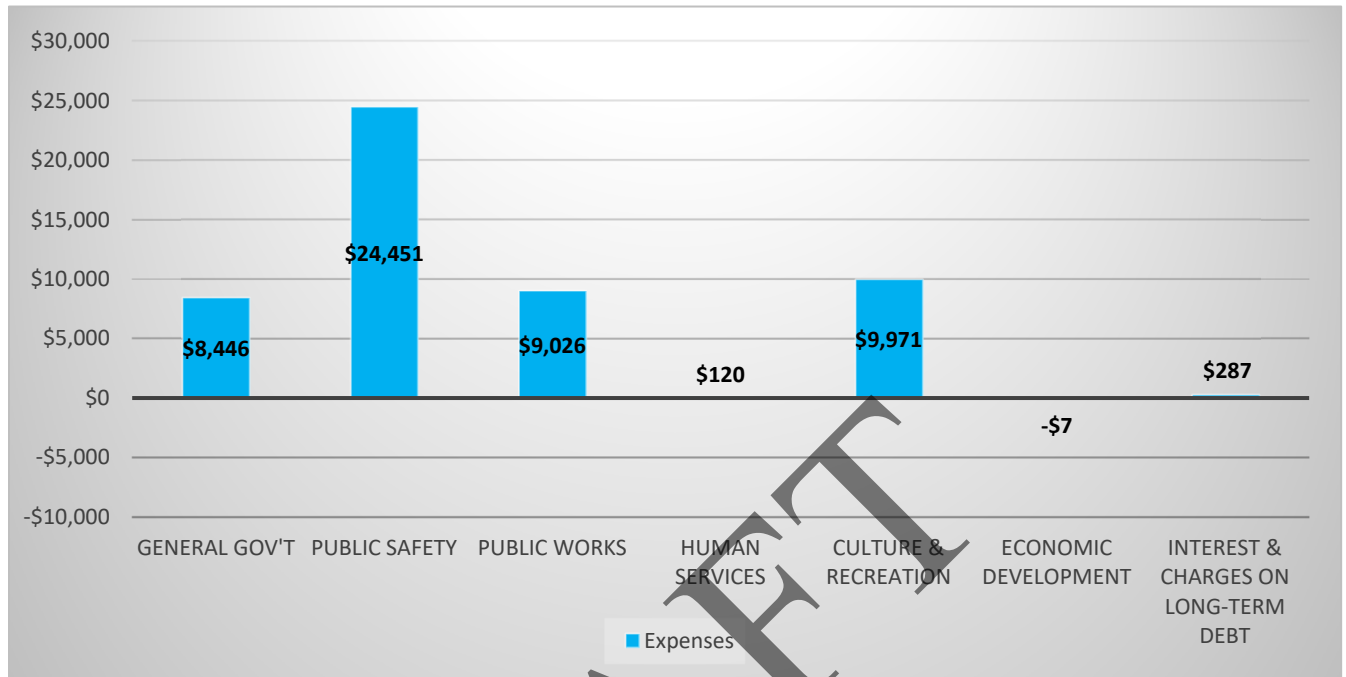
## Program Revenue by Source Governmental Activities (in Thousands)



## General Revenue by Source Governmental Activities (in Thousands)



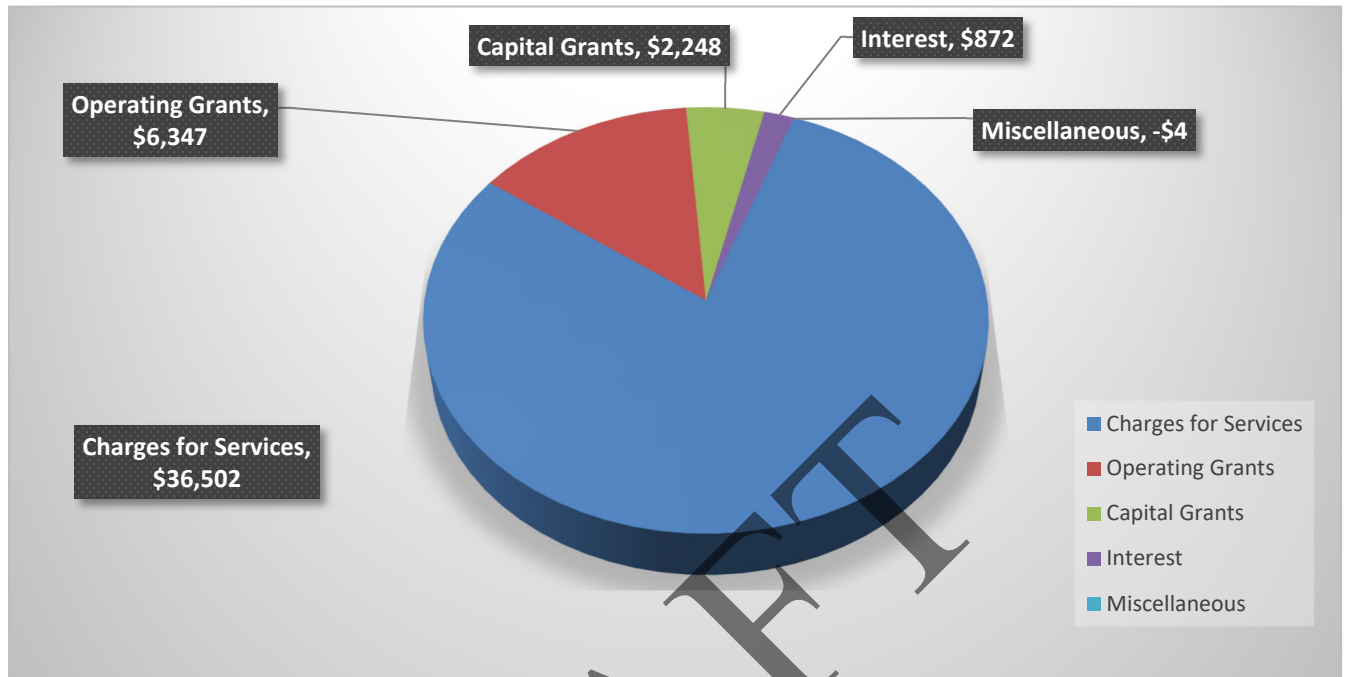
### Program Expenses Governmental Activities (in Thousands)



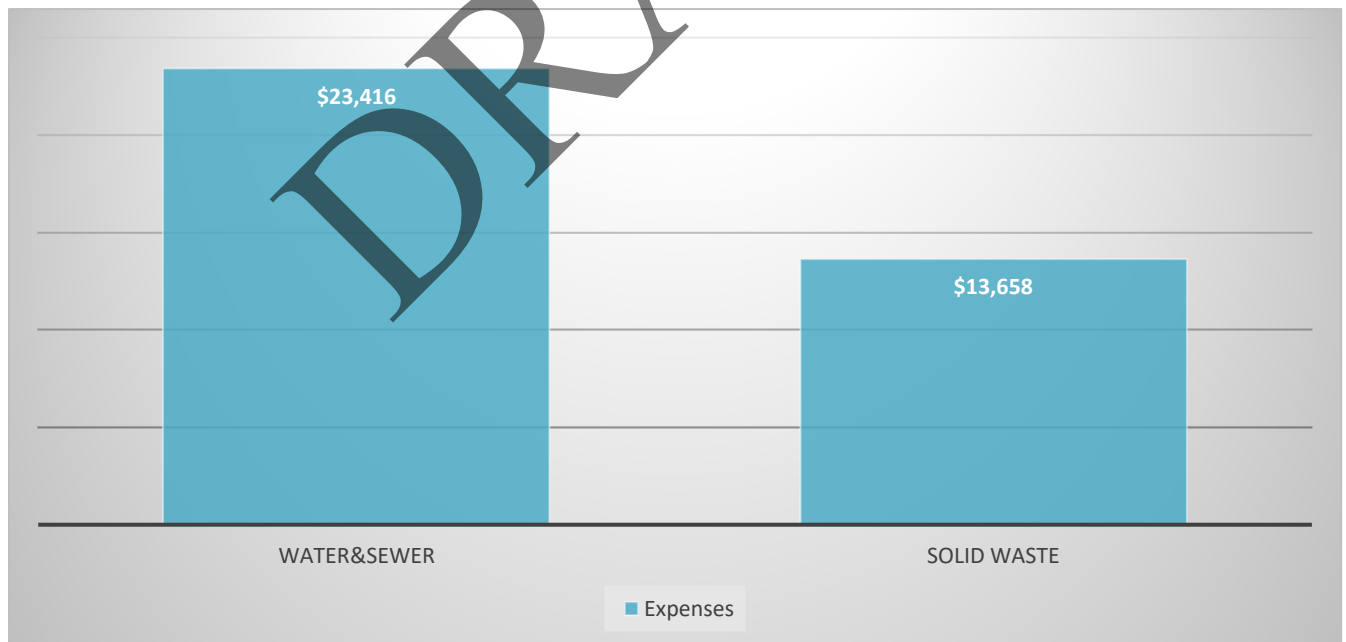
#### ***Governmental activities***

Governmental activities increased the net position by \$8,295,000. Key elements of these changes are operating grants and property taxes received by the City and other items noted on page 27.

### Program Revenue by Source Business-type Activities (in Thousands)



### Program Expenses Business-type Activities



#### ***Business-type activities***

Business-type activities increased the City of Ormond Beach's net position by \$4,360,000.

## **Financial Analysis of the City's Funds**

As noted earlier, the City of Ormond Beach uses fund accounting to ensure and demonstrate compliance with finance-related legal requirements.

### ***Governmental Funds***

The focus of the City's governmental funds is to provide information on near-term inflows, outflows, and balances of spendable resources. Such information is useful in assessing the City of Ormond Beach's financing requirements. In particular, unassigned fund balance may serve as a useful measure of a City's net resources available for spending at the end of the fiscal year.

As of the end of the current fiscal year, the City of Ormond Beach's twenty-five (25) governmental funds reported combined ending fund balances of \$39,914,186, a decrease of \$4,470,403 in comparison with the prior year. This decrease relates to the use of fund balance for one-time expenditures including public safety retroactive pay adjustments. Fund balance for the combined twenty-five (25) governmental funds consists of:

- \$5,060,343 or 12.7% is assigned for economic development, municipal airport, recreational facilities, grants, debt service, capital projects, revenue stabilization, and appropriations.
- \$551,747 or 1.4% is committed by formal action of the City Commission for improvements of recreational facilities.
- \$23,741,992 or 59.5% is restricted by enabling legislation or other legal requirements imposed by outside sources.
- \$3,395,402 or 8.5% is non-spendable relating to inventories, prepaid items and long-term advances.
- \$7,164,702 or 18.0% is unassigned.

The General Fund is the chief operating fund of the City of Ormond Beach. General Fund fund balance increased by \$301,016 during the year. At the end of the current fiscal year fund balance of \$1,753,277 was considered nonspendable and allocated for advances and inventory; \$1,397,103 was restricted by legal requirements. Fund balance of \$1,484,847 was assigned to Economic Development, the subsequent year's budget, and capital projects. Unassigned, undesignated fund balance of the General Fund as of September 30, 2025, was \$8,154,079.

The Redevelopment Trust Fund is a special revenue fund that reports the financial activities of the Ormond Beach Downtown Community Redevelopment Area. At September 30, 2025, restricted fund balance of the Redevelopment Trust Fund was \$4,045,199, reflecting a decrease of \$1,420,609 which was expended for planned capital improvements. The Fund received \$1,232,024 in tax increment revenues and \$700,392 in transfers from the General Fund during the fiscal year. These funds are legally restricted to complete projects identified in the Granada Boulevard Master Plan.

The Ormond Crossings Trust Fund is a special revenue fund that reports the financial activities of the North Mainland/Ormond Crossings Community Redevelopment Area. At September 30, 2025, restricted fund balance of the Ormond Crossings Trust Fund was \$1,925,264. The net increase to restricted fund balance during the current year was \$402,432. The Fund received \$208,825 in tax increment revenues and \$154,716 in transfers from the General Fund during the fiscal year. These funds are legally restricted for use to complete project identified in the North Mainland/Ormond Crossings Community Redevelopment Area Master Redevelopment Plan.

Funds classified as non-major governmental funds consisting of special revenue funds, debt service funds, and capital project funds have a combined fund balance of \$14,436,360.

### ***Proprietary Funds***

The City of Ormond Beach's proprietary funds provide the same type of information found in the government-wide financial statements, but in more detail.

Unrestricted net position of the Water and Sewer Fund at the end of the year amounted to \$4,272,619. Total net position for the Water and Sewer Fund increased by \$3,936,548. Unrestricted net position of the Solid Waste Fund at the end of the year amounted to \$1,863,928. Total net position for the Solid Waste Fund increased by \$423,868. Other factors concerning the financial position of these funds have already been addressed in the discussion of the City's business-type activities.

### ***General Fund Budgetary Highlights***

The General Fund variances between the final budget and actual amounts consisted of:

#### **Revenues-**

- \$563,928 Taxes – The positive variance was largely associated with an increase in electric utility taxes and franchise fees.
- \$(392,758) Intergovernmental – The variance reflects anticipated grant revenue that was outstanding at the end of the fiscal year.
- \$513,256 Permits and Fees – The positive variance is a result of an increase in construction activity.

#### **Expenditures-**

- \$421,457 Public Works – The variance reflects savings associated with vacant positions due to challenges in recruiting.
- \$(151,585) Fire services – The variance reflects higher than expected pension costs.
- \$(302,918) Culture and Recreation – The variance increases in contractual services some of which related to hurricane expenditures.

### ***Capital Asset and Debt Administration***

The City of Ormond Beach's investment in capital assets, net of related depreciation, for its governmental and business type activities as of September 30, 2025, amounts to \$218,423,471. This investment in capital assets includes land, buildings and improvements other than buildings, equipment, infrastructure and construction in progress. The total change in the City of Ormond Beach's capital assets, net of related depreciation, for the current fiscal year was an increase of \$7,496,705 (6.3%) for governmental activities and an increase of \$7,772,918 (9.4%) for business-type activities.

### **CITY OF ORMOND BEACH'S CAPITAL ASSETS**

#### **Net of Depreciation**

(In thousands)

|                                    | Governmental Activities |           | Business-type Activities |          | Total     |           |
|------------------------------------|-------------------------|-----------|--------------------------|----------|-----------|-----------|
|                                    | 2025                    | 2024      | 2025                     | 2024     | 2025      | 2024      |
| <b>Land</b>                        | \$43,830                | \$43,830  | \$1,072                  | \$1,072  | \$44,902  | \$44,902  |
| <b>Works of Art</b>                | 377                     | 377       | 0                        | 0        | 377       | 377       |
| <b>Intangibles (Easements)</b>     | 744                     | 744       | 1,047                    | 1,043    | 1,791     | 1,787     |
| <b>Building &amp; Improvements</b> | 68,863                  | 61,488    | 79,125                   | 75,668   | 147,988   | 137,156   |
| <b>Equipment</b>                   | 6,264                   | 6,143     | 1,156                    | 828      | 7,420     | 6,971     |
| <b>Construction in progress</b>    | 7,447                   | 7,447     | 8,498                    | 4,514    | 15,945    | 11,961    |
| <b>Total</b>                       | \$127,525               | \$120,029 | \$90,898                 | \$83,125 | \$218,423 | \$203,154 |



Additional information on the City of Ormond Beach's capital assets can be found in Note (6) on pages 57-58 of this report.

### **Long-term Debt**

At the end of the 2025 fiscal year, the City of Ormond Beach had total bonded debt outstanding of \$21,871,000. Of this amount, \$1,875,000 relates long-term debt backed by the full faith and credit of the government. The remainder of the City of Ormond Beach's debt represents bonds secured solely by specified revenue sources or covenants.

### **CITY OF ORMOND BEACH'S OUTSTANDING DEBT**

General Obligation and Revenue  
Bonds (In Thousands)

|                          | Governmental Activities |                | Business-type Activities |                 | Total           |                 |
|--------------------------|-------------------------|----------------|--------------------------|-----------------|-----------------|-----------------|
|                          | 2025                    | 2024           | 2025                     | 2024            | 2025            | 2024            |
| General Obligation Bonds | \$1,585                 | \$1,875        | \$0                      | \$0             | \$1,585         | \$1,875         |
| Revenue Bonds            | 0                       | 0              | 20,286                   | 23,403          | 20,286          | \$23,403        |
| <b>Total</b>             | <b>\$1,585</b>          | <b>\$1,875</b> | <b>\$20,286</b>          | <b>\$23,403</b> | <b>\$21,871</b> | <b>\$25,278</b> |

The City of Ormond Beach's total bonded debt decreased by \$3,407,000 during the current fiscal year.

Under Florida statutes, no debt limit margin is placed on local governments. Additional information on the City's long-term debt can be found in Note (10) on pages 61-67 of this report.

### **Economic Factors and Next Year's Budgets and Rates**

- The unemployment rate for the municipal service area was 5.0% as of September 2025 compared to 4.1% a year ago.
- The City's taxable value of commercial and residential property continues to increase.
- Inflationary trends in the region are comparable to national indices.

All of these factors were considered in preparing the City of Ormond Beach's budget for the 2025-26 fiscal year.

Unassigned fund balance of the General Fund as of September 30, 2025 was \$8,966,548.

Water and wastewater service rates for fiscal year 2025 were increased in order to provide sufficient revenue for operational and capital expenses.

### **Requests for Information**

This financial report is designed to provide a general overview of the City of Ormond Beach's finances for all those with an interest in the City's finances. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to the City of Ormond Finance Director, P.O. Box 277, Ormond Beach, Florida 32175-0277. Additional information can be found on the Finance Department's website at [www.ormondbeach.org](http://www.ormondbeach.org).

## **BASIC FINANCIAL STATEMENTS**

These basic financial statements contain Government-wide Financial Statements, Fund Financial Statements and Notes to the Financial Statements.

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**CITY OF ORMOND BEACH, FLORIDA**  
**STATEMENT OF NET POSITION**  
**SEPTEMBER 30, 2025**

|                                           | <u>Governmental<br/>Activities</u> | <u>Business-type<br/>Activities</u> | <u>Total</u>          |
|-------------------------------------------|------------------------------------|-------------------------------------|-----------------------|
| <b>ASSETS</b>                             |                                    |                                     |                       |
| Equity in pooled cash and investments     | \$ 38,266,458                      | \$ 14,716,304                       | \$ 52,982,762         |
| Receivables, net                          | 2,260,646                          | 3,739,920                           | 6,000,566             |
| Due from other governments                | 3,503,210                          | 1,965,253                           | 5,468,463             |
| Leases receivable                         | 3,059,224                          | -                                   | 3,059,224             |
| Inventories                               | 187,951                            | -                                   | 187,951               |
| Prepays                                   | 2,019,212                          | -                                   | 2,019,212             |
| Restricted assets:                        |                                    |                                     |                       |
| Equity in pooled cash                     | 164,263                            | 19,525,011                          | 19,689,274            |
| Capital assets:                           |                                    |                                     |                       |
| Capital assets, not being depreciated     | 52,400,348                         | 10,617,440                          | 63,017,788            |
| Other capital assets, net of depreciation | 75,125,067                         | 80,280,616                          | 155,405,683           |
| Total assets                              | <u>\$ 176,986,379</u>              | <u>\$ 130,844,544</u>               | <u>\$ 307,830,923</u> |
| <b>DEFERRED OUTFLOWS OF RESOURCES</b>     |                                    |                                     |                       |
| Deferred outflows related to pensions     | \$ 3,752,576                       | \$ 33,099                           | \$ 3,785,675          |
| Deferred outflows related to OPEB         | 573,715                            | 112,635                             | 686,350               |
| Total deferred outflows                   | <u>\$ 4,326,291</u>                | <u>\$ 145,734</u>                   | <u>\$ 4,472,025</u>   |
| <b>LIABILITIES</b>                        |                                    |                                     |                       |
| Accounts payable and accrued liabilities  | \$ 3,556,871                       | \$ 4,590,535                        | \$ 8,147,406          |
| Customer deposits                         | 34,459                             | 1,009,482                           | 1,043,941             |
| Unearned revenue                          | 323,908                            | -                                   | 323,908               |
| Accrued interest payable                  | 24,767                             | 90,527                              | 115,294               |
| Due to fiduciary funds                    | 176,073                            | -                                   | 176,073               |
| Noncurrent liabilities:                   |                                    |                                     |                       |
| Due within one year                       | 2,069,448                          | 2,786,590                           | 4,856,038             |
| Due in more than one year                 | 8,601,947                          | 23,982,803                          | 32,584,750            |
| Total OPEB liability                      | 3,663,610                          | 852,793                             | 4,516,403             |
| Net pension liability                     | 11,704,051                         | 680,082                             | 12,384,133            |
| Total liabilities                         | <u>\$ 30,155,134</u>               | <u>\$ 33,992,812</u>                | <u>\$ 64,147,946</u>  |
| <b>DEFERRED INFLOWS OF RESOURCES</b>      |                                    |                                     |                       |
| Deferred inflows related to pensions      | \$ 9,582,295                       | \$ 1,136,075                        | \$ 10,718,370         |
| Deferred inflows related to OPEB          | 1,523,619                          | 299,125                             | 1,822,744             |
| Deferred inflows related to leases        | 2,899,265                          | -                                   | 2,899,265             |
| Total deferred inflows                    | <u>\$ 14,005,179</u>               | <u>\$ 1,435,200</u>                 | <u>\$ 15,440,379</u>  |
| <b>NET POSITION</b>                       |                                    |                                     |                       |
| Net investment in capital assets          | \$ 121,511,373                     | \$ 75,744,919                       | \$ 197,256,292        |
| Restricted for:                           |                                    |                                     |                       |
| Debt service                              | 127,361                            | 3,874,036                           | 4,001,397             |
| Capital expansion                         | 5,826,318                          | 9,613,192                           | 15,439,510            |
| Building department                       | 1,329,892                          | -                                   | 1,329,892             |
| Renewal and replacement                   | -                                  | 400,000                             | 400,000               |
| Transportation                            | 2,146,932                          | -                                   | 2,146,932             |
| Redevelopment trust                       | 5,970,463                          | -                                   | 5,970,463             |
| Stormwater drainage                       | 7,707,434                          | -                                   | 7,707,434             |
| Other purposes                            | 608,825                            | -                                   | 608,825               |
| Unrestricted                              | (8,076,241)                        | 5,930,119                           | (2,146,122)           |
| Total net position                        | <u>\$ 137,152,357</u>              | <u>\$ 95,562,266</u>                | <u>\$ 232,714,623</u> |

The accompanying notes to financial statements are an integral part of this statement.

**CITY OF ORMOND BEACH, FLORIDA  
STATEMENT OF ACTIVITIES  
FOR THE YEAR ENDED SEPTEMBER 30, 2025**

| Functions/Programs                     | Expenses      | Program Revenues        |                                          |                                        | Net (Expense) Revenue and<br>Changes in Net Position |                             |                |
|----------------------------------------|---------------|-------------------------|------------------------------------------|----------------------------------------|------------------------------------------------------|-----------------------------|----------------|
|                                        |               | Charges for<br>Services | Operating<br>Grants and<br>Contributions | Capital<br>Grants and<br>Contributions | Governmental<br>Activities                           | Business-type<br>Activities | Total          |
| Governmental activities:               |               |                         |                                          |                                        |                                                      |                             |                |
| General government                     | \$ 8,446,355  | \$ 900                  | \$ 1,030,137                             | \$ 53,317                              | \$ (7,362,001)                                       | \$ -                        | \$ (7,362,001) |
| Public safety                          | 24,451,466    | 359,045                 | 78,424                                   | 181,340                                | (23,832,657)                                         | -                           | (23,832,657)   |
| Public works                           | 9,025,069     | 5,560,607               | 1,881,256                                | 2,627,663                              | 1,044,457                                            | -                           | 1,044,457      |
| Human services                         | 120,426       | -                       | -                                        | -                                      | (120,426)                                            | -                           | (120,426)      |
| Culture and recreation                 | 9,971,397     | 541,354                 | 1,300                                    | 1,122,062                              | (8,306,681)                                          | -                           | (8,306,681)    |
| Economic development                   | (7,512)       | -                       | -                                        | -                                      | 7,512                                                | -                           | 7,512          |
| Interest on long-term debt             | 287,367       | -                       | -                                        | -                                      | (287,367)                                            | -                           | (287,367)      |
| Total governmental activities          | 52,294,568    | 6,461,906               | 2,991,117                                | 3,984,382                              | (38,857,163)                                         | -                           | (38,857,163)   |
| Business-type activities:              |               |                         |                                          |                                        |                                                      |                             |                |
| Water and sewer                        | 23,416,258    | 24,294,725              | 2,785,496                                | 2,247,906                              | -                                                    | 5,911,869                   | 5,911,869      |
| Solid waste                            | 13,658,121    | 12,207,627              | 3,562,300                                | -                                      | -                                                    | 2,111,806                   | 2,111,806      |
| Total business-type activities         | 37,074,379    | 36,502,352              | 6,347,796                                | 2,247,906                              | -                                                    | 8,023,675                   | 8,023,675      |
| Total primary government               | \$ 89,368,947 | \$ 42,964,258           | \$ 9,338,913                             | \$ 6,232,288                           | (38,857,163)                                         | 8,023,675                   | (30,833,488)   |
| General revenues:                      |               |                         |                                          |                                        |                                                      |                             |                |
| Property taxes                         |               |                         |                                          |                                        | 22,142,808                                           | -                           | 22,142,808     |
| Sales taxes                            |               |                         |                                          |                                        | 2,889,370                                            | -                           | 2,889,370      |
| Insurance premium taxes                |               |                         |                                          |                                        | 1,194,985                                            | -                           | 1,194,985      |
| Franchise and utility taxes            |               |                         |                                          |                                        | 11,488,120                                           | -                           | 11,488,120     |
| Unrestricted intergovernmental revenue |               |                         |                                          |                                        | 2,143,787                                            | -                           | 2,143,787      |
| Tax increment financing revenues       |               |                         |                                          |                                        | 1,416,369                                            | -                           | 1,416,369      |
| Interest revenue                       |               |                         |                                          |                                        | 1,047,674                                            | 871,677                     | 1,919,351      |
| Miscellaneous revenues                 |               |                         |                                          |                                        | 298,458                                              | (3,584)                     | 294,874        |
| Transfers                              |               |                         |                                          |                                        | 4,531,352                                            | (4,531,352)                 | -              |
| Total general revenues and transfers   |               |                         |                                          |                                        | 47,152,923                                           | (3,663,259)                 | 43,489,664     |
| Change in net position                 |               |                         |                                          |                                        | 8,295,760                                            | 4,360,416                   | 12,656,176     |
| Net position - beginning of year       |               |                         |                                          |                                        | 128,856,597                                          | 91,201,850                  | 220,058,447    |
| Net position - ending of year          |               |                         |                                          |                                        | \$ 137,152,357                                       | \$ 95,562,266               | \$ 232,714,623 |

The accompanying notes to financial statements are an integral part of this statement.

**CITY OF ORMOND BEACH, FLORIDA**  
**BALANCE SHEET**  
**GOVERNMENTAL FUNDS**  
**SEPTEMBER 30, 2025**

|                                                                     | General              | Redevelopment Trust | Ormond Crossings Trust | Stormwater Drainage Utility | Municipal Airport   | Nonmajor Governmental Funds | Total Governmental Funds |
|---------------------------------------------------------------------|----------------------|---------------------|------------------------|-----------------------------|---------------------|-----------------------------|--------------------------|
| <b>ASSETS</b>                                                       |                      |                     |                        |                             |                     |                             |                          |
| Equity in pooled cash and investments                               | \$ 9,832,956         | \$ 4,548,594        | \$ 1,923,461           | \$ 6,491,973                | \$ 10,716           | \$ 13,126,611               | \$ 35,934,311            |
| Receivables, net                                                    | 1,836,541            | 6,544               | 1,803                  | 346,686                     | 46,896              | 21,926                      | 2,260,396                |
| Due from other governments                                          | 1,678,359            | -                   | -                      | 1,490,972                   | 43,422              | 281,085                     | 3,493,838                |
| Leases receivable                                                   | 673,904              | -                   | -                      | -                           | 2,385,320           | -                           | 3,059,224                |
| Advances to other funds                                             | 1,200,000            | -                   | -                      | -                           | -                   | -                           | 1,200,000                |
| Inventories                                                         | 187,951              | -                   | -                      | -                           | -                   | -                           | 187,951                  |
| Total assets                                                        | <u>\$ 15,775,037</u> | <u>\$ 4,555,138</u> | <u>\$ 1,925,264</u>    | <u>\$ 8,329,631</u>         | <u>\$ 2,486,354</u> | <u>\$ 15,071,747</u>        | <u>\$ 48,143,171</u>     |
| <b>LIABILITIES</b>                                                  |                      |                     |                        |                             |                     |                             |                          |
| Accounts payable and accrued liabilities                            | \$ 1,744,495         | \$ 509,939          | \$ -                   | \$ 622,197                  | \$ 18,372           | \$ 626,890                  | \$ 3,521,893             |
| Customer deposits                                                   | 34,459               | -                   | -                      | -                           | -                   | -                           | 34,459                   |
| Unearned revenue                                                    | 324,284              | -                   | -                      | -                           | -                   | -                           | 324,284                  |
| Advances from other funds                                           | -                    | -                   | -                      | -                           | 1,200,000           | -                           | 1,200,000                |
| Due to other funds                                                  | 176,073              | -                   | -                      | -                           | -                   | -                           | 176,073                  |
| Total liabilities                                                   | <u>2,279,311</u>     | <u>509,939</u>      | <u>-</u>               | <u>622,197</u>              | <u>1,218,372</u>    | <u>626,890</u>              | <u>5,256,709</u>         |
| <b>DEFERRED INFLOWS OF RESOURCES</b>                                |                      |                     |                        |                             |                     |                             |                          |
| Unavailable revenue                                                 | 64,514               | -                   | -                      | -                           | -                   | 8,497                       | 73,011                   |
| Related to leases                                                   | 641,906              | -                   | -                      | -                           | 2,257,359           | -                           | 2,899,265                |
| Total deferred inflows of resources                                 | <u>706,420</u>       | <u>-</u>            | <u>-</u>               | <u>-</u>                    | <u>2,257,359</u>    | <u>8,497</u>                | <u>2,972,276</u>         |
| <b>FUND BALANCES</b>                                                |                      |                     |                        |                             |                     |                             |                          |
| Nonspendable:                                                       |                      |                     |                        |                             |                     |                             |                          |
| Inventories                                                         | 187,951              | -                   | -                      | -                           | -                   | -                           | 187,951                  |
| Prepaid items                                                       | 365,326              | -                   | -                      | -                           | -                   | 1,642,125                   | 2,007,451                |
| Long-term advances                                                  | 1,200,000            | -                   | -                      | -                           | -                   | -                           | 1,200,000                |
| Restricted for:                                                     |                      |                     |                        |                             |                     |                             |                          |
| Ormond Memorial Art Museum                                          | 67,211               | -                   | -                      | -                           | -                   | -                           | 67,211                   |
| Building department                                                 | 1,329,892            | -                   | -                      | -                           | -                   | -                           | 1,329,892                |
| Downtown                                                            | -                    | 4,045,199           | -                      | -                           | -                   | -                           | 4,045,199                |
| North Mainland                                                      | -                    | -                   | 1,925,264              | -                           | -                   | -                           | 1,925,264                |
| Stormwater drainage                                                 | -                    | -                   | -                      | 7,707,434                   | -                   | -                           | 7,707,434                |
| Law enforcement                                                     | -                    | -                   | -                      | -                           | -                   | 541,614                     | 541,614                  |
| Debt service                                                        | -                    | -                   | -                      | -                           | -                   | 152,128                     | 152,128                  |
| Transportation impact                                               | -                    | -                   | -                      | -                           | -                   | 2,146,932                   | 2,146,932                |
| Capital expansion                                                   | -                    | -                   | -                      | -                           | -                   | 5,826,318                   | 5,826,318                |
| Committed to:                                                       |                      |                     |                        |                             |                     |                             |                          |
| Recreational facilities                                             | -                    | -                   | -                      | -                           | -                   | 551,747                     | 551,747                  |
| Assigned to:                                                        |                      |                     |                        |                             |                     |                             |                          |
| Economic development                                                | 147,368              | -                   | -                      | -                           | -                   | -                           | 147,368                  |
| Recreational facilities                                             | -                    | -                   | -                      | -                           | -                   | 468,569                     | 468,569                  |
| Grants                                                              | -                    | -                   | -                      | -                           | -                   | 75,444                      | 75,444                   |
| Debt service                                                        | -                    | -                   | -                      | -                           | -                   | 379,964                     | 379,964                  |
| Capital improvements                                                | -                    | -                   | -                      | -                           | -                   | 2,651,519                   | 2,651,519                |
| Subsequent year's budget                                            | 1,337,479            | -                   | -                      | -                           | -                   | -                           | 1,337,479                |
| Unassigned                                                          | 8,154,079            | -                   | -                      | -                           | (989,377)           | -                           | 7,164,702                |
| Total fund balances                                                 | <u>12,789,306</u>    | <u>4,045,199</u>    | <u>1,925,264</u>       | <u>7,707,434</u>            | <u>(989,377)</u>    | <u>14,436,360</u>           | <u>39,914,186</u>        |
| Total liabilities, deferred inflows of resources, and fund balances | <u>\$ 15,775,037</u> | <u>\$ 4,555,138</u> | <u>\$ 1,925,264</u>    | <u>\$ 8,329,631</u>         | <u>\$ 2,486,354</u> | <u>\$ 15,071,747</u>        | <u>\$ 48,143,171</u>     |

The accompanying notes to financial statements are an integral part of this statement.

**CITY OF ORMOND BEACH, FLORIDA**  
**RECONCILIATION OF THE BALANCE SHEET—GOVERNMENTAL FUNDS**  
**TO THE STATEMENT OF NET POSITION**  
**SEPTEMBER 30, 2025**

**Fund balances - total governmental funds** \$ 39,914,186

Amounts reported for governmental activities in the statement of activities are different because:

Capital assets used in governmental activities are not financial resources and, therefore, are not reported in the funds

|                                   |                      |             |
|-----------------------------------|----------------------|-------------|
| Total governmental capital assets | 291,209,810          |             |
| Less: accumulated depreciation    | <u>(163,684,395)</u> | 127,525,415 |

On the governmental fund statements, a net pension liability is not recorded unless an amount is legally due and payable (no such liability exists at the end of the current fiscal year). On the Statement of Net Position, the City's net pension (liability) asset of the defined benefit pension plans is reported as a noncurrent (liability) asset. Additionally, deferred outflows and deferred inflows related to pensions are also reported.

|                                       |                    |              |
|---------------------------------------|--------------------|--------------|
| Net pension liability                 | (11,704,051)       |              |
| Deferred outflows related to pensions | 3,752,576          |              |
| Deferred inflows related to pensions  | <u>(9,582,295)</u> | (17,533,770) |

On the governmental fund statements, an OPEB liability is not recorded unless an amount is due and payable (no such liability exists at the end of the current fiscal year). On the Statement of Net Position, the City's total OPEB liability is reported as a noncurrent liability. Additionally, deferred outflows and deferred inflows related to OPEB are also reported.

|                                   |                    |             |
|-----------------------------------|--------------------|-------------|
| Total OPEB liability              | (3,663,610)        |             |
| Deferred outflows related to OPEB | 573,715            |             |
| Deferred inflows related to OPEB  | <u>(1,523,619)</u> | (4,613,514) |

Internal service funds are used by management to charge the costs of data processing, insurance, fleet lease and maintenance, building maintenance, and internal loans to individual funds. These assets and liabilities of the internal service funds are included in governmental activities in the Statement of Net Position.

|                    |  |         |
|--------------------|--|---------|
| Total net position |  | 217,031 |
|--------------------|--|---------|

Because some property taxes and other revenues will not be collected for several months after the close of the City's fiscal year end, they are not considered as "available" revenues in the governmental funds, and therefore, reported as deferred inflows of unavailable revenues. In the Statement of Net Position, which is presented on an accrual basis, no deferral is reported since the revenue is fully recognized in the Statement of Activities.

73,011

Long-term liabilities, including bonds payable and notes payable, are not due and payable in the current period and, therefore, are not reported in the funds. These liabilities, deferred outflows, and other debt-related deferred charges consist of the following:

|                          |                    |             |
|--------------------------|--------------------|-------------|
| Bonds and notes payable  | (3,880,000)        |             |
| Financed purchases       | (2,134,042)        |             |
| Accrued interest payable | (24,767)           |             |
| Compensated absences     | <u>(2,391,193)</u> | (8,430,002) |

|                                                |  |                              |
|------------------------------------------------|--|------------------------------|
| <b>Net position of governmental activities</b> |  | <u><u>\$ 137,152,357</u></u> |
|------------------------------------------------|--|------------------------------|

The accompanying notes to financial statements are an integral part of this statement.

**CITY OF ORMOND BEACH, FLORIDA**  
**STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**GOVERNMENTAL FUNDS**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                          | General              | Redevelopment Trust | Ormond Crossings Trust | Stormwater Drainage Utility | Municipal Airport   | Nonmajor Governmental Funds | Total Governmental Funds |
|----------------------------------------------------------|----------------------|---------------------|------------------------|-----------------------------|---------------------|-----------------------------|--------------------------|
| <b>Revenues</b>                                          |                      |                     |                        |                             |                     |                             |                          |
| Taxes                                                    | \$ 29,867,751        | \$ -                | \$ -                   | \$ -                        | \$ -                | \$ 6,344,044                | \$ 36,211,795            |
| Permits and fees                                         | 2,323,106            | -                   | -                      | -                           | -                   | -                           | 2,323,106                |
| Intergovernmental                                        | 7,008,483            | 1,232,024           | 208,825                | 1,559,331                   | 226,796             | 511,472                     | 10,746,931               |
| Charges for services                                     | 1,093,680            | -                   | -                      | 2,660,624                   | -                   | -                           | 3,754,304                |
| Fines and forfeitures                                    | 109,486              | -                   | -                      | -                           | -                   | 223,398                     | 332,884                  |
| Miscellaneous                                            | 4,053,032            | 123,313             | 38,891                 | 167,772                     | 202,859             | 1,569,158                   | 6,155,025                |
| Total revenues                                           | <u>44,455,538</u>    | <u>1,355,337</u>    | <u>247,716</u>         | <u>4,387,727</u>            | <u>429,655</u>      | <u>8,648,072</u>            | <u>59,524,045</u>        |
| <b>Expenditures</b>                                      |                      |                     |                        |                             |                     |                             |                          |
| Current:                                                 |                      |                     |                        |                             |                     |                             |                          |
| General government                                       | 10,053,650           | 78,375              | -                      | -                           | -                   | 15,938                      | 10,147,963               |
| Public safety                                            | 21,709,312           | -                   | -                      | -                           | -                   | 1,307,666                   | 23,016,978               |
| Public works                                             | 6,879,063            | 21,773              | -                      | 1,672,602                   | 382,011             | 223,701                     | 9,179,150                |
| Culture and recreation                                   | 8,111,948            | 184,500             | -                      | -                           | -                   | 108,369                     | 8,404,817                |
| Human services                                           | 90,507               | -                   | -                      | -                           | -                   | 29,919                      | 120,426                  |
| Economic development                                     | 388,231              | -                   | -                      | -                           | -                   | -                           | 388,231                  |
| Capital improvements                                     | 2,134,811            | 3,191,690           | -                      | 3,687,232                   | 319,009             | 5,767,535                   | 15,100,277               |
| Debt service:                                            |                      |                     |                        |                             |                     |                             |                          |
| Principal                                                | -                    | -                   | -                      | -                           | -                   | 734,865                     | 734,865                  |
| Interest and other                                       | -                    | -                   | -                      | -                           | -                   | 289,049                     | 289,049                  |
| Total expenditures                                       | <u>49,367,522</u>    | <u>3,476,338</u>    | <u>-</u>               | <u>5,359,834</u>            | <u>701,020</u>      | <u>8,477,042</u>            | <u>67,381,756</u>        |
| <b>Excess (deficiency) of revenues over expenditures</b> | <u>(4,911,984)</u>   | <u>(2,121,001)</u>  | <u>247,716</u>         | <u>(972,107)</u>            | <u>(271,365)</u>    | <u>171,030</u>              | <u>(7,857,711)</u>       |
| <b>Other financing sources (uses)</b>                    |                      |                     |                        |                             |                     |                             |                          |
| Transfers in                                             | 6,852,948            | 700,392             | 154,716                | -                           | 129,696             | 3,116,610                   | 10,954,362               |
| Transfers out                                            | (3,113,623)          | -                   | -                      | (280,476)                   | (20,964)            | (1,151,991)                 | (4,567,054)              |
| Total other financing sources (uses)                     | <u>3,739,325</u>     | <u>700,392</u>      | <u>154,716</u>         | <u>(280,476)</u>            | <u>108,732</u>      | <u>1,964,619</u>            | <u>6,387,308</u>         |
| <b>Net change in fund balances</b>                       | <u>(1,172,659)</u>   | <u>(1,420,609)</u>  | <u>402,432</u>         | <u>(1,252,583)</u>          | <u>(162,633)</u>    | <u>2,135,649</u>            | <u>(1,470,403)</u>       |
| <b>Fund balances, beginning of year</b>                  | 13,961,965           | 5,465,808           | 1,522,832              | 8,960,017                   | (826,744)           | 12,300,711                  | 41,384,589               |
| <b>Fund balances, end of year</b>                        | <u>\$ 12,789,306</u> | <u>\$ 4,045,199</u> | <u>\$ 1,925,264</u>    | <u>\$ 7,707,434</u>         | <u>\$ (989,377)</u> | <u>\$ 14,436,360</u>        | <u>\$ 39,914,186</u>     |

The accompanying notes to financial statements are an integral part of this statement



**CITY OF ORMOND BEACH, FLORIDA**  
**RECONCILIATION OF THE STATEMENT OF REVENUES, EXPENDITURES,**  
**AND CHANGES IN FUND BALANCES—GOVERNMENTAL FUNDS**  
**TO THE STATEMENT OF ACTIVITIES**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

Net change in fund balances - total governmental funds \$ (1,470,403)

Amounts reported for governmental activities in the Statement of Activities  
are different because:

Governmental funds report capital outlays as expenditures. However, in Statement of Activities the cost of those assets is depreciated over their estimated useful lives.

|                                       |             |           |
|---------------------------------------|-------------|-----------|
| Expenditures for capital assets       | 15,100,277  |           |
| Contributed capital assets            | 2,033       |           |
| Loss on disposition of capital assets | (10,874)    |           |
| Depreciation expense                  | (7,594,731) | 7,496,705 |

Bond and loan proceeds are reported as financing sources in the governmental funds. However, the issuance of debt is reported as long-term debt payable in the statement of net position. Repayment of bond and note principal is an expenditure in the governmental funds, but the repayment of debt principal reduces long-term liabilities in the statement of net position. These amounts are as follows:

|                                               |         |
|-----------------------------------------------|---------|
| Principal repayment of general long-term debt | 734,865 |
|-----------------------------------------------|---------|

Revenues in the statement of activities that do not provide current financial resources are not reported as revenues in governmental funds (change in delinquent taxes and liens). (150,237)

Governmental funds report contributions to defined benefit pension and OPEB plans as expenditures. However, in the Statement of Activities, the amount contributed to defined benefit pension and OPEB plans reduces future net pension liability and total OPEB liability. Also included in pension and OPEB expense in the Statement of Activities are amounts required to be amortized.

|                                                                                   |           |
|-----------------------------------------------------------------------------------|-----------|
| Change in net pension liability and deferred inflows/outflows related to pensions | 1,317,740 |
| Change in total OPEB liability and deferred inflows/outflows related to OPEB      | 101,790   |

Under the modified accrual basis of accounting used in the governmental funds, expenditures are not recognized for transactions that are not normally paid with expendable available financial resources. In the Statement of Activities, however, which is presented on the accrual basis, expenses and liabilities are reported regardless of when financial resources are available. In addition, interest on long-term debt is not recognized under the modified accrual basis of accounting until due, rather than as it accrues. These adjustments are as follows:

|                                              |           |
|----------------------------------------------|-----------|
| Change in accrued interest on long-term debt | 1,682     |
| Change in compensated absences liability     | (121,571) |

Internal service funds are used by management to charge the costs of certain activities to individual funds. The portion of net revenue(expense) of internal service funds reported within governmental activities for the year.

385,189

|                                                          |                     |
|----------------------------------------------------------|---------------------|
| <b>Change in net position of governmental activities</b> | <b>\$ 8,295,760</b> |
|----------------------------------------------------------|---------------------|

The accompanying notes to financial statements are an integral part of this statement.



**CITY OF ORMOND BEACH, FLORIDA**  
**STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - GENERAL FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                              | <b>Budgeted Amounts</b> |                      | <b>Variance with<br/>Final Budget</b> |
|--------------------------------------------------------------|-------------------------|----------------------|---------------------------------------|
|                                                              | <b>Original</b>         | <b>Final</b>         |                                       |
| <b>Revenues</b>                                              |                         |                      |                                       |
| Taxes                                                        | \$ 29,303,823           | \$ 29,303,823        | \$ 563,928                            |
| Permits and fees                                             | 1,809,850               | 1,809,850            | 513,256                               |
| Intergovernmental                                            | 5,162,000               | 7,401,241            | (392,758)                             |
| Charges for services                                         | 880,638                 | 880,638              | 213,042                               |
| Fines and forfeitures                                        | 73,000                  | 73,000               | 36,486                                |
| Miscellaneous                                                | 3,837,857               | 4,075,857            | (22,825)                              |
| Total revenues                                               | 41,067,168              | 43,544,409           | 911,129                               |
| <b>Expenditures</b>                                          |                         |                      |                                       |
| Current:                                                     |                         |                      |                                       |
| General government:                                          |                         |                      |                                       |
| Legislation and policy                                       | 3,171,361               | 3,223,361            | (249,190)                             |
| Finance                                                      | 3,524,350               | 3,565,850            | 1,382                                 |
| Human resources                                              | 730,163                 | 730,163              | 93,908                                |
| Planning                                                     | 873,037                 | 873,037              | 27,733                                |
| Building inspections                                         | 1,567,364               | 1,522,364            | (12,708)                              |
| Total general government                                     | 9,866,275               | 9,914,775            | (138,875)                             |
| Public safety:                                               |                         |                      |                                       |
| Police                                                       | 13,179,000              | 13,359,000           | 18,319                                |
| Fire                                                         | 8,202,046               | 8,217,046            | (151,585)                             |
| Total public safety                                          | 21,381,046              | 21,576,046           | (133,266)                             |
| Public works                                                 | 7,102,680               | 7,300,520            | 421,457                               |
| Culture and recreation                                       | 7,714,682               | 7,809,030            | (302,918)                             |
| Human services                                               | 91,528                  | 91,528               | 1,021                                 |
| Economic development                                         | 437,322                 | 437,322              | 49,091                                |
| Non-departmental                                             | 511,766                 | 149,426              | 149,426                               |
| Capital improvements                                         | -                       | 2,300,000            | 165,189                               |
| Total expenditures                                           | 47,105,299              | 49,578,647           | 211,125                               |
| <b>Excess (deficiency) of revenues<br/>over expenditures</b> | <b>(6,038,131)</b>      | <b>(6,034,238)</b>   | <b>1,122,254</b>                      |
| <b>Other financing sources (uses)</b>                        |                         |                      |                                       |
| Transfers in                                                 | 6,852,944               | 6,852,944            | 4                                     |
| Transfers out                                                | (2,079,813)             | (3,113,628)          | 5                                     |
| Total other financing sources (uses)                         | 4,773,131               | 3,739,316            | 9                                     |
| <b>Net change in fund balance</b>                            | <b>(1,265,000)</b>      | <b>(2,294,922)</b>   | <b>1,122,263</b>                      |
| <b>Fund balance, beginning of year</b>                       | <b>13,961,965</b>       | <b>13,961,965</b>    | <b>-</b>                              |
| <b>Fund balance, end of year</b>                             | <b>\$ 12,696,965</b>    | <b>\$ 11,667,043</b> | <b>\$ 1,122,263</b>                   |

The accompanying notes to financial statements are an integral part of this statement

**CITY OF ORMOND BEACH, FLORIDA**  
**STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - REDEVELOPMENT TRUST FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                              | <b>Budgeted Amounts</b> |                     | <b>Actual</b>       | <b>Variance with<br/>Final Budget</b> |
|--------------------------------------------------------------|-------------------------|---------------------|---------------------|---------------------------------------|
|                                                              | <b>Original</b>         | <b>Final</b>        |                     |                                       |
| <b>Revenues</b>                                              |                         |                     |                     |                                       |
| Intergovernmental                                            | \$ 1,121,241            | \$ 1,121,241        | \$ 1,232,024        | \$ 110,783                            |
| Miscellaneous                                                | 500                     | 500                 | 123,313             | 122,813                               |
| Total revenues                                               | <u>1,121,741</u>        | <u>1,121,741</u>    | <u>1,355,337</u>    | <u>233,596</u>                        |
| <b>Expenditures</b>                                          |                         |                     |                     |                                       |
| Current:                                                     |                         |                     |                     |                                       |
| General government:                                          |                         |                     |                     |                                       |
| Planning                                                     | 71,050                  | 79,050              | 78,375              | 675                                   |
| Public works                                                 | 28,021                  | 28,021              | 21,773              | 6,248                                 |
| Culture and recreation                                       | 190,035                 | 190,035             | 184,500             | 5,535                                 |
| Human services                                               | 200,000                 | 200,000             | -                   | 200,000                               |
| Nondepartmental                                              | 1,113,032               | -                   | -                   | -                                     |
| Capital improvements                                         | 220,000                 | 3,849,498           | 3,191,690           | 657,808                               |
| Total expenditures                                           | <u>1,822,138</u>        | <u>4,346,604</u>    | <u>3,476,338</u>    | <u>870,266</u>                        |
| <b>Excess (deficiency) of revenues<br/>over expenditures</b> | <u>(700,397)</u>        | <u>(3,224,863)</u>  | <u>(2,121,001)</u>  | <u>1,103,862</u>                      |
| <b>Other financing sources (uses)</b>                        |                         |                     |                     |                                       |
| Transfers in                                                 | 700,397                 | 700,397             | 700,392             | (5)                                   |
| <b>Total other financing sources (uses)</b>                  | <u>700,397</u>          | <u>700,397</u>      | <u>700,392</u>      | <u>(5)</u>                            |
| <b>Net change in fund balance</b>                            | <u>-</u>                | <u>(2,524,466)</u>  | <u>(1,420,609)</u>  | <u>1,103,857</u>                      |
| <b>Fund balance, beginning of year</b>                       | 5,465,808               | 5,465,808           | 5,465,808           | -                                     |
| <b>Fund balance, end of year</b>                             | <u>\$ 5,465,808</u>     | <u>\$ 2,941,342</u> | <u>\$ 4,045,199</u> | <u>\$ 1,103,857</u>                   |

The accompanying notes to financial statements are an integral part of this statement

**CITY OF ORMOND BEACH, FLORIDA**  
**STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - ORMOND CROSSINGS TRUST FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                              | <b>Budgeted Amounts</b> |              | <b>Actual</b> | <b>Variance with<br/>Final Budget</b> |
|--------------------------------------------------------------|-------------------------|--------------|---------------|---------------------------------------|
|                                                              | <b>Original</b>         | <b>Final</b> |               |                                       |
| <b>Revenues</b>                                              |                         |              |               |                                       |
| Intergovernmental                                            | \$ 190,378              | \$ 190,378   | \$ 208,825    | \$ 18,447                             |
| Miscellaneous                                                | 1,704                   | 1,704        | 38,891        | 37,187                                |
| Total revenues                                               | 192,082                 | 192,082      | 247,716       | 55,634                                |
| <b>Expenditures</b>                                          |                         |              |               |                                       |
| Current:                                                     |                         |              |               |                                       |
| General government:                                          |                         |              |               |                                       |
| Nondepartmental                                              | 346,798                 | 311,798      | -             | 311,798                               |
| Capital improvements                                         | -                       | 35,000       | -             | 35,000                                |
| Total expenditures                                           | 346,798                 | 346,798      | -             | 346,798                               |
| <b>Excess (deficiency) of revenues<br/>over expenditures</b> | (154,716)               | (154,716)    | 247,716       | 402,432                               |
| <b>Other financing sources (uses)</b>                        |                         |              |               |                                       |
| Transfers in                                                 | 154,716                 | 154,716      | 154,716       | -                                     |
| Total other financing sources (uses)                         | 154,716                 | 154,716      | 154,716       | -                                     |
| <b>Net change in fund balance</b>                            | -                       | -            | 402,432       | 402,432                               |
| <b>Fund balance, beginning of year</b>                       | 1,522,832               | 1,522,832    | 1,522,832     | -                                     |
| <b>Fund balance, end of year</b>                             | \$ 1,522,832            | \$ 1,522,832 | \$ 1,925,264  | \$ 402,432                            |

The accompanying notes to financial statements are an integral part of this statement

**CITY OF ORMOND BEACH, FLORIDA**  
**STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - STORMWATER DRAINAGE UTILITY FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                              | <b>Budgeted Amounts</b> |                     | <b>Actual</b>       | <b>Variance with<br/>Final Budget</b> |
|--------------------------------------------------------------|-------------------------|---------------------|---------------------|---------------------------------------|
|                                                              | <b>Original</b>         | <b>Final</b>        |                     |                                       |
| <b>Revenues</b>                                              |                         |                     |                     |                                       |
| Intergovernmental                                            | \$ -                    | \$ -                | \$ 1,559,331        | \$ 1,559,331                          |
| Charges for services                                         | 2,575,000               | 2,575,000           | 2,660,624           | 85,624                                |
| Miscellaneous                                                | 100,000                 | 100,000             | 167,772             | 67,772                                |
| <b>Total revenues</b>                                        | <b>2,675,000</b>        | <b>2,675,000</b>    | <b>4,387,727</b>    | <b>1,712,727</b>                      |
| <b>Expenditures</b>                                          |                         |                     |                     |                                       |
| Current:                                                     |                         |                     |                     |                                       |
| Public works                                                 | 1,648,782               | 1,658,782           | 1,672,602           | (13,820)                              |
| Capital improvements                                         | 1,505,000               | 3,763,990           | 3,687,232           | 76,758                                |
| <b>Total expenditures</b>                                    | <b>3,153,782</b>        | <b>5,422,772</b>    | <b>5,359,834</b>    | <b>62,938</b>                         |
| <b>Excess (deficiency) of revenues<br/>over expenditures</b> | <b>(478,782)</b>        | <b>(2,747,772)</b>  | <b>(972,107)</b>    | <b>1,775,665</b>                      |
| <b>Other financing sources (uses)</b>                        |                         |                     |                     |                                       |
| Transfers out                                                | (280,465)               | (280,465)           | (280,476)           | (11)                                  |
| <b>Total other financing sources (uses)</b>                  | <b>(280,465)</b>        | <b>(280,465)</b>    | <b>(280,476)</b>    | <b>(11)</b>                           |
| <b>Net change in fund balance</b>                            | <b>(759,247)</b>        | <b>(3,028,237)</b>  | <b>(1,252,583)</b>  | <b>1,775,654</b>                      |
| <b>Fund balance, beginning of year</b>                       | <b>8,960,017</b>        | <b>8,960,017</b>    | <b>8,960,017</b>    | <b>-</b>                              |
| <b>Fund balance, end of year</b>                             | <b>\$ 8,200,770</b>     | <b>\$ 5,931,780</b> | <b>\$ 7,707,434</b> | <b>\$ 1,775,654</b>                   |

The accompanying notes to financial statements are an integral part of this statement

**CITY OF ORMOND BEACH, FLORIDA**  
**STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - MUNICIPAL AIRPORT FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                              | <b>Budgeted Amounts</b> |                       | <b>Variance with<br/>Final Budget</b> |
|--------------------------------------------------------------|-------------------------|-----------------------|---------------------------------------|
|                                                              | <b>Original</b>         | <b>Final</b>          |                                       |
| <b>Revenues</b>                                              |                         |                       |                                       |
| Intergovernmental                                            | \$ -                    | \$ -                  | \$ 226,796                            |
| Miscellaneous                                                | 112,000                 | 112,000               | 202,859                               |
| Total revenues                                               | 112,000                 | 112,000               | 429,655                               |
| <b>Expenditures</b>                                          |                         |                       |                                       |
| Current:                                                     |                         |                       |                                       |
| Public works                                                 | 348,453                 | 348,453               | 382,011                               |
| Capital improvements                                         | 0                       | 445,500               | 319,009                               |
| Total expenditures                                           | 348,453                 | 793,953               | 701,020                               |
| <b>Excess (deficiency) of revenues<br/>over expenditures</b> | <b>(236,453)</b>        | <b>(681,953)</b>      | <b>(271,365)</b>                      |
| <b>Other financing sources (uses)</b>                        |                         |                       |                                       |
| Transfers in                                                 | 129,700                 | 129,700               | 129,696                               |
| Transfers out                                                | (20,965)                | (20,965)              | (20,964)                              |
| Total other financing sources (uses)                         | 108,735                 | 108,735               | 108,732                               |
| <b>Net change in fund balance</b>                            | <b>(127,718)</b>        | <b>(573,218)</b>      | <b>(162,633)</b>                      |
| <b>Fund balance, beginning of year</b>                       | <b>(826,744)</b>        | <b>(826,744)</b>      | <b>(826,744)</b>                      |
| <b>Fund balance, end of year</b>                             | <b>\$ (954,462)</b>     | <b>\$ (1,399,962)</b> | <b>\$ (989,377)</b>                   |

The accompanying notes to financial statements are an integral part of this statement

**CITY OF ORMOND BEACH, FLORIDA**  
**STATEMENT OF NET POSITION**  
**PROPRIETARY FUNDS**  
**SEPTEMBER 30, 2025**

|                                                  | Business-type Activities - Enterprise Funds |                |                | Governmental<br>Activities<br>Internal<br>Service Fund |
|--------------------------------------------------|---------------------------------------------|----------------|----------------|--------------------------------------------------------|
|                                                  | Water and<br>Sewer                          | Solid<br>Waste | Total          |                                                        |
| <b>ASSETS</b>                                    |                                             |                |                |                                                        |
| Current assets:                                  |                                             |                |                |                                                        |
| Equity in pooled cash and investments            | \$ 13,114,542                               | \$ 1,601,762   | \$ 14,716,304  | \$ 2,496,410                                           |
| Accounts receivable - net                        | 2,351,515                                   | 1,388,405      | 3,739,920      | 250                                                    |
| Due from other governments                       | 1,965,253                                   | -              | 1,965,253      | 9,372                                                  |
| Prepaid items                                    | -                                           | -              | -              | 11,761                                                 |
| Restricted equity in pooled cash and investments | 3,531,563                                   | -              | 3,531,563      | -                                                      |
| Total current assets                             | 20,962,873                                  | 2,990,167      | 23,953,040     | 2,517,793                                              |
| Noncurrent assets:                               |                                             |                |                |                                                        |
| Restricted equity in pooled cash and investments | 15,866,993                                  | 126,455        | 15,993,448     | -                                                      |
| Capital assets:                                  |                                             |                |                |                                                        |
| Land                                             | 1,072,485                                   | -              | 1,072,485      | -                                                      |
| Intangibles                                      | 1,047,342                                   | -              | 1,047,342      | -                                                      |
| Building and improvements other than buildings   | 265,728,065                                 | 318,210        | 266,046,275    | -                                                      |
| Equipment                                        | 6,440,158                                   | 20,731         | 6,460,889      | -                                                      |
|                                                  | 274,288,050                                 | 338,941        | 274,626,991    | -                                                      |
| Less accumulated depreciation                    | (192,094,035)                               | (132,513)      | (192,226,548)  | -                                                      |
|                                                  | 82,194,015                                  | 206,428        | 82,400,443     | -                                                      |
| Construction in progress                         | 8,497,613                                   | -              | 8,497,613      | -                                                      |
| Total noncurrent assets                          | 106,558,621                                 | 332,883        | 106,891,504    | -                                                      |
| Total assets                                     | \$ 127,521,494                              | \$ 3,323,050   | \$ 130,844,544 | \$ 2,517,793                                           |
| <b>DEFERRED OUTFLOWS OF RESOURCES</b>            |                                             |                |                |                                                        |
| Deferred outflows related to pensions            | \$ 30,333                                   | \$ 2,766       | \$ 33,099      | \$ -                                                   |
| Deferred outflows related to OPEB                | 107,179                                     | 5,456          | 112,635        | -                                                      |
| Total deferred outflows                          | \$ 137,512                                  | \$ 8,222       | \$ 145,734     | \$ -                                                   |
| <b>LIABILITIES</b>                               |                                             |                |                |                                                        |
| Current liabilities:                             |                                             |                |                |                                                        |
| Accounts payable                                 | \$ 3,637,831                                | \$ 797,850     | \$ 4,435,681   | \$ 34,602                                              |
| Accrued liabilities                              | 147,235                                     | 7,619          | 154,854        | -                                                      |
| Compensated absences                             | 248,123                                     | 17,084         | 265,207        | -                                                      |
| Claims payable                                   | -                                           | -              | -              | 519,427                                                |
| Current portion of landfill closure              | -                                           | 89,829         | 89,829         | -                                                      |
| Payable from restricted assets:                  |                                             |                |                |                                                        |
| Customer deposits                                | 1,009,482                                   | -              | 1,009,482      | -                                                      |
| Current portion of bonds and loans payable       | 2,431,554                                   | -              | 2,431,554      | -                                                      |
| Accrued interest payable                         | 90,527                                      | -              | 90,527         | -                                                      |
| Total current liabilities                        | 7,564,752                                   | 912,382        | 8,477,134      | 554,029                                                |
| Noncurrent liabilities:                          |                                             |                |                |                                                        |
| Compensated absences                             | 242,463                                     | -              | 242,463        | -                                                      |
| Claims payable                                   | -                                           | -              | -              | 1,746,733                                              |
| Bonds payable                                    | 18,634,000                                  | -              | 18,634,000     | -                                                      |
| Loans from other governments                     | 4,747,026                                   | -              | 4,747,026      | -                                                      |
| Landfill closure liability                       | -                                           | 359,314        | 359,314        | -                                                      |
| Total OPEB liability                             | 823,385                                     | 29,408         | 852,793        | -                                                      |
| Net pension liability                            | 623,257                                     | 56,825         | 680,082        | -                                                      |
| Total noncurrent liabilities                     | 25,070,131                                  | 445,547        | 25,515,678     | 1,746,733                                              |
| Total liabilities                                | \$ 32,634,883                               | \$ 1,357,929   | \$ 33,992,812  | \$ 2,300,762                                           |
| <b>DEFERRED INFLOWS OF RESOURCES</b>             |                                             |                |                |                                                        |
| Deferred inflows related to pensions             | \$ 1,041,150                                | \$ 94,925      | \$ 1,136,075   | \$ -                                                   |
| Deferred inflows related to OPEB                 | 284,635                                     | 14,490         | 299,125        | -                                                      |
| Total deferred inflows                           | \$ 1,325,785                                | \$ 109,415     | \$ 1,435,200   | \$ -                                                   |
| <b>NET POSITION</b>                              |                                             |                |                |                                                        |
| Net investment in capital assets                 | \$ 75,538,491                               | \$ 206,428     | \$ 75,744,919  | \$ -                                                   |
| Restricted for construction                      | 9,613,192                                   | -              | 9,613,192      | -                                                      |
| Restricted for debt service                      | 3,874,036                                   | -              | 3,874,036      | -                                                      |
| Restricted for renewal and replacement           | 400,000                                     | -              | 400,000        | -                                                      |
| Unrestricted                                     | 4,272,619                                   | 1,657,500      | 5,930,119      | 217,031                                                |
| Total net position                               | \$ 93,698,338                               | \$ 1,863,928   | \$ 95,562,266  | \$ 217,031                                             |

The accompanying notes to financial statements are an integral part of this statement.

**CITY OF ORMOND BEACH, FLORIDA**  
**STATEMENT OF REVENUE, EXPENSES, AND CHANGES IN NET POSITION**  
**PROPRIETARY FUNDS**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                           | <b>Business-type Activities - Enterprise Funds</b> |                            |                             | <b>Governmental Activities</b> |
|-----------------------------------------------------------|----------------------------------------------------|----------------------------|-----------------------------|--------------------------------|
|                                                           | <b>Water and Sewer</b>                             | <b>Solid Waste</b>         | <b>Total</b>                | <b>Internal Service Fund</b>   |
| <b>Operating revenues:</b>                                |                                                    |                            |                             |                                |
| Charges for services:                                     |                                                    |                            |                             |                                |
| Water sales                                               | \$ 12,935,510                                      | \$ -                       | \$ 12,935,510               | \$ -                           |
| Service charges                                           | 372,840                                            | -                          | 372,840                     | -                              |
| Sewer charges                                             | 10,986,375                                         | -                          | 10,986,375                  | -                              |
| Refuse charges                                            | -                                                  | 12,207,627                 | 12,207,627                  | -                              |
| Franchise fees                                            | -                                                  | 2,110,300                  | 2,110,300                   | -                              |
| Internal charges                                          | -                                                  | -                          | -                           | 3,710,758                      |
| Miscellaneous                                             | (3,581)                                            | (3)                        | (3,584)                     | 521,890                        |
| Total operating revenues                                  | <u>24,291,144</u>                                  | <u>14,317,924</u>          | <u>38,609,068</u>           | <u>4,232,648</u>               |
| <b>Operating expenses:</b>                                |                                                    |                            |                             |                                |
| Billing and customer service                              | 1,707,918                                          | -                          | 1,707,918                   | -                              |
| Water system                                              | 6,634,432                                          | -                          | 6,634,432                   | -                              |
| Sewer system                                              | 6,413,977                                          | -                          | 6,413,977                   | -                              |
| Solid waste system                                        | -                                                  | 13,645,386                 | 13,645,386                  | -                              |
| Claims and insurance                                      | -                                                  | -                          | -                           | 1,991,503                      |
| Depreciation                                              | 7,671,342                                          | 12,735                     | 7,684,077                   | -                              |
| Total operating expenses                                  | <u>22,427,669</u>                                  | <u>13,658,121</u>          | <u>36,085,790</u>           | <u>1,991,503</u>               |
| <b>Operating income</b>                                   | <u>1,863,475</u>                                   | <u>659,803</u>             | <u>2,523,278</u>            | <u>2,241,145</u>               |
| <b>Nonoperating income (expenses):</b>                    |                                                    |                            |                             |                                |
| Interest revenue (loss)                                   | 838,740                                            | 32,937                     | 871,677                     | -                              |
| Operating grants                                          | 2,785,496                                          | 1,452,000                  | 4,237,496                   | -                              |
| Interest/amortization expense                             | (988,589)                                          | -                          | (988,589)                   | -                              |
| Total nonoperating revenues (expenses)                    | <u>2,635,647</u>                                   | <u>1,484,937</u>           | <u>4,120,584</u>            | <u>-</u>                       |
| <b>Income before contributions, grants, and transfers</b> | <u>4,499,122</u>                                   | <u>2,144,740</u>           | <u>6,643,862</u>            | <u>2,241,145</u>               |
| Capital contributions, grants, and impact fees            | 2,247,906                                          | -                          | 2,247,906                   | -                              |
| Transfers in                                              | 577,996                                            | -                          | 577,996                     | -                              |
| Transfers out                                             | (3,388,476)                                        | (1,720,872)                | (5,109,348)                 | (1,855,956)                    |
| <b>Change in net position</b>                             | <u>3,936,548</u>                                   | <u>423,868</u>             | <u>4,360,416</u>            | <u>385,189</u>                 |
| <b>Total net position - beginning of year</b>             | <u>89,761,790</u>                                  | <u>1,440,060</u>           | <u>91,201,850</u>           | <u>(168,158)</u>               |
| <b>Total net position - ending of year</b>                | <u><u>\$ 93,698,338</u></u>                        | <u><u>\$ 1,863,928</u></u> | <u><u>\$ 95,562,266</u></u> | <u><u>\$ 217,031</u></u>       |

The accompanying notes to financial statements are an integral part of this statement.

**CITY OF ORMOND BEACH, FLORIDA**  
**STATEMENT OF CASH FLOWS**  
**PROPRIETARY FUNDS**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                                                  | <b>Business-type Activities - Enterprise Funds</b> |                     |                      | <b>Governmental Activities Internal Service Fund</b> |
|--------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------|----------------------|------------------------------------------------------|
|                                                                                                  | <b>Water and Sewer</b>                             | <b>Solid Waste</b>  | <b>Total</b>         |                                                      |
| <b>Cash flows from operating activities</b>                                                      |                                                    |                     |                      |                                                      |
| Cash received from customers                                                                     | \$ 22,403,219                                      | \$ 14,277,330       | \$ 36,680,549        | \$ 4,232,648                                         |
| Cash paid to employees                                                                           | (6,037,423)                                        | (278,577)           | (6,316,000)          | -                                                    |
| Cash paid to suppliers                                                                           | (5,827,035)                                        | (11,780,209)        | (17,607,244)         | (2,441,504)                                          |
| Net cash provided by (used in) operating activities                                              | <u>10,538,761</u>                                  | <u>2,218,544</u>    | <u>12,757,305</u>    | <u>1,791,144</u>                                     |
| <b>Cash flows from noncapital financing activities</b>                                           |                                                    |                     |                      |                                                      |
| Transfers from other funds                                                                       | 577,996                                            | -                   | 577,996              | -                                                    |
| Transfers to other funds                                                                         | (3,388,476)                                        | (1,720,872)         | (5,109,348)          | (1,855,956)                                          |
| Operating grants                                                                                 | 2,785,496                                          | -                   | 2,785,496            | -                                                    |
| Net cash provided by (used in) noncapital financing activities                                   | <u>(24,984)</u>                                    | <u>(1,720,872)</u>  | <u>(1,745,856)</u>   | <u>(1,855,956)</u>                                   |
| <b>Cash flows from capital and related financing activities</b>                                  |                                                    |                     |                      |                                                      |
| Acquisition and construction of capital assets                                                   | (15,452,232)                                       | -                   | (15,452,232)         | -                                                    |
| Capital grants and impact fees                                                                   | 2,243,143                                          | -                   | 2,243,143            | -                                                    |
| Principal payments of long-term debt                                                             | (3,874,035)                                        | -                   | (3,874,035)          | -                                                    |
| Interest paid                                                                                    | (1,000,070)                                        | -                   | (1,000,070)          | -                                                    |
| Net cash provided by (used in) capital and related financing activities                          | <u>(18,083,194)</u>                                | <u>-</u>            | <u>(18,083,194)</u>  | <u>-</u>                                             |
| <b>Cash flows from investing activities</b>                                                      |                                                    |                     |                      |                                                      |
| Interest received                                                                                | 838,740                                            | 32,937              | 871,677              | -                                                    |
| <b>Net change in cash and cash equivalents</b>                                                   | <u>(6,730,677)</u>                                 | <u>530,609</u>      | <u>(6,200,068)</u>   | <u>(64,812)</u>                                      |
| <b>Cash and cash equivalents, beginning of year</b>                                              | <u>39,243,775</u>                                  | <u>1,197,608</u>    | <u>40,441,383</u>    | <u>2,561,222</u>                                     |
| <b>Cash and cash equivalents, end of year</b>                                                    | <u>\$ 32,513,098</u>                               | <u>\$ 1,728,217</u> | <u>\$ 34,241,315</u> | <u>\$ 2,496,410</u>                                  |
| <b>Cash and cash equivalents classified as:</b>                                                  |                                                    |                     |                      |                                                      |
| Unrestricted                                                                                     | \$ 13,114,542                                      | \$ 1,601,762        | \$ 14,716,304        | \$ 2,496,410                                         |
| Restricted                                                                                       | 19,398,556                                         | 126,455             | 19,525,011           | -                                                    |
| Total cash and cash equivalents                                                                  | <u>\$ 32,513,098</u>                               | <u>\$ 1,728,217</u> | <u>\$ 34,241,315</u> | <u>\$ 2,496,410</u>                                  |
| <b>Reconciliation of operating income to net cash provided by (used in) operating activities</b> |                                                    |                     |                      |                                                      |
| Operating income (loss)                                                                          | \$ 1,863,475                                       | \$ 659,803          | \$ 2,523,278         | \$ 2,241,145                                         |
| Adjustments to reconcile net operating income to net cash provided by operating activities:      |                                                    |                     |                      |                                                      |
| Depreciation                                                                                     | 7,671,342                                          | 12,735              | 7,684,077            | -                                                    |
| Changes in assets and liabilities:                                                               |                                                    |                     |                      |                                                      |
| Accounts receivable                                                                              | (7,981)                                            | (40,594)            | (48,575)             | -                                                    |
| Due from other governments                                                                       | (1,965,253)                                        | 1,452,000           | (513,253)            | -                                                    |
| Accounts payable and accrued liabilities                                                         | 2,981,807                                          | 128,401             | 3,110,208            | (811)                                                |
| Deposits                                                                                         | 85,309                                             | -                   | 85,309               | -                                                    |
| Compensated absences                                                                             | 53,153                                             | (27,191)            | 25,962               | -                                                    |
| Claims liability                                                                                 | -                                                  | -                   | -                    | (449,190)                                            |
| Landfill closure liability                                                                       | -                                                  | (77,197)            | (77,197)             | -                                                    |
| Net pension liability                                                                            | (113,045)                                          | 109,584             | (3,461)              | -                                                    |
| Total OPEB liability                                                                             | (30,046)                                           | 1,003               | (29,043)             | -                                                    |
| Net cash provided by (used in) operating activities                                              | <u>\$ 10,538,761</u>                               | <u>\$ 2,218,544</u> | <u>\$ 12,757,305</u> | <u>\$ 1,791,144</u>                                  |
| <b>Non-cash investing, capital, and financing activities:</b>                                    |                                                    |                     |                      |                                                      |
| Capital assets contributed from other sources                                                    | <u>\$ 4,763</u>                                    | <u>\$ -</u>         | <u>\$ 4,763</u>      | <u>\$ -</u>                                          |

The accompanying notes to financial statements are an integral part of this statement.



**CITY OF ORMOND BEACH, FLORIDA**  
**STATEMENT OF FIDUCIARY NET POSITION**  
**FIDUCIARY FUNDS**  
**SEPTEMBER 30, 2025**

|                                        | <b>Pension<br/>Trust<br/>Funds</b> |
|----------------------------------------|------------------------------------|
|                                        | <hr/>                              |
| <b>ASSETS</b>                          |                                    |
| Cash and cash equivalents with trustee | \$ 3,203,048                       |
| Total cash and cash equivalents        | <hr/> 3,203,048 <hr/>              |
| Receivables:                           |                                    |
| Due from other funds                   | 176,073                            |
| State premium taxes                    | 183,832                            |
| Interest and dividends receivable      | 376,278                            |
| Total receivables                      | <hr/> 736,183 <hr/>                |
| Investments, at fair value:            |                                    |
| U.S. Government securities             | 24,653,196                         |
| Mortgage-backed securities             | 23,472,278                         |
| Corporate bonds                        | 2,669,718                          |
| Corporate stocks                       | 81,747,729                         |
| Foreign stocks                         | 23,166,317                         |
| Real Estate                            | 5,059,346                          |
| Total investments                      | <hr/> 160,768,584 <hr/>            |
| Total assets                           | <hr/> <b>\$164,707,815</b> <hr/>   |
| <b>LIABILITIES</b>                     |                                    |
| Accounts payable                       | \$ 75,559                          |
| Total liabilities                      | <hr/> <b>\$ 75,559</b> <hr/>       |
| <b>NET POSITION</b>                    |                                    |
| Restricted for pensions                | <hr/> <b>\$164,632,256</b> <hr/>   |

The accompanying notes to financial statements are an integral part of this statement.

**CITY OF ORMOND BEACH, FLORIDA**  
**STATEMENT OF CHANGES IN FIDUCIARY NET POSITION**  
**FIDUCIARY FUNDS**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                | <b>Pension<br/>Trust<br/>Funds</b> |
|----------------------------------------------------------------|------------------------------------|
| <b>Additions</b>                                               |                                    |
| Contributions:                                                 |                                    |
| Employer                                                       | \$ 4,242,409                       |
| Plan members                                                   | 1,030,898                          |
| State - insurance premium taxes                                | 1,194,985                          |
| Total contributions                                            | <u>6,468,292</u>                   |
| Investment earnings:                                           |                                    |
| Net appreciation (depreciation) in fair value of investments   | 11,552,641                         |
| Interest and dividends                                         | 3,844,975                          |
| Total investment earnings                                      | <u>15,397,616</u>                  |
| Less: investment expense                                       | <u>(561,554)</u>                   |
| Net investment income (loss)                                   | <u>14,836,062</u>                  |
| Total additions                                                | <u>21,304,354</u>                  |
| <b>Deductions</b>                                              |                                    |
| Benefit payments                                               | 10,048,501                         |
| Refunds                                                        | 48,804                             |
| Administrative expenses                                        | 234,135                            |
| Total deductions                                               | <u>10,331,440</u>                  |
| <b>Change in net position</b>                                  | <u>10,972,914</u>                  |
| <b>Net position restricted for pensions, beginning of year</b> | 153,659,342                        |
| <b>Net position restricted for pensions, end of year</b>       | <u><u>\$164,632,256</u></u>        |

The accompanying notes to financial statements are an integral part of this statement.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(1) Summary of Significant Accounting Policies:**

The City of Ormond Beach, Florida (the City) is a municipal corporation created by the laws of Florida, Chapter 67-1274 located in Volusia County. The legislative branch of the City is comprised of a five- (5) member elected Commission. The City Commission is governed by the City Charter and by state and local laws and regulations. The City Commission is responsible for the establishment and adoption of policy. The execution of such policy is the responsibility of the Commission-appointed City Manager.

The accounting policies of the City conform to accounting principles generally accepted in the United States of America (GAAP) as applicable to governments. The Governmental Accounting Standards Board (GASB) is the accepted standard-setting body for establishing governmental accounting and financial reporting principles. All amounts reported in the financial statements are in thousands. The following is a summary of the more significant policies.

(a) **Reporting entity**—The accompanying financial statements present the financial position, results of operations and cash flows of the applicable fund types governed by the City Commission of the City of Ormond Beach, Florida, the reporting entity of government for which the City Commission is considered to be financially accountable. Based upon the application of the criteria set forth in GASB Codification, there are no discretely presented component units of the City.

(b) **Individual Component Unit Disclosures**—The City reports the following blended component units:

The Ormond Beach Community Redevelopment Agency (CRA) (created by Florida Statutes 163.38 and Resolution 84-74) is governed by a board comprised of the government's elected Commission. Additionally, the services provided by the agency entirely benefit the primary government and bond issuance authorization is approved by the City's Commission. Although legally separate, the CRA is reported as if it were part of the primary government and appropriately recorded as a major special revenue fund.

The North Mainland / Ormond Crossings Community Redevelopment Agency (Ormond Crossings) (created by Florida Statutes 163.38 and Resolution 2006-36) is governed by a board comprised of the government's elected Commission. Additionally, the services provided by the agency benefit the primary government and bond issuance authorization is approved by the City's Commission. Although legally separate, Ormond Crossings is reported as if it were part of the primary government and appropriately recorded as a major special revenue fund.

(c) **Related organizations**—The City commission is also responsible for appointing the members of the board for the Ormond Beach Housing Authority. The City's accountability for this organization does not extend beyond making the appointments. The board members do not serve at the discretion of the Commission and can only be removed for cause. The City cannot impose its will on the Housing Authority and does not derive any financial benefit or burden from the relationship.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(1) Summary of Significant Accounting Policies:** (Continued)

(d) **Jointly governed organizations**—The City, in conjunction with the County, eleven (11) other cities in Volusia County, over seventy-five local private sector companies, five (5) higher education institutions, and Volusia County Public Schools have created the Team Volusia Economic Development Corporation (EDC). Team Volusia EDC is an organization that works to support business growth and recruit new business within the County and its 16 cities.

(e) **Government-wide and fund financial statements**—The government-wide financial statements (i.e., the statement of net position and the statement of changes in net position) report information on all of the nonfiduciary activities of the City. For the most part, the effect of interfund activity has been removed from these statements. *Governmental activities*, which normally are supported by taxes and intergovernmental revenues, are reported separately from *business-type activities*, which rely to a significant extent on fees and charges for support.

The statement of activities demonstrates the degree to which the direct expenses of a given function or segment are offset by program revenues. *Direct expenses* are those that are clearly identifiable with a specific function or segment. Indirect costs are included in the program expense reported for individual functions and activities. *Program revenues* include (1) charges to customers or applicants who purchase, use, or directly benefit from goods, services, or privileges provided by a given function or segment and (2) grants and contributions that are restricted to meeting the operational or capital requirements of a particular function or segment. Taxes and other items not properly included among program revenues are reported instead as *general revenues*.

Separate financial statements are provided for governmental funds, proprietary funds, and fiduciary funds, even though the latter are excluded from the government-wide financial statements. Major individual governmental funds and major individual enterprise funds are reported as separate columns in the fund financial statements.

(f) **Measurement focus, basis of accounting, and financial statement presentation**—The government-wide financial statements are reported using the *economic resources measurement focus* and the *accrual basis of accounting*, as are the proprietary fund and fiduciary fund financial statements. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Property taxes are recognized as revenues in the year for which they are levied. Grants and similar items are recognized as revenue as soon as all eligibility requirements imposed by the provider have been met.

Governmental fund financial statements are reported using *the current financial resources measurement focus* and the *modified accrual basis of accounting*. Revenues are recognized as soon as they are both measurable and available. Revenues are considered to be available when they are collectible within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, the government considers revenues to be available if they are collected within 60 days of the end of the current fiscal period.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(1) **Summary of Significant Accounting Policies:** (Continued)

When grant terms provide that an expenditure of resources is the prime factor for determining eligibility for federal, state, and other grant resources, revenue is recognized at the time the expenditure is made. Expenditures generally are recorded when a liability is incurred, as under accrual accounting. However, debt service expenditures, as well as expenditures related to compensated absences and claims and judgments, are recorded only when payment is due.

Taxes, intergovernmental revenue, licenses and permits, charges for services, and interest associated with the current fiscal period are all considered to be susceptible to accrual and so have been recognized as revenues of the current fiscal period. All other revenue items are considered to be measurable and available only when cash is received by the government.

**The City reports the following major governmental funds:**

The *General Fund* is the City's primary operating fund. It accounts for all financial resources of the general government, except those required to be accounted for in another fund.

The *Redevelopment Trust Fund* is a special revenue fund that accounts for the financial resources related to the economic development of the Ormond Beach Downtown Community Redevelopment Area. These funds include proceeds from the City's tax increment financing districts, which are legally restricted and expended to support the City's redevelopment in the designated community redevelopment area.

The *Ormond Crossings Trust Fund* is a special revenue fund that accounts for the financial resources related to the economic development of the North Mainland/Ormond Crossings Community Redevelopment Area. These funds include proceeds from the City's tax increment financing District, which are legally restricted and expended to support the City's redevelopment in the designated community redevelopment area.

The *Stormwater Drainage Utility Fund* is a special revenue fund that accounts for the maintenance of the City's existing stormwater drainage system. Revenues are provided from user charges to the utility customers.

The *Municipal Airport Fund* is a special revenue fund that accounts for the financial resources related to Ormond Beach Municipal Airport. These funds typically include substantial grant funding for airport improvements subject to federal and/or state restrictions.

**The City reports the following major proprietary funds:**

The *Water and Sewer Fund* accounts for the activities of the City's water distribution system, sewage treatment plant, sewage pumping stations, and collection systems.

The *Solid Waste Fund* accounts for the activities of the City's solid waste collection and disposal system.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(1) **Summary of Significant Accounting Policies:** (Continued)

Additionally, the City reports the following fund types:

**Special Revenue Funds**—These funds account for financial resources related to the stormwater, airport, confiscated funds, and grants of the City. The funds account for specific revenues that are legally restricted and expended for these specific purposes.

**Debt Service Funds**—These funds account for the resources accumulated and payments made for principal and interest on long-term general obligation debt of governmental funds.

**Capital Projects Funds**—These funds account for financial resources to be used for equipment replacement or the acquisition or construction of major capital facilities and improvement projects (other than those financed by proprietary funds and trust funds).

As a general rule the effect of interfund activity has been eliminated from the government-wide financial statements. Exceptions to this general rule are payments-in-lieu of taxes and other charges between the City's water and sewer function and various other functions of the City. Elimination of these charges would distort the direct costs and program revenues reported for the various functions concerned.

Amounts reported as *program revenues* include 1) charges to customers or applicants for goods, services, or privileges provided, 2) operating grants and contributions, and 3) capital grants and contributions, including special assessments. Internally dedicated resources are reported as general revenues rather than as program revenues. Likewise, general revenues include all taxes.

Proprietary funds distinguish *operating* revenues and expenses from *nonoperating* items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with a proprietary fund's principal ongoing operations. The principal operating revenues of the City's enterprise funds and internal service funds are charges to customers for sales and services. Operating expenses for enterprise funds and internal service funds include the cost of sales and services, administrative expenses, and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses.

When both restricted and unrestricted resources are available for use, it is the City's policy to use restricted resources first.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(1) **Summary of Significant Accounting Policies:** (Continued)

(g) **Budgets and budgetary accounting**—Annual budgets for all governmental and proprietary funds were adopted in compliance with Florida law. The basis on which the budgets are prepared is consistent with the basis of accounting utilized by the various fund types. The governmental funds' budgets are prepared on the modified accrual basis of accounting. The proprietary funds' budgets are prepared on the full accrual basis of accounting. The City follows these procedures in establishing the budgetary data reflected in the accompanying financial statements:

- (i) Prior to the end of the fiscal year, the City Manager submits to the City Commission a proposed operating budget for the fiscal year commencing the following October 1. The operating budget includes proposed expenditures and the means of financing them.
- (ii) Budget workshops are scheduled by the City Manager, as needed.
- (iii) The general summary of the budget and notice of public hearing is published in the local newspaper.
- (iv) Public hearings are conducted to obtain taxpayer comments.
- (v) Prior to October 1, the budgets are legally enacted through passage of an ordinance.
- (vi) The City Manager is authorized to transfer budgeted amounts between divisions and departments; however, any revisions that alter the total appropriations of any fund must be approved by the City Commission.
- (vii) The level of classification detail at which expenditures may not legally exceed appropriations is the fund level.
- (viii) The City Commission, by Ordinance, may make supplemental appropriations in excess of those originally estimated for the year up to the amount of available revenues. There one budget amendment to the General Fund for the fiscal year ended September 30, 2025.
- (ix) Appropriations lapse at the close of the fiscal year to the extent they have not been expended. Appropriations for capital expenditures lapse five years henceforth.

The budgets for governmental funds that were either adopted or amended during the year by the City Commission were prepared using the modified accrual basis of accounting in accordance with GAAP. The general, special revenue, debt service and capital project funds have legally adopted budgets. The legally adopted annual budget is contained within a separate document.

The individual funds that comprise the Water and Sewer Fund, consisting of the Water and Wastewater Operations Fund, Vehicle Replacement Fund, Renewal and Replacement Fund, Consolidated Debt Service Fund, West Ormond Reuse Impact Fee Fund, Water System Impact Fee Fund, Wastewater System Impact Fee Fund, Water System Improvements Fund, Wastewater System Improvements Fund, and Watermain System Improvements Fund have legally adopted annual budgets. The Solid Waste Fund also has a legally adopted annual budget. Presentation of budget/actual comparisons have not been presented in these financial statements as this disclosure would be misleading and is not required by GAAP.

Expenditures in the pension passthrough fund exceeded final budget amounts at year-end.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(1) **Summary of Significant Accounting Policies:** (Continued)

(h) **Cash and investments**—For accounting and investment purposes, a pooled cash and investments account is maintained for all funds. This gives the City the ability to invest large amounts of idle cash for short periods of time and to maximize earnings potential. The “equity in pooled cash and investments” represents the amount owned by each fund.

Cash and cash equivalents include cash on hand, demand deposits and cash with fiscal agent. Additionally, each fund’s equity in the City’s investment pool is considered to be a cash equivalent since the funds can deposit or effectively withdraw cash at any time without prior notice or penalty.

All of the City’s investments are reported at fair value, with the exception of 2a-7-like pools which are stated at cost or amortized value. Investments within the Pension Trust Funds made through financial brokers are held with trustees and are stated at fair value as determined in an active market.

(i) **Receivables, revenues, and interfund obligations**—Activity between funds that are representative of lending/borrowing arrangements outstanding at the end of the fiscal year are referred to as either “due to/from other funds” (i.e., the current portion of interfund loans) or “advances to/from other funds” (i.e., the non-current portion of interfund loans). All other outstanding balances between funds are reported as “due to/from other funds.” Any residual balances outstanding between the governmental activities and business-type activities are reported in the government-wide financial statements as “internal balances.”

All trade and property tax receivables, including those for water, sewer and solid waste services, are shown net of an allowance for uncollectibles. Trade accounts receivable in excess of 120 days comprise the trade accounts receivable allowance for uncollectibles, including those for water, sewer and solid waste services. The property tax receivable allowance is recorded from approximately 45 percent of outstanding property taxes at September 30, 2025.

The unbilled portion of water, sewer, solid waste, and stormwater earned revenues and accrued at year end is based upon a proration of the October cycle billing.

(j) **Lease receivable**—When engaged in long-term leasing activity as the lessor, the City recognizes a lease receivable and a deferred inflow of resources in the government-wide and governmental fund financial statements. At the commencement of a lease, the City initially measures the lease receivable at the present value of payments expected to be received during the lease term. Subsequently, the lease receivable is reduced by the principal portion of lease payments received. The deferred inflow of resources is initially measured as the initial amount of the lease receivable, adjusted for lease payments received at or before the lease commencement date. Subsequently, the deferred inflow of resources is recognized as revenue over the life of the lease term.

Key estimates and judgments include how the City determines (1) the discount rate it uses to discount the expected lease receipts to present value, (2) lease term, and (3) lease receipts.

- The City uses its estimated incremental borrowing rate as the discount rate for leases.
- The lease term includes the noncancellable period of the lease. Lease receipts included in the measurement of the lease receivable is composed of fixed payments from the lessee.
- The City monitors changes in circumstances that would require a remeasurement of its lease, and will remeasure the lease receivable and deferred inflows of resources if certain changes occur that are expected to significantly affect the amount of the lease receivable.



**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(1) **Summary of Significant Accounting Policies:** (Continued)

(k) **Property tax calendar**—Under Florida law, the assessment of all properties and the collection of all county, municipal and school district property taxes are consolidated in the offices of the Volusia County Property Appraiser and Volusia County Revenue Division. The laws of the state regulating tax assessment are also designed to assure a consistent property valuation method statewide. State Statutes permit municipalities to levy property taxes at a rate of up to ten mills. For the year ended September 30, 2025, the millage rate assessed by the City was 4.17600 mills.

The property tax calendar is as follows:

| Valuation Date                                                                                                                                                                                                                                                                    | January 1, 2024         |                         |          |     |          |   |         |   |          |   |       |   |                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------|----------|-----|----------|---|---------|---|----------|---|-------|---|---------------------------|
| Property Appraiser prepares the assessment roll with values as of January 1, 2024, submits this preliminary roll for approval by the State and notifies each taxing authority of their respective valuations.                                                                     | July 1, 2024            |                         |          |     |          |   |         |   |          |   |       |   |                           |
| City Commission holds two required public hearings and adopts a budget and ad valorem tax millage rate for the coming fiscal year.                                                                                                                                                | September 2024          |                         |          |     |          |   |         |   |          |   |       |   |                           |
| Property Appraiser certifies the assessment roll and all real and tangible personal property taxes are due and payable (Levy date).                                                                                                                                               | November 1, 2024        |                         |          |     |          |   |         |   |          |   |       |   |                           |
| A Notice of Taxes is mailed to each property owner on the assessment roll. Taxes may be paid November 2024 through March 2025, with the following applicable discounts:                                                                                                           | November 1, 2024        |                         |          |     |          |   |         |   |          |   |       |   |                           |
| <table> <tr> <th><u>Month Paid</u></th><th><u>Discount Percent</u></th></tr> <tr> <td>November</td><td>4 %</td></tr> <tr> <td>December</td><td>3</td></tr> <tr> <td>January</td><td>2</td></tr> <tr> <td>February</td><td>1</td></tr> <tr> <td>March</td><td>0</td></tr> </table> | <u>Month Paid</u>       | <u>Discount Percent</u> | November | 4 % | December | 3 | January | 2 | February | 1 | March | 0 | through<br>March 31, 2025 |
| <u>Month Paid</u>                                                                                                                                                                                                                                                                 | <u>Discount Percent</u> |                         |          |     |          |   |         |   |          |   |       |   |                           |
| November                                                                                                                                                                                                                                                                          | 4 %                     |                         |          |     |          |   |         |   |          |   |       |   |                           |
| December                                                                                                                                                                                                                                                                          | 3                       |                         |          |     |          |   |         |   |          |   |       |   |                           |
| January                                                                                                                                                                                                                                                                           | 2                       |                         |          |     |          |   |         |   |          |   |       |   |                           |
| February                                                                                                                                                                                                                                                                          | 1                       |                         |          |     |          |   |         |   |          |   |       |   |                           |
| March                                                                                                                                                                                                                                                                             | 0                       |                         |          |     |          |   |         |   |          |   |       |   |                           |
| All unpaid taxes on real and tangible personal property become delinquent.                                                                                                                                                                                                        | April 1, 2025           |                         |          |     |          |   |         |   |          |   |       |   |                           |
| A list of unpaid tangible personal property taxes and a list of unpaid real property taxes are advertised.                                                                                                                                                                        | April and May<br>2025   |                         |          |     |          |   |         |   |          |   |       |   |                           |
| Tax certificates are sold on all real estate parcels with unpaid real property taxes (Lien date).                                                                                                                                                                                 | June 1, 2025            |                         |          |     |          |   |         |   |          |   |       |   |                           |
| A court order is obtained authorizing the seizure and sale of personal property if the taxpayer fails to pay the delinquent personal property taxes.                                                                                                                              | June 1, 2025            |                         |          |     |          |   |         |   |          |   |       |   |                           |
| At September 30, 2025, the City has recorded property taxes receivable of \$43,011.                                                                                                                                                                                               |                         |                         |          |     |          |   |         |   |          |   |       |   |                           |

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(1) **Summary of Significant Accounting Policies:** (Continued)

(l) **Inventories**—Inventories consist of expendable supplies held for consumption. The cost is recorded as an expenditure at the time inventory is used (consumption method) using the first-in, first-out method of accounting.

(m) **Prepaid items**—Certain payments to vendors reflect costs applicable to future accounting periods and are recorded as prepaid items in both government-wide and fund financial statements. Prepaid items are recorded as expenditures in governmental funds using the consumption method.

(n) **Restricted assets**—Certain proceeds of enterprise fund revenue bonds, as well as certain resources set aside for their repayments, are classified as restricted assets on the balance sheet because their use is limited by applicable bond covenants. Restricted funds are comprised of the following:

*Sinking funds* are used to segregate resources accumulated for debt service payments over the next twelve months.

*Renewal and replacement funds* are used to report resources set aside to meet unexpected repairs or to fund asset renewal and replacement.

*Construction funds* are used to report proceeds from bonds restricted for construction and impact fees on new construction and development. Impact fees must be expended on utility system expansions.

*Landfill escrow funds* are used to meet the obligation for closure and post closure care costs.

When both restricted and unrestricted resources are available for use, it is the City's policy to use restricted resources first, and then unrestricted resources as they are needed.

(o) **Capital assets**—Capital assets, which include property, plant, equipment, and infrastructure assets (e.g., roads, drainage improvements, sidewalks, and similar items), are reported in the applicable governmental or business-type activities columns in the government-wide financial statements. Capital assets are defined by the government as assets with an initial, individual cost of more than \$5,000 and an estimated useful life in excess of two years. Such assets are recorded at historical cost or estimated historical cost if purchased or constructed. Donated capital assets are recorded at estimated acquisition value at the date of donation.

The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend assets lives are not capitalized.

Property, plant, and equipment are depreciated using the straight-line method over the following estimated useful lives:

| Assets                                | Years   |
|---------------------------------------|---------|
| Buildings                             | 25      |
| Stormwater infrastructure             | 25      |
| Roadways and sidewalks infrastructure | 25      |
| Water system                          | 25      |
| Sewer system                          | 25 – 30 |
| Parks and recreational infrastructure | 15      |
| Vehicles and rolling stock            | 7 – 15  |
| Machinery and equipment               | 3 – 5   |

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(1) Summary of Significant Accounting Policies:** (Continued)

(p) **Deferred outflows of resources**—In addition to assets, the statement of financial position will sometimes report a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net assets that applies to future period(s) and so will not be recognized as an outflow of resources (expense/expenditure) until then.

The City has two items that qualifies for reporting as deferred outflows of resources, reported in both the government-wide statement of financial position and the proprietary funds statement of financial position. The items are the deferred outflows related to pensions and other post-employment benefits (OPEB). The deferred outflows related to pensions and OPEB will be recognized as either pension/OPEB expense or a reduction in the net pension/OPEB liability, respectively, in future reporting years. Details on the composition of deferred outflows related to pensions and OPEB are reported in subsequent notes.

(q) **Unearned revenue**—Unearned revenues will be recognized as revenue in the fiscal year they are earned or become available. Unearned revenue presented on the government-wide, governmental fund, and proprietary fund statements represents advance collection of funds for services to be provided in future reporting periods, consisting primarily of service deposits.

(r) **Liability for compensated absences**—The City policy permits employees to accumulate a limited amount of earned, but unused personal, vacation, and sick leave. These benefits are payable to employees upon separation from service. All leave pay is accrued when incurred in the government-wide and proprietary fund financial statements. A liability for these amounts is reported in accordance with the GASB Codification.

(s) **Other post-employment benefits (OPEB)**—Pursuant to Section 112.0801, Florida Statutes, the City is mandated to permit participation in the health insurance program by retirees and their eligible dependents at a cost to the retiree that is no greater than the cost at which coverage is available for active employees. The rates provide for an implicit subsidy for retirees because, on an actuarial basis, their current and future claims are expected to result in higher costs to the Plan on average than those of active employees. The City is financing the post-employment benefits on a pay-as-you-go basis. As determined by an actuarial valuation, the City records a total OPEB liability in its proprietary and government-wide financial statements related to the implicit subsidy. See Note (13) for further information.

(t) **Long-term obligations**—In the government-wide financial statements and proprietary fund financial statements, long-term debt and other long-term obligations are reported as liabilities in the applicable governmental activities, business-type activities, or proprietary fund type statement of net position. Bond premiums and discounts are deferred and amortized over the life of the bonds using the straight-line method. Bonds payable are reported net of the applicable bond premium or discount. Bond issuance costs are expensed when paid.

In the governmental fund financial statements, premiums, discounts, and bond issuance costs are recognized during the current period. The face amount of debt issued is reported as other financing sources. Premiums received on debt issuances are reported as other financing uses. Issuance costs, whether or not withheld from the actual debt proceeds received, are reported as debt service expenditures.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(1) **Summary of Significant Accounting Policies:** (Continued)

(u) **Deferred inflows of resources**—In addition to liabilities, the statement of financial position will sometimes report a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an acquisition of net assets that applies to future period(s) and so will not be recognized as an inflow of resources (revenue) until that time.

Currently, the City has three items that qualify for reporting as deferred inflows of resources, two in both the government-wide statement of financial position and the proprietary funds statement of financial position and one item on the balance sheet of the governmental funds. The deferred inflows related to pensions and OPEB will be recognized as a component of pension/OPEB expense in future reporting years. Details on the composition of deferred inflows related to pensions and OPEB are reported in subsequent notes.

In the governmental funds, deferred inflows of resources are reported for unavailable revenue and amounts related to leases receivable, which will be recognized as inflows of resources in the period that the amounts become available.

(v) **Fund balance**—In the fund financial statements, governmental funds report fund classifications that comprise a hierarchy based primarily on the extent to which the City is bound to honor constraints on the specific purposes for which amounts in those funds can be spent. Amounts that are restricted to specific purposes either by a) constraints placed on the use of resources by creditors, grantors, contributors, or laws or regulations of other governments or b) imposed by law through constitutional provisions or enabling legislation are classified as restricted fund balances. Amounts that can only be used for specific purposes pursuant to constraints imposed by the City Commission through an ordinance are classified as committed fund balances. Amounts that are constrained by the City's intent to be used for specific purposes but are neither restricted nor committed are classified as assigned fund balances. As per the City's fund balance policy, approved by Resolution 2011-138 on September 20, 2011, the intended purpose (assignments) may be determined by the City Commission, City Manager or Finance Director. Non-spendable fund balances include amounts that cannot be spent because they are either a) not in spendable form or b) legally or contractually required to be maintained intact. Unassigned fund balances represent the fund balance that has not been assigned to other funds and that has not been restricted, committed or assigned to specific purposes within the General Fund.

The City would typically use restricted fund balances first, followed by committed resources, and then assigned resources, as appropriate opportunities arise, but reserves the right to selectively spend unassigned resources first to defer the use of these other classified funds.

(w) **Minimum fund balance policy**—The City's policy is to maintain an adequate General Fund, fund balance to provide liquidity in the event of an economic downturn or natural disaster. The City Commission has adopted a financial standard to maintain a General Fund minimum unassigned fund balance of 15 percent of budgeted annual expenditures. This policy also includes a provision for a revenue stabilization fund of up to \$3,000,000; the balance of this fund at September 30, 2025, was \$-0- and is included in unassigned fund balance.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(1) **Summary of Significant Accounting Policies:** (Continued)

(x) **Net position**—The government-wide and proprietary fund financial statements utilize a net position presentation. Net position is categorized as net investment in capital assets, restricted and unrestricted. *Net investment in capital assets* groups all capital assets including infrastructure into one component of net position. Accumulated depreciation and the outstanding balances of debt, excluding unspent bond proceeds, that are attributable to the acquisition, construction or improvement of these assets, reduce the balance in this category. *Restricted net position* presents net position with external restrictions imposed by creditors, grantors or laws and regulations of other governments. Unrestricted net position presents the net position balance that does not meet the definition of either of the other two components. The City would typically use restricted net position first, followed by unrestricted net position, but reserves the right to selectively spend unrestricted resources first to defer the use of these other classified funds.

(2) **Reconciliation of Government-Wide and Fund Financial Statement:**

(a) **Explanation of certain differences between the governmental fund balance sheet and the government-wide statement of net position**—Following the governmental fund balance sheet is the reconciliation between fund balance – total governmental funds and net position – governmental activities as reported in the government-wide statement of net position. One element of that reconciliation explains that “long-term liabilities, including bonds payable, are not due and payable in the current period and therefore are not reported in the funds.” The details of this difference are explained in the above-referenced financial statement.

(b) **Explanation of certain differences between the governmental fund statement of revenues, expenditures, and changes in fund balances and the government-wide statement of activities**—Following the governmental fund statement of revenues, expenditures, and changes in fund balances, there is a reconciliation between net changes in fund balances – total governmental funds and changes in net position of governmental activities as reported in the government-wide statement of activities. One element of that reconciliation explains that “Governmental funds report capital outlays as expenditures. However, in the statement of activities the cost of those assets is allocated over their estimated useful lives and reported as depreciation expense.” The details of this difference are explained in the above-referenced financial statement.

(3) **Cash Deposits and Investments:**

(a) City of Ormond Beach

The City’s investment policies are governed by Chapter 280 and 218, Florida Statutes, City Code of Ordinances, and the adopted investment policy. For all investments authorized by statute or policy, the City applies the “Prudent Person” standard when developing investment strategies. The basic allowable investment instruments are as follows:

*United States Government Securities* – includes negotiable direct obligations, or obligations the principal and interest of which are unconditionally guaranteed by the United States Government.

*United States Government Agencies (full faith and credit of the United States Government)* – includes bonds, debentures or notes issued or guaranteed by the United States Government agencies, provided such obligations are back by the full faith and credit of the United States Government.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(3) **Cash Deposits and Investments:** (Continued)

*Federal Instrumentalities (United States Government Sponsored Enterprises (“GSE”)) which are non-full faith and credit)* – includes bonds, debentures or notes issued or guaranteed by the United States Government Sponsored Enterprises which are non-full faith and credit.

*Mortgage-Backed Securities* – includes securities which are based on mortgages that are guaranteed by a government agency or GSE for payment of principal and a guarantee of timely payments.

*Non-Negotiable Interest-Bearing Time Certificates of Deposit* – includes non-negotiable interest-bearing time certificates of deposit or savings accounts in banks organized under the laws of Florida and/or in national banks organized under the laws of the United States and doing business and situated in Florida, provided that any such deposits are secured by the Florida Security for Public Deposits Act, Section 280, Florida Statutes.

*Repurchase Agreements* – includes repurchase agreements comprised of only those investments based on the requirements set by the City’s Master Repurchase Agreement.

*Commercial Paper* – includes commercial paper of any United States company that is rated, at the time of purchase, “Prime-1” by Moody’s and “A-1” by Standard & Poor’s (prime commercial paper. If backed by a letter of credit (LOC), the long-term debt of the LOC provider must be rated at least single “A” category by any two Nationally Recognized Statistical Rating Organizations (“NRSROs”).

*Corporate Notes* – includes corporate notes issued by corporations organized and operating within the United States or by depository institutions licensed by the United States that have a long-term debt rating, at the time of purchase, at a minimum single “A” category by any two NRSROs.

*Bankers’ Acceptances* – includes bankers’ acceptances which are issued by a domestic bank which has, at the time of purchase, an unsecured, uninsured and unguaranteed obligation rating of at least “Prime-1” by Moody’s or “A-1” by Standard & Poor’s.

*State and/or Local Government Taxable and/or Tax-Exempt Debt* – includes state and local government taxable and/or tax-exempt debt, general obligation and/or revenue bonds, rated, at the time of purchase, at a minimum single “A” category by any two NRSROs, or rated at least “MIG-2” by Moody’s or “SP-2” by Standard & Poor’s for short term debt.

*Registered Investment Companies (Money Market Mutual Funds)* – includes shares in open-end and no-load money market funds provided such funds are registered under the Federal Investment Company Act of 1940 and operate in accordance with 17 C.F.R. Section 270.2a-7, which stipulates that money market funds must have an average weighted maturity of 60 days or less. In addition, the share value of the money market funds must be equal to \$1.00. The money market funds shall be rated “AAAm” by Standard & Poor’s or the equivalent by another NRSRO.

*Intergovernmental Investment Pool* – includes intergovernmental investment pools that are authorized pursuant to the Florida Interlocal Corporation Act, as provided in Section 163.01, Florida Statutes. The intergovernmental investment pool shall be rated “AAA” by Standard & Poor’s or the equivalent by another NRSRO.

*The Florida PRIME* – includes the Florida PRIME and shall be rated “AAAm” by Standard & Poor’s or the equivalent by another NRSRO.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(3) Cash Deposits and Investments:** (Continued)

Deposits include cash on hand and amounts held in the City's demand accounts. Each demand account is insured by the Federal Deposit Insurance Corporation (FDIC) up to \$250,000. Any balance in excess of FDIC insurance is covered by collateral held by the City's custodial bank, which is pledged to a state trust fund that provides security in accordance with Florida Security for Public Deposits Act, Chapter 280, Florida Statutes.

The Florida Security for Public Deposits Act established guidelines for qualification and participation by banks and savings associations, procedures for the administration of the collateral requirements and characteristics of eligible collateral. Under the Act, the qualified public depository must pledge at least 50 percent of the average daily balance for each month of all public deposits in excess of any applicable deposit insurance. Additional collateral, up to a maximum of 125 percent, may be required, if deemed necessary under the conditions set forth in the Act.

Obligations pledged to secure deposits must be delivered to the State Treasurer or, with the approval of the State Treasurer, to a bank, savings association, or trust company provided a power of attorney is delivered to the Treasurer. Under the Act, the pool may assess participating financial institutions on a pro rata basis to fund any shortfall in the event of the failure of a member institution.

The City is a member of Florida PRIME, the Local Government Surplus Funds Trust Fund Investment Pool (the Pool), that is administered by the State Board of Administration of Florida (SBA). This pool is a "2a-7 like" pool, which has the characteristics of a money market fund. Therefore, the fair value of investments held at the State Board of Administration Pool is the same as the fair value of the pooled shares. The Regulatory Oversight of the Local Government Surplus Funds Trust fund is governed by Ch. 19-7 of the Florida Administrative Code, which identifies the Rules for the State Board of Administration. These rules provide guidance and establish the general procedure for the administration of the Local Government Surplus Funds Trust Fund. The Local Government Surplus Trust Fund is not a registrant with the Securities and Exchange Commission (SEC); however, the Board has adopted operating procedures consistent with the requirements for a 2a-7 fund. The State Board of Administration has taken the position that participants in the pool are not required to disclose information related to interest rate risk, concentration of credit risk, and foreign credit risk.

The City has funds invested in a money market mutual fund. The fund's portfolio is structured within the confines of Rule 2a-7 under the Investment Company Act of 1940, as amended. SEC Rule 2a-7 is the rule that permits money market funds to use amortized cost to maintain a constant NAV (net asset value) of \$1.00 per share, provided that such funds meet certain criteria. Therefore, the fair value of the City's position in the fund is the same as the value of the fund's shares. The fund invests primarily in short-term, high-quality, fixed-income securities issued by banks, corporations and the U.S. government, rated in the highest short-term category or of comparable quality.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(3) Cash Deposits and Investments:** (Continued)

The City measures and records its investments, assets whose use is limited, and restricted assets using fair value measurement guidelines. These guidelines recognize a three-tiered fair value hierarchy, as follows:

- *Level 1:* Quoted prices for identical investments in active markets;
- *Level 2:* Observable inputs other than quoted market prices; and,
- *Level 3:* Unobservable inputs.

As of September 30, 2025, the City's Governmental and Business-type investment portfolio is composed of the following investments:

| Investment Type                                  | Credit Quality Rating (S&P) | Carrying Value       | Weighted Average Investment Maturities (in Years) |             | Fair Value Measurement |             |             |
|--------------------------------------------------|-----------------------------|----------------------|---------------------------------------------------|-------------|------------------------|-------------|-------------|
|                                                  |                             |                      | Less Than 1                                       | 1 – 5       | Level 1                | Level 2     | Level 3     |
| Cash deposits                                    | NR                          | \$ 38,473,851        | \$ 38,473,851                                     | \$ -        | \$ n/a                 | \$ n/a      | \$ n/a      |
| State Board of Administration<br>– Florida PRIME | AAAm                        | 224,301              | 224,301                                           | -           | n/a                    | n/a         | n/a         |
| Money market                                     | AAAm                        | 33,973,884           | 33,973,884                                        | -           | n/a                    | n/a         | n/a         |
| Total Portfolio                                  |                             | <u>\$ 72,672,036</u> | <u>\$ 72,672,036</u>                              | <u>\$ -</u> | <u>\$ -</u>            | <u>\$ -</u> | <u>\$ -</u> |

*Interest Rate Risk:* Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of investments. The City's investment policy manages its exposure to declines in fair values by limiting the maturity of specific investments to provide sufficient liquidity to pay obligations as they come due. In addition, the City's investment policy limits investments to those having a maturity, at the time of purchase, of less than five years. There were no investments in the City's portfolio that exceeded this maximum maturity at September 30, 2025.

*Credit Risk:* Credit risk is the risk that a debt issuer or other counter-party to an investment will not fulfill its obligations. The City's investment policy utilizes portfolio diversification in order to limit investments to the highest rated securities as rated by nationally recognized rating agencies. The ratings of the investments held at year end are shown above. All are rated within the investment policy guidelines at September 30, 2025.

*Concentration of Credit Risk:* Concentration of credit risk is the risk of loss attributed to the magnitude of an investment in a single issuer. The City's investment policy utilizes limitations on securities of a single issuer to manage this risk. For example, the City's investment policy limits a maximum of 40% of available funds may be invested in any one issuer of Federal Instrumentalities. Likewise, the policy limits state a maximum of 15% of available funds may be invested with any one issuer of Commercial Paper. At September 30, 2025, the investment portfolio met the single issuer and quality limitations of the investment policy.

*Custodial Credit Risk:* Custodial credit risk is the risk that the City may not recover cash and investments held by another party in the event of financial failure. All of the City's cash deposits are held by banks that qualify as a public depository under the Florida Security for Public Deposits Act as required by Chapter 280.02, Florida Statutes. Therefore, the City has no custodial risk associated with deposits.



**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(3) Cash Deposits and Investments:** (Continued)

The City's investment policy requires securities, with the exception of certificates of deposit, to be held with a third-party custodian and all securities purchased by, and all collateral obtained by the City, should be properly designated as an asset of the City. The securities must be held in an account separate and apart from the assets of the financial institution. Security transactions between a broker/dealer and the custodian involving the purchase or sale of securities, by transfer of money or securities must be made on a "delivery versus payment" basis, if applicable, to ensure the custodian will have the security or money, as appropriate, in hand at the conclusion of the transaction. As of September 30, 2025, the City's investment portfolio was held with a third-party custodian.

*Foreign Currency Risk:* Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment. The investment policy does not permit general obligations issued by a foreign government and is, therefore, not exposed to foreign currency risk.

**(b) Pension Plans**

The City's Pension Plans are authorized to invest in the following investments:

Investment products and funds provided through insurance companies, including, but not limited to, annuity and life insurance contracts of life insurance companies in amounts sufficient to provide, in whole or in part, the benefits to which all of the members in the fund shall be entitled under the provisions of this system and pay the initial and subsequent premium thereon.

Time or savings accounts of a national bank, a state bank or a savings/building and loan association insured by the FDIC.

Obligations of the United States or obligations guaranteed as to principal and interest by the government of the United States.

Open-end noncommission bank or insurance company real estate funds with ability to liquidate every three (3) months.

Foreign securities.

Bonds, stocks, commingled or mutual funds.

State Board of Administration and the investment vehicles it utilizes.

Any other investment that the pension board deems to be prudent.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(3) Cash Deposits and Investments:** (Continued)

The following chart shows the Pension fund cash and investments by investment portfolios and their respective maturities (in years):

|                                       | Carrying Value        | Weighted Average Maturity (years) | Credit Rating (Moody's) | Measured at Fair Value: |                      |                     |
|---------------------------------------|-----------------------|-----------------------------------|-------------------------|-------------------------|----------------------|---------------------|
|                                       |                       |                                   |                         | Level 1                 | Level 2              | Level 3             |
| Money market funds                    | \$ 3,203,048          | N/A                               | NR                      | \$ n/a                  | \$ n/a               | \$ n/a              |
| U.S. General Obligations              | 24,653,195            | 3.87                              | Aaa                     | -                       | 24,653,195           | -                   |
| Government mortgage-backed securities | 23,472,278            | 25.70                             | NR                      | -                       | 23,472,278           | -                   |
|                                       |                       |                                   | A, A1, A2, A3,          |                         |                      |                     |
| Corporate Bonds                       | 2,669,718             | 5.45                              | BBB+                    | -                       | 2,669,718            | -                   |
| Common Stock                          | 81,747,729            | N/A                               | NR                      | 81,747,729              | -                    | -                   |
| Foreign Stock                         | 23,166,317            | N/A                               | NR                      | 23,166,317              | -                    | -                   |
| Real Estate                           | 5,059,346             | N/A                               | NR                      | -                       | -                    | 5,059,346           |
| Total Portfolio                       | <u>\$ 163,971,632</u> |                                   |                         | <u>\$ 104,914,046</u>   | <u>\$ 50,795,191</u> | <u>\$ 5,059,346</u> |

Level 2 investments were all fixed-income securities measured at fair value based on market inputs based on the coupon rates versus index rates.

Investments in Government Mortgage-Backed Securities include the Federal Home Loan Mortgage Corporation and Federal Home Loan Banks.

The real estate partnership, valued based upon level 3 inputs, is valued based on the City's share of the real estate investment portfolio.

*Interest Rate Risk:* Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of investments. Generally, the longer the time to maturity, the greater the exposure to interest rate risk. The established performance objectives of the Pension Plans require investment maturities to provide sufficient liquidity to pay obligations as they become due. At September 30, 2025, the weighted average maturity in years for each investment type is included in the preceding table.

*Credit Risk:* Credit risk is the risk that a debt issuer or other counter-party to an investment will not fulfill its obligations. The Pension Plans utilize portfolio diversification in order to limit investments to the highest rated securities as rated by nationally recognized rating agencies. The ratings of the investments held at year end are shown above. All are rated within the investment policy guidelines at September 30, 2025.

*Concentration of Credit Risk:* Concentration of credit risk is the risk of loss attributed to the magnitude of an investment in a single issuer. The Pension trust fund's policy does not allow more than five (5) percent of its assets in the common stock, capital stock, or convertible securities of any one issuing company, nor shall the aggregate investment in any one issuing company, exceed five (5) percent of the outstanding stock of that company, nor shall the aggregate of its investments at market in common stock, capital stock and convertible securities exceed seventy (70) percent of the fund's total assets. At September 30, 2025, the investment portfolios met the single issuer limitations.

*Custodial Credit Risk:* Custodial credit risk is the risk that the City may not recover cash and investments held by another party in the event of financial failure. Custodial credit risk is limited since investments are held in independent custodial safekeeping accounts or mutual funds.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(3) Cash Deposits and Investments:** (Continued)

*Foreign Currency Risk:* Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment. The Pension trust fund's policy allows for up to twenty-five (25) percent of its investments in common stock, capital stock and convertible securities at fair value in foreign securities. At September 30, 2025, the investment portfolios met the foreign securities limitations.

A reconciliation of cash and investments as shown in the accompanying financial statements follows:

| <b>Fair Value/Carrying Value</b>                    |                      |
|-----------------------------------------------------|----------------------|
| Governmental and Business-type Investment Portfolio | \$ 72,672,036        |
| Pension Investment Portfolio                        | 163,971,632          |
| Total                                               | <u>\$236,643,668</u> |
|                                                     |                      |
| Cash and investments                                | \$ 52,982,762        |
| Restricted cash and investments                     | 19,689,274           |
| <b>Statement of Plan Net Position:</b>              |                      |
| Cash and cash equivalents with trustee              | 3,203,048            |
| Investments with trustee                            | 160,768,584          |
| Total                                               | <u>\$236,643,668</u> |

**(4) Receivables:**

Receivables, net of the allowance for doubtful accounts at September 30, 2025, consist of the following:

| <b>Fund</b>                 | <b>Total<br/>Accounts<br/>Receivable</b> | <b>Less<br/>Allowance for<br/>Doubtful<br/>Accounts</b> | <b>Accounts<br/>Receivable,<br/>Net</b> |
|-----------------------------|------------------------------------------|---------------------------------------------------------|-----------------------------------------|
| General                     | \$ 1,836,541                             | \$ -                                                    | \$ 1,836,541                            |
| Redevelopment Trust         | 6,544                                    | -                                                       | 6,544                                   |
| Ormond Crossings Trust      | 1,803                                    | -                                                       | 1,803                                   |
| Stormwater Drainage Utility | 425,793                                  | (79,107)                                                | 346,686                                 |
| Municipal Airport           | 46,896                                   | -                                                       | 46,896                                  |
| Water and sewer             | 2,518,642                                | (167,127)                                               | 2,351,515                               |
| Solid waste                 | 1,504,081                                | (115,676)                                               | 1,388,405                               |
| Internal service            | 250                                      | -                                                       | 250                                     |
| Non-major funds             | 21,926                                   | -                                                       | 21,926                                  |
| Total                       | <u>\$ 6,362,476</u>                      | <u>\$ (361,910)</u>                                     | <u>\$ 6,000,566</u>                     |

In addition to accounts receivable, the City also recorded \$5,468,463 in due from other governments at September 30, 2025.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(5) Leases Receivable:**

*Governmental Activities*

*Municipal Airport Fund*

The City has ongoing lease agreements with third parties related to hangars owned by the City. The City has approximately 20 leases, most of which were entered into with 30-year terms that include additional renewal terms of up to 30 years. The lease payments vary by individual leases and range from \$120 to \$2,867 and include annual CPI adjustments. Based on the likelihood of renewals, the full maximum lease terms include all payments through an end date of September 30, 2060.

The City recognized \$105,001 in lease revenue and \$72,968 in interest revenue during the fiscal year related September 30, 2025, to these leases. As of September 30, 2025, the City's receivable for lease payments was \$2,385,320. Also, the City has a deferred inflow of resources associated with this lease that will be recognized as revenue over the lease term, which totaled \$2,257,359 at September 30, 2025.

Future minimum rents under non-cancelable operating leases to be received as of September 30, 2025, are as follows:

| <u>Year Ending September 30,</u>    | <u>Principal</u>    | <u>Interest</u>     | <u>Total</u>        |
|-------------------------------------|---------------------|---------------------|---------------------|
| 2026                                | \$ 72,908           | \$ 79,317           | \$ 152,225          |
| 2027                                | 81,973              | 70,252              | 152,225             |
| 2028                                | 86,494              | 65,730              | 152,225             |
| 2029                                | 89,125              | 63,099              | 152,225             |
| 2030                                | 91,836              | 60,389              | 152,225             |
| 2031-2035                           | 429,156             | 260,221             | 689,377             |
| 2036-2040                           | 332,368             | 205,797             | 538,165             |
| 2041-2045                           | 365,976             | 153,913             | 519,889             |
| 2046-2050                           | 419,382             | 94,772              | 514,154             |
| 2051-2055                           | 289,009             | 40,677              | 329,686             |
| 2056-2060                           | 127,090             | 8,074               | 135,165             |
| Total future minimum lease payments | <u>\$ 2,385,319</u> | <u>\$ 1,102,241</u> | <u>\$ 3,487,560</u> |

*General Fund*

The City has an ongoing lease with WastePro for the use of the transfer station owned by the city that runs concurrently with the WastePro service agreement. The lease is \$125,000 per year with an expiration date of September 30, 2030. The lease was amended effective January 1, 2025, increasing the lease to approximately \$145,000 per year through the original expiration date.

The City recognized \$123,711 in lease revenue and \$21,104 in interest revenue during the fiscal year related September 30, 2025, to this lease. As of September 30, 2025, the City's receivable for lease payments was \$673,904. Also, the City has a deferred inflow of resources associated with this lease that will be recognized as revenue over the lease term, which totaled \$641,906 at September 30, 2025.

Future minimum rents under non-cancelable operating leases to be received as of September 30, 2025, are as follows:

| <u>Year Ending September 30,</u>    | <u>Principal</u>  | <u>Interest</u>  | <u>Total</u>      |
|-------------------------------------|-------------------|------------------|-------------------|
| 2026                                | \$ 126,827        | \$ 18,483        | \$ 145,310        |
| 2027                                | 130,685           | 14,625           | 145,310           |
| 2028                                | 134,660           | 10,650           | 145,310           |
| 2029                                | 138,756           | 6,554            | 145,310           |
| 2030                                | 142,976           | 2,334            | 145,310           |
| Total future minimum lease payments | <u>\$ 673,904</u> | <u>\$ 52,646</u> | <u>\$ 726,551</u> |

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(6) Capital Assets:**

Capital asset activity for the fiscal year ended September 30, 2025, is as follows:

|                                              | <b>Beginning<br/>Balance</b> | <b>Increases</b> | <b>Decreases</b> | <b>Ending<br/>Balance</b> |
|----------------------------------------------|------------------------------|------------------|------------------|---------------------------|
| <b>Governmental activities:</b>              |                              |                  |                  |                           |
| Capital assets not being depreciated:        |                              |                  |                  |                           |
| Land                                         | \$ 43,829,744                | \$ -             | \$ -             | \$ 43,829,744             |
| Easements                                    | 744,184                      | 2,033            | -                | 746,217                   |
| Works of art                                 | 377,185                      | -                | -                | 377,185                   |
| Construction in progress                     | 7,446,667                    | 11,405,275       | (11,404,740)     | 7,447,202                 |
| Total assets not being depreciated           | 52,397,780                   | 11,407,308       | (11,404,740)     | 52,400,348                |
| Capital assets being depreciated:            |                              |                  |                  |                           |
| Buildings                                    | 30,919,319                   | 761,246          | -                | 31,680,565                |
| Improvements other than buildings            | 170,431,504                  | 12,830,906       | -                | 183,262,410               |
| Equipment                                    | 20,458,178                   | 1,507,590        | (512,646)        | 21,453,122                |
| Software                                     | 2,413,365                    | -                | -                | 2,413,365                 |
| Total assets being depreciated               | 224,222,366                  | 15,099,742       | (512,646)        | 238,809,462               |
| Less accumulated depreciation for:           |                              |                  |                  |                           |
| Buildings                                    | (26,746,825)                 | (604,792)        | -                | (27,351,617)              |
| Improvements other than buildings            | (113,116,375)                | (5,611,797)      | -                | (118,728,172)             |
| Equipment                                    | (14,316,939)                 | (1,376,074)      | 501,772          | (15,191,241)              |
| Software                                     | (2,411,297)                  | (2,068)          | -                | (2,413,365)               |
| Total accumulated depreciation               | (156,591,436)                | (7,594,731)      | 501,772          | (163,684,395)             |
| Total capital assets being depreciated, net  | 67,630,930                   | 7,505,011        | (10,874)         | 75,125,067                |
| Governmental activities capital assets, net  | \$ 120,028,710               | \$ 18,912,319    | \$ (11,415,614)  | \$ 127,525,415            |
| <b>Business-type activities:</b>             |                              |                  |                  |                           |
| Capital assets not being depreciated:        |                              |                  |                  |                           |
| Land                                         | \$ 1,072,485                 | \$ -             | \$ -             | \$ 1,072,485              |
| Intangibles                                  | 1,042,580                    | 4,762            | -                | 1,047,342                 |
| Construction in progress                     | 4,514,841                    | 8,746,429        | (4,763,657)      | 8,497,613                 |
| Total assets not being depreciated           | 6,629,906                    | 8,751,191        | (4,763,657)      | 10,617,440                |
| Capital assets being depreciated:            |                              |                  |                  |                           |
| Buildings                                    | 315,626                      | 23,902           | -                | 339,528                   |
| Improvements other than buildings            | 254,807,824                  | 10,898,923       | -                | 265,706,747               |
| Equipment                                    | 5,980,058                    | 546,636          | (65,805)         | 6,460,889                 |
| Total assets being depreciated               | 261,103,508                  | 11,469,461       | (65,805)         | 272,507,164               |
| Less accumulated depreciation for:           |                              |                  |                  |                           |
| Buildings                                    | (185,921)                    | (14,772)         | -                | (200,693)                 |
| Improvements other than buildings            | (179,269,443)                | (7,451,587)      | -                | (186,721,030)             |
| Equipment                                    | (5,152,912)                  | (217,718)        | 65,805           | (5,304,825)               |
| Total accumulated depreciation               | (184,608,276)                | (7,684,077)      | 65,805           | (192,226,548)             |
| Total capital assets being depreciated, net  | 76,495,232                   | 3,785,384        | -                | 80,280,616                |
| Business-type activities capital assets, net | \$ 83,125,138                | \$ 12,536,575    | \$ (4,763,657)   | \$ 90,898,056             |

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(6) Capital Assets:** (Continued)

Depreciation expense was charged to functions/programs as follows:

|                                                     |                     |
|-----------------------------------------------------|---------------------|
| Governmental activities:                            |                     |
| General governmental                                | \$ 514,531          |
| Public safety                                       | 1,185,818           |
| Public works                                        | 3,956,457           |
| Culture and recreation                              | 1,937,925           |
| Total depreciation expense-governmental activities  | <u>\$ 7,594,731</u> |
| Business-type activities:                           |                     |
| Water and sewer                                     | \$ 7,671,342        |
| Solid waste                                         | 12,735              |
| Total depreciation expense-business-type activities | <u>\$ 7,684,077</u> |

**(7) Commitments:**

The City has active construction projects as of September 30, 2025. The projects include construction of utility improvements, road and right-of-way improvements, recreational facilities, airport infrastructure improvements and drainage improvements. At September 30, 2025, the City's construction commitments are as follows:

|                                          | <b>Total<br/>Adjusted<br/>Contract<br/>Amounts</b> | <b>Remaining<br/>Commitment</b> |
|------------------------------------------|----------------------------------------------------|---------------------------------|
| General government improvements          | \$ 3,627,000                                       | \$ 1,950,000                    |
| Road and drainage improvements           | 1,792,000                                          | 1,067,000                       |
| Culture and recreation improvements      | 6,321,000                                          | 3,245,000                       |
| Airport improvements                     | 390,000                                            | 142,000                         |
| Public safety improvements               | 60,000                                             | 47,000                          |
| Water and wastewater system improvements | 27,587,000                                         | 11,774,000                      |
| Total                                    | <u>\$ 39,777,000</u>                               | <u>\$ 18,225,000</u>            |

The commitment for water and sewer system improvements is being funded from water and sewer construction funds. The road and drainage improvements are being funded from the transportation improvements fund. Culture and recreation improvements are being funded by the General Fund. The airport infrastructure improvements are being funded from the airport fund. The public safety improvements are being funded from the facilities repair and replacement fund.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(8) Interfund Accounts:**

Individual fund interfund receivables and payables, at September 30, 2025, consist of the following:

|                 | <u>Due from<br/>Other Funds</u> | <u>Due to Other<br/>Funds</u> |
|-----------------|---------------------------------|-------------------------------|
| General Fund    | \$ -                            | \$ 176,073                    |
| Fiduciary funds | 176,073                         | -                             |
|                 | <u>\$ 176,073</u>               | <u>\$ 176,073</u>             |

|                        | <u>Advances to<br/>Other Funds</u> | <u>Advances<br/>from Other<br/>Funds</u> |
|------------------------|------------------------------------|------------------------------------------|
| General Fund           | \$ 1,630,000                       | \$ -                                     |
| Municipal Airport Fund | -                                  | 1,200,000                                |
|                        | <u>\$ 1,200,000</u>                | <u>\$ 1,200,000</u>                      |

The interfund receivables between the General Fund and fiduciary funds represent year-end adjustments based upon actual versus required contributions and other reconciling items in the pension funds.

The advances from the General Fund to the Municipal Airport Fund is interest-bearing and was made to accelerate the capital improvement program for the Municipal Airport. The advance will be repaid by future revenues of the advanced funds.

**(9) Interfund Transfers:**

The City makes routine transfers between its funds in the course of the fiscal year. The principal purposes of these transfers are to allocate resources for debt service, construction or other capital projects, and to provide operating subsidies. These transfers are consistent with the activities of the funds involved. Transfers of resources from a fund receiving revenue to the fund through which the resources are to be expended are recorded as transfers and are reported as other financing sources (uses) in the Governmental Funds and as transfers in (out) in the Proprietary Funds. Following is a summary of interfund transfers for the year ended September 30, 2025:

|                                  | <u>General<br/>Fund</u> | <u>Redevelopment<br/>Trust Fund</u> | <u>Ormond<br/>Crossings<br/>Trust Fund</u> | <u>Municipal<br/>Airport<br/>Fund</u> | <u>Nonmajor<br/>Governmental<br/>Funds</u> | <u>Water and<br/>Sewer<br/>Fund</u> | <u>Total<br/>Transfers<br/>Out</u> |
|----------------------------------|-------------------------|-------------------------------------|--------------------------------------------|---------------------------------------|--------------------------------------------|-------------------------------------|------------------------------------|
| General Fund                     | \$ -                    | \$ 700,392                          | \$ 154,716                                 | \$ 129,696                            | \$ 2,128,819                               | \$ -                                | \$ 3,113,623                       |
| Redevelopment Trust Fund         | -                       | -                                   | -                                          | -                                     | -                                          | -                                   | -                                  |
| Ormond Crossings Trust Fund      | -                       | -                                   | -                                          | -                                     | -                                          | -                                   | -                                  |
| Municipal Airport Fund           | 20,964                  | -                                   | -                                          | -                                     | -                                          | -                                   | 20,964                             |
| Stormwater Drainage Utility Fund | 167,724                 | -                                   | -                                          | -                                     | -                                          | 112,752                             | 280,476                            |
| Nonmajor Governmental Funds      | 781,200                 | -                                   | -                                          | -                                     | 370,791                                    | -                                   | 1,151,991                          |
| Water and Sewer Fund             | 3,388,476               | -                                   | -                                          | -                                     | -                                          | -                                   | 3,388,476                          |
| Solid Waste Fund                 | 1,382,628               | -                                   | -                                          | -                                     | -                                          | 338,244                             | 1,720,872                          |
| Internal Service Fund            | 1,111,956               | -                                   | -                                          | -                                     | 617,000                                    | 127,000                             | 1,855,956                          |
| Total transfers in               | <u>\$ 6,852,948</u>     | <u>\$ 700,392</u>                   | <u>\$ 154,716</u>                          | <u>\$ 129,696</u>                     | <u>\$ 3,116,610</u>                        | <u>\$ 577,996</u>                   | <u>\$ 11,532,358</u>               |

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(9) **Interfund Transfers** (Continued)

In addition to the above purposes, the following transfers occurred during the year ended September 30, 2025:

The transfer out in the General Fund and transfer in for the Redevelopment Trust Special Revenue Fund represents the City's tax increment payment based on the difference in taxable values for the redevelopment area from the base tax year to 2024.

Significant transfers to the General Fund include:

- A transfer out of the Transportation Improvements Fund of \$749,952 to offset road maintenance and street lighting costs and as payment in support of capital improvement projects.
- A transfer out of the Water and Sewer Fund of \$3,388,476 as payment in lieu of franchise fees and support of operating and capital improvement projects.
- A transfer out of the Solid Waste Fund of \$1,382,628 as payment in support of operating and capital improvement projects and as payment in lieu of franchise fees.
- A transfer out of the Internal Service Fund of \$1,111,956 as payment for allocation of workers' compensation and general liability costs.

Significant transfers to nonmajor governmental funds include:

- Transfers out of the General Fund of \$1,411,000 to the General Improvements Fund for planned capital activity.
- A transfer out of the Internal Service Fund of \$556,000 to the Facilities R&R Fund for planned capital activity.

(10) **Long-Term Debt**

(a) **Financed Purchases**

On July 30, 2020, the City entered into an agreement through PNC Equipment Finance, LLC, for two Pierce Enforcer Pumper fire apparatuses for \$1,155,825. The agreement bears interest at 2.92% with annual payments of \$134,325 until July 2030.

On March 20, 2024, the City entered into an agreement through Leasing 2, Inc., for one Pierce Enforcer Pumper fire apparatus for \$1,642,125. The agreement bears interest at 5.72% with annual payments of \$220,130 until March 2034.



**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(10) **Long-Term Debt:** (Continued)

The following is a schedule of future minimum payments for the two agreements listed above as of September 30, 2025:

| <u>Fiscal Year Ending September 30,</u> | <u>Governmental<br/>Activities</u> |
|-----------------------------------------|------------------------------------|
| 2026                                    | 354,455                            |
| 2027                                    | 354,455                            |
| 2028                                    | 354,455                            |
| 2029                                    | 354,455                            |
| 2030                                    | 354,455                            |
| 2031-2034                               | 880,521                            |
| Total payments                          | 2,652,796                          |
| Less: amount representing interest      | (518,754)                          |
| Present value of financed purchases     | <u>\$ 2,134,042</u>                |

(b) **General Obligation Bonds - Series 2010**—The citizens of Ormond Beach approved a bond referendum election held August 10, 2010, to acquire property for a beachfront park. The City entered into a \$5,000,000, General Obligation Bond Series 2010, term loan agreement, on November 12, 2010, with JPMorgan Chase Bank to finance the cost of the acquisition and development of lands on the East side of A1A/Atlantic Avenue for a public beachfront park and to pay cost of issuance. The term loan agreement is based on a 20-year amortization and contains a fixed interest rate of 2.89%.

(c) **Capital Improvement Note**—On February 2, 2005, the City issued Capital Improvements Revenue Note, Series 2005, in the amount of \$2,100,000. The proceeds will be used to finance the construction and relocation of Fire Station #91, currently located at 160 East Granada Boulevard to a site located at 354 South Atlantic Avenue. The Capital Improvements Revenue Note, Series 2005, was issued to Bank of America at an interest rate of 3.58% for a term of 20 years, maturing on July 1, 2024. The City has pledged to appropriate non-ad valorem revenues to repay the loan. The final payment was made in 2024.

(d) **Capital Improvement Note**—On August 26, 2024, the City issued Capital Improvements Revenue Note, Series 2024, in the amount of \$2,500,000. The proceeds will be used to finance certain capital improvements. The Capital Improvements Revenue Note, Series 2024, was issued to Webster Bank National Association, at an interest rate of 4.29% for a term of 10 years, maturing on September 1, 2034. The City has pledged to appropriate non-ad valorem revenues to repay the loan.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(10) **Long-Term Debt:** (Continued)

(e) **Water and Sewer Revenue bonds**—Revenue bonds payable at September 30, 2025, are payable solely from the net revenues of the water and sewer systems and are issued in accordance with the water and sewer bond ordinances. The significant terms of the water and sewer ordinances are as follows:

(i) Establish certain funds and accounts within the Water and Sewer Enterprise Fund as follows:

- Operation and Maintenance Fund (Revenue Fund)
- Sinking Fund
- Renewal and Replacement Fund
- Impact Fee Fund
- Construction Trust Fund
- Rebate Fund

(ii) Early Redemption

The bond ordinances provide for early redemption of outstanding bonds at call rates varying from 100% to 101% of the face value, depending upon the call date.

(iii) Investment Restrictions

All funds are to be continuously secured in the same manner as state and municipal deposits of funds are required to be secured by the Laws of the State of Florida;

Permitted investments include such obligations as are permitted to be legal investments of the City by the laws of the State; and

Monies on deposit in the various funds established by the bond ordinance may be invested in permitted investments maturing as specified in the ordinance.

(iv) Covenants

Net Revenues, which shall be adequate at all times to pay in each fiscal year at least 110% of the annual debt service requirement for the Outstanding Bonds and any Additional Parity Bonds hereafter issued for the then current fiscal year.

Net Revenues together with the Impact Fees received in such fiscal year shall be adequate at all times to pay in each fiscal year at least 120% of the annual debt service requirement for the Outstanding Bonds and any Additional Parity Bonds.

City will not reduce its schedule of rates, fees, rentals and other charges as to be insufficient to provide adequate Net Revenues and Impact Fees for such purposes.

The City was in compliance with all bond covenants as of September 30, 2025.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(10) **Long-Term Debt:** (Continued)

- (f) **State Revolving Fund Loans**—During the year ended September 30, 2009, the City executed an agreement with the Florida Department of Environmental Protection to borrow up to \$8,344,275 at an interest rate of 3.20% through the State Revolving Fund loan program, for the purpose of expansion and rehabilitation of the wastewater treatment plant. Repayment commenced on August 15, 2011, and is due semiannually thereafter on February 15 and August 15, each year until all amounts due under the agreement have been fully paid on February 15, 2031.

During the year ended September 30, 2012, the City executed an agreement with the Florida Department of Environmental Protection to borrow up to \$7,559,518 at an interest rate of 2.60% through the State Revolving Fund loan program, for the purpose of constructing the wastewater and reuse transmission facilities. Repayment commenced on December 15, 2013, is due semiannually thereafter on June 15 and December 15, each year until all amounts due under the agreement have been fully paid on June 15, 2033.

- (g) Long-Term Debt consists of the following:

| <b>Governmental Activities</b>          | <b>Rates and<br/>Payment<br/>Dates</b> | <b>Final<br/>Maturity</b> | <b>Annual Serial<br/>Payments</b> | <b>Amount<br/>Issued</b> | <b>Amount<br/>Outstanding</b> |
|-----------------------------------------|----------------------------------------|---------------------------|-----------------------------------|--------------------------|-------------------------------|
| General Obligation Bonds:               |                                        |                           |                                   |                          |                               |
| General Obligation<br>Bond, series 2010 | 2.89% (7/1)                            | 2030                      | \$200,000-<br>\$335,000           | 5,000,000                | 1,585,000                     |
| Total General Obligation Bonds          |                                        |                           |                                   | <u>\$ 5,000,000</u>      | <u>\$ 1,585,000</u>           |
| Capital Improvement Note                | 4.29% (9/1)                            | 2034                      | \$205,000-<br>\$300,000           | <u>\$ 2,500,000</u>      | <u>\$ 2,295,000</u>           |

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(10) **Long-Term Debt:** (Continued)

| <b><u>Business-Type Activities</u></b> | <b><u>Rates and<br/>Payment Dates</u></b> | <b><u>Final<br/>Maturity</u></b> | <b><u>Annual Serial<br/>Payments</u></b> | <b><u>Amount<br/>Issued</u></b> | <b><u>Amount<br/>Outstanding</u></b> |
|----------------------------------------|-------------------------------------------|----------------------------------|------------------------------------------|---------------------------------|--------------------------------------|
| Water and Sewer Revenue Bonds:         |                                           |                                  |                                          |                                 |                                      |
|                                        | 2.58%                                     |                                  | \$140,000 -                              |                                 |                                      |
| 2015 Water and sewer                   | (3/1; 9/1)                                | 2030                             | \$206,000                                | 2,600,000                       | 980,000                              |
|                                        | 2.45%                                     |                                  | \$25,000-                                |                                 |                                      |
| 2017 Water and sewer                   | (3/1; 9/1)                                | 2032                             | \$455,000                                | 4,050,000                       | 2,875,000                            |
|                                        | 2.65%                                     |                                  | \$28,000-                                |                                 |                                      |
| 2019 Water and sewer                   | (3/1; 9/1)                                | 2033                             | \$480,000                                | 4,543,000                       | 3,431,000                            |
|                                        | 2.65%                                     |                                  | \$28,000-                                |                                 |                                      |
| 2024 Water and sewer                   | (3/1; 9/1)                                | 2033                             | \$480,000                                | 13,000,000                      | 13,000,000                           |
| Total Water and Sewer Revenue Bonds    |                                           |                                  |                                          | <u>\$ 44,193,000</u>            | <u>\$ 20,286,000</u>                 |
| State Revolving Fund Loans:            |                                           |                                  |                                          |                                 |                                      |
|                                        | 3.20%                                     |                                  | \$70,000-                                |                                 |                                      |
| SRF Loan WW710140                      | (2/1; 8/1)                                | 2031                             | \$543,000                                | \$ 8,344,275                    | \$ 2,715,144                         |
|                                        | 2.60%                                     |                                  |                                          |                                 |                                      |
| SRF Loan WW640120                      | (6/15; 12/15)                             | 2033                             | \$430,000                                | 7,559,518                       | 2,811,436                            |
| Total State Revolving Fund Loans       |                                           |                                  |                                          | <u>\$ 15,903,793</u>            | <u>\$ 5,526,580</u>                  |

(h) **Debt service requirements**—The annual requirements to amortize the bonds and loans payable outstanding as of September 30, 2025, are as follows:

| <b><u>Fiscal<br/>Year<br/>Ending<br/>September<br/>30</u></b> | <b><u>Obligation Bonds<br/>Series 2010</u></b> |                        |
|---------------------------------------------------------------|------------------------------------------------|------------------------|
|                                                               | <b><u>Principal</u></b>                        | <b><u>Interest</u></b> |
| 2026                                                          | \$ 300,000                                     | \$ 46,083              |
| 2027                                                          | 310,000                                        | 37,361                 |
| 2028                                                          | 315,000                                        | 28,348                 |
| 2029                                                          | 325,000                                        | 19,189                 |
| 2030                                                          | 335,000                                        | 9,740                  |
| Totals                                                        | <u>\$1,585,000</u>                             | <u>\$140,721</u>       |

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(10) **Long-Term Debt:** (Continued)

| <b>Fiscal Year<br/>Ending<br/>September<br/>30</b> | <b>Capital Improvement<br/>Bonds<br/>Series 2024</b> |                  |
|----------------------------------------------------|------------------------------------------------------|------------------|
|                                                    | <b>Principal</b>                                     | <b>Interest</b>  |
| 2026                                               | \$ 215,000                                           | \$ 98,456        |
| 2027                                               | 225,000                                              | 89,232           |
| 2028                                               | 235,000                                              | 79,580           |
| 2029                                               | 240,000                                              | 69,498           |
| 2030                                               | 255,000                                              | 59,202           |
| 2031                                               | 265,000                                              | 48,262           |
| 2032                                               | 275,000                                              | 36,894           |
| 2033                                               | 285,000                                              | 25,096           |
| 2034                                               | 300,000                                              | 12,870           |
| Totals                                             | <u>\$2,295,000</u>                                   | <u>\$519,090</u> |

| <b>Fiscal Year<br/>Ending<br/>September 30</b> | <b>Water and Sewer Revenue<br/>Bonds Series 2015</b> |                  | <b>Water and Sewer Revenue<br/>Bonds Series 2017</b> |                   |
|------------------------------------------------|------------------------------------------------------|------------------|------------------------------------------------------|-------------------|
|                                                | <b>Principal</b>                                     | <b>Interest</b>  | <b>Principal</b>                                     | <b>Interest</b>   |
| 2026                                           | \$ 186,000                                           | \$ 25,284        | \$ 370,000                                           | \$ 70,438         |
| 2027                                           | 191,000                                              | 20,485           | 380,000                                              | 61,372            |
| 2028                                           | 196,000                                              | 15,557           | 395,000                                              | 52,062            |
| 2029                                           | 201,000                                              | 10,501           | 410,000                                              | 42,384            |
| 2030                                           | 206,000                                              | 5,314            | 425,000                                              | 32,340            |
| 2031                                           | -                                                    | -                | 440,000                                              | 21,928            |
| 2032                                           | -                                                    | -                | 455,000                                              | 11,147            |
| Totals                                         | <u>\$ 980,000</u>                                    | <u>\$ 77,141</u> | <u>\$ 2,875,000</u>                                  | <u>\$ 291,671</u> |

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(10) **Long-Term Debt:** (Continued)

| <b>Fiscal Year<br/>Ending<br/>September<br/>30</b> | <b>Water and Sewer Revenue<br/>Bonds Series 2019</b> |                   | <b>Water and Sewer Revenue<br/>Bonds Series 2024</b> |                     | <b>Water and Sewer Revenue<br/>Bonds Total</b> |                     |
|----------------------------------------------------|------------------------------------------------------|-------------------|------------------------------------------------------|---------------------|------------------------------------------------|---------------------|
|                                                    | <b>Principal</b>                                     | <b>Interest</b>   | <b>Principal</b>                                     | <b>Interest</b>     | <b>Principal</b>                               | <b>Interest</b>     |
| 2026                                               | 391,000                                              | 90,921            | 705,000                                              | 542,100             | 1,652,000                                      | 728,743             |
| 2027                                               | 401,000                                              | 80,560            | 730,000                                              | 512,702             | 1,702,000                                      | 675,119             |
| 2028                                               | 412,000                                              | 69,933            | 765,000                                              | 482,260             | 1,768,000                                      | 619,812             |
| 2029                                               | 422,000                                              | 59,015            | 795,000                                              | 450,360             | 1,828,000                                      | 562,260             |
| 2030                                               | 434,000                                              | 47,832            | 825,000                                              | 417,208             | 1,890,000                                      | 502,694             |
| 2031                                               | 445,000                                              | 36,331            | 860,000                                              | 382,806             | 1,745,000                                      | 441,065             |
| 2032                                               | 457,000                                              | 24,539            | 900,000                                              | 346,944             | 1,812,000                                      | 382,630             |
| 2033                                               | 469,000                                              | 12,428            | 935,000                                              | 309,414             | 1,404,000                                      | 321,842             |
| 2034                                               | -                                                    | -                 | 975,000                                              | 270,424             | 975,000                                        | 270,424             |
| 2026                                               | -                                                    | -                 | 1,015,000                                            | 229,768             | 1,015,000                                      | 229,768             |
| 2027                                               | -                                                    | -                 | 1,055,000                                            | 187,442             | 1,055,000                                      | 187,442             |
| 2028                                               | -                                                    | -                 | 1,100,000                                            | 143,448             | 1,100,000                                      | 143,448             |
| 2029                                               | -                                                    | -                 | 1,145,000                                            | 97,578              | 1,145,000                                      | 97,578              |
| 2030                                               | -                                                    | -                 | 1,195,000                                            | 49,831              | 1,195,000                                      | 49,831              |
| Totals                                             | <u>\$ 3,431,000</u>                                  | <u>\$ 421,559</u> | <u>\$ 13,000,000</u>                                 | <u>\$ 4,422,285</u> | <u>\$ 20,286,000</u>                           | <u>\$ 5,212,656</u> |

| <b>Fiscal Year<br/>Ending<br/>September<br/>30</b> | <b>State Revolving Fund<br/>Loan # WW710140</b> |                   | <b>State Revolving Fund<br/>Loan # 640120</b> |                   | <b>State Revolving Fund<br/>Loans Total</b> |                   |
|----------------------------------------------------|-------------------------------------------------|-------------------|-----------------------------------------------|-------------------|---------------------------------------------|-------------------|
|                                                    | <b>Principal</b>                                | <b>Interest</b>   | <b>Principal</b>                              | <b>Interest</b>   | <b>Principal</b>                            | <b>Interest</b>   |
| 2026                                               | 459,066                                         | 83,241            | 320,488                                       | 71,028            | 779,554                                     | 154,269           |
| 2027                                               | 473,874                                         | 68,434            | 328,875                                       | 62,641            | 802,748                                     | 131,075           |
| 2028                                               | 489,159                                         | 53,148            | 337,481                                       | 54,034            | 826,640                                     | 107,182           |
| 2029                                               | 504,937                                         | 37,370            | 346,313                                       | 45,203            | 851,250                                     | 82,573            |
| 2030                                               | 521,225                                         | 21,082            | 355,375                                       | 36,140            | 876,600                                     | 57,222            |
| 2031                                               | 266,883                                         | 4,270             | 364,675                                       | 26,840            | 631,558                                     | 31,110            |
| 2032                                               | -                                               | -                 | 374,218                                       | 17,297            | 374,218                                     | 17,297            |
| 2033                                               | -                                               | -                 | 384,012                                       | 7,504             | 384,012                                     | 7,504             |
| Totals                                             | <u>\$ 2,715,144</u>                             | <u>\$ 267,545</u> | <u>\$ 2,811,436</u>                           | <u>\$ 320,687</u> | <u>\$ 5,526,580</u>                         | <u>\$ 588,232</u> |

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(10) **Long-Term Debt:** (Continued)

(i) **Change in long-term liabilities**—Long-term liability activity for the year ended September 30, 2025, was as follows:

|                                                  | <b>Balance<br/>October 1,<br/>2024</b> | <b>Additions</b>    | <b>Reductions</b>   | <b>Balance<br/>September<br/>30, 2025</b> | <b>Due Within<br/>One Year</b> |
|--------------------------------------------------|----------------------------------------|---------------------|---------------------|-------------------------------------------|--------------------------------|
| <b>Governmental Activities</b>                   |                                        |                     |                     |                                           |                                |
| Bonds Payable:                                   |                                        |                     |                     |                                           |                                |
| General Obligation Bonds                         | \$ 1,875,000                           | \$ -                | \$ 290,000          | \$ 1,585,000                              | \$ 300,000                     |
| Capital Improvement Notes                        | 2,500,000                              | -                   | 205,000             | 2,295,000                                 | 215,000                        |
| Financed purchases                               | 2,373,907                              | -                   | 239,865             | 2,134,042                                 | 250,299                        |
| Claims and judgments                             | 2,715,350                              | 1,757,580           | 2,206,770           | 2,266,160                                 | -                              |
| Compensated absences                             | 2,269,622                              | 1,782,445           | 1,660,874           | 2,391,193                                 | 1,304,149                      |
| Governmental Activities - Long-term liabilities  | <u>\$ 11,733,879</u>                   | <u>\$ 3,540,025</u> | <u>\$ 4,602,509</u> | <u>\$ 10,671,395</u>                      | <u>\$ 2,069,448</u>            |
| <b>Business-Type Activities</b>                  |                                        |                     |                     |                                           |                                |
| Bonds Payable                                    |                                        |                     |                     |                                           |                                |
| Revenue Bonds                                    | \$ 23,403,000                          | \$ -                | \$ 3,117,000        | \$ 20,286,000                             | \$ 1,652,000                   |
| Loans Payable                                    |                                        |                     |                     |                                           |                                |
| State Revolving Fund                             | 6,283,615                              | -                   | 757,035             | 5,526,580                                 | 779,554                        |
| Total bonds and loans payable                    | 29,686,615                             | -                   | 3,874,035           | 25,812,580                                | 2,431,554                      |
| Landfill closure                                 | 526,340                                | -                   | 77,197              | 449,143                                   | 89,829                         |
| Compensated absences                             | 481,708                                | 400,097             | 374,135             | 507,670                                   | 265,207                        |
| Business-Type Activities - Long-term liabilities | <u>\$ 30,694,663</u>                   | <u>\$ 400,097</u>   | <u>\$ 4,325,367</u> | <u>\$ 26,769,393</u>                      | <u>\$ 2,786,590</u>            |

Compensated absences are recorded in the government-wide financial statements as noncurrent liabilities. As employees leave employment with the City, the balance of compensated absences become due and payable if certain standard employment-departure conditions are met. Compensated absences are liquidated by the General, Stormwater Drainage and Municipal Airport Funds. Claims and judgments and other post-employment benefits are liquidated by the General Fund.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(11) Self-Insurance:**

The City's Consolidated Insurance Fund (an internal service fund) accounts for the general liability and workers' compensation insurance program.

The City is self-insured for general liability claims and for workers' compensation. The City maintains a blanket buildings and contents policy covering losses to City structures and has obtained excess insurance coverage for workers' compensation. The City has self-retention for each workers' compensation claim up to \$350,000 and excess insurance up to \$1 million.

Section 768.28 of the Florida Statutes establishes that the City is liable for tort claims in the same manner and to the same extent as a private individual under like circumstances, but liability shall not include punitive damages or interest for the period before judgment. Section 768.28 of the Florida Statutes also provides limited liability for tort claims against the state and its agencies and subdivisions. Under the provisions of this law, the City's liability is limited to \$200,000 per claim or judgment by any one person or \$300,000 per claim or judgment for any occurrence. Any portion of a judgment which exceeds these amounts may be reported to the State Legislature, but may be paid in part or in whole only by further act of the State Legislature.

All funds of the City participate in the program and make payments to the fund based on estimates of the amounts needed to pay prior and current year claims and to establish a reserve for catastrophic losses. As of September 30, 2025, the estimates are based on an actuarial analysis of the City's self-insurance program. At September 30, 2025, the claims liability was approximately \$2,266,000. The claims liability estimates were discounted to present value using an assumed discount rate of 4.0% per annum. Because of uncertainties in the estimation process, it is at least reasonably possible that management's estimate of the claims' liability will change in the near term and could be material to the financial statements.

Changes in the claims' liability for the past five years are as follows:

|      | <b>Balance at<br/>Beginning of<br/>Fiscal Year<br/>Liability</b> | <b>Current Year<br/>Claims and<br/>Changes in<br/>Estimates</b> | <b>Claim<br/>Payments</b> | <b>Balance at<br/>End of Fiscal<br/>Year</b> |
|------|------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------|----------------------------------------------|
| 2021 | \$ 2,382,000                                                     | \$ 1,166,000                                                    | \$ (1,144,000)            | \$ 2,404,000                                 |
| 2022 | 2,404,000                                                        | 1,704,586                                                       | (1,335,586)               | 2,773,000                                    |
| 2023 | 2,773,000                                                        | 1,027,578                                                       | (685,212)                 | 3,115,000                                    |
| 2024 | 3,115,000                                                        | 1,634,434                                                       | (1,612,276)               | 2,715,000                                    |
| 2025 | 2,715,000                                                        | 1,757,580                                                       | (2,206,770)               | 2,266,000                                    |

(a) **Litigation**—Various suits and claims arising in the ordinary course of the City's operations are pending against the City. At September 30, 2025, management has estimated these suits and claims to have an immaterial effect on the City's financial statements. At September 30, 2025, certain other suits are indeterminable as to the probability or estimability of the potential liability to the City.



**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(12) **Retirement Plans:**

(a) **Defined Benefit Pension Plans**

**Description of the Plans**

**Municipal Firefighters' Retirement Trust Fund**—The Municipal Firefighters' Retirement Trust Fund is a single-employer defined benefit public employee retirement systems and contains the assets of the fire pension plan. The funding methods and determination of benefits payable are provided in the various acts of the Florida Legislature, which created the funds, including subsequent amendments thereto. The statutes provide, in general, that funds are to be accumulated from employee contributions, city contributions, state appropriations and income from investment of accumulated funds. The act also provides that, should the accumulated funds at any time be insufficient to meet and pay the benefits due, the City shall supplement the fund by an appropriation from current funds, or from any revenues which may lawfully be used for said purposes in an amount sufficient to make up the deficiency. The investments of the funds are administered, managed and operated by their respective Boards of Trustees using the services of the Finance Department and Regions Bank. The Board of trustees consists of two commission appointees, two members of the Department elected by the membership and a fifth member elected by the other four and appointed by Commission. Investments are reported at fair value.

All full-time employees who are classified as full-time firefighters shall participate in the Municipal Firefighters' Retirement System upon employment with the City. Employees vest for full benefits after 10 years of service and receive the vested portion of the accrued benefit payable at the otherwise normal retirement date.

The plan provides retirement, termination, disability and death benefits. Benefit amounts are calculated based on 3.37% for the Firefighters' Pension System of Average Monthly Earnings (total compensation) for the highest five years times credited service prior to January 1, 2016, and 3.35% for credited service on or after January 1, 2016, if hired prior to May 20, 2014. If hired on or after May 20, 2014, benefit amounts are calculated based on 2.75% for the Firefighters' Pension System of Average Monthly Earnings (total compensation) for the highest five years times credited service. Normal retirement for firefighters hired prior to May 20, 2014, occurs the earlier of age 60, age 55 and 10 years of Credited Service, or 20 years of Credited Service regardless of age. Normal retirement for firefighters hired on or after May 20, 2014, occurs the earlier of age 60, age 55 and 10 years of Credited Service, or age 52 and 25 years of Credited Service. Eligibility for Early Retirement is permitted for those who have at least 10 years of Credited Service and have reached age 50. The accrued benefit is the same as normal retirement but actuarially reduced 3% per year to reflect early payment. The plan also provides both service and nonservice related disability and death benefits. Service incurred disability is covered from the date of employment, while non-service incurred disability is covered for those who have at least 10 years of credit service. Benefit amount is benefit accrued to date of disability but not less than 42% of Average Monthly Earnings (Service Incurred). Vested pre-pension death benefits include monthly accrued benefit payable to designated beneficiary for 10 years. Non-vested pre-pension death benefits include a refund of the accumulated contributions without interest.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(12) **Retirement Plans:** (Continued)

**Municipal Police Officers' Retirement Trust Fund**—The Municipal Police Officers' Retirement Trust Funds is a single-employer defined benefit public employee retirement system and contains the assets of the police pension plans. The funding methods and determination of benefits payable are provided in the various acts of the Florida Legislature, which created the funds, including subsequent amendments thereto. The statutes provide, in general, that funds are to be accumulated from employee contributions, city contributions, state appropriations and income from investment of accumulated funds. The act also provides that, should the accumulated funds at any time be insufficient to meet and pay the benefits due, the City shall supplement the fund by an appropriation from current funds, or from any revenues which may lawfully be used for said purposes in an amount sufficient to make up the deficiency. The investments of the funds are administered, managed and operated by their respective Boards of Trustees using the services of the Finance Department and Regions Bank. The Board of trustees consists of two commission appointees, two members of the Department elected by the membership and a fifth member elected by the other four and appointed by Council. Investments are reported at fair value.

All full-time employees who are classified as full-time sworn police officers shall participate in the Municipal Police Officers' Retirement System upon employment with the City. Employees vest for full benefits after 10 years of service and receive the vested portion of the accrued benefit payable at the otherwise normal retirement date.

The Plan provides retirement, termination, disability and death benefits. Benefit amounts are calculated based on 3.30%, if hired prior to August 21, 2012, or 2.75%, if hired on or after August 21, 2012, of Average Monthly Earnings, which represents average earnings (total compensation) for the highest five years during the 10 years immediately preceding retirement or termination, times Credited Service or total years and completed months of continuous employment with the City. Normal retirement for officers hired before June 1, 2014, occurs the earlier of age 60, age 55 and 10 years of Credited Service, or 20 years of Credited Service. Normal retirement for officers hired on or after June 1, 2014, occurs the earlier of age 55 and 10 years of Credited Service, age 52 and 25 years of Credited Service, or age 60. Eligibility for Early Retirement is permitted for those who have at least 10 years of Credited Service and have reached age 45. The accrued benefit is the same as normal retirement but actuarially reduced by 3% per year to reflect early payment. The plan also provides both service and nonservice related disability and death benefits. Service incurred disability is covered from the date of employment, while non-service incurred disability is covered for those who have at least 10 years of credit service. Benefit amount is benefit accrued to date of disability but not less than 42% of Average Monthly Earnings (Service Incurred). Vested pre-pension death benefits include monthly accrued benefit payable to designated beneficiary for 10 years. Non-vest pre-pension death benefits include a refund of the accumulated contributions without interest. A 1% cost of living adjustment is provided annually beginning the first October 1<sup>st</sup> following one year of retirement.

**General Employees' Trust Fund**—The General Employees' Trust Fund is a single-employer defined benefit public employee retirement system and contains the assets of the General Employees' Trust Fund. The General Employees' Trust Fund has an original effective date of November 1, 1969 and an effective date of restatement of April 1, 1979. The funding methods and determination of benefits payable are provided in the various sections of the City's Code of Ordinances, including subsequent amendments thereto. The Code provides, in general, that funds are to be accumulated from employee contributions, City contribution and income from investment of accumulated funds. The investments of the fund are administered, managed and operated by its respective Boards of Trustees using the services of the Finance Department and Regions Bank. The Board of trustees consists of the Finance Director, two representatives appointed by the City Commission and two other city employees' representatives selected by the employees. Investments are reported at fair value.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(12) Retirement Plans:** (Continued)

The General Employees' Trust Fund includes all City employees hired before December 19, 2012, except state certified police and firefighters. Employees became eligible for the plan upon employment by the City, and all eligible employees must participate. Any remaining amount necessary to pay the Normal Cost and fund the accrued, past service liability over 30 years is contributed by the City. Employees vest for full benefits after 5 years of service and receive the vested portion of the accrued benefit payable at the otherwise normal retirement date.

The Plan provides retirement, termination, disability and death benefits. Benefit amounts are calculated based on 2.50% of Average Monthly Earnings, which represents average earnings (base pay excluding overtime and other non-regular payments) during the highest five years, times Credited Service or years and completed months of continuous uninterrupted service with the City. Normal retirement occurs the first of the month coinciding with or following the earlier of age 62 with 5 years of creditable service or when the sum of age and years of service equals 85 but not earlier than age 55. Eligibility for Early Retirement is permitted for those who have at least 5 years of Credited Service and have reached age 60 or when the sum of age and years of service equals 80. The accrued benefit is the same as normal retirement but actuarially reduced by 5% per year to reflect early payment. The plan also provides disability and death benefits. Disability is covered from the date of employment for employees hired before September 1, 1993, while disability is covered for those employees hired on or after September 1, 1993, who have at least 10 years of credit service. Benefit amount is benefit accrued to date of disability. Vested pre-pension death benefits include survivorship annuity computed as though the member retired on the date of death; equivalent alternative forms of benefit may be elected. Non-vested pre-pension death benefits include a refund of accumulated contributions with interest of 4% annually.

Plan membership as of October 1, 2024, the date of the most recent actuarial valuation is as follows:

|                                                                     | <b>Municipal<br/>Firefighters'<br/>Retirement<br/>Fund</b> | <b>General<br/>Employees'<br/>Trust Fund</b> | <b>Municipal<br/>Police<br/>Officers'<br/>Retirement<br/>Fund</b> |
|---------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------|
| Inactive plan members or beneficiaries currently receiving benefits | 52                                                         | 194                                          | 73                                                                |
| Inactive plan members entitled to but not yet receiving benefits    | 4                                                          | 35                                           | 11                                                                |
| Active plan members                                                 | 46                                                         | 56                                           | 61                                                                |
| Total plan membership                                               | <u>102</u>                                                 | <u>285</u>                                   | <u>145</u>                                                        |

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(12) **Retirement Plans:** (Continued)

**Contributions**

The participant contribution rates are established by and may be amended by the City Commission. Participant contribution rates for the Municipal Firefighters' Retirement Trust Fund, General Employees' Trust Fund and Municipal Police Officers' Retirement Trust Fund are 8.6%, 4.0%, and 9.0%, respectively, of covered payroll. The City's annual required contribution for the current year was determined as part of the October 1, 2022, actuarial valuations. The City is required under the Florida Protection of Public Employee Retirement benefits Act to meet required contribution amounts. The City's contributions (and, if applicable, any liquidations of a net pension obligation) to the Municipal Firefighters' Retirement Trust Fund and Municipal Police Officers' Retirement Trust Fund are funded by the General Fund, while the General Employees' Trust Fund contributions are funded by the General Fund and various other governmental and enterprise funds.

The State of Florida also makes contributions to the Municipal Firefighters' Retirement Trust Fund and Municipal Police Officers' Retirement Trust Fund in accordance with Chapter 175 and Chapter 185 of the Florida Statutes as amended by the State Legislature. This contribution by the State of Florida is first recognized as revenue in the Pension Contribution Pass-Through Fund before being transferred to the Pension Funds. The City's actual annual contribution for each plan is determined by subtracting estimated employee contributions and actual State of Florida contributions from the total annual required contribution as determined by the actuary.

Contributions to the City's pension plans for the year ended September 30, 2025, were as follows:

|                        | <b>Municipal<br/>Firefighters'<br/>Retirement<br/>Fund</b> | <b>General<br/>Employees'<br/>Trust Fund</b> | <b>Municipal<br/>Police<br/>Officers'<br/>Retirement<br/>Fund</b> | <b>Total</b>        |
|------------------------|------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------|---------------------|
| Employee contributions | \$ 377,501                                                 | \$ 177,886                                   | \$ 475,511                                                        | \$ 1,030,898        |
| City contributions     | 1,325,376                                                  | 969,131                                      | 1,947,902                                                         | 4,242,409           |
| State contributions    | 553,825                                                    | -                                            | 641,160                                                           | 1,194,985           |
| Total contributions    | <u>\$ 2,256,702</u>                                        | <u>\$ 1,147,017</u>                          | <u>\$ 3,064,573</u>                                               | <u>\$ 6,468,292</u> |

Costs incurred by each of the plans for administration of the plans, which includes legal and actuarial fees, trustee fees and investment advisory fees, are borne by the respective retirement plans and are included in the actuarial analysis of the required funding amounts.

**Net Pension Liability**

The City's net pension liability was measured as of September 30, 2025. The total pension liability used to calculate the net pension liability was determined as of that date. The components on the net pension liability of the pension plans at September 30, 2025, were as follows:

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(12) **Retirement Plans:** (Continued)

|                                                                         | <b>Municipal<br/>Firefighters'<br/>Retirement<br/>Fund</b> | <b>General<br/>Employees'<br/>Trust Fund</b> | <b>Municipal<br/>Police<br/>Officers'<br/>Retirement<br/>Fund</b> | <b>Total</b>         |
|-------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------|----------------------|
| Total pension liability                                                 | \$ 47,591,672                                              | \$ 67,007,655                                | \$ 62,417,061                                                     | \$ 177,016,388       |
| Plan fiduciary net position                                             | (45,049,584)                                               | (64,216,302)                                 | (55,366,369)                                                      | \$ (164,632,255)     |
| Net pension liability                                                   | <u>\$ 2,542,088</u>                                        | <u>\$ 2,791,353</u>                          | <u>\$ 7,050,692</u>                                               | <u>\$ 12,384,133</u> |
| Plan fiduciary net position as<br>percentage of total pension liability | 94.66%                                                     | 95.83%                                       | 88.70%                                                            | 93.00%               |

*Actuarial assumptions:*

The total pension liability was determined by an actuarial valuation as of October 1, 2024, updated to September 30, 2025, using the following actuarial assumptions to all measurement periods:

|                           | <b>Municipal<br/>Firefighters'<br/>Retirement<br/>Fund</b> | <b>General<br/>Employees'<br/>Trust Fund</b> | <b>Municipal<br/>Police<br/>Officers'<br/>Retirement<br/>Fund</b> |
|---------------------------|------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------|
| Inflation                 | 2.50%                                                      | 2.50%                                        | 2.50%                                                             |
| Salary increases          | Service based                                              | 4.50%                                        | Service based                                                     |
| Discount rate             | 7.00%                                                      | 6.75%                                        | 6.75%                                                             |
| Investment rate of return | 7.00%                                                      | 6.75%                                        | 6.75%                                                             |

Mortality rates for the Municipal Firefighters' Retirement Fund were based on the PubG.H-2010 General Mortality and PubS.H-2010 Safety Mortality Tables set forward one year. Mortality rates for the General Employees' Trust Fund were based on the PubG.H-2010 General Mortality and PubS.H-2010 Safety Mortality Tables set back one year for males. Disability lives are set forward four years. Mortality rates for the Municipal Police Officers' Retirement Fund were based on the PubG.H-2010 General Mortality and PubS.H-2010 Safety Mortality Tables set forward one year. The actuarial assumptions used in the October 1, 2024, valuation were based on the results of an actuarial experience study performed on August 15, 2025 for the Municipal Firefighters' Retirement Fund and Municipal Police Officers' Retirement Fund, and an experience study performed on September 15, 2025, for the General Employees' Trust Fund.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future rates of return (expected returns, net of pension plan investment expenses and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(12) **Retirement Plans:** (Continued)

Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of September 30, 2025, are summarized in the following table:

|                              | <b>Long-Term Expected Real Rate of Return</b>              |                                              |                                                                   |
|------------------------------|------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------|
|                              | <b>Municipal<br/>Firefighters'<br/>Retirement<br/>Fund</b> | <b>General<br/>Employees'<br/>Trust Fund</b> | <b>Municipal<br/>Police<br/>Officers'<br/>Retirement<br/>Fund</b> |
| Domestic equity              | 7.5%                                                       | 5.76%                                        | 7.5%                                                              |
| International equity         | 8.5%                                                       | 4.35%                                        | 8.5%                                                              |
| Fixed income                 | 2.5%                                                       | 1.16%                                        | 2.5%                                                              |
| MLP/Energy<br>infrastructure | 4.5%                                                       | -                                            | 4.5%                                                              |
| Private equity/credit        | -                                                          | -                                            | -                                                                 |
| Private Real Estate          | 4.5%                                                       | 3.05%                                        | 4.5%                                                              |

*Discount rate:*

The discount rate used to measure the total pension liability was 7.00% for the Municipal Firefighters' Retirement Fund and 6.75% for the General Employees' Trust Fund and the Municipal Police Officers' Retirement Fund. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and sponsor contributions will be made at rates equal to the difference between the actuarially determined contribution rates and the member rate. Based on those assumptions, the pension plans' fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine total pension liability.

**Changes in Net Pension Liability**

Changes in each plan's net pension liability were as follows:

|                                                               | <b>Municipal Firefighters' Retirement Fund</b> |                                                |                                                |
|---------------------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
|                                                               | <b>Total Pension<br/>Liability<br/>(a)</b>     | <b>Plan Fiduciary<br/>Net Position<br/>(b)</b> | <b>Net Pension<br/>Liability<br/>(a) - (b)</b> |
| Balances at September 30, 2024                                | \$ 46,509,957                                  | \$ 42,235,581                                  | \$ 4,274,376                                   |
| Changes for a year:                                           |                                                |                                                |                                                |
| Service cost                                                  | 674,610                                        | -                                              | 674,610                                        |
| Interest                                                      | 3,177,818                                      | -                                              | 3,177,818                                      |
| Share Plan Allocation                                         | 102,445                                        | -                                              | 102,445                                        |
| Differences between expected and actual experience            | (134,188)                                      | -                                              | (134,188)                                      |
| Changes of assumption                                         | 798,188                                        | -                                              | 798,188                                        |
| Contributions – employer                                      | -                                              | 1,325,376                                      | (1,325,376)                                    |
| Contributions – state                                         | -                                              | 553,825                                        | (553,825)                                      |
| Contributions – employee                                      | -                                              | 340,314                                        | (340,314)                                      |
| Contributions - buy back                                      | 37,187                                         | 37,187                                         | -                                              |
| Net investment income                                         | -                                              | 4,224,655                                      | (4,224,655)                                    |
| Benefit payments, including refunds of employee contributions | (3,574,345)                                    | (3,574,345)                                    | -                                              |
| Administrative expense                                        | -                                              | (93,009)                                       | 93,009                                         |
| Net changes                                                   | \$ 1,081,715                                   | \$ 2,814,003                                   | \$ (1,732,288)                                 |
| Balances at September 30, 2025                                | \$ 47,591,672                                  | \$ 45,049,584                                  | \$ 2,542,088                                   |

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(12) **Retirement Plans:** (Continued)

|                                                               | <b>General Employees' Trust Fund</b> |                                    |                              |
|---------------------------------------------------------------|--------------------------------------|------------------------------------|------------------------------|
|                                                               | <b>Total Pension Liability</b>       | <b>Plan Fiduciary Net Position</b> | <b>Net Pension Liability</b> |
|                                                               | <b>(a)</b>                           | <b>(b)</b>                         | <b>(a) - (b)</b>             |
| Balances at September 30, 2024                                | \$ 64,782,102                        | \$ 61,088,129                      | \$ 3,693,973                 |
| Changes for a year:                                           |                                      |                                    |                              |
| Service cost                                                  | 585,623                              | -                                  | 585,623                      |
| Interest                                                      | 4,289,387                            | -                                  | 4,289,387                    |
| Changes in benefit terms                                      | 1,596,579                            | -                                  | 1,596,579                    |
| Differences between expected and actual experience            | 169,814                              | -                                  | 169,814                      |
| Changes in assumptions                                        | (773,318)                            | -                                  | (773,318)                    |
| Contributions – employer                                      | -                                    | 969,131                            | (969,131)                    |
| Contributions – employee                                      | -                                    | 177,886                            | (177,886)                    |
| Net investment income                                         | -                                    | 5,692,210                          | (5,692,210)                  |
| Benefit payments, including refunds of employee contributions | (3,642,532)                          | (3,642,532)                        | -                            |
| Administrative expense                                        | -                                    | (68,522)                           | 68,522                       |
| Net changes                                                   | \$ 2,225,553                         | \$ 3,128,173                       | \$ (902,620)                 |
| Balances at September 30, 2025                                | <u>\$ 67,007,655</u>                 | <u>\$ 64,216,302</u>               | <u>\$ 2,791,353</u>          |

|                                                               | <b>Municipal Police Officer's Retirement Fund</b> |                                    |                              |
|---------------------------------------------------------------|---------------------------------------------------|------------------------------------|------------------------------|
|                                                               | <b>Total Pension Liability</b>                    | <b>Plan Fiduciary Net Position</b> | <b>Net Pension Liability</b> |
|                                                               | <b>(a)</b>                                        | <b>(b)</b>                         | <b>(a) - (b)</b>             |
| Balances at September 30, 2024                                | \$ 57,536,203                                     | \$ 50,335,981                      | \$ 7,200,222                 |
| Changes for a year:                                           |                                                   |                                    |                              |
| Service cost                                                  | 1,192,207                                         | -                                  | 1,192,207                    |
| Interest                                                      | 3,866,954                                         | -                                  | 3,866,954                    |
| Share Plan Allocation                                         | 177,080                                           | -                                  | 177,080                      |
| Changes of benefit terms                                      | -                                                 | -                                  | -                            |
| Differences between expected and actual experience            | 1,294,542                                         | -                                  | 1,294,542                    |
| Changes in assumptions                                        | 1,230,503                                         | -                                  | 1,230,503                    |
| Contributions – employer                                      | -                                                 | 1,947,902                          | (1,947,902)                  |
| Contributions – state                                         | -                                                 | 641,160                            | (641,160)                    |
| Contributions – employee                                      | -                                                 | 475,511                            | (475,511)                    |
| Net investment income                                         | -                                                 | 4,918,849                          | (4,918,849)                  |
| Benefit payments, including refunds of employee contributions | (2,880,428)                                       | (2,880,428)                        | -                            |
| Administrative expense                                        | -                                                 | (72,606)                           | 72,606                       |
| Net changes                                                   | \$ 4,880,858                                      | \$ 5,030,388                       | \$ (149,530)                 |
| Balances at September 30, 2025                                | <u>\$ 62,417,061</u>                              | <u>\$ 55,366,369</u>               | <u>\$ 7,050,692</u>          |

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(12) **Retirement Plans:** (Continued)

*Sensitivity of the net pension liability to changes in the discount rate:*

The following presents the net pension liability of the City calculated using the actual discount rates as well as what the City's net pension liability (asset) would be if it were calculated using a discount rate that is 1% lower or 1% higher than the current rates:

| <b>City's Net Pension Liability</b>        | <b>Current Rate</b> | <b>1% Decrease</b>   | <b>Current Discount Rate</b> | <b>1% Increase</b>    |
|--------------------------------------------|---------------------|----------------------|------------------------------|-----------------------|
| Municipal Firefighters' Retirement Fund    | 7.00%               | \$ 7,822,123         | \$ 2,542,088                 | \$ (1,858,934)        |
| General Employees' Trust Fund              | 6.75%               | 9,581,600            | 2,791,353                    | (2,997,204)           |
| Municipal Police Officers' Retirement Fund | 6.75%               | 14,919,113           | 7,050,692                    | 579,091               |
| Total                                      |                     | <u>\$ 32,322,836</u> | <u>\$ 12,384,133</u>         | <u>\$ (4,277,047)</u> |

For the year ended September 30, 2025, the annual money-weighted rate of return on each pension plan investments, net of pension plan investment expense was as follows:

|                                      | <b>Municipal Firefighters' Retirement Fund</b> | <b>General Employees' Trust Fund</b> | <b>Municipal Police Officers' Retirement Fund</b> |
|--------------------------------------|------------------------------------------------|--------------------------------------|---------------------------------------------------|
| Annual money-weighted rate of return | 10.19%                                         | 9.49%                                | 9.83%                                             |

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

**Pension Expense and Deferred Outflows and Deferred Inflows of Resources Related to Pensions**

For the year ended September 30, 2025, the City recognized pension expense of \$934,794, \$1,494,495 and \$1,686,904 related to the Firefighters, General Employees and Police Officers pension plans, respectively, for a total net expense of \$4,116,193.



**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(12) **Retirement Plans:** (Continued)

At September 30, 2025, the City reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

|                                                      | <b>Municipal Firefighters' Retirement Fund</b> |                                      | <b>General Employees' Trust Fund</b>  |                                      | <b>Municipal Police Officers' Retirement Fund</b> |                                      |
|------------------------------------------------------|------------------------------------------------|--------------------------------------|---------------------------------------|--------------------------------------|---------------------------------------------------|--------------------------------------|
|                                                      | <b>Deferred Outflows of Resources</b>          | <b>Deferred Inflows of Resources</b> | <b>Deferred Outflows of Resources</b> | <b>Deferred Inflows of Resources</b> | <b>Deferred Outflows of Resources</b>             | <b>Deferred Inflows of Resources</b> |
| Differences between expected and actual experiences  | \$ 531,977                                     | \$ 107,352                           | \$ 135,852                            | \$ -                                 | \$ 1,556,416                                      | \$ -                                 |
| Changes of assumptions                               | 638,552                                        | -                                    | -                                     | 618,656                              | 922,878                                           | -                                    |
| Net difference between projected and actual earnings | -                                              | 2,620,993                            | -                                     | 4,044,293                            | -                                                 | 3,327,076                            |
| Total                                                | <u>\$ 1,170,529</u>                            | <u>\$ 2,728,345</u>                  | <u>\$ 135,852</u>                     | <u>\$ 4,662,949</u>                  | <u>\$ 2,479,294</u>                               | <u>\$ 3,327,076</u>                  |

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

| <b>Year ended September 30</b> | <b>Municipal Firefighters' Retirement Fund</b> | <b>General Employees' Trust Fund</b> | <b>Municipal Police Officers' Retirement Fund</b> |
|--------------------------------|------------------------------------------------|--------------------------------------|---------------------------------------------------|
| 2026                           | \$ 719,991                                     | \$ 203,341                           | \$ 1,127,954                                      |
| 2027                           | (1,186,698)                                    | (2,468,672)                          | (954,598)                                         |
| 2028                           | (960,402)                                      | (1,810,005)                          | (717,657)                                         |
| 2029                           | (130,707)                                      | (451,761)                            | (303,481)                                         |
| 2030                           | -                                              | -                                    | -                                                 |
| Thereafter                     | -                                              | -                                    | -                                                 |

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(12) **Retirement Plans:** (Continued)

**Pension fund financial statements—**

No standalone financial reports exist for these pension plans. All financial activity is reported within the accompanying statement of fiduciary net position. Combining financial statements for the fiduciary funds statement of fiduciary net position is as follows:

|                                        | <u>Fire<br/>Pension</u> | <u>General<br/>Pension</u> | <u>Police<br/>Pension</u> | <u>Total</u>          |
|----------------------------------------|-------------------------|----------------------------|---------------------------|-----------------------|
| <b>ASSETS</b>                          |                         |                            |                           |                       |
| Cash and cash equivalents with trustee | \$ 732,078              | \$ 908,413                 | \$ 1,562,557              | \$ 3,203,048          |
| Total cash and cash equivalents        | <u>732,078</u>          | <u>908,413</u>             | <u>1,562,557</u>          | <u>3,203,048</u>      |
| Receivables:                           |                         |                            |                           |                       |
| Due from other funds                   | 106,585                 | 2,017                      | 67,471                    | 176,073               |
| State premium taxes                    | 183,832                 | -                          | -                         | 183,832               |
| Interest and dividends receivable      | 101,768                 | 137,324                    | 137,186                   | 376,278               |
| Total receivables                      | <u>392,185</u>          | <u>139,341</u>             | <u>204,657</u>            | <u>736,183</u>        |
| Investments, at fair value:            |                         |                            |                           |                       |
| U.S. Government securities             | 5,781,846               | 10,446,412                 | 8,424,938                 | 24,653,196            |
| Mortgage-backed securities             | 6,864,805               | 7,136,924                  | 9,470,549                 | 23,472,278            |
| Corporate bonds                        | 665,879                 | 877,182                    | 1,126,657                 | 2,669,718             |
| Corporate stocks                       | 20,963,660              | 34,750,409                 | 26,033,660                | 81,747,729            |
| Foreign stocks                         | 8,428,505               | 7,609,473                  | 7,128,339                 | 23,166,317            |
| Real estate                            | 1,220,626               | 2,423,708                  | 1,415,012                 | 5,059,346             |
| Total investments                      | <u>43,925,321</u>       | <u>63,244,108</u>          | <u>53,599,155</u>         | <u>160,768,584</u>    |
| Total assets                           | <u>\$ 45,049,584</u>    | <u>\$ 64,291,862</u>       | <u>\$ 55,366,369</u>      | <u>\$ 164,707,815</u> |
| <b>LIABILITIES</b>                     |                         |                            |                           |                       |
| Accounts payable                       | \$ -                    | \$ 75,559                  | \$ -                      | \$ 75,559             |
| Total liabilities                      | <u>\$ -</u>             | <u>\$ 75,559</u>           | <u>\$ -</u>               | <u>\$ 75,559</u>      |
| <b>NET POSITION</b>                    |                         |                            |                           |                       |
| Restricted for pensions                | <u>\$ 45,049,584</u>    | <u>\$ 64,216,303</u>       | <u>\$ 55,366,369</u>      | <u>\$ 164,632,256</u> |

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(12) Retirement Plans:** (Continued)

Combining financial statements for the fiduciary funds statement of changes in fiduciary net position is as follows:

|                                                                | Fire<br>Pension      | General<br>Pension   | Police<br>Pension    | Total                 |
|----------------------------------------------------------------|----------------------|----------------------|----------------------|-----------------------|
| <b>Additions</b>                                               |                      |                      |                      |                       |
| Contributions:                                                 |                      |                      |                      |                       |
| Employer                                                       | \$ 1,325,376         | \$ 969,131           | \$ 1,947,902         | \$ 4,242,409          |
| Plan members                                                   | 377,501              | 177,886              | 475,511              | 1,030,898             |
| State - insurance premium taxes                                | 553,825              | -                    | 641,160              | 1,194,985             |
| Total contributions                                            | <u>2,256,702</u>     | <u>1,147,017</u>     | <u>3,064,573</u>     | <u>6,468,292</u>      |
| Investment earnings:                                           |                      |                      |                      |                       |
| Net appreciation (depreciation) in fair value of investments   | 3,237,158            | 4,475,287            | 3,840,196            | 11,552,641            |
| Interest and dividends                                         | 1,141,085            | 1,452,592            | 1,251,298            | 3,844,975             |
| Total investment earnings                                      | <u>4,378,243</u>     | <u>5,927,879</u>     | <u>5,091,494</u>     | <u>15,397,616</u>     |
| Less: investment expense                                       | (153,589)            | (235,321)            | (172,644)            | (561,554)             |
| Net investment income (loss)                                   | <u>4,224,654</u>     | <u>5,692,558</u>     | <u>4,918,850</u>     | <u>14,836,062</u>     |
| Total additions                                                | <u>6,481,356</u>     | <u>6,839,575</u>     | <u>7,983,423</u>     | <u>21,304,354</u>     |
| <b>Deductions</b>                                              |                      |                      |                      |                       |
| Benefit payments                                               | 3,560,777            | 3,642,532            | 2,845,192            | 10,048,501            |
| Refunds                                                        | 13,568               | -                    | 35,236               | 48,804                |
| Administrative expenses                                        | 93,008               | 68,521               | 72,606               | 234,135               |
| Total deductions                                               | <u>3,667,353</u>     | <u>3,711,053</u>     | <u>2,953,034</u>     | <u>10,331,440</u>     |
| <b>Change in net position</b>                                  | <u>2,814,003</u>     | <u>3,128,522</u>     | <u>5,030,389</u>     | <u>10,972,914</u>     |
| <b>Net position restricted for pensions, beginning of year</b> | 42,235,581           | 61,087,781           | 50,335,980           | 153,659,342           |
| <b>Net position restricted for pensions, end of year</b>       | <u>\$ 45,049,584</u> | <u>\$ 64,216,303</u> | <u>\$ 55,366,369</u> | <u>\$ 164,632,256</u> |

**(1) Significant Accounting Policies**

(a) *Basis of Accounting*—City of Ormond Beach's financial statements for the three pension funds are prepared using the accrual basis of accounting for Trust Funds. Employer and plan member contributions, benefits and refunds are recognized in the period that each are due and payable in accordance with the terms of the plan.

(b) *Method Used to Value Investments*—Investments in the three plan funds are reported at fair value according to the independent custodian for each plan using various third-party pricing sources. Short-term investments are reported at cost, which approximates fair value.

(c) *Contribution Requirements and Contributions Made*—Florida Legislature, City Commission and each Pension Board govern the City and employee contribution requirements for all three plans. The City's contribution to the three plans is an actuarially determined periodic amount that increases gradually over time so that sufficient assets will be available to pay benefits when due. The City receives contributions from the state for the Municipal Firefighter and Municipal Police Officers Retirement plans, which are accounted for as part of the total required employer contributions and reduce the amounts due from the City.

(d) *Administrative costs*—The costs of administering the pension plans are funded by the respective plan through the investment earnings of each plan.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(12) **Retirement Plans:** (Continued)

(2) **Investments**

(i) *Investment Policy:*

The following was each Board's adopted targeted asset allocation policy as of September 30, 2025:

| Asset Class               | Target Allocation                       |                               |                                            |
|---------------------------|-----------------------------------------|-------------------------------|--------------------------------------------|
|                           | Municipal Firefighters' Retirement Fund | General Employees' Trust Fund | Municipal Police Officers' Retirement Fund |
| Domestic equity           | 40.00%                                  | 55.00%                        | 40.00%                                     |
| International equity      | 15.00%                                  | 10.00%                        | 15.00%                                     |
| Fixed income              | 15.00%                                  | 30.00%                        | 15.00%                                     |
| Private Real Estate       | 10.00%                                  | 5.00%                         | 10.00%                                     |
| MLP/Energy Infrastructure | 10.00%                                  | -                             | 10.00%                                     |
| Private Equity/Credit     | 10.00%                                  | -                             | 10.00%                                     |
| Total                     | 100.00%                                 | 100.00%                       | 100.00%                                    |

(ii) *Concentrations:*

Each plan did not hold investments in any one organization that represented 5 percent or more of the Pension Plan's fiduciary net position.

(iii) *Related party transactions:*

There were no City securities which were included in the assets of the Municipal Firefighters' Retirement Trust Fund, the Municipal Police Officers' Retirement Trust Fund or the General Employees' Trust Fund.

(3) **Deferred Retirement Option Programs**

(i) *Municipal Firefighters' Retirement Trust Fund*

Firefighters, hired before May 20, 2014, who have reached normal retirement age, are eligible to participate in the Deferred Retirement Option Program (DROP). Upon electing to participate in the DROP, members are considered to have retired for purposes of the pension plan, but continue to remain active employees of the City. The member's normal retirement benefit is calculated as if the member had actually retired on the date of DROP participation. Instead of paying the benefit to the member, a DROP account is established and the benefit is deposited in the account each month. These deposits continue to accumulate investment earnings during the remainder of the member's employment with the City. Maximum duration of DROP participation is 60 months, or the date on which the member completes 35 years of service, if earlier. The rate of return for members who enter the DROP prior to May 20, 2014, is at the participant's election, either 6.5% annually or actual net rate of investment return (total return net of brokerage commissions, transaction costs and management fees) credited each fiscal quarter. The rate of return for members who enter the DROP on or after May 20, 2014, is the actual net rate of investment return but not less than zero. Upon termination of employment, members shall receive their normal retirement benefits monthly and receive their funds from the DROP account in a lump sum distribution.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(12) **Retirement Plans:** (Continued)

Firefighters who have reached normal retirement age may elect to retroactively enter the DROP, considered BAC-DROP. The BAC-DROP period will not exceed 60 months, or the date on which the member completes 35 years of service. The rate of return is actual net rate of investment return but not less than zero.

At September 30, 2025, there was one DROP retiree with a total balance of \$163,574.

(ii) *General Employees' Trust Fund*

General employees who have reached normal retirement age are eligible to participate in the Deferred Retirement Option Program (DROP). Upon electing to participate in the DROP, members are considered to have retired for purposes of the pension plan, but continue to remain active employees of the City. The member's normal retirement benefit is calculated as if the member had actually retired on the date of DROP participation. Instead of paying the benefit to the member, a DROP account is established and the benefit is deposited in the account each month. These deposits continue to accumulate investment earnings during the remainder of the member's employment with the City. Maximum duration of DROP participation is 36 months. The rate of return is at the participant's election. For members who enter the DROP prior to December 19, 2012, the rate of return election is either 6.5% annually or actual net rate of investment return (total return net of brokerage commissions, transaction costs and management fees) credited each fiscal quarter. The member may elect to change the form of return once during the period of DROP Participation. For members who enter the DROP on or after December 19, 2012, the rate of return is the actual net rate of investment return but not less than zero. Upon termination of employment, members shall receive their normal retirement benefits monthly and receive their funds from the DROP account in a lump sum distribution.

At September 30, 2025, there were six DROP participants with a total balance of \$649,993.

(iii) *Municipal Police Officers' Retirement Trust Fund*

Police Officers, hired before August 21, 2012, who have reached normal retirement age, are eligible to participate in the Deferred Retirement Option Program (DROP). Police officers hired on or after August 21, 2012, are not eligible. Upon electing to participate in the DROP, members are considered to have retired for purposes of the pension plan, but continue to remain active employees of the City. The member's normal retirement benefit is calculated as if the member had actually retired on the date of DROP participation. Instead of paying the benefit to the member, a DROP account is established and the benefit is deposited in the account each month. These deposits continue to accumulate investment earnings during the remainder of the member's employment with the City. Maximum duration of DROP participation is 60 months, or the date on which the member completes 30 years of service, if earlier. The rate of return is at the participant's election, either 6.5% annually for members who enter the DROP prior to August 21, 2012, 2.0% annually for member who enter the DROP on or after August 21, 2012, or actual net rate of investment return (total return net of brokerage commissions, transaction costs and management fees) credited each fiscal quarter. Upon termination of employment, members shall receive their normal retirement benefits monthly and receive their funds from the DROP account in a lump sum distribution.

At September 30, 2025, there was one DROP participant with a total balance of \$240,198.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

(12) **Retirement Plans:** (Continued)

(b) **Defined Contribution Plans**

On January 8, 2013, the City Commission approved Resolution 2012-46 that established a money purchase plan and trust to be known as the City of Ormond Beach Defined Contribution Plan in the form of the International City Management Association Retirement Corporation (ICMA-RC) Governmental Money Purchase Plan and Trust effective January 1, 2013. The plan is available for all full-time general employees hired on or after December 19, 2012. The City shall contribute on behalf of each participant such percentages or amounts as are specified in the adoption agreement for such plan, or as otherwise authorized by the City Commission, which is currently 6% of earnings. Mandatory participant contributions are not required to be eligible for the City's contribution. Normal retirement age is 62 and a participant becomes fully vested after five years of service. For the year ended September 30, 2025, actual City contributions to this plan totaled \$846,357.

Although the defined contribution plan was authorized and established by the City, it is monitored and maintained by employees. Benefits are paid directly to employees from the ICMA-RC with no contingent liability belonging to the City. As such these assets are not presented in these financial statements.

(13) **Other Post-Employment Benefits (OPEB):**

**Plan Description**—Effective October 1, 2016, the City implemented GASB Statement No. 75, *Accounting and Reporting for Post-Employment Benefits Other Than Pensions*, for certain post-employment healthcare benefits provided by the City. The City elected to implement the requirements of this statement prospectively. No assets are held in trust for payment of the OPEB liability as the City had no OPEB liability other than as arising from the implicit rate subsidy, as discussed in the following paragraph.

Retirees and their dependents are permitted to remain covered under the City's respective health care plans as long as they pay a full premium applicable to the coverage elected. This conforms to the minimum required of Florida governmental employers per Chapter 112.08, Florida Statutes. The Other Post-Employment Benefit Plan does not issue a stand-alone report.

**Benefits Provided**—The Other Post Employment Benefit Plan is a single-employer benefit plan administered by the City. Retirees are charged whatever the insurance company charges for the type of coverage elected, however, the premiums charged by the insurance company are based on a blending of the experience among younger active employees and older retired employees. The older retirees actually have a higher cost which means the City is actually subsidizing the cost of the retiree coverage because it pays all or a significant portion of the premium on behalf of the active employee. GASB No. 75 calls this the "implicit rate subsidy."

**Plan Membership**—At September 30, 2025, the date of the latest actuarial valuation, plan participation consisted of the following:

|                    |            |
|--------------------|------------|
| Active Employees   | 347        |
| Inactive Employees | 12         |
|                    | <u>359</u> |

**Total OPEB Liability**—The City's total OPEB liability of \$4,516,403 was measured as of September 30, 2025, and was determined by an actuarial measurement as of that date. The City considers the potential current portion of the total OPEB liability to be inconsequential and therefore has classified the full amount as a noncurrent liability.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(13) Other Post-Employment Benefits (OPEB):** (Continued)

**Actuarial Assumptions and Other Inputs**—The total OPEB liability per the September 30, 2025, actuarial valuation was determined using the following actuarial assumptions and other inputs, applied to all periods in the measurement, unless otherwise specified:

|                                          |                                     |
|------------------------------------------|-------------------------------------|
| Inflation                                | 3.00%                               |
| Salary increases                         | 4.00%                               |
| Discount rate                            | 4.50%                               |
| Healthcare cost trend rate               | 6.50%                               |
|                                          | Ultimate rate reached in 2041 4.50% |
| Retirees' share of benefit-related costs | 100.00%                             |

The City does not have a dedicated Trust to pay retiree healthcare benefits. The discount rate was based on the S&P Municipal Bond 20 Year High Grade Rate Index as of September 30, 2025.

Mortality rates were based on the PubG.H-2010 General Mortality and PubS.H-2010 Safety Mortality Tables.

Changes in the OPEB liability for the fiscal year ended September 30, 2025, were as follows:

|                                                    | <b>Total OPEB<br/>Liability</b> |
|----------------------------------------------------|---------------------------------|
| Balance at September 30, 2024                      | \$ 4,570,021                    |
| Changes for a year:                                |                                 |
| Service cost                                       | 247,630                         |
| Interest                                           | 181,085                         |
| Differences between expected and actual experience | 57,935                          |
| Changes of assumptions and other inputs            | (320,650)                       |
| Benefit payments – implicit rate subsidy           | (219,617)                       |
| Net changes                                        | (53,618)                        |
| Balance at September 30, 2025                      | \$ 4,516,403                    |

*Sensitivity of the total OPEB liability to changes in the discount rate:*

The following presents the total OPEB liability of the City calculated using the discount rate of 4.5%, as well as what the City's total OPEB liability would be if it were calculated using a discount rate that is 1% lower or 1% higher than the current rate:

|                      | <u>Current Rate</u> | <u>1% Decrease</u> | <u>Current<br/>Discount Rate</u> | <u>1% Increase</u> |
|----------------------|---------------------|--------------------|----------------------------------|--------------------|
| Total OPEB Liability | 4.50%               | \$ 4,994,540       | \$ 4,516,403                     | \$ 4,106,263       |

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(13) Other Post-Employment Benefits (OPEB):** (Continued)

*Sensitivity of the total OPEB liability to changes in the healthcare cost trend rate:*

The following presents the total OPEB liability of the City as well as what the City's total OPEB liability would be if it were calculated using healthcare cost trend rates that are 1% lower and 1% higher than the current healthcare cost trend rates:

|                      | <u>1% Decrease</u> | <u>Current<br/>Trend Rates</u> | <u>1% Increase</u> |
|----------------------|--------------------|--------------------------------|--------------------|
| Total OPEB Liability | \$ 4,056,975       | \$ 4,516,403                   | \$ 5,056,721       |

**OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources**

For the year ended September 30, 2025; the City recognized OPEB expense of \$88,784. At September 30, 2025, the City reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

|                                                    | <u>Deferred Outflows<br/>of Resources</u> | <u>Deferred Inflows of<br/>Resources</u> |
|----------------------------------------------------|-------------------------------------------|------------------------------------------|
| Differences between expected and actual experience | \$ 107,139                                | \$ 87,538                                |
| Changes of assumptions                             | 579,212                                   | 1,735,207                                |
| Total                                              | <u>\$ 686,351</u>                         | <u>\$ 1,822,745</u>                      |

Amounts reported as deferred (outflows) of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

|            |             |
|------------|-------------|
| 2026       | \$(310,318) |
| 2027       | (348,364)   |
| 2028       | (236,855)   |
| 2029       | (127,239)   |
| 2030       | (68,014)    |
| Thereafter | (45,604)    |



**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(14) Landfill Closure and Post-Closure Care Costs:**

The City is required to recognize a liability equal to the estimated total current cost of closure and post closure care for its landfill. The City's landfill was certified closed during the 2000 fiscal year. The City has conducted studies to determine the costs of providing long-term care for its landfill. The results of these studies are reviewed by the Florida Department of Environmental Protection (FDEP).

The City's cost estimate is approximately \$449,143 to provide long-term care for a period of 5 years. These cost estimates may change due to inflation or deflation, or changes in applicable laws or regulations.

The City is required by the State of Florida to make an annual contribution, if necessary, to a trust fund to finance closure costs. The City is in compliance with these requirements, and, as of September 30, 2025, cash and investments of approximately \$126,455 are held in the trust fund for these purposes. These are reported as restricted assets on the statement of net position. The City is funding these costs with additional service fees generated from the City's sanitation contractor.

**(15) Contingencies:**

Amounts received or receivable from granting agencies are subject to audit and adjustments by grantor agencies, principally the federal and state government. Any disallowed claims, including amounts already collected, may constitute a liability of the applicable funds. It is management's opinion that there are no significant liabilities relating to these grants.

The City is a defendant in various lawsuits at September 30, 2025. The estimated liability for probable losses, as a result of the lawsuits, was determined based on advice from legal counsel after consideration of insurance coverage and, in certain instances, the Florida statutory limitations of government liability, and is included in the estimated liability for self-insurance claims in the internal service fund. Although the ultimate outcome of these lawsuits is not presently determinable, it is the opinion of management, based on advice from legal counsel, that the amount of losses resulting from the above litigation in excess of the amount accrued as of September 30, 2025, would not have a material adverse effect on the financial position of the City.

**(16) Fund Deficits:**

The Municipal Airport Fund deficit of \$989,377 represents the cumulative costs associated with capital improvements and the excess of operating expenses over revenues. This deficit is to be funded by future airport lease revenues.

**(17) Implementation of New Accounting Standards:**

During the fiscal year ended September 30, 2025, the City implemented GASB Statement No. 101, *Compensated Absences*. This statement establishes recognition and measurement criteria for liabilities related to compensated absences, including vacation, sick leave, and similar benefits. The Statement requires that a liability be recognized for leave that has not been used if (1) the leave is attributable to services already rendered, (2) the leave accumulates, and (3) it is more likely than not that the leave will be used for time off or otherwise paid in cash or settled through noncash means. Implementation of this new standard did not result in a restatement of beginning net position or fund balance and had no significant impact on the financial statements. Accordingly, no prior-period adjustment has been reported.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO FINANCIAL STATEMENTS**  
**SEPTEMBER 30, 2025**

**(18) Recent Accounting Pronouncements:**

GASB has issued several pronouncements that have effective dates that may impact future financial statements. Listed below are pronouncements with required implementation dates effective for subsequent fiscal years that have not yet been implemented. Management has not currently determined what, if any, impact implementation of the following will have on the City's financial statements:

GASB issued Statement No. 103, *Financial Reporting Model Improvements*, in April 2024. The objective of GASB 103 is to improve key components of the financial reporting model to enhance its effectiveness in providing information that is essential for decision making and assessing a government's accountability. The effective date for implementation is fiscal years beginning after June 15, 2025, and all reporting periods thereafter.

GASB issued Statement No. 104, *Disclosure of Certain Capital Assets*, in September 2024. GASB Statement No. 104 requires governments to disclose separate information about specific types of capital assets and establishes criteria for identifying and reporting capital assets held for sale. The objective of GASB 104 is to enhance transparency and improve the usefulness of financial statements for stakeholders by providing more detailed information on these assets. The provisions are effective for fiscal years beginning after June 15, 2025.

GASB issued Statement No. 105, *Subsequent Events*, in December 2025. GASB Statement No. 105 clarifies the subsequent events time frame and establishes accounting and disclosure requirements for recognized and nonrecognized subsequent events. The provisions of GASB Statement No. 105 are effective for fiscal years beginning after June 15, 2026, and all reporting periods thereafter.

## Required Supplementary Information

DRAFT

**CITY OF ORMOND BEACH, FLORIDA**  
**REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF CHANGES IN THE CITY'S TOTAL OPEB LIABILITY**  
**AND RELATED RATIOS**  
**SEPTEMBER 30, 2025**

|                                                                  | 9/30/2025           | 9/30/2024           | 9/30/2023           | 9/30/2022           | 9/30/2021           | 9/30/2020           | 9/30/2019           | 9/30/2018           | 9/30/2017           |
|------------------------------------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>Total OPEB Liability</b>                                      |                     |                     |                     |                     |                     |                     |                     |                     |                     |
| Service cost                                                     | \$ 247,630          | \$ 246,786          | \$ 220,728          | \$ 281,648          | \$ 286,643          | \$ 404,929          | \$ 321,664          | \$ 317,133          | \$ 319,196          |
| Interest                                                         | 181,085             | 190,962             | 225,184             | 137,342             | 125,429             | 169,995             | 200,337             | 175,582             | 158,372             |
| Differences between expected and actual experience               | 57,935              | -                   | 93,560              | -                   | (315,663)           | -                   | (686,416)           | -                   | 331,981             |
| Changes of assumptions                                           | (320,650)           | 336,612             | (1,150,958)         | (1,132,375)         | (65,905)            | 740,388             | (308,486)           | (145,049)           | (10,542)            |
| Benefit payments - implicit rate subsidy                         | (219,617)           | (251,082)           | (125,201)           | (310,260)           | (169,194)           | (270,234)           | (227,151)           | (242,089)           | (209,194)           |
| Other changes                                                    | -                   | -                   | -                   | -                   | -                   | 2,099               | (18,692)            | 165,050             | 43,442              |
| Net change in total OPEB liability                               | (53,617)            | 523,278             | (736,687)           | (1,023,645)         | (138,690)           | 1,047,177           | (718,744)           | 270,627             | 633,255             |
| Total OPEB liability – beginning                                 | 4,570,020           | 4,046,742           | 4,783,429           | 5,807,074           | 5,945,764           | 4,898,587           | 5,617,331           | 5,346,704           | 4,713,449           |
| Total OPEB liability – ending                                    | <u>\$ 4,516,403</u> | <u>\$ 4,570,020</u> | <u>\$ 4,046,742</u> | <u>\$ 4,783,429</u> | <u>\$ 5,807,074</u> | <u>\$ 5,945,764</u> | <u>\$ 4,898,587</u> | <u>\$ 5,617,331</u> | <u>\$ 5,346,704</u> |
| Covered-employee payroll                                         | \$ 21,589,637       | \$ 15,824,172       | \$ 18,399,611       | \$ 16,175,755       | \$ 15,650,780       | \$ 15,650,780       | \$ 14,541,516       | \$ 14,541,516       | \$ 14,541,516       |
| Total OPEB liability as a percentage of covered-employee payroll | 20.92%              | 28.88%              | 21.99%              | 29.57%              | 37.10%              | 37.99%              | 33.69%              | 38.63%              | 36.77%              |

**Notes to Schedule:**

|                   |           |           |           |           |           |           |           |           |           |
|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Valuation Date:   | 10/1/2024 | 10/1/2022 | 10/1/2022 | 10/1/2020 | 10/1/2020 | 10/1/2018 | 10/1/2018 | 10/1/2016 | 10/1/2016 |
| Measurement Date: | 9/30/2025 | 9/30/2023 | 9/30/2023 | 9/30/2022 | 9/30/2021 | 9/30/2020 | 9/30/2019 | 9/30/2018 | 9/30/2017 |

Changes of assumptions. Changes of assumptions and other changes reflect the effects of changes in the discount rate each period. The following are the discount rates used in each period:

|               |       |       |       |       |       |       |       |       |       |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Discount rate | 4.50% | 4.06% | 4.87% | 4.77% | 2.43% | 2.14% | 3.58% | 3.64% | 3.36% |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|

Note: There are no assets accumulated in a trust to pay related benefits for the OPEB plan.

\*10 years of data will be presented as it becomes available.

**CITY OF ORMOND BEACH, FLORIDA**  
**REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS**  
**MUNICIPAL FIREFIGHTERS' RETIREMENT FUND**  
**SEPTEMBER 30, 2025**

|                                                                            | 9/30/2025            | 9/30/2024            | 9/30/2023            | 9/30/2022            | 9/30/2021            | 9/30/2020            | 9/30/2019            | 9/30/2018            | 9/30/2017            | 9/30/2016            |
|----------------------------------------------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Total Pension Liability                                                    |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| Service cost                                                               | \$ 674,610           | \$ 668,230           | \$ 539,421           | \$ 497,968           | \$ 592,318           | \$ 821,243           | \$ 738,014           | \$ 746,315           | \$ 774,341           | \$ 774,684           |
| Interest                                                                   | 3,177,818            | 3,074,673            | 2,940,919            | 2,839,801            | 2,802,976            | 2,782,272            | 2,747,983            | 2,665,608            | 2,585,449            | 2,423,187            |
| Change in excess state money                                               | -                    | -                    | -                    | -                    | -                    | -                    | -                    | -                    | -                    | (334,809)            |
| Share Plan Allocation                                                      | 102,445              | 101,604              | 77,806               | 7,912                | -                    | -                    | -                    | -                    | -                    | 167,405              |
| Change in benefit terms                                                    | -                    | -                    | -                    | -                    | -                    | 23,024               | (1,370)              | -                    | -                    | 15,264               |
| Differences between expected and actual experience                         | (134,188)            | 641,136              | 845,634              | 836,070              | (12,697)             | (42,666)             | (553,062)            | 234,661              | (393,273)            | (137,955)            |
| Changes of assumptions                                                     | 798,188              | -                    | -                    | -                    | -                    | (623,088)            | -                    | -                    | -                    | 907,766              |
| Contributions – buy back                                                   | 37,187               | -                    | -                    | -                    | -                    | -                    | -                    | -                    | -                    | 17,004               |
| Benefit payments, including refunds of employee contributions              | (3,574,345)          | (2,462,710)          | (2,780,939)          | (2,776,377)          | (2,747,962)          | (2,078,160)          | (3,020,533)          | (1,899,742)          | (1,686,978)          | (1,980,448)          |
| Net change in total pension liability                                      | 1,081,715            | 2,022,933            | 1,622,841            | 1,405,374            | 634,635              | 882,625              | (88,968)             | 1,746,842            | 1,279,539            | 1,852,098            |
| Total pension liability – beginning                                        | 46,509,957           | 44,487,024           | 42,864,183           | 41,458,809           | 40,824,174           | 39,941,549           | 40,030,517           | 38,283,675           | 37,004,136           | 35,152,038           |
| Total pension liability – ending (a)                                       | <u>\$ 47,591,672</u> | <u>\$ 46,509,957</u> | <u>\$ 44,487,024</u> | <u>\$ 42,864,183</u> | <u>\$ 41,458,809</u> | <u>\$ 40,824,174</u> | <u>\$ 39,941,549</u> | <u>\$ 40,030,517</u> | <u>\$ 38,283,675</u> | <u>\$ 37,004,136</u> |
| Total Fiduciary Net Position                                               |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| Contributions – employer                                                   | \$ 1,325,376         | \$ 1,530,259         | \$ 1,349,969         | \$ 1,344,196         | \$ 1,286,097         | \$ 1,520,496         | \$ 1,302,755         | \$ 1,091,401         | \$ 1,145,249         | \$ 1,240,944         |
| Contributions – state                                                      | 553,825              | 552,143              | 504,547              | 364,757              | 346,347              | 259,354              | 306,260              | 294,761              | 305,774              | 338,237              |
| Contributions – employee                                                   | 340,314              | 321,413              | 309,933              | 300,189              | 276,865              | 246,353              | 227,921              | 203,207              | 212,345              | 217,818              |
| Contributions – buy back                                                   | 37,187               | -                    | -                    | -                    | -                    | -                    | -                    | -                    | -                    | 17,004               |
| Net investment income                                                      | 4,224,655            | 6,644,203            | 4,164,734            | (5,787,449)          | 6,282,653            | 2,422,523            | 920,527              | 3,111,280            | 3,046,484            | 2,035,686            |
| Benefit payments, including refunds of employee contributions              | (3,574,345)          | (2,462,710)          | (2,780,939)          | (2,776,377)          | (2,747,962)          | (2,078,160)          | (3,020,533)          | (1,899,742)          | (1,686,978)          | (1,980,448)          |
| Administrative expense                                                     | (93,009)             | (64,932)             | (49,269)             | (52,598)             | (60,703)             | (58,391)             | (42,907)             | (50,480)             | (46,596)             | (48,958)             |
| Net change in plan fiduciary net position                                  | 2,814,003            | 6,520,376            | 3,498,975            | (6,607,282)          | 5,383,297            | 2,312,175            | (305,977)            | 2,750,427            | 2,976,278            | 1,820,283            |
| Plan fiduciary net position – beginning                                    | 42,235,581           | 35,715,205           | 32,216,230           | 38,823,512           | 33,440,215           | 31,128,040           | 31,434,017           | 28,683,590           | 25,707,312           | 23,887,029           |
| Plan fiduciary net position – ending (b)                                   | <u>\$ 45,049,584</u> | <u>\$ 42,235,581</u> | <u>\$ 35,715,205</u> | <u>\$ 32,216,230</u> | <u>\$ 38,823,512</u> | <u>\$ 33,440,215</u> | <u>\$ 31,128,040</u> | <u>\$ 31,434,017</u> | <u>\$ 28,683,590</u> | <u>\$ 25,707,312</u> |
| Net pension liability – ending (a) - (b)                                   | <u>\$ 2,542,088</u>  | <u>\$ 4,274,376</u>  | <u>\$ 8,771,819</u>  | <u>\$ 10,647,953</u> | <u>\$ 2,635,297</u>  | <u>\$ 7,383,959</u>  | <u>\$ 8,813,509</u>  | <u>\$ 8,596,500</u>  | <u>\$ 9,600,085</u>  | <u>\$ 11,296,824</u> |
| Plan fiduciary net position as a percentage of the total pension liability | 94.66%               | 90.81%               | 80.28%               | 75.16%               | 93.64%               | 81.91%               | 77.93%               | 78.53%               | 74.92%               | 69.47%               |
| Covered payroll                                                            | \$ 3,957,140         | \$ 3,737,354         | \$ 3,603,872         | \$ 3,490,939         | \$ 3,219,550         | \$ 2,932,208         | \$ 2,713,348         | \$ 2,419,130         | \$ 2,527,915         | \$ 2,593,073         |
| Net pension liability as a percentage of covered payroll                   | 64.24%               | 114.37%              | 243.40%              | 305.02%              | 81.85%               | 251.82%              | 324.82%              | 355.36%              | 379.76%              | 435.65%              |

**Notes to Schedule:**

*Changes of benefit terms:*

For measurement date 9/30/2021, the ordinance No: 22-27 has been adopted, but a change to the Death Benefit (making it a life annuity instead of a 10 year benefit) and Member Contribution Rate (8.6%) has been approved by the City and the Union therefore it is being reflected.

*Changes of assumptions:*

For measurement date 9/30/2021, as mandated by Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the rates used in Milliman's July 1, 2021 FRS valuation report for special risk employees, with appropriate risk and collar adjustments made based on plan demographics.

For measurement date 9/30/2025, as mandated by Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the rates used in Milliman's July 1, 2024 FRS valuation report for special risk employees, with appropriate risk and collar adjustments made based on plan demographics.

Additionally, the following assumptions were approved based on an actuarial experience study dated August 12, 2020:

- Termination and retirement rates.
- Salary increase rates.

Additionally, the following assumptions were approved based on an actuarial experience study dated August 15, 2025:

- Retirement rates.
- Withdrawal rates.
- Salary increase rates.

**CITY OF ORMOND BEACH, FLORIDA**  
**REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS**  
**GENERAL EMPLOYEES' TRUST FUND**  
**SEPTEMBER 30, 2025**

|                                                                            | 9/30/2025     | 9/30/2024     | 9/30/2023     | 9/30/2022     | 9/30/2021      | 9/30/2020     | 9/30/2019     | 9/30/2018     | 9/30/2017     | 9/30/2016     |
|----------------------------------------------------------------------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|
| Total Pension Liability                                                    |               |               |               |               |                |               |               |               |               |               |
| Service cost                                                               | \$ 585,623    | \$ 653,621    | \$ 685,229    | \$ 670,842    | \$ 726,047     | \$ 743,732    | \$ 809,155    | \$ 950,710    | \$ 1,008,657  | \$ 1,030,143  |
| Interest                                                                   | 4,289,387     | 4,173,033     | 4,083,642     | 3,991,422     | 3,976,777      | 3,908,540     | 3,867,526     | 3,791,615     | 3,716,543     | 3,519,769     |
| Changes in benefit terms                                                   | 1,596,579     | -             | -             | -             | -              | -             | -             | -             | -             | -             |
| Differences between expected and actual experience                         | 169,814       | 660,697       | 257,620       | 81,738        | (1,060,574)    | (242,973)     | (787,946)     | (519,512)     | (845,456)     | (998,789)     |
| Changes of assumptions                                                     | (773,318)     | -             | -             | -             | -              | 23,463        | -             | -             | -             | 2,056,848     |
| Benefit payments, including refunds of employee contributions              | (3,642,532)   | (3,748,664)   | (3,592,506)   | (3,191,809)   | (3,548,356)    | (3,259,972)   | (3,171,410)   | (2,741,896)   | (2,677,338)   | (2,665,290)   |
| Net change in total pension liability                                      | 2,225,553     | 1,738,687     | 1,433,985     | 1,552,193     | 93,894         | 1,172,790     | 717,325       | 1,480,917     | 1,202,406     | 2,942,681     |
| Total pension liability – beginning                                        | 64,782,102    | 63,043,415    | 61,609,430    | 60,057,237    | 59,963,343     | 58,790,553    | 58,073,228    | 56,592,311    | 55,389,905    | 52,447,224    |
| Total pension liability – ending (a)                                       | \$ 67,007,655 | \$ 64,782,102 | \$ 63,043,415 | \$ 61,609,430 | \$ 60,057,237  | \$ 59,963,343 | \$ 58,790,553 | \$ 58,073,228 | \$ 56,592,311 | \$ 55,389,905 |
| Total Fiduciary Net Position                                               |               |               |               |               |                |               |               |               |               |               |
| Contributions – employer                                                   | \$ 969,131    | \$ 786,484    | \$ 657,312    | \$ 807,288    | \$ 962,447     | \$ 1,279,644  | \$ 1,433,298  | \$ 1,563,324  | \$ 1,676,838  | \$ 1,841,947  |
| Contributions – employee                                                   | 177,886       | 183,750       | 188,917       | 198,108       | 194,869        | 201,520       | 211,633       | 228,033       | 258,972       | 268,746       |
| Net investment income                                                      | 5,692,210     | 10,313,827    | 6,562,424     | (9,294,224)   | 10,347,584     | 3,775,172     | 1,501,471     | 5,132,731     | 5,034,795     | 3,480,385     |
| Benefit payments, including refunds of employee contributions              | (3,642,532)   | (3,748,664)   | (3,592,506)   | (3,191,809)   | (3,548,356)    | (3,259,972)   | (3,171,410)   | (2,741,896)   | (2,677,338)   | (2,665,290)   |
| Administrative expense                                                     | (68,522)      | (46,566)      | (41,874)      | (44,512)      | (49,130)       | (40,567)      | (41,123)      | (43,838)      | (47,283)      | (40,941)      |
| Net change in plan fiduciary net position                                  | 3,128,173     | 7,488,831     | 3,774,273     | (11,525,149)  | 7,907,414      | 1,955,797     | (66,131)      | 4,138,354     | 4,245,984     | 2,884,847     |
| Plan fiduciary net position – beginning                                    | 61,088,129    | 53,599,298    | 49,825,025    | 61,350,174    | 53,442,760     | 51,486,963    | 51,553,094    | 47,414,740    | 43,168,756    | 40,283,909    |
| Plan fiduciary net position – ending (b)                                   | \$ 64,216,302 | \$ 61,088,129 | \$ 53,599,298 | \$ 49,825,025 | \$ 61,350,174  | \$ 53,442,760 | \$ 51,486,963 | \$ 51,553,094 | \$ 47,414,740 | \$ 43,168,756 |
| Net pension liability (asset) – ending (a) - (b)                           | \$ 2,791,353  | \$ 3,693,973  | \$ 9,444,117  | \$ 11,784,405 | \$ (1,292,937) | \$ 6,520,583  | \$ 7,303,590  | \$ 6,520,134  | \$ 9,177,571  | \$ 12,221,149 |
| Plan fiduciary net position as a percentage of the total pension liability | 95.83%        | 94.30%        | 85.02%        | 80.87%        | 102.15%        | 89.13%        | 87.58%        | 88.77%        | 83.78%        | 77.94%        |
| Covered payroll                                                            | \$ 4,447,153  | \$ 4,593,755  | \$ 4,723,959  | \$ 4,952,689  | \$ 4,871,536   | \$ 5,037,970  | \$ 5,290,001  | \$ 5,746,443  | \$ 6,449,377  | \$ 6,697,988  |
| Net pension liability as a percentage of covered payroll                   | 62.77%        | 80.41%        | 199.92%       | 237.94%       | -26.54%        | 129.43%       | 138.06%       | 113.46%       | 142.30%       | 182.46%       |

**Notes to Schedule:**

*Changes of assumptions:*

For measurement date 9/30/2021, as mandated by Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the rates used in Milliman's July 1, 2021 FRS valuation report for non-special-risk employees, with appropriate risk and collar adjustments made based on plan demographics.

For measurement date 9/30/2025, as mandated by Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the rates used in Milliman's July 1, 2024 FRS valuation report for non-special-risk employees, with appropriate risk and collar adjustments made based on plan demographics.

Additionally, the following assumptions were approved based on an actuarial experience study dated September 15, 2025:

- Retirement rates.
- Withdrawal rates.
- Disability rates.
- Salary increase rates.



**CITY OF ORMOND BEACH, FLORIDA**  
**REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS**  
**MUNICIPAL POLICE OFFICERS' RETIREMENT FUND**  
**SEPTEMBER 30, 2025**

|                                                                            | 9/30/2025            | 9/30/2024            | 9/30/2023            | 9/30/2022            | 9/30/2021            | 9/30/2020            | 9/30/2019            | 9/30/2018            | 9/30/2017            | 9/30/2016            |
|----------------------------------------------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Total Pension Liability                                                    |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| Service cost                                                               | \$ 1,192,207         | \$ 1,095,773         | \$ 1,036,729         | \$ 1,033,498         | \$ 1,079,706         | \$ 1,126,512         | \$ 1,001,290         | \$ 959,833           | \$ 891,285           | \$ 850,919           |
| Interest                                                                   | 3,866,954            | 3,659,529            | 3,499,512            | 3,366,590            | 3,277,674            | 3,150,057            | 3,057,358            | 2,906,209            | 2,795,510            | 2,607,294            |
| Share plan allocation                                                      | 177,080              | 147,080              | -                    | -                    | -                    | -                    | -                    | -                    | -                    | -                    |
| Changes of benefit terms                                                   | -                    | 42,989               | -                    | -                    | -                    | (67,994)             | -                    | -                    | -                    | -                    |
| Differences between expected and actual experience                         | 1,294,542            | 897,692              | 546,646              | 506,453              | (279,607)            | 630,589              | (296,437)            | 718,338              | 239,614              | 274,918              |
| Changes of assumptions                                                     | 1,230,503            | -                    | -                    | (288,615)            | -                    | (378,897)            | -                    | -                    | -                    | 1,452,406            |
| Contributions - buy back                                                   | -                    | -                    | -                    | -                    | -                    | 44,013               | -                    | -                    | -                    | -                    |
| Benefit payments, including refunds of employee contributions              | (2,880,428)          | (2,852,671)          | (2,689,944)          | (2,613,938)          | (2,814,645)          | (2,455,034)          | (2,437,226)          | (2,335,955)          | (2,373,971)          | (2,501,077)          |
| Net change in total pension liability                                      | 4,880,858            | 2,990,392            | 2,392,943            | 2,003,988            | 1,263,128            | 2,049,246            | 1,324,985            | 2,248,425            | 1,552,438            | 2,684,460            |
| Total pension liability – beginning                                        | 57,536,203           | 54,545,811           | 52,152,868           | 50,148,880           | 48,885,752           | 46,836,506           | 45,511,521           | 43,263,096           | 41,710,658           | 39,026,198           |
| Total pension liability – ending (a)                                       | <u>\$ 62,417,061</u> | <u>\$ 57,536,203</u> | <u>\$ 54,545,811</u> | <u>\$ 52,152,868</u> | <u>\$ 50,148,880</u> | <u>\$ 48,885,752</u> | <u>\$ 46,836,506</u> | <u>\$ 45,511,521</u> | <u>\$ 43,263,096</u> | <u>\$ 41,710,658</u> |
| Total Fiduciary Net Position                                               |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| Contributions – employer                                                   | \$ 1,947,902         | \$ 1,820,547         | \$ 1,416,466         | \$ 1,315,778         | \$ 1,302,500         | \$ 1,547,724         | \$ 1,575,425         | \$ 1,527,329         | \$ 1,379,706         | \$ 1,210,121         |
| Contributions – state                                                      | 641,160              | 581,160              | 506,572              | 440,127              | 415,190              | 411,220              | 406,600              | 379,636              | 342,771              | 333,927              |
| Contributions – employee                                                   | 475,511              | 482,243              | 416,140              | 378,339              | 340,156              | 361,554              | 338,337              | 318,195              | 302,058              | 271,650              |
| Contributions - buy back                                                   | -                    | -                    | -                    | -                    | -                    | 44,013               | -                    | -                    | -                    | -                    |
| Net investment income                                                      | 4,918,849            | 8,080,037            | 4,846,473            | (6,706,162)          | 7,217,668            | 2,849,302            | 977,835              | 3,475,229            | 3,381,623            | 2,355,123            |
| Benefit payments, including refunds of employee contributions              | (2,880,428)          | (2,852,671)          | (2,689,944)          | (2,613,938)          | (2,814,645)          | (2,455,034)          | (2,437,226)          | (2,335,955)          | (2,373,971)          | (2,501,077)          |
| Administrative expense                                                     | (72,606)             | (48,177)             | (45,478)             | (41,590)             | (42,895)             | (56,206)             | (48,537)             | (36,040)             | (37,029)             | (35,935)             |
| Net change in plan fiduciary net position                                  | 5,030,388            | 8,063,139            | 4,450,229            | (7,227,446)          | 6,417,974            | 2,702,573            | 812,434              | 3,328,394            | 2,995,158            | 1,633,809            |
| Plan fiduciary net position – beginning                                    | 50,335,981           | 42,272,842           | 37,822,613           | 45,050,059           | 38,632,085           | 35,929,512           | 35,117,078           | 31,788,684           | 28,793,526           | 27,159,717           |
| Plan fiduciary net position – ending (b)                                   | <u>\$ 55,366,369</u> | <u>\$ 50,335,981</u> | <u>\$ 42,272,842</u> | <u>\$ 37,822,613</u> | <u>\$ 45,050,059</u> | <u>\$ 38,632,085</u> | <u>\$ 35,929,512</u> | <u>\$ 35,117,078</u> | <u>\$ 31,788,684</u> | <u>\$ 28,793,526</u> |
| Net pension liability – ending (a) - (b)                                   | <u>\$ 7,050,692</u>  | <u>\$ 7,200,222</u>  | <u>\$ 12,272,969</u> | <u>\$ 14,330,255</u> | <u>\$ 5,098,821</u>  | <u>\$ 10,253,667</u> | <u>\$ 10,906,994</u> | <u>\$ 10,394,443</u> | <u>\$ 11,474,412</u> | <u>\$ 12,917,132</u> |
| Plan fiduciary net position as a percentage of the total pension liability | 88.70%               | 87.49%               | 77.50%               | 72.52%               | 89.83%               | 79.03%               | 76.71%               | 77.16%               | 73.48%               | 69.03%               |
| Covered payroll                                                            | \$ 5,283,456         | \$ 5,358,256         | \$ 4,625,648         | \$ 4,203,773         | \$ 3,777,649         | \$ 4,017,261         | \$ 3,759,300         | \$ 3,535,502         | \$ 3,356,196         | \$ 3,017,787         |
| Net pension liability as a percentage of covered payroll                   | 133.45%              | 134.38%              | 265.32%              | 340.89%              | 134.97%              | 255.24%              | 290.13%              | 294.00%              | 341.89%              | 428.03%              |

**Notes to Schedule:**

*Changes of benefit terms:*

For measurement date 9/30/2021, an ordinance No. 2021-15 has been adopted, but a change to the Normal Retirement Date for Members hired after June 1, 2014 (earlier of 1.) age 55 with 10 years of Credited Service, 2.) age 52 with 25 years of Credited Service or 3.) age 60) has been approved by the City and the Union therefore it is being reflected.

*Changes of assumptions:*

For measurement date 9/30/2021, as mandated by Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the rates used in Milliman's July 1, 2021 FRS valuation report for special risk employees, with appropriate risk and collar adjustments made based on plan demographics.

For measurement date 9/30/2025, as mandated by Chapter 2015-157, Laws of Florida, the assumed rates of mortality were changed to the rates used in Milliman's July 1, 2024 FRS valuation report for special risk employees, with appropriate risk and collar adjustments made based on plan demographics.

Additionally, the following assumptions were approved based on an actuarial experience study dated August 15, 2025:

- Retirement rates.
- Withdrawal rates.
- Salary increase rates.

**CITY OF ORMOND BEACH, FLORIDA  
REQUIRED SUPPLEMENTARY INFORMATION  
SCHEDULE OF CONTRIBUTIONS  
MUNICIPAL FIREFIGHTERS' RETIREMENT FUND  
SEPTEMBER 30, 2025**

|                                                  | 9/30/2025    | 9/30/2024    | 9/30/2023    | 9/30/2022    | 9/30/2021    | 9/30/2020    | 9/30/2019    | 9/30/2018    | 9/30/2017    | 9/30/2016    |
|--------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Actuarially determined contribution              | \$ 1,776,756 | \$ 1,980,798 | \$ 1,776,710 | \$ 1,714,051 | \$ 1,619,434 | \$ 1,779,850 | \$ 1,609,015 | \$ 1,386,162 | \$ 1,451,023 | \$ 1,579,181 |
| Contributions in relation to the actuarially     | 1,776,756    | 1,980,798    | 1,776,710    | 1,701,041    | 1,632,444    | 1,779,850    | 1,609,015    | 1,386,162    | 1,451,023    | 1,579,181    |
| Contribution deficiency (excess)                 | \$ -         | \$ -         | \$ -         | \$ 13,010    | \$ (13,010)  | \$ -         | \$ -         | \$ -         | \$ -         | \$ -         |
| Covered payroll                                  | \$ 3,957,140 | \$ 3,737,354 | \$ 3,603,872 | \$ 3,490,939 | \$ 3,219,550 | \$ 2,932,208 | \$ 2,713,348 | \$ 2,419,130 | \$ 2,527,915 | \$ 2,593,073 |
| Contributions as a percentage of covered payroll | 44.90%       | 53.00%       | 49.30%       | 48.73%       | 50.70%       | 60.70%       | 59.30%       | 57.30%       | 57.40%       | 60.90%       |

**Notes to Schedule:**

Valuation Date: 10/1/2024  
Actuarially determined contribution rates are calculated as of October 1, two years prior to the end of the fiscal year in which contributions are reported.

**Methods and assumptions used to determine contribution rates:**

|                             |                                                                                                                                                                                                                                                                                           |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Funding Method:             | Entry Age Normal Actuarial Cost Method                                                                                                                                                                                                                                                    |
| Asset Valuation Method:     | Each year, the prior Actuarial Value of Assets is brought forward utilizing the historical geometric 4-year average Fair Value return (net of fees). It is possible that over time this technique will produce an insignificant bias above or below Fair Value of Assets.                 |
| Salary Increases:           | See table below. Projected salary at Pension is increased individually to account for non-regular payments. These rates were adopted as the result of the August 12, 2020 study.                                                                                                          |
| Interest Rate:              | 7.00% per year, compounded annually, net of investment related expenses. This is supported by the target asset classification of the trust and the expected long-term return by asset class.                                                                                              |
| DROP/BACDROP Interest Load: | Normal Retirement benefits are increased by 0.5% for Members hired before May 20, 2014 to account for the interest floor on the CROP and BACDROP benefits.                                                                                                                                |
| Payroll Growth:             | 0.0% for purpose of amortizing the unfunded actuarial accrued liability.                                                                                                                                                                                                                  |
| Pension Age:                | 100% at first eligibility for Normal Retirement. Also, any Member who has reached Normal Retirement eligibility is assumed to continue employment for one additional year.                                                                                                                |
| Early Retirement:           | Commencing at the member's eligibility for Early Pension (age 50), members are assuming to retire with an immediate, subsidized benefit at the rate of 2% per year. This is supported by the target asset class allocation of the trust and the expected long-term return by asset class. |
| Termination Rates:          | See table below.                                                                                                                                                                                                                                                                          |
| Disability Rates:           | See table below.                                                                                                                                                                                                                                                                          |
| Mortality:                  | Mortality Improvement Scale MP-2018                                                                                                                                                                                                                                                       |
| Other Information:          | Termination and Disability Rate Table                                                                                                                                                                                                                                                     |

| Service | Service | % Terminating<br>During the Year | Service | Salary Scale | Age | % Becoming<br>Disabled<br>During the Year |
|---------|---------|----------------------------------|---------|--------------|-----|-------------------------------------------|
| 0 - 4   | 0 - 4   | 8.0%                             | 0       | 10.0%        | 20  | 0.03%                                     |
| 5 - 14  | 5 - 14  | 3.0%                             | 1 - 2   | 9.0%         | 30  | 0.04%                                     |
| 15+     | 15+     | 2.0%                             | 3 - 4   | 5.0%         | 40  | 0.07%                                     |
|         |         |                                  | 5+      | 4.75%        | 50  | 0.18%                                     |
|         |         |                                  |         |              | 60  | 0.90%                                     |



**CITY OF ORMOND BEACH, FLORIDA  
REQUIRED SUPPLEMENTARY INFORMATION  
SCHEDULE OF CONTRIBUTIONS  
GENERAL EMPLOYEES' TRUST FUND  
SEPTEMBER 30, 2025**

|                                                  | 9/30/2025     | 9/30/2024        | 9/30/2023       | 9/30/2022    | 9/30/2021          | 9/30/2020    | 9/30/2019     | 9/30/2018       | 9/30/2017    | 9/30/2016    |
|--------------------------------------------------|---------------|------------------|-----------------|--------------|--------------------|--------------|---------------|-----------------|--------------|--------------|
| Actuarially determined contribution              | \$ 969,480    | \$ 799,314       | \$ 656,630      | \$ 807,288   | \$ 949,950         | \$ 1,279,644 | \$ 1,433,590  | \$ 1,563,032    | \$ 1,676,838 | \$ 1,841,947 |
| Contributions in relation to the actuarially     | 969,131       | 786,484          | 657,312         | 807,288      | 962,447            | 1,279,644    | 1,433,298     | 1,563,324       | 1,676,838    | 1,841,947    |
| Contribution deficiency (excess)                 | <u>\$ 349</u> | <u>\$ 12,830</u> | <u>\$ (682)</u> | <u>\$ -</u>  | <u>\$ (12,497)</u> | <u>\$ -</u>  | <u>\$ 292</u> | <u>\$ (292)</u> | <u>\$ -</u>  | <u>\$ -</u>  |
| Covered payroll                                  | \$ 4,447,153  | \$ 4,593,755     | \$ 4,723,959    | \$ 4,952,689 | \$ 4,871,536       | \$ 5,037,970 | \$ 5,290,001  | \$ 5,746,443    | \$ 6,449,377 | \$ 6,697,988 |
| Contributions as a percentage of covered payroll | 21.79%        | 17.12%           | 13.91%          | 16.30%       | 19.76%             | 25.40%       | 27.09%        | 27.21%          | 26.00%       | 27.50%       |

**Notes to Schedule:**

Valuation Date: 10/1/2024

Actuarially determined contribution rates are calculated as of October 1, two years prior to the end of the fiscal year in which contributions are reported. Additional years' information will be displayed as it becomes available to present 10 years.

**Methods and assumptions used to determine contribution rates:**

|                         |                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Funding Method:         | Entry Age Normal Actuarial Cost Method. The following loads are applied for determining the minimum required contribution:                                                                                                                                                                                                         |
| Asset Valuation Method: | Interest - A half year, based on current 6.75% assumption. Salary - None.<br>Each year, the prior Actuarial Value of Assets is brought forward utilizing the historical geometric 4-year average Market Value return. It is possible that over time this technique will produce an insignificant bias above or below Market Value. |
| Salary Increases:       | 4.0% per year up to the assumed Pension age.                                                                                                                                                                                                                                                                                       |
| Interest Rate:          | 6.75% per year compounded annually, net of investment related expenses. This is supported by the target asset allocation of the trust and the expected long-term return by asset class.                                                                                                                                            |
| Payroll Growth:         | 0.00% for purposes of amortizing the Unfunded Actuarial Accrued Liability.                                                                                                                                                                                                                                                         |
| Retirement Age:         | Earlier of age 62 and 5 years of service or when age plus service equal 85 (but at least age 55). Also, any member who has reached Normal Retirement Age is assumed to continue employment for one additional year.                                                                                                                |
| Pension Age:            | 100% at first eligibility for Normal Retirement. Also, any Member who has reached Normal Retirement eligibility is assumed to continue employment for one additional year.                                                                                                                                                         |
| Early Retirement:       | Commencing at the member's eligibility for Early Pension (age 60 with 5 years of service or when age plus service equal 80), members are assuming to retire with an immediate, subsidized benefit at the rate of 2% per year.                                                                                                      |
| Termination Rates:      | See table below.                                                                                                                                                                                                                                                                                                                   |
| Disability Rates:       | See table below.                                                                                                                                                                                                                                                                                                                   |
| Mortality:              | Mortality Improvement Scale MP-2018                                                                                                                                                                                                                                                                                                |
| Other Information:      | Termination and Disability Rate Table                                                                                                                                                                                                                                                                                              |

| Age | Age | % Terminating<br>During the Year | % Becoming<br>Disabled<br>During the Year |
|-----|-----|----------------------------------|-------------------------------------------|
| 20  | 20  | 55.00%                           | 0.05%                                     |
| 30  | 30  | 38.35%                           | 0.06%                                     |
| 40  | 40  | 4.23%                            | 0.12%                                     |
| 50  | 50  | 1.68%                            | 0.43%                                     |
| 60  | 60  | 0.00%                            | 1.61%                                     |

**CITY OF ORMOND BEACH, FLORIDA  
REQUIRED SUPPLEMENTARY INFORMATION  
SCHEDULE OF CONTRIBUTIONS  
MUNICIPAL POLICE OFFICERS' RETIREMENT FUND  
SEPTEMBER 30, 2025**

|                                                         | 9/30/2025           | 9/30/2024          | 9/30/2023         | 9/30/2022         | 9/30/2021          | 9/30/2020        | 9/30/2019          | 9/30/2018         | 9/30/2017        | 9/30/2016          |
|---------------------------------------------------------|---------------------|--------------------|-------------------|-------------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Actuarially determined contribution                     | \$ 2,234,902        | \$ 2,207,601       | \$ 1,919,644      | \$ 1,748,768      | \$ 1,628,167       | \$ 1,972,475     | \$ 1,969,873       | \$ 1,905,635      | \$ 1,748,578     | \$ 1,517,947       |
| Contributions in relation to the actuarially determined | 2,411,982           | 2,254,627          | 1,923,038         | 1,755,905         | 1,717,690          | 1,958,944        | 1,982,074          | 1,906,965         | 1,722,477        | 1,544,048          |
| Contribution deficiency (excess)                        | <u>\$ (177,080)</u> | <u>\$ (47,026)</u> | <u>\$ (3,394)</u> | <u>\$ (7,137)</u> | <u>\$ (89,523)</u> | <u>\$ 13,531</u> | <u>\$ (12,201)</u> | <u>\$ (1,330)</u> | <u>\$ 26,101</u> | <u>\$ (26,101)</u> |
| Covered payroll                                         | \$ 5,283,456        | \$ 5,358,256       | \$ 4,625,648      | \$ 4,203,770      | \$ 3,777,649       | \$ 4,017,261     | \$ 3,759,300       | \$ 3,535,502      | \$ 3,356,196     | \$ 3,017,787       |
| Contributions as a percentage of covered payroll        | 45.65%              | 42.08%             | 41.57%            | 41.77%            | 45.47%             | 48.76%           | 52.72%             | 53.94%            | 51.32%           | 51.16%             |

**Notes to Schedule:**

Valuation Date: 10/1/2024  
Actuarially determined contribution rates are calculated as of October 1, two years prior to the end of the fiscal year in which contributions are  
Additional years' information will be displayed as it becomes available to present 10 years.

**Methods and assumptions used to determine contribution rates:**

|                             |                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Funding Method:             | Entry Age Normal Actuarial Cost Method. The following loads are applied for determining the minimum required contribution: Interest - A half year, based on current 6.75% assumption. Salary - None.                                                                                                                                                                              |
| Asset Valuation Method:     | Each year, the prior Actuarial Value of Assets is brought forward utilizing geometric 4-year average Market Value return (net of fees). It is possible that over time this technique will produce an insignificant bias above or below Market Value of Assets.                                                                                                                    |
| Salary Increases:           | 10.00% for less than one year of service, 5.00% per year up to the assumed retirement age (previously, 5.50% per year up to the assumed retirement age); see Table at the end of this section. Projected salary at retirement is increased individually to account for non-regular payments. This is based on the results of an actuarial experience study dated August 14, 2020. |
| Interest Rate:              | 6.75% per year compounded annually, net of investment related expenses. This is supported by the target asset allocation of the trust and the expected long-term return by asset class.                                                                                                                                                                                           |
| Payroll Growth:             | 0.44% for purposes of amortizing the Unfunded Actuarial Accrued Liability. This assumption cannot exceed the ten-year average payroll growth, in compliance with Part VII of Chapter 112, Florida Statutes.                                                                                                                                                                       |
| Cost of Living Adjustments: | Beginning the first October 1st following one year of retirement, annual adjustment of 1.00%                                                                                                                                                                                                                                                                                      |
| Retirement Age:             | See rates in the tables at the end of this section. This is based on the results of an actuarial experience study dated August 14, 2020.                                                                                                                                                                                                                                          |
| Early Retirement:           | Commencing at the member's eligibility for Early Retirement (attainment of age 45 with 10 years of Credited Service), members are assumed to retire with an immediate, subsidized benefit at the rate of 5% per year. We feel this is reasonable based upon the plan provisions.                                                                                                  |
| Termination Rates:          | See table below.                                                                                                                                                                                                                                                                                                                                                                  |
| Disability Rates:           | See table below.                                                                                                                                                                                                                                                                                                                                                                  |
| Other Information:          | Retirement, Termination and Disability Rate Table                                                                                                                                                                                                                                                                                                                                 |

| Service | % Normal<br>Retiring<br>During the Year | % Normal<br>Retiring<br>During the Year | Service | % Terminating<br>During the Year | Age | % Becoming<br>Disabled<br>During the Year | Current salary scale<br>of Salary at age<br>Rate |
|---------|-----------------------------------------|-----------------------------------------|---------|----------------------------------|-----|-------------------------------------------|--------------------------------------------------|
| 20      | 75%                                     | 75%                                     | <1      | 14%                              | 20  | 0.03%                                     | 22.10%                                           |
| 21-24   | 20%                                     | 20%                                     | 1-4     | 9%                               | 30  | 0.04%                                     | 37.70%                                           |
| 25+     | 100%                                    | 100%                                    | 5-9     | 5%                               | 40  | 0.07%                                     | 61.40%                                           |
|         |                                         |                                         | 10+     | 2%                               | 50  | 0.18%                                     | 100%                                             |

**CITY OF ORMOND BEACH, FLORIDA  
REQUIRED SUPPLEMENTARY INFORMATION  
SCHEDULE OF INVESTMENT RETURNS  
SEPTEMBER 30, 2025**

| <b>For the Year Ending</b> | <b>Municipal<br/>Firefighters'<br/>Retirement Fund</b> | <b>General<br/>Employees' Trust<br/>Fund</b> | <b>Municipal Police<br/>Officers'<br/>Retirement Fund</b> |
|----------------------------|--------------------------------------------------------|----------------------------------------------|-----------------------------------------------------------|
| 9/30/2025                  | 10.19%                                                 | 9.49%                                        | 9.83%                                                     |
| 9/30/2024                  | 18.84%                                                 | 19.70%                                       | 19.23%                                                    |
| 9/30/2023                  | 13.19%                                                 | 13.52%                                       | 12.93%                                                    |
| 9/30/2022                  | -15.08%                                                | -15.41%                                      | -15.05%                                                   |
| 9/30/2021                  | 18.98%                                                 | 19.75%                                       | 18.91%                                                    |
| 9/30/2020                  | 7.83%                                                  | 7.42%                                        | 7.97%                                                     |
| 9/30/2019                  | 2.98%                                                  | 2.95%                                        | 2.81%                                                     |
| 9/30/2018                  | 10.93%                                                 | 10.91%                                       | 11.02%                                                    |
| 9/30/2017                  | 11.94%                                                 | 11.76%                                       | 11.87%                                                    |
| 9/30/2016                  | 8.55%                                                  | 8.72%                                        | 8.78%                                                     |

## Combining Nonmajor Governmental Fund Financial Statements and Other Schedules

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## **Special Revenue Funds**

Special Revenue Funds are used to account for specific revenues that are legally restricted to expenditure for particular purposes.

### **Local Law Enforcement Trust Fund**

This fund accounts for proceeds generated by confiscation activities of the Police Department. Expenditures are restricted for law enforcement purposes only.

### **Federal Law Enforcement Trust Fund**

This fund accounts for proceeds generated by confiscation activities of the Police Department. Expenditures are restricted for law enforcement purposes only.

### **Pension Contribution Pass Thru Fund**

This fund accounts for the insurance premium taxes assessed and collected against properties in the City. Funds are restricted and passed thru to the respective pension trust funds.

### **Public Recreational Facility Use Fee Fund**

This fund accounts for impact fees assessed and collected against users of the various recreation and cultural facilities within the City. Use of these funds is restricted for expansion of those facilities.

### **Grants Fund**

This fund accounts for proceeds of federal and state financial assistance and related costs for various operating and capital expenditures.

## **Debt Service Funds**

Debt Service Funds are used to account for the accumulation of resources for, and the payment of, general long-term debt principal, interest and related costs.

### **Financing Debt Service Fund**

This fund records principal and interest payments on various financed purchases and notes payable obligations. Revenue sources include interest on investments and transfers from the General Fund.

### **2002 General Obligation Debt Service Fund**

This fund records principal and interest payments on Series 2002 General Obligation Bonds. Revenue sources include ad valorem property taxes and interest on investments.

### **2003 General Obligation Debt Service Fund**

This fund records principal and interest payments on Series 2003 General Obligation Bonds. Revenue sources include ad valorem property taxes and interest on investments.

### **2005 Capital Improvements Note Debt Service Fund**

This fund records principal and interest payments on the Capital Improvement Revenue Note, Series 2005. Revenue sources include transfers from the General Fund.

### **2010 General Obligation Debt Service Fund**

This fund records principal and interest payments on Series 2010 General Obligation Bonds. Revenue sources include ad valorem property taxes and interest on investments.

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## **Capital Projects Funds**

Capital Projects Funds are used to account for the acquisition and construction of major capital facilities other than those financed by the Proprietary and Trust Funds.

### **General Improvements Fund**

This fund is used to account for capital asset (including infrastructure) acquisitions and construction from general government resources (transfers from the governmental funds) and intergovernmental grants. Other sources of revenue include ad valorem property taxes, interest on investments and donations.

### **Equipment Renewal and Replacement Fund**

This fund accounts for replacement of existing capital assets provided by general government resources. Revenue sources are provided from interest on investments and transfers from the governmental funds.

### **Transportation Improvements Fund**

This fund is used to account for capital infrastructure acquisition and construction from general government resources (transfers from the General Fund). Sources of revenue include ad valorem property taxes, local option gas taxes, and interest on investments.

### **Recreational Facility Impact Fee Fund**

This fund accounts for impact fees assessed and collected against new construction activities. Use of these funds is restricted for expansion of existing recreational facilities or construction of new recreation facilities.

### **Local Roads Impact Fee Fund**

This fund accounts for impact fees assessed and collected against new construction activities. Use of these funds is restricted for expansion of existing local roadway links or construction of new local roadways.

### **Stormwater Drainage Impact Fee Fund**

This fund accounts for impact fees assessed and collected against new construction activities. Use of these funds is restricted for expansion of existing stormwater management facilities or construction of new stormwater management facilities.

### **Facilities Renewal and Replacement Fund**

This fund accounts for ad valorem property taxes restricted for the renewal and replacement of existing City facilities.

### **Public Safety Vehicles and Equipment Fund**

This fund accounts for proceeds generated by operating tax millage dedicated to public safety. Use of these funds is restricted for replacement of public safety vehicles and equipment.

### **Police Impact Fee Fund**

This fund accounts for impact fees assessed and collected against new capital construction activities. Use of these funds is restricted for expansion of existing law enforcement facilities or construction of new law enforcement facilities.

### **Fire Impact Fee Fund**

This fund accounts for impact fees assessed and collected against new capital construction activities. Use of these funds is restricted for expansion of existing fire emergency facilities or construction of new fire emergency facilities.

### **Leisure Services Fund**

This fund accounts for replacement of leisure service capital assets provided by general government resources.

CITY OF ORMOND BEACH, FLORIDA  
COMBINING BALANCE SHEET  
NONMAJOR GOVERNMENTAL FUNDS  
SEPTEMBER 30, 2025

|                                                                        | Special Revenue Funds             |                                     |                                               |                  |                     | Debt Service Funds |                            |                            |                                     |                            |                   |
|------------------------------------------------------------------------|-----------------------------------|-------------------------------------|-----------------------------------------------|------------------|---------------------|--------------------|----------------------------|----------------------------|-------------------------------------|----------------------------|-------------------|
|                                                                        | Local Law<br>Enforcement<br>Trust | Federal Law<br>Enforcement<br>Trust | Public<br>Recreational<br>Facility<br>Use Fee | Grants           | Total               | Financing          | 2002 General<br>Obligation | 2003 General<br>Obligation | 2005 Capital<br>Improvement<br>Note | 2010 General<br>Obligation | Total             |
| <b>ASSETS</b>                                                          |                                   |                                     |                                               |                  |                     |                    |                            |                            |                                     |                            |                   |
| Equity in pooled cash                                                  | \$ 534,735                        | \$ 6,510                            | \$ 551,127                                    | \$ 75,444        | \$ 1,167,816        | \$ 367,829         | \$ 141,437                 | \$ 8,011                   | \$ 12,135                           | \$ 2,680                   | \$ 532,092        |
| Receivables, net                                                       | 359                               | 8                                   | 629                                           | -                | 996                 | -                  | -                          | -                          | -                                   | 1,775                      | 1,775             |
| Due from other governments                                             | -                                 | -                                   | -                                             | -                | -                   | -                  | -                          | -                          | -                                   | -                          | -                 |
| Prepaid items                                                          | -                                 | -                                   | -                                             | -                | -                   | -                  | -                          | -                          | -                                   | -                          | -                 |
| Total assets                                                           | <u>\$ 535,094</u>                 | <u>\$ 6,518</u>                     | <u>\$ 551,756</u>                             | <u>\$ 75,444</u> | <u>\$ 1,168,812</u> | <u>\$ 367,829</u>  | <u>\$ 141,437</u>          | <u>\$ 8,011</u>            | <u>\$ 12,135</u>                    | <u>\$ 4,455</u>            | <u>\$ 533,867</u> |
| <b>LIABILITIES</b>                                                     |                                   |                                     |                                               |                  |                     |                    |                            |                            |                                     |                            |                   |
| Accounts payable and accrued liabilities                               | \$ (2)                            | \$ -                                | \$ 9                                          | \$ -             | \$ 7                | \$ -               | \$ -                       | \$ -                       | \$ -                                | \$ -                       | \$ -              |
| Total liabilities                                                      | <u>(2)</u>                        | <u>-</u>                            | <u>9</u>                                      | <u>-</u>         | <u>7</u>            | <u>-</u>           | <u>-</u>                   | <u>-</u>                   | <u>-</u>                            | <u>-</u>                   | <u>-</u>          |
| <b>DEFERRED INFLOWS OF RESOURCES</b>                                   |                                   |                                     |                                               |                  |                     |                    |                            |                            |                                     |                            |                   |
| Unavailable revenue - property taxes                                   | -                                 | -                                   | -                                             | -                | -                   | -                  | -                          | -                          | -                                   | 1,775                      | 1,775             |
| <b>FUND BALANCES</b>                                                   |                                   |                                     |                                               |                  |                     |                    |                            |                            |                                     |                            |                   |
| Prepaid items                                                          | -                                 | -                                   | -                                             | -                | -                   | -                  | -                          | -                          | -                                   | -                          | -                 |
| Restricted for:                                                        |                                   |                                     |                                               |                  |                     |                    |                            |                            |                                     |                            |                   |
| Law enforcement                                                        | 535,096                           | 6,518                               | -                                             | -                | 541,614             | -                  | -                          | -                          | -                                   | -                          | -                 |
| Debt service                                                           | -                                 | -                                   | -                                             | -                | -                   | -                  | 141,437                    | 8,011                      | -                                   | 2,680                      | 152,128           |
| Transportation impact                                                  | -                                 | -                                   | -                                             | -                | -                   | -                  | -                          | -                          | -                                   | -                          | -                 |
| Capital expansion                                                      | -                                 | -                                   | -                                             | -                | -                   | -                  | -                          | -                          | -                                   | -                          | -                 |
| Committed to:                                                          |                                   |                                     |                                               |                  |                     |                    |                            |                            |                                     |                            |                   |
| Recreational facilities                                                | -                                 | -                                   | 551,747                                       | -                | 551,747             | -                  | -                          | -                          | -                                   | -                          | -                 |
| Assigned to:                                                           |                                   |                                     |                                               |                  |                     |                    |                            |                            |                                     |                            |                   |
| Recreational facilities                                                | -                                 | -                                   | -                                             | -                | -                   | -                  | -                          | -                          | -                                   | -                          | -                 |
| Grants                                                                 | -                                 | -                                   | -                                             | 75,444           | 75,444              | -                  | -                          | -                          | -                                   | -                          | -                 |
| Debt service                                                           | -                                 | -                                   | -                                             | -                | -                   | 367,829            | -                          | -                          | 12,135                              | -                          | 379,964           |
| Capital improvements                                                   | -                                 | -                                   | -                                             | -                | -                   | -                  | -                          | -                          | -                                   | -                          | -                 |
| Total fund balances                                                    | <u>535,096</u>                    | <u>6,518</u>                        | <u>551,747</u>                                | <u>75,444</u>    | <u>1,168,805</u>    | <u>367,829</u>     | <u>141,437</u>             | <u>8,011</u>               | <u>12,135</u>                       | <u>2,680</u>               | <u>532,092</u>    |
| Total liabilities, deferred inflows of resources,<br>and fund balances | <u>\$ 535,094</u>                 | <u>\$ 6,518</u>                     | <u>\$ 551,756</u>                             | <u>\$ 75,444</u> | <u>\$ 1,168,812</u> | <u>\$ 367,829</u>  | <u>\$ 141,437</u>          | <u>\$ 8,011</u>            | <u>\$ 12,135</u>                    | <u>\$ 4,455</u>            | <u>\$ 533,867</u> |



CITY OF ORMOND BEACH, FLORIDA  
COMBINING BALANCE SHEET  
NONMAJOR GOVERNMENTAL FUNDS  
SEPTEMBER 30, 2025  
(CONTINUED)

|                                                                        | Capital Projects Funds  |                                            |                                               |                                |                                        |                           |                                      |                                             |                      |                    |                                       |                      |                                            |
|------------------------------------------------------------------------|-------------------------|--------------------------------------------|-----------------------------------------------|--------------------------------|----------------------------------------|---------------------------|--------------------------------------|---------------------------------------------|----------------------|--------------------|---------------------------------------|----------------------|--------------------------------------------|
|                                                                        | General<br>Improvements | Equipment<br>Renewal<br>and<br>Replacement | Public Safety<br>Vehicles<br>and<br>Equipment | Transportation<br>Improvements | Recreational<br>Facility<br>Impact Fee | Local Roads<br>Impact Fee | Stormwater<br>Drainage<br>Impact Fee | Facilities<br>Renewal<br>and<br>Replacement | Police<br>Impact Fee | Fire<br>Impact Fee | Leisure<br>Service<br>Capital<br>Fund | Total                | Total<br>Nonmajor<br>Governmental<br>Funds |
| ASSETS                                                                 |                         |                                            |                                               |                                |                                        |                           |                                      |                                             |                      |                    |                                       |                      |                                            |
| Equity in pooled cash                                                  | \$ 2,327,398            | \$ 763,244                                 | \$ 735,488                                    | \$ 1,957,408                   | \$ 1,527,759                           | \$ 2,161,374              | \$ 593,414                           | \$ 510,812                                  | \$ 106,798           | \$ 132,994         | \$ 610,014                            | \$ 11,426,703        | \$ 13,126,611                              |
| Receivables, net                                                       | 4,445                   | 1,371                                      | 2,646                                         | 3,386                          | 969                                    | 2,177                     | 688                                  | 1,968                                       | 39                   | 49                 | 1,417                                 | 19,155               | 21,926                                     |
| Due from other governments                                             | 84,613                  | -                                          | -                                             | 196,472                        | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | 281,085              | 281,085                                    |
| Prepaid items                                                          | -                       | -                                          | 1,642,125                                     | -                              | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | 1,642,125            | 1,642,125                                  |
| Total assets                                                           | <u>\$ 2,416,456</u>     | <u>\$ 764,615</u>                          | <u>\$ 2,380,259</u>                           | <u>\$ 2,157,266</u>            | <u>\$ 1,528,728</u>                    | <u>\$ 2,163,551</u>       | <u>\$ 594,102</u>                    | <u>\$ 512,780</u>                           | <u>\$ 106,837</u>    | <u>\$ 133,043</u>  | <u>\$ 611,431</u>                     | <u>\$ 13,369,068</u> | <u>\$ 15,071,747</u>                       |
| LIABILITIES                                                            |                         |                                            |                                               |                                |                                        |                           |                                      |                                             |                      |                    |                                       |                      |                                            |
| Accounts payable and accrued liabilities                               | \$ 528,257              | \$ -                                       | \$ 46,805                                     | \$ 9,281                       | \$ -                                   | \$ -                      | \$ -                                 | \$ 42,540                                   | \$ -                 | \$ -               | \$ -                                  | \$ 626,883           | \$ 626,890                                 |
| Total liabilities                                                      | <u>528,257</u>          | <u>-</u>                                   | <u>46,805</u>                                 | <u>9,281</u>                   | <u>-</u>                               | <u>-</u>                  | <u>-</u>                             | <u>42,540</u>                               | <u>-</u>             | <u>-</u>           | <u>-</u>                              | <u>626,883</u>       | <u>626,890</u>                             |
| DEFERRED INFLOWS OF RESOURCES                                          |                         |                                            |                                               |                                |                                        |                           |                                      |                                             |                      |                    |                                       |                      |                                            |
| Unavailable revenue - property taxes                                   | <u>850</u>              | <u>445</u>                                 | <u>1,650</u>                                  | <u>1,053</u>                   | <u>-</u>                               | <u>-</u>                  | <u>-</u>                             | <u>1,671</u>                                | <u>-</u>             | <u>-</u>           | <u>1,053</u>                          | <u>6,722</u>         | <u>8,497</u>                               |
| FUND BALANCES                                                          |                         |                                            |                                               |                                |                                        |                           |                                      |                                             |                      |                    |                                       |                      |                                            |
| Prepaid items                                                          | -                       | -                                          | 1,642,125                                     | -                              | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | 1,642,125            | 1,642,125                                  |
| Restricted for:                                                        |                         |                                            |                                               |                                |                                        |                           |                                      |                                             |                      |                    |                                       |                      |                                            |
| Law enforcement                                                        | -                       | -                                          | -                                             | -                              | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | -                    | 541,614                                    |
| Debt service                                                           | -                       | -                                          | -                                             | -                              | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | -                    | 152,128                                    |
| Transportation impact                                                  | -                       | -                                          | -                                             | 2,146,932                      | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | 2,146,932            | 2,146,932                                  |
| Capital expansion                                                      | -                       | -                                          | 689,679                                       | -                              | 1,528,728                              | 2,163,551                 | 594,102                              | -                                           | 106,837              | 133,043            | 610,378                               | 5,826,318            | 5,826,318                                  |
| Committed to:                                                          |                         |                                            |                                               |                                |                                        |                           |                                      |                                             |                      |                    |                                       |                      |                                            |
| Recreational facilities                                                | -                       | -                                          | -                                             | -                              | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | -                    | 551,747                                    |
| Assigned to:                                                           |                         |                                            |                                               |                                |                                        |                           |                                      |                                             |                      |                    |                                       |                      |                                            |
| Recreational facilities                                                | -                       | -                                          | -                                             | -                              | -                                      | -                         | -                                    | 468,569                                     | -                    | -                  | -                                     | 468,569              | 468,569                                    |
| Grants                                                                 | -                       | -                                          | -                                             | -                              | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | -                    | 75,444                                     |
| Debt service                                                           | -                       | -                                          | -                                             | -                              | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | -                    | 379,964                                    |
| Capital improvements                                                   | 1,887,349               | 764,170                                    | -                                             | -                              | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | 2,651,519            | 2,651,519                                  |
| Total fund balances                                                    | <u>1,887,349</u>        | <u>764,170</u>                             | <u>2,331,804</u>                              | <u>2,146,932</u>               | <u>1,528,728</u>                       | <u>2,163,551</u>          | <u>594,102</u>                       | <u>468,569</u>                              | <u>106,837</u>       | <u>133,043</u>     | <u>610,378</u>                        | <u>12,735,463</u>    | <u>14,436,360</u>                          |
| Total liabilities, deferred inflows of resources,<br>and fund balances | <u>\$ 2,416,456</u>     | <u>\$ 764,615</u>                          | <u>\$ 2,380,259</u>                           | <u>\$ 2,157,266</u>            | <u>\$ 1,528,728</u>                    | <u>\$ 2,163,551</u>       | <u>\$ 594,102</u>                    | <u>\$ 512,780</u>                           | <u>\$ 106,837</u>    | <u>\$ 133,043</u>  | <u>\$ 611,431</u>                     | <u>\$ 13,369,068</u> | <u>\$ 15,071,747</u>                       |

CITY OF ORMOND BEACH, FLORIDA  
COMBINING SCHEDULE OF REVENUES, EXPENDITURES,  
AND CHANGES IN FUND BALANCE  
NONMAJOR GOVERNMENTAL FUNDS  
FOR THE YEAR ENDED SEPTEMBER 30, 2025

|                                                   | Special Revenue Funds             |                                     |                                                 |                                               |           | Debt Service Funds |            |                            |                            |                                     |                            |            |
|---------------------------------------------------|-----------------------------------|-------------------------------------|-------------------------------------------------|-----------------------------------------------|-----------|--------------------|------------|----------------------------|----------------------------|-------------------------------------|----------------------------|------------|
|                                                   | Local Law<br>Enforcement<br>Trust | Federal Law<br>Enforcement<br>Trust | Pension<br>Contribution<br>Pass-Through<br>Fund | Public<br>Recreational<br>Facility<br>Use Fee | Grants    | Total              | Financing  | 2002 General<br>Obligation | 2003 General<br>Obligation | 2005 Capital<br>Improvement<br>Note | 2010 General<br>Obligation | Total      |
| Revenues                                          |                                   |                                     |                                                 |                                               |           |                    |            |                            |                            |                                     |                            |            |
| Taxes                                             | \$ -                              | \$ -                                | \$ 1,194,985                                    | \$ -                                          | \$ -      | \$ 1,194,985       | \$ -       | \$ 188                     | \$ 69                      | \$ -                                | \$ 348,597                 | \$ 348,854 |
| Intergovernmental                                 | -                                 | -                                   | -                                               | -                                             | -         | -                  | -          | -                          | -                          | -                                   | -                          | -          |
| Fines and forfeitures                             | 223,398                           | -                                   | -                                               | -                                             | -         | 223,398            | -          | -                          | -                          | -                                   | -                          | -          |
| Miscellaneous                                     | 8,681                             | 141                                 | -                                               | 53,359                                        | 0         | 62,181             | -          | -                          | -                          | -                                   | -                          | -          |
| Total revenues                                    | 232,079                           | 141                                 | 1,194,985                                       | 53,359                                        | -         | 1,480,564          | -          | 188                        | 69                         | -                                   | 348,597                    | 348,854    |
| Expenditures                                      |                                   |                                     |                                                 |                                               |           |                    |            |                            |                            |                                     |                            |            |
| Current:                                          |                                   |                                     |                                                 |                                               |           |                    |            |                            |                            |                                     |                            |            |
| General government                                | -                                 | -                                   | -                                               | -                                             | -         | -                  | 15,938     | -                          | -                          | -                                   | -                          | 15,938     |
| Public safety                                     | -                                 | -                                   | 1,194,985                                       | -                                             | -         | 1,194,985          | -          | -                          | -                          | -                                   | -                          | -          |
| Public works                                      | -                                 | -                                   | -                                               | -                                             | -         | -                  | -          | -                          | -                          | -                                   | -                          | -          |
| Culture and recreation                            | -                                 | -                                   | -                                               | 4,416                                         | -         | 4,416              | -          | -                          | -                          | -                                   | -                          | -          |
| Human services                                    | -                                 | -                                   | -                                               | -                                             | -         | -                  | -          | -                          | -                          | -                                   | -                          | -          |
| Capital improvements                              | -                                 | -                                   | -                                               | 23,017                                        | -         | 23,017             | -          | -                          | -                          | -                                   | -                          | -          |
| Debt service:                                     |                                   |                                     |                                                 |                                               |           |                    |            |                            |                            |                                     |                            |            |
| Principal                                         | -                                 | -                                   | -                                               | -                                             | -         | -                  | 444,865    | -                          | -                          | -                                   | 290,000                    | 734,865    |
| Interest and other                                | -                                 | -                                   | -                                               | -                                             | -         | -                  | 223,330    | -                          | -                          | -                                   | 65,719                     | 289,049    |
| Total expenditures                                | -                                 | -                                   | 1,194,985                                       | 27,433                                        | -         | 1,222,418          | 684,133    | -                          | -                          | -                                   | 355,719                    | 1,039,852  |
| Excess (deficiency) of revenues over expenditures | 232,079                           | 141                                 | -                                               | 25,926                                        | -         | 258,146            | (684,133)  | 188                        | 69                         | -                                   | (7,122)                    | (690,998)  |
| Other financing sources (uses)                    |                                   |                                     |                                                 |                                               |           |                    |            |                            |                            |                                     |                            |            |
| Transfers in                                      | -                                 | -                                   | -                                               | -                                             | -         | -                  | 660,000    | -                          | -                          | -                                   | -                          | 660,000    |
| Transfers out                                     | -                                 | -                                   | -                                               | -                                             | -         | -                  | -          | -                          | -                          | -                                   | -                          | -          |
| Total other financing sources (uses)              | -                                 | -                                   | -                                               | -                                             | -         | -                  | 660,000    | -                          | -                          | -                                   | -                          | 660,000    |
| Net change in fund balances                       | 232,079                           | 141                                 | -                                               | 25,926                                        | -         | 258,146            | (24,133)   | 188                        | 69                         | -                                   | (7,122)                    | (30,998)   |
| Fund balances, beginning of year                  | 303,017                           | 6,377                               | -                                               | 525,821                                       | 75,444    | 910,659            | 391,962    | 141,249                    | 7,942                      | 12,135                              | 9,802                      | 563,090    |
| Fund balances, end of year                        | \$ 535,096                        | \$ 6,518                            | \$ -                                            | \$ 551,747                                    | \$ 75,444 | \$ 1,168,805       | \$ 367,829 | \$ 141,437                 | \$ 8,011                   | \$ 12,135                           | \$ 2,680                   | \$ 532,092 |

**CITY OF ORMOND BEACH, FLORIDA**  
**COMBINING STATEMENT OF REVENUES, EXPENDITURES,**  
**AND CHANGES IN FUND BALANCE**  
**NONMAJOR GOVERNMENTAL FUNDS**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**  
**(CONTINUED)**

|                                                   | Capital Projects Funds  |                                            |                                               |                               |                                        |                           |                                      |                                             |                      |                    |                                       |               |                                            |
|---------------------------------------------------|-------------------------|--------------------------------------------|-----------------------------------------------|-------------------------------|----------------------------------------|---------------------------|--------------------------------------|---------------------------------------------|----------------------|--------------------|---------------------------------------|---------------|--------------------------------------------|
|                                                   | General<br>Improvements | Equipment<br>Renewal<br>and<br>Replacement | Public Safety<br>Vehicles<br>and<br>Equipment | Transportation<br>Improvement | Recreational<br>Facility<br>Impact Fee | Local Roads<br>Impact Fee | Stormwater<br>Drainage<br>Impact Fee | Facilities<br>Renewal<br>and<br>Replacement | Police<br>Impact Fee | Fire<br>Impact Fee | Leisure<br>Service<br>Capital<br>Fund | Total         | Total<br>Nonmajor<br>Governmental<br>Funds |
| Revenues                                          |                         |                                            |                                               |                               |                                        |                           |                                      |                                             |                      |                    |                                       |               |                                            |
| Taxes                                             | \$ 450,940              | \$ 236,200                                 | \$ 875,033                                    | \$ 1,793,956                  | \$ -                                   | \$ -                      | \$ -                                 | \$ 885,765                                  | \$ -                 | \$ -               | \$ 558,311                            | \$ 4,800,205  | \$ 6,344,044                               |
| Intergovernmental                                 | 54,377                  | -                                          | 21,650                                        | -                             | -                                      | -                         | -                                    | -                                           | -                    | -                  | 435,445                               | 511,472       | 511,472                                    |
| Fines and forfeitures                             | -                       | -                                          | -                                             | -                             | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | -             | 223,398                                    |
| Miscellaneous                                     | 37,577                  | 61,921                                     | 44,733                                        | 43,350                        | 710,779                                | 325,073                   | 12,811                               | 95,269                                      | 73,492               | 91,641             | 10,331                                | 1,506,977     | 1,569,158                                  |
| Total revenues                                    | 542,894                 | 298,121                                    | 941,416                                       | 1,837,306                     | 710,779                                | 325,073                   | 12,811                               | 981,034                                     | 73,492               | 91,641             | 1,004,087                             | 6,818,654     | 8,648,072                                  |
| Expenditures                                      |                         |                                            |                                               |                               |                                        |                           |                                      |                                             |                      |                    |                                       |               |                                            |
| Current:                                          |                         |                                            |                                               |                               |                                        |                           |                                      |                                             |                      |                    |                                       |               |                                            |
| General government                                | -                       | -                                          | -                                             | -                             | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | -             | 15,938                                     |
| Public safety                                     | -                       | -                                          | 64,578                                        | -                             | -                                      | -                         | -                                    | 48,103                                      | -                    | -                  | -                                     | 112,681       | 1,307,666                                  |
| Public works                                      | -                       | -                                          | -                                             | 223,701                       | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | 223,701       | 223,701                                    |
| Culture and recreation                            | -                       | -                                          | -                                             | -                             | -                                      | -                         | -                                    | 103,953                                     | -                    | -                  | -                                     | 103,953       | 108,369                                    |
| Human services                                    | 29,919                  | -                                          | -                                             | -                             | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | 29,919        | 29,919                                     |
| Capital improvements                              | 2,256,494               | 421,514                                    | 680,010                                       | 301,165                       | -                                      | -                         | -                                    | 1,193,836                                   | -                    | -                  | 891,499                               | 5,744,518     | 5,767,535                                  |
| Debt service:                                     |                         |                                            |                                               |                               |                                        |                           |                                      |                                             |                      |                    |                                       |               |                                            |
| Principal                                         | -                       | -                                          | -                                             | -                             | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | -             | 734,865                                    |
| Interest and other                                | -                       | -                                          | -                                             | -                             | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | -             | 289,049                                    |
| Total expenditures                                | 2,286,413               | 421,514                                    | 744,588                                       | 524,866                       | -                                      | -                         | -                                    | 1,345,892                                   | -                    | -                  | 891,499                               | 6,214,772     | 8,477,042                                  |
| Excess (deficiency) of revenues over expenditures | (1,743,519)             | (123,393)                                  | 196,828                                       | 1,312,440                     | 710,779                                | 325,073                   | 12,811                               | (364,858)                                   | 73,492               | 91,641             | 112,588                               | 603,882       | 171,030                                    |
| Other financing sources (uses)                    |                         |                                            |                                               |                               |                                        |                           |                                      |                                             |                      |                    |                                       |               |                                            |
| Transfers in                                      | 1,426,795               | 90,000                                     | 166,000                                       | -                             | -                                      | -                         | -                                    | 773,815                                     | -                    | -                  | -                                     | 2,456,610     | 3,116,610                                  |
| Transfers out                                     | (31,248)                | -                                          | (354,996)                                     | (765,747)                     | -                                      | -                         | -                                    | -                                           | -                    | -                  | -                                     | (1,151,991)   | (1,151,991)                                |
| Total other financing sources (uses)              | 1,395,547               | 90,000                                     | (188,996)                                     | (765,747)                     | -                                      | -                         | -                                    | 773,815                                     | -                    | -                  | -                                     | 1,304,619     | 1,964,619                                  |
| Net change in fund balances                       | (347,972)               | (33,393)                                   | 7,832                                         | 546,693                       | 710,779                                | 325,073                   | 12,811                               | 408,957                                     | 73,492               | 91,641             | 112,588                               | 1,908,501     | 2,135,649                                  |
| Fund balances, beginning of year                  | 2,235,321               | 797,563                                    | 2,323,972                                     | 1,600,239                     | 817,949                                | 1,838,478                 | 581,291                              | 59,612                                      | 33,345               | 41,402             | 497,790                               | 10,826,962    | 12,300,711                                 |
| Fund balances, end of year                        | \$ 1,887,349            | \$ 764,170                                 | \$ 2,331,804                                  | \$ 2,146,932                  | \$ 1,528,728                           | \$ 2,163,551              | \$ 594,102                           | \$ 468,569                                  | \$ 106,837           | \$ 133,043         | \$ 610,378                            | \$ 12,735,463 | \$ 14,436,360                              |



**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - LOCAL LAW ENFORCEMENT TRUST FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                              | <b>Budgeted Amounts</b> |                   | <b>Actual</b>     | <b>Variance with<br/>Final Budget</b> |
|--------------------------------------------------------------|-------------------------|-------------------|-------------------|---------------------------------------|
|                                                              | <b>Original</b>         | <b>Final</b>      |                   |                                       |
| <b>Revenues</b>                                              |                         |                   |                   |                                       |
| Fines and forfeitures                                        | \$ -                    | \$ -              | \$ 223,398        | \$ 223,398                            |
| Miscellaneous                                                | -                       | -                 | 8,681             | 8,681                                 |
| Total revenues                                               | -                       | -                 | 232,079           | 232,079                               |
| <b>Expenditures</b>                                          |                         |                   |                   |                                       |
| Current:                                                     |                         |                   |                   |                                       |
| Public safety:                                               |                         |                   |                   |                                       |
| Police                                                       | -                       | -                 | -                 | -                                     |
| Total expenditures                                           | -                       | -                 | -                 | -                                     |
| Excess (deficiency) of revenues over<br>(under) expenditures | -                       | -                 | 232,079           | 232,079                               |
| <b>Other financing sources (uses)</b>                        |                         |                   |                   |                                       |
| Transfers in                                                 | -                       | -                 | -                 | -                                     |
| Transfers out                                                | -                       | -                 | -                 | -                                     |
| Total other financing sources (uses)                         | -                       | -                 | -                 | -                                     |
| <b>Net change in fund balance</b>                            | -                       | -                 | 232,079           | 232,079                               |
| <b>Fund balance, beginning of year</b>                       | 303,017                 | 303,017           | 303,017           | -                                     |
| <b>Fund balance, end of year</b>                             | <u>\$ 303,017</u>       | <u>\$ 303,017</u> | <u>\$ 535,096</u> | <u>\$ 232,079</u>                     |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - FEDERAL LAW ENFORCEMENT TRUST FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                      | <u>Budgeted Amounts</u> |                 | <u>Actual</u>   | <u>Variance with<br/>Final Budget</u> |
|----------------------------------------------------------------------|-------------------------|-----------------|-----------------|---------------------------------------|
|                                                                      | <u>Original</u>         | <u>Final</u>    |                 |                                       |
| <b>Revenues</b>                                                      |                         |                 |                 |                                       |
| Miscellaneous                                                        | \$ -                    | \$ -            | \$ 141          | \$ 141                                |
| Total revenues                                                       | -                       | -               | 141             | 141                                   |
| <b>Expenditures</b>                                                  |                         |                 |                 |                                       |
| Current:                                                             |                         |                 |                 |                                       |
| Public safety:                                                       |                         |                 |                 |                                       |
| Police                                                               | -                       | -               | -               | -                                     |
| Total expenditures                                                   | -                       | -               | -               | -                                     |
| <b>Excess (deficiency) of revenues over<br/>(under) expenditures</b> | -                       | -               | 141             | 141                                   |
| <b>Other financing sources (uses)</b>                                |                         |                 |                 |                                       |
| Transfers in                                                         | -                       | -               | -               | -                                     |
| Transfers out                                                        | -                       | -               | -               | -                                     |
| Total other financing sources (uses)                                 | -                       | -               | -               | -                                     |
| <b>Net change in fund balance</b>                                    | -                       | -               | 141             | 141                                   |
| <b>Fund balance, beginning of year</b>                               | 6,377                   | 6,377           | 6,377           | -                                     |
| <b>Fund balance, end of year</b>                                     | <u>\$ 6,377</u>         | <u>\$ 6,377</u> | <u>\$ 6,518</u> | <u>\$ 141</u>                         |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - PENSION CONTRIBUTION PASSTHRU FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                      | <b>Budgeted Amounts</b> |              | <b>Variance with<br/>Final Budget</b> |
|----------------------------------------------------------------------|-------------------------|--------------|---------------------------------------|
|                                                                      | <b>Original</b>         | <b>Final</b> |                                       |
| <b>Revenues</b>                                                      |                         |              |                                       |
| Taxes                                                                | \$ 1,300,000            | \$ 1,350,000 | \$ (155,015)                          |
| Total revenues                                                       | 1,300,000               | 1,350,000    | (155,015)                             |
| <b>Expenditures</b>                                                  |                         |              |                                       |
| Current:                                                             |                         |              |                                       |
| Public safety:                                                       |                         |              |                                       |
| Police                                                               | 650,000                 | 700,000      | 58,840                                |
| Fire Services                                                        | 650,000                 | 650,000      | 96,175                                |
| Total expenditures                                                   | 1,300,000               | 1,350,000    | 155,015                               |
| <b>Excess (deficiency) of revenues over<br/>(under) expenditures</b> | -                       | -            | -                                     |
| <b>Other financing sources (uses)</b>                                |                         |              |                                       |
| Transfers in                                                         | -                       | -            | -                                     |
| Transfers out                                                        | -                       | -            | -                                     |
| Total other financing sources (uses)                                 | -                       | -            | -                                     |
| <b>Net change in fund balance</b>                                    | -                       | -            | -                                     |
| <b>Fund balance, beginning of year</b>                               | -                       | -            | -                                     |
| <b>Fund balance, end of year</b>                                     | \$ -                    | \$ -         | \$ -                                  |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - PUBLIC RECREATIONAL FACILITY USE FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                      | <u>Budgeted Amounts</u> |                   | <u>Actual</u>     | <u>Variance with<br/>Final Budget</u> |
|----------------------------------------------------------------------|-------------------------|-------------------|-------------------|---------------------------------------|
|                                                                      | <u>Original</u>         | <u>Final</u>      |                   |                                       |
| <b>Revenues</b>                                                      |                         |                   |                   |                                       |
| Miscellaneous                                                        | \$ 57,225               | \$ 57,225         | \$ 53,359         | \$ (3,866)                            |
| Total revenues                                                       | <u>57,225</u>           | <u>57,225</u>     | <u>53,359</u>     | <u>(3,866)</u>                        |
| <b>Expenditures</b>                                                  |                         |                   |                   |                                       |
| Current:                                                             |                         |                   |                   |                                       |
| Culture and recreation                                               | 28,995                  | 28,978            | 4,416             | 24,562                                |
| Non-departmental                                                     | 5,230                   | 5,230             | -                 | 5,230                                 |
| Capital improvements                                                 | 23,000                  | 23,017            | 23,017            | -                                     |
| Total expenditures                                                   | <u>57,225</u>           | <u>57,225</u>     | <u>27,433</u>     | <u>29,792</u>                         |
| <b>Excess (deficiency) of revenues over<br/>(under) expenditures</b> | <u>-</u>                | <u>-</u>          | <u>25,926</u>     | <u>25,926</u>                         |
| <b>Other financing sources (uses)</b>                                |                         |                   |                   |                                       |
| Transfers in                                                         | -                       | -                 | -                 | -                                     |
| Transfers out                                                        | -                       | -                 | -                 | -                                     |
| Total other financing sources (uses)                                 | <u>-</u>                | <u>-</u>          | <u>-</u>          | <u>-</u>                              |
| <b>Net change in fund balance</b>                                    | <u>-</u>                | <u>-</u>          | <u>25,926</u>     | <u>25,926</u>                         |
| <b>Fund balance, beginning of year</b>                               | 525,821                 | 525,821           | 525,821           | -                                     |
| <b>Fund balance, end of year</b>                                     | <u>\$ 525,821</u>       | <u>\$ 525,821</u> | <u>\$ 551,747</u> | <u>\$ 25,926</u>                      |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - GRANTS FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                  | <u>Budgeted Amounts</u> |                  | <u>Actual</u>    | <u>Variance with<br/>Final Budget</u> |
|------------------------------------------------------------------|-------------------------|------------------|------------------|---------------------------------------|
|                                                                  | <u>Original</u>         | <u>Final</u>     |                  |                                       |
| <b>Revenues</b>                                                  |                         |                  |                  |                                       |
| Intergovernmental                                                | \$ -                    | \$ -             | \$ -             | \$ -                                  |
| Miscellaneous                                                    | -                       | -                | -                | -                                     |
| Total revenues                                                   | -                       | -                | -                | -                                     |
| <b>Expenditures</b>                                              |                         |                  |                  |                                       |
| Current:                                                         |                         |                  |                  |                                       |
| General government                                               | -                       | -                | -                | -                                     |
| Total expenditures                                               | -                       | -                | -                | -                                     |
| <b>Excess (deficiency) of revenues over<br/>    expenditures</b> | -                       | -                | -                | -                                     |
| <b>Other financing sources (uses)</b>                            |                         |                  |                  |                                       |
| Transfers in                                                     | -                       | -                | -                | -                                     |
| Transfers out                                                    | -                       | -                | -                | -                                     |
| Total other financing sources (uses)                             | -                       | -                | -                | -                                     |
| <b>Net change in fund balance</b>                                | -                       | -                | -                | -                                     |
| <b>Fund balance, beginning of year</b>                           | 75,444                  | 75,444           | 75,444           | -                                     |
| <b>Fund balance, end of year</b>                                 | <u>\$ 75,444</u>        | <u>\$ 75,444</u> | <u>\$ 75,444</u> | <u>\$ -</u>                           |



**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - FINANCING DEBT SERVICE FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                  | <b>Budgeted Amounts</b> |              |                                       |
|------------------------------------------------------------------|-------------------------|--------------|---------------------------------------|
|                                                                  | <b>Original</b>         | <b>Final</b> | <b>Variance with<br/>Final Budget</b> |
| <b>Revenues</b>                                                  |                         |              |                                       |
| Taxes                                                            | \$ -                    | \$ -         | \$ -                                  |
| Total revenues                                                   | -                       | -            | -                                     |
| <b>Expenditures</b>                                              |                         |              |                                       |
| Current:                                                         |                         |              |                                       |
| Debt service:                                                    |                         |              |                                       |
| Principal                                                        | 430,000                 | 430,000      | (14,865)                              |
| Interest and fiscal charges                                      | 230,000                 | 260,000      | 36,670                                |
| Total expenditures                                               | 660,000                 | 690,000      | 37,743                                |
| <b>Excess (deficiency) of revenues over<br/>    expenditures</b> | (660,000)               | (690,000)    | 5,867                                 |
| <b>Other financing sources (uses)</b>                            |                         |              |                                       |
| Transfers in                                                     | 660,000                 | 660,000      | -                                     |
| Transfers out                                                    | -                       | -            | -                                     |
| Total other financing sources (uses)                             | 660,000                 | 660,000      | -                                     |
| <b>Net change in fund balance</b>                                | -                       | (30,000)     | 5,867                                 |
| <b>Fund balance, beginning of year</b>                           | 391,962                 | 391,962      | -                                     |
| <b>Fund balance, end of year</b>                                 | \$ 391,962              | \$ 361,962   | \$ 5,867                              |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - 2002 GENERAL OBLIGATION DEBT SERVICE FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                  | <u>Budgeted Amounts</u> |                   | <u>Actual</u>     | <u>Variance with<br/>Final Budget</u> |
|------------------------------------------------------------------|-------------------------|-------------------|-------------------|---------------------------------------|
|                                                                  | <u>Original</u>         | <u>Final</u>      |                   |                                       |
| <b>Revenues</b>                                                  |                         |                   |                   |                                       |
| Taxes                                                            | \$ -                    | \$ -              | \$ 188            | \$ 188                                |
| Total revenues                                                   | -                       | -                 | 188               | 188                                   |
| <b>Expenditures</b>                                              |                         |                   |                   |                                       |
| Debt service:                                                    |                         |                   |                   |                                       |
| Principal                                                        | -                       | -                 | -                 | -                                     |
| Total expenditures                                               | -                       | -                 | -                 | -                                     |
| <b>Excess (deficiency) of revenues over<br/>    expenditures</b> | -                       | -                 | 188               | 188                                   |
| <b>Other financing sources (uses)</b>                            |                         |                   |                   |                                       |
| Transfers in                                                     | -                       | -                 | -                 | -                                     |
| Transfers out                                                    | -                       | -                 | -                 | -                                     |
| Total other financing sources (uses)                             | -                       | -                 | -                 | -                                     |
| <b>Net change in fund balance</b>                                | -                       | -                 | 188               | 188                                   |
| <b>Fund balance, beginning of year</b>                           | 141,249                 | 141,249           | 141,249           | -                                     |
| <b>Fund balance, end of year</b>                                 | <u>\$ 141,249</u>       | <u>\$ 141,249</u> | <u>\$ 141,437</u> | <u>\$ 188</u>                         |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - 2003 GENERAL OBLIGATION DEBT SERVICE FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                  | <u>Budgeted Amounts</u> |                 | <u>Variance with<br/>Final Budget</u> |
|------------------------------------------------------------------|-------------------------|-----------------|---------------------------------------|
|                                                                  | <u>Original</u>         | <u>Final</u>    |                                       |
| <b>Revenues</b>                                                  |                         |                 |                                       |
| Taxes                                                            | \$ -                    | \$ -            | \$ 69                                 |
| Total revenues                                                   | -                       | -               | 69                                    |
| <b>Expenditures</b>                                              |                         |                 |                                       |
| Debt service:                                                    |                         |                 |                                       |
| Principal                                                        | -                       | -               | -                                     |
| Interest and fiscal charges                                      | -                       | -               | -                                     |
| Total expenditures                                               | -                       | -               | -                                     |
| <b>Excess (deficiency) of revenues over<br/>    expenditures</b> | -                       | -               | 69                                    |
| <b>Other financing sources (uses)</b>                            |                         |                 |                                       |
| Transfers in                                                     | -                       | -               | -                                     |
| Transfers out                                                    | -                       | -               | -                                     |
| Total other financing sources (uses)                             | -                       | -               | -                                     |
| <b>Net change in fund balance</b>                                | -                       | -               | 69                                    |
| <b>Fund balance, beginning of year</b>                           | 7,942                   | 7,942           | 7,942                                 |
| <b>Fund balance, end of year</b>                                 | <u>\$ 7,942</u>         | <u>\$ 7,942</u> | <u>\$ 8,011</u>                       |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - 2005 CAPITAL IMPROVEMENT NOTE DEBT SERVICE FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                  | <u>Budgeted Amounts</u> |                  | <u>Actual</u>    | <u>Variance with<br/>Final Budget</u> |
|------------------------------------------------------------------|-------------------------|------------------|------------------|---------------------------------------|
|                                                                  | <u>Original</u>         | <u>Final</u>     |                  |                                       |
| <b>Revenues</b>                                                  |                         |                  |                  |                                       |
| Taxes                                                            | \$ -                    | \$ -             | \$ -             | \$ -                                  |
| Total revenues                                                   | -                       | -                | -                | -                                     |
| <b>Expenditures</b>                                              |                         |                  |                  |                                       |
| Current:                                                         |                         |                  |                  |                                       |
| General government:                                              |                         |                  |                  |                                       |
| Nondepartmental                                                  | -                       | -                | -                | -                                     |
| Total expenditures                                               | -                       | -                | -                | -                                     |
| <b>Excess (deficiency) of revenues over<br/>    expenditures</b> | -                       | -                | -                | -                                     |
| <b>Other financing sources (uses)</b>                            |                         |                  |                  |                                       |
| Transfers in                                                     | -                       | -                | -                | -                                     |
| Transfers out                                                    | -                       | -                | -                | -                                     |
| Total other financing sources (uses)                             | -                       | -                | -                | -                                     |
| <b>Net change in fund balance</b>                                | -                       | -                | -                | -                                     |
| <b>Fund balance, beginning of year</b>                           | 12,135                  | 12,135           | 12,135           | -                                     |
| <b>Fund balance, end of year</b>                                 | <u>\$ 12,135</u>        | <u>\$ 12,135</u> | <u>\$ 12,135</u> | <u>\$ -</u>                           |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - 2010 GENERAL OBLIGATION DEBT SERVICE FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                              | <u>Budgeted Amounts</u> |                 | <u>Actual</u>   | <u>Variance with<br/>Final Budget</u> |
|--------------------------------------------------------------|-------------------------|-----------------|-----------------|---------------------------------------|
|                                                              | <u>Original</u>         | <u>Final</u>    |                 |                                       |
| <b>Revenues</b>                                              |                         |                 |                 |                                       |
| Taxes                                                        | \$ 346,322              | \$ 346,322      | \$ 348,597      | \$ 2,275                              |
| Total revenues                                               | <u>346,322</u>          | <u>346,322</u>  | <u>348,597</u>  | <u>2,275</u>                          |
| <b>Expenditures</b>                                          |                         |                 |                 |                                       |
| Current:                                                     |                         |                 |                 |                                       |
| General government:                                          |                         |                 |                 |                                       |
| Nondepartmental                                              | 1,322                   | 1,322           | -               | 1,322                                 |
| Debt service:                                                |                         |                 |                 |                                       |
| Principal                                                    | 290,000                 | 290,000         | 290,000         | -                                     |
| Interest and fiscal charges                                  | 55,000                  | 65,000          | 65,719          | (719)                                 |
| Total expenditures                                           | <u>346,322</u>          | <u>356,322</u>  | <u>355,719</u>  | <u>603</u>                            |
| <b>Excess (deficiency) of revenues over<br/>expenditures</b> | <u>-</u>                | <u>(10,000)</u> | <u>(7,122)</u>  | <u>2,878</u>                          |
| <b>Other financing sources (uses)</b>                        |                         |                 |                 |                                       |
| Transfers in                                                 | -                       | -               | -               | -                                     |
| Transfers out                                                | -                       | -               | -               | -                                     |
| Total other financing sources (uses)                         | <u>-</u>                | <u>-</u>        | <u>-</u>        | <u>-</u>                              |
| <b>Net change in fund balance</b>                            | <u>-</u>                | <u>(10,000)</u> | <u>(7,122)</u>  | <u>2,878</u>                          |
| <b>Fund balance, beginning of year</b>                       | 9,802                   | 9,802           | 9,802           | -                                     |
| <b>Fund balance, end of year</b>                             | <u>\$ 9,802</u>         | <u>\$ (198)</u> | <u>\$ 2,680</u> | <u>\$ 2,878</u>                       |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - GENERAL IMPROVEMENT FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                              | <b>Budgeted Amounts</b> |                     | <b>Actual</b>       | <b>Variance with<br/>Final Budget</b> |
|--------------------------------------------------------------|-------------------------|---------------------|---------------------|---------------------------------------|
|                                                              | <b>Original</b>         | <b>Final</b>        |                     |                                       |
| <b>Revenues</b>                                              |                         |                     |                     |                                       |
| Taxes                                                        | \$ 447,555              | \$ 447,555          | \$ 450,940          | \$ 3,385                              |
| Intergovernmental                                            | 1,601,828               | 3,852,747           | 54,377              | (3,798,370)                           |
| Miscellaneous                                                | -                       | -                   | 37,577              | 37,577                                |
| Total revenues                                               | <u>2,049,383</u>        | <u>4,300,302</u>    | <u>542,894</u>      | <u>(3,757,408)</u>                    |
| <b>Expenditures</b>                                          |                         |                     |                     |                                       |
| Current:                                                     |                         |                     |                     |                                       |
| Human services                                               | -                       | 29,919              | 29,919              | -                                     |
| Debt service:                                                |                         |                     |                     |                                       |
| Interest and fiscal charges                                  | -                       | -                   | -                   | -                                     |
| Capital improvements                                         | 4,968,139               | 5,147,320           | 2,256,494           | 2,890,826                             |
| Total expenditures                                           | <u>4,968,139</u>        | <u>5,177,239</u>    | <u>2,286,413</u>    | <u>2,890,826</u>                      |
| <b>Excess (deficiency) of revenues over<br/>expenditures</b> | <u>(2,918,756)</u>      | <u>(876,937)</u>    | <u>(1,743,519)</u>  | <u>(866,582)</u>                      |
| <b>Other financing sources (uses)</b>                        |                         |                     |                     |                                       |
| Proceed from issuance of debt                                | 2,250,000               | 1,692,000           | -                   | -                                     |
| Transfers in                                                 | 700,000                 | 1,426,795           | 1,426,795           | -                                     |
| Transfers out                                                | (31,244)                | (31,244)            | (31,248)            | (4)                                   |
| Total other financing sources (uses)                         | <u>2,918,756</u>        | <u>3,087,551</u>    | <u>1,395,547</u>    | <u>(4)</u>                            |
| <b>Net change in fund balance</b>                            | -                       | 2,210,614           | (347,972)           | (866,586)                             |
| <b>Fund balance, beginning of year</b>                       | 2,235,321               | 2,235,321           | 2,235,321           | -                                     |
| <b>Fund balance, end of year</b>                             | <u>\$ 2,235,321</u>     | <u>\$ 4,445,935</u> | <u>\$ 1,887,349</u> | <u>\$ (866,586)</u>                   |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - EQUIPMENT RENEWAL AND REPLACEMENT FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                  | <b>Budgeted Amounts</b> |              | <b>Actual</b> | <b>Variance with<br/>Final Budget</b> |
|------------------------------------------------------------------|-------------------------|--------------|---------------|---------------------------------------|
|                                                                  | <b>Original</b>         | <b>Final</b> |               |                                       |
| <b>Revenues</b>                                                  |                         |              |               |                                       |
| Taxes                                                            | \$ 234,434              | \$ 234,434   | \$ 236,200    | \$ 1,766                              |
| Miscellaneous                                                    | -                       | -            | 61,921        | 61,921                                |
| Total revenues                                                   | 234,434                 | 234,434      | 298,121       | 63,687                                |
| <b>Expenditures</b>                                              |                         |              |               |                                       |
| Capital improvements                                             | 407,000                 | 523,200      | 421,514       | 101,686                               |
| Total expenditures                                               | 407,000                 | 523,200      | 421,514       | 101,686                               |
| <b>Excess (deficiency) of revenues over<br/>    expenditures</b> | (172,566)               | (288,766)    | (123,393)     | 165,373                               |
| <b>Other financing sources (uses)</b>                            |                         |              |               |                                       |
| Transfers in                                                     | 90,000                  | 90,000       | 90,000        | -                                     |
| Transfers out                                                    | -                       | -            | -             | -                                     |
| Total other financing sources (uses)                             | 90,000                  | 90,000       | 90,000        | -                                     |
| <b>Net change in fund balance</b>                                | (82,566)                | (198,766)    | (33,393)      | 165,373                               |
| <b>Fund balance, beginning of year</b>                           | 797,563                 | 797,563      | 797,563       | -                                     |
| <b>Fund balance, end of year</b>                                 | \$ 714,997              | \$ 598,797   | \$ 764,170    | \$ 165,373                            |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - PUBLIC SAFETY VEHICLES AND EQUIPMENT**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                              | <b>Budgeted Amounts</b> |              | <b>Actual</b> | <b>Variance with<br/>Final Budget</b> |
|--------------------------------------------------------------|-------------------------|--------------|---------------|---------------------------------------|
|                                                              | <b>Original</b>         | <b>Final</b> |               |                                       |
| <b>Revenues</b>                                              |                         |              |               |                                       |
| Taxes                                                        | \$ 868,470              | \$ 868,470   | \$ 875,033    | \$ 6,563                              |
| Intergovernmental                                            | -                       | 173,555      | 21,650        | (151,905)                             |
| Miscellaneous                                                | -                       | -            | 44,733        | 44,733                                |
| Total revenues                                               | 868,470                 | 1,042,025    | 941,416       | (100,609)                             |
| <b>Expenditures</b>                                          |                         |              |               |                                       |
| Current:                                                     |                         |              |               |                                       |
| Public safety:                                               |                         |              |               |                                       |
| Police                                                       | -                       | 64,485       | 64,578        | 93                                    |
| Capital improvements                                         | 533,000                 | 1,268,406    | 680,010       | 588,396                               |
| Total expenditures                                           | 533,000                 | 1,332,891    | 744,588       | 588,489                               |
| <b>Excess (deficiency) of revenues over<br/>expenditures</b> | 335,470                 | (290,866)    | 196,828       | 487,694                               |
| <b>Other financing sources (uses)</b>                        |                         |              |               |                                       |
| Transfers in                                                 | -                       | 166,000      | 166,000       | -                                     |
| Transfers out                                                | (355,000)               | (355,000)    | (354,996)     | 4                                     |
| Total other financing sources (uses)                         | (355,000)               | (189,000)    | (188,996)     | 4                                     |
| <b>Net change in fund balance</b>                            | (19,530)                | (479,866)    | 7,832         | 487,698                               |
| <b>Fund balance, beginning of year</b>                       | 2,323,972               | 2,323,972    | 2,323,972     | -                                     |
| <b>Fund balance, end of year</b>                             | \$ 2,304,442            | \$ 1,844,106 | \$ 2,331,804  | \$ 487,698                            |



**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - TRANSPORTATION IMPROVEMENT FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                  | <b>Budgeted Amounts</b> |                   | <b>Actual</b>       | <b>Variance with<br/>Final Budget</b> |
|------------------------------------------------------------------|-------------------------|-------------------|---------------------|---------------------------------------|
|                                                                  | <b>Original</b>         | <b>Final</b>      |                     |                                       |
| <b>Revenues</b>                                                  |                         |                   |                     |                                       |
| Taxes                                                            | \$ 1,754,116            | \$ 1,754,116      | \$ 1,793,956        | \$ 39,840                             |
| Miscellaneous                                                    | -                       | -                 | 43,350              | 43,350                                |
| Total revenues                                                   | <u>1,754,116</u>        | <u>1,754,116</u>  | <u>1,837,306</u>    | <u>83,190</u>                         |
| <b>Expenditures</b>                                              |                         |                   |                     |                                       |
| Current:                                                         |                         |                   |                     |                                       |
| Public works                                                     | 193,023                 | 223,023           | 223,701             | (678)                                 |
| Capital improvements                                             | 1,217,000               | 1,438,600         | 301,165             | 1,137,435                             |
| Total expenditures                                               | <u>1,410,023</u>        | <u>1,661,623</u>  | <u>524,866</u>      | <u>1,136,757</u>                      |
| <b>Excess (deficiency) of revenues over<br/>    expenditures</b> | <u>344,093</u>          | <u>92,493</u>     | <u>1,312,440</u>    | <u>1,219,947</u>                      |
| <b>Other financing sources (uses)</b>                            |                         |                   |                     |                                       |
| Transfers in                                                     | -                       | -                 | -                   | -                                     |
| Transfers out                                                    | (749,953)               | (765,748)         | (765,747)           | 1                                     |
| Total other financing sources (uses)                             | <u>(749,953)</u>        | <u>(765,748)</u>  | <u>(765,747)</u>    | <u>1</u>                              |
| <b>Net change in fund balance</b>                                | <u>(405,860)</u>        | <u>(673,255)</u>  | <u>546,693</u>      | <u>1,219,948</u>                      |
| <b>Fund balance, beginning of year</b>                           | 1,600,239               | 1,600,239         | 1,600,239           | -                                     |
| <b>Fund balance, end of year</b>                                 | <u>\$ 1,194,379</u>     | <u>\$ 926,984</u> | <u>\$ 2,146,932</u> | <u>\$ 1,219,948</u>                   |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - RECREATIONAL FACILITY IMPACT FEE FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                  | <u>Budgeted Amounts</u> |                   | <u>Actual</u>       | <u>Variance with<br/>Final Budget</u> |
|------------------------------------------------------------------|-------------------------|-------------------|---------------------|---------------------------------------|
|                                                                  | <u>Original</u>         | <u>Final</u>      |                     |                                       |
| <b>Revenues</b>                                                  |                         |                   |                     |                                       |
| Miscellaneous                                                    | \$ 100,000              | \$ 100,000        | \$ 710,779          | \$ 610,779                            |
| Total revenues                                                   | <u>100,000</u>          | <u>100,000</u>    | <u>710,779</u>      | <u>610,779</u>                        |
| <b>Expenditures</b>                                              |                         |                   |                     |                                       |
| Current:                                                         |                         |                   |                     |                                       |
| Non-departmental                                                 | 100,000                 | 100,000           | -                   | 100,000                               |
| Total expenditures                                               | <u>100,000</u>          | <u>100,000</u>    | <u>-</u>            | <u>100,000</u>                        |
| <b>Excess (deficiency) of revenues over<br/>    expenditures</b> | <u>-</u>                | <u>-</u>          | <u>710,779</u>      | <u>710,779</u>                        |
| <b>Net change in fund balance</b>                                | <u>-</u>                | <u>-</u>          | <u>710,779</u>      | <u>710,779</u>                        |
| <b>Fund balance, beginning of year</b>                           | 817,949                 | 817,949           | 817,949             | -                                     |
| <b>Fund balance, end of year</b>                                 | <u>\$ 817,949</u>       | <u>\$ 817,949</u> | <u>\$ 1,528,728</u> | <u>\$ 710,779</u>                     |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - LOCAL ROADS IMPACT FEE FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                      | <u>Budgeted Amounts</u> |                     | <u>Actual</u>       | <u>Variance with<br/>Final Budget</u> |
|----------------------------------------------------------------------|-------------------------|---------------------|---------------------|---------------------------------------|
|                                                                      | <u>Original</u>         | <u>Final</u>        |                     |                                       |
| <b>Revenues</b>                                                      |                         |                     |                     |                                       |
| Miscellaneous                                                        | \$ 50,000               | \$ 50,000           | \$ 325,073          | \$ 275,073                            |
| Total revenues                                                       | 50,000                  | 50,000              | 325,073             | 275,073                               |
| <b>Expenditures</b>                                                  |                         |                     |                     |                                       |
| Current:                                                             |                         |                     |                     |                                       |
| Non-departmental                                                     | 50,000                  | 50,000              | -                   | 50,000                                |
| Total expenditures                                                   | 50,000                  | 50,000              | -                   | 50,000                                |
| <b>Excess (deficiency) of revenues over<br/>(under) expenditures</b> | -                       | -                   | 325,073             | 325,073                               |
| <b>Net change in fund balance</b>                                    | -                       | -                   | 325,073             | 325,073                               |
| <b>Fund balance, beginning of year</b>                               | 1,838,478               | 1,838,478           | 1,838,478           | -                                     |
| <b>Fund balance, end of year</b>                                     | <u>\$ 1,838,478</u>     | <u>\$ 1,838,478</u> | <u>\$ 2,163,551</u> | <u>\$ 325,073</u>                     |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - STORMWATER DRAINAGE IMPACT FEE FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                  | <u>Budgeted Amounts</u> |                   | <u>Actual</u>     | <u>Variance with<br/>Final Budget</u> |
|------------------------------------------------------------------|-------------------------|-------------------|-------------------|---------------------------------------|
|                                                                  | <u>Original</u>         | <u>Final</u>      |                   |                                       |
| <b>Revenues</b>                                                  |                         |                   |                   |                                       |
| Miscellaneous                                                    | \$ 50,000               | \$ 50,000         | \$ 12,811         | \$ (37,189)                           |
| Total revenues                                                   | 50,000                  | 50,000            | 12,811            | (37,189)                              |
| <b>Expenditures</b>                                              |                         |                   |                   |                                       |
| Current:                                                         |                         |                   |                   |                                       |
| Non-departmental                                                 | 50,000                  | 50,000            | -                 | 50,000                                |
| Total expenditures                                               | 50,000                  | 50,000            | -                 | 50,000                                |
| <b>Excess (deficiency) of revenues over<br/>    expenditures</b> | -                       | -                 | 12,811            | 12,811                                |
| <b>Other financing sources (uses)</b>                            |                         |                   |                   |                                       |
| Transfers in                                                     | -                       | -                 | -                 | -                                     |
| Transfers out                                                    | -                       | -                 | -                 | -                                     |
| Total other financing sources (uses)                             | -                       | -                 | -                 | -                                     |
| <b>Net change in fund balance</b>                                | -                       | -                 | 12,811            | 12,811                                |
| <b>Fund balance, beginning of year</b>                           | 581,291                 | 581,291           | 581,291           | -                                     |
| <b>Fund balance, end of year</b>                                 | <u>\$ 581,291</u>       | <u>\$ 581,291</u> | <u>\$ 594,102</u> | <u>\$ 12,811</u>                      |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - FACILITIES RENEWAL AND REPLACEMENT FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                              | <b>Budgeted Amounts</b> |                     | <b>Actual</b>     | <b>Variance with<br/>Final Budget</b> |
|--------------------------------------------------------------|-------------------------|---------------------|-------------------|---------------------------------------|
|                                                              | <b>Original</b>         | <b>Final</b>        |                   |                                       |
| <b>Revenues</b>                                              |                         |                     |                   |                                       |
| Taxes                                                        | \$ 879,126              | \$ 879,126          | \$ 885,765        | \$ 6,639                              |
| Intergovernmental                                            | -                       | 18,700              | -                 | (18,700)                              |
| Miscellaneous                                                | -                       | -                   | 95,269            | 95,269                                |
| Total revenues                                               | <u>879,126</u>          | <u>897,826</u>      | <u>981,034</u>    | <u>83,208</u>                         |
| <b>Expenditures</b>                                          |                         |                     |                   |                                       |
| Current:                                                     |                         |                     |                   |                                       |
| Public safety:                                               |                         |                     |                   |                                       |
| Fire services                                                | 17,500                  | 54,350              | 48,103            | 6,247                                 |
| Total public safety                                          | <u>17,500</u>           | <u>54,350</u>       | <u>48,103</u>     | <u>6,247</u>                          |
| Public works                                                 | 12,000                  | 1,091               | -                 | 1,091                                 |
| Culture and recreation                                       | 232,500                 | 227,783             | 103,953           | 123,830                               |
| Capital improvements                                         | 617,126                 | 1,746,626           | 1,193,836         | 552,790                               |
| Total expenditures                                           | <u>879,126</u>          | <u>2,029,850</u>    | <u>1,345,892</u>  | <u>683,958</u>                        |
| <b>Excess (deficiency) of revenues over<br/>expenditures</b> | <u>-</u>                | <u>(1,132,024)</u>  | <u>(364,858)</u>  | <u>767,166</u>                        |
| <b>Other financing sources (uses)</b>                        |                         |                     |                   |                                       |
| Transfers in                                                 | -                       | 773,815             | 773,815           | -                                     |
| Transfers out                                                | -                       | -                   | -                 | -                                     |
| Total other financing sources (uses)                         | <u>-</u>                | <u>773,815</u>      | <u>773,815</u>    | <u>-</u>                              |
| <b>Net change in fund balance</b>                            | <u>-</u>                | <u>(358,209)</u>    | <u>408,957</u>    | <u>767,166</u>                        |
| <b>Fund balance, beginning of year</b>                       | 59,612                  | 59,612              | 59,612            | -                                     |
| <b>Fund balance, end of year</b>                             | <u>\$ 59,612</u>        | <u>\$ (298,597)</u> | <u>\$ 468,569</u> | <u>\$ 767,166</u>                     |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - POLICE IMPACT FEES FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                  | <b>Budgeted Amounts</b> |              | <b>Variance with<br/>Final Budget</b> |
|------------------------------------------------------------------|-------------------------|--------------|---------------------------------------|
|                                                                  | <b>Original</b>         | <b>Final</b> |                                       |
| <b>Revenues</b>                                                  |                         |              |                                       |
| Miscellaneous                                                    | \$ -                    | \$ -         | \$ 73,492                             |
| Total revenues                                                   | -                       | -            | 73,492                                |
| <b>Expenditures</b>                                              |                         |              |                                       |
| Current:                                                         |                         |              |                                       |
| Public safety:                                                   |                         |              |                                       |
| Police                                                           | -                       | -            | -                                     |
| Total expenditures                                               | -                       | -            | -                                     |
| <b>Excess (deficiency) of revenues over<br/>    expenditures</b> | -                       | -            | 73,492                                |
| <b>Other financing sources (uses)</b>                            |                         |              |                                       |
| Transfers in                                                     | -                       | -            | -                                     |
| Transfers out                                                    | -                       | -            | -                                     |
| Total other financing sources (uses)                             | -                       | -            | -                                     |
| <b>Net change in fund balance</b>                                | -                       | -            | 73,492                                |
| <b>Fund balance, beginning of year</b>                           | 33,345                  | 33,345       | 33,345                                |
| <b>Fund balance, end of year</b>                                 | \$ 33,345               | \$ 33,345    | \$ 106,837                            |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - FIRE IMPACT FEES FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                                  | <u>Budgeted Amounts</u> |                  | <u>Variance with<br/>Final Budget</u> |
|------------------------------------------------------------------|-------------------------|------------------|---------------------------------------|
|                                                                  | <u>Original</u>         | <u>Final</u>     |                                       |
| <b>Revenues</b>                                                  |                         |                  |                                       |
| Miscellaneous                                                    | \$ -                    | \$ -             | \$ 91,641                             |
| Total revenues                                                   | -                       | -                | 91,641                                |
| <b>Expenditures</b>                                              |                         |                  |                                       |
| Current:                                                         |                         |                  |                                       |
| Public safety:                                                   |                         |                  |                                       |
| Fire services                                                    | -                       | -                | -                                     |
| Total expenditures                                               | -                       | -                | -                                     |
| <b>Excess (deficiency) of revenues over<br/>    expenditures</b> | -                       | -                | 91,641                                |
| <b>Other financing sources (uses)</b>                            |                         |                  |                                       |
| Transfers in                                                     | -                       | -                | -                                     |
| Transfers out                                                    | -                       | -                | -                                     |
| Total other financing sources (uses)                             | -                       | -                | -                                     |
| <b>Net change in fund balance</b>                                | -                       | -                | 91,641                                |
| <b>Fund balance, beginning of year</b>                           | 41,402                  | 41,402           | 41,402                                |
| <b>Fund balance, end of year</b>                                 | <u>\$ 41,402</u>        | <u>\$ 41,402</u> | <u>\$ 133,043</u>                     |

**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE**  
**BUDGET AND ACTUAL - LEISURE SERVICES FUND**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                              | <u>Budgeted Amounts</u> |                   | <u>Actual</u>     | <u>Variance with<br/>Final Budget</u> |
|--------------------------------------------------------------|-------------------------|-------------------|-------------------|---------------------------------------|
|                                                              | <u>Original</u>         | <u>Final</u>      |                   |                                       |
| <b>Revenues</b>                                              |                         |                   |                   |                                       |
| Taxes                                                        | \$ 554,116              | \$ 554,116        | \$ 558,311        | \$ 4,195                              |
| Intergovernmental                                            | 400,000                 | 400,000           | 435,445           | 35,445                                |
| Miscellaneous                                                | -                       | -                 | 10,331            | 10,331                                |
| Total revenues                                               | <u>954,116</u>          | <u>954,116</u>    | <u>1,004,087</u>  | <u>49,971</u>                         |
| <b>Expenditures</b>                                          |                         |                   |                   |                                       |
| Capital improvements                                         | <u>954,116</u>          | <u>954,116</u>    | <u>891,499</u>    | <u>62,617</u>                         |
| Total expenditures                                           | <u>954,116</u>          | <u>954,116</u>    | <u>891,499</u>    | <u>62,617</u>                         |
| <b>Excess (deficiency) of revenues over<br/>expenditures</b> | <u>-</u>                | <u>-</u>          | <u>112,588</u>    | <u>112,588</u>                        |
| <b>Other financing sources (uses)</b>                        |                         |                   |                   |                                       |
| Transfers in                                                 | -                       | -                 | -                 | -                                     |
| Transfers out                                                | -                       | -                 | -                 | -                                     |
| Total other financing sources (uses)                         | <u>-</u>                | <u>-</u>          | <u>-</u>          | <u>-</u>                              |
| <b>Net change in fund balance</b>                            | <u>-</u>                | <u>-</u>          | <u>112,588</u>    | <u>112,588</u>                        |
| <b>Fund balance, beginning of year</b>                       | <u>497,790</u>          | <u>497,790</u>    | <u>497,790</u>    | <u>-</u>                              |
| <b>Fund balance, end of year</b>                             | <u>\$ 497,790</u>       | <u>\$ 497,790</u> | <u>\$ 610,378</u> | <u>\$ 112,588</u>                     |



Financial supporting schedules are presented to provide greater detailed information than reported in the preceding financial statements. This information, in many cases, has been spread throughout the report and is brought together here for greater clarity. Financial supporting schedules are not necessary for fair presentation in conformity with generally accepted accounting principles.

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**CITY OF ORMOND BEACH, FLORIDA  
SCHEDULE FOR WATER AND SEWER BOND COVENANTS  
FOR THE YEAR ENDED SEPTEMBER 30, 2025**

|                                                               |                      |
|---------------------------------------------------------------|----------------------|
| Operating revenues                                            | \$ 24,291,144        |
| Less: Operating expenses                                      | <u>14,756,327</u>    |
| Net revenues                                                  | 9,534,817            |
| Impact fees                                                   | 2,243,143            |
| Net revenues plus impact fees                                 | <u>\$ 11,777,960</u> |
| Maximum annual debt service                                   | <u>\$ 4,862,625</u>  |
| Ratio of net revenues plus impact fees to annual debt service | <u>1.96</u>          |
| Ratio of net revenues to annual debt service                  | <u>2.42</u>          |

This schedule is prepared in accordance with Water and Sewer Bond Issue covenant requirements.

In accordance with the requirements of Rule 15c2-12 (the Rule) promulgated by the Securities and Exchange Commission (the Commission), the City has agreed in Resolution #2000-201 to provide or cause to be provided, to each nationally recognized municipal securities information repository (NRMSIR) and to the appropriate state information depository (SID), if any, designated by the State of Florida, the above annual financial information and operating data.

Further information relating to the City's utility system and its customers can be found in the statistical section.

## Statistical Section

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## Statistical Section

This part of the City of Ormond Beach, Florida's comprehensive annual financial report presents detailed information as a context for understanding what the information in the financial statements, note disclosures, and required supplementary information says about the City's overall financial health.

| <b><u>Contents</u></b>                                                                                                                                                                                                          | <b><u>Page</u></b> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| <b>Financial Trends</b> .....                                                                                                                                                                                                   | <b>132</b>         |
| These schedules contain trend information to help the reader understand how the City's financial performance and well-being have changed over time.                                                                             |                    |
| <b>Revenue Capacity</b> .....                                                                                                                                                                                                   | <b>139</b>         |
| These schedules contain information to help the reader assess the factors affecting the City's ability to generate its property and sales taxes.                                                                                |                    |
| <b>Debt Capacity</b> .....                                                                                                                                                                                                      | <b>149</b>         |
| These schedules present information to help the reader assess the affordability of the City's current levels of outstanding debt and the City's ability to issue additional debt in the future.                                 |                    |
| <b>Demographic and Economic Information</b> .....                                                                                                                                                                               | <b>156</b>         |
| These schedules offer demographic and economic indicators to help the reader understand the environment within which the City's financial activities take place and help make comparisons over time and with other governments. |                    |
| <b>Operating Information</b> .....                                                                                                                                                                                              | <b>158</b>         |
| These schedules contain information about the City's operations and resources to help the reader understand how the City's financial information relates to the services the City provides and the activities it performs.      |                    |

Sources: Unless otherwise noted, the information in these schedules is derived from the comprehensive annual financial reports for the relevant year.

**SCHEDULE 1**  
**CITY OF ORMOND BEACH, FLORIDA**  
**NET POSITION BY COMPONENT**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

|                                             | 2025       | 2024       | 2023       | 2022       | 2021       | 2020       | 2019       | 2018       | 2017       | 2016       |
|---------------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Governmental activities                     |            |            |            |            |            |            |            |            |            |            |
| Net investment in capital assets            | \$ 121,511 | \$ 113,280 | \$ 113,809 | \$ 114,203 | \$ 112,857 | \$ 113,490 | \$ 114,055 | \$ 111,269 | \$ 111,339 | \$ 115,828 |
| Restricted for:                             |            |            |            |            |            |            |            |            |            |            |
| Debt service                                | 127        | 132        | 128        | 213        | 198        | 196        | 206        | 196        | 201        | 190        |
| Construction                                | 5,826      | 4,492      | 2,283      | 2,146      | 1,931      | 1,629      | 2,167      | 1,421      | 1,680      | 1,443      |
| Renewal and replacement                     | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          |
| Redevelopment trust                         | 5,970      | 6,989      | 5,865      | 4,318      | 2,985      | 1,982      | 2,056      | 1,797      | 1,182      | 710        |
| For other purposes                          | 11,793     | 10,937     | 12,901     | 12,235     | 10,743     | 10,632     | 10,397     | 10,051     | 8,374      | 7,129      |
| Unrestricted                                | (8,076)    | (6,973)    | (10,701)   | (8,949)    | (8,620)    | (13,955)   | (18,006)   | (19,204)   | (18,927)   | (18,616)   |
| Total governmental activities net position  | \$ 137,151 | \$ 128,857 | \$ 124,285 | \$ 124,166 | \$ 120,094 | \$ 113,974 | \$ 110,875 | \$ 105,530 | \$ 103,849 | \$ 106,684 |
| Business-type activities                    |            |            |            |            |            |            |            |            |            |            |
| Net investment in capital assets            | \$ 75,745  | \$ 53,439  | \$ 65,263  | \$ 65,727  | \$ 65,466  | \$ 65,247  | \$ 61,880  | \$ 63,073  | \$ 63,147  | \$ 63,102  |
| Restricted                                  |            |            |            |            |            |            |            |            |            |            |
| Debt service                                | 3,874      | 3,874      | 3,753      | 4,043      | 7,133      | 2,972      | 2,958      | 2,524      | 2,215      | 1,959      |
| Construction                                | 9,613      | 12,221     | 10,137     | 8,919      | 7,514      | 9,623      | 9,673      | 10,963     | 9,722      | 9,528      |
| Renewal and replacement                     | 400        | 400        | 400        | 400        | 400        | 400        | 400        | 400        | 400        | 400        |
| Redevelopment trust                         | -          | -          | -          | -          | -          | -          | -          | -          | -          | -          |
| For other purposes                          | -          | -          | -          | -          | -          | -          | -          | -          | -          | 101        |
| Unrestricted                                | 5,930      | 21,268     | 7,070      | 11,102     | 3,520      | 5,970      | 8,899      | 5,696      | 6,676      | 8,036      |
| Total business-type activities net position | \$ 95,562  | \$ 91,202  | \$ 86,623  | \$ 90,191  | \$ 84,033  | \$ 84,212  | \$ 83,810  | \$ 82,656  | \$ 82,160  | \$ 83,126  |
| Primary government                          |            |            |            |            |            |            |            |            |            |            |
| Net investment in capital assets            | \$ 197,256 | \$ 166,719 | \$ 179,072 | \$ 179,930 | \$ 178,323 | \$ 178,737 | \$ 175,935 | \$ 174,342 | \$ 174,486 | \$ 178,930 |
| Restricted                                  |            |            |            |            |            |            |            |            |            |            |
| Debt service                                | 4,001      | 4,006      | 3,881      | 4,256      | 7,331      | 3,168      | 3,164      | 2,720      | 2,416      | 2,149      |
| Construction                                | 15,439     | 16,713     | 12,420     | 11,065     | 9,445      | 11,252     | 11,840     | 12,384     | 11,402     | 10,971     |
| Renewal and replacement                     | 400        | 400        | 400        | 400        | 400        | 400        | 400        | 400        | 400        | 400        |
| Redevelopment trust                         | 5,970      | 6,989      | 5,865      | 4,318      | 2,985      | 1,982      | 2,056      | 1,797      | 1,182      | 710        |
| For other purposes                          | 11,793     | 10,937     | 12,901     | 12,235     | 10,743     | 10,632     | 10,397     | 10,051     | 8,374      | 7,230      |
| Unrestricted                                | (2,146)    | 14,295     | (3,631)    | 2,153      | (5,100)    | (7,985)    | (9,107)    | (13,508)   | (12,251)   | (10,580)   |
| Total primary government net position       | \$ 232,713 | \$ 220,059 | \$ 210,908 |            | \$ 204,127 | \$ 198,186 | \$ 194,685 | \$ 188,186 | \$ 186,009 | \$ 189,810 |

**Notes:** In 2015, the City implemented GASB Statement Number 68. In 2017, the City implemented GASB Statement Number 75.

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 2**  
**CITY OF ORMOND BEACH, FLORIDA**  
**CHANGES IN NET POSITION**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

|                                                 | 2025      | 2024      | 2023      | 2022      | 2021      | 2020      | 2019      | 2018      | 2017      | 2016      |
|-------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Expenses</b>                                 |           |           |           |           |           |           |           |           |           |           |
| Governmental activities:                        |           |           |           |           |           |           |           |           |           |           |
| General government                              | \$ 8,446  | \$ 8,198  | \$ 7,557  | \$ 5,987  | \$ 4,840  | \$ 5,162  | \$ 5,579  | \$ 5,255  | \$ 13,754 | \$ 5,971  |
| Public safety                                   | 24,452    | 22,886    | 22,405    | 19,168    | 15,790    | 17,035    | 17,277    | 16,931    | 15,431    | 15,412    |
| Public works                                    | 9,025     | 9,186     | 10,101    | 9,245     | 7,934     | 8,587     | 8,276     | 8,757     | 4,009     | 7,666     |
| Human services                                  | 120       | 111       | 112       | 132       | 162       | 117       | 170       | 612       | 200       | 90        |
| Culture and recreation                          | 9,971     | 9,748     | 9,053     | 8,273     | 7,755     | 8,101     | 7,970     | 8,059     | 6,281     | 7,820     |
| Economic development                            | (7)       | 64        | 398       | 351       | 244       | 386       | 309       | 337       | 288       | 345       |
| Interest/Fiscal charges on long-term debt       | 287       | 153       | 124       | 145       | 172       | 163       | 190       | 217       | 231       | 256       |
| Total governmental activities expenses          | 52,294    | 50,346    | 49,750    | 43,301    | 36,897    | 39,551    | 39,771    | 40,168    | 40,194    | 37,560    |
| Business-type activities:                       |           |           |           |           |           |           |           |           |           |           |
| Water and sewer                                 | 23,416    | 22,495    | 21,665    | 19,188    | 19,108    | 19,234    | 19,558    | 18,768    | 18,837    | 17,814    |
| Solid waste                                     | 13,658    | 9,909     | 12,516    | 8,630     | 8,177     | 8,230     | 7,676     | 9,281     | 13,870    | 6,880     |
| Total business-type activities expenses         | 37,074    | 32,404    | 34,181    | 27,818    | 27,285    | 27,464    | 27,234    | 28,049    | 32,707    | 24,694    |
| Total primary government expenses               | \$ 89,368 | \$ 82,750 | \$ 83,931 | \$ 71,119 | \$ 64,182 | \$ 67,015 | \$ 67,005 | \$ 68,217 | \$ 72,901 | \$ 62,254 |
| <b>Program Revenues</b>                         |           |           |           |           |           |           |           |           |           |           |
| Governmental activities:                        |           |           |           |           |           |           |           |           |           |           |
| Charges for services:                           |           |           |           |           |           |           |           |           |           |           |
| General government                              | \$ 1      | \$ 3      | \$ 137    | \$ 134    | \$ 134    | \$ 134    | \$ 134    | \$ 134    | \$ 134    | \$ 134    |
| Public safety                                   | 359       | 314       | 178       | 124       | 153       | 125       | 154       | 167       | 152       | 172       |
| Public works                                    | 5,561     | 5,295     | 4,667     | 4,835     | 4,830     | 4,612     | 4,387     | 4,847     | 4,778     | 4,610     |
| Culture and recreation                          | 541       | 382       | 493       | 660       | 448       | 432       | 732       | 814       | 838       | 668       |
| Operating grants and contributions              | 2,991     | 2,647     | 1,694     | 1,824     | 1,852     | 2,975     | 1,913     | 2,272     | 2,083     | 1,639     |
| Capital grants and contributions                | 3,984     | 2,114     | 2,356     | 3,146     | 1,233     | 1,840     | 5,074     | 1,279     | 1,312     | 5,155     |
| Total governmental activities program revenues  | 13,437    | 10,755    | 9,525     | 10,723    | 8,650     | 10,118    | 12,394    | 9,513     | 9,297     | 12,378    |
| Business-type activities:                       |           |           |           |           |           |           |           |           |           |           |
| Charges for services:                           |           |           |           |           |           |           |           |           |           |           |
| Water and sewer                                 | 24,295    | 23,097    | 21,398    | 20,963    | 19,922    | 20,016    | 20,538    | 19,698    | 18,903    | 18,130    |
| Solid waste                                     | 12,207    | 11,655    | 8,770     | 8,411     | 7,534     | 7,525     | 7,347     | 6,973     | 6,743     | 6,288     |
| Operating grants and contributions              | 6,348     | 3,920     | 2,325     | 6,560     | 1,621     | 2,064     | 2,192     | 3,903     | 8,243     | 1,457     |
| Capital grants and contributions                | 2,248     | 2,006     | 1,202     | 1,575     | 1,397     | 1,414     | 1,008     | 884       | 1,206     | 1,287     |
| Total business-type activities program revenues | 45,098    | 40,678    | 33,695    | 37,509    | 30,474    | 31,019    | 31,085    | 31,458    | 35,095    | 27,162    |
| Total primary government program revenues       | \$ 58,535 | \$ 51,433 | \$ 43,220 | \$ 48,232 | \$ 39,124 | \$ 41,137 | \$ 43,479 | \$ 40,971 | \$ 44,392 | \$ 39,540 |

**SCHEDULE 2**  
**CITY OF ORMOND BEACH, FLORIDA**  
**CHANGES IN NET POSITION**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*  
(Continued)

|                                                           | 2025               | 2024               | 2023               | 2022               | 2021               | 2020               | 2019               | 2018               | 2017               | 2016               |
|-----------------------------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>Net (Expense) Revenue</b>                              |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
| Governmental activities                                   | \$ (38,857)        | \$ (39,591)        | \$ (40,225)        | \$ (32,578)        | \$ (28,247)        | \$ (29,433)        | \$ (27,377)        | \$ (30,655)        | \$ (30,897)        | \$ (25,182)        |
| Business-type activities                                  | 8,024              | 8,274              | (486)              | 9,691              | 3,189              | 3,555              | 3,851              | 3,409              | 2,388              | 2,468              |
| Total primary government net expense                      | <u>\$ (30,833)</u> | <u>\$ (31,317)</u> | <u>\$ (40,711)</u> | <u>\$ (22,887)</u> | <u>\$ (25,058)</u> | <u>\$ (25,878)</u> | <u>\$ (23,526)</u> | <u>\$ (27,246)</u> | <u>\$ (28,509)</u> | <u>\$ (22,714)</u> |
| <b>General Revenues and Other Changes in Net Position</b> |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
| Governmental activities:                                  |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
| Taxes                                                     |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
| Property taxes                                            | \$ 22,143          | \$ 19,699          | \$ 17,027          | \$ 16,088          | \$ 15,235          | \$ 14,948          | \$ 14,676          | \$ 14,248          | \$ 13,198          | \$ 12,575          |
| Sales taxes                                               | 2,889              | 2,934              | 3,076              | 2,931              | 2,665              | 2,307              | 2,366              | 2,349              | 2,230              | 2,138              |
| Insurance premium taxes                                   | 1,195              | 1,133              | 1,011              | 805                | 761                | 671                | 713                | 674                | 649                | 672                |
| Franchise and utility taxes                               | 11,488             | 11,041             | 10,857             | 9,777              | 8,932              | 8,640              | 8,833              | 8,825              | 8,450              | 8,474              |
| Unrestricted intergovernmental revenue                    | 2,144              | 2,122              | 2,216              | 2,099              | 1,823              | 1,472              | 1,578              | 1,559              | 1,450              | 1,388              |
| Interest revenue                                          | 1,048              | 1,295              | 937                | 137                | 5                  | 165                | 372                | 177                | 67                 | 46                 |
| Miscellaneous                                             | 1,715              | 1,337              | 1,515              | 1,172              | 1,181              | 972                | 1,105              | 1,440              | 743                | 1,022              |
| Transfers                                                 | 4,531              | 4,601              | 3,707              | 3,641              | 3,392              | 3,357              | 3,078              | 3,064              | 3,034              | 2,846              |
| Total governmental activities                             | <u>47,153</u>      | <u>44,162</u>      | <u>40,346</u>      | <u>36,650</u>      | <u>33,994</u>      | <u>32,532</u>      | <u>32,721</u>      | <u>32,336</u>      | <u>29,821</u>      | <u>29,161</u>      |
| Business-type activities:                                 |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
| Interest revenue                                          | 872                | 905                | 592                | 71                 | 4                  | 151                | 340                | 212                | 71                 | 100                |
| Miscellaneous                                             | (4)                | 1                  | 33                 | 36                 | 21                 | 52                 | 40                 | (61)               | 9                  | 21                 |
| Transfers                                                 | (4,532)            | (4,601)            | (3,707)            | (3,641)            | (3,393)            | (3,357)            | (3,077)            | (3,064)            | (3,034)            | (2,846)            |
| Total business-type activities                            | <u>(3,664)</u>     | <u>(3,695)</u>     | <u>(3,082)</u>     | <u>(3,534)</u>     | <u>(3,368)</u>     | <u>(3,154)</u>     | <u>(2,697)</u>     | <u>(2,913)</u>     | <u>(2,954)</u>     | <u>(2,725)</u>     |
| Total primary government                                  | <u>\$ 43,489</u>   | <u>\$ 40,467</u>   | <u>\$ 37,264</u>   | <u>\$ 33,116</u>   | <u>\$ 30,626</u>   | <u>\$ 29,378</u>   | <u>\$ 30,024</u>   | <u>\$ 29,423</u>   | <u>\$ 26,867</u>   | <u>\$ 26,436</u>   |
| <b>Change in Net Position</b>                             |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
| Governmental activities                                   | \$ 8,296           | \$ 4,571           | \$ 121             | \$ 4,072           | \$ 5,747           | \$ 3,099           | \$ 5,344           | \$ 1,681           | \$ (1,076)         | \$ 3,979           |
| Business-type activities                                  | 4,360              | 4,579              | (3,568)            | 6,157              | (179)              | 401                | 1,154              | 496                | (566)              | (257)              |
| Total primary government                                  | <u>\$ 12,656</u>   | <u>\$ 9,150</u>    | <u>\$ (3,447)</u>  | <u>\$ 10,229</u>   | <u>\$ 5,568</u>    | <u>\$ 3,500</u>    | <u>\$ 6,498</u>    | <u>\$ 2,177</u>    | <u>\$ (1,642)</u>  | <u>\$ 3,722</u>    |

**Note:** The City began to report accrual information when it implemented GASB Statement 34 in fiscal year 2002.

**Source:** City of Ormond Beach Finance Department



**SCHEDULE 3**  
**CITY OF ORMOND BEACH, FLORIDA**  
**FUND BALANCES, GOVERNMENTAL FUNDS**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

|                                | <u>2025</u>      | <u>2024</u>      | <u>2023</u>      | <u>2022</u>      | <u>2021</u>      | <u>2020</u>      | <u>2019</u>      | <u>2018</u>      | <u>2017</u>      | <u>2016</u>      |
|--------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| General Fund                   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Nonspendable                   | \$ 1,753         | \$ 1,187         | \$ 4,013         | \$ 1,738         | \$ 1,064         | \$ 773           | \$ 2,043         | \$ 2,069         | \$ 684           | \$ 652           |
| Restricted                     | 1,397            | 880              | 67               | 67               | 67               | 67               | 67               | 67               | 67               | 67               |
| Committed                      | -                | -                | -                | -                | -                | -                | -                | -                | -                | -                |
| Assigned                       | 1,485            | 1,965            | 786              | 2,857            | 4,182            | 4,146            | 512              | 944              | 502              | 961              |
| Unassigned                     | 8,154            | 9,930            | 8,794            | 8,983            | 8,982            | 7,788            | 8,874            | 6,976            | 8,414            | 7,433            |
| Total general fund             | <u>\$ 12,789</u> | <u>\$ 13,962</u> | <u>\$ 13,660</u> | <u>\$ 13,645</u> | <u>\$ 14,295</u> | <u>\$ 12,774</u> | <u>\$ 11,496</u> | <u>\$ 10,056</u> | <u>\$ 9,667</u>  | <u>\$ 9,113</u>  |
| Other Governmental Funds       |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Nonspendable                   | \$ 1,642         | \$ 1,642         | \$ 0             | \$ 0             | \$ 0             | \$ 1,156         | \$ -             | \$ -             | \$ 381           | \$ -             |
| Restricted                     | 22,344           | 22,509           | 21,130           | 18,871           | 15,825           | 14,415           | 14,799           | 13,449           | 11,370           | 9,405            |
| Committed                      | 552              | 526              | 553              | 440              | 390              | 378              | 374              | 349              | 328              | 295              |
| Assigned                       | 3,576            | 3,572            | 2,874            | 2,128            | 1,760            | 2,116            | 2,969            | 3,434            | 2,790            | 2,050            |
| Unassigned                     | (989)            | (827)            | (1,065)          | (1,073)          | (672)            | (488)            | (468)            | (329)            | (472)            | (511)            |
| Total other governmental funds | <u>\$ 27,125</u> | <u>\$ 27,422</u> | <u>\$ 23,492</u> | <u>\$ 20,366</u> | <u>\$ 17,303</u> | <u>\$ 17,577</u> | <u>\$ 17,674</u> | <u>\$ 16,903</u> | <u>\$ 14,397</u> | <u>\$ 11,239</u> |
| All Governmental Funds         |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Nonspendable                   | \$ 3,395         | \$ 2,829         | \$ 4,013         | \$ 1,738         | \$ 1,064         | \$ 1,929         | \$ 2,043         | \$ 2,069         | \$ 1,065         | \$ 652           |
| Restricted                     | 23,741           | 23,389           | 21,197           | 18,938           | 15,892           | 14,482           | 14,866           | 13,516           | 11,437           | 9,472            |
| Committed                      | 552              | 526              | 553              | 440              | 390              | 378              | 374              | 349              | 328              | 295              |
| Assigned                       | 5,061            | 5,537            | 3,660            | 4,985            | 5,942            | 6,262            | 3,481            | 4,378            | 3,292            | 3,011            |
| Unassigned                     | 7,165            | 9,103            | 7,729            | 7,910            | 8,310            | 7,300            | 8,406            | 6,647            | 7,942            | 6,922            |
| Total all governmental funds   | <u>\$ 39,914</u> | <u>\$ 41,384</u> | <u>\$ 37,152</u> | <u>\$ 34,011</u> | <u>\$ 31,598</u> | <u>\$ 30,351</u> | <u>\$ 29,170</u> | <u>\$ 26,959</u> | <u>\$ 24,064</u> | <u>\$ 20,352</u> |

**Source:** City of Ormond Beach Finance Department



**SCHEDULE 4**  
**CITY OF ORMOND BEACH, FLORIDA**  
**CHANGES IN FUND BALANCES, GOVERNMENTAL FUNDS**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

|                                                         | 2025              | 2024            | 2023            | 2022            | 2021            | 2020            | 2019            | 2018            | 2017            | 2016            |
|---------------------------------------------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <b>Revenues</b>                                         |                   |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Taxes                                                   | \$ 36,212         | \$ 33,015       | \$ 30,113       | \$ 27,891       | \$ 26,216       | \$ 25,424       | \$ 25,551       | \$ 25,023       | \$ 23,582       | \$ 22,959       |
| Licenses and permits                                    | 2,323             | 2,426           | 1,484           | 1,723           | 1,421           | 1,318           | 1,257           | 1,354           | 1,353           | 1,182           |
| Intergovernmental                                       | 10,747            | 8,201           | 8,727           | 9,486           | 6,829           | 7,747           | 9,965           | 6,469           | 6,190           | 9,191           |
| Charges for services                                    | 3,754             | 3,466           | 3,665           | 3,640           | 3,648           | 3,303           | 3,782           | 4,207           | 4,071           | 4,021           |
| Fines and forfeitures                                   | 333               | 229             | 108             | 87              | 157             | 78              | 106             | 117             | 167             | 162             |
| Miscellaneous                                           | 6,155             | 5,923           | 5,112           | 3,651           | 3,351           | 3,419           | 3,516           | 3,746           | 3,106           | 2,917           |
| Total revenues                                          | <u>59,524</u>     | <u>53,260</u>   | <u>49,209</u>   | <u>46,478</u>   | <u>41,622</u>   | <u>41,289</u>   | <u>44,177</u>   | <u>40,916</u>   | <u>38,469</u>   | <u>40,432</u>   |
| <b>Expenditures</b>                                     |                   |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| General government                                      | 10,148            | 9,464           | 7,617           | 6,460           | 6,395           | 5,991           | 5,922           | 5,430           | 5,512           | 5,142           |
| Public safety                                           | 23,017            | 21,131          | 19,187          | 17,568          | 16,416          | 16,755          | 15,695          | 14,724          | 14,563          | 13,933          |
| Public works                                            | 9,179             | 8,659           | 8,441           | 7,752           | 6,947           | 7,132           | 6,753           | 6,757           | 6,429           | 4,860           |
| Culture and recreation                                  | 8,405             | 7,709           | 7,078           | 6,402           | 5,992           | 6,106           | 6,265           | 6,284           | 6,290           | 6,371           |
| Human services                                          | 120               | 111             | 116             | 132             | 163             | 117             | 170             | 612             | 200             | 65              |
| Economic development                                    | 388               | 357             | 386             | 354             | 292             | 414             | 310             | 329             | 287             | 360             |
| Capital improvements                                    | 15,100            | 10,424          | 6,200           | 8,107           | 6,467           | 7,231           | 8,535           | 5,578           | 3,853           | 8,930           |
| Debt service:                                           |                   |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Principal                                               | 735               | 592             | 859             | 1,097           | 1,075           | 1,035           | 1,336           | 1,302           | 1,190           | 990             |
| Interest and other                                      | 289               | 147             | 130             | 154             | 178             | 161             | 202             | 228             | 234             | 268             |
| Total expenditures                                      | <u>67,381</u>     | <u>58,594</u>   | <u>50,014</u>   | <u>48,026</u>   | <u>43,925</u>   | <u>44,942</u>   | <u>45,188</u>   | <u>41,244</u>   | <u>38,558</u>   | <u>40,919</u>   |
| Excess of revenues over (under) expenditures            | <u>(7,857)</u>    | <u>(5,334)</u>  | <u>(805)</u>    | <u>(1,548)</u>  | <u>(2,303)</u>  | <u>(3,653)</u>  | <u>(1,011)</u>  | <u>(328)</u>    | <u>(89)</u>     | <u>(487)</u>    |
| <b>Other Financing Sources (Uses)</b>                   |                   |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Transfers in                                            | 10,954            | 8,381           | 8,007           | 9,358           | 6,553           | 6,641           | 6,107           | 7,487           | 6,556           | 5,767           |
| Transfers out                                           | (4,567)           | (2,957)         | (4,060)         | (5,397)         | (3,004)         | (3,185)         | (2,885)         | (4,264)         | (3,137)         | (2,808)         |
| Issuance of debt                                        |                   | 4,142           | -               | -               | -               | 1,377           | -               | -               | 381             | 122             |
| Total other financing sources (uses)                    | <u>6,387</u>      | <u>9,566</u>    | <u>3,947</u>    | <u>3,961</u>    | <u>3,549</u>    | <u>4,833</u>    | <u>3,222</u>    | <u>3,223</u>    | <u>3,800</u>    | <u>3,081</u>    |
| Net change in fund balance                              | <u>\$ (1,470)</u> | <u>\$ 4,232</u> | <u>\$ 3,142</u> | <u>\$ 2,413</u> | <u>\$ 1,246</u> | <u>\$ 1,180</u> | <u>\$ 2,211</u> | <u>\$ 2,895</u> | <u>\$ 3,711</u> | <u>\$ 2,594</u> |
| Debt service as a percentage of noncapital expenditures | 1.96%             | 1.53%           | 2.26%           | 3.13%           | 3.35%           | 3.17%           | 4.20%           | 4.29%           | 4.10%           | 3.93%           |

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 5**  
**CITY OF ORMOND BEACH, FLORIDA**  
**GENERAL FUND BALANCE COMPARED TO ANNUAL EXPENDITURES**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| <b>Fiscal Year Ending<br/>September 30</b> | <b>Unassigned Fund<br/>Balance</b> | <b>General Fund Annual<br/>Expenditures (1)</b> | <b>Balance as % of<br/>Expenditures</b> |
|--------------------------------------------|------------------------------------|-------------------------------------------------|-----------------------------------------|
| 2016                                       | 6,952                              | 29,784                                          | 23.34%                                  |
| 2017                                       | 6,433                              | 34,362                                          | 18.72%                                  |
| 2018                                       | 6,976                              | 31,519                                          | 22.13%                                  |
| 2019                                       | 8,874                              | 31,962                                          | 27.76%                                  |
| 2020                                       | 10,147                             | 33,376                                          | 30.40%                                  |
| 2021                                       | 8,982                              | 33,118                                          | 27.12%                                  |
| 2022                                       | 8,983                              | 35,492                                          | 25.31%                                  |
| 2023                                       | 8,794                              | 39,126                                          | 22.48%                                  |
| 2024                                       | 9,930                              | 44,098                                          | 22.52%                                  |
| 2025                                       | 8,154                              | 49,368                                          | 16.52%                                  |

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 6**  
**CITY OF ORMOND BEACH, FLORIDA**  
**GENERAL GOVERNMENTAL EXPENDITURES AND OTHER USES BY FUNCTION**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| Fiscal Year  |        |         |            |               |     |                |    |                      |    |                      |    |                |     |                        |     |               |     |
|--------------|--------|---------|------------|---------------|-----|----------------|----|----------------------|----|----------------------|----|----------------|-----|------------------------|-----|---------------|-----|
| Ended        | Total  | General | Government | Public Safety |     | Human Services |    | Capital Improvements |    | Economic Environment |    | Transportation |     | Culture and Recreation |     | Transfers Out |     |
| General Fund |        |         |            |               |     |                |    |                      |    |                      |    |                |     |                        |     |               |     |
| 2016         | 29,717 | 5,080   | 17%        | 13,226        | 45% | 7              | -% | -                    | -% | 360                  | 1% | 3,755          | 13% | 5,817                  | 20% | 1,472         | 5%  |
| 2017         | 32,256 | 5,411   | 17%        | 13,913        | 43% | 33             | -% | -                    | -% | 287                  | 1% | 5,057          | 16% | 5,544                  | 17% | 2,011         | 6%  |
| 2018         | 33,932 | 5,319   | 16%        | 14,039        | 41% | 508            | -% | -                    | -% | 329                  | 1% | 5,022          | 15% | 5,875                  | 17% | 2,840         | 8%  |
| 2019         | 33,387 | 5,797   | 17%        | 14,914        | 45% | 11             | -% | -                    | -% | 311                  | 1% | 5,054          | 15% | 5,863                  | 18% | 1,437         | 4%  |
| 2020         | 34,548 | 5,931   | 17%        | 16,021        | 46% | 94             | -% | 48                   | -% | 414                  | 1% | 5,109          | 15% | 5,758                  | 17% | 1,173         | 3%  |
| 2021         | 34,977 | 6,185   | 18%        | 15,629        | 45% | 90             | -% | 45                   | -% | 285                  | 1% | 5,194          | 15% | 5,691                  | 16% | 1,858         | 5%  |
| 2022         | 39,705 | 6,248   | 16%        | 16,742        | 42% | 110            | -% | 11                   | -% | 350                  | 1% | 5,902          | 15% | 6,128                  | 15% | 4,214         | 11% |
| 2023         | 42,042 | 7,337   | 17%        | 18,052        | 43% | 94             | -% | 8                    | -% | 382                  | 1% | 6,498          | 15% | 6,754                  | 16% | 2,917         | 7%  |
| 2024         | 45,725 | 9,311   | 20%        | 19,975        | 44% | 84             | -% | 648                  | -% | 357                  | 1% | 6,453          | 14% | 7,269                  | 16% | 1,628         | 4%  |
| 2025         | 52,482 | 10,054  | 19%        | 21,709        | 41% | 91             | -% | 2,135                | -% | 388                  | 1% | 6,879          | 13% | 8,112                  | 15% | 3,114         | 6%  |
|              |        |         |            |               |     |                |    |                      |    |                      |    |                |     |                        |     |               |     |
| 2016         | 8,018  | 61      | 1%         | 693           | 9%  | 58             | 1% | -                    | -% | -                    | -% | 6,625          | 83% | 210                    | 3%  | 371           | 6%  |
| 2017         | 4,565  | 73      | 2%         | 649           | 14% | 167            | 4% | -                    | -% | -                    | -% | 3117           | 68% | 215                    | 5%  | 344           | 9%  |
| 2018         | 4,469  | 111     | 2%         | 685           | 15% | 104            | 2% | -                    | -% | -                    | -% | 1736           | 39% | 409                    | 9%  | 1424          | 33% |
| 2019         | 7,044  | 55      | 1%         | 762           | 11% | 58             | 1% | -                    | -% | -                    | -% | 5415           | 77% | 14                     | 0%  | 740           | 12% |
| 2020         | 4,989  | 0       | 0%         | 690           | 14% | 23             | 0% | 2,295                | -% | -                    | -% | 1731           | 35% | 11                     | 0%  | 239           | 6%  |
| 2021         | 10,700 | 210     | 2%         | 787           | 7%  | 73             | 1% | 6,422                | -% | 7                    | -% | 1753           | 16% | 302                    | 3%  | 1146          | 12% |
| 2022         | 12,497 | 211     | 2%         | 826           | 7%  | 23             | 0% | 8,096                | -% | 35                   | -% | 1850           | 15% | 274                    | 2%  | 1182          | 10% |
| 2023         | 11,042 | 280     | 3%         | 1135          | 10% | 23             | 0% | 6,191                | -% | 3                    | -% | 1943           | 18% | 324                    | 3%  | 1143          | 11% |
| 2024         | 15,060 | 153     | 1%         | 1156          | 8%  | 0              | 0% | 9,776                | -% | -                    | -% | 2206           | 15% | 440                    | 3%  | 1329          | 10% |
| 2025         | 18,443 | 94      | 1%         | 1308          | 7%  | 30             | 0% | 12,965               | -% | -                    | -% | 2300           | 12% | 293                    | 2%  | 1453          | 9%  |

Capital outlay included under Transportation.

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 7**  
**CITY OF ORMOND BEACH, FLORIDA**  
**TAX REVENUES BY SOURCE, GOVERNMENTAL FUNDS**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| <b>Fiscal Year</b>    | <b>Property</b> | <b>Local Option<br/>Gas (6 cents)</b> | <b>Local Option<br/>Gas (5 cents)</b> | <b>Franchise CST<br/>and Utilities</b> | <b>Fire Insurance<br/>Premium</b> | <b>Casualty<br/>Insurance<br/>Premium</b> | <b>Total</b> |
|-----------------------|-----------------|---------------------------------------|---------------------------------------|----------------------------------------|-----------------------------------|-------------------------------------------|--------------|
| 2016                  | 12,575          | 711                                   | 528                                   | 8,473                                  | 338                               | 334                                       | 22,959       |
| 2017                  | 13,201          | 783                                   | 499                                   | 8,450                                  | 306                               | 343                                       | 23,582       |
| 2018                  | 14,248          | 750                                   | 550                                   | 8,825                                  | 295                               | 380                                       | 25,048       |
| 2019                  | 14,676          | 762                                   | 558                                   | 8,833                                  | 306                               | 407                                       | 25,542       |
| 2020                  | 14,936          | 675                                   | 496                                   | 8,630                                  | 259                               | 411                                       | 25,407       |
| 2021                  | 15,234          | 743                                   | 545                                   | 8,932                                  | 346                               | 415                                       | 26,215       |
| 2022                  | 16,080          | 713                                   | 515                                   | 9,777                                  | 365                               | 440                                       | 27,890       |
| 2023                  | 17,038          | 701                                   | 505                                   | 10,857                                 | 505                               | 507                                       | 30,113       |
| 2024                  | 19,544          | 749                                   | 548                                   | 11,042                                 | 552                               | 581                                       | 33,016       |
| 2025                  | 22,197          | 712                                   | 524                                   | 11,488                                 | 554                               | 641                                       | 36,116       |
| Change 2016 –<br>2025 | 76.5%           | 0.1%                                  | -0.8%                                 | 35.6%                                  | 63.9%                             | 91.9%                                     | 57.3%        |

**SCHEDULE 8**  
**CITY OF ORMOND BEACH, FLORIDA**  
**GROSS TAXABLE VALUE AND COMPOSITION BY MAJOR PROPERTY CLASSIFICATION**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**

| <b>Fiscal Year</b> | <b>Residential</b> | <b>%</b> | <b>Commercial</b> | <b>%</b> | <b>Industrial</b> | <b>%</b> | <b>All Other Categories</b> | <b>%</b> | <b>Total Final Gross Taxable Value</b> | <b>% Change From Prior Year</b> | <b>Total Direct Tax Rate</b> |
|--------------------|--------------------|----------|-------------------|----------|-------------------|----------|-----------------------------|----------|----------------------------------------|---------------------------------|------------------------------|
| 2016               | 1,996,385,162      | 70.1%    | 449,258,227       | 15.8%    | 99,341,657        | 3.5%     | 303,665,736                 | 10.7%    | 2,848,650,782                          | N/A                             | 4.557                        |
| 2017               | 2,092,102,715      | 69.5%    | 484,818,216       | 16.1%    | 104,545,988       | 3.5%     | 328,704,669                 | 10.9%    | 3,010,171,588                          | 5.7%                            | 4.536                        |
| 2018               | 2,258,133,907      | 69.6%    | 526,072,540       | 16.2%    | 114,781,024       | 3.5%     | 345,422,008                 | 10.6%    | 3,244,409,479                          | 7.8%                            | 4.536                        |
| 2019               | 2,415,581,271      | 69.8%    | 567,382,211       | 16.4%    | 121,026,020       | 3.5%     | 355,133,647                 | 10.3%    | 3,459,123,149                          | 6.6%                            | 4.389                        |
| 2020               | 2,562,846,583      | 69.9%    | 608,983,268       | 16.6%    | 124,459,132       | 3.4%     | 369,434,606                 | 10.1%    | 3,665,723,589                          | 6.0%                            | 4.220                        |
| 2021               | 2,710,451,090      | 69.3%    | 681,665,115       | 17.4%    | 135,273,710       | 3.5%     | 386,589,630                 | 9.9%     | 3,913,979,545                          | 6.8%                            | 4.031                        |
| 2022               | 2,870,888,510      | 69.6%    | 710,662,930       | 17.2%    | 145,708,714       | 3.5%     | 398,655,508                 | 9.7%     | 4,125,915,662                          | 5.4%                            | 4.031                        |
| 2023               | 3,216,613,601      | 70.1%    | 763,406,484       | 16.6%    | 171,458,649       | 3.7%     | 435,443,764                 | 9.5%     | 4,586,922,498                          | 11.2%                           | 3.846                        |
| 2024               | 3,394,915,810      | 67.2%    | 972,042,295       | 19.2%    | 194,737,323       | 3.9%     | 490,423,095                 | 9.7%     | 5,052,118,523                          | 22.4%                           | 3.926                        |
| 2025               | 3,687,468,717      | 66.8%    | 1,070,901,354     | 19.4%    | 224,532,222       | 4.1%     | 533,650,318                 | 9.7%     | 5,516,552,611                          | 20.3%                           | 4.161                        |

**Notes:** The City assesses property annually. Property is assessed at actual market value.

**Source:** Volusia County Property Appraiser

**SCHEDULE 9**  
**CITY OF ORMOND BEACH, FLORIDA**  
**DIRECT AND OVERLAPPING PROPERTY TAX RATES AND TAX LEVIES**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**

| Fiscal Year Ended | Ormond Beach      |                      |                    | School District | Volusia County | Mosquito Control | Inlet and Port Authority | Halifax Hospital* | St. Johns                 | Florida Inland Navigation | Total - All Taxing Districts |
|-------------------|-------------------|----------------------|--------------------|-----------------|----------------|------------------|--------------------------|-------------------|---------------------------|---------------------------|------------------------------|
|                   | Operating Millage | Debt Service Millage | Total City Millage |                 |                |                  |                          |                   | Water Management District |                           |                              |
| 2016              | 4.284             | 0.273                | 4.557              | 7.197           | 7.271          | 0.188            | 0.093                    | 0.955             | 0.302                     | 0.032                     | 20.595                       |
| 2017              | 4.284             | 0.252                | 4.536              | 6.840           | 7.052          | 0.188            | 0.093                    | 0.756             | 0.289                     | 0.032                     | 19.786                       |
| 2018              | 4.284             | 0.252                | 4.536              | 6.792           | 7.052          | 0.188            | 0.093                    | 0.378             | 0.272                     | 0.032                     | 19.344                       |
| 2019              | 4.165             | 0.224                | 4.389              | 6.281           | 6.646          | 0.188            | 0.093                    | 0.355             | 0.256                     | 0.032                     | 18.241                       |
| 2020              | 4.087             | 0.133                | 4.220              | 6.081           | 6.542          | 0.188            | 0.093                    | 0.355             | 0.241                     | 0.032                     | 17.752                       |
| 2021              | 3.907             | 0.124                | 4.031              | 5.907           | 6.151          | 0.178            | 0.088                    | 0.988             | 0.229                     | 0.032                     | 17.603                       |
| 2022              | 3.913             | 0.118                | 4.031              | 5.802           | 6.299          | 0.178            | 0.085                    | 0.953             | 0.219                     | 0.032                     | 17.598                       |
| 2023              | 3.761             | 0.085                | 3.846              | 5.482           | 5.313          | 0.178            | 0.076                    | 0.861             | 0.197                     | 0.032                     | 15.986                       |
| 2024              | 3.926             | 0.080                | 4.006              | 5.409           | 5.671          | 0.178            | 0.069                    | 0.788             | 0.179                     | 0.029                     | 16.329                       |
| 2025              | 4.096             | 0.065                | 4.161              | 5.285           | 5.589          | 0.165            | 0.069                    | 0.731             | 0.179                     | 0.029                     | 16.208                       |
|                   |                   |                      |                    |                 |                |                  |                          |                   |                           |                           |                              |
| 2016              | 12,204            | 777                  | 12,981             | 20,621          | 21,236         | 566              | 280                      | 2,277             | 859                       | 96                        | 58,916                       |
| 2017              | 12,901            | 759                  | 13,660             | 20,597          | 21,236         | 566              | 280                      | 2,277             | 869                       | 96                        | 59,581                       |
| 2018              | 12,901            | 759                  | 13,660             | 20,454          | 21,236         | 566              | 280                      | 1,139             | 820                       | 96                        | 58,250                       |
| 2019              | 14,397            | 774                  | 15,171             | 21,709          | 22,972         | 650              | 321                      | 1,226             | 886                       | 111                       | 63,045                       |
| 2020              | 14,973            | 487                  | 15,460             | 22,278          | 23,967         | 689              | 340                      | 1,301             | 884                       | 117                       | 65,036                       |
| 2021              | 15,290            | 485                  | 15,775             | 23,118          | 24,073         | 697              | 344                      | 3,866             | 895                       | 125                       | 68,894                       |
| 2022              | 16,144            | 487                  | 16,631             | 23,939          | 25,987         | 735              | 349                      | 3,932             | 903                       | 132                       | 72,607                       |
| 2023              | 17,251            | 390                  | 17,641             | 25,146          | 24,372         | 817              | 349                      | 3,948             | 905                       | 147                       | 73,324                       |
| 2024              | 19,835            | 404                  | 20,239             | 27,327          | 28,650         | 900              | 350                      | 3,980             | 906                       | 146                       | 82,496                       |
| 2025              | 22,596            | 359                  | 22,954             | 29,155          | 30,833         | 909              | 382                      | 4,032             | 989                       | 159                       | 89,413                       |

\* Tax levy based on homestead exemption and nonexempt values.

**Note:** Tax levy indicated is for Ormond Beach only. Property tax rates are based upon \$1,000 of assessed taxable value.

**SCHEDULE 10  
CITY OF ORMOND BEACH, FLORIDA  
PRINCIPAL PROPERTY TAXPAYERS  
CURRENT FISCAL YEAR AND TEN YEARS AGO**

| Name                                   | Type of Business | 2024                                     |      | 2016                              |                                          |      |                                   |
|----------------------------------------|------------------|------------------------------------------|------|-----------------------------------|------------------------------------------|------|-----------------------------------|
|                                        |                  | Taxable Assessed Value<br>(in Thousands) | Rank | Percentage Taxable Assessed Value | Taxable Assessed Value<br>(in Thousands) | Rank | Percentage Taxable Assessed Value |
| Florida Power & Light Company          | Power Company    | \$ 81,776                                | 1    | 1.78%                             |                                          |      |                                   |
| Bermuda Estates                        | Resort           | 33,067                                   | 2    | 0.72%                             |                                          |      |                                   |
| CS1031 The Falls at Ormond Beach       | Resort           | 29,876                                   | 3    | 0.65%                             |                                          |      |                                   |
| Casa Del Mar Beach Resort Assoc        | Apartments       | 29,101                                   | 4    | 0.63%                             |                                          |      |                                   |
| Waypoint Ormond Beach                  | Resort           | 27,095                                   | 5    | 0.59%                             |                                          |      |                                   |
| Northwestern Mutual Life               | Resort           | 26,924                                   | 6    | 0.59%                             |                                          |      |                                   |
| Security First Insurance               | Insurance        | 23,639                                   | 7    | 0.52%                             |                                          |      |                                   |
| Royal Floridian Condo Assoc            | Resort           | 23,606                                   | 8    | 0.51%                             |                                          |      |                                   |
| Royal Floridian South By               | Retail           | 23,374                                   | 9    | 0.51%                             |                                          |      |                                   |
| Playtex Manufacturing, Inc.            | Manufacturing    | 22,428                                   | 10   | 0.49%                             |                                          |      |                                   |
| Florida Power & Light Company          | Power Company    |                                          |      |                                   | \$ 33,522                                | 1    | 1.26%                             |
| Casa Del Mar Joint Venture             | Resort           |                                          |      |                                   | 22,942                                   | 2    | 0.86%                             |
| Royal Floridian Condo Association      | Resort           |                                          |      |                                   | 18,360                                   | 3    | 0.69%                             |
| Cove II Owners Association, Inc.       | Resort           |                                          |      |                                   | 17,778                                   | 4    | 0.67%                             |
| Bermuda Estates                        | Apartments       |                                          |      |                                   | 17,398                                   | 5    | 0.65%                             |
| Playtex Manufacturing, Inc.            | Manufacturing    |                                          |      |                                   | 16,744                                   | 6    | 0.63%                             |
| Waypoint Ormond Beach                  |                  |                                          |      |                                   | 15,325                                   | 7    | 0.58%                             |
| J-7 Land Partners LLP                  | Retail           |                                          |      |                                   | 12,226                                   | 8    | 0.46%                             |
| Royal Floridian South by Spinnaker LLC | Resort           |                                          |      |                                   | 12,038                                   | 9    | 0.45%                             |
| Bear Creek Venture Ltd.                |                  |                                          |      |                                   | 11,300                                   | 10   | 0.43%                             |
|                                        |                  | \$ 298,458                               |      | 6.99%                             | \$ 177,633                               |      | 6.68%                             |

Source: Volusia County Property Appraiser 2023 not available as of 2/4/2025

**SCHEDULE 11**  
**CITY OF ORMOND BEACH, FLORIDA**  
**PROPERTY TAX LEVIES AND COLLECTIONS**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| Fiscal Year<br>Ended | Taxes Levied<br>for the Fiscal<br>Year | Collected within the Fiscal<br>Year of the Levy |                     | Collections in<br>Subsequent<br>Years <sup>(2)</sup> | Total Collections to Date |       |
|----------------------|----------------------------------------|-------------------------------------------------|---------------------|------------------------------------------------------|---------------------------|-------|
|                      |                                        | Percentage of                                   |                     |                                                      | Percentage of             |       |
|                      |                                        | Amount                                          | Levy <sup>(1)</sup> |                                                      | Amount                    | Levy  |
| 2016                 | 12,981                                 | 12,319                                          | 94.9                | -                                                    | 12,319                    | 94.9  |
| 2017                 | 13,660                                 | 12,994                                          | 95.1                | 207                                                  | 13,201                    | 96.6  |
| 2018                 | 14,717                                 | 13,920                                          | 94.6                | 303                                                  | 14,223                    | 96.6  |
| 2019                 | 15,171                                 | 14,402                                          | 94.9                | 274                                                  | 14,676                    | 96.7  |
| 2020                 | 15,460                                 | 14,979                                          | 96.9                | 258                                                  | 15,237                    | 98.6  |
| 2021                 | 15,775                                 | 14,996                                          | 95.1                | 237                                                  | 15,233                    | 96.6  |
| 2022                 | 16,630                                 | 16,121                                          | 96.9                | 242                                                  | 16,363                    | 98.4  |
| 2023                 | 17,641                                 | 17,038                                          | 96.6                | 277                                                  | 17,315                    | 98.2  |
| 2024                 | 20,237                                 | 20,228                                          | 100                 | 440                                                  | 20,668                    | 102.1 |
| 2025                 | 22,947                                 | 22,589                                          | 98.4                | 498                                                  | 23,087                    | 100.6 |

**Notes:** (1) Taxes are levied on November 1 of each year. Taxes are due by March 31 of the following

(2) Details relating to collections in subsequent years is unavailable. Subsequent collections

**Source:** Volusia County Property Appraiser



**SCHEDULE 12**  
**CITY OF ORMOND BEACH, FLORIDA**  
**FRANCHISE AND UTILITIES SERVICE TAX REVENUES BY SOURCE**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| <b>Fiscal Year<br/>Ended</b> | <b>Total Tax</b> | <b>Electric<br/>Utilities</b> | <b>Communications<br/>Taxes</b> | <b>Gas<br/>Utilities</b> | <b>Electric<br/>Franchise</b> | <b>Gas<br/>Franchise</b> |
|------------------------------|------------------|-------------------------------|---------------------------------|--------------------------|-------------------------------|--------------------------|
| 2016                         | 8,474            | 3,775                         | 1,624                           | 121                      | 2,895                         | 59                       |
| 2017                         | 8,449            | 3,788                         | 1,597                           | 136                      | 2,880                         | 48                       |
| 2018                         | 8,825            | 4,001                         | 1,669                           | 143                      | 2,960                         | 52                       |
| 2019                         | 8,834            | 4,064                         | 1,582                           | 135                      | 3,002                         | 51                       |
| 2020                         | 8,639            | 4,040                         | 1,583                           | 138                      | 2,828                         | 50                       |
| 2021                         | 8,933            | 4,138                         | 1,564                           | 192                      | 3,015                         | 24                       |
| 2022                         | 9,777            | 4,368                         | 1,650                           | 182                      | 3,521                         | 56                       |
| 2023                         | 10,858           | 4,967                         | 1,734                           | 226                      | 3,920                         | 11                       |
| 2024                         | 11,042           | 5,196                         | 1,823                           | 238                      | 3,750                         | 35                       |
| 2025                         | 11,488           | 5,409                         | 1,907                           | 272                      | 3,894                         | 6                        |
| Change 2016-<br>2025         | 35.57%           | 43.28%                        | 17.43%                          | 124.79%                  | 34.51%                        | -89.83%                  |

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 13**  
**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF PROPERTY VALUATIONS AND**  
**PROPERTY TAX MILLAGE**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| Fiscal Year | Valuation      |           |                |           |                 | Property Tax Millage |                      |                             |                                            |                     |                    |                      |              | Total |
|-------------|----------------|-----------|----------------|-----------|-----------------|----------------------|----------------------|-----------------------------|--------------------------------------------|---------------------|--------------------|----------------------|--------------|-------|
|             | Total Assessed | Exempt    | Percent Exempt | Taxable   | Percent Taxable | Operating            | Capital Improvements | Transportation Improvements | General Facilities Renewal and Replacement | Vehicle Replacement | Public Safety Fund | Leisure Service Fund | Debt Service |       |
| 2016        | 3,654,848      | 806,197   | 22.06          | 2,848,651 | 77.94           | 3.687                | 0.144                | 0.231                       | 0.186                                      | 0.037               |                    |                      | 0.273        | 4.557 |
| 2017        | 3,844,350      | 834,179   | 21.70          | 3,010,171 | 78.30           | 3.721                | 0.139                | 0.173                       | 0.173                                      | 0.078               |                    |                      | 0.252        | 4.536 |
| 2018        | 4,103,065      | 858,632   | 20.93          | 3,244,433 | 79.07           | 3.760                | 0.129                | 0.161                       | 0.161                                      | 0.073               |                    |                      | 0.252        | 4.536 |
| 2019        | 4,343,043      | 884,543   | 20.37          | 3,458,500 | 79.63           | 3.674                | 0.121                | 0.151                       | 0.151                                      | 0.068               |                    |                      | 0.224        | 4.389 |
| 2020        | 4,560,399      | 894,676   | 19.62          | 3,665,723 | 80.38           | 3.566                | 0.115                | 0.142                       | 0.142                                      | 0.122               |                    |                      | 0.133        | 4.220 |
| 2021        | 4,747,380      | 933,400   | 19.66          | 3,813,980 | 80.34           | 3.417                | 0.107                | 0.134                       | 0.134                                      | 0.115               |                    |                      | 0.124        | 4.031 |
| 2022        | 4,847,379      | 933,399   | 19.26          | 3,913,980 | 80.74           | 3.348                | 0.102                | 0.127                       | 0.127                                      | 0.051               | 0.158              |                      | 0.118        | 4.031 |
| 2023        | 5,591,267      | 1,004,345 | 17.96          | 4,586,922 | 82.04           | 3.248                | 0.093                | 0.115                       | 0.115                                      | 0.046               | 0.144              |                      | 0.085        | 3.846 |
| 2024        | 6,106,512      | 1,057,007 | 17.31          | 5,049,505 | 82.69           | 3.262                | 0.084                | 0.104                       | 0.165                                      | 0.044               | 0.163              | 0.104                | 0.080        | 4.006 |
| 2025        | 6,597,567      | 1,081,046 | 16.39          | 5,516,521 | 83.61           | 3.432                | 0.084                | 0.104                       | 0.165                                      | 0.044               | 0.163              | 0.104                | 0.065        | 4.161 |

Note: Fiscal Year 2021-22 dedicated millage for a Public Safety Fund, Fund (305)

Source: Volusia County Property Appraiser

**SCHEDULE 14**  
**CITY OF ORMOND BEACH, FLORIDA**  
**GENERAL GOVERNMENTAL REVENUES AND OTHER SOURCES BY FUNCTION**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| Fiscal Year Ended              | Total  |        | Taxes |       | Licenses, Permits & Fees (3) |       | Inter-Governmental Revenues |       | Charges for Services |     | Fines and Forfeitures |       | Miscellaneous Revenue (1) |       | Other Financing Sources (2) |  |
|--------------------------------|--------|--------|-------|-------|------------------------------|-------|-----------------------------|-------|----------------------|-----|-----------------------|-------|---------------------------|-------|-----------------------------|--|
| General Fund                   |        |        |       |       |                              |       |                             |       |                      |     |                       |       |                           |       |                             |  |
| 2016                           | 31,446 | 18,650 | 59%   | 1,182 | 4%                           | 3,703 | 12%                         | 1,214 | 4%                   | 139 | 0%                    | 2,307 | 8%                        | 4,251 | 14%                         |  |
| 2017                           | 32,802 | 16,687 | 51%   | 3,939 | 12%                          | 4,256 | 13%                         | 1,206 | 4%                   | 153 | 0%                    | 2,517 | 9%                        | 4,044 | 12%                         |  |
| 2018                           | 34,321 | 17,892 | 52%   | 4,071 | 12%                          | 4,244 | 12%                         | 1,333 | 4%                   | 96  | 0%                    | 2,596 | 9%                        | 4,089 | 12%                         |  |
| 2019                           | 34,828 | 21,120 | 61%   | 1,257 | 4%                           | 4,240 | 12%                         | 1,242 | 4%                   | 90  | 0%                    | 2,752 | 9%                        | 4,127 | 12%                         |  |
| 2020                           | 35,786 | 21,263 | 59%   | 1,318 | 4%                           | 5,340 | 15%                         | 763   | 2%                   | 63  | 0%                    | 2,701 | 9%                        | 4,338 | 12%                         |  |
| 2021                           | 36,496 | 21,842 | 60%   | 1,421 | 4%                           | 4,810 | 13%                         | 1,110 | 3%                   | 143 | 0%                    | 2,703 | 8%                        | 4,467 | 12%                         |  |
| 2022                           | 39,054 | 23,096 | 59%   | 1,723 | 4%                           | 5,336 | 14%                         | 1,049 | 3%                   | 63  | 0%                    | 3,120 | 9%                        | 4,667 | 12%                         |  |
| 2023                           | 42,058 | 25,243 | 60%   | 1,484 | 4%                           | 5,526 | 13%                         | 1,082 | 3%                   | 71  | 0%                    | 3,873 | 10%                       | 4,779 | 11%                         |  |
| 2024                           | 46,026 | 26,969 | 59%   | 2,426 | 5%                           | 6,184 | 13%                         | 829   | 2%                   | 64  | 0%                    | 3,845 | 9%                        | 5,709 | 12%                         |  |
| 2025                           | 51,308 | 29,868 | 58%   | 2,323 | 5%                           | 7,008 | 14%                         | 1,094 | 2%                   | 109 | 0%                    | 4,053 | 9%                        | 6,853 | 13%                         |  |
| Combined Special Revenue Funds |        |        |       |       |                              |       |                             |       |                      |     |                       |       |                           |       |                             |  |
| 2016                           | 8,574  | 672    | 8%    | -     | -%                           | 4,389 | 51%                         | 2,807 | 33%                  | 23  | 0%                    | 243   | 3%                        | 440   | 5%                          |  |
| 2017                           | 5,364  | 649    | 12%   | -     | -%                           | 938   | 17%                         | 2,864 | 53%                  | 14  | 0%                    | 258   | 5%                        | 641   | 12%                         |  |
| 2018                           | 5,507  | 674    | 12%   | -     | -%                           | 930   | 17%                         | 2,873 | 52%                  | 22  | 0%                    | 311   | 6%                        | 697   | 13%                         |  |
| 2019                           | 6,927  | 713    | 10%   | -     | -%                           | 3,249 | 47%                         | 2,539 | 37%                  | 16  | 0%                    | 344   | 5%                        | 66    | 1%                          |  |
| 2020                           | 4,636  | 670    | 14%   | -     | -%                           | 1,090 | 24%                         | 2,540 | 55%                  | 15  | 0%                    | 255   | 6%                        | 66    | 1%                          |  |
| 2021                           | 11,679 | 4,374  | 37%   | -     | -%                           | 2,020 | 17%                         | 2,538 | 22%                  | 14  | 0%                    | 648   | 6%                        | 2,085 | 18%                         |  |
| 2022                           | 16,644 | 4,795  | 29%   | -     | -%                           | 4,151 | 25%                         | 2,591 | 16%                  | 24  | 0%                    | 395   | 2%                        | 4,688 | 28%                         |  |
| 2023 (4)                       | 1,236  | 1,011  | 82%   | -     | -%                           | 40    | 3%                          | -     | 0%                   | 38  | 3%                    | 147   | 12%                       | -     | 0%                          |  |
| 2024                           | 1,740  | 1,133  | 65%   | -     | -%                           | 40    | 2%                          | -     | 0%                   | 164 | 9%                    | 70    | 4%                        | 333   | 19%                         |  |
| 2025                           | 1,480  | 1,195  | 81%   | -     | -%                           | -     | 0%                          | -     | 0%                   | 223 | 15%                   | 62    | 4%                        | -     | 0%                          |  |

(1) Miscellaneous encompasses miscellaneous revenues, rentals and interest on investments per the incorporation of the Uniform Accounting System for Units of Local Governments in the State of Florida.

(2) Includes proceeds from issuance of long-term debt and transfers in.

(3) Franchise fees as of 2017 are included in this field.

(4) 2023 Stormwater Named Major Fund for 2023

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 15**  
**CITY OF ORMOND BEACH, FLORIDA**  
**SCHEDULE OF IMPACT FEES**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| Fiscal Year | West Ormond District Reuse | Primary Water System | Primary Sewer System | Recreational Facility | Administrative Facility | Conservation Land | Cultural Facility | Fire Protection Facility | Law Enforcement Facility | Local Roads | Road Drainage | Storm-Water Drainage |
|-------------|----------------------------|----------------------|----------------------|-----------------------|-------------------------|-------------------|-------------------|--------------------------|--------------------------|-------------|---------------|----------------------|
| 2016        | -                          | 515                  | 435                  | 243                   | -                       | -                 | -                 | -                        | -                        | 38          | -             | 23                   |
| 2017        | -                          | 592                  | 532                  | 207                   | -                       | -                 | -                 | -                        | -                        | 54          | -             | 24                   |
| 2018        | -                          | 473                  | 438                  | 126                   | -                       | -                 | -                 | -                        | -                        | 32          | -             | 33                   |
| 2019        | -                          | 428                  | 406                  | 75                    | -                       | -                 | -                 | -                        | -                        | 24          | -             | 12                   |
| 2020        | -                          | 643                  | 604                  | 175                   | -                       | -                 | -                 | -                        | -                        | 63          | -             | 23                   |
| 2021        | -                          | 684                  | 653                  | 195                   | -                       | -                 | -                 | -                        | -                        | 128         | -             | 36                   |
| 2022        | -                          | 770                  | 677                  | 169                   | -                       | -                 | -                 | -                        | -                        | 102         | -             | 36                   |
| 2023        | -                          | 444                  | 545                  | 32                    | -                       | -                 | -                 | -                        | -                        | 41          | -             | 25                   |
| 2024        | -                          | 609                  | 1,159                | 314                   | -                       | -                 | -                 | 41                       | 33                       | 542         | -             | 18                   |
| 2025        | -                          | 938                  | 1,305                | 685                   | -                       | -                 | -                 | 90                       | 72                       | 282         | -             | 30                   |

**Note:** In 2007, the City refunded \$18 of previously recorded West Ormond District Reuse Impact Fees.

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 16**  
**CITY OF ORMOND BEACH, FLORIDA**  
**INTEREST EARNED—ALL FUNDS**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| Fiscal Year | Governmental Funds |                       |                    |                        | Proprietary Funds |                        | Fiduciary Funds    | Total All Funds |
|-------------|--------------------|-----------------------|--------------------|------------------------|-------------------|------------------------|--------------------|-----------------|
|             | General Fund       | Special Revenue Funds | Debt Service Funds | Capital Projects Funds | Enterprise Funds  | Internal Service Funds | Pension Trust Fund |                 |
| 2016        | 69                 | 11                    | -                  | 15                     | 100               | -                      | 2,123              | 2,318           |
| 2017        | 25                 | 28                    | -                  | 19                     | 79                | -                      | 1,999              | 2,150           |
| 2018        | 56                 | 76                    | -                  | 45                     | 222               | -                      | 2,355              | 2,754           |
| 2019        | 159                | 131                   | -                  | 82                     | 340               | -                      | 2,623              | 3,335           |
| 2020        | 73                 | 48                    | -                  | 44                     | 152               | -                      | 2,322              | 2,639           |
| 2021        | 2                  | 1                     | -                  | 1                      | 4                 | -                      | 2,351              | 2,359           |
| 2022        | 45                 | 30                    | -                  | 20                     | 71                | -                      | 3,459              | 3,625           |
| 2023        | 362                | 318                   | -                  | 189                    | 592               | -                      | 3,155              | 4,616           |
| 2024        | 453                | 474                   | -                  | 270                    | 905               | -                      | 3,482              | 5,584           |
| 2025        | 387                | 346                   | -                  | 237                    | 872               | -                      | 3,845              | 5,687           |

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 17**  
**CITY OF ORMOND BEACH, FLORIDA**  
**RATIO OF OUTSTANDING DEBT BY TYPE**  
**LAST TEN FISCAL YEARS**  
**September 30, 2025**  
**(In Thousands, Except Per Capita)**

| Fiscal Year | General Obligation Bonds | Taxable Value of Property | Percentage of Actual Taxable Value of Property | Per Capita | Other Governmental Activities Debt |                             |                          |                          |                |
|-------------|--------------------------|---------------------------|------------------------------------------------|------------|------------------------------------|-----------------------------|--------------------------|--------------------------|----------------|
|             |                          |                           |                                                |            | Special Obligation Bonds           | Tax Increment Revenue Bonds | Capital Improvement Note | Other Long Term Payables | Capital Leases |
| 2016        | 5,385                    | 2,848,650                 | 0.19%                                          | 133        | -                                  | -                           | 1,066                    | 2,297                    | 588            |
| 2017        | 4,828                    | 3,244,409                 | 0.15%                                          | 120        | -                                  | -                           | 949                      | 1,943                    | 806            |
| 2018        | 4,243                    | 3,247,839                 | 0.13%                                          | 99         | -                                  | -                           | 828                      | 1,700                    | 452            |
| 2019        | 3,640                    | 3,456,325                 | 0.11%                                          | 85         | -                                  | -                           | 702                      | 1,237                    | 309            |
| 2020        | 3,285                    | 3,663,498                 | 0.09%                                          | 75         | -                                  | -                           | 572                      | 883                      | 1490           |
| 2021        | 2,920                    | 3,913,979                 | 0.07%                                          | 68         | -                                  | -                           | 437                      | 529                      | 1268           |
| 2022        | 2,545                    | 4,125,916                 | 0.06%                                          | 58         | -                                  | -                           | 297                      | 177                      | 1040           |
| 2023        | 2,160                    | 4,586,922                 | 0.05%                                          | 50         | -                                  | -                           | 151                      | -                        | 888            |
| 2024        | 1,875                    | 5,049,505                 | 0.04%                                          | 42         | -                                  | -                           | 2500                     | -                        | 2374           |
| 2025        | 1,585                    | 5,516,521                 | 0.03%                                          | 35         | -                                  | -                           | 2295                     | -                        | 2134           |

| Year | Business-type Activities |            |                | Government | Personal Income | Per Capita |
|------|--------------------------|------------|----------------|------------|-----------------|------------|
|      | Revenue Bonds            | Fund Loans | Capital Leases |            |                 |            |
| 2016 | 29,040                   | 11,604     | -              | 49,980     | 3.24%           | 1,238      |
| 2017 | 29,946                   | 11,006     | -              | 49,478     | 3.21%           | 1,226      |
| 2018 | 26,495                   | 10,387     | -              | 44,105     | 2.86%           | 1,093      |
| 2019 | 27,602                   | 9,752      | -              | 43,242     | 2.88%           | 995        |
| 2020 | 24,077                   | 9,099      | -              | 39,406     | 2.59%           | 901        |
| 2021 | 20,463                   | 8,426      | -              | 34,043     | 2.27%           | 789        |
| 2022 | 16,750                   | 7,733      | -              | 28,542     | 1.71%           | 656        |
| 2023 | 13,421                   | 7,018      | -              | 23,638     | 1.42%           | 543        |
| 2024 | 23,403                   | 6,284      | -              | 36,436     | 2.19%           | 816        |
| 2025 | 20,286                   | 5,523      | -              | 31,823     | 1.91%           | 713        |

**Notes:** Details regarding the City's outstanding debt can be found in the notes to the financial statements.

See Schedule 24 for personal income and population data.

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 18**  
**CITY OF ORMOND BEACH, FLORIDA**  
**RATIO OF NET GENERAL BONDED DEBT TO**  
**ASSESSED VALUE AND NET BONDED DEBT PER CAPITA**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| <b>Fiscal Year</b> | <b>Assessed Value<br/>(1)</b> | <b>Gross General<br/>Bonded Debt<br/>(2)</b> | <b>Less Debt<br/>Service Fund</b> | <b>Net General<br/>Bonded Debt</b> | <b>General<br/>Bonded Debt to<br/>Assessed Value</b> | <b>Estimated<br/>Population (4)</b> | <b>Net<br/>General<br/>Debt Per<br/>Capita</b> |
|--------------------|-------------------------------|----------------------------------------------|-----------------------------------|------------------------------------|------------------------------------------------------|-------------------------------------|------------------------------------------------|
| 2016               | 3,654,848                     | 5,385                                        | 189                               | 5,196                              | 0.14%                                                | 40                                  | 129.90                                         |
| 2017               | 4,103,066                     | 4,828                                        | 200                               | 4,628                              | 0.11%                                                | 40                                  | 115.70                                         |
| 2018               | 4,103,065                     | 4,243                                        | 228                               | 4,015                              | 0.10%                                                | 42                                  | 95.60                                          |
| 2019               | 4,343,043                     | 3,640                                        | 246                               | 3,394                              | 0.08%                                                | 43                                  | 78.93                                          |
| 2020               | 4,560,399                     | 3,285                                        | 241                               | 3,044                              | 0.07%                                                | 44                                  | 69.18                                          |
| 2021               | 4,747,380                     | 2,920                                        | 90                                | 2,830                              | 0.06%                                                | 45                                  | 62.89                                          |
| 2022               | 4,847,379                     | 2,545                                        | 85                                | 2,460                              | 0.05%                                                | 45                                  | 54.67                                          |
| 2023               | 5,591,267                     | 2,160                                        | 149                               | 2,011                              | 0.04%                                                | 45                                  | 44.69                                          |
| 2024               | 6,106,512                     | 1,875                                        | 159                               | 1,716                              | 0.03%                                                | 45                                  | 38.13                                          |
| 2025               | 6,597,567                     | 1,585                                        | 152                               | 1,433                              | 0.02%                                                | 45                                  | 31.84                                          |

(1) From Schedule 13

(2) From Schedule 17

(3) Amount available for repayment of General Obligation Bonds

(4) From Schedule 24

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 19**  
**CITY OF ORMOND BEACH, FLORIDA**  
**RATIO OF ANNUAL DEBT SERVICE FOR GENERAL BONDED**  
**DEBT TO TOTAL GENERAL GOVERNMENTAL EXPENDITURES**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| <b>Fiscal Year</b> | <b>Principal</b> | <b>Interest (1)</b> | <b>Total Debt Service</b> | <b>Total General Governmental Expenditures (2)</b> | <b>Ratio of Debt Service to General Governmental Expenditures</b> |
|--------------------|------------------|---------------------|---------------------------|----------------------------------------------------|-------------------------------------------------------------------|
| 2016               | 543              | 193                 | 736                       | 37,735                                             | 1.95                                                              |
| 2017               | 557              | 170                 | 727                       | 36,821                                             | 1.97                                                              |
| 2018               | 585              | 159                 | 744                       | 38,401                                             | 1.94                                                              |
| 2019               | 603              | 149                 | 752                       | 40,431                                             | 1.86                                                              |
| 2020               | 355              | 124                 | 479                       | 39,537                                             | 1.21                                                              |
| 2021               | 365              | 113                 | 478                       | 45,677                                             | 1.05                                                              |
| 2022               | 385              | 100                 | 485                       | 52,202                                             | 0.93                                                              |
| 2023               | 385              | 88                  | 473                       | 53,084                                             | 0.89                                                              |
| 2024               | 285              | 75                  | 360                       | 60,785                                             | 0.59                                                              |
| 2025               | 290              | 66                  | 356                       | 70,925                                             | 0.50                                                              |

(1) Includes bond issuance and other costs

(2) Schedule 6

**Source:** City of Ormond Beach Finance Department



**SCHEDULE 20**  
**CITY OF ORMOND BEACH, FLORIDA**  
**COMPUTATION OF DIRECT AND OVERLAPPING DEBT**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

|                                   | <u>Net Debt Outstanding</u> | <u>Percentage<br/>Applicable to<br/>the<br/>Governmental<br/>Unit</u> | <u>City of<br/>Ormond<br/>Beach —<br/>Share of Debt</u> |
|-----------------------------------|-----------------------------|-----------------------------------------------------------------------|---------------------------------------------------------|
| Direct:                           |                             |                                                                       |                                                         |
| City of Ormond Beach              | \$ 6,014 (1)                | 100.00%                                                               | \$ 6,014                                                |
| Overlapping:                      |                             |                                                                       |                                                         |
| Volusia County                    | 60,076 (2)                  | 10.01%                                                                | \$ 6,014                                                |
| Total direct and overlapping debt |                             |                                                                       | <u>\$ 12,028</u>                                        |

(1) From Schedule 17

(2) Volusia County

Notes: Overlapping governments are those that coincide, at least in part, with the geographic boundaries of the City. This schedule estimates the portion of the outstanding debt of those overlapping governments that is borne by the residents and businesses of the City of Ormond Beach, Florida. This process recognizes that, when considering the City's ability to issue and repay long-term debt, the entire debt burden borne by the residents and businesses should be taken into account. However, this does not imply that every taxpayer is a resident – and therefore responsible for repaying the debt – of each overlapping government.

For debt repaid with property taxes, the percentage of overlapping debt applicable is estimated using taxable assessed property values.

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 21**  
**CITY OF ORMOND BEACH, FLORIDA**  
**REVENUE BOND COVERAGE**  
**WATER AND SEWER SYSTEM FUND**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| <b>Fiscal Year<br/>End</b> | <b>Gross<br/>Revenues</b> | <b>Operating<br/>Expense</b> | <b>Net Revenues</b> | <b>Debt Service<br/>Requirements</b> | <b>Debt Service<br/>Coverage</b> |
|----------------------------|---------------------------|------------------------------|---------------------|--------------------------------------|----------------------------------|
| 2016                       | 18,244                    | 8,817                        | 9,427               | 4,036 (5)                            | 2.34                             |
| 2017                       | 19,311                    | 9,510                        | 9,801               | 4,041 (6)                            | 2.43                             |
| 2018                       | 19,700                    | 10,140                       | 9,560               | 3,713 (6)                            | 2.57                             |
| 2019                       | 20,546                    | 10,703                       | 9,843               | 4,071 (6)                            | 2.42                             |
| 2020                       | 20,065                    | 10,031                       | 10,034              | 4,179 (6)                            | 2.4                              |
| 2021                       | 19,927                    | 9,976                        | 9,951               | 4,287 (6)                            | 2.32                             |
| 2022                       | 20,978                    | 10,734                       | 10,244              | 4,406 (6)                            | 2.33                             |
| 2023                       | 21,398                    | 13,519                       | 7,879               | 4,043 (6)                            | 1.95                             |
| 2024                       | 23,098                    | 14,411                       | 8,687               | 3,753 (6)                            | 2.31                             |
| 2025                       | 24,291                    | 22,428                       | 1,863               | 3,877 (6)                            | 0.48                             |

- (1) Maximum Debt Service for Series 2000, Series 2004 and Series 2006 combined.  
(2) Maximum Debt Service for Series 2000, Series 2004, Series 2006 and Series 2007 combined.  
(3) Maximum Debt Service for Series 2004, Series 2006, Series 2007 and Series 2010 combined.  
(4) Maximum Debt Service for Series 2004, Series 2010, Series 2013A, Series 2013B and Series 2013C combined.  
(5) Maximum Debt Service for Series 2004, Series 2010, Series 2013A, Series 2013B Series 2013 C and Series 2015 combined.  
(6) Maximum Debt Service for Series 2004, Series 2010, Series 2013A, Series 2013B Series 2013 C, Series 2015, Series 2017 and Series 2019 combined.

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 22**  
**CITY OF ORMOND BEACH, FLORIDA**  
**LEGAL DEBT MARGIN INFORMATION**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**

The Constitution of the State of Florida, Florida Statute 200.181, and the Charter of the City of Ormond Beach, Florida set no legal debt margin.

DRAFT

**SCHEDULE 23**  
**CITY OF ORMOND BEACH, FLORIDA**  
**PLEDGED-REVENUE COVERAGE**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| <b>Water &amp; Wastewater Revenue Bonds</b> |                                |                                 |                              |                  |                 |                 |
|---------------------------------------------|--------------------------------|---------------------------------|------------------------------|------------------|-----------------|-----------------|
| <b>Fiscal Year</b>                          | <b>Utility Service Charges</b> | <b>Less: Operating Expenses</b> | <b>Net Available Revenue</b> | <b>Principal</b> | <b>Interest</b> | <b>Coverage</b> |
| 2016                                        | 18,244                         | 8,817                           | 9,427                        | 2,610            | 1,187           | 2.48            |
| 2017                                        | 18,913                         | 9,510                           | 9,403                        | 3,238            | 1,139           | 2.15            |
| 2018                                        | 17,773                         | 10,140                          | 7,633                        | 3,352            | 1,120           | 1.71            |
| 2019                                        | 20,538                         | 10,703                          | 9,835                        | 4,071            | 1,045           | 1.92            |
| 2020                                        | 20,016                         | 10,032                          | 9,984                        | 4,179            | 1,029           | 1.92            |
| 2021                                        | 19,922                         | 9,976                           | 9,946                        | 4,287            | 931             | 1.91            |
| 2022                                        | 20,963                         | 10,734                          | 10,229                       | 4,406            | 798             | 1.97            |
| 2023                                        | 20,963                         | 13,519                          | 7,444                        | 3,681            | 685             | 1.70            |
| 2024                                        | 23,097                         | 14,229                          | 8,868                        | 3,382            | 608             | 2.22            |
| 2025                                        | 24,295                         | 14,756                          | 9,539                        | 3,494            | 989             | 2.13            |

**Notes:**

Fiscal year 2004 – principal amount of water & wastewater revenue bonds reflects the net change in bonds for the fiscal year due to bond refunding.

Fiscal year 2010 – principal amount of water & wastewater revenue bonds reflects the net change in bonds for the fiscal year due to bond refunding.

Fiscal year 2013 – principal amount of water & wastewater revenue bonds reflects the net change in bonds for the fiscal year due to bond refunding.

Fiscal year 2015 – principal amount of water & wastewater revenue bonds reflects the net change in bonds for the fiscal year due to bond refunding.

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 24**  
**CITY OF ORMOND BEACH, FLORIDA**  
**DEMOGRAPHIC AND ECONOMIC STATISTICS**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**

| <b>Fiscal Year</b> | <b>Population<sup>(1)</sup></b> | <b>Personal Income <i>(In thousands)</i></b> | <b>Per Capita Personal Income<sup>(2)</sup></b> | <b>Median Age<sup>(3)</sup></b> | <b>Unemployment Rate<sup>(4)</sup></b> |
|--------------------|---------------------------------|----------------------------------------------|-------------------------------------------------|---------------------------------|----------------------------------------|
| 2016               | 40,366                          | 1,541,860                                    | 38,197                                          | 46.6                            | 5.20%                                  |
| 2017               | 40,722                          | 1,591,660                                    | 39,086                                          | 47.0                            | 3.70%                                  |
| 2018               | 42,816                          | 1,427,314                                    | 33,336                                          | 51.0                            | 3.20%                                  |
| 2019               | 43,475                          | 1,503,322                                    | 34,579                                          | 51.5                            | 3.20%                                  |
| 2020               | 43,759                          | 1,523,645                                    | 34,819                                          | 50.8                            | 5.90%                                  |
| 2021               | 43,500                          | 1,514,627                                    | 34,819                                          | 50.2                            | 4.30%                                  |
| 2022               | 44,069                          | 1,687,005                                    | 38,281                                          | 52.5                            | 2.80%                                  |
| 2023               | 44,277                          | 1,899,439                                    | 42,899                                          | 51.5                            | 3.07%                                  |
| 2024               | 44,663                          | 1,973,033                                    | 44,176                                          | 51.9                            | 4.00%                                  |
| 2025               | 44,680                          | 2,127,081                                    | 47,607                                          | 51.9                            | 5.00%                                  |

Sources: (1) Bureau of Economic and Business Research, University of Florida  
(2) United States Department of Commerce, Bureau of Economic Analysis,  
(3) Volusia County, Florida  
(4) Bureau of Labor Statistics

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 25**  
**CITY OF ORMOND BEACH, FLORIDA**  
**PRINCIPAL EMPLOYERS**  
**CURRENT YEAR AND TEN YEARS AGO**  
**SEPTEMBER 30, 2025**

| Fiscal Year 2025            |                     |                             | Fiscal Year 2016                     |                     |                             |
|-----------------------------|---------------------|-----------------------------|--------------------------------------|---------------------|-----------------------------|
| Employer                    | Number of Employees | Percent of Total Employment | Employer                             | Number of Employees | Percent of Total Employment |
| Volusia County School Board | 8,212               | 2.53                        | Volusia County School Board          | 7,443               | 2.57                        |
| Advent Healthcare           | 7,923               | 2.44                        | Halifax Community Health             | 4,384               | 1.51                        |
| Halifax Hospital            | 4,447               | 1.37                        | Flordia Hospital - All Divisions     | 4,690               | 1.62                        |
| Publix                      | 4,106               | 1.27                        | County of Volusia                    | 3,447               | 1.19                        |
| Walmart                     | 3,504               | 1.08                        | Publix Supermarkets Incorporated     | 3,179               | 1.10                        |
| State of Florida            | 2,758               | 0.85                        | State of Florida                     | 2,007               | 0.69                        |
| County of Volusia           | 2,740               | 0.84                        | Walmart                              | 2,589               | 0.89                        |
| Embry-Riddle                | 1,939               | 0.60                        | Daytona State College                | 1,416               | 0.49                        |
| Stetson                     | 1,502               | 0.46                        | Embry Riddle Aeronautical University | 1,326               | 0.46                        |
| Amazon                      | 1,300               | 0.40                        | U.S Government                       | 1,259               | 0.43                        |
| <b>Total</b>                | <b>38,431</b>       | <b>11.84</b>                | <b>Total</b>                         | <b>31,740</b>       | <b>10.95</b>                |
| Estimated total workforce   | 324480              |                             | Estimated total workforce            | 289923              |                             |

**Note:** No statistics are kept on primary employers within the City of Ormond Beach, Florida  
2022 information is not available

**Sources:** County of Volusia, Department of Economic Development (Latest Available Data)  
Labor Market Statistics, Florida Research and Economic Database

**SCHEDULE 26**  
**CITY OF ORMOND BEACH, FLORIDA**  
**AUTHORIZED POSITIONS BY DEPARTMENT/DIVISION/SECTION**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**

|                                     | 2025   | 2024   | 2023   | 2022   | 2021   | 2020   | 2019   | 2018   | 2017   | 2016   |
|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| City Administration                 | 5.00   | 4.00   | 4.00   | 4.00   | 4.00   | 4.00   | 3.00   | 3.00   | 2.60   | 2.60   |
| Support Services                    | 4.00   | 4.00   | 4.00   | 4.00   | 4.00   | 3.00   | 4.00   | 4.00   | 4.00   | 4.00   |
| City Attorney                       | 5.00   | 5.00   | 5.00   | 5.00   | 5.00   | 5.00   | 5.00   | 5.00   | 5.00   | 5.00   |
| Human Resources                     | 5.00   | 4.00   | 3.00   | 3.00   | 3.00   | 4.00   | 5.00   | 4.50   | 4.50   | 4.00   |
| Finance:                            |        |        |        |        |        |        |        |        |        |        |
| Budget/Finance                      | 10.00  | 10.00  | 10.00  | 10.00  | 10.00  | 9.65   | 6.65   | 6.65   | 6.65   | 6.65   |
| Utility and Customer Services       | 12.00  | 12.00  | 12.00  | 12.00  | 12.00  | 12.35  | 12.35  | 12.35  | 12.35  | 11.85  |
| Information Technology              | 8.00   | 7.00   | 7.00   | 7.00   | 7.00   | 7.00   | 6.00   | 6.00   | 6.00   | 6.00   |
| Planning                            | 6.00   | 6.00   | 5.60   | 5.60   | 5.60   | 5.25   | 5.25   | 5.25   | 5.25   | 5.25   |
| Building Inspection/Permitting      | 14.00  | 12.00  | 12.00  | 12.00  | 11.00  | 11.35  | 11.35  | 10.35  | 10.35  | 9.35   |
| Economic Development                | 1.00   | 1.00   | 1.00   | 1.00   | 1.00   | 0.90   | 1.00   | 0.90   | 0.90   | 0.90   |
| Police Department                   | 95.00  | 95.00  | 94.00  | 91.50  | 88.50  | 89.50  | 88.50  | 87.82  | 87.82  | 90.32  |
| Neighborhood Improvement            | 6.00   | 6.00   | 6.00   | 6.00   | 6.00   | 6.00   | 6.00   | 6.00   | 6.00   | 6.00   |
| Fire Department                     | 51.00  | 49.00  | 48.00  | 48.00  | 48.00  | 47.00  | 47.00  | 47.00  | 47.00  | 47.00  |
| Public Works Department:            |        |        |        |        |        |        |        |        |        |        |
| Public Works Administration         |        |        |        |        |        |        |        |        |        |        |
| Engineering                         | 12.00  | 12.00  | 12.00  | 12.00  | 12.00  | 12.25  | 12.25  | 12.25  | 11.83  | 10.83  |
| Streets and Roadside Maintenance    | 21.00  | 21.00  | 19.00  | 19.00  | 19.00  | 19.05  | 19.05  | 18.05  | 16.80  | 16.80  |
| Fleet Operations Management         | 5.50   | 5.50   | 5.50   | 5.50   | 5.50   | 5.50   | 4.50   | 4.50   | 5.50   | 5.50   |
| Stormwater Drainage                 | 11.00  | 11.00  | 10.00  | 10.00  | 10.00  | 9.90   | 9.90   | 9.00   | 8.70   | 8.70   |
| Water Treatment and Distribution    | 37.50  | 37.50  | 36.50  | 34.00  | 34.00  | 30.10  | 29.60  | 29.60  | 29.05  | 28.60  |
| Wastewater Collection and Treatment | 28.00  | 28.00  | 26.00  | 25.00  | 25.00  | 28.10  | 27.60  | 27.60  | 27.60  | 27.60  |
| Solid Waste Collection and Disposal | 2.00   | 2.00   | 1.00   | 1.00   | 1.00   | 0.65   | 0.65   | 1.65   | 1.65   | 1.65   |
| Recycling                           | -      | -      | -      | -      | -      | 0.35   | 0.35   | 0.35   | 0.35   | 0.35   |
| Street Sweeping                     |        |        |        |        |        |        |        |        |        |        |
| Yard Waste Mulching                 |        |        |        |        |        |        |        |        |        |        |
| Leisure Services:                   |        |        |        |        |        |        |        |        |        |        |
| Building Maintenance                | 7.50   | 7.50   | 7.50   | 7.50   | 7.50   | 7.00   | 7.00   | 8.00   | 6.50   | 6.50   |
| Leisure Services Administration     | 6.50   | 6.50   | 6.50   | 7.00   | 7.00   | 6.63   | 6.63   | 7.26   | 6.63   | 6.63   |
| Recreation Activities/Nova/SONC     | 7.50   | 7.00   | 3.50   | 7.00   | 7.00   | 8.50   | 8.50   | 12.90  | 12.45  | 12.45  |
| Athletic Fields Maintenance         | 9.50   | 7.50   | 7.50   | 7.50   | 7.50   | 7.50   | 7.50   | 7.50   | 7.50   | 7.50   |
| Parks and Grounds Maintenance       | 6.00   | 6.00   | 6.00   | 6.00   | 6.00   | 6.00   | 6.00   | 4.23   | 5.73   | 5.23   |
| The Casements                       | 4.50   | 4.50   | 4.50   | 2.00   | 2.00   | 3.75   | 3.75   | 3.75   | 3.75   | 4.20   |
| Environmental Discovery Center      | 3.00   | 2.00   | 3.50   | 2.00   | 2.00   | 2.00   | 1.63   | 1.45   | 1.08   | 0.45   |
| Performing Arts Center              | 5.50   | 3.50   | 3.50   | 3.50   | 3.50   | 3.75   | 3.75   | 3.75   | 3.75   | 3.75   |
| Senior Center                       | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   | 0.50   |
| Community Events/Special Services   | 2.00   | 2.00   | 2.00   | 2.00   | 2.00   | 2.25   | 2.25   | 2.25   | 2.25   | 2.25   |
| Municipal Airport                   | 1.00   | 1.00   | 1.00   | 1.00   | 1.00   | 1.10   | 1.10   | 1.10   | 1.10   | 1.10   |
|                                     | 392.50 | 380.00 | 367.60 | 361.60 | 357.60 | 359.88 | 353.61 | 354.51 | 351.14 | 349.51 |

**Note:** Number of positions are full time equivalents

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 27**  
**CITY OF ORMOND BEACH, FLORIDA**  
**OPERATING INDICATORS BY FUNCTION/PROGRAM**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**

|                                                          | 2025      | 2024      | 2023      | 2022      | 2021      | 2020      | 2019      | 2018      | 2017      | 2016      |
|----------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Police                                                   |           |           |           |           |           |           |           |           |           |           |
| Number of traffic citations issued                       | 4,071     | 6,635     | 7,294     | 6,750     | 6,669     | 7,626     | 8,906     | 9,281     | 6,803     | 7,551     |
| Number of offense reports                                | 3,985     | 5,809     | 6,114     | 6,550     | 6,448     | 5,923     | 6,713     | 6,568     | 8,834     | 7,326     |
| Number of calls for service                              | 67,538    | 64,740    | 71,583    | 70,200    | 70,124    | 75,266    | 54,949    | 65,390    | 83,083    | 83,098    |
| Fire                                                     |           |           |           |           |           |           |           |           |           |           |
| Emergency fire responses                                 | 3,536     | 3,534     | 3,534     | 3,586     | 3,299     | 3,065     | 2,790     | 3,045     | 5,600     | 2,120     |
| Emergency rescue responses (ALS/BLS)                     | 4,684     | 4,637     | 4,637     | 4,533     | 4,435     | 4,119     | 4,411     | 4,796     | 6,800     | 5,300     |
| Education classroom presentations                        | 60        | 84        | 84        | 33        | 31        | 5         | 50        | 64        | 86        | 98        |
| Education (not included in reporting entity)             |           |           |           |           |           |           |           |           |           |           |
| Kindergarten-Grade 5 students                            | 3,322     | 3,260     | 3,250     | 3,209     | 2,995     | 2,980     | 2,940     | 2,892     | 2,931     | 2,899     |
| Grades 6-8 students                                      | 933       | 1,000     | 1,600     | 1,580     | 1,265     | 1,260     | 1,054     | 1,006     | 1,048     | 1,022     |
| Airport                                                  | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| Fixed based operator                                     | 13        | 13        | 13        | 11        | 14        | 13        | 13        | 12        | 11        | 10        |
| Flight School                                            | 4         | 4         | 4         | 3         | 3         | 3         | 3         | 2         | 2         | 5         |
| Based aircraft                                           | 150       | 150       | 150       | 145       | 144       | 140       | 142       | 175       | 163       | 140       |
| Total 12 hour, operations                                | 109,649   | 109,649   | 109,649   | 96,487    | 105,143   | 112,677   | 100,877   | 100,173   | 116,165   | 109,000   |
| Water treatment plants                                   |           |           |           |           |           |           |           |           |           |           |
| Jefferson Street Plant:                                  |           |           |           |           |           |           |           |           |           |           |
| Design capacity                                          | 12.00 MGD | 12.00 MGD | 12.00 MGD | 12.00 MGD | 12.00 MGD | 12.00 MGD | 12.00 MGD | 12.00 MGD | 12.00 MGD | 12.00 MGD |
| Current production rate                                  | 5.5       | 5.5       | 5.5       | 5.59 MGD  | 5.54 MGD  | 5.93 MGD  | 5.93 MGD  | 5.93 MGD  | 5.93 MGD  | 5.93 MGD  |
| Number of water utility connections                      | 25,655    | 25,162    | 24,946    | 24,400    | 23,923    | 23,638    | 23,465    | 22,793    | 21,905    | 21,905    |
| Solid waste system                                       |           |           |           |           |           |           |           |           |           |           |
| Number of solid waste disposal customers                 | 18,263    | 18,012    | 17,917    | 17,650    | 17,617    | 17,214    | 17,501    | 17,284    | 17,066    | 16,868    |
| Number of active participating recycling program (units) | 17,410    | 17,164    | 17,070    | 16,900    | 16,834    | 16,704    | 16,667    | 17,017    | 16,302    | 16,105    |
| Water pollution control plants                           |           |           |           |           |           |           |           |           |           |           |
| Orchard Street Plant:                                    |           |           |           |           |           |           |           |           |           |           |
| Design capacity                                          | 8.00 MGD  | 8.00 MGD  | 8.00 MGD  | 8.00 MGD  | 8.00 MGD  | 8.00 MGD  | 8.00 MGD  | 8.00 MGD  | 8.00 MGD  | 8.00 MGD  |
| Current treatment rate                                   | 5.8       | 5.8       | 5.3       | 4.39 MGD  | 4.19 MGD  | 4.19 MGD  | 4.19 MGD  | 4.19 MGD  | 4.19 MGD  | 4.19 MGD  |
| Number of collection system connections                  | 18,300    | 18,266    | 18,150    | 18,130    | 18,125    | 18,117    | 17,440    | 16,882    | 16,874    | 16,424    |
| Number of effluent reuse connections                     | 3,330     | 3,311     | 3,205     | 3,199     | 3,199     | 3,080     | 3,073     | 3,053     | 2,603     | 2,345     |

\* Information not available.

**Sources:** City of Ormond Beach Police Department, City of Ormond Beach Fire Department, School Board of Volusia County, City of Ormond Beach Airport Department, City of Ormond Beach Public Works Department, City of Ormond Beach Finance Department.



**SCHEDULE 28**  
**CITY OF ORMOND BEACH, FLORIDA**  
**CAPITAL ASSET STATISTICS BY FUNCTION/PROGRAM**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2024**

|                                                       | 2025   | 2024   | 2023   | 2022   | 2021   | 2020   | 2019   | 2018   | 2017   | 2016   |
|-------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Police                                                |        |        |        |        |        |        |        |        |        |        |
| Police station                                        | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      |
| Holding facility                                      | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      |
| Vehicular patrol units                                | 70     | 69     | 69     | 60     | 57     | 55     | 53     | 52     | 51     | 51     |
| Animal control/service vehicles                       | 6      | 6      | 6      | 6      | 6      | 5      | 5      | 5      | 5      | 5      |
| Motorcycle units                                      | 4      | 4      | 6      | 6      | 6      | 5      | 5      | 5      | 5      | 4      |
| Evidence vehicles                                     | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      |
| Administrative vehicles                               | 8      | 8      | 8      | 7      | 6      | 6      | 6      | 6      | 6      | 6      |
| Investigative units                                   | 11     | 11     | 11     | 10     | 10     | 9      | 10     | 9      | 9      | 9      |
| Outreach vehicles                                     | 1      | 1      | 1      | 1      | 1      | 3      | 3      | 3      | 3      | 3      |
| Volunteer vehicles                                    | 1      | 1      | 1      | 2      | 2      | 2      | 2      | 2      | 2      | 2      |
| Neighborhood improvement / code enforcement vehicles  | 5      | 5      | 5      | 5      | 5      | 5      | 5      | 5      | 5      | 4      |
| SMART trailers                                        | 6      | 6      | 6      | 4      | 4      | 4      | 2      | 2      | 2      | 2      |
| Fire stations in City limits                          | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      |
| Medical facilities (not included in reporting entity) |        |        |        |        |        |        |        |        |        |        |
| Number of hospitals                                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 2      | 2      |
| Number of patient beds                                | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 324    | 324    |
| Public library square footage                         | 31,000 | 31,000 | 31,000 | 31,000 | 31,000 | 31,000 | 31,000 | 31,000 | 31,000 | 31,000 |
| Education (not included in reporting entity)          |        |        |        |        |        |        |        |        |        |        |
| Volusia County Schools -                              |        |        |        |        |        |        |        |        |        |        |
| Kindergarten – Grade 5                                | 5      | 5      | 5      | 5      | 5      | 5      | 5      | 5      | 5      | 5      |
| Grades 6-8                                            | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      | 1      |
| Airport                                               |        |        |        |        |        |        |        |        |        |        |
| Runways                                               | 2      | 2      | 2      | 2      | 2      | 2      | 2      | 2      | 2      | 2      |
| Taxiways – fully lighted                              | 7      | 7      | 7      | 7      | 7      | 7      | 7      | 7      | 7      | 7      |

**SCHEDULE 28**  
**CITY OF ORMOND BEACH, FLORIDA**  
**CAPITAL ASSET STATISTICS BY FUNCTION/PROGRAM**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**

|                                                                      | 2025 | 2024 | 2023 | 2022 | 2021 | 2020 | 2019 | 2018 | 2017 | 2016  |
|----------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|-------|
| Recreation                                                           |      |      |      |      |      |      |      |      |      |       |
| Parks (acres)                                                        | 604  | 604  | 604  | 604  | 604  | 602  | 532  | 532  | 532  | 532   |
| Picnic areas                                                         | 18   | 18   | 18   | 18   | 18   | 18   | 12   | 12   | 12   | 12    |
| Playgrounds                                                          | 13   | 13   | 13   | 13   | 13   | 13   | 12   | 12   | 12   | 12    |
| Baseball/softball complexes                                          | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     |
| Baseball fields                                                      | 9    | 9    | 9    | 9    | 9    | 9    | 12   | 12   | 12   | 12    |
| Softball fields                                                      | 13   | 13   | 13   | 13   | 13   | 13   | 9    | 9    | 9    | 9     |
| Soccer fields                                                        | 12   | 12   | 12   | 12   | 12   | 12   | 13   | 13   | 13   | 13    |
| Handball/racquetball courts                                          | 6    | 6    | 6    | 6    | 6    | 6    | 8    | 8    | 8    | 8     |
| Shuffleboard courts                                                  | 12   | 12   | 12   | 12   | 12   | 12   | 12   | 12   | 12   | 12    |
| Community centers                                                    | 4    | 4    | 4    | 4    | 4    | 4    | 3    | 3    | 3    | 3     |
| Gymnastics building                                                  | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     |
| Tennis center                                                        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2     |
| Tennis courts – clay/lighted                                         | 8    | 8    | 8    | 8    | 8    | 8    | 8    | 8    | 8    | 8     |
| Tennis courts – hard surface /<br>without lights                     | 9    | 9    | 9    | 9    | 9    | 9    | 11   | 11   | 11   | 11    |
| Tennis courts – hard surface /<br>lighted                            | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2     |
| Basketball courts – outside / lighted                                | 4    | 4    | 4    | 4    | 4    | 5    | 5    | 5    | 5    | 5     |
| Senior Citizens Center                                               | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     |
| Civic Center/Performing Arts                                         | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     |
| Skate court                                                          | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1     |
| Boat ramps/public                                                    | 6    | 6    | 6    | 6    | 6    | 6    | 6    | 6    | 6    | 6     |
| Fishing piers/public                                                 | 11   | 11   | 11   | 11   | 11   | 11   | 7    | 7    | 7    | 7     |
| 18-hole golf course/public (not<br>included in the reporting entity) | 0    | 0    | 0    | 0    | 0    | 1    | 1    | 1    | 1    | 1     |
| Public works                                                         |      |      |      |      |      |      |      |      |      |       |
| Area: square miles                                                   | 39   | 39   | 39   | 39   | 38   | 38   | 38   | 36   | 36   | 36    |
| Miles paved streets                                                  | 182  | 182  | 182  | 182  | 181  | 181  | 177  | 177  | 177  | 176   |
| Miles unpaved streets                                                | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | -     |
| Miles sidewalks (est'd)                                              | 162  | 162  | 162  | 161  | 161  | 161  | 156  | 153  | 153  | 88    |
| Miles storm sewers (est'd)                                           | 99   | 99   | 99   | 99   | 99   | 99   | 100  | 98   | 98   | 98    |
| Miles sanitary sewer                                                 | 305  | 305  | 304  | 302  | 299  | 273  | 273  | 270  | 266  | 266   |
| Fire hydrants                                                        | 2746 | 2746 | 2695 | 2659 | 2634 | 2607 | 2594 | 2191 | 2497 | 1,797 |

**Sources:** City of Ormond Beach Police Department, City of Ormond Beach Fire Department, Florida Hospital, School Board of Volusia County, City of Ormond Beach Airport Department, City of Ormond Beach Leisure Services Department, City of Ormond Beach Public Works Department, City of Ormond Beach Engineering Department, City of Ormond Beach Finance Department

**SCHEDULE 29**  
**CITY OF ORMOND BEACH, FLORIDA**  
**CHANGES IN NET POSITION, ENTERPRISE FUNDS**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**

|                                                   | 2025      | 2024      | 2023       | 2022      | 2021      | 2020      | 2019      | 2018      | 2017      | 2016     |
|---------------------------------------------------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
| Operating revenues                                |           |           |            |           |           |           |           |           |           |          |
| Charges for services:                             |           |           |            |           |           |           |           |           |           |          |
| Water sales                                       | \$ 12,936 | \$ 12,308 | \$ 11,377  | \$ 11,090 | \$ 10,443 | \$ 10,505 | \$ 11,448 | \$ 10,457 | \$ 10,020 | \$ 9,589 |
| Service charges                                   | 373       | 346       | 306        | 396       | 382       | 242       | 436       | 501       | 532       | 488      |
| Sewer charges                                     | 10,986    | 10,443    | 9,715      | 9,477     | 9,096     | 9,269     | 8,654     | 8,740     | 8,351     | 8,053    |
| Refuse charges                                    | 12,208    | 11,655    | 8,770      | 8,411     | 7,534     | 7,525     | 7,347     | 6,973     | 6,743     | 6,288    |
| Franchise fees                                    | 2,110     | 1,846     | 2,325      | 1,607     | 1,580     | 1,544     | 1,535     | 1,474     | 1,469     | 1,457    |
| Miscellaneous                                     | (4)       | 1         | 33         | 15        | 5         | 49        | 8         | 2         | 9         | -        |
| Total operating revenues                          | 38,609    | 36,599    | 32,526     | 30,996    | 29,040    | 29,134    | 29,428    | 28,147    | 27,124    | 25,875   |
| Operating expenses                                |           |           |            |           |           |           |           |           |           |          |
| Billing and customer service                      | 1,708     | 1,758     | 1,916      | 1,701     | 1,316     | 1,507     | 1,618     | 1,450     | 1,585     | 1,375    |
| Water system                                      | 6,634     | 6,415     | 5,674      | 4,237     | 4,059     | 4,060     | 4,242     | 3,972     | 3,745     | 3,902    |
| Sewer system                                      | 6,414     | 6,238     | 5,929      | 4,796     | 4,600     | 4,464     | 4,843     | 4,718     | 4,179     | 3,904    |
| Solid waste system                                | 13,645    | 9,897     | 12,504     | 8,617     | 8,059     | 8,206     | 7,656     | 9,254     | 13,863    | 6,835    |
| Depreciation                                      | 7,684     | 7,431     | 7,473      | 7,668     | 8,222     | 8,197     | 7,789     | 7,535     | 8,151     | 7,490    |
| Total operating expenses                          | 36,085    | 31,739    | 33,496     | 27,019    | 26,256    | 26,434    | 26,148    | 26,929    | 31,523    | 23,506   |
| Operating income                                  | 2,524     | 4,860     | (970)      | 3,977     | 2,784     | 2,700     | 3,280     | 1,218     | (4,399)   | 2,369    |
| Nonoperating income (expenses)                    |           |           |            |           |           |           |           |           |           |          |
| Interest revenue                                  | 872       | 904       | 592        | 71        | 4         | 152       | 340       | 211       | 71        | 100      |
| Operating Grants                                  | 4,237     | 2,074     | -          | 4,953     | 41        | 520       | 658       | 2,430     | 6,774     |          |
| Debt issuance costs                               | -         | (56)      | -          | -         | -         | -         | (41)      | -         | (43)      |          |
| Interest/amortization expense                     | (989)     | (608)     | (685)      | (798)     | (931)     | (1,030)   | (1,045)   | (1,120)   | (1,140)   | (1,187)  |
| Gain on disposal of capital assets                | -         | -         | -          | 21        | (82)      | 2         | 32        | (62)      | 58        | 21       |
| Total nonoperating revenues (expenses)            | 4,120     | 2,314     | (93)       | 4,247     | (968)     | (356)     | (56)      | 1,459     | 5,720     | (1,066)  |
| Income before contributions, grants and transfers | 6,644     | 7,174     | (1,063)    | 8,224     | 1,816     | 2,344     | 3,224     | 2,677     | 1,321     | 1,303    |
| Capital contributions and grants                  | 2,248     | 2,006     | 1,202      | 1,575     | 1,398     | 1,414     | 1,007     | 884       | 1,206     | 1,287    |
| Transfers in                                      | 578       | 462       | 426        | 350       | 430       | 463       | 455       | 346       | 551       | 462      |
| Transfers out                                     | (5,109)   | (5,063)   | (4,132)    | (3,992)   | (3,822)   | (3,820)   | (3,533)   | (3,410)   | (3,586)   | (3,308)  |
| Change in net position                            | \$ 4,361  | \$ 4,579  | \$ (3,567) | \$ 6,157  | \$ (178)  | \$ 401    | \$ 1,153  | \$ 497    | \$ (508)  | \$ (256) |

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 30**  
**CITY OF ORMOND BEACH, FLORIDA**  
**OPERATING REVENUES BY SOURCE, ENTERPRISE FUNDS**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**

| <b>Fiscal Year</b> | <b>Water</b> | <b>Sales</b> | <b>Service Charges</b> | <b>Sewer Charges</b> | <b>Refuse Charges</b> | <b>Franchise Fees</b> | <b>Operating Grants</b> | <b>Miscellaneous</b> | <b>Total Operating Revenues</b> |
|--------------------|--------------|--------------|------------------------|----------------------|-----------------------|-----------------------|-------------------------|----------------------|---------------------------------|
| 2016               |              | 9,589        | 488                    | 8,053                | 6,288                 | 1,457                 | -                       | -                    | 25,875                          |
| 2017               |              | 10,021       | 532                    | 8,351                | 6,743                 | 1,469                 | 6,775                   | 9                    | 33,900                          |
| 2018               |              | 10,457       | 501                    | 8,740                | 6,973                 | 1,474                 | 2,430                   | 2                    | 30,577                          |
| 2019               |              | 11,448       | 436                    | 8,654                | 7,347                 | 1,535                 | 658                     | 8                    | 30,086                          |
| 2020               |              | 10,505       | 242                    | 9,269                | 7,525                 | 1,544                 | 520                     | 49                   | 29,654                          |
| 2021               |              | 10,443       | 382                    | 9,096                | 7,534                 | 1,580                 | 41                      | 5                    | 29,081                          |
| 2022               |              | 11,090       | 396                    | 9,477                | 8,411                 | 1,607                 | 4,953                   | 15                   | 35,949                          |
| 2023               |              | 11,377       | 305                    | 9,715                | 8,770                 | 2,325                 | -                       | 33                   | 32,525                          |
| 2024               |              | 12,308       | 346                    | 10,443               | 11,655                | 1,846                 | 2,074                   | 1                    | 38,673                          |
| 2025               |              | 12,936       | 373                    | 10,986               | 12,208                | 2,110                 | 4,237                   | (4)                  | 42,846                          |

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 31**  
**CITY OF ORMOND BEACH, FLORIDA**  
**OPERATING EXPENSES, ENTERPRISE FUNDS**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**

| Fiscal Year | Personal Services                        |       |       |             | Contractual,<br>Supplies,<br>Utilities | Landfill<br>Closure Costs | Subtotal,<br>Expenses<br>before<br>Depreciation | Depreciation | Total<br>Operating<br>Expenses |
|-------------|------------------------------------------|-------|-------|-------------|----------------------------------------|---------------------------|-------------------------------------------------|--------------|--------------------------------|
|             | Utility Billing<br>& Customer<br>Service | Water | Sewer | Solid Waste |                                        |                           |                                                 |              |                                |
| 2016        | 727                                      | 2,078 | 1,984 | 189         | 11,039                                 | (71)                      | 15,946                                          | 7,490        | 23,436                         |
| 2017        | 788                                      | 2,134 | 2,101 | 204         | 18,521                                 | (68)                      | 23,680                                          | 8,183        | 31,863                         |
| 2018        | 730                                      | 2,030 | 1,906 | 125         | 14,836                                 | (65)                      | 19,562                                          | 7,535        | 27,097                         |
| 2019        | 734                                      | 1,989 | 1,836 | 117         | 13,893                                 | (64)                      | 18,505                                          | 7,789        | 26,294                         |
| 2020        | 868                                      | 2,236 | 2,128 | 134         | 12,842                                 | (72)                      | 18,136                                          | 8,197        | 26,333                         |
| 2021        | 807                                      | 2,179 | 1,728 | 140         | 13,900                                 | (78)                      | 18,676                                          | 8,222        | 26,898                         |
| 2022        | 722                                      | 2,074 | 1,467 | 223         | 14,863                                 | (60)                      | 19,289                                          | 7,668        | 26,957                         |
| 2023        | 794                                      | 2,610 | 1,717 | 145         | 20,171                                 | (212)                     | 25,225                                          | 7,473        | 32,698                         |
| 2024        | 841                                      | 3,042 | 1,985 | 223         | 18,280                                 | (3)                       | 24,368                                          | 7,431        | 31,799                         |
| 2025        | 909                                      | 3,226 | 1,894 | 277         | 22,120                                 | (77)                      | 28,349                                          | 7,684        | 36,033                         |

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 32**  
**CITY OF ORMOND BEACH, FLORIDA**  
**WATER TREATED AND CONSUMED AND WASTEWATER TREATED**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**

| Fiscal Year | Gallons of Raw Water Pumped | Gallons of Water Treated | Gallons of Water Consumed | %      | Gallons of Water Unbilled | Average Percent Unbilled | Gallons of Wastewater Treated | Total Direct Rate |         |            |          |         |
|-------------|-----------------------------|--------------------------|---------------------------|--------|---------------------------|--------------------------|-------------------------------|-------------------|---------|------------|----------|---------|
|             |                             |                          |                           |        |                           |                          |                               | Water             |         |            | Sewer    |         |
|             |                             |                          |                           |        |                           |                          |                               | Base (a)          | Use (b) | Excess (c) | Base (a) | Use (d) |
| 2016        | 2,200,000                   | 2,200,000                | 1,724,216                 | N/A    | 475,784                   | 21.63%                   | 1,165,043                     | 14.08             | 3.18    | 3.77       | 17.79    | 4.43    |
| 2017        | 2,295,000                   | 2,016,000                | 1,876,854                 | 8.85%  | 139,146                   | 6.90%                    | 1,683,000                     | 14.08             | 3.18    | 3.77       | 17.79    | 4.43    |
| 2018        | 2,300,000                   | 2,016,000                | 1,700,750                 | -9.38% | 315,250                   | 15.64%                   | 1,685,000                     | 15.08             | 3.18    | 3.77       | 18.79    | 4.43    |
| 2019        | 2,515,000                   | 2,196,000                | 1,755,805                 | 3.24%  | 440,195                   | 20.05%                   | 1,680,000                     | 15.58             | 3.18    | 3.77       | 19.29    | 4.43    |
| 2020        | 2,499,300                   | 2,116,800                | 1,802,390                 | 2.65%  | 314,410                   | 14.85%                   | 1,632,300                     | 15.58             | 3.18    | 3.77       | 19.29    | 4.43    |
| 2021        | 2,341,407                   | 2,047,006                | 1,807,728                 | 0.30%  | 239,278                   | 11.69%                   | 1,705,880                     | 15.58             | 3.18    | 3.77       | 19.29    | 4.43    |
| 2022        | 2,307,700                   | 2,042,060                | 1,835,396                 | 1.83%  | 206,664                   | 10.12%                   | 1,771,600                     | 15.86             | 3.24    | 3.84       | 19.63    | 4.51    |
| 2023        | 2,175,950                   | 2,011,050                | 1,814,063                 | 0.65%  | 196,987                   | 9.80%                    | 1,772,540                     | 16.42             | 3.35    | 3.97       | 20.32    | 4.67    |
| 2024        | 2,181,240                   | 1,989,830                | 1,814,063                 | 0.65%  | 175,767                   | 8.83%                    | 2,144,920                     | 17.41             | 3.55    | 4.21       | 21.54    | 4.95    |
| 2025        | 2,207,680                   | 1,955,800                | 1,960,778                 | 8.47%  | (4,978)                   | -0.25%                   | 2,053,000                     | 18.45             | 3.76    | 4.46       | 22.83    | 5.25    |

**Notes:** See Schedule 33 for detail of water and sewer residential service rates, inside City.

(a) Use up to 2,000 gallons

(b) Use range 3,000 through 6,000 gallons, charge per 1,000 gallons

(c) Use over 6,000 gallons, charge per 1,000 gallons

(d) Use over 2,000 gallons, charge per 1,000 gallons

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 33**  
**CITY OF ORMOND BEACH, FLORIDA**  
**WATER & SEWER RESIDENTIAL SERVICE RATES, INSIDE CITY**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**

| Fiscal Year | Water Service Rates                                |                                                                                     |                                                                                  | Sewer Service Rates                                |                                                                                  |
|-------------|----------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------|
|             | Minimum Use Charge<br>(0 – 2,000<br>Total Gallons) | Additional Use Charge For Each<br>1,000 Gallons<br>(3,000 – 6,000<br>Total Gallons) | Additional Use Charge For Each<br>1,000 Gallons<br>(Over 6,000<br>Total Gallons) | Minimum Use Charge<br>(0 – 2,000<br>Total Gallons) | Additional Use Charge For Each<br>1,000 Gallons<br>(Over 3,000<br>Total Gallons) |
| 2016        | 14.08                                              | 3.18                                                                                | 3.77                                                                             | 17.79                                              | 4.43                                                                             |
| 2017        | 14.08                                              | 3.18                                                                                | 3.77                                                                             | 17.79                                              | 4.43                                                                             |
| 2018 (9)    | 15.08                                              | 3.18                                                                                | 3.77                                                                             | 18.79                                              | 4.43                                                                             |
| 2019 (10)   | 15.58                                              | 3.18                                                                                | 3.77                                                                             | 19.29                                              | 4.43                                                                             |
| 2020        | 15.58                                              | 3.18                                                                                | 3.77                                                                             | 19.29                                              | 4.43                                                                             |
| 2021        | 15.58                                              | 3.18                                                                                | 3.77                                                                             | 19.29                                              | 4.43                                                                             |
| 2022 (11)   | 15.86                                              | 3.24                                                                                | 3.84                                                                             | 19.63                                              | 4.51                                                                             |
| 2023        | 16.42                                              | 3.35                                                                                | 3.97                                                                             | 20.32                                              | 4.67                                                                             |
| 2024 (13)   | 17.41                                              | 3.55                                                                                | 4.21                                                                             | 21.54                                              | 4.95                                                                             |
| 2025 (13)   | 18.45                                              | 3.76                                                                                | 4.46                                                                             | 22.83                                              | 5.25                                                                             |

**Notes:** Changes in water and sewer rates must be approved by the City Commission.

(8) City Commission approved a \$1/month increase on water and sewer rates, effective 10/1/2015 and \$1/month effective

(9) City Commission approved a \$1/month increase on water and sewer rates, effective 10/1/2015 and \$1/month effective

(10) City Commission approved a \$.50/month increase on water and sewer rates 09/19/2017

(11) City Commission approved a \$.28/month increase on water and \$.34 on sewer rates 09/22/2021

(12) City Commission approved a \$.56/month increase on water and \$.69 on sewer rates 09/22/2022

(13) City Commission approved a \$.99 increase on water and \$1.22 for sewer on 09/22/2023

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 34**  
**CITY OF ORMOND BEACH, FLORIDA**  
**MAJOR WATER AND WASTEWATER CUSTOMERS**  
**CURRENT YEAR AND TEN YEARS AGO**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| Name                                     | Fiscal Year 2025 |        |                                           |         |                        |         |
|------------------------------------------|------------------|--------|-------------------------------------------|---------|------------------------|---------|
|                                          | Gallons Consumed | %      | Water & Irrigation Sales Revenue Produced | %       | Sewer Revenue Produced | %       |
| Tymber Creek Utilities Incorporated/CSWR | 21,468           | 1.09%  | \$ 87                                     | 0.67%   | \$ -                   | 0.00%   |
| Bear Creek Venture, Ltd.                 | 17,844           | 0.91%  | 160                                       | 1.24%   | 172                    | 1.57%   |
| Playtex Manufacturing                    | 13,608           | 0.69%  | 96                                        | 0.74%   | 95                     | 0.86%   |
| Bermuda Estates LLC                      | 11,532           | 0.59%  | 98                                        | 0.76%   | 125                    | 1.14%   |
| Waypoint Ormond Beach                    | 11,520           | 0.59%  | 75                                        | 0.58%   | 90                     | 0.82%   |
| Blue Ox Enterprises, LLC                 | 10,092           | 0.51%  |                                           |         |                        |         |
| San Marco Association, Ltd.              | 9,120            | 0.47%  | 68                                        | 0.53%   | 80                     | 0.73%   |
| Gabriel Living Centers                   | 9,420            | 0.48%  | 52                                        | 0.40%   | 60                     | 0.55%   |
| ORMOND CAR WASH INVESTMENTS LLC          | 7,332            | 0.37%  |                                           |         |                        |         |
| KINGSTON SHORES CONDO ASSOC              | 7,044            | 0.36%  | 65                                        | 0.50%   | -                      | 0.00%   |
| Subtotal (10 largest)                    | 118,980          | 6.06%  | 701                                       | 5.42%   | 622                    | 5.67%   |
| Balance from other customers             | 1,841,798        | 93.93% | 12,235                                    | 94.58%  | 10,364                 | 94.34%  |
| Grand totals                             | 1,960,778        | 99.99% | \$ 12,936                                 | 100.00% | \$ 10,986              | 100.01% |



**SCHEDULE 34**  
**CITY OF ORMOND BEACH, FLORIDA**  
**MAJOR WATER AND WASTEWATER CUSTOMERS**  
**CURRENT YEAR AND TEN YEARS AGO**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*  
(Continued)

| Name                                        | Fiscal Year 2016 |        |                                           |        |                        |        |
|---------------------------------------------|------------------|--------|-------------------------------------------|--------|------------------------|--------|
|                                             | Gallons Consumed | %      | Water & Irrigation Sales Revenue Produced | %      | Sewer Revenue Produced | %      |
| Tymber Creek Utilities Incorporated         | 24,552           | 1.25%  | \$ 59                                     | 0.46%  | \$ -                   | 0.00%  |
| Bear Creek Venture, Ltd.                    | 18,254           | 0.93%  | 112                                       | 0.87%  | 143                    | 1.30%  |
| Bermuda Estates LLC                         | 17,002           | 0.87%  | 82                                        | 0.63%  | 108                    | 0.98%  |
| Playtex Manufacturing                       | 14,058           | 0.72%  | 65                                        | 0.50%  | 77                     | 0.70%  |
| San Marco Association, Ltd.                 | 10,297           | 0.53%  | 55                                        | 0.43%  | 70                     | 0.64%  |
| Ocean Village Villas Homeowners Association | 9,302            | 0.47%  | 22                                        | 0.17%  | -                      | 0.00%  |
| Gabriel Living Centers, LLC                 | 8,421            | 0.43%  | 20                                        | 0.15%  | 24                     | 0.22%  |
| Waypoint Ormond Beach                       | 8,414            | 0.43%  | 50                                        | 0.39%  | 63                     | 0.57%  |
| TPG Aapartment Management, LLC              | 7,994            | 0.41%  | 41                                        | 0.32%  | 52                     | 0.47%  |
| NDC Asset Management Inc                    | 6,479            | 0.33%  | 34                                        | 0.26%  | 43                     | 0.39%  |
| Subtotal (10 largest)                       | 124,773          | 6.37%  | 540                                       | 4.18%  | 580                    | 5.27%  |
| Balance from other customers                | 1,391,811        | 70.98% | 9,470                                     | 73.21% | 7,771                  | 70.74% |
| Grand totals                                | 1,662,554        | 77.35% | \$ 8,953                                  | 77.39% | \$ 7,294               | 76.01% |

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 35**  
**CITY OF ORMOND BEACH, FLORIDA**  
**MUNICIPAL FIREFIGHTERS' RETIREMENT TRUST**  
**REVENUES BY SOURCE AND EXPENSE BY TYPE**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| Revenues by Source |                        |                        |                                              |                     |                   |       |         |
|--------------------|------------------------|------------------------|----------------------------------------------|---------------------|-------------------|-------|---------|
| Fiscal Year Ended  | Employee Contributions | Employer Contributions | Employer Contributions as Percent of Payroll | State Contributions | Investment Income | Other | Total   |
| 2016               | 235                    | 1,241                  | 43.87%                                       | 338                 | 2,036             | -     | 3,850   |
| 2017               | 212                    | 1,145                  | 40.47%                                       | 306                 | 3,046             | -     | 4,709   |
| 2018               | 203                    | 1,091                  | 38.56%                                       | 295                 | 3,111             | -     | 4,700   |
| 2019               | 228                    | 1,303                  | 46.06%                                       | 306                 | 921               | -     | 2,758   |
| 2020               | 246                    | 1,520                  | 53.73%                                       | 259                 | 2,423             | -     | 4,448   |
| 2021               | 277                    | 1,273                  | 45.00%                                       | 346                 | 6,283             | -     | 8,179   |
| 2022               | 300                    | 1,344                  | 47.51%                                       | 365                 | (5,787)           | -     | (3,778) |
| 2023               | 310                    | 1,350                  | 47.72%                                       | 505                 | 4,165             | -     | 6,330   |
| 2024               | 322                    | 1,530                  | 54.08%                                       | 552                 | 6,644             | -     | 9,048   |
| 2025               | 340                    | 1,325                  | 46.84%                                       | 554                 | 6,481             | -     | 8,700   |

| Expense by Type |         |          |                         |       |
|-----------------|---------|----------|-------------------------|-------|
| Year Ended      | Refunds | Benefits | Administrative Services | Total |
| 2016            | 30      | 1,951    | 49                      | 2,030 |
| 2017            | 14      | 1,673    | 47                      | 1,734 |
| 2018            | 52      | 1,848    | 50                      | 1,950 |
| 2019            | 20      | 1,885    | 43                      | 1,948 |
| 2020            | 2       | 2,029    | 58                      | 2,089 |
| 2021            | 34      | 2,047    | 61                      | 2,142 |
| 2022            | 35      | 2,166    | 53                      | 2,254 |
| 2023            | 32      | 2,413    | 49                      | 2,494 |
| 2024            | 12      | 2,425    | 65                      | 2,502 |
| 2025            | 14      | 2,498    | 93                      | 2,605 |

Source: City of Ormond Beach Finance Department

**SCHEDULE 36**  
**CITY OF ORMOND BEACH, FLORIDA**  
**GENERAL EMPLOYEES PENSION**  
**REVENUES BY SOURCE AND EXPENSE BY TYPE**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| Revenues by Source |                        |                        |                                              |                   |         |
|--------------------|------------------------|------------------------|----------------------------------------------|-------------------|---------|
| Fiscal Year Ended  | Employee Contributions | Employer Contributions | Employer Contributions as Percent of Payroll | Investment Income | Total   |
| 2016               | 268                    | 1,842                  | 26.21%                                       | 3,480             | 5,590   |
| 2017               | 258                    | 1,676                  | 23.85%                                       | 5,035             | 6,969   |
| 2018               | 228                    | 1,563                  | 22.24%                                       | 5,133             | 6,924   |
| 2019               | 212                    | 1,433                  | 20.39%                                       | 1,501             | 3,146   |
| 2020               | 201                    | 1,280                  | 18.22%                                       | 3,775             | 5,256   |
| 2021               | 195                    | 950                    | 13.52%                                       | 4,409             | 5,554   |
| 2022               | 198                    | 807                    | 11.48%                                       | (9,294)           | (8,289) |
| 2023               | 189                    | 657                    | 9.35%                                        | 6,562             | 7,408   |
| 2024               | 184                    | 799                    | 11.37%                                       | 10,314            | 11,297  |
| 2025               | 178                    | 969                    | 13.79%                                       | 5,692             | 6,839   |

| Expense by Type |         |          |                         |       |       |
|-----------------|---------|----------|-------------------------|-------|-------|
| Year Ended      | Refunds | Benefits | Administrative Services | Other | Total |
| 2016            | 32      | 2,633    | 41                      | -     | 2,706 |
| 2017            | 44      | 2,633    | 47                      | -     | 2,724 |
| 2018            | 9       | 2,733    | 44                      | -     | 2,786 |
| 2019            | 11      | 2,842    | 41                      | -     | 2,894 |
| 2020            | 8       | 2,813    | 41                      | -     | 2,862 |
| 2021            | -       | 3,006    | 49                      | -     | 3,055 |
| 2022            | -       | 3,073    | 45                      | -     | 3,118 |
| 2023            | 193     | 3,183    | 42                      | -     | 3,418 |
| 2024            | 1       | 3,386    | 47                      | -     | 3,434 |
| 2025            | -       | 3,526    | 69                      | -     | 3,595 |

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 37**  
**CITY OF ORMOND BEACH, FLORIDA**  
**MUNICIPAL POLICE OFFICERS' RETIREMENT TRUST**  
**REVENUES BY SOURCE AND EXPENSE BY TYPE**  
**LAST TEN FISCAL YEARS**  
**SEPTEMBER 30, 2025**  
*(In Thousands)*

| Revenues by Source |                        |                        |                                              |                     |                   |         |
|--------------------|------------------------|------------------------|----------------------------------------------|---------------------|-------------------|---------|
| Fiscal Year Ended  | Employee Contributions | Employer Contributions | Employer Contributions as Percent of Payroll | State Contributions | Investment Income | Total   |
| 2016               | 272                    | 1,184                  | 38.69%                                       | 334                 | 2,355             | 4,145   |
| 2017               | 302                    | 1,406                  | 45.95%                                       | 343                 | 3,382             | 5,433   |
| 2018               | 318                    | 1,527                  | 49.90%                                       | 379                 | 3,475             | 5,699   |
| 2019               | 338                    | 1,575                  | 51.47%                                       | 407                 | 978               | 3,298   |
| 2020               | 406                    | 1,561                  | 51.01%                                       | 411                 | 2,849             | 5,227   |
| 2021               | 340                    | 1,213                  | 39.64%                                       | 415                 | 3,036             | 5,004   |
| 2022               | 378                    | 1,316                  | 43.01%                                       | 440                 | (6,706)           | (4,572) |
| 2023               | 416                    | 1,413                  | 46.18%                                       | 507                 | 4,846             | 7,182   |
| 2024               | 482                    | 1,921                  | 62.78%                                       | 581                 | 8,080             | 11,064  |
| 2025               | 476                    | 1,948                  | 63.66%                                       | 641                 | 4,919             | 7,984   |
| Expense by Type    |                        |                        |                                              |                     |                   |         |
| Fiscal Year Ended  | Refunds                | Benefits               | Professional / Administrative Services       | Total               |                   |         |
| 2016               | 35                     | 2,466                  | 36                                           | 2,537               |                   |         |
| 2017               | 18                     | 2,356                  | 37                                           | 2,411               |                   |         |
| 2018               | 79                     | 2,257                  | 36                                           | 2,372               |                   |         |
| 2019               | 69                     | 2,369                  | 49                                           | 2,487               |                   |         |
| 2020               | 43                     | 2,395                  | 56                                           | 2,494               |                   |         |
| 2021               | 112                    | 2,505                  | 43                                           | 2,660               |                   |         |
| 2022               | 16                     | 2,598                  | 42                                           | 2,656               |                   |         |
| 2023               | 22                     | 2,665                  | 45                                           | 2,732               |                   |         |
| 2024               | 55                     | 2,798                  | 48                                           | 2,901               |                   |         |
| 2025               | 35                     | 2,845                  | 73                                           | 2,953               |                   |         |

**Note:** There were no Employer Contributions from 1999 to 2003, as the City was overfunded for the Plan.

**Source:** City of Ormond Beach Finance Department

**SCHEDULE 38**  
**CITY OF ORMOND BEACH, FLORIDA**  
**OTHER POST EMPLOYMENT BENEFITS (OPEB)**  
**STATISTICAL INFORMATION**  
**CURRENT FISCAL YEAR**  
**SEPTEMBER 30, 2025**

| <b>Participant Data</b>                                       |                |
|---------------------------------------------------------------|----------------|
| Census date                                                   | September 2025 |
| <b>Participants</b>                                           |                |
| Active Employees                                              | 347            |
| Inactive Employees entitled to But Not Yet Receiving Benefits | -              |
| Inactive Employees Currently Receiving Benefits               | 12             |
| <b>Total</b>                                                  | <b>359</b>     |
| <b>Average Service</b>                                        |                |
| Active Employees                                              | 8.1            |

**Source:** City of Ormond Beach Finance Department

## Single Audit

DRAFT

**CITY OF ORMOND BEACH, FLORIDA  
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS  
FOR THE YEAR ENDED SEPTEMBER 30, 2025**

| <b>Federal/State Agency / Pass-Through Entity /<br/>Federal Program/State Project</b> | <b>Assistance<br/>Listing<br/>Number</b> | <b>Contract /<br/>Grant Number</b> | <b>Expenditures</b>        |
|---------------------------------------------------------------------------------------|------------------------------------------|------------------------------------|----------------------------|
| <b>FEDERAL AWARDS</b>                                                                 |                                          |                                    |                            |
| <u>U.S. Department of Housing and Urban Development (HUD)</u>                         |                                          |                                    |                            |
| Indirect Programs:                                                                    |                                          |                                    |                            |
| Passed-through County of Volusia, Florida                                             |                                          |                                    |                            |
| Community Development Block Grant FY24-FY25                                           | 14.218                                   | CDB25                              | \$ 26,679                  |
| Total U.S. HUD / Total CDBG - Entitlements Grants Cluster                             |                                          |                                    | <u>26,679</u>              |
| <u>U.S. Department of Justice</u>                                                     |                                          |                                    |                            |
| Direct Programs:                                                                      |                                          |                                    |                            |
| Victims of Crime Act (VOCA) FY 24-25                                                  | 16.575                                   | VOCA-C-COB-00047                   | 51,310                     |
| Bulletproof Vest Partnership 2023 (Regular Fund)                                      | 16.607                                   | 2023BUBX23034567                   | 9,518                      |
| Edward Byrne Memorial Justice Assistance Grant (JAG) Program 2024                     | 16.738                                   | 15PBJA-24-GG-03229-JAGX            | 10,101                     |
| Total U.S. Department of Justice                                                      |                                          |                                    | <u>70,929</u>              |
| <u>U.S. Department of Transportation</u>                                              |                                          |                                    |                            |
| Direct Programs:                                                                      |                                          |                                    |                            |
| FAA- AIP- Reconst Apron and SW Taxilane Rehab (Taxiway B)                             | 20.106                                   | 3-12-0059-032-2024                 | 112,785                    |
| FAA- AGIS Survey & Obstacle Action Plan                                               | 20.106                                   | 3-12-0059-031-2023                 | 8,164                      |
| Total U.S. Department of Transportation                                               |                                          |                                    | <u>120,949</u>             |
| <u>Federal Emergency Management Agency</u>                                            |                                          |                                    |                            |
| Direct Programs:                                                                      |                                          |                                    |                            |
| HMGP Lift Station                                                                     | 97.039                                   | 4468-022-R                         | 191,809                    |
| HMGP Flemming Ave Stw Improvements                                                    | 97.039                                   | 4283-25-A                          | 1,490,972                  |
|                                                                                       |                                          |                                    | <u>1,682,781</u>           |
| Assistance to Firefighters Grant                                                      | 97.044                                   | EMW-2023-FG-02065                  | 27,698                     |
|                                                                                       |                                          |                                    | <u>1,710,479</u>           |
| Indirect Programs:                                                                    |                                          |                                    |                            |
| Passed-through Florida Division of Emergency Management                               |                                          |                                    |                            |
| Hurricane Milton                                                                      | 97.036                                   | 127-53150-00                       | 1,779,984                  |
| Total Federal Emergency Management Agency                                             |                                          |                                    | <u>3,490,463</u>           |
| <b>TOTAL EXPENDITURES OF FEDERAL AWARDS</b>                                           |                                          |                                    | <u><u>\$ 3,709,020</u></u> |
| <b>STATE FINANCIAL ASSISTANCE</b>                                                     |                                          |                                    |                            |
| <u>State of Florida Department of Environmental Protection</u>                        |                                          |                                    |                            |
| Direct Programs:                                                                      |                                          |                                    |                            |
| Airport Rd Water Main Loop                                                            | 37.039                                   | LPA0598                            | \$ 975,000                 |
| Ultraviolet Disinfection Conversion Construction                                      | 37.039                                   | LPA0353                            | 1,500,000                  |
| Resilient Florida Program                                                             | 37.098                                   | 22PLN25                            | 8,000                      |
| Total State of Florida Department of Environmental Protection                         |                                          |                                    | <u>2,483,000</u>           |
| <u>State of Florida Department of Transportation</u>                                  |                                          |                                    |                            |
| Direct Programs:                                                                      |                                          |                                    |                            |
| Taxiway Bravo Apron and Ramp Rehabilitation Design                                    | 55.004                                   | G3247                              | 9,907                      |
| Design Airfield Markings and Pavement Rejuvenation                                    | 55.004                                   | G3201                              | 24,000                     |
| Infrastructure Improvements at Ormond Beach Municipal Airport                         | 55.004                                   | G3099                              | 62,414                     |
| Airport Geographic Information Systems (AGIS) Survey                                  | 55.004                                   | G2M97                              | 2,001                      |
| Design and Construction of Airport Security Gates                                     | 55.004                                   | G3A66                              | 8,800                      |
| Airport Access Rd (Collector Rd Extn)                                                 | 55.004                                   | G2V64                              | 576,146                    |
| Total State of Florida Department of Transportation                                   |                                          |                                    | <u>683,268</u>             |
| <u>State of Florida Department of Commerce</u>                                        |                                          |                                    |                            |
| Direct Programs:                                                                      |                                          |                                    |                            |
| Florida Job Growth Infrastructure Grant                                               | 40.043                                   | G0120                              | 1,010,588                  |
| Total State of Florida Department of Commerce                                         |                                          |                                    | <u>1,010,588</u>           |
| <u>State of Florida Department of Economic Opportunity</u>                            |                                          |                                    |                            |
| Indirect Programs:                                                                    |                                          |                                    |                            |
| Passed through Florida Division of State Fire Marshall                                |                                          |                                    |                            |
| Firefighter Cancer Decontamination Equipment Grant                                    | 43.013                                   | FM952                              | 11,549                     |
| Total State of Florida Department of Economic Opportunity                             |                                          |                                    | <u>11,549</u>              |
| <b>Total State Financial Assistance</b>                                               |                                          |                                    | <u><u>\$ 4,188,405</u></u> |

The accompanying notes to the schedule of expenditures of federal awards and state financial assistance are an integral part of this schedule.

**CITY OF ORMOND BEACH, FLORIDA**  
**NOTES TO THE SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS AND STATE**  
**FINANCIAL ASSISTANCE**  
**FOR THE YEAR ENDED SEPTEMBER 30, 2025**

(1) **Basis of Presentation:**

The accompanying schedule of expenditures of federal awards and state financial assistance includes the federal and state grant activity of the City of Ormond Beach, Florida, and is presented on the modified accrual basis of accounting. The information in this schedule is presented in accordance with the requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance) and Section 215.97, Florida Statutes. Because the Schedule presents only a selected portion of the operations of the City, it is not intended to and does not present the financial position, changes in net assets, or cash flows of the City.

(2) **Summary of Significant Accounting Policies:**

Expenditures reported on the schedule are reported on the accrual basis of accounting. Such expenditures are recognized following, as applicable, either the cost principles contained in the Uniform Guidance, wherein certain types of expenditures are not allowable or are limited as to reimbursement.

(3) **De Minimis Indirect Cost Rate Election:**

The City did not elect to use the 15% de minimis indirect cost rate as covered in §200.414, *Indirect (F&A) costs*, of the Uniform Guidance.

(4) **Subrecipients:**

During the fiscal year ended September 30, 2025, no amounts were passed through to subrecipients.

(5) **Contingency:**

Project expenditures are subject to audit and adjustment. If any expenditures were to be disallowed by the grantor agency as a result of such an audit, any claim for reimbursement to the grantor agency would become a liability of the City. In the opinion of management, all Project expenditures included on the accompanying schedule complied the terms of the project agreements and applicable federal and state laws and regulations.

(6) **Deferred FEMA Expenditures:**

During the previous two fiscal years, the City incurred substantial costs related to Hurricane Ian. Per the OMB Compliance Supplement, any reimbursements from the Federal Emergency Management Agency (FEMA) under CFDA 97.036 are not to be recognized as expenditures for purposes of the Schedule of Expenditures of Federal Awards until the respective Project Worksheets (PW) have been approved.

At September 30, 2025, there are approximately \$12,802 of expenditures for which no related revenues have been recorded for financial statement purposes and have not been included on the Schedule of Expenditures of Federal Awards; these expenditures will be recognized on the Schedule of Expenditures of Federal Awards in future years once approved by FEMA.



**CITY OF ORMOND BEACH, FLORIDA  
SCHEDULE OF FINDINGS AND QUESTIONED COSTS  
FOR THE YEAR ENDED SEPTEMBER 30, 2025**

**A. Summary of Auditors' Results:**

***Financial Statements:***

Type of audit report issued on the financial statements: *Unmodified*

Internal control over financial reporting:

Material weakness(es) identified? ☐ yes ☒ no

Significant deficiency(ies) identified? ☐ yes ☒ none reported

Noncompliance material to financial statements noted? ☐ yes ☒ no

***Federal Awards:***

Internal control over major Federal programs:

Material weakness(es) identified? ☐ yes ☒ no

Significant deficiency(ies) identified? ☐ yes ☒ none reported

Type of auditors' report issued on compliance for major Federal programs: *Unmodified*

Any audit findings disclosed that are required to be reported in accordance with 2 CFR 200.516(a)? ☐ yes ☒ none reported

Auditee qualified as a low-risk auditee? ☒ yes ☐ no

Dollar threshold used to distinguish between type A and type B programs: \$1,000,000

Identification of major Federal programs:

| Assistance Listing<br>Number | Program Name                    |
|------------------------------|---------------------------------|
| 97.039                       | Hazard Mitigation Grant Program |

***State Projects:***

Internal control over major State projects:

Material weakness(es) identified? \_\_\_\_\_ yes      X   no  
Significant deficiency(ies) identified? \_\_\_\_\_ yes      X   none reported

Type of auditors' report issued on compliance for major State projects: *Unmodified*

Any audit findings disclosed that are required to be reported in accordance with Chapter 10.557, Rules of the Auditor General? \_\_\_\_\_ yes      X   none reported

Dollar threshold used to distinguish between type A and type B programs: \$750,000

Identification of major State projects:

| <u>CSFA Number</u> | <u>Program Name</u>                          |
|--------------------|----------------------------------------------|
| 37.039             | Statewide Water Quality Restoration Projects |
| 40.043             | Florida Job Growth Grant                     |

- B. **Financial Statement Findings:** None.
- C. **Federal Program and State Project Findings and Questioned Costs:** None.
- D. **Summary Schedule of Prior Audit Findings:** Not applicable as there are no prior year findings.
- E. **Corrective Action Plan:** Not applicable as there are no current year findings.

**REPORT ON COMPLIANCE FOR EACH MAJOR FEDERAL PROGRAM AND STATE  
PROJECT AND REPORT ON INTERNAL CONTROL OVER COMPLIANCE IN  
ACCORDANCE WITH THE UNIFORM GUIDANCE AND CHAPTER 10.550, RULES OF THE  
AUDITOR GENERAL**

To the Honorable Mayor and City Commission,  
City of Ormond Beach, Florida:

**Report on Compliance for Each Major Federal Program and State Project**

***Opinion on Each Major Federal Program and State Project***

We have audited the City of Ormond Beach, Florida's (the City) compliance with the types of compliance requirements identified as subject to audit in the OMB *Compliance Supplement*, and the requirements identified as applicable in the Department of Financial Services' *State Projects Compliance Supplement*, that could have a direct and material effect on each of the City's major federal programs and state projects for the year ended September 30, 2025. The City's major federal programs and state projects are identified in the summary of auditors' results section of the accompanying schedule of findings and questioned costs.

In our opinion, the City complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs and state projects for the year ended September 30, 2025.

***Basis for Opinion on Each Major Federal Program and State Project***

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America (GAAS); the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States (*Government Auditing Standards*); the audit requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance); and Chapter 10.550, Rules of the Auditor General. Our responsibilities under those standards and the Uniform Guidance are further described in the Auditors' Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of the City and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for each major federal program. Our audit does not provide a legal determination of the City's compliance with the compliance requirements referred to above.

***Responsibilities of Management for Compliance***

Management is responsible for compliance with the requirements referred to above and for the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules and provisions of contracts or grant agreements applicable to the City's federal programs and state projects.

### ***Auditors' Responsibilities for the Audit of Compliance***

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on the City's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS, *Government Auditing Standards*, the Uniform Guidance, and Chapter 10.550, Rules of the Auditor General will always detect material noncompliance when it exists. The risk of not detecting material noncompliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material, if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about the City's compliance with the requirements of each major federal program or state project as a whole.

In performing an audit in accordance with GAAS, *Government Auditing Standards*, the Uniform Guidance, and Chapter 10.550, Rules of the Auditor General, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material noncompliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the City's compliance with the compliance requirements referred to above and performing such other procedures as we considered necessary in the circumstances.
- Obtain an understanding of the City's internal control over compliance relevant to the audit in order to design audit procedures that are appropriate in the circumstances and to test and report on internal control over compliance in accordance with the Uniform Guidance and Chapter 10.550, Rules of the Auditor General, but not for the purpose of expressing an opinion on the effectiveness of the City's internal control over compliance. Accordingly, no such opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.

### **Report on Internal Control over Compliance**

A *deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program or state project on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program or state project will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program or state project that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the Auditors' Responsibilities for the Audit of Compliance section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance and Chapter 10.550, Rules of the Auditor General. Accordingly, this report is not suitable for any other purpose.

Daytona Beach, Florida  
February 9, 2026

*James Moore & Co., P.L.*  
**DRAFT**

## Other Reports

DRAFT

**INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL  
REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF  
FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH  
GOVERNMENT AUDITING STANDARDS**

To the Honorable Mayor and City Commission,  
City of Ormond Beach, Florida:

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to the financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States (*Government Auditing Standards*), the financial statements of the governmental activities, the business-type activities, each major fund, and the aggregate remaining fund information of the City of Ormond Beach, Florida (the City) as of and for the year ended September 30, 2025, and the related notes to financial statements, which collectively comprise the City's basic financial statements, and have issued our report thereon dated February 9, 2026.

***Report on Internal Control over Financial Reporting***

In planning and performing our audit of the financial statements, we considered the City's internal control over financial reporting (internal control) as the basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the City's internal control. Accordingly, we do not express an opinion on the effectiveness of the City's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that were not identified.

### ***Report on Compliance and Other Matters***

As part of obtaining reasonable assurance about whether the City's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

### **Purpose of this Report**

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Daytona Beach, Florida  
February 9, 2026

*James Moore & Co., P.L.*

DRAFT



**INDEPENDENT AUDITORS' MANAGEMENT LETTER REQUIRED  
BY OFFICE OF THE AUDITOR GENERAL**

To the Honorable Mayor and City Commission,  
City of Ormond Beach, Florida:

**Report on the Financial Statements**

We have audited the basic financial statements of City of Ormond Beach, Florida (the City), as of and for the fiscal year ended September 30, 2025, and have issued our report thereon dated February 9, 2026.

**Auditors' Responsibility**

We conducted our audit in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements of Federal Awards* (Uniform Guidance); and Chapter 10.550, Rules of the Florida Auditor General.

**Other Reporting Requirements**

We have issued our Independent Auditors' Report on Internal Control over Financial Reporting and Compliance and Other Matters Based on an Audit of the Financial Statements Performed in Accordance with *Government Auditing Standards*; Independent Auditors' Report on Compliance for Each Major Federal Program and Report on Internal Control over Compliance in Accordance with the Uniform Guidance; Schedule of Findings and Questioned Costs; and Independent Accountants' Examination Report on an examination conducted in accordance with *AICPA Professional Standards*, AT-C Section 315, regarding compliance requirements in accordance with Chapter 10.550, Rules of the Auditor General. Disclosures in those reports and schedule, which are dated February 9, 2026, should be considered in conjunction with this management letter.

**Prior Audit Findings**

Section 10.554(1)(i)1., Rules of the Auditor General, requires that we determine whether or not corrective actions have been taken to address findings and recommendations made in the preceding annual financial audit report. There were no repeat findings from the second preceding audit. The prior year audit contained no findings.

**Official Title and Legal Authority**

Section 10.554(1)(i)4., Rules of the Auditor General, requires that the name or official title and legal authority for the primary government and each component unit of the reporting entity be disclosed in this management letter, unless disclosed in the notes to the financial statements. The City of Ormond Beach, Florida was created and reestablished as a municipal government when its present charter was approved by the voters at a general referendum in 1931 and by the Laws of Florida 14622 and the Act of 1929. Also see Note 1(b) to the financial statements.

## **Financial Condition and Management**

Sections 10.554(1)(i)5.a. and 10.556(7), Rules of the Auditor General, require us to apply appropriate procedures and communicate the results of our determination as to whether or not the City has met one or more of the conditions described in Section 218.503(1), Florida Statutes, and identification of the specific condition(s) met. In connection with our audit, we determined that the City did not meet any of the conditions described in Section 218.503(1), Florida Statutes.

Pursuant to Sections 10.554(1)(i)5.b. and 10.556(8), Rules of the Auditor General, we applied financial condition assessment procedures. It is management's responsibility to monitor the City's financial condition, and our financial condition assessment was based in part on representations made by management and the review of financial information provided by same.

Section 10.554(1)(i)2., Rules of the Auditor General, requires that we communicate any recommendations to improve financial management. In connection with our audit, we had no such recommendations.

## **Property Assessed Clean Energy (PACE) Programs**

The following items have been provided to us to comply with state reporting requirements and have not been audited by us. We did not audit the following information within this section, nor were we required to perform any procedures to verify the accuracy or the completeness of the information provided by management. We do not express an opinion, a conclusion, nor provide any form of assurance on this data.

As required by Section 10.554(1)(i)6.a., Rules of the Auditor General, the City did not have a property assessed clean energy (PACE) program that finances qualifying improvements authorized pursuant to Section 163.081 or Section 163.082, Florida Statutes, operated within the City's geographical boundaries during the fiscal year under audit.

## **Special District Component Units**

Section 10.554(1)(i)5.c., Rules of the Auditor General, requires, if appropriate, that we communicate the failure of a special district that is a component unit of a county, municipality, or special district, to provide the financial information necessary for proper reporting of the component unit within the audited financial statements of the county, municipality, or special district in accordance with Section 218.39(3)(b), Florida Statutes. In connection with our audit, we did not note any special district component units that failed to provide the necessary information for proper reporting in accordance with Section 218.39(3)(b), Florida Statutes.

## **Specific Special District Information – CRAs**

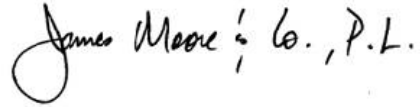
The required reporting items in accordance with Section 218.39(3)(c), Florida Statutes for the Ormond Beach Community Redevelopment Agency and the North Mainland / Ormond Crossing Community Redevelopment Agency have been reported in the separately-issued audited financial statements of the respective agencies.

## **Additional Matters**

Section 10.554(1)(i)3., Rules of the Auditor General, requires us to communicate noncompliance with provisions of contracts or grant agreements, or abuse, that have occurred, or are likely to have occurred, that have an effect on the financial statements that is less than material but which warrants the attention of those charged with governance. In connection with our audit, we did not have any such findings.

**Purpose of this Letter**

Our management letter is intended solely for the information and use of the Legislative Auditing Committee, members of the Florida Senate and the Florida House of Representatives, the Florida Auditor General, Federal and State grant agencies, and applicable management and the City Commission, management, and others within the City and is not intended to be and should not be used by anyone other than these specified parties.

A handwritten signature in black ink that reads "James Moore & Co., P.L.".

Daytona Beach, Florida  
February 9, 2026

DRAFT

## INDEPENDENT ACCOUNTANTS' EXAMINATION REPORT

To the Honorable Mayor and City Commission,  
City of Ormond Beach, Florida:

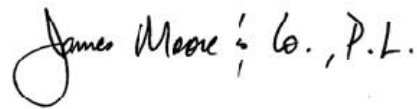
We have examined the City of Ormond Beach, Florida's (the City) compliance with Section 218.415, Florida Statutes, *Local Government Investment Policies* (the Statute), for the year ended September 30, 2025. Management is responsible for the City's compliance with the Statute. Our responsibility is to obtain reasonable assurance by evaluate the City's compliance with the Statute during the year ended September 30, 2025 and performing other procedures to obtain sufficient appropriate evidence to express an opinion that conveys the results of our evaluation based on our examination.

Our examination was conducted in accordance with attestation standards for a direct examination engagement established by the American Institute of Certified Public Accountants (AICPA). Those standards require that we obtain reasonable assurance for evaluating the City's compliance with the Statute during the year ended September 30, 2025, and performing other procedures to obtain sufficient appropriate evidence to express an opinion that conveys the results of our evaluation of the City's compliance with the Statute during the year ended September 30, 2025. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of risks that the City was not in compliance with the Statutes in all material respects, whether due to fraud or error. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

We are required to be independent and to meet our other ethical responsibilities in accordance with relevant ethical requirements relating to the engagement.

In our opinion, the City complied, in all material respects, with the aforementioned requirements for the year ended September 30, 2025.

Daytona Beach, Florida  
February 9, 2026





## City of Ormond Beach

### City Commission Meeting

City Hall Commission Chambers

22 South Beach St., Ormond Beach FL 32174

**February 3, 2026, 7:00 PM**

*Jason Leslie, Mayor  
Lori Tolland, Zone 1  
Travis Sargent, Zone 2  
Kristin Deaton, Zone 3  
Harold Briley, Zone 4*

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## Minutes

### 1. CALL TO ORDER

Mayor Leslie called the meeting to order at 07:01 PM.

Present: Mayor Jason Leslie, Commissioners Lori Tolland, Travis Sargent, Kristin Deaton, and Harold Briley, City Attorney Randy Hayes, Assistant City Managers Claire Whitley and Shawn Finley, and City Clerk Susan Dauderis.

Mayor Leslie announced City Manager Joyce Shanahan would not be in attendance.

### 2. INVOCATION

Pastor George Ward, Emmanuel Church of the Living God, provided the invocation.

### 3. PLEDGE OF ALLEGIANCE

Mayor Leslie led the Pledge of Allegiance.

### 4. PRESENTATIONS AND PROCLAMATIONS

A. Sergeant Ray Llanes

Mayor Leslie presented a proclamation to Sergeant Ray Llanes for his graduation from the University of Louisville's Southern Police Institute's 102 Command Officer Development Course.

### 5. AUDIENCE REMARKS - REGARDING ITEMS NOT ON THE AGENDA & ON THE CONSENT AGENDA

Ms. Patricia Franzem, 31 Gentle Ben Path, submitted a petition, signed by Bear Creek subdivision residents, regarding the Riverbend Golf Course. She discussed the importance of outdoor recreational space within the community.

Ms. Debbie Kruck-Forrester, 15 Brockwood Drive, reviewed the history of Ormond Strong, the nation's 250-year anniversary, and Revolutionary War Hero Deborah Sampson. She invited the Commission to visit the local Veterans Museum.

Deputy Mayor Tolland announced Mayor Leslie excused himself and proceeded to the next speaker.

Ms. Suzanne Scheiber, 548 Sandy Oaks Boulevard, stated she was speaking on behalf of Dream Green Volusia, and discussed the Volusia County program Volusia Forever. She discussed the resident-approved programs and the need for continued support. She requested the City Commission reinstate their support and partnership with a letter to the Volusia County Council.

Commissioner Deaton stated she would support a letter of support for Volusia Forever from the Commission; whereby, all in attendance agreed.

Mr. David Randall, 99 Chrysanthemum, discussed his employment with the city's Fire Department and role within the Firefighters union. He encouraged the Commission to support the Fire Department's collective bargaining agreement and thanked the Commission and staff for their work and time.

Ms. Marsha Blew, 17 Honey Bear Path, asked questions regarding an airport runway extension and requested a follow-up email with answers.

Mr. Derrick Weader, no address provided, voiced concerns regarding Mayor Leslie and provided details of various incidents. He stated he was looking for accountability, not special treatment.

## **6. APPROVAL OF MINUTES**

A. Minutes from City Commission meeting - January 20, 2026

Deputy Mayor Tolland turned the meeting back over to Mayor Leslie.

Mayor Leslie advised the minutes from the January 20, 2026, City Commission meeting were sent to the Commission for review and posted on the city's website for public viewing. He asked if there were any corrections, additions, or omissions. He stated, hearing no corrections, the minutes would stand approved as presented.

**Commissioner Sargent moved, seconded by Commissioner Tolland, for approval of the January 20, 2026, City Commission meeting minutes.**

**Motion passed by voice vote.**

## **7. CONSENT AGENDA**

Mayor Leslie advised the actions proposed for the items on the Consent Agenda were so stated on the agenda. He asked if any member of the Commission had questions or wished to discuss any items separately.

Commissioner Tolland requested Item 7G be pulled from the Consent Agenda.

**Commissioner Sargent moved, seconded by Commissioner Briley, for approval of the Consent Agenda, absent Item 7G.**

Call Vote: Commissioner Tolland Yes

|          |                      |     |
|----------|----------------------|-----|
|          | Commissioner Sargent | Yes |
|          | Commissioner Deaton  | Yes |
|          | Commissioner Briley  | Yes |
| Carried. | Mayor Leslie         | Yes |

A. Bid Award - Tow Related Services

**RESOLUTION NO. 2026-10:** A RESOLUTION ACCEPTING A PROPOSAL AND APPROVING THE EXECUTION OF A CONTRACT WITH J & A BALBOA ENTERPRISES, INC. D/B/A ARROW SERVICE & TOWING FOR TOWING RELATED SERVICES, UNDER RFP 2026-01; AND SETTING FORTH AN EFFECTIVE DATE.

B. Mutual Aid Agreement - FDLE, Child Abduction Response Team

**RESOLUTION NO. 2026-11:** A RESOLUTION AUTHORIZING THE EXECUTION OF A VOLUNTARY COOPERATION MUTUAL AID AGREEMENT BETWEEN THE CITY AND THE FLORIDA DEPARTMENT OF LAW ENFORCEMENT; AND SETTING FORTH AN EFFECTIVE DATE.

C. Collective Bargaining Agreement, International Association of Fire Fighters (IAFF), Local 3499

**RESOLUTION NO. 2026-13:** A RESOLUTION AUTHORIZING THE EXECUTION OF A COLLECTIVE BARGAINING AGREEMENT BETWEEN THE CITY OF ORMOND BEACH AND THE INTERNATIONAL ASSOCIATION OF FIREFIGHTERS (I.A.F.F.) LOCAL 3499; AND SETTING FORTH AN EFFECTIVE DATE.

D. Collective Bargaining Agreement, International Union of Police Associations (IUPA), Local 6075

**RESOLUTION NO. 2026-14:** A RESOLUTION AUTHORIZING THE EXECUTION OF A COLLECTIVE BARGAINING AGREEMENT BETWEEN THE CITY OF ORMOND BEACH AND THE INTERNATIONAL UNION OF POLICE ASSOCIATIONS (I.U.P.A.) LOCAL #6075; AND SETTING FORTH AN EFFECTIVE DATE.

E. **Disposition Item:** Auto Renew - American Janitorial, Inc.

F. **Disposition Item:** Intent To Bid - Service Line Inventory

City Clerk Susan C. Dauderis read:

G. **Disposition Item:** RFP - Employee Benefits Broker Of Record Services

**Commissioner Deaton moved, seconded by Commissioner Briley, for approval of Disposition Item 7G.**

Commissioner Tolland and Commissioner Sargent explained they would abstain from the vote due to conflicts of interest and submit their Form 8B to the City Clerk.

|            |                      |         |
|------------|----------------------|---------|
| Call Vote: | Commissioner Sargent | Abstain |
|            | Commissioner Deaton  | Yes     |
|            | Commissioner Briley  | Yes     |
|            | Commissioner Tolland | Abstain |
| Carried.   | Mayor Leslie         | Yes     |

# FORM 8B MEMORANDUM OF VOTING CONFLICT FOR COUNTY, MUNICIPAL, AND OTHER LOCAL PUBLIC OFFICERS

|                                                                  |                          |                                                                                                                                                                             |  |
|------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| LAST NAME—FIRST NAME—MIDDLE NAME<br><b>Tolland Loretta Biehl</b> |                          | NAME OF BOARD, COUNCIL, COMMISSION, AUTHORITY, OR COMMITTEE<br><b>City of Ormond Beach Commission</b>                                                                       |  |
| MAILING ADDRESS<br><b>5 Broadriver Rd</b>                        |                          | THE BOARD, COUNCIL, COMMISSION, AUTHORITY OR COMMITTEE ON WHICH I SERVE IS A UNIT OF:                                                                                       |  |
| CITY<br><b>Ormond Beach</b>                                      | COUNTY<br><b>Volusia</b> | <input checked="" type="checkbox"/> CITY <input type="checkbox"/> COUNTY <input type="checkbox"/> OTHER LOCAL AGENCY                                                        |  |
| DATE ON WHICH VOTE OCCURRED<br><b>Feb 3 2026</b>                 |                          | NAME OF POLITICAL SUBDIVISION: <b>Commissioner Zone 1, Deputy Mayor</b><br>MY POSITION IS: <input checked="" type="checkbox"/> ELECTIVE <input type="checkbox"/> APPOINTIVE |  |

## WHO MUST FILE FORM 8B

This form is for use by any person serving at the county, city, or other local level of government on an appointed or elected board, council, commission, authority, or committee. It applies to members of advisory and non-advisory bodies who are presented with a voting conflict of interest under Section 112.3143, Florida Statutes.

Your responsibilities under the law when faced with voting on a measure in which you have a conflict of interest will vary greatly depending on whether you hold an elective or appointive position. For this reason, please pay close attention to the instructions on this form before completing and filing the form.

## INSTRUCTIONS FOR COMPLIANCE WITH SECTION 112.3143, FLORIDA STATUTES

A person holding elective or appointive county, municipal, or other local public office **MUST ABSTAIN** from voting on a measure which would inure to his or her special private gain or loss. Each elected or appointed local officer also **MUST ABSTAIN** from knowingly voting on a measure which would inure to the special gain or loss of a principal (other than a government agency) by whom he or she is retained (including the parent, subsidiary, or sibling organization of a principal by which he or she is retained); to the special private gain or loss of a relative; or to the special private gain or loss of a business associate. Commissioners of community redevelopment agencies (CRAs) under Sec. 163.356 or 163.357, F.S., and officers of independent special tax districts elected on a one-acre, one-vote basis are not prohibited from voting in that capacity.

For purposes of this law, a "relative" includes only the officer's father, mother, son, daughter, husband, wife, brother, sister, father-in-law, mother-in-law, son-in-law, and daughter-in-law. A "business associate" means any person or entity engaged in or carrying on a business enterprise with the officer as a partner, joint venturer, coowner of property, or corporate shareholder (where the shares of the corporation are not listed on any national or regional stock exchange).

\* \* \* \* \*

### ELECTED OFFICERS:

In addition to abstaining from voting in the situations described above, you must disclose the conflict:

**PRIOR TO THE VOTE BEING TAKEN** by publicly stating to the assembly the nature of your interest in the measure on which you are abstaining from voting; *and*

**WITHIN 15 DAYS AFTER THE VOTE OCCURS** by completing and filing this form with the person responsible for recording the minutes of the meeting, who should incorporate the form in the minutes.

\* \* \* \* \*

### APPOINTED OFFICERS:

Although you must abstain from voting in the situations described above, you are not prohibited by Section 112.3143 from otherwise participating in these matters. However, you must disclose the nature of the conflict before making any attempt to influence the decision, whether orally or in writing and whether made by you or at your direction.

**IF YOU INTEND TO MAKE ANY ATTEMPT TO INFLUENCE THE DECISION PRIOR TO THE MEETING AT WHICH THE VOTE WILL BE TAKEN:**

- You must complete and file this form (before making any attempt to influence the decision) with the person responsible for recording the minutes of the meeting, who will incorporate the form in the minutes. (Continued on page 2)



## APPOINTED OFFICERS (continued)

- A copy of the form must be provided immediately to the other members of the agency.
- The form must be read publicly at the next meeting after the form is filed.

IF YOU MAKE NO ATTEMPT TO INFLUENCE THE DECISION EXCEPT BY DISCUSSION AT THE MEETING:

- You must disclose orally the nature of your conflict in the measure before participating.
- You must complete the form and file it within 15 days after the vote occurs with the person responsible for recording the minutes of the meeting, who must incorporate the form in the minutes. A copy of the form must be provided immediately to the other members of the agency, and the form must be read publicly at the next meeting after the form is filed.

## DISCLOSURE OF LOCAL OFFICER'S INTEREST

I, Loretta (Lori) Tolland, hereby disclose that on Feb 3, 20 26:

(a) A measure came or will come before my agency which (check one or more)

- ☐ inured to my special private gain or loss;
- ☐ inured to the special gain or loss of my business associate, \_\_\_\_\_;
- ☒ inured to the special gain or loss of my relative, \_\_\_\_\_;
- ☐ inured to the special gain or loss of \_\_\_\_\_, by whom I am retained; or
- ☐ inured to the special gain or loss of \_\_\_\_\_, which is the parent subsidiary, or sibling organization or subsidiary of a principal which has retained me.

(b) The measure before my agency and the nature of my conflicting interest in the measure is as follows:

My son works for a company that may bid on an R.F.P. for the city.

If disclosure of specific information would violate confidentiality or privilege pursuant to law or rules governing attorneys, a public officer, who is also an attorney, may comply with the disclosure requirements of this section by disclosing the nature of the interest in such a way as to provide the public with notice of the conflict.

Date Filed

Feb 3, 2026

Signature



NOTICE: UNDER PROVISIONS OF FLORIDA STATUTES §112.317, A FAILURE TO MAKE ANY REQUIRED DISCLOSURE CONSTITUTES GROUNDS FOR AND MAY BE PUNISHED BY ONE OR MORE OF THE FOLLOWING: IMPEACHMENT, REMOVAL OR SUSPENSION FROM OFFICE OR EMPLOYMENT, DEMOTION, REDUCTION IN SALARY, REPRIMAND, OR A CIVIL PENALTY NOT TO EXCEED \$10,000.

# FORM 8B MEMORANDUM OF VOTING CONFLICT FOR COUNTY, MUNICIPAL, AND OTHER LOCAL PUBLIC OFFICERS

|                                                                     |                          |                                                                                                                                                                                                               |  |
|---------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| LAST NAME—FIRST NAME—MIDDLE NAME<br><i>Sargent - TRAVIS - CRAIG</i> |                          | NAME OF BOARD, COUNCIL, COMMISSION, AUTHORITY, OR COMMITTEE<br><i>Commission</i>                                                                                                                              |  |
| MAILING ADDRESS<br><i>406 N. Beach St</i>                           |                          | THE BOARD, COUNCIL, COMMISSION, AUTHORITY OR COMMITTEE ON WHICH I SERVE IS A UNIT OF:<br><input checked="" type="checkbox"/> CITY <input type="checkbox"/> COUNTY <input type="checkbox"/> OTHER LOCAL AGENCY |  |
| CITY<br><i>Ormond Beach</i>                                         | COUNTY<br><i>Volusia</i> | NAME OF POLITICAL SUBDIVISION:<br><i>City Commission</i>                                                                                                                                                      |  |
| DATE ON WHICH VOTE OCCURRED                                         |                          | MY POSITION IS:<br><input checked="" type="checkbox"/> ELECTIVE <input type="checkbox"/> APPOINTIVE                                                                                                           |  |

## WHO MUST FILE FORM 8B

This form is for use by any person serving at the county, city, or other local level of government on an appointed or elected board, council, commission, authority, or committee. It applies to members of advisory and non-advisory bodies who are presented with a voting conflict of interest under Section 112.3143, Florida Statutes.

Your responsibilities under the law when faced with voting on a measure in which you have a conflict of interest will vary greatly depending on whether you hold an elective or appointive position. For this reason, please pay close attention to the instructions on this form before completing and filing the form.

## INSTRUCTIONS FOR COMPLIANCE WITH SECTION 112.3143, FLORIDA STATUTES

A person holding elective or appointive county, municipal, or other local public office **MUST ABSTAIN** from voting on a measure which would inure to his or her special private gain or loss. Each elected or appointed local officer also **MUST ABSTAIN** from knowingly voting on a measure which would inure to the special gain or loss of a principal (other than a government agency) by whom he or she is retained (including the parent, subsidiary, or sibling organization of a principal by which he or she is retained); to the special private gain or loss of a relative; or to the special private gain or loss of a business associate. Commissioners of community redevelopment agencies (CRAs) under Sec. 163.356 or 163.357, F.S., and officers of independent special tax districts elected on a one-acre, one-vote basis are not prohibited from voting in that capacity.

For purposes of this law, a "relative" includes only the officer's father, mother, son, daughter, husband, wife, brother, sister, father-in-law, mother-in-law, son-in-law, and daughter-in-law. A "business associate" means any person or entity engaged in or carrying on a business enterprise with the officer as a partner, joint venturer, coowner of property, or corporate shareholder (where the shares of the corporation are not listed on any national or regional stock exchange).

### ELECTED OFFICERS:

In addition to abstaining from voting in the situations described above, you must disclose the conflict:

**PRIOR TO THE VOTE BEING TAKEN** by publicly stating to the assembly the nature of your interest in the measure on which you are abstaining from voting; *and*

**WITHIN 15 DAYS AFTER THE VOTE OCCURS** by completing and filing this form with the person responsible for recording the minutes of the meeting, who should incorporate the form in the minutes.

### APPOINTED OFFICERS:

Although you must abstain from voting in the situations described above, you are not prohibited by Section 112.3143 from otherwise participating in these matters. However, you must disclose the nature of the conflict before making any attempt to influence the decision, whether orally or in writing and whether made by you or at your direction.

**IF YOU INTEND TO MAKE ANY ATTEMPT TO INFLUENCE THE DECISION PRIOR TO THE MEETING AT WHICH THE VOTE WILL BE TAKEN:**

- You must complete and file this form (before making any attempt to influence the decision) with the person responsible for recording the minutes of the meeting, who will incorporate the form in the minutes. (Continued on page 2)

## APPOINTED OFFICERS (continued)

- A copy of the form must be provided immediately to the other members of the agency.
- The form must be read publicly at the next meeting after the form is filed.

IF YOU MAKE NO ATTEMPT TO INFLUENCE THE DECISION EXCEPT BY DISCUSSION AT THE MEETING:

- You must disclose orally the nature of your conflict in the measure before participating.
- You must complete the form and file it within 15 days after the vote occurs with the person responsible for recording the minutes of the meeting, who must incorporate the form in the minutes. A copy of the form must be provided immediately to the other members of the agency, and the form must be read publicly at the next meeting after the form is filed.

## DISCLOSURE OF LOCAL OFFICER'S INTEREST

I, Travis Sargent, hereby disclose that on Feb. 3<sup>rd</sup>, 20 26:

(a) A measure came or will come before my agency which (check one or more)

☐ inured to my special private gain or loss;

☒ inured to the special gain or loss of my business associate, Foundation Risk Partners;

☐ inured to the special gain or loss of my relative, \_\_\_\_\_;

☐ inured to the special gain or loss of \_\_\_\_\_, by whom I am retained; or

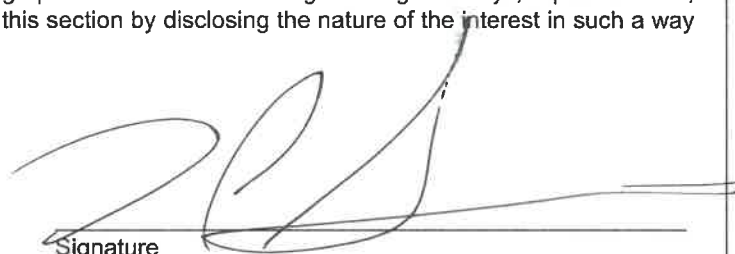
☐ inured to the special gain or loss of \_\_\_\_\_, which is the parent subsidiary, or sibling organization or subsidiary of a principal which has retained me.

(b) The measure before my agency and the nature of my conflicting interest in the measure is as follows:

I am employed At Foundation Risk Partners.

If disclosure of specific information would violate confidentiality or privilege pursuant to law or rules governing attorneys, a public officer, who is also an attorney, may comply with the disclosure requirements of this section by disclosing the nature of the interest in such a way as to provide the public with notice of the conflict.

Feb. 3<sup>rd</sup>, 2026  
Date Filed

  
Signature

NOTICE: UNDER PROVISIONS OF FLORIDA STATUTES §112.317, A FAILURE TO MAKE ANY REQUIRED DISCLOSURE CONSTITUTES GROUNDS FOR AND MAY BE PUNISHED BY ONE OR MORE OF THE FOLLOWING: IMPEACHMENT, REMOVAL OR SUSPENSION FROM OFFICE OR EMPLOYMENT, DEMOTION, REDUCTION IN SALARY, REPRIMAND, OR A CIVIL PENALTY NOT TO EXCEED \$10,000.

There were no further comments on the Consent Agenda.

## **8. PUBLIC HEARINGS**

Mayor Leslie opened the Public Hearings.

City Clerk Susan C. Dauderis read by legal title only:

- A. Tomoka Commerce Park, Planned Business Development Amendment, Issuance of a Development Order (Second Reading)

**ORDINANCE NO. 2026-1:** AN ORDINANCE AUTHORIZING THE EXECUTION AND ISSUANCE OF A DEVELOPMENT ORDER FOR A PLANNED BUSINESS DEVELOPMENT TO BE LOCATED AT 890 NORTH U.S. HIGHWAY 1, TO BE KNOWN AS THE "TOMOKA COMMERCE PARK"; AUTHORIZING THE DEVELOPMENT OF THE PROPERTY FOR A MIXTURE OF COMMERCIAL, WAREHOUSE, AND LIGHT INDUSTRIAL USES; ESTABLISHING CONDITIONS AND EXPIRATIONS OF APPROVAL; AND SETTING FORTH AN EFFECTIVE DATE.

**Commissioner Sargent moved, seconded by Commissioner Tolland, for approval of Ordinance No. 2026-01, on second reading, as read by title only.**

Mr. Patrick Opalewski, 647 North Beach Street, voiced support of the project, noting the need was there for the project by businesses within the community.

Mr. Jim Cameron, 39 Laurel Oaks Circle, expressed support of the project.

Mr. Steven Spraker, Planning Director, discussed the item including zoning, prior applications and zoning approvals, site plan, potential uses, greenbelt buffer, wetland impacts, traffic impact analysis, stormwater plans, and historic tree removal request. He reviewed the approval process, public meetings, and comments made by the Site Plan Review Committee.

Commissioner Briley reviewed the Traffic Impact Analysis and potential impact.

Commissioner Sargent read an email received by Ms. Robin Magleora in opposition of the development, noting she requested the Commission table the item.

Commissioner Deaton inquired if the proposed project was for a traditional storage facility; whereby, Mr. Steven Buswell, applicant representative, stated the proposed plan was not for traditional mini-storage but for small warehouses for businesses and their offices.

Commissioner Tolland clarified the front buildings were proposed for retail stores; whereby, Mr. Buswell confirmed that was correct. Commissioner Tolland and Mr. Buswell discussed the back warehouse buildings which may help the community with places to store work vehicles.

Commissioner Briley and Mayor Leslie discussed the potential uses if the item was not approved and the proposed uses within the project.

Commissioner Sargent highlighted the light industrial need within the community.

|            |                      |     |
|------------|----------------------|-----|
| Call Vote: | Commissioner Deaton  | Yes |
|            | Commissioner Briley  | Yes |
|            | Commissioner Tolland | Yes |
|            | Commissioner Sargent | Yes |
| Carried.   | Mayor Leslie         | Yes |

City Clerk Susan C. Dauderis read by legal title only:

B. Land Development Code Amendment, Live Local Act 2025 Update (Second Reading)

**ORDINANCE NO. 2026-2:** AN ORDINANCE AMENDING CHAPTER 2, DISTRICT AND GENERAL REGULATIONS, ARTICLE II, DISTRICT REGULATIONS, SECTION 2-39, AFFORDABLE HOUSING, OF THE ORMOND BEACH LAND DEVELOPMENT CODE TO UPDATE THE SECTION BASED ON SENATE BILL 1730 FOR EXPANDED APPLICABILITY TO PLANNED DEVELOPMENTS PERMITTED IN AREAS ZONED FOR COMMERCIAL, INDUSTRIAL, OR MIXED-USE AND PARKING REQUIREMENT REDUCTIONS; REPEALING ALL INCONSISTENT ORDINANCES OR PARTS THEREOF; PROVIDING FOR SEVERABILITY; AND SETTING FORTH AN EFFECTIVE DATE.

**Commissioner Sargent moved, seconded by Commissioner Deaton, for approval of Ordinance No. 2026-02, on second reading, as read by title only.**

Mr. Spraker reviewed the amendment based on Senate Bill 1730, noting the Planning Board recommended approval.

|            |                      |     |
|------------|----------------------|-----|
| Call Vote: | Commissioner Briley  | Yes |
|            | Commissioner Tolland | Yes |
|            | Commissioner Sargent | Yes |
|            | Commissioner Deaton  | Yes |
| Carried.   | Mayor Leslie         | Yes |

Mayor Leslie closed the Public Hearings.

## 9. RESOLUTIONS

City Clerk Susan C. Dauderis read by legal title only:

A. Municipal Firefighters' Pension Trust Fund Board of Trustees Appointment

**RESOLUTION NO. 2026-15:** A RESOLUTION APPOINTING A TRUSTEE TO SERVE ON THE FIREFIGHTERS' PENSION TRUST FUND BOARD; SETTING FORTH TERM AND CONDITIONS OF SERVICE; AND SETTING FORTH AN EFFECTIVE DATE.

**Commissioner Briley moved, seconded by Commissioner Deaton, for approval of Resolution No. 2026-15, as read by title only.**

Commissioner Briley nominated Mr. John Long III to fill the vacancy; whereby, Commissioner Sargent seconded the nomination.

Commissioner Deaton nominated Mr. William Medlin.

Mayor Leslie requested Ms. Dauderis call the vote for Mr. Long's nomination.

|            |                      |     |
|------------|----------------------|-----|
| Call Vote: | Commissioner Tolland | Yes |
|            | Commissioner Sargent | Yes |
|            | Commissioner Deaton  | Yes |
|            | Commissioner Briley  | Yes |
| Carried.   | Mayor Leslie         | Yes |

City Clerk Susan C. Dauderis read by legal title only:

B. Planning Board Appointment

**RESOLUTION NO. 2026-16:** A RESOLUTION APPOINTING A MEMBER TO THE PLANNING BOARD; SETTING FORTH TERMS AND CONDITIONS OF SERVICE; AND SETTING FORTH AN EFFECTIVE DATE.

**Commissioner Sargent moved, seconded by Commissioner Tolland, for approval of Resolution No. 2026-16, as read by title only.**

Mayor Leslie stated the motion was to approve his nomination of Ms. Amber Bobak to fill the Planning Board vacancy.

|            |                      |     |
|------------|----------------------|-----|
| Call Vote: | Commissioner Sargent | Yes |
|            | Commissioner Deaton  | Yes |
|            | Commissioner Briley  | Yes |
|            | Commissioner Tolland | Yes |
| Carried.   | Mayor Leslie         | Yes |

Mayor Leslie congratulated Ms. Bobak on being appointed.

## 10. **REPORTS, SUGGESTIONS, REQUESTS**

### Events, Updates, and Requests

Ms. Claire Whitley, Assistant City Manager, provided details on upcoming events and city projects.

Mr. Shawn Finley, Assistant City Manager, thanked the utility crew for their work during the harsh weather conditions and discussed related events.

Commissioner Briley welcomed back City Attorney Randy Hayes and Police Captain DW Smith.

Commissioner Tolland requested staff reach out to Ms. Blew regarding the questions she discussed during her remarks and discussed events she attended. She congratulated the advisory board appointees and offered advice to all board members.

Commissioner Sargent reviewed events he attended and police response to recent community incidents.

Commissioner Deaton reviewed events she attended. She discussed the needs of the

Performing Arts Center, noting the need for creativity to attract professional shows in addition to the local ones.

Mayor Leslie discussed events he attended and reminded those running for public offices to be careful with what was posted to social media.

City Water

Commissioner Sargent discussed a petition regarding toilet-to-tap, proposing a workshop on the topic for educational purposes.

Commissioner Tolland inquired if a workshop was needed or if a presentation would suffice; whereby, Commissioner Sargent stated he was comfortable with a presentation during an upcoming meeting.

Mr. Finley stated he would reach out to the Commissioners individually to discuss desired topics to cover during the presentation.

Mayor Leslie inquired about the timeline for the presentation; whereby, Mr. Finley stated staff could present at the March 3, 2026, City Commission meeting.

Commissioner Tolland discussed the need for the educational presentation.

Ormond Beach Sports Complex

Commissioner Deaton discussed a recent incident that brought up safety concerns at Fields 11 and 12 at the Ormond Beach Sports Complex, noting the need for lighting, wayfinding signage, and clearing of underbrush. She stated a recent grant application was not awarded for lighting but would like to see the project move forward.

Commissioner Tolland supported the safety improvements and requested further information on the lighting.

**11. ADJOURNMENT**

Mayor Leslie adjourned the meeting at 8:20 PM.

APPROVED: February 17, 2026

BY: \_\_\_\_\_  
Jason Leslie, Mayor

ATTEST:

\_\_\_\_\_  
Susan Carroll Dauderis,  
City Clerk



**City of Ormond Beach**  
**City Commission Agenda**  
**Staff Report**

|                                 |                                                                                                           |                 |                      |
|---------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------|----------------------|
| <b>Agenda Date</b>              | February 17, 2026                                                                                         | <b>Item No</b>  | 7.A.                 |
| <b>Section</b>                  | CONSENT AGENDA                                                                                            | <b>Category</b> | Consent - Resolution |
| <b>Subject</b>                  | Utility Easement - Halifax River Utility Crossing                                                         |                 |                      |
| <b>Recommended Action</b>       | Staff recommends approval of the proposed Utility Easement from the Ormond Beach Historical Society, Inc. |                 |                      |
| <b>Strategic Goal</b>           | Water Quality & The Environment - Other                                                                   |                 |                      |
| <b>Department Staff Contact</b> | Public Works - Engineering<br>Bob Preis, Public Works Operations Manager                                  |                 |                      |

Summary

This is a request for the City to accept a Utility Easement from the Ormond Beach Historical Society, Inc. (OBHS) to enable construction of City utilities required for the Halifax River Utility Crossing project.

The existing wastewater collection transmission system currently utilizes two Halifax River force main crossings. One of these crossings, approximately located along Granada Boulevard, was installed in 1981 according to City records. Given a typical life span of fifty years for utility pipelines, this transmission line is nearing the end of its intended service life. Due to the overall importance of this pipeline, Staff would like to schedule replacement of this force main before the City experiences any issues.

Additionally, to aid in the utility department's ability to meet Senate bill 64, the City also needs to install a new reclaimed water main river crossing. Establishing this new connection will reduce the overall pressure drop experienced by the system on the beachside during the scheduled watering days. As such, the proposed crossing would likely improve staff's ability to meet the needs of the City's existing customers while also allowing for expansion of the reclaimed system on the beachside to new customers as well.

On October 2, 2024, the City Commission approved Resolution No. 2024-164, which authorized the execution of a work authorization with McKim & Creed, Inc. to provide engineering services and prepare bid documents for this project.

Financial Impact



Accepting the Utility Easement has no budget impact. The overall Halifax River Utility Crossing project is a separate capital improvement item; the construction project was approved to advertise for bids at the January 20, 2026, City Commission meeting.

#### Citizen Impact

Scheduling priority-based replacement projects for the City's utility infrastructure provides for reliable operation of the reclaimed and wastewater systems.

#### Attachments

1. 26-12 Engineering - Utility Easement - Halifax River Utility Crossing (P25-0187G)
2. Ormond Beach Historical Society Public Utility, Access and Maintenance Easement\_SIGNED
3. HISTORICAL SOCIETY EASEMENT

**RESOLUTION NO. 2026-12**

A RESOLUTION AUTHORIZING THE ACCEPTANCE OF A PUBLIC UTILITY, ACCESS AND MAINTENANCE EASEMENT FROM ORMOND BEACH HISTORICAL SOCIETY, INC., FOR PROPERTY LOCATED 42 NORTH BEACH STREET; AND SETTING FORTH AN EFFECTIVE DATE.

**BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:**

**SECTION ONE.** The City Commission hereby approves and accepts that Public Utility, Access and Maintenance Easement (“Easement”) from Ormond Beach Historical Society, Inc., a Florida Corporation, the property owner, on property located at 42 North Beach Street, Ormond Beach, Volusia County, Florida. A copy of the Easement is attached hereto and incorporated herein by reference.

**SECTION TWO.** A certified copy of this Resolution, and the executed original Public Utility, Access, and Maintenance Easement, shall be recorded in the public records of Volusia County, Florida.

**SECTION THREE.** This Resolution shall take effect immediately upon its adoption.

**APPROVED AND AUTHENTICATED this 17<sup>th</sup> day of February, 2026.**

---

**JASON LESLIE**  
Mayor

**ATTEST:**

---

**SUSAN CARROLL DAUDERIS**  
City Clerk

THIS INSTRUMENT PREPARED BY:  
RANDAL A. HAYES, ESQUIRE  
Florida Bar No. 747157  
22 South Beach Street  
Post Office Box 277  
Ormond Beach, FL 32175  
**Parcel ID:** 421514010020

## **PUBLIC UTILITY, ACCESS AND MAINTENANCE EASEMENT**

THIS PUBLIC UTILITY, ACCESS, AND MAINTENANCE EASEMENT ("Easement") is made this 2 day of February 2026, by and between **ORMOND BEACH HISTORICAL SOCIETY, INC.**, a Florida Corporation, having a mailing address of 38 East Granada Boulevard, Ormond Beach, Volusia County, Florida 32174 ("Grantor") and the **CITY OF ORMOND BEACH**, A Florida municipal corporation, and its successors and assigns, whose mailing address is 22 South Beach Street, Ormond Beach, Volusia County, Florida 32174 ("Grantee").

### **WITNESSETH:**

**WHEREAS**, Grantor is the owner in fee simple of that real property located at 42 North Beach Street, Ormond Beach, Volusia County, Florida (Parcel No. 421514010020) as more particularly described in Exhibit "A", attached hereto and incorporated herein (the "Property"); and

**WHEREAS**, Grantor owns the Property where certain public utility improvements are being constructed and a Public Utility, Access and Maintenance Easement is required; and

**WHEREAS**, Grantor seeks to provide the Grantee a Public Utility, Access and Maintenance Easement per the approved site plans; and

**WHEREAS**, the Grantee has requested and Grantor has agreed to grant and convey to the Grantee a non-exclusive perpetual Public Utility, Access and Maintenance Easement over the Property more particularly described and depicted in Exhibit "A", attached hereto and incorporated herein (the "Easement Area"),

**NOW, THEREFORE**, in consideration of the mutual covenants, promises, terms and conditions set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

**Section 1.** The above recitals are true and correct, form a material part of this Easement Agreement and are incorporated herein by reference.

**Section 2.** Grantor hereby gives, grants, bargains, sells and conveys to the Grantee, its successors and assigns, a non-exclusive perpetual public access, maintenance and utility easement over, upon, beneath and across the Easement Area to enable construction of public utilities required for the Halifax River Utility Crossing project. This includes the right of installation,

maintenance and repair or modification of any and all necessary facilities or equipment related thereto.

**Section 3.** Grantor hereby warrants and guarantees to the Grantee that the Grantor has fee title to the Property and Easement Area, subject to easements, reservations, restrictions and right-of-way record, if any, and that the Grantor has the full power and authority to grant this easement as to the Easement Area.

**Section 4.** Grantee's use of the Easement Area shall be subject to the terms, conditions and limitations of all permits and approvals issued by governmental entities having jurisdiction over the improvements to be constructed in the Easement Area.

**Section 5.** To the extent permitted by law, the Grantee agrees to indemnify and hold harmless the Grantors from and against any and all claims, actions, causes of action, loss, damage, injury, liability, cost or expense, including without limitation attorneys' fees and paralegal fees (whether incurred before, during, or after trial, or upon any appellate level), arising from the Grantee's use of the Easement Property or from the exercise by the Grantee of any rights granted by this Agreement.

**Section 6.** The Grantee shall at its cost provide a water service lateral at the Granada Boulevard (State Road 40) side of the easement to serve the Grantor's property.

**Section 7.** This Easement is non-exclusive, and the Grantor reserves to itself, its successors and assigns, the non-exclusive right to use the Easement Area. Each party shall use the rights granted and reserved by this Easement Agreement with due regard to the rights of the other parties to use and enjoy the Easement Area.

**Section 8.** This Easement shall be binding upon and inure to the benefit of the parties specified herein, their respective legal representatives, successors and assigns, and the benefits and burdens hereof shall run with the Property.

**Section 9.** This Easement may be modified or amended only upon the mutual written consent of the Grantor and the Grantee, or their respective express successors and assigns.

IN WITNESS WHEREOF, the Grantor has caused this Public Utility, Access and Maintenance Easement to be executed as of the date listed below.

Dated: February 2, 2026

IN WITNESS WHEREOF, the said Grantor has hereunto set their hands and seal this 2 day of February, 2026.

**Witnesses:**

Jayne Fifer  
Print Name: \_\_\_\_\_

William H Hoover  
Print Name: \_\_\_\_\_

**ORMOND BEACH HISTORICAL SOCIETY, INC., a Florida corporation**

By: Jayne Fifer  
**JAYNE FIFER**  
President

Attest: William H Hoover  
**WILLIAM H HOOVER**  
Secretary

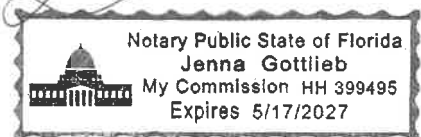
**STATE OF FLORIDA )**  
**)ss:**  
**COUNTY OF VOLUSIA)**

The foregoing instrument was acknowledged before me this 2<sup>nd</sup> day of February, 2026, by **JAYNE FIFER**, in her official capacity as President, of **ORMOND BEACH HISTORICAL SOCIETY, INC.**, a Florida corporation, she is personally known to me or has produced DL as identification.

Jenna Gottlieb  
**NOTARY PUBLIC**

Official Seal:

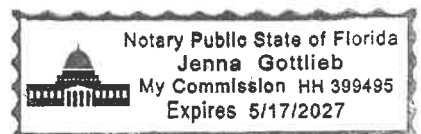
**STATE OF FLORIDA )**  
**)ss:**  
**COUNTY OF VOLUSIA)**



The foregoing instrument was acknowledged before me this 2<sup>nd</sup> day of February, 2026, by **WILLIAM H HOOVER**, in his official capacity as Secretary, of **ORMOND BEACH HISTORICAL SOCIETY, INC.**, a Florida corporation, she is personally known to me or has produced DL as identification.

Jenna Gottlieb  
**NOTARY PUBLIC**

Official Seal:



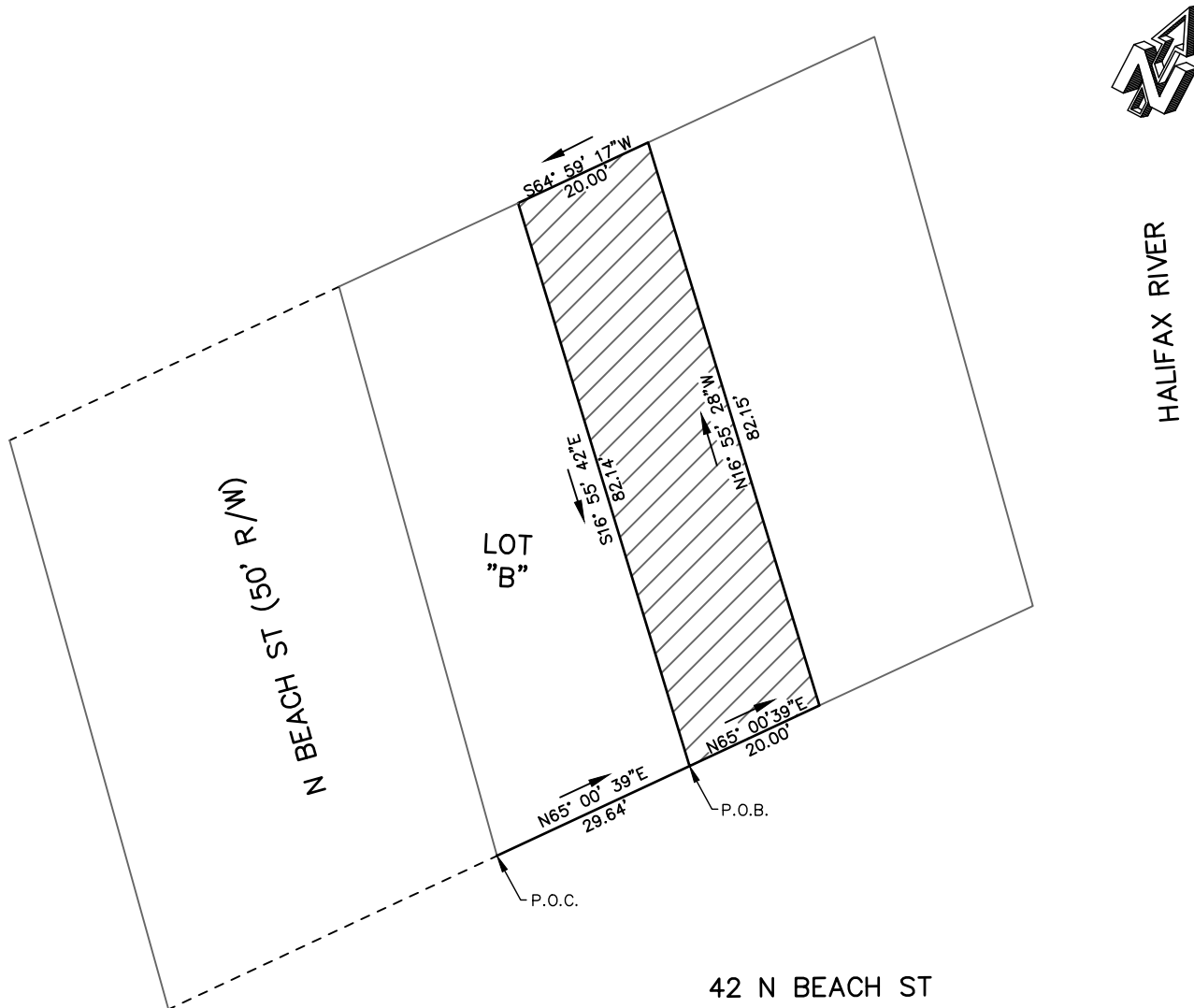
# LEGAL DESCRIPTION

## UTILITY EASEMENT

A 20 FOOT WIDE UTILITY EASEMENT BEING A PORTION OF LOT B, ASSESSORS SUBDIVISION OF RIVER LOT 1, AS RECORDED IN MAP BOOK 3, PAGE 124, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

AS A POINT OF REFERENCE COMMENCE AT THE INTERSECTION OF THE SOUTHWEST CORNER OF SAID LOT B AND THE EASTERLY LINE OF NORTH BEACH STREET (A 50 FOOT RIGHT-OF-WAY AS NOW LAID OUT AND OCCUPIED), THENCE RUN N65°00'39"E ALONG THE SOUTHERLY LINE OF SAID LOT B A DISTANCE OF 29.64 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE N65°00'39"E ALONG SAID SOUTHERLY LINE A DISTANCE OF 20.00 FEET; THENCE DEPARTING SAID SOUTHERLY LINE, RUN N16°55'28"W A DISTANCE OF 82.15 FEET TO A POINT OF INTERSECTION WITH THE NORTHERLY LINE OF SAID LOT B; THENCE S64°59'17"W ALONG SAID NORTHERLY LINE A DISTANCE OF 20.00 FEET; THENCE DEPARTING SAID NORTHERLY LINE, RUN S16°55'42"E A DISTANCE OF 82.14 FEET TO THE POINT OF BEGINNING.

SAID EASEMENT AREA CONTAINING 1,627 S.F. OR 0.04 ACRES, MORE OR LESS.



42 N BEACH ST  
PARCEL ID# 421514010020



**City of Ormond Beach**  
**City Commission Agenda**  
**Staff Report**

|                                 |                                                                                                                              |                 |                      |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------|
| <b>Agenda Date</b>              | February 17, 2026                                                                                                            | <b>Item No</b>  | 7.B.                 |
| <b>Section</b>                  | CONSENT AGENDA                                                                                                               | <b>Category</b> | Consent - Resolution |
| <b>Subject</b>                  | Mutual Aid Agreement - Combined Operational Assistance and Voluntary Cooperation, Volusia County                             |                 |                      |
| <b>Recommended Action</b>       | Staff recommends the approval of the Combined Operational Assistance and Voluntary Cooperation Agreement for Volusia County. |                 |                      |
| <b>Strategic Goal</b>           | Public Safety - Other                                                                                                        |                 |                      |
| <b>Department Staff Contact</b> | Police Department<br>Jesse Godfrey, Police Chief                                                                             |                 |                      |

Summary

This item is regarding the Ormond Beach Police Department's continued participation in the Combined Operational Assistance and Voluntary Cooperation Agreement for Volusia County, Florida.

Under Section 23.12, Florida Statutes (et seq.), the Florida Mutual Aid Act, to enter into a combined mutual aid agreement for law enforcement service which permits voluntary cooperation and assistance of a routine law enforcement nature across jurisdictional lines, and provides for rendering of assistance in a law enforcement emergency as defined in Section 252.34, F.S.

Financial Impact

None

Citizen Impact

Continuing participation in this agreement will enhance the ability of the Police Department to provide the most efficient and effective police services to the public.

Attachments

1. 26-17 Mutal Aid VC Sheriff (P26-0003G)
2. FINAL 01062026 COMBINED MUTUAL AID AGREEMENT 2025
3. Mutual Aid Letter 01062026

**RESOLUTION NO. 2026-17**

A RESOLUTION AUTHORIZING THE EXECUTION OF A MUTUAL AID COMBINED OPERATIONAL ASSISTANCE AND VOLUNTARY COOPERATION AGREEMENT FOR VOLUSIA COUNTY, FLORIDA BETWEEN THE CITY, VOLUSIA SHERIFF'S OFFICE AND PARTICIPATING MEMBER AGENCIES; AND SETTING FORTH AN EFFECTIVE DATE.

**WHEREAS**, the Mutual Aid Combined Operational Assistance and Voluntary Cooperation Agreement for Volusia County ("Agreement") is being entered into pursuant to Section 23.12, *Florida Statutes* (et.seq), the Florida Mutual Aid Act, and

**WHEREAS**, the purpose of the Agreement is to establish terms and conditions by which any party to the Agreement may request aid and assistance from one another in responding to a law enforcement emergency or routine call that exceeds the resources available to the requesting party, and

**WHEREAS**, the city's professional staff believes it to be in the best interest of the health, welfare and safety of the general public to approve and enter into the Agreement (a copy of which is attached hereto and incorporated herein by reference), and

**WHEREAS**, the City Commission concurs with the said recommendation, now therefore,

**BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:**



**SECTION ONE.** The Mayor, City Manager, and Police Chief are hereby authorized and directed to execute a Mutual Aid Combined Operational Assistance and Voluntary Cooperation Agreement for Volusia County between the City, Volusia Sheriff's Office and participating member agencies.

**SECTION TWO.** This Resolution shall take effect immediately upon its adoption.

**APPROVED AND AUTHENTICATED, this 17<sup>th</sup> day of February, 2026.**

---

**JASON LESLIE**  
Mayor

**ATTEST:**

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**SUSAN CARROLL DAUDERIS**  
City Clerk

# **MUTUAL AID AGREEMENT**

## **COMBINED OPERATIONAL ASSISTANCE AND VOLUNTARY COOPERATION AGREEMENT FOR VOLUSIA COUNTY, FLORIDA**

### **WITNESSETH**

**WHEREAS**, the subscribing law enforcement agencies are so located in relation to each other that it is to the advantage of each to receive and extend mutual aid in the form of law enforcement services and resources to adequately respond to:

1. Intensive situations including but not limited to emergencies as defined under Section 252.34, Florida Statutes and
2. Continuing, multi-jurisdictional law enforcement problems, so as to protect the public's peace and safety, and preserve the lives and property of the people; and

**WHEREAS**, the Volusia Sheriff's Office, Daytona Beach Police Department; Daytona Beach Shores Department of Public Safety; DeLand Police Department; Edgewater Police Department; Holly Hill Police Department; Lake Helen Police Department; New Smyrna Beach Police Department; Orange City Police Department; Ormond Beach Police Department; Port Orange Police Department; Ponce Inlet Police Department; and South Daytona Police Department, have the authority under Section 23.12, Florida Statutes (et seq.), the Florida Mutual Aid Act, to enter into a combined mutual aid agreement for law enforcement service which:

1. Permits voluntary cooperation and assistance of a routine law enforcement nature across jurisdictional lines, and;

2. Provides for rendering of assistance in a law enforcement emergency as defined in Section 252.34, Florida Statutes.

**JURISDICTION:** The jurisdiction under this agreement exists throughout the territorial limits of the participating municipalities, those municipalities that contract law enforcement services with the Volusia Sheriff's Office, and the unincorporated areas of Volusia County. Any law enforcement officer of any of the participating agencies shall be considered to be operating under the provisions of this Mutual Aid Agreement when participating in any law enforcement activity (preplanned or unplanned) that is requested and approved under the terms of this agreement or dispatched in response to a request for assistance from any other participating agency. Under this agreement, any law enforcement officer of a participating agency shall have the authority to operate, subject to the terms of the agreement, throughout the territorial jurisdiction of the agreement even if outside of the officer's primary jurisdiction. Any law enforcement officer of a participating agency shall, when engaging in authorized mutual cooperation and assistance pursuant to this agreement, have the same powers, duties, rights, privileges and immunities as if the law enforcement officer were performing duties inside the political subdivision of his/her normal primary jurisdiction. Notwithstanding, the Volusia Sheriff's Office's jurisdiction, pursuant to Section 30.15(5)(a), Florida Statutes, runs throughout the entire county regardless of whether there are incorporated cities or other independent districts or governmental entities in the county.

**NOW, THEREFORE,** the parties agree as follows:

#### **SECTION I: PROVISIONS FOR VOLUNTARY COOPERATION**

Each of the aforesaid law enforcement agencies hereby approve and enter into this agreement whereby each of the agencies may request and render law enforcement assistance to the other in dealing with any violations of Florida Statutes to include, but is not necessarily limited to,

investigating homicides, sex offenses, robberies, assaults, burglaries, larcenies, gambling, motor vehicle thefts, drug violations pursuant to Chapter 893, F.S., backup services during patrol activities, school resource officers on official duty out of their jurisdiction, and inter-agency task forces and joint multi-jurisdictional preplanned law enforcement operations, including but not limited to: traffic/vessel enforcement, drug enforcement task forces, and/or joint investigations.

## **SECTION II: PROVISIONS FOR OPERATIONAL ASSISTANCE**

Each of the aforesaid law enforcement agencies hereby approve and enter into this agreement whereby each of the agencies may request and render law enforcement assistance to the other to include, but not necessarily be limited to, dealing with terrorist activities, acts of sabotage, hostage and barricaded subject situations, civil disturbances, large demonstrations, aircraft disasters, fires, natural or man-made disasters, control of major crime scenes, area searches, perimeter control, pursuits, missing persons calls, high profile trials, sporting events, Spring Break, motorcycle weeks, automobile race events, concerts, parades, community events, escapes from detention facilities, and incidents requiring utilization of specialized units.

## **SECTION III: PROCEDURE FOR REQUESTING ASSISTANCE**

In the event that a party to this agreement needs assistance, either of a voluntary cooperation or operational assistance nature, the agency head or designee of the requesting agency shall notify the agency head or designee of the agency from whom such assistance is required/requested. The agency head or designee of the agency whose assistance is sought shall evaluate the situation and the request, the agency's available resources, consult with supervisors as necessary and respond in an appropriate manner. The agency head or designee in whose jurisdiction assistance is being rendered may determine who is authorized to lend assistance in his/her jurisdiction, for how long such assistance is authorized, and for what purpose such authority is granted. This authority to

grant mutual aid or receive mutual aid may be made verbally or in writing as the particular situation dictates.

**Exigent Circumstances:** In the event of exigent circumstances or other situations which precludes a formal request, any sworn member of the requesting agency may request such assistance directly from a sworn member of another participating agency. Such request may be made verbally, in writing, or by use of radio communication. As soon as the situation allows, the requesting officer shall notify his/her supervisor of the existence of the request and the basis for it.

**Official Business Outside of Jurisdiction:** Should a sworn law enforcement officer of a participating agency be in another subscribed agency's jurisdiction for matters of a routine nature, such as traveling through the jurisdiction on routine business, attending a meeting, going to or from work, or transporting a prisoner, and a violation of Florida Statutes occurs in the presence of said officer, he/she shall be empowered to render enforcement assistance and act in accordance with law. Should enforcement action be taken, the officer shall, as soon as possible, notify the agency having normal primary jurisdiction and upon arrival of officers with normal primary jurisdiction, turn the situation over to them and shall provide any assistance requested including, but not limited to, a follow-up written report documenting the event and the actions taken. **This provision is not intended to and does not grant general authority to conduct investigations, serve warrants and/or subpoenas or to respond without request to emergencies already being addressed by the agency of normal primary jurisdiction, but is intended to address critical, life threatening or public safety situations, prevent bodily injury to citizens, or secure apprehension of criminals whom the law enforcement officer may encounter. The agency head's decision in these matters shall be final.**

#### **SECTION IV: COMMAND AND SUPERVISORY RESPONSIBILITY**

The personnel and equipment that are assigned by the assisting agency head shall be under the immediate command of a supervising officer designated by the assisting agency head. Such supervising officer shall be under the direct supervision and command of the agency head or designee of the requesting agency.

**Conflicts:** Whenever an officer, deputy sheriff or other appointee is rendering assistance pursuant to this agreement, the officer, deputy sheriff or appointee shall abide by and be subject to the rules and regulations, personnel policies, general orders and standard operating procedures of his/her own employer. If any such rule, regulation, personnel policy, general order or standard operating procedure is contradicted, contravened or otherwise in conflict with a direct order of a superior officer of the requesting agency, then such rule, regulation, policy, general order or procedure shall control and shall supersede the direct order.

**Handling Complaints:** Whenever there is cause to believe that a complaint has arisen as a result of cooperative effort as it may pertain to this agreement, the agency head or designee of the requesting agency shall be responsible for the documentation of said complaint to ascertain at a minimum:

1. The identity of the complainant.
2. An address where the complaining party can be contacted.
3. The specific allegation.
4. The identity of the employees accused without regard to agency affiliation.

If it is determined that the accused is an employee of the assisting agency, the above information, along with all pertinent documentation gathered during the receipt and processing of the complaint, shall be forwarded without delay to the agency head or designee of the assisting agency for

administrative review. The requesting agency may conduct a review of the complaint to determine if any factual basis for the complaint exists and/or whether any of the employees of the requesting agency violated any of their agency's policies or procedures.

#### **SECTION V: LIABILITY**

Each party engaging in any mutual cooperation and assistance, pursuant to this agreement, agrees to assume responsibility for the acts, omissions, or conduct of its own employees while engaged in rendering such aid pursuant to this agreement, subject to the provisions of Section 768.28, Florida Statutes, where applicable.

#### **SECTION VI: POWERS, PRIVILEGES, IMMUNITIES AND COSTS**

1. Members of the participating agencies when actually engaging in mutual cooperation and assistance outside of their jurisdictional limits but inside this state under the terms of this agreement shall, pursuant to the provisions of Section 23.127(1), Florida Statutes, have the same powers, duties, rights, privileges and immunities as if they were performing duties inside the political subdivision in which they are normally employed.

2. Each party agrees to furnish necessary personnel, equipment, resources and facilities and to render services to each other party to the agreement as set forth above; provided however, that no party shall be required to deplete unreasonably its own personnel, equipment, resources, facilities and services in furnishing such mutual aid.

3. A political subdivision that furnishes equipment pursuant to this agreement must bear the cost of loss or damage to that equipment and must pay any expense incurred in the operation and maintenance of that equipment.

4. The agency furnishing aid pursuant to this section shall compensate its appointees/employees during the time such aid is rendered and shall defray the actual travel and

maintenance expenses of its employees while they are rendering such aid, including any amounts paid or due for compensation due to personal injury or death while such employees are engaged in rendering such aid.

5. The privileges and immunities from liability, exemption from laws, ordinances and rules, and all pension, insurance, relief, disability, workers' compensation, salary, death and other benefits that apply to the activity of the officers, agents, or employees of the agencies when performing their respective public duties apply to them to the same degree, manner and extent while engaged in the performance of their duties extraterritorially under the provisions of this mutual aid agreement. The provisions of this section shall apply with equal effect to paid, volunteer and reserve employees.

6. Nothing herein shall prevent the requesting agency from requesting supplemental appropriations from the governing authority having budgeting jurisdiction to reimburse the assisting agency for any actual costs or expenses incurred by the assisting agency performing hereunder.

## **SECTION VII: CONCURRENT JURISDICTION**

Whereas, it is to the mutual benefit of the subscribing law enforcement agencies, rendering assistance and/or conducting law enforcement activities, preplanned or unplanned, pursuant to this agreement, to exercise jurisdiction in and throughout the territorial limits of participating municipalities, those municipalities that contract law enforcement services with the Volusia Sheriff's Office, and the unincorporated areas of Volusia County, Florida, the subscribing parties agree as follows and mandate their agency personnel to strict compliance with requirements of this agreement for officer safety, case integrity and agency cooperation:

1. **Arrests**: Participating agency law enforcement officers are authorized to make arrests for felonies, misdemeanors, including arrestable traffic offenses, when operating under this



agreement, in and throughout the territorial limits of participating municipalities and unincorporated areas within Volusia County, Florida, excluding those areas within the territorial limits of municipalities not participating in this Mutual Aid Agreement. Authority derived pursuant to this subparagraph may be exercised only in places open to the public or private places into which the arresting officer has entered with the consent of an occupant entitled to give consent. No participating agency law enforcement officer is authorized, when operating under this agreement, to make non-consensual or forcible entries into private dwellings, residences, living spaces or business spaces which are not open to the public, absent a search warrant or constitutional exigent circumstances.

2. **Search Warrants:** When operating under this agreement, participating agency law enforcement officers may execute search warrants outside the normal primary jurisdiction of their employing municipality for offenses which occurred in the territory of their normal primary jurisdiction only after receiving permission from the other agency.

3. **Crime Scene Perimeters:** Participating agency law enforcement officers are authorized to establish a crime scene perimeter or area of containment for the securing of a crime scene or apprehension of suspects.

4. **Surveillance Operations:** Participating agency law enforcement officers are authorized to conduct mobile and stationary surveillance, provided that appropriate notification is given including the general location of the surveillance, targets of the surveillance and a description of the vehicles involved.

5. **Traffic Enforcement:** Participating agency law enforcement officers are authorized to enforce Florida traffic statutes on roadways contiguous to and forming the border between participating law enforcement agency jurisdictions. Participating agency law enforcement officers

are also authorized to investigate and arrest any individual(s) found to be in violation of the Florida criminal statutes who has been identified as a result of enforcement of the Florida traffic statutes. For purposes of this agreement, “roadway” is defined as the paved portion subject to vehicular travel and the right-of-way constituting the “shoulder” of the road. Participating agency law enforcement officers are also authorized to enforce Florida traffic statutes when operating under this agreement, in and throughout the territorial limits of participating municipalities and unincorporated areas within Volusia County, Florida, excluding those areas within the territorial limits of municipalities not participating in this Mutual Aid Agreement.

6. **Radio Communications:** The Volusia Sheriff’s Office is the provider agency for all county-wide consolidated public safety communications and is responsible for tracking and recording all radio communications relating to assistance provided. Operational radio channel will be determined by the Volusia Sheriff’s Office Command Director and agency heads will be notified annually of the radio channels.

7. **General Requirements:**

A. Prior to taking any enforcement action, the officer, who does not have jurisdiction, shall notify the agency in the jurisdiction where the action will be taken, unless exigent circumstances prevent such prior notification. In this case, notification shall be made as soon after the action as possible.

B. Prior to executing a search warrant under this agreement, outside an agency’s jurisdiction, the officer, who does not have jurisdiction, shall contact the jurisdiction’s point of contact and the Volusia Sheriff’s Office point of contact to coordinate the operation. Event deconfliction will be conducted through Case Explorer. Notification shall be made to the Watch Commander on duty in the area of responsibility where the search warrant will be executed prior to its execution.

C. Prior to conducting stationary/mobile surveillance outside the officer's jurisdiction the officer shall conduct an event deconfliction through Case Explorer covering the location/areas under surveillance, target of surveillance and any other information necessary for deconfliction.

D. Officers shall not utilize unmarked vehicles to make traffic stops or to engage in vehicle pursuits, except in the event of an emergency, exigent circumstances or when authorized in a preplanned operation.

E. This agreement includes preplanned and unplanned operations, undercover investigations, stings or sweeps coordinated and approved by the Volusia Sheriff's Office.

F. Participating agency law enforcement officers shall not conduct any routine patrol activities outside of their jurisdiction unless authorized by any voluntary cooperation or operational assistance request under this agreement.

G. Any conflicts regarding jurisdiction will be resolved by allowing the agency within whose jurisdiction the action took place to take custody of any arrestees and/or crime scenes.

H. All provisions of the Volusia County Mutual Aid Agreement shall be in full force and effect as they relate to concurrent jurisdiction.

#### **SECTION VIII: INSURANCE COVERAGE**

Each party shall provide satisfactory proof of liability insurance by one or more of the means specified in Section 768.28(16)(a), Florida Statutes, in an amount which is, in the judgment of the governing body of that party, at least adequate to cover the risk to which that party may be exposed. Should the insurance coverage, however provided, of any party be canceled or undergo material change, that party shall notify all parties to this agreement of such change within ten (10) days of receipt of notice or actual knowledge of such change.

#### **SECTION IX: EFFECTIVE DATE**

This agreement shall take effect upon execution and approval by the hereinafter named officials and shall continue in full force and effect until **January 1, 2030**, unless terminated prior thereto by any or all of the parties here. Under no circumstances may this agreement be renewed, amended, or extended except in writing. This agreement when fully executed and filed with the Florida Department of Law Enforcement shall supersede any prior versions of this agreement.

#### **SECTION X: CANCELLATION**

Any party to this agreement may withdraw from participation by providing each other party with written notice of withdrawal which date shall be specified in the notice. Furthermore, any party wishing to withdraw from participation with one or more other parties may terminate voluntary cooperation with said party(ies) by providing written notice of termination to the affected party(ies) and the Volusia Sheriff's Office. Should this occur, voluntary cooperation shall remain in force only with respect to the remaining participants. The Volusia Sheriff's Office shall keep all concerned agencies advised as to current parties to this Mutual Aid Agreement.

#### **SECTION XI: COUNTERPARTS**

This agreement may be executed in counterparts, whether scanned, faxed or electronically signed, each of which shall be deemed an original, but all of which together shall be deemed to be one and the same agreement. A signed copy of this agreement delivered by facsimile or email shall be deemed to have the same legal effect as delivery of an original signed copy of this Agreement. Notwithstanding the foregoing, each Party hereto shall deliver original counterpart signatures to Volusia Sheriff's Office no later than **January 15, 2026**, by email to [officeofthegeneralcounsel@volusiaheriff.gov](mailto:officeofthegeneralcounsel@volusiaheriff.gov).

**IN WITNESS WHEREOF**, the parties hereto cause these presents to be signed on the date specified.

**For the Volusia Sheriff's Office:**

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Michael J. Chitwood, Sheriff  
Volusia County

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Date signed

**For the Daytona Beach Police Department:**

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Jakari Young, Chief  
Daytona Beach Police Department

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Date signed

**For the City of Daytona Beach:**

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Deric C. Feacher, City Manager  
City of Daytona Beach

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Date signed

**For the Daytona Beach Shores Dept. of Public Safety:**

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Michael Fowler, Director  
Daytona Beach Shores Dept. of Public Safety

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Date signed



**For the City of Daytona Beach Shores:**

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Interim City Manager or Designee  
City of Daytona Beach Shores

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Date signed

**For the DeLand Police Department:**

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Jason D. Umberger, Chief  
DeLand Police Department

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Date signed

**For the City of DeLand:**

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Michael Pleus, City Manager  
City of DeLand

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Date signed

**For the Edgewater Police Department:**

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Joseph P. Mahoney, Chief  
Edgewater Police Department

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Date signed

**For the City of Edgewater:**

\_\_\_\_\_  
Interim City Manager or Designee  
City of Edgewater

\_\_\_\_\_  
Date signed

**For the Holly Hill Police Department:**

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Byron K. Williams, Chief  
Holly Hill Police Department

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Date signed

**For the City of Holly Hill:**

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Joseph Forte, City Manager  
City of Holly Hill

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Date signed

**For the Lake Helen Police Department:**

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Robert Mullins, Chief  
Lake Helen Police Department

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Date signed



**For the City of Lake Helen:**

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Jim Gleason, City Administrator  
City of Lake Helen

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Date signed

**For the New Smyrna Beach Police Department:**

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Chris Kirk, Chief  
New Smyrna Beach Police Department

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Date signed

**For the City of New Smyrna Beach:**

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Kevin Cowper, City Manager  
City of New Smyrna Beach

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Date signed

**For the Orange City Police Department:**

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Wayne Miller, Chief  
Orange City Police Department

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Date signed

**For the City of Orange City:**

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Christine Davis, Interim City Manager  
City of Orange City

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Date signed

**For the Ormond Beach Police Department:**

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Robert Jesse Godfrey, Chief  
Ormond Beach Police Department

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Date signed

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Jason Leslie  
Mayor

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Date signed

---

Joyce Shanahan  
City Manager

---

Date signed

**For the City of Ormond Beach:**

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Joyce Shanahan, City Manager  
City of Ormond Beach

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Date signed

**For the Ponce Inlet Police Department:**

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Jeff Glazier, Chief  
Ponce Inlet Police Department

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Date signed



**For the Town of Ponce Inlet:**

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Mike Disher, Town Manager  
Town of Ponce Inlet

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Date signed

**For the Port Orange Police Department:**

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Manuel Marino, Chief  
Port Orange Police Department

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Date signed

**For the City of Port Orange:**

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Wayne Clark, City Manager  
City of Port Orange

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Date signed

**For the South Daytona Police Department:**

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Joseph LaSata, Chief  
South Daytona Police Department

---

Date signed

**For the City of South Daytona:**

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James L. Gillis, Jr., City Manager  
City of South Daytona

---

Date signed

# General Counsel

Peter A.D. McGlashan, Esq.

OFFICE  
(386) 736-5961



## OFFICE OF THE GENERAL COUNSEL VOLUSIA SHERIFF'S OFFICE

123 WEST INDIANA AVE • FOURTH FLOOR • DELAND, FLORIDA 32720  
(386) 822-5074 (FAX) • WWW.VOLUSIASHERIFF.GOV

January 6, 2026

Re: Mutual Aid Agreement Expiration

Dear Chiefs and Managers,

The Volusia County Combined Operational Assistance and Voluntary Cooperation Agreement for Volusia County, Florida (Mutual Aid Agreement) expired on January 1, 2026. There is currently no County Mutual Aid Agreement in place. Therefore, **no agency is authorized to conduct operations** under its terms.

To restore this essential operational capability, please find the replacement agreement attached for your review and execution. Please return the executed document to the Office of the General Counsel at [officeofthegeneralcounsel@volusiasherriff.gov](mailto:officeofthegeneralcounsel@volusiasherriff.gov) as soon as possible. The sooner we receive the signed and executed agreement; the sooner we can restore mutual aid coverage across the county.

Thank you for your prompt attention to this matter.

Sincerely,

PETER A. D. McGLASHAN, ESQUIRE

General Counsel

Volusia Sheriff's Office

Fla. Bar No.: 0990477

123 West Indiana Avenue

DeLand, FL 32720-4613

Telephone (386) 736-5961

Facsimile (386) 822-5074

[pmcglashan@volusiasherriff.gov](mailto:pmcglashan@volusiasherriff.gov) /

[mcarlin@volusiasherriff.gov](mailto:mcarlin@volusiasherriff.gov) /

[aabdoukarim@volusiasherriff.gov](mailto:aabdoukarim@volusiasherriff.gov)



**City of Ormond Beach**  
**City Commission Agenda**  
**Staff Report**

|                                 |                                                                                              |                 |                      |
|---------------------------------|----------------------------------------------------------------------------------------------|-----------------|----------------------|
| <b>Agenda Date</b>              | February 17, 2026                                                                            | <b>Item No</b>  | 7.C.                 |
| <b>Section</b>                  | CONSENT AGENDA                                                                               | <b>Category</b> | Consent - Resolution |
| <b>Subject</b>                  | Contract Name Change - Utility Billing Print and Mailing Specialists                         |                 |                      |
| <b>Recommended Action</b>       | Staff recommends approval of the contract name change to Financial Statements Services, Inc. |                 |                      |
| <b>Strategic Goal</b>           | Governance - Other                                                                           |                 |                      |
| <b>Department Staff Contact</b> | Finance<br>Chris Byle, Assistant Finance Director                                            |                 |                      |

Summary

The City's current provider for utility billing printing and mailing has recently changed its name.

The Utility Billing Services provider was advertised via a Request For Proposal and a contract awarded to Cathedral Corporation in 2024 (Resolution 2024-137). Cathedral Corporation was purchased by Financial Statements Services, Inc. in 2025.

The City utilizes a proprietary software application developed by Tyler Technologies Munis for utility billing. The billing files are created in-house and sent to the vendor where the statements are printed and mailed, along with any inserts. There are approximately 25,000 service accounts.

Financial Impact

In Fiscal Year 2025-26, the City has budgeted \$161,500 for utility bill printing and processing and utility bill postage within the Utility Billing Operating budget, Fund 401.

Citizen Impact

Providing utility bills in a timely fashion is imperative to the customer service the City provides to its utility customers. Many customers desire to receive paper bills rather than electronic bills, therefore the City continues to provide this service.

Attachments

1. 26-18 Finance - Cathedral - Contract Name Change (P25-0146G)
2. Cathedral FSSI Amendment

3. Corporate Documents 1 Cathedral FSSI
4. Cathedral 2024 Agreement with Exhibits A & B



**RESOLUTION NO. 2026-18**

A RESOLUTION APPROVING AN AMENDMENT TO THE AGREEMENT BETWEEN THE CITY AND CATHEDRAL CORPORATION, FOR THE LIMITED PURPOSE OF ACKNOWLEDGING THE CORRECT IDENTITY OF THE ENTITY PROVIDING UTILITY BILLING AND RELATED SERVICES UNDER THE AGREEMENT; ACKNOWLEDGING A NAME CHANGE FROM CATHEDRAL CORPORATION TO FSSI EAST INC.; ACKNOWLEDGING THEIR NEW CORPORATE OFFICE ADDRESS; AUTHORIZING THE EXECUTION OF AN AMENDMENT TO AGREEMENT CONSISTENT THEREWITH; AND SETTING FORTH AN EFFECTIVE DATE.

**WHEREAS**, by Resolution 2024-137 the City Commission authorized an Agreement between the City and Cathedral Corporation, and

**WHEREAS**, Cathedral Corporation underwent several instances of corporate restructuring, detailed in the Amendment attached hereto, resulting in a corporate name change and change of address, and

**WHEREAS**, the City Commission of the City of Ormond Beach desires to execute an Amendment to Agreement for the limited purpose of acknowledging the correct identity of the entity providing utility billing and related services under the said agreement and acknowledging their new corporate address; now therefore,

**BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:**

**SECTION ONE.** The Mayor and the City Manager are hereby authorized and directed to execute an Amendment to the Agreement for the limited purpose of acknowledging the correct identity of the entity providing utility billing and related services to the City of Ormond

Beach from Cathedral Corporation to FSSI East, Inc. and acknowledging their new corporate address. A copy of said Amendment is attached hereto and is incorporated herein by reference.

**SECTION TWO.** This Resolution shall take effect immediately upon its adoption.

**APPROVED AND AUTHENTICATED this 17<sup>th</sup> day of February, 2026.**

---

**JASON LESLIE**  
Mayor

**ATTEST:**

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**SUSAN DAUDERIS**  
City Clerk

**AMENDMENT TO  
UTILITY BILLING SERVICES AGREEMENT**

THIS AMENDMENT TO UTILITY BILLING SERVICES AGREEMENT is entered by and between the **City of Ormond Beach, Florida** (hereinafter referred to as “City”), and **FSSI East, Inc.** (hereinafter referred to as “Contractor”) for the purposes stated herein, as follows:

WHEREAS, the City of Ormond Beach and Cathedral Corporation were parties to an Agreement dated October 15, 2024, a copy of which is attached hereto and

WHEREAS, on June 13, 2025, Cathedral Corporation entered into an Agreement whereby Cathedral agreed to contribute, assign, convey and deliver, to its subsidiary, Cathedral Business Services Corporation, all of Cathedral Corporation’s right, title and interest in certain assets, including the account with the City of Ormond Beach and

WHEREAS, on June 24, 2025, Cathedral Business Services Corporation filed a Certificate of Merger with the NYS Department of State, merging with FSSI East Inc., with Cathedral Business Services Corporation as the surviving entity and

WHEREAS, within that Certificate of Merger and upon its filing, the Certificate of Incorporation of Cathedral Business Services Corporation was automatically amended and restated to adopt the identity FSSI East, Inc., a Florida Profit Corporation and

WHEREAS, the City Commission of the City of Ormond Beach and FSSI East Inc., desire to amend the subject Agreement for the limited purpose of acknowledging the new corporate name under which the Contractor will provide utility billing and mailing related services for the City of Ormond Beach and acknowledging the new corporate address for the Contractor; now therefore,

The Agreement formerly between the City of Ormond Beach and Cathedral Corporation is hereby amended to read:

**THIS AGREEMENT** is made and entered into by and between the **CITY OF ORMOND BEACH** (“City”), a Florida municipal corporation, 22 South Beach Street, Ormond Beach, Volusia County, Florida 32174 and **FSSI EAST, INC.**, a Florida Profit Corporation, (“Contractor”), 3300 S. Fairview Street, Santa Ana, CA. 92704, and in consideration of the mutual promises and covenants herein contained, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree to the following:

Paragraph 9 of said Agreement is hereby amended to read as follows:

9. **Notice.** All notices which are required by this Agreement shall be sent to the parties at the following addresses, or such other addresses as may be requested in writing by either party:

**City of Ormond Beach**  
Joyce Shanahan  
22 South Beach Street  
Ormond Beach, FL 32174

**FSSI East, Inc.**  
FSSI, East, Inc.  
3300 S. Fairview Street  
Santa Ana, CA. 92704

All other terms and conditions of the subject Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have caused this amendment to be executed by the undersigned officials as of the date listed below.

**DATED:** February \_\_, 2026.

**CITY OF ORMOND BEACH, FLORIDA**

**BY:** \_\_\_\_\_  
Jason Leslie, Mayor

**ATTEST:** \_\_\_\_\_  
Joyce Shanahan, City Manager

*January*  
**DATED:** February 22, 2026.

**FSSI EAST, INC.**

**BY:** \_\_\_\_\_  
**Name:** *Technique P. White*  
**Title:** *CEO*

**ATTEST:** \_\_\_\_\_  
**Name:** *Makayla Lang*  
**Title:** *contract compliance manager*

## ASSIGNMENT AND BILL OF SALE

Pursuant to that certain Contribution Agreement dated as of June 13, 2025, by and between Cathedral Corporation, a New York corporation ("**Cathedral**") and Cathedral Business Services Corporation ("**New BSD Subsidiary**"), a New York corporation and wholly-owned subsidiary of Cathedral (the "**Contribution Agreement**"), for good and valuable consideration, the receipt and sufficiency of which Cathedral hereby expressly acknowledges, subject to the terms of the Contribution Agreement, Cathedral hereby contributes, transfers, assigns, conveys and delivers, as of the date of the Contribution Agreement, to New BSD Subsidiary, all of Cathedral's right, title and interest in and to each of the following assets related to the Business Services business (the "**Business Services Division**") and (b) certain other assets used by the Business Services Division:

- (a) all of Cathedral's right, title and interest in and to each of the following (each a "**Business Services Asset**" and collectively, the "**Business Services Assets**"):
- (1) the cash and cash equivalent accounts relating to the Business Services Division listed in Schedule 1.1(a)(1) of the Contribution Agreement;
  - (2) cash and cash equivalent accounts identified to collect customer postage deposits, balances in Pitney Bowes, PCI, USPS and other postage accounts, the cash value of postage in postage meters, postage on work-in-progress inventories and the cash value of postage in postage permits relating to or arising in connection with the Business Services Division;
  - (3) all notes receivable, trade receivables, accounts receivable, commissions, and other receivables and rights to payment arising solely and exclusively out of the Business Services Division;
  - (4) all sales and production contracts, vendor contracts and purchase orders, and other agreements, contracts, consensual obligations, orders, promises or undertakings (whether written or oral and whether express or implied) relating to or arising in connection with the Business Services Division, and all outstanding offers or solicitations made by or to the Business Services Division to enter into any contract;
  - (5) all inventories and all creative materials, custom artwork, graphic files, production work orders, advertising materials, promotional materials and all other materials and supplies to be used or consumed by the Business Services Division in the production, marketing and sales of products for the Business Services Division;

- (6) all data and records (including electronic records) related to the operations of the Business Services Division, including customer and supplier lists and records, referral sources, research and development reports and records, production reports and records, service and warranty records, equipment logs, operating guides and manuals, financial and accounting records, studies, reports, correspondence and other similar documents and records;
- (7) all customer order, scheduling and design and application software and all other computer software and subsequent versions thereof, including source code, object, executable or binary code, objects, comments, screens, user interfaces, report formats, templates, dashboards, portals, menus, buttons and icons and all files, data, materials, manuals, design notes and other items and documentation related thereto or associated therewith relating to or arising in connection with the Business Services Division, including Fidlar Election;
- (8) all production, printing and graphics equipment, all computer equipment used to create or sell products to customers, and all office furniture and equipment relating to or arising in connection with the Business Services Division;
- (9) all of the registered and unregistered copyrights, assumed fictional business names, registered and unregistered trademarks, service marks and applications and other intellectual property assets, including goodwill, telephone, telecopy, e-mail, websites and other social media sites and listings used in the operation of the Business Services Division, including, without limitation, those set forth on Schedule 1.1(a)(9) of the Contribution Agreement;
- (10) all Governmental Authorizations and all pending applications therefor or renewals thereof, in each case to the extent transferable to New BSD Subsidiary relating to or arising in connection with the Business Services Division;
- (11) those certain claims of the Business Services Division against third parties relating to the Business Services Division Assets or the operations of the Business Services Division, whether choate or inchoate, known or unknown, contingent or noncontingent;
- (12) all rights of the Business Services Division relating to deposits and prepaid expenses, claims for refunds and rights to offset in respect thereof relating to the Business Services Division Assets or the operations of the Business Services Division;
- (13) causes of action, claims, and demands of Cathedral (whether known or unknown, matured or unmatured, accrued or contingent), including rights to returned or repossessed goods and rights as an unpaid vendor; rights of recovery, rights of warranty and indemnity, rights to product liability insurance proceeds, rights of set-off and rights of recoupment; all security deposits, utility deposits and other

deposits, in each case to the extent arising solely and exclusively out of the Business Services Division; and

- (14) all other classes of assets specific to Business Services Division;
  - (15) the motor vehicles listed in Schedule 1.1(a)(15) of the Contribution Agreement;
  - (16) the real property leases, capital leases and debt agreements listed in Schedule 1.1(a)(16) of the Contribution Agreement; and
  - (17) the property and assets expressly designated in Schedule 1.1(a)(17) of the Contribution Agreement.
- (b) all of Cathedral's right, title, and interest in and to each assets, rights and properties set forth on Schedule 1.1(b) of the Contribution Agreement (the "Shared Assets" and, together with the Business Services Assets, the "Contributed Assets")

Except as expressly limited in the Contribution Agreement, Cathedral warrants title to the Contributed Assets transferred herein to New BSD Subsidiary as to persons claiming, by, through, and under Cathedral, but not otherwise.

Except for terms specifically defined in the Bill of Sale, all capitalized terms used herein shall have the same meanings as such terms have when utilized in the Contribution Agreement.

Notwithstanding anything to the contrary herein, Cathedral is executing and delivering this Bill of Sale in accordance with, and subject to all of the terms and provisions of, the Contribution Agreement.

IN WITNESS WHEREOF, Cathedral has caused this Bill of Sale to be executed as of the 13<sup>th</sup> day of June, 2025.

**CATHEDRAL CORPORATION**

DocuSigned by:  
*Marianne W. Gaige*  
By: FA009B0A8239466  
Marianne W. Gaige  
Chairman and Chief Executive Officer

### OFFICER'S CERTIFICATE

The undersigned, Marianne W. Gaige, Chief Executive Officer of Cathedral Corporation, a New York corporation, (the "Corporation"), does hereby certify that the resolutions attached as Exhibit A (the "Resolutions") are true and complete resolutions which were unanimously adopted by unanimous written consent of the Board of Directors of the Corporation on the 6<sup>th</sup> day of June, 2025, and that such resolutions have not been amended or modified and continue to be in full force and effect as of this date.

Marianne W. Gaige, as Chief Executive Officer of the Corporation, does hereby certify that the contract between the Corporation and the City of Ormond Beach was assigned by the Corporation to Cathedral Business Services Corporation, its wholly owned subsidiary, pursuant to the BSD Sub Contribution Agreement and subsequently assumed by FSSI East, Inc. pursuant to the Merger Agreement (as such agreements are defined in the attached Resolutions).

The undersigned further certifies that Marianne W. Gaige now holds the office of Chairman and CEO of the Corporation and she held that office on the date that such resolutions were adopted.

IN WITNESS WHEREOF, the undersigned has executed this Certificate this 1<sup>st</sup> day of December, 2025.

CATHEDRAL CORPORATION

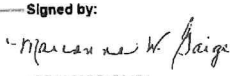
Signed by:  
By:   
Marianne W. Gaige  
Chief Executive Officer



Exhibit A  
Resolutions of Board of Directors of Cathedral Corporation

**Sale of Business Services Division**

**WHEREAS**, the Board of Directors of the Corporation have determined that it is in the best interest of the Corporation to sell its business services division to Financial Statement Services, Inc. (“FSSI”) in accordance with the terms and conditions reviewed and approved in earlier meetings of the Board of Directors and, accordingly, the Directors now desire to approve (i) the Agreement and Plan of Merger pursuant to which FSSI will acquire the Corporation’s business services division (the “**Merger Agreement**”) and (ii) the ancillary agreements to be executed, and the actions to be taken, by the Corporation in order to consummate the acquisition contemplated by the Merger Agreement.

**Contribution Agreement**

**WHEREAS**, the Board of Directors of the Corporation have determined that it is in the best interest of the Corporation to enter into a Contribution Agreement with BSD Sub [Cathedral Business Services Corporation] (the “**BSD Sub Contribution Agreement**”), in substantially the form provided to the Board of Directors, pursuant to which the Corporation shall transfer all of the assets of its business services division, subject to its liabilities, to BSD Sub and, in exchange, BSD Sub shall issue the remainder of its authorized shares to the Corporation, such that the Corporation shall own 1,000,000 shares, constituting all of the authorized and issued and outstanding shares of BSD Sub; and

**NOW THEREFORE, BE IT RESOLVED**, that the form and terms of the BSD Sub Contribution Agreement, in substantially the form which has been reviewed by the Board of Directors, be and it hereby is authorized, adopted and approved; and it is further

**RESOLVED**, that, the Chairman and Chief Executive Officer of the Corporation (for purposes of these resolutions, the “**Authorized Officer**”) be, and she hereby is, authorized, empowered and directed to execute and deliver the BSD Sub Contribution Agreement, in substantially the form presented to the Board of Directors, with such changes thereto as such officers shall approve, such approval to be conclusively evidenced by execution and delivery thereof; and it is further

**RESOLVED**, that the Authorized Officer be, and she hereby is, authorized, empowered and directed to take, from time to time in the name and on behalf of the Corporation, such actions and execute and deliver such agreements, bills of sale, assignments, certificates, instruments, notices and documents, including amendments thereto, as may be required from time to time or as the Authorized Officer may deem necessary, advisable or proper in order to carry out and perform the obligations of the Corporation under the BSD Sub Contribution Agreement; and it is further

### **FSSI Acquisition and Merger Agreement**

**WHEREAS**, the Board of Directors has determined that it is in the best interest of the Corporation to cause the BSD Sub to enter into an Agreement and Plan of Merger, substantially in the form provided to the Board of Directors of the Corporation (the "**Merger Agreement**"), by which FSSI East, Inc. (the "**FSSI Sub**"), a wholly-owned subsidiary of Financial Statement Services, Inc. ("**FSSI**") would be merged with and into BSD Sub and FSSI would acquire all of the stock of BSD Sub in exchange for the cancellation and conversion of each share of BSD Sub then issued and outstanding into the BSD Shareholders' right to receive an amount, in cash and subordinated promissory notes equal to the Aggregate Merger Consideration (as defined in the Merger Agreement);

**WHEREAS**, the Board of Directors acknowledges that shareholder approval is required for the consummation of the Merger Agreement and therefore will submit the Merger Agreement to the Shareholders of the Corporation and of the BSD Sub for approval and adoption;

**RESOLVED**, that the form and terms of the Merger Agreement, in substantially the form which has been reviewed by the Board of Directors, be and it hereby is authorized, adopted and approved; and it is further

**RESOLVED**, that the Board recommends to the Shareholders of the Corporation the adoption and approval of the Merger Agreement; and it is further

**RESOLVED**, that, the Authorized Officer be, and she hereby is, authorized, empowered and directed to execute and deliver the Merger Agreement, in substantially the form presented to the Board of Directors, with such changes thereto as the Authorized Officer shall approve, such approval to be conclusively evidenced by execution and delivery thereof; and it is further

**RESOLVED**, that the Authorized Officer be, and she hereby is, authorized, empowered and directed to take, from time to time in the name and on behalf of the Corporation, such actions and execute and deliver such agreements, assignments, certificates, instruments, notices and documents, including amendments thereto, as may be required from time to time or as the Authorized Officer may deem necessary, advisable or proper in order to carry out and perform the obligations of the Corporation under the Merger Agreement; and it is further

**Miscellaneous**

**RESOLVED**, that the Authorized Officer of the Corporation be, and she hereby is, authorized, empowered and directed for and on behalf of the Corporation and as its corporate act and deed to do all such acts and things as may be authorized by the Authorized Officer and may be necessary or advisable to consummate the transactions authorized and described in the foregoing resolutions; and it is further

**RESOLVED**, that any and all actions heretofore or hereafter taken in the name and on behalf of the Corporation by the Board of Directors and the Authorized Officer of the Corporation in connection with or related to the matters set forth in, or as contemplated by, the foregoing resolutions be, and they hereby are ratified and approved in all aspects as the act of the Corporation.

## AGREEMENT

**THIS AGREEMENT** is made and entered into by and between the **CITY OF ORMOND BEACH** ("City"), a Florida municipal corporation, 22 South Beach Street, Ormond Beach, Volusia County, Florida 32174 and **CATHEDRAL CORPORATION**, a New York corporation, authorized to do business in the State of Florida (the "Contractor"), 632 Ellsworth Road, Rome, Oneida County, New York 13441, and in consideration of the mutual promises and covenants herein contained, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree to the following:

1. **Scope of Work.** The Request for Proposals ("Utility Billing Mailer Services", RFP 2025-01) dated July 9, 2024 attached hereto as Exhibit "A" and the Proposal dated July 11, 2024 attached hereto as Exhibit "B", are incorporated herein by reference and are a material part of this Agreement. The Contractor shall fully comply with the terms and conditions described in the attached exhibits.
2. **Term.** This Agreement is for a five (5) year term that shall be effective beginning on September 14, 2024.
3. **Consideration.** Contractor shall perform the services at the prices set forth in the attached exhibits. Contractor shall prepare and submit invoices to the City at the address set forth in Paragraph 9 of this Agreement. All such invoices shall be paid by the City within thirty (30) days.

**COST ADJUSTMENTS:** No later than June 1, of each contract year, the Contractor may petition the City through the Contract Manager for a rate adjustment to reflect the change in the cost of doing business, as measured by fluctuations in the Consumer Price Index (CPI), All Urban Customers, published by the U.S. Department of Labor, Bureau of Labor Statistics, for the preceding July 1-June 30 period. The maximum increase for any annual period shall not exceed four (4%) percent and will only apply prospectively; increases will not be retroactive. The adjusted rate, if approved shall take effect on October 1, of the year in which approved. Approval or denial of the request is at the sole discretion of the City Commission.

Any extraordinary cost adjustments requested outside of these parameters may require additional documentation in addition to a presentation being made to City Staff or the City Commission at the requestor's expense.

4. **Delivery.** Contractor shall complete the project within the time frame set forth on Exhibit "A".
5. **Termination of Agreement.**
  - (a) The City Commission shall have the right to terminate the Agreement in the event the Contractor files any petition or proceeding for bankruptcy relief, or is adjudicated to be

bankrupt or insolvent, or fails to pay just debts as they ordinarily become due; or for a material breach of this agreement that remains uncured for at least thirty days after prior written receipt of a notice of violation of same.

(b) This Agreement may not be terminated by the Contractor.

6. **Assignment.** The Contractor shall not assign, convey or transfer all or any part of this Agreement, or all or any part of Contractor's interest herein, or all or any part of any interest in the Contractor, without the prior written consent of the City Commission, which consent shall not be unreasonably withheld.
7. **Complete Agreement.** This Agreement, including the provisions set forth in the exhibit attached hereto and incorporated by reference herein, constitutes the entire and complete agreement of the parties, and the promises and covenants herein contained shall survive the life of this Agreement.
8. **Amendment to Agreement.** Any amendment, change, or modification of this Agreement must be in writing and fully executed by both parties.
9. **Notices.** All notices which are required by this Agreement shall be provided to the parties at the following addresses, or such other addresses as may be requested in writing by either party:

**City of Ormond Beach**  
Joyce Shanahan, City Manager  
(copy to City Attorney)  
22 South Beach Street  
Ormond Beach, FL 32174

**Cathedral Corporation**  
Florida Division  
Marianne W. Gaige, Chairman & CEO  
1500 Tradeport Dr, Suite B  
Orlando, FL 32838

10. **Sovereign Immunity.** The City expressly retains and reserves all rights, privileges, immunities, and benefits of sovereign immunity. This provision shall be construed broadly in favor of the City.
11. **Venue.** The terms and conditions of this Agreement shall be construed and enforced under the laws of the State of Florida. Any action or proceeding, either at law or in equity, regarding this Agreement shall be brought in the circuit court, Seventh Judicial Circuit in and for Volusia County, Florida. Venue in any other jurisdiction or forum, whether it be any other circuit, state or federal venue, is hereby expressly waived.
12. **Waiver of Conditions.** No waiver by the City of any condition or breach of performance by the Contractor shall constitute an irrevocable, continuing, or subsequent waiver by the City of the same condition or breach of performance, or of any other condition or other breach of performance.
13. **Severability.** If any part of this Agreement is declared to be unenforceable or void by a court of competent jurisdiction, the remaining parts of the Agreement shall remain in full

force and effect as long as the services to be provided by the Contractor are not materially affected, altered or impaired as a result of said judicial declaration.

14. **Conflicting Provisions.** In the event of any conflict between the provisions of this Agreement and any exhibits, the provision most favorable to the City shall control and shall be given full force and effect.
15. **Indemnification.** The City, its agents, employees, and officials, both elected and appointed, shall be indemnified and held harmless by Contractor from any and all liabilities, claims, and causes of action which may arise out of the willful, negligent, or unlawful acts or omissions of the Contractor or its subcontractors in the performance of this Agreement, unless such claims are a result of the City's sole negligence, as determined by the final decision maker of such claim.
16. **Duty to Defend.** The Contractor shall defend all suits and administrative actions, including all appellate proceedings, brought against the City, its agents, employees, and officials, both elected and appointed and shall pay all attorneys' fees and costs associated with the City's legal defense, as may be selected by the City, arising from all claims and causes of action described in Section 15 above. Such payment on behalf of the City shall be in addition to any and all other legal or equitable remedies available to the City and shall not be considered to be the City's exclusive remedy.
17. **Contractor's Insurance.** The Contractor shall purchase and maintain for the entire life of this Agreement, including any and all approved time extensions, until its final acceptance by the City, such insurance as will protect the Contractor from claims under Workers' Compensation, disability benefit laws or other similar employee benefit laws; from claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees; from claims insured by usual or unusual injury liability coverage; from claims or injury to or destruction of tangible property and from claims insured by usual Commercial General Liability coverage. This includes loss of use resulting therefrom, any or all of which may arise out of the Contractor's operations under this Agreement, whether such operations be by the Contractor, or by any Subcontractor, or by anyone directly or indirectly employed by any of them or for whose acts any of them may be legally liable. The Contractor's deductibles/self-insured retentions shall be disclosed to the City and may be disapproved by the City, and may be reduced or eliminated at the sole discretion of the City. The Contractor is responsible for the amount of any deductible or self-insured retention.

18. **Types of Insurance and Limits of Liability**

The insurance required herein shall be written for not less than any limits of liability specified and incorporated as part of the Contract Documents or as required by law, whichever is greater, and shall include and not limited to the following:

- (a) Workers' Compensation Insurance in statutory limits for the State of Florida with Coverage B - Employer's Liability limits of not less than:

\$100,000 Each Accident Bodily Injury by Accident  
\$100,000 Each Employee Bodily Injury by Disease  
\$500,000 Policy Limit Bodily Injury by Disease

Certificate of Exemptions. If the contractor has a State-issued Certificate of Exemption, the contractor may provide a copy in place of the requirement for coverage. However, if the contractor subcontracts or retains any other person or entity to perform under the contract, that person or entity must provide proof of workers' compensation insurance as required by law or provide a Certificate of Exemption.

It is the intent of the City that any individual who either contracts directly with the city or performs any work on behalf of any such contractor be covered by workers' compensation insurance or have a valid exemption from said coverage.

(If applicable to the Project, the policy must include benefits under the United States Longshoremen's and Harbor Workers' Act and the Jones Act coverage--all maritime coverage.)

(b) Commercial General Liability Insurance shall be written on a coverage form as broad as Insurance Services Office (ISO) Form CG 00 01 11 85, or its successor form, including but not limited to the following coverage (any deviation shall be noted on the Certificates of Insurance):

- a. Premises, Operations, Products and Completed Operations
- b. Owners' & Contractors' Protective
- c. Products & Completed Operation
- d. Explosion, Collapse & Underground Conditions
- e. Blanket Contractual Liability
- f. Personal Injury Liability
- g. Broad Form Property Damage Endorsement, including Completed Operations
- h. Independent Contractors
- i. Watercraft--Owned and Non-Owned (if applicable, endorsement must be included in General Liability policy or a separate Protection & Indemnity Policy must be written)
- j. Pollution Liability (if applicable)
- k. Asbestos Abatement (if applicable)
- l. Fire Damage Liability

Certain coverage outlined above may not be required if they do not relate to the Project, as may be determined at the sole discretion of the City.

Commercial General Liability Coverage shall be written on an occurrence basis and the limits shall be no less and not limited to the following amounts:



Limits (not less than)

\$1 Million Each Occurrence  
\$2 Million General Aggregate  
\$1 Million Aggregate Products & Completed Operations

NOTE: Commercial General Liability Coverage must be purchased on either a project basis (separate policy per contract) or an endorsement allocating an aggregate limit per location or specified project.

- (c) Automobile Liability Insurance is required if an Automobile(s) is used in the performance of the contract.

ISO Symbol 1 (Any Auto), or alternatively a combination of Symbol 2 (Owned Autos), Symbol 8 (Hired Autos), and Symbol 9 (Non-Owned Autos), and limits shall be no less than:

|             |                                                                |
|-------------|----------------------------------------------------------------|
| \$1 Million | Combined Single Limit for Bodily Injury<br>and Property Damage |
|-------------|----------------------------------------------------------------|

- (d) Excess Liability

For contracts \$250,000 or greater an Excess Liability Policy of at least but not limited to \$1,000,000 in addition to the scheduled underlying policies for Commercial General Liability, Automobile Liability and Employers' Liability, the Contractor shall also provide an Excess Liability Policy with a maximum self-insured retention not to exceed \$25,000 per occurrence.

- (e) Builder's Risk

Contractor shall purchase Builder's Risk Insurance for any contracts that are deemed to be vertical construction on an All-Risk policy, and shall also include coverage for wind, hail, and named storm. Limits of coverage shall be at least and not limited to the value of the project.

- (f) Professional Liability, Malpractice and/or Errors and Omissions

The Contractor shall purchase and maintain professional liability, malpractice, or errors or omissions insurance with minimum limits of \$1,000,000 per occurrence. If a claims made form of coverage is provided, the retroactive date of coverage shall be no later than the inception date of claims made coverage, unless the prior policy was extended indefinitely to cover prior acts. Coverage shall be extended beyond the policy year either by a supplemental extended reporting period (ERP) of as great a duration as is available, and with no less coverage and with reinstated aggregate



limits, or by requiring that any new policy provides a retroactive date no later than the inception date of claims made coverage.

**19. Requirements for Certificates of Insurance.**

- (a) With the execution of this Agreement, the Contractor shall provide certificates of such insurance acceptable to the City. These certificates and insurance policies shall contain a provision that the coverage under the policies will not be canceled, non-renewed or materially changed until at least **thirty (30) days'** prior written notice of such cancellation, non-renewal or change [except for nonpayment of premium, which shall be **ten (10) days]** has been given to the City. The Contractor shall be required to replace any expired or canceled policies in like amount and coverage to the satisfaction of the City. The Certificate of Insurance shall be the ACCORD FORM 25-S (7/90), or its successor form, and shall be made a part of this Agreement.
- (b) New certificates of insurance shall be provided to the City at least fifteen (15) days prior to coverage renewals.
- (c) If requested by the City, the Contractor shall furnish complete copies of the Contractor's insurance policies, forms and endorsements.
- (d) For Commercial General Liability coverage the Contractor shall, at the option of the City, provide an indication of the amount of claims payments or reserves chargeable to the aggregate amount of liability coverage. If the Commercial General Liability form of coverage includes an annual aggregate limitation on the amount of insurance provided, a separate project aggregate limit may be required by the City for the given contract.
- (e) If the Contractor fails to obtain and maintain for the life of the Agreement the insurance required hereby or to replace any such expired or canceled policy, the City may obtain and maintain such insurance with such company as it deems satisfactory. Any amounts expended by the City in payment of premiums for such insurance shall be deducted by the City from the amount due the Contractor for the work covered by the Agreement.
- (f) **Policies of Insurance**
  - 1. Except as otherwise provided herein, all insurance policies shall be issued by insurers licensed to do business in the State of Florida on an admitted basis or which is an eligible surplus lines insurer in the State of Florida, and any such insuring company is required to have a minimum financial rating of (A-) in the latest edition of "Best's Key Rating Guide", published by A. M. Best Co., Inc., or some similarly nationally recognized rating authority, including Standard and Poors and Demotech.

2. For Workers' Compensation coverage only, self-insurance programs are acceptable with a minimum A- rated reinsurance carriers; written confirmation is required.
  3. All policies of insurance or certificates thereof referred to herein shall be deposited with the City Clerk.
  4. The City shall be named an Additional Insured on General Liability and Automobile Liability policies of insurance and certificates thereof.
20. **Enforcement of Costs.** If any legal action or other proceeding is brought for the enforcement of this Agreement, or because of an alleged dispute, breach, default, or misrepresentation in connection with any provision of this Agreement, the successful or prevailing party or parties shall be entitled to recover reasonable attorneys' fees, court costs, and all expenses even if not taxable court costs (including, without limitation, all such fees, costs and expenses incident to arbitration, appellate, bankruptcy, and post-judgment proceedings), incurred in that action or proceeding or any appeal, in addition to any other relief to which the party or parties may be entitled. Attorneys' fees include legal assistant fees, expert witness fees, investigative fees, administrative costs, and all other charges billed by the attorney for the prevailing party.
21. **Compliance With Laws.** Contractor shall comply with all applicable federal, state and local laws and regulations.
22. **Compliance With Florida Public Records Law.** Contractor expressly agrees that it shall comply with the public records law provided in Florida Statutes, Chapter 119, and specifically to:
- (a) Keep and maintain public records required by the City to perform the contracted service.
  - (b) Upon request from the City Clerk, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law.
  - (c) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to the City.
  - (d) Upon completion of the contract, transfer at no cost, to the City all public records in possession of the contractor or keep and maintain public records required by the City to perform the service. If the contractor transfers all public records to the City upon completion of the contract, the contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon the completion of the contract, the contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be

provided to the City, upon request from the City Clerk, in a format that is compatible with the information technology systems of the City.

(e) Failure of the Contractor to comply with Public Records Law as provided by Florida Statutes, Chapter 119, shall subject the Contractor to penalties under Chapter 119.10 and subject this Agreement to termination for cause by the City.

**IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:**

**CITY CLERK  
22 SOUTH BEACH STREET  
ORMOND BEACH, FLORIDA 32175. (386)677-0311  
[CITYCLERK@ORMONDBEACH.ORG](mailto:CITYCLERK@ORMONDBEACH.ORG)**

Ref: Fla. Stat. §119.0701(2016)

23. **Limitation of Remedy and Liability.** Contractor and Owner expressly waive any claim for consequential damages against the other including but not limited to, a waiver of claims for diminished bonding capacity, loss of financing, loss of business reputation, lost profits on other projects or other lost opportunity damage claims.

Contractor expressly agrees that any claim (tort, contract, claim in equity, or otherwise) by Contractor for damages against Owner shall not exceed the total amount of the contract price, less any amounts actually paid to the Contractor by the Owner.

24. **Waiver of Right to Jury Trial.** THE PARTIES HEREBY KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVE ANY RIGHT WHICH ANY PARTY MAY HAVE TO TRIAL BY JURY IN RESPECT OF ANY PROCEEDING, LITIGATION OR COUNTERCLAIM BASED ON, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS AGREEMENT OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS (WHETHER VERBAL OR WRITTEN) OR ACTIONS OF ANY PARTY. IF THE SUBJECT MATTER OF ANY LAWSUIT IS ONE IN WHICH THE WAIVER OF JURY TRIAL IS PROHIBITED, NO PARTY TO THIS AGREEMENT SHALL PRESENT AS A NON-COMPULSORY COUNTERCLAIM IN ANY SUCH LAWSUIT ANY CLAIM BASED ON, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS AGREEMENT. FURTHERMORE, NO PARTY TO THIS AGREEMENT SHALL SEEK TO CONSOLIDATE ANY SUCH ACTION IN WHICH A JURY TRIAL CANNOT BE WAIVED.

25. **Verification of Employment Status Using E-Verify System**
- (a) Section 448.09, *Florida Statutes*, makes it unlawful for any person to knowingly employ, hire, recruit, or refer, either for herself or himself, or on behalf of another, for private or public employment within the state, an alien who is not duly authorized to work in the United States. Contractor warrants that it is registered with the U.S. Department of Homeland Security's E-Verify system, and is compliant with the requirements of Sections 448.09 and 448.095, *Florida Statutes*.
  - (b) Contractor agrees that if the contractor enters into an agreement with a subcontractor, the subcontractor must provide the contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien, and contractor warrants it shall maintain any such affidavits for the duration of the contract. If the City has a good faith belief that a subcontractor knowingly violated Section 448.09 (1), the City shall promptly notify the contractor and order the contractor to immediately terminate the contract with the subcontractor.
  - (c) In the event the City has a good faith belief that the contractor has knowingly violated Section 448.09 (1), *Florida Statutes*, the City shall terminate the contract, and as provided by statute, the contractor may not be awarded a public contract for at least one (1) year after the date of termination. The contractor may also be held liable for any additional costs incurred by the City as a result of the termination of the contract.
26. **No Conflict of Interest.** The Contractor warrants and agrees that neither it, nor any of its employees, agents, officers, directors, shareholders and independent contractors are, or will become, under contract with or accept compensation from any individual, business, corporation or governmental entity that has the possibility of an adverse interest to those of the City of Ormond Beach. The Contractor and its officers, directors, shareholders, employers, agents and subcontractors, agree not to provide any services or assistance to any entity directly or indirectly relating to the services provided to the City and to immediately notify the City Manager and City Attorney of any contact with any entity that has, or potentially has, a conflict of interest with the City of Ormond Beach. This provision shall be interpreted as broadly as possible to prevent any potential or actual conflict of interest presently or in the future by the Contractor.
27. **Effective Date.** This Agreement shall become effective upon the date last signed by the parties hereto.

*[Signature pages to follow]*



IN WITNESS WHEREOF, the undersigned parties have caused this Agreement to be signed on the dates indicated hereinbelow.

DATED this 15 day of October, 2024.

Witnesses:

**CITY OF ORMOND BEACH**, a municipal corporation



Print Name: Taylor Lockert

By: Bill Partington  
**BILL PARTINGTON**  
Mayor



Print Name: Ashley Clements

By: Joyce Shahan  
**JOYCE SHANAHAN**  
City Manager

DATED this \_\_\_\_\_ day of \_\_\_\_\_, 2024.

Witnesses:

**CATHEDRAL CORPORATION**, a New York corporation, authorized to do business in Florida

Print Name: \_\_\_\_\_

By: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Title: \_\_\_\_\_

Print Name: \_\_\_\_\_

Attest: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Title: \_\_\_\_\_

IN WITNESS WHEREOF, the undersigned parties have caused this Agreement to be signed on the dates indicated hereinbelow.

DATED this \_\_\_\_ day of \_\_\_\_\_, 2024.

Witnesses:

**CITY OF ORMOND BEACH**, a municipal corporation

\_\_\_\_\_  
Print Name: \_\_\_\_\_

By: \_\_\_\_\_  
**BILL PARTINGTON**  
Mayor

\_\_\_\_\_  
Print Name: \_\_\_\_\_

By: \_\_\_\_\_  
**JOYCE SHANAHAN**  
City Manager

DATED this 4th day of September, 2024.

Witnesses:

**CATHEDRAL CORPORATION**, a New York corporation, authorized to do business in Florida

Mary Keating  
Print Name: Mary Keating

By: Marianne W. Gaige  
Print Name: Marianne W. Gaige  
Title: Chairman and CEO

Laurel Mielcarski  
Print Name: Laurel Mielcarski

Attest: Leslie Lloyd  
Print Name: Leslie Lloyd  
Title: Executive Assistant/Corporate Secretary



## City of Ormond Beach

22 South Beach Street  
Ormond Beach, Florida 32174  
Telephone (386) 676-3223  
Fax (386) 676-3374

### REQUEST FOR PROPOSALS

#### PROPOSER ACKNOWLEDGEMENT FORM

**THIS FORM MUST BE COMPLETED AND RETURNED WITH YOUR PROPOSAL**

RFP TITLE: Utility Billing Mailer Services

RFP NUMBER: 2025-01

RFP OPENING DATE & TIME: July 11, 2024 at 2:00 pm

RFP OPENING LOCATION: City Hall Training Room at Ormond Beach City Hall

PRE-PROPOSAL MEETING DATE & TIME: None

PRE-SUBMITTAL MEETING: N/A

**Submittals Received After The Above Date And Time Will Not Be Accepted.**

PROPOSER'S NAME: Cathedral Corporation

PROPOSER'S MAILING ADDRESS: 1500 Tradeport Dr Suite B

CITY-STATE-ZIP: Orlando, FL 32838

F.B.I.N.: 14-0576820

PHONE NUMBER: 850-612-5747 (Tom Henderson)

EMAIL: thenderson@cathedralcorporation.com

If returning as a "No Submittal", please state reason (s)

I certify that this Proposal is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a Proposal for the same materials, services, supplies, or equipment, and is in all respects fair and made without collusion or fraud. I agree to abide by all conditions of this RFP and certify that I am authorized to sign this RFP for the Proposer. In submitting a RFP to the City of Ormond Beach, the Proposer offers and agrees that if the Proposal is accepted, the Proposer will convey, assign or transfer to the City of Ormond Beach all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the Antitrust laws of the United States and the State of Florida for price fixing relating to the particular commodities or services purchased or acquired by the City of Ormond Beach. At the City's discretion, such assignment shall be made and become effective at the time the City tenders final payment to the Proposer.

X

*Marianne W. Gaige*  
AUTHORIZED SIGNATURE (MANUAL)

Marianne W. Gaige  
NAME (TYPED)

Chairwomen of Board and CEO

7/9/2024  
TITLE

DATED



## **GENERAL CONDITIONS**

**PUBLIC ENTITY CRIMES:** A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a proposal on a contract to provide any goods or services to a public entity, may not submit a proposal on a contract with a public entity for the construction or repair of a public building or public work, may not submit Proposals on leases or real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

**DISCRIMINATION:** Pursuant to Section 287.134(2)(a), Florida Statutes, an entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid or proposal on a contract to provide any goods or services to a public entity, may not submit a bid or proposal on a contract with a public entity for the construction or repair of a public building or public work, may not submit bid or proposal on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity.

### **PUBLIC RECORDS/NON-CONFIDENTIALITY OF BIDS AND/OR PROPOSALS.**

The City of Ormond Beach cannot and does not warrant the confidentiality of any information submitted in response to this solicitation. Florida law provides that municipal records shall at all times be open for personal inspection by any person, Section 119.01, F.S., The Public Records Law. Information and materials received by the City of Ormond Beach in connection with all Proposers' response shall be deemed to be public records subject to public inspection upon award, recommendation for award, or 30 days after bid opening, whichever occurs first. Section 119.071, F.S.

**DISTRIBUTION OF BIDS AND RFP'S:** The City uses the services of DemandStar ([www.demandstar.com](http://www.demandstar.com)) to distribute its bids and RFP's on-line on the Internet. If you have received a copy of this RFP from any source other than DemandStar, please be aware that you may not have received the latest version of the RFP or any related addendums.

**SUBMISSION OF RESPONSES:** All Submittals shall be delivered in a sealed envelope. The Request for Proposals (RFP) number, title, and opening date shall be clearly displayed on the outside of the sealed envelope (and on the outside of any express shipping package). The delivery of said submittal to the Purchasing Office on or before the specified opening date and time is solely and strictly the responsibility of the Submitter. Any submittal received by the Purchasing Office after the specified date and time will not be accepted. Submittals must be presented on forms provided by the City. No other forms will be accepted. Responses submitted by telephone, fax or email will not be



considered. No Submittal may be modified after opening. No Submittal may be withdrawn after opening for a period of ninety (90) days unless otherwise specified.

**EXECUTION OF SUBMITTAL:** Submittals must contain a manual signature of authorized representative in the space(s) provided. Submittals must be typed or printed in ink. Use of erasable ink is not permitted. All corrections made by Submitter to any Submittal entry must be initialed. The company name and Federal Employer Identification Number (F.E.I.N.) number shall appear in the space(s) provided.

**RFP OPENING:** Submittals shall be opened and the name of the submitters shall be read publicly. No discussion of the Submittals will occur at this time.

**SUBMITTAL TABULATION:** The RFP Tabulation will be posted on Demandstar ([www.demandstar.com](http://www.demandstar.com)). Any submitter wishing to receive a paper copy of the tabulation is required to enclose a stamped, self-addressed envelope with their Submittal response.

**CLARIFICATION/CORRECTION OF RFP ENTRY:** The City of Ormond Beach reserves the right to allow for the clarification of questionable entries and for the correction of obvious mistakes.

**INTERPRETATION:** Any questions concerning conditions and specifications shall be directed to the Purchasing Coordinator. Those interpretations which may affect the eventual outcome of this Submittal will be furnished in writing to all prospective Submitters. No interpretation shall be considered binding unless provided in writing by the City of Ormond Beach.

**MINORITY POLICIES:** The City of Ormond Beach, Florida, encourages the full participation of Disadvantaged and Women Business Enterprises (D&WBE) in the provision of goods and services.

**LICENSES AND PERMITS:** The Vendor/Contractor is responsible for obtaining all necessary permits and licenses to comply with all Federal, State, local laws, rules and regulations required to perform work in accordance with the specifications.

**ADDITIONAL TERMS AND CONDITIONS:** The City of Ormond Beach reserves the right to reject Submittals containing any additional terms or conditions not specifically requested in the original conditions and specifications.

**TAXES:** The City of Ormond Beach is exempt from Federal Excise Taxes and all sales taxes.

**SILENCE OF SPECIFICATIONS:** The apparent silence of any specification and any supplemental specifications as to any details or the omission from same of any detailed description concerning any point shall be regarded as meaning that only the best commercial practices are to prevail and that only materials of first quality and correct type, size, and design are to be used. All workmanship is to be first quality. All interpretations of the specifications shall be made upon the basis of this statement.

**ASSIGNMENT:** Any purchase order or contract issued pursuant to a Submittal and the monies which may become due hereunder are not assignable except with the prior written approval of the City Manager or City Commissioner, whichever authorized the purchase or Agreement.

**LIABILITY:** The Contractor shall hold and save the City of Ormond Beach, its officers, agents, and employees harmless against claims by third parties resulting from the Contractor's or supplier's breach of contract or negligence, including all attorney's fees and costs, and shall pay any and all damages, fees, and costs assessed on behalf of the City. The City expressly reserves all rights, privileges and benefits of sovereign immunity.

**PATENTS AND ROYALTIES:** The Contractor, without exception, shall indemnify and save harmless the City of Ormond Beach and its employees from liability of any kind, including cost and expenses for or on account of any copyrighted, patented, or unpatented invention, process, or article manufactured or used in the performance of the contract, including its use by the City of Ormond Beach. If the Contractor uses any design, device, or materials covered by letters, patent or copyright, it is mutually agreed and understood without exception that the Submittal prices shall include all royalties or cost arising from the use of such design, device, or materials in any way involved in the work.

**NON-APPROPRIATION OF FUNDS:** In the event sufficient budget funds are not available for a new fiscal period, the CITY shall notify the VENDOR/CONTRACTOR of such occurrence and the contract shall terminate on the last day of the current fiscal period, without any penalty or expense to the CITY of any kind whatsoever.

**AWARDS:** The CITY reserves the right, in its sole discretion, as the best interest of the CITY may require, to make award(s) by individual item, group of items, all or none, or a combination thereof; on a geographical basis and/or with one or more vendors, contractors, consultants or specialists; or to reject any and all Submittals or waive any minor irregularity or technicality in the Submittals received.

**OTHER AGENCIES:** All Bidder(s) awarded contracts from this bid or proposal may, permit any municipality or other government agency to participate in the contract under the same prices, terms, and conditions, if agreed to by both parties.

It is understood that at no time will any city, municipality, or other agency be obligated for placing an order for any other city, municipality, or agency: nor will any city, municipality, or agency be obligated for any bills incurred by any other city, municipality, or agency. Further, it is understood that each agency will issue its own purchase orders to the awarded bidder(s).

## **COMPLIANCE WITH FLORIDA PUBLIC RECORDS LAW:**

Contractor expressly agrees that it shall comply with the public records law provided in Florida Statutes, Chapter 119, and specifically to:

- (a) Keep and maintain public records required by the City to perform the contracted service.
- (b) Upon request from the City Clerk, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law.
- (c) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to the City.
- (d) Upon completion of the contract, transfer at no cost, to the City all public records in possession of the contractor or keep and maintain public records required by the City to perform the service. If the contractor transfers all public records to the City upon completion of the contract, the contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon the completion of the contract, the contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City Clerk, in a format that is compatible with the information technology systems of the City.
- (e) Failure of the Contractor to comply with Public Records Law as provided by Florida Statutes, Chapter 119, shall subject the Contractor to penalties under Chapter 119.10 and subject this Agreement to termination for cause by the City.

**IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:**

**CITY CLERK  
22 SOUTH BEACH STREET  
ORMOND BEACH, FLORIDA 32174  
(386)677-0311  
[CITYCLERK@ORMONDBEACH.ORG](mailto:CITYCLERK@ORMONDBEACH.ORG)  
or online at  
<https://www.ormondbeach.org/prr>**

Ref: Fla. Stat. §119.0701(2016)

**THE CITY OF ORMOND BEACH RESERVES THE RIGHT TO REJECT ANY OR ALL PROPOSALS, AND TO WAIVE INFORMALITIES AS MAY BE DEEMED TO BE IN THE BEST INTEREST OF THE CITY.**

**TERMS AND CONDITIONS**

- A. The City of Ormond Beach reserves the right without prejudice to reject any or all proposals, to request clarification of information submitted, and to request additional information of one or more proposers.
- B. The City reserves the right to award the contract to the next most qualified firm if the successful firm fails to execute a contract within two weeks after the award of the contract by the City Commission.
- C. In accordance with federal, State, and local regulations, the firm shall not discriminate under the contract against any person.
- D. The firm shall not assign or transfer any interest in the contract without prior approval of the City Commission.
- E. The City reserves the right to terminate the contract at any time due to the vendor's default under terms of agreement.
- F. Submission of a proposal indicates acceptance by the firm of the conditions contained in this Request for Proposals unless clearly and specifically noted in the proposal submitted and confirmed in the contract between the City of Ormond Beach and the firm selected.
- G. Submittals should include a copy of firm's insurance certificate, Conflict, Non-Conflict of Interest Statement/Litigation Statement, Drug Free Workplace Certificate and E-Verify Statement.



**CITY OF ORMOND BEACH, FLORIDA  
REQUEST FOR PROPOSALS  
Utility Billing Mailer Services  
RFP NO. 2025-01**

**I. INTRODUCTION**

The City of Ormond Beach, Florida is requesting proposals from qualified firms to enter into a contractual agreement to provide printing, processing and mailing of the City's utility bills and other necessary literature. A five-year contract is anticipated. The awarded firm shall furnish all labor, materials (including all paper and envelopes), equipment, facilities and services in accordance with, but not limited to, the guidelines in the Scope of Work.

**Deadline for Submission:** To be considered, proposals must be received no later than 2:00 p.m., July 11, 2024.

**Inquiries:** Technical questions may arise as firms are preparing their proposals. The City will accept written inquiries regarding this RFP until seven (7) working days prior to the RFP due date. **Deadline for question is July 2, 2024 at 5 P.M.** Inquiries received after that time will not be responded to. Answers to inquiries will warrant attention of all the potential proposers will be distributed in the form of an addendum. Proposers, their agents and associates shall not contact or solicit any City of Ormond Beach employee or official regarding this RFP. Failure to comply with this provision may result in disqualification of the proposer, at the option of the City of Ormond Beach. Only that individual listed as the contact person in the specifications shall be contacted. Please direct written inquiries to:

Rob Hart  
City of Ormond Beach  
22 South Beach Street  
Ormond Beach, FL 32174  
Telephone: (386) 676-3223  
Fax: (386) 676-3374  
Email: [rob.hart@ormondbeach.org](mailto:rob.hart@ormondbeach.org)

**Signature Requirements:** Proposals must be signed by a duly authorized official(s) of the proposing firm. Consortiums, joint ventures, or teams submitting proposals, although permitted and encouraged, will not be considered responsive unless it is established that all contractual responsibility rests solely with one firm or legal entity which shall not be a subsidiary or affiliate with limited resources. Each proposal shall indicate the entity responsible for execution on behalf of the proposal team

**Proposal Delivery: The City must receive one (1) original and one (1) electronic pdf format copy on thumb drive no later than the date and time specified above. Submit proposals to: Rob Hart, Purchasing Coordinator, City of Ormond Beach, 22 South Beach Street, First Floor, Room 102, Ormond Beach, Florida, 32174. The RFP title and number shall be plainly marked on the outside of the delivery envelope or package. It is solely the responsibility of the submitter to ensure that the Proposal is delivered on or before the specified date and time. Late proposals will not be accepted.**

Addenda and Supplements to the Request for Proposals (RFP): In the event that it becomes necessary to revise any part of this RFP, or if additional information is necessary to enable the proposing firm to make an adequate interpretation of the provisions of this RFP, a supplement to the RFP will be provided to each firm that has requested a copy of this document.

Rejection Rights: The City of Ormond Beach reserves the right, at any time, to modify, waive or otherwise vary the terms and conditions of this RFP including, but not limited to, the deadlines for submission and submission requirements. The City further reserves the right to reject any or all submittals, to cancel or withdraw this RFP at any time and to negotiate with any party prior to or after submittal of proposals. Selection is also dependent upon the negotiation of a mutually acceptable contract with the successful proposers.

Cost of Proposal Preparation: No reimbursement will be made by the City of Ormond Beach for any costs incurred in the preparation of the proposal or presentation.

Proposals to be in Effect: Each proposal shall state that it is valid for a period of not less than 90 days from date of receipt.

## **II. NATURE OF SERVICES REQUIRED**

### **A. General**

It is the intent of the City of Ormond Beach, Florida to award a contract to the successful bidder of this request for proposals to provide printing, processing and mailing of the City's utility bills and other necessary literature. The awarded firm shall furnish all labor, materials (including all paper and envelopes), equipment, facilities and services in accordance with, but not limited to, the guidelines in the Scope of Work.

### **B. Background**

The City of Ormond Beach is a Florida Municipal Corporation, which operates under a Commission-City Manager form of government. The City Commission is comprised of a mayor and four Commission members. The City Commission is governed by the City Charter and by state and local laws and regulations. The City Commission is responsible for the establishment and adoption of policy. The execution of such policy is the responsibility of the Commission appointed City Manager. The City provides

a comprehensive array of services including police, fire, leisure services, public works, planning and economic development. The City operates a water and sewer system, a stormwater utility, a solid waste utility and a municipal airport.

The City of Ormond Beach is located in Volusia County, along the Atlantic coast of Florida. The City has an estimated population of 43,000 living within an area of approximately 42 square miles.

The City's utility billing and customer information system is currently **Tyler Technologies Munis**, and corporate headquarters is located in Plano, Texas.

- Currently, billing data is processed weekly through batch update process. The production of bill files follows the weekly billing process. After the process is completed, the billing data files are sent via filezilla to the vendor for processing as PDF files. Once the print file is created, the bills and notices are laser printed. Utility bills are currently laser printed in color on 8 ½ x 11 inch paper with a perforation for the tear-off payment stub at the bottom of each page. This payment stub includes an bar code scan line. Each form, for utility billing and notices, is printed in black ink with exception of overdue or delinquent notices which are printed in blue or red ink for identification with each specific message. A sample is provided in Appendix A of the Request for Proposal (RFP). After printing has been completed, bills and notices are folded and inserted with utility-related bill inserts and a return payment envelope into mailing envelopes. Bills and notices are subsequently weighed and processed through a postage meter for mailing through the U.S. Postal Service. In some cases, customer bills may result in multiple pages and must be grouped accordingly for mailing in a single envelope. Must have capability of not including return envelopes in the Automatic Payment Service (APS) customer's bills.
  - Bill charge amounts in excess of \$49,999.99, either credit or debit balance, are validated with City Staff, prior to printing and mailing. Once reviewed and approved for mailing, those identified bills are to be released for production and mailing.
  - Inserts are identified to be included in bill statements based upon predetermined criteria, such as, customer class, area of the City and meter reading cycle.
  - **The process to be designed and conducted in the Tyler Technologies Munis platform will be for weekly billing, however we reserve the right to bill daily if needed.**
- Currently, once each year, the city prepares a file for business tax renewals. These files are prepared separately and follow the print file format currently in use by the utility billing process. This process will not change, but will continue using an electronic file transfer format with generic statement forms with the renewal statement form printed during processing. The volume for each mailing is

approximately 500 – 4,000. These mailings include an insert and return envelope. The renewal statements include a remittance stub similar to the utility bill format. The City uses Tyler Technologies Energov.

### **C. Scope of Work to be Performed**

The City of Ormond Beach is soliciting proposals from vendors interested in providing the services necessary to print and mail the City's utility bills daily. The utility bills are designed within the Tyler Technologies platform so bill design is not needed by the awarded vendor of this proposal.

It is expected that the vendor(s) will satisfy the following requirements:

1. Weekly bill and notice printing (bill processing) must be available during weekends and holidays. Turnaround time is to be the same day as receipt of billing data files. The City's bill volume is approximately 23,000 utility bills per month.
2. Bar coding for postal mailings and payment stub processing to optimize efficiency and postal cost reductions.
3. Same day insertion and envelope preparation.
4. Same day postage metering.
5. Mailing of utility bills and notices that will insure a next day delivery to City customers with Ormond Beach delivery addresses.
6. Provide generic blank statement paper forms and envelopes until needed or used. To permit flexibility there are no preprinted forms/envelopes involved in the processing.
7. Ability to insert different documents in each envelope based upon predetermined criteria, such as, class of customer, reading cycle and service type.
8. Provide automatic confirmation to the City upon delivery of bills to the U.S. Postal Service. Vendor must maintain CASS certification and address correction/forwarding on behalf of the City.
9. All work shall be done at a location that provides security and supervision from start to finish, including a well-defined quality control assurance program.
10. Provide programming and bill design services, if required. They will be designed within the Tyler Technologies platform, however, an occasion may require it.



11. Provide immediate live telephone support to the City of Ormond Beach for problem resolution.

### **III. PROPOSAL REQUIREMENTS**

#### **A. General Requirements**

The purpose of the technical proposal is to demonstrate the qualifications, competence and capacity of the firms seeking to undertake the utility billing services of the City of Ormond Beach in conformity with the requirements of this Request for Proposals. As such, the substance of proposals will carry more weight than their form or manner of presentation. The technical proposal should demonstrate the qualifications of the firm and of the particular staff to be assigned to this engagement. Although additional data may be included, the following items must be presented as they represent the criteria against which the proposal will be evaluated.

##### **1. Independence**

The firm should provide an affirmative statement that it presently has no interest, and shall not acquire any interest, direct or indirect, financial or otherwise, which would conflict in any manner or degree with the performance of the services hereunder. The firm should provide an affirmative statement that, in the performance of this contract, no subcontractor or person having such an interest shall be employed. Contractor should certify to the best of his knowledge, no one who has or will have any financial interest under this contract is an officer or employee of the City of Ormond Beach, Florida. It is expressly agreed by the firm that in the performance of the services required under this contract, the firm, and any of its subcontractors or employees, shall at all times be considered independent contractors and not agents of the City of Ormond Beach, Florida.

##### **2. Conflict of Interest**

The firm shall list, and describe any relationships – professional, financial or otherwise – that the firm, any of its principals or employees, or any affiliate or subcontractor, may have with the City of Ormond Beach, its elected or appointed officials, its employees or agents or any of its agencies or component units for the past five (5) years, together with a statement explaining why such relationships do not constitute a conflict of interest relative to performing the services sought in this RFP. Failure to disclose any such contractual or personal relationships will be cause for disqualification of the proposal.

Additionally, the firm shall give the City written notice of any other relationships – professional, financial or otherwise – that the firm, any of its principals or employees, or any affiliate or subcontractor, enters into with the City, its elected or appointed officials, its employees or

agents or any of its agencies or component units during the period of the agreement.

3. Qualifications, Capabilities and Experience

a. Qualifications and Experience of the Firm

- i. Describe your firm's history and the organizational structure of the department or division that will provide the proposed services.
- ii. Describe your firm's experience with document designing, printing and mailing services that are provided to utility companies or other high volume clients.
- iii. Provide the total number of statements mailed monthly by your firm.
- iv. Provide the volume of your three top customers.
- v. Describe your firm's experience with remittance processing services that are provided to utility companies or other high volume clients.
- vi. Comment on other areas which make your firm different from your competitors.
- vii. Describe your firm's experience with clients that use Tyler Technologies Munis software.

b. Qualifications and Experience of Team and Relationship Services

- i. Describe your firm's philosophy regarding account or relationship management.
- ii. Identify and provide the resume of the person (account executive) who will be assigned as the service coordinator to the City.
- iii. Identify the members of the proposed team including their tenure with your firm, background, education, location of their office, and the role they will play in managing the City's account.
- iv. If you plan to use subcontractors for the services included in this proposal, describe your relationship with the subcontractor, the subcontractor's history and experience in providing similar services and the

experience of the subcontractor's employees that will provide services to the City.

- v. Identify and flow chart processing from receipt of file through to delivery process from the processor to the U.S. Postal Service.

c. Document Printing

- i. Describe your capability to perform bill processing within the City's required time table, i.e., turnaround time is to be same day.
- ii. Describe your printing capability including printing multiple colors.
- iii. Describe your printing quality control and how you assure that the billing data will fall correctly into appropriately locations consistently.
- iv. Utility Bills must be printed in the color designed within the Tyler Technologies Munis software system. Sample attached.
- v. Describe your capability of printing bar coding for postal mailing and payment processing.
- vi. Describe your capability of printing single account statement and multiple accounts consolidated statements.
- vii. Describe the type and size of paper and envelope that you can handle.
- viii. Describe your capability to provide notification to the City of all bills printed and delivered to the U.S. Postal Service. The notification must be provided to the City immediately following completion of the mailing.
- ix. The vendor must have the ability to be USPS certified approved vendor for NCOA (National Change of Address) processing. Also, a set of return files which include but not limited to the NCOA processing summary report, National Deliverability Index, ACE Address Error Report, CASS Summary Report and NCOA process return codes.

d. Mailing Services

- i. Describe your capability of formatting address data in order to obtain the best postal presort discount rates.
- ii. Describe your capability to handle billing and mailing on the same day that you received the billing file from the City.
- iii. Describe your ability to stay up to date of United States Postal Services equipment and processing requirements.
- iv. Describe your process in handling international addresses.
- v. Describe your capability to validate bill charge amounts in excess of \$49,999.99 either credit or debit balance with City Staff prior to processing statement.
- vi. Provide the location of the facility where bills will be printed and mailed.
- vii. Describe your mailing capability to accommodate one page statement and multiple page statement simultaneously.
- viii. Describe your coordination procedures and capability for inserts.
- ix. Describe your capability for certain inserts to be included with selected bills based on criteria, either inside/outside, cycle/route, rate class or combination thereof.
- x. Describe your capability of not including return envelopes in the Automatic Payment Service (APS) customer's bills.
- xi. Describe how you account for the postage used for the City's mailing to be included on the monthly statement detailed by each weekly billing.
- xii. Describe or provide a sample of the monthly report that is provided regarding postage information.

e. System and Software

- i. List the operating system and platforms you will be using to provide proposed services.
- ii. Describe technical capabilities for receiving and verifying accurate receipt of files.
- iii. Describe security procedures for data transfer (e.g. FTP).
- iv. Describe routine back-up procedures for your system.
- v. Describe your contingency plan for equipment failure or unexpected equipment outages. Please provide detail of the plan. Please also detail emergency plan in the event a natural disaster occurs (hurricane, fire, flood).
- vi. List and describe all software products that will be used to provide proposed services including bill design software, mailing discount software, document print software, and address validation software.
- vii. List all products, hardware and software, that will be remarketed, and service that will be subcontracted as part of the proposed solution.
- viii. Describe any software upgrade methods, policies, and procedures that can potentially affect the City.
- ix. The City anticipates providing the data each week in PDF format with a modifiable address box to achieve reductions in postal rates (COA and barcoding).

f. Quality Assurance and Customer Support

- i. Describe your quality assurance program including designing, printing, and mailing processing.
- ii. Explain what happens when a quality issue is recognized and follow-up actions are required.
- iii. Describe the hours and days available for product and technical support.
- iv. Define support escalation process.

g. Payment

- i. Describe the normal payment arrangement between your firm and its customers.
- ii. Provide a sample of the monthly bill statement for the detailed weekly charges.

h. Confidentiality of Data

- i. Describe the security measures and business practices your firm uses to protect the confidentiality and security of the City's customer data.
- ii. No names and addresses of the City's customers may be provided to a third party or used by the vendor for any purposes including marketing. The vendor will sign a confidentiality provision stating that any information contained in the City's billing information cannot be used or shared in any way by the vendor.

4. Fees

- a. Provide your fees for the proposed services. Fee quotes should list printing for front and backer sheet, return envelope with or without if bank draft customer, and mailing processing separately. The fee listed should also separate flat fee, per transaction fee, one-time set up fee and on-going maintenance fee.
- b. Describe cost of hourly programming services. Provide examples of standard programming hourly charges, rush change charges and normal times, for changes to mailing addresses, telephone numbers, informational statements—backer sheet, and ink print colors.
- c. Provide your fees for the business tax renewals that are billed several times each year.
- d. Include cost savings on not including envelopes on bank draft customers.

5. Other Services and Fees Available

Describe other printing and mailing services available from your firm to the City and related fees/set-up costs.

6. References

Please list the name, address and telephone number of references from five (5) utility agency clients indicating the services provided, with emphasis on recent similar projects. If applicable, provide

references from clients who are Tyler Technologies Munis customers where the installation has been live and active for a minimum of six months.

## **VII. PROPOSAL EVALUATION**

The evaluation and selection of the proposers will be performed by no less than three (3) City staff members. The following represent the principal selection criteria which will be considered during the evaluation process:

- A. Project Approach (10 points)
- B. Qualifications and Experience (15 points)
- C. Processing Capabilities (15 points)
- D. Quality Assurance/Security (15 points)
- E. Cost Proposal (30 points)
- F. References (15 points)

The maximum points a firm can obtain is 100.

During the evaluation process, the Selection Committee may, at its discretion, request any or all firms to make an oral presentation and/or be available for an interview. Such presentation will provide firms with an opportunity to answer any questions the selection committee may have on a firm's proposal. Not all firms may be asked to make such oral presentations. All expenses, including travel expenses for interviews shall be borne by the proposer.

## **REGISTRATION AND INSURANCE REQUIREMENTS FOR VENDOR/CONTRACTOR WORKING ON CITY PROJECTS**

### **Registration Requirements**

VENDORS doing business within the City Limits must be registered with the City. Requirements for registering a business are as follows:

Copy of City Business Tax Receipt (where your business is located).

Certificate of Insurance showing General Liability and Workers' Comp (or State Workers' Comp Exemption form).

Application Fee: \$25.00 For more information, contact the City's Business Tax Receipt official.

### **State Certified /Registered Contractors**

All registered contractors must be registered with Volusia County. Volusia County Contractor Licensing, 123 W. Indiana Ave., Rm 203, Deland, FL 32720 (386) 736-5957 Opt. 2 -(386) 248-8158 Fax. Certified Contractors have the option of registering with Volusia County, or providing information directly to the business tax receipt official.

If you have any questions regarding the above requirements, please contact the business tax receipt official at (386) 676-3370.

## **EXHIBIT A Risk Management and Insurance Requirements**

### **A. Payment and Performance Bonds**

1. Except as otherwise provided herein, the Contractor shall, prior to beginning performance, deliver to the City, and the City shall record in the public records of Volusia County, Florida, the Contractor's Payment and Performance Bond in an amount equal to the full amount of the Contract.
2. (a) Payment and Performance Bonds shall not be required for any contract except those which are for the construction of a public building, for the prosecution and completion of a public work (as described in Section 180.06, **Florida Statutes**, as amended from time to time) or for repairs upon a public building or public work (as described in Section 180.06, **Florida Statutes**, as amended from time to time).



- (b) With respect to those Contracts for which Payment and Performance Bonds are otherwise required:
- i. Unless the City Manager, or his designee, determines such Bond to be necessary to protect the interests of the City, no Contractor shall be required to provide a Payment and Performance Bond for any Contract which is for \$25,000.00 or less.
  - ii. Upon the request of the contractor, good cause shown by the Contractor, and a determination that the public health, safety and welfare will be sufficiently protected, the City Commission may exempt the contractor from the requirement of providing a Payment and Performance Bond for any Contract which is for more than \$25,000.00 but is less than \$200,000.00.
3. The Payment and Performance Bond shall list the Contractor as Principal and be issued by a surety insurer authorized to do business in Florida as a surety and listed as an acceptable surety in the Federal Register.
  4. The Payment and Performance Bond shall be executed pursuant to Section 255.05, **Florida Statutes**, and be in a form substantially similar to the form set forth in Section 255.05(3), **Florida Statutes**.
  5. The Payment and Performance Bond shall specifically provide coverage for delay damages due to a default by the Contractor.
  6. The Payment and Performance Bond shall not make the Contract part of the Bond agreement.
  7. In lieu of the Payment and Performance Bond, the Contractor may file with the Finance Director of the City, in an amount equal to the full amount of the Contract, cash, a money order, a certified check, a cashier's check, an irrevocable letter of credit, or a security of a type listed in Part II, Chapter 625, **Florida Statutes**.
  8. In the event the surety on any Payment and Performance Bond furnished by the Contractor is declared bankrupt or becomes insolvent, or its right to do business in the State of Florida is terminated, the Contractor shall, within five (5) working days thereafter, substitute another Payment and Performance Bond and surety acceptable to the City.
  9. The Contractor is totally and solely responsible for keeping its surety informed as to the Base Contract Price as bid, significant changes in the Project Scope, and the overall progress and completion of the Project for the entire life of the Contract.

10. The payment and performance bond requirements stated herein above shall not be applicable to service-related contracts unless otherwise determined by the City Manager in order to protect the health, safety and welfare of the general public.

## **B. Contractual Provisions Relative to Risk Management**

All contracts for any public works to be performed, and service-related contracts, for or on behalf of the City shall include at a minimum, the following, or substantially similar, provisions:

### **1. Hold Harmless and Indemnity**

The Contractor agrees to assume liability for and indemnify, hold harmless, and defend the City, its commissioners, mayor, officers, employees, agents, and attorneys of, from, and against all liability and expense, including reasonable attorney's fees, in connection with any and all claims, demands, damages, actions, causes of action, and suits in equity of whatever kind or nature, including claims for personal injury, property damage, equitable relief, or loss of use, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the Contractor, its agents, officers, contractors, subcontractors, employees, or anyone else employed or utilized by the Contractor in the performance of this Contract. The Contractor's liability hereunder shall include all attorney's fees and costs incurred by the City in the enforcement of this provision.

### **2. Payment on Behalf of City**

The Contractor shall pay all costs of the City's legal defense, as may be selected by the City, for all claims described in the Hold Harmless paragraph. Such payment on behalf of the City shall be in addition to any and all other legal remedies available to the City and shall not be considered to be the City's exclusive remedy.

### **3. Loss Control/Safety**

Precaution shall be exercised at all times by the Contractor for the protection of all persons, including employees and property. The Contractor shall comply with all applicable laws, regulations and ordinances related to safety and health, shall make special efforts to detect hazardous conditions, and shall take prompt action when loss control/safety measures are reasonably necessary. The City may order work to be stopped if conditions exist that present an immediate danger to persons or property. The Contractor acknowledges that such work stoppage will not shift responsibility for any damages from the Contractor to the City.

### **4. Service Bond**

For Service-related contracts only, the City may require the Contractor to secure a service bond with a minimum \$25,000 coverage limit for the period of the service agreement. The service bond covers dishonest acts of the contractor's employees against the City. A copy of the bond shall be provided to the City when the agreement commences. Service-related contracts include and are not limited to businesses providing janitorial, pest control, general repair, security, carpet cleaning, locksmith, temporary employment, painting, moving services or other contracts as determined in the discretion of the Risk Manager as necessary to minimize loss.

## **C. Contractor's Insurance**

### **1. General**

The Contractor, including service-related contractors, shall purchase and maintain for the entire life of the Project, including any and all approved time extensions, until its final acceptance by the City, such insurance as will protect the Contractor from claims under Workers' Compensation, disability benefit laws or other similar employee benefit laws; from claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees; from claims insured by usual or unusual injury liability coverage; from claims or injury to or destruction of tangible property and from claims insured by usual Commercial General Liability coverage. This includes loss of use resulting therefrom, any or all of which may arise out of the Contractor's operations under the Contract Documents, whether such operations be by the Contractor, by any Subcontractor, or by anyone directly or indirectly employed by any of them or for whose acts any of them may be legally liable. The Contractor's deductibles/self-insured retentions shall be disclosed to the City and may be disapproved by the City, and may be reduced or eliminated at the sole discretion of the City. The Contractor is responsible for the amount of any deductible or self-insured retention.

### **2. Types of Insurance and Limits of Liability**

The insurance required herein shall be written for not less than any limits of liability specified and incorporated as part of the Contract Documents or as required by law, whichever is greater, and shall include and not limited to the following:

- (a) Workers' Compensation Insurance in statutory limits for the State of Florida with Coverage B - Employer's Liability limits of not less than:**

- \$100,000 Each Accident Bodily Injury by Accident
  - \$100,000 Each Employee Bodily Injury by Disease
  - \$500,000 Policy Limit Bodily Injury by Disease

- Certificate of Exemptions. If the contractor has a State-issued Certificate of Exemption, the contractor may provide a copy in place

of the requirement for coverage. However, if the contractor subcontracts or retains any other person or entity to perform under the contract, that person or entity must provide proof of workers' compensation insurance as required by law or provide a Certificate of Exemption.

It is the intent of the City that any individual who either contracts directly with the city or performs any work on behalf of any such contractor be covered by workers' compensation insurance or have a valid exemption from said coverage.

(If applicable to the Project, the policy must include benefits under the United States Longshoremen's and Harbor Workers' Act and the Jones Act coverage—all maritime coverage.)

(b) Commercial General Liability Insurance shall be written on a coverage form as broad as Insurance Services Office (ISO) Form CG 00 01 11 85, or its successor form, including but not limited to the following coverage (any deviation shall be noted on the Certificates of Insurance):

- a. Premises, Operations, Products and Completed Operations
- b. Owners' & Contractors' Protective
- c. Products & Completed Operation
- d. Explosion, Collapse & Underground Conditions
- e. Blanket Contractual Liability
- f. Personal Injury Liability
- g. Broad Form Property Damage Endorsement, including Completed Operations
- h. Independent Contractors
- i. Watercraft--Owned and Non-Owned (if applicable, endorsement must be included in General Liability policy or a separate Protection & Indemnity Policy must be written)
- j. Pollution Liability (if applicable)
- k. Asbestos Abatement (if applicable)
- l. Fire Damage Liability

Certain coverage outlined above may not be required if they do not relate to the Project, as may be determined at the sole discretion of the City.

Commercial General Liability Coverage shall be written on an occurrence basis and the limits shall be no less and not limited to the following amounts:

Limits (not less than)

\$1 Million Each Occurrence

\$2 Million General Aggregate

\$1 Million Aggregate Products & Completed Operations

Page 22 of 30

NOTE: Commercial General Liability Coverage must be purchased on either a project basis (separate policy per contract) or an endorsement allocating an aggregate limit per location or specified project.

- (c) Automobile Liability Insurance is required if an Automobile(s) is used in the performance of the contract. ISO Symbol 1 (Any Auto), or alternatively a combination of Symbol 2 (Owned Autos), Symbol 8 (Hired Autos), and Symbol 9 (Non-Owned Autos), and limits shall be no less than:

|             |                                                             |
|-------------|-------------------------------------------------------------|
| \$1 Million | Combined Single Limit for Bodily Injury and Property Damage |
|-------------|-------------------------------------------------------------|

- (d) Excess Liability

For contracts \$250,000 or greater an Excess Liability Policy of at least but not limited to \$1,000,000 in addition to the scheduled underlying policies for Commercial General Liability, Automobile Liability and Employers' Liability, the Contractor shall also provide an Excess Liability Policy with a maximum self-insured retention not to exceed \$25,0000 per occurrence.

- (e) Builder's Risk

Contractor shall purchase Builder's Risk Insurance for any contracts that are deemed to be vertical construction on an All-Risk policy, and shall also include coverage for wind, hail, and named storm. Limits of coverage shall be at least and not limited to the value of the project.

- (f) Professional Liability, Malpractice and/or Errors and Omissions

The Contractor shall purchase and maintain professional liability, malpractice, or errors or omissions insurance with minimum limits of \$1,000,000 per occurrence. If a claims made form of coverage is provided, the retroactive date of coverage shall be no later than the inception date of claims made coverage, unless the prior policy was extended indefinitely to cover prior acts. Coverage shall be extended beyond the policy year either by a supplemental extended reporting period (ERP) of as great a duration as is available, and with no less coverage and with reinstated aggregate limits, or by requiring that any new policy provides a retroactive date no later than the inception date of claims made coverage.

#### **D. Requirements for Certificates of Insurance**

1. With the execution of the Contract Documents, the Contractor, including service related contractors, shall provide certificates of such insurance

acceptable to the City. These certificates and insurance policies shall contain an endorsement that the coverage under the policies will not be canceled, non-renewed or materially changed until at least thirty (30) days' prior written notice of such cancellation, non-renewal or change (except for nonpayment of premium, which shall be ten (10) days) and a copy of the cancellation endorsement signed by an authorized representative of the insurer, be given to the City. The contractor shall be required to replace any expired or canceled policies in like amount and coverage to the satisfaction of the City. The Certificate of Insurance shall be the ACORD FORM 25-S (7/90), or its successor form, and shall be made a part of the Contract Documents.

2. New certificates of insurance shall be provided to the City at least fifteen (15) days prior to coverage renewals.
3. If requested by the City, the contractor shall immediately furnish complete copies of the Contractor's insurance policies, forms and endorsements.
4. For Commercial General Liability coverage the Contractor shall, at the option of the City, provide an indication of the amount of claims payments or reserves chargeable to the aggregate amount of liability coverage. If the Commercial General Liability form of coverage includes an annual aggregate limitation on the amount of insurance provided, a separate project aggregate limit may be required by the City for the given contract.
5. If the Contractor fails to obtain and maintain for the life of the Project the insurance required hereby or to replace any such expired or canceled policy, the City may obtain and maintain such insurance with such company as it deems satisfactory. Any amounts expended by the City in payment of premiums for such insurance shall be deducted by the City from the amount due the Contractor for the work covered by the Contract.

#### **E. Policies of Insurance**

1. Except as otherwise provided in this Exhibit, all insurance policies shall be issued by insurers licensed to do business in the State of Florida on an admitted basis or which is an eligible surplus lines insurer in the State of Florida, and any such insuring company is required to have a minimum financial rating of (A-), in the latest edition of "Best's Key Rating Guide", published by A. M. Best Co., Inc., or some similarly nationally recognized rating authority, including Standard and Poors and Demotech.
2. For Workers' Compensation coverage only, self-insurance programs are acceptable with a minimum A- rated reinsurance carrier; written confirmation is required.
3. All policies of insurance or certificates thereof referred to in this Exhibit shall be deposited with the City Clerk.
4. The City shall be named an Additional Insured on General Liability including

products and completed operations and Automobile Liability policies of insurance and certificates thereof.



**CITY OF ORMOND BEACH, FLORIDA  
REQUEST FOR PROPOSALS  
Utility Billing Mailer Services  
RFP NO. 2025-01**

**VERIFICATION OF EMPLOYMENT STATUS USING E-VERIFY SYSTEM**

1. Undersigned firm warrants it is currently registered with the U.S. Department of Homeland Security's E-Verify system, and is compliant with the requirements of Sections 448.09 and 448.095, *Florida Statutes*.
2. Undersigned firm warrants it has not had any contracts terminated as a result of violations of Sections 448.09 or 448.095, *Florida Statutes*, that prohibit it from contracting with a public agency.
3. Undersigned firm warrants that if it enters into an agreement with a subcontractor, an express provision shall be included in all of its subcontracts requiring subcontractors, who perform work or provide services pursuant to the contract, to use the E-Verify system to verify employment eligibility of all new employees hired by the subcontractor during the contract term.
4. Undersigned firm understands that any subcontractor must provide the contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien, and the contractor understands it shall maintain any such affidavits for the duration of the contract, and the contract with the subcontractor must be immediately terminated if the City has a good faith belief that the subcontractor knowingly violated Section 448.09 (1), *Florida Statutes*.
5. Undersigned firm understands that in the event the City has a good faith belief that the contractor has knowingly violated Section 448.09 (1), *Florida Statutes*, the City shall terminate the contract, and the contractor may not be awarded a public contract for a period of at least one (1) year after the date of termination. The contractor may be held liable for any additional costs incurred by the City as a result of termination of the contract.

Cathedral Corporation  
COMPANY NAME  
Marianne W. Gaige  
AUTHORIZED SIGNATURE  
Marianne W. Gaige  
NAME  
Chairwomen of Board and CEO  
TITLE  
7/9/2024  
DATE



**CITY OF ORMOND BEACH, FLORIDA  
REQUEST FOR PROPOSALS  
Utility Billing Mailer Services  
RFP NO. 2025-01**

**RFP RESPONSE FORM**

**THIS RESPONSE IS SUBMITTED TO:**

Purchasing Coordinator  
City of Ormond Beach  
22 S. Beach Street  
Ormond Beach, Florida 32174

The undersigned SUBMITTER proposes and agrees, if this Submittal is accepted, to enter into a Contract with the CITY that reflects the items of this Request for Proposal (RFP) and to provide all services, as specified or indicated in the RFP Documents, in full accordance with the terms and conditions set forth in therein.

SUBMITTER accepts all of the terms and conditions of the General Conditions. SUBMITTER will sign the Contract) and submit the Contract security (when applicable) and other documents required by the Contract Documents within ten (10) days after the date of CITY's Notice of Award.

In submitting this information, SUBMITTER represents, as more fully set forth in the Agreement, that:

SUBMITTER has examined copies of all the RFP Documents and of the following Addenda:

Addendum Date  
July 3, 2024  
\_\_\_\_\_  
\_\_\_\_\_

Addendum Number  
2025-01 Addendum 1  
\_\_\_\_\_  
\_\_\_\_\_

Receipt of all of which is hereby acknowledged.

This Submittal is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; SUBMITTER has not directly or indirectly induced or solicited any other Submitter to submit a false or sham Submittal; SUBMITTER has not solicited or induced any person, firm or a corporation to refrain from bidding; and SUBMITTER has not sought by collusion to obtain for himself any advantage over any other Bidder or over the CITY.

**THIS RESPONSE IS SUBMITTED BY:**

**COMPANY NAME:** Cathedral Corporation

**VENDOR/CONTRACTOR LICENSE NUMBER:**

**ADDRESS:** 1500 Tradeport Dr Suite B Orlando, FL 32830

**PHONE NO.:** 800-852-3174

**FAX NO.:** None

**SUBMITTER'S NAME:**

Marianne W. Geige

(Typed or Printed in Ink)

**TITLE:** Chairwomen of Board and CEO

**AUTHORIZED SIGNATURE:** I, hereby

*Marianne W. Geige*

(Original signature required in each document)

declare that I have read and fully understand the RFP Documents and, including the General Conditions and the Scope of Work, and that I am duly authorized to sign and submit this Submittal.

The CITY reserves the right to reject any and all Submittals, to waive informalities, and to accept any Submittal or parts thereof as the CITY, in its sole discretion, determines to be in the best interest of the CITY.

**PROPOSER: PLEASE ENSURE THAT YOU HAVE SIGNED THE RFP RESPONSE FORM OF THIS REQUEST FOR PROPOSAL. OMISSION OF A SIGNATURE ON THAT PAGE MAY RESULT IN REJECTION OF YOUR PROPOSAL.**

***THIS PAGE MUST BE COMPLETED AND RETURNED WITH YOUR PROPOSAL***

**City of Ormond Beach**  
**CONFLICT, NON-CONFLICT OF INTEREST STATEMENT**  
**LITIGATION STATEMENT**

**1.**

- ☒ To the best of our knowledge, the undersigned firm has no potential conflicts of interest due to any other clients or contracts for this project.
- ☐ The undersigned firm, by attachment to this form, submits information which may be a potential conflict of interest due to other clients or contracts for this project.

**2.**

- ☒ The undersigned firm has had no litigation on any project in the last five (5) years.
- ☐ The undersigned firm, by attachment to this form, submits a summary and disposition of individual cases of litigation during the past five (5) years.

Cathedral Corporation

COMPANY NAME

*Marianne W. Galge*

AUTHORIZED SIGNATURE

Marianne W. Galge

SIGNER'S NAME (PRINT OR TYPE)

Chairwomen of the Board and CEO

TITLE 7/9/2024

DATE

***THIS PAGE MUST BE COMPLETED AND RETURNED WITH YOUR PROPOSAL***

**CITY OF ORMOND BEACH, FLORIDA  
REQUEST FOR PROPOSALS  
Utility Billing Mailer Services  
RFP NO. 2025-01**

**DRUG-FREE WORKPLACE CERTIFICATION**

**IDENTICAL OR "TIE" SUBMITTALS:** Preference shall be given to businesses with drug-free workplace programs. Whenever two or more proposals which are equal in respect to price, quality, and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

- 1) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- 2) Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violation.
- 3) Give each employee that engages in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
- 4) In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) calendar days after such conviction.
- 5) Impose sanctions on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
- 6) Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

Cathedral Corporation

Company Name

Authorized Signature  
Marianne W. Gaige

Print Name  
Chairwomen of Board and CEO

Title



**Request for Proposals**  
**RFP #2025-01**  
**Utility Billing Mailing Services**  
**City of Ormond Beach**

**Submitted:**  
**July 11, 2024**

**By:**  
**Tom Henderson**

**Cathedral Corporation**

**RFP Contact**  
**Cathedral Corporation,**  
**Florida Division**  
**1500 Tradeport Drive**  
**Orlando, FL 32824**

**Tom Henderson**  
**Cell: (850)612-5747**  
**Email: [thenderson@cathedralcorporation.com](mailto:thenderson@cathedralcorporation.com)**

**Executive Offices:**  
**Cathedral Corporation**  
**Griffiss Technology Park**  
**632 Ellsworth Road**  
**Rome, NY 13441**  
**[www.cathedralcorporation.com](http://www.cathedralcorporation.com)**



| <u>Table of Contents</u>                                           | <u>Page (s)</u> |
|--------------------------------------------------------------------|-----------------|
| Required Documents.....                                            | 3-8             |
| Executive Summary .....                                            | 9               |
| Qualifications, Capabilities and Experience.....                   | 10-23           |
| a. Qualifications and Experience of the Firm                       |                 |
| b. Qualifications and Experience of Team and Relationship Services |                 |
| c. Document Printing                                               |                 |
| d. Mailing Services                                                |                 |
| e. System and Software                                             |                 |
| f. Quality Assurance and Customer Support                          |                 |
| g. Payment                                                         |                 |
| h. Confidentiality of Data                                         |                 |
| Fees/Cost Proposal.....                                            | 24              |
| References.....                                                    | 25              |
| Conclusion.....                                                    | 26              |



## City of Ormond Beach

22 South Beach Street  
Ormond Beach, Florida 32174  
Telephone (386) 676-3223  
Fax (386) 676-3374

### REQUEST FOR PROPOSALS

#### PROPOSER ACKNOWLEDGEMENT FORM

**THIS FORM MUST BE COMPLETED AND RETURNED WITH YOUR PROPOSAL**

RFP TITLE: Utility Billing Mailer Services  
RFP NUMBER: 2025-01  
RFP OPENING DATE & TIME: July 11, 2024 at 2:00 pm  
RFP OPENING LOCATION: City Hall Training Room at Ormond Beach City Hall  
PRE-PROPOSAL MEETING DATE & TIME: None  
PRE-SUBMITTAL MEETING: N/A

**Submittals Received After The Above Date And Time Will Not Be Accepted.**

PROPOSER'S NAME: Cathedral Corporation

PROPOSER'S MAILING ADDRESS: 1500 Tradeport Dr Suite B

CITY-STATE-ZIP: Orlando, FL 32838

F.E.I.N.: 14-0576820

PHONE NUMBER: 850-612-5747 (Tom Henderson)

EMAIL: thendersson@cathedralcorporation.com

If returning as a "No Submittal", please state reason (s)

I certify that this Proposal is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a Proposal for the same materials, services, supplies, or equipment, and is in all respects fair and made without collusion or fraud. I agree to abide by all conditions of this RFP and certify that I am authorized to sign this RFP for the Proposer. In submitting a RFP to the City of Ormond Beach, the Proposer affirms and agrees that if the Proposal is accepted, the Proposer will convey, assign or transfer to the City of Ormond Beach all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the Antitrust laws of the United States and the State of Florida for price fixing relating to the particular commodities or services purchased or acquired by the City of Ormond Beach. At the City's discretion, such assignment shall be made and become effective at the time the City tenders final payment to the Proposer.

X

  
AUTHORIZED SIGNATURE (MANUAL)

Marianne W. Galge  
NAME (TYPED)

Chairwomen of Board and CEO

7/9/2024  
TITLE

DATED



## 2024 Florida Annual Resale Certificate for Sales Tax

DR-13  
R. 10/23

**This Certificate Expires on December 31, 2024**

Business Name and Location Address

Certificate Number

CATHEDRAL CORPORATION  
1500 TRADEPORT DR  
ORLANDO, FL 32824-8421

58-8016694606-1

By extending this certificate or the certificate number to a selling dealer to make eligible purchases of taxable property or services exempt from sales tax and discretionary sales surtax, the person or business named above certifies that the taxable property or services purchased or rented will be resold or re-rented for one or more of the following purposes:

- Resale as tangible personal property
- Re-rental as tangible personal property
- Resale of services
- Re-rental as commercial real property
- Incorporation into tangible personal property being repaired
- Re-rental as transient rental property
- Incorporation as a material, ingredient, or component part of tangible personal property that is being produced for sale by manufacturing, compounding, or processing

Your *Florida Annual Resale Certificate for Sales Tax* (Annual Resale Certificate) allows you or your representatives to buy or rent property or services tax exempt when the property or service is resold or re-rented. You **may not** use your Annual Resale Certificate to make tax-exempt purchases or rentals of property or services that will be used by your business or for personal purposes. Florida law provides for criminal and civil penalties for fraudulent use of an Annual Resale Certificate.

**As a seller**, you must document each tax-exempt sale for resale using one of three methods. You can use a different method each time you make a tax-exempt sale for resale.

1. Obtain a copy (paper or electronic) of your customer's current Annual Resale Certificate.
2. For each sale, obtain a transaction authorization number using your customer's Annual Resale Certificate number.
3. Each calendar year, obtain annual vendor authorization numbers for your regular customers using their Annual Resale Certificate numbers.

**Online:** Visit [floridarevenue.com/taxes/certificates](https://floridarevenue.com/taxes/certificates)

**Phone:** 877-357-3725 and enter your customer's Annual Resale Certificate number

**Mobile App:** Available for iPhone, iPad, and Android devices



**CITY OF ORMOND BEACH, FLORIDA  
REQUEST FOR PROPOSALS  
Utility Billing Mailer Services  
RFP NO. 2025-01**

**RFP RESPONSE FORM**

**THIS RESPONSE IS SUBMITTED TO:**

Purchasing Coordinator  
City of Ormond Beach  
22 S. Beach Street  
Ormond Beach, Florida 32174

The undersigned SUBMITTER proposes and agrees, if this Submittal is accepted, to enter into a Contract with the CITY that reflects the items of this Request for Proposal (RFP) and to provide all services, as specified or indicated in the RFP Documents, in full accordance with the terms and conditions set forth therein.

SUBMITTER accepts all of the terms and conditions of the General Conditions. SUBMITTER will sign the Contract) and submit the Contract security (when applicable) and other documents required by the Contract Documents within ten (10) days after the date of CITY's Notice of Award.

In submitting this information, SUBMITTER represents, as more fully set forth in the Agreement, that:

SUBMITTER has examined copies of all the RFP Documents and of the following Addenda:

Addendum Date  
July 3, 2024

Addendum Number  
2025-01 Addendum 1

Receipt of all of which is hereby acknowledged.

This Submittal is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; SUBMITTER has not directly or indirectly induced or solicited any other Submitter to submit a false or sham Submittal; SUBMITTER has not solicited or induced any person, firm or a corporation to refrain from bidding; and SUBMITTER has not sought by collusion to obtain for himself any advantage over any other Bidder or over the CITY.

**CITY OF ORMOND BEACH, FLORIDA  
REQUEST FOR PROPOSALS  
Utility Billing Mailer Services  
RFP NO. 2025-01**

**VERIFICATION OF EMPLOYMENT STATUS USING E-VERIFY SYSTEM**

1. Undersigned firm warrants it is currently registered with the U.S. Department of Homeland Security's E-Verify system, and is compliant with the requirements of Sections 448.09 and 448.095, *Florida Statutes*.
2. Undersigned firm warrants it has not had any contracts terminated as a result of violations of Sections 448.09 or 448.095, *Florida Statutes*, that prohibit it from contracting with a public agency.
3. Undersigned firm warrants that if it enters into an agreement with a subcontractor, an express provision shall be included in all of its subcontracts requiring subcontractors, who perform work or provide services pursuant to the contract, to use the E-Verify system to verify employment eligibility of all new employees hired by the subcontractor during the contract term.
4. Undersigned firm understands that any subcontractor must provide the contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien, and the contractor understands it shall maintain any such affidavits for the duration of the contract, and the contract with the subcontractor must be immediately terminated if the City has a good faith belief that the subcontractor knowingly violated Section 448.09 (1), *Florida Statutes*.
5. Undersigned firm understands that in the event the City has a good faith belief that the contractor has knowingly violated Section 448.09 (1), *Florida Statutes*, the City shall terminate the contract, and the contractor may not be awarded a public contract for a period of at least one (1) year after the date of termination. The contractor may be held liable for any additional costs incurred by the City as a result of termination of the contract.

Cathedral Corporation  
COMPANY NAME  
Marianne W. Gaige  
AUTHORIZED SIGNATURE  
Marianne W. Gaige  
NAME  
Chairwomen of Board and CEO  
TITLE 7/9/2024  
DATE

**THIS RESPONSE IS SUBMITTED BY:**

**COMPANY NAME:** Cathedral Corporation

**VENDOR/CONTRACTOR LICENSE NUMBER:**

**ADDRESS:** 1500 Tradeport Dr Suite B Orlando, FL 32839

**PHONE NO.:** 800-852-3174

**FAX NO.:** None

**SUBMITTER'S NAME:**

Marianne W. Galge

(Typed or Printed in Ink)

**TITLE:** Chairwomen of Board and CEO

**AUTHORIZED SIGNATURE: I,**  
hereby

  
(Original signature required in each document)

declare that I have read and fully understand the RFP Documents and, including the General Conditions and the Scope of Work, and that I am duly authorized to sign and submit this Submittal.

The CITY reserves the right to reject any and all Submittals, to waive Informalities, and to accept any Submittal or parts thereof as the CITY, in its sole discretion, determines to be in the best interest of the CITY.

**PROPOSER: PLEASE ENSURE THAT YOU HAVE SIGNED THE RFP RESPONSE FORM OF THIS REQUEST FOR PROPOSAL. OMISSION OF A SIGNATURE ON THAT PAGE MAY RESULT IN REJECTION OF YOUR PROPOSAL.**

***THIS PAGE MUST BE COMPLETED AND RETURNED WITH YOUR PROPOSAL***

**City of Ormond Beach**  
**CONFLICT, NON-CONFLICT OF INTEREST STATEMENT**  
**LITIGATION STATEMENT**

**1.**

- ☒ To the best of our knowledge, the undersigned firm has no potential conflicts of interest due to any other clients or contracts for this project.
- ☐ The undersigned firm, by attachment to this form, submits information which may be a potential conflict of interest due to other clients or contracts for this project.

**2.**

- ☒ The undersigned firm has had no litigation on any project in the last five (5) years.
- ☐ The undersigned firm, by attachment to this form, submits a summary and disposition of individual cases of litigation during the past five (5) years.

Cathedral Corporation

COMPANY NAME

*Marianne W. Galge*

AUTHORIZED SIGNATURE

Marianne W. Galge

SIGNER'S NAME (PRINT OR TYPE)

Chairwomen of the Board and CEO

TITLE 7/9/2024

DATE

***THIS PAGE MUST BE COMPLETED AND RETURNED WITH YOUR PROPOSAL***



**CITY OF ORMOND BEACH, FLORIDA  
REQUEST FOR PROPOSALS  
Utility Billing Mailer Services  
RFP NO. 2025-01**

**DRUG-FREE WORKPLACE CERTIFICATION**

**IDENTICAL OR "TIE" SUBMITTALS:** Preference shall be given to businesses with drug-free workplace programs. Whenever two or more proposals which are equal in respect to price, quality, and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

- 1) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- 2) Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violation.
- 3) Give each employee that engages in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
- 4) In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) calendar days after such conviction.
- 5) Impose sanctions on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
- 6) Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

Cathedral Corporation

Company Name

Authorized Signature

Marianne W. Gaige

Print Name

Chairwomen of Board and CEO

Title

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 Executive Summary

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We are pleased and excited to have this opportunity to respond to this request for proposal for the City of Ormond Beach. Within this letter and the following proposal, we will clearly specify Cathedral Corporation's experience, willingness, understanding and ability to meet the terms, conditions and requirements as defined in this Request for Proposal. Our years of experience and success working with the utility industry, especially within the State of Florida will provide a strong foundation for these projects and we are confident that you will see Cathedral is a competent choice for this critical work.

Cathedral Corporation is a privately owned company that provides high caliber state of the art data processing, laser printing, mailing and electronic presentment services to businesses throughout the United States. We are very proudly celebrating over 108 years of continuous service. Part of the reason for that success is our complete focus on customer satisfaction and 100% quality output and service. This focus arises out of the type of work that we handle each day; work that mirrors yours in terms of complexity and an absolute requirement for accuracy and timeliness. The vast majority of the documents we produce each day on the business-to-business side of our company are strategic, mission critical documents like yours –statements, bills, checks and vital communications to end customers.

Cathedral specializes in strategic financial communications for banks and credit unions, healthcare providers and insurers, mutual fund and insurance companies, telecommunication and utility companies, and government agencies. Cathedral Corporation's core competencies include data management and application development, high quality laser printing, intelligent and selective inserting, and electronic document presentment. Customer applications include check issuance, statement rendering, bill and notice rendering, and direct mail programs.

Cathedral's business strategy is illustrated by our value proposition; tailored services, special treatment, and true partnership separate us from all other outsourcing companies. Our knowledge and expertise in data processing, unsurpassed quality in the processing, printing and mailing of strategic financial documents, and extraordinary customer support and service have allowed our clients to develop comfort and confidence in our relationship based upon measurable performance.

We are intimately familiar with the nature of the work you outline in your RFP and experienced at bringing on large-scale print production applications and we fully understand the work that is to be performed. We look forward to continuing to work with your team to demonstrate our capabilities in that area.

***Independence - Affirmative Statement***

Cathedral Corporation has no interest, and will not acquire any interest, direct or indirect, financial or otherwise, which would conflict in any manner or degree with the performance of the services hereunder. In the performance of this contract, no subcontractor or person having such an interest shall be employed. There is no one that has or will have any financial interest under this contract.



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 **Qualifications, Capabilities and Experience**

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**A. Qualifications and Experience of the Firm**

As previously mentioned, Cathedral Corporation has been in business for over 108 years and has been involved with the data management, printing, personalization, and high volume mailing of business documents since the mid-1950s. These services first began as part of the fundraising programs and activities offered by Cathedral's Church Stewardship Division, which serves over 5000 customers nationwide. In 1990, Cathedral expanded its operations to include a wide range of business-to-business communication services.

We are uniquely qualified to provide high quality transactional printing and mailing services to the City of Ormond Beach through our direct experience on several levels. We maintain experienced staff who have the knowledge, capabilities and understanding to manage and complete your projects. We understand the services to be performed and the timelines required.

***Structure***

Cathedral Corporation's day-to-day account structure and project flow typically consists of a Regional Sales Director, Project Manager, Manager of Client Services, Production Coordinator, Director of Operations, Data Processing Supervisor, Application Development Supervisor, and our Postal Liaison.

***Experience***

We have a long history of providing critical, secure technical project development and on-going processing for the public sector and we have created scheduling processes and quality control practices specific to this segment of our business. As a company we provide services to thousands of companies and organizations across the country. From our production locations in New York, Rhode Island, Connecticut and Florida we produce millions of Invoices, Statements and Checks for organizations large and small. A vast majority of our daily work is derived from documents identical to yours. These are vital transactional documents for utilities, municipalities, banks, hospitals and healthcare/insurance companies. These are documents that must be done correctly and delivered on time.

Our expertise and core competence is data management, specifically utilizing data to compose and deliver critical communications for our clients. Cathedral Corporation has successfully implemented numerous projects and conversions utilizing various types of data formats and software, especially in the utility industry. We know and understand the importance of working closely with each client to ensure the data we are receiving appears to be correct based on accuracy checkpoints. The experience we have working with different types of clients has given us the opportunity to have exposure to many types of software applications and file formats.

- Since our first utility, we have grown to manage daily, weekly, and monthly cycles for multiple utility and electric co-op clients throughout the eastern United States, with over half of these being in Florida.
  - *Currently, we print and mail over 1,000,000 utility bills per month in the Southeast region*
- ***Core Data Systems*** – We have thorough knowledge of multiple core systems as many of our current clients utilize a variety of them, including *Tyler Technologies Munis*.

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 **Qualifications, Capabilities and Experience (continued)**

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- We work with **85%** of the counties in Florida with offices that include Electric Co-operative and Utilities, Tax Collectors, Property Appraisers, Supervisor of Elections, Clerk of Courts.
- We provide print mail services for two of 20 largest electric co-ops in United States and three of the 5 largest in the State of Florida.
- We mail between 65 million and 70 million pieces of mail a year to the 8 million plus households in Florida. More than 85% of Florida households are touched by a mailing from Cathedral
- **Security** - Annually, Cathedral Corporation successfully completes an external financial audit along with an IT/Operational audit known as SSAE-16 SOC 2 certification; a stringent process to ensure the security of our clients' data and maintain our operational standards.

Our clients' records and data, including individual, non-public, personal information of our clients' customers are treated as confidential. If we receive any confidential information from or on behalf of our clients, Cathedral maintains the security and confidentiality of that information as required by applicable laws and regulations.

- **Detached Mail Unit** - Cathedral Corporation is a certified Direct Mail Unit (DMU) in which all of our mail is cleared by an on-site USPS clerk directly into the USPS system, resulting in more efficient turnaround times for mail processing and the ability to have more quality control and hands-on monitoring of your mail directly on-site rather than have to go through the approval and clearance steps at the post office.

#### **B. Qualifications and Experience of Team and Relationship Services**

As previously mentioned, Cathedral maintains experienced staff who have the knowledge, capabilities and understanding to manage and complete your projects. We understand the services to be performed and the timelines required.

##### ***Account Structure***

Cathedral Corporation's day-to-day account structure and project flow typically consists of a Regional Sales Director, Project Manager, Manager of Client Services, Production Coordinator, Director of Operations, Data Processing Supervisor, Application Development Supervisor, and our Postal Liaison.

##### ***Account and Relationship Management***

Cathedral Corporation has successfully implemented numerous projects and conversions. We know the questions to ask and the potential pitfalls in implementation and on-going management to deliver on-time accurate documents. We understand it takes the knowledge, expertise, and responsiveness of our entire team to deliver superior service to our clients.

Cathedral operates **24 hours a day, 7 days a week with employees over 3 shifts**. We are available to our clients with primary and back-up phone numbers in the event we need to be reached outside of the office.



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 **Qualifications, Capabilities and Experience (continued)**

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Upon award of contract, Cathedral will assign a Project Manager to work with the City of Ormond Beach and be their project advisor and primary point of contact during testing, live and on-going work. A back-up Project Manager will also be assigned to provide additional support throughout the term of the project. Cathedral will establish initial meetings and/or conference calls with the Regional Sales Director, Project Manager and Technical staff along with the contacts from the City of Ormond Beach. We will host a strategic planning session with you and our Senior Management team to understand your goals. During these initial meetings, Cathedral will address the schedules, transmission and receipt of data, form design and project point of contacts. Cathedral will also supply a project schedule identifying required deadlines for both testing and live rollout. Schedules are built based on mutually acceptable dates.

Your Cathedral Project Manager communicates via email to our staff through daily structured status reports noting project volumes, critical dates, changes to schedules, materials and postage statuses and itemized project updates. We have a daily production status meeting held with all Project Managers and Supervisors from each department to ensure communication on project changes and key dates. Communication to our clients is handled via phone, through our online Client Center web portal, email and in person. Inventory and postage reports are provided as requested by clients. Cathedral maintains client project documentation onsite including all postal reports and statements.

➤ ***Project Status and Communication:***

***Cathedral Client Center*** - An application that is automatically implemented during the onboarding of our clients and included in our services is our online Client Center, which is accessed directly through our web portal homepage. Through this, our clients are able to view project related documents that are posted in addition to electronically approve, hold and/or provide live feedback on project documents and samples. This communication tool is used throughout all departments at Cathedral and automatically advises all of our teams via email notification of any updates to your projects based on your feedback.

***Staffing Summaries*** – Cathedral will assign specific members from each department upon award of contract.

Below are brief summaries of some of the key team members that will be specifically involved in supporting the City of Ormond Beach. Each member has experience directly related to the printing and mailing of utility bills as this is a normal day-to-day segment of our business. Additionally, all personnel that will be assigned to City of Ormond Beach projects has thorough knowledge of multiple core systems and file formats as many of our clients utilize a variety of them.

**Project Manager**

Upon contract award, your Account will be assigned one primary in-house Project Manager along with a back-up Project Manager. Cathedral Corporation's Project Managers are trained to schedule projects in our production window, review data programming and form layout instructions with our customers and impart this knowledge to our technical staff. Project Managers also proof test and live data samples prior to sending to your contact for approval. They will also monitor materials and postage levels. They interact with our customers and production staff to keep all parties involved in project issues. The Project Managers have maintained our close partnerships with our customers as we have grown and are a critical part of our organization's success.

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 **Qualifications, Capabilities and Experience (continued)**

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**Account Administration****Regional Sales Associate**

Your account will be managed and supported by an experienced **Regional Sales Director, Tom Henderson** who will be able to meet with you face-to-face and provide you with ongoing support to discuss contract and project specifications, share industry updates, design ideas and support escalation of any issues.

**Client Service Manager**

In addition to your Project Manager and Regional Sales Director, Cathedral's **Client Services Manager, Christina Hodges** is familiar with all industry projects and timelines and assists in project support and interfacing among the Sales, Project Management, IT, Purchasing and Billing areas to aid in onboarding of clients and responsiveness to client needs.

**Technical Support/Data Operations**

- Senior IT Analyst
- Applications Developer
- Data Operator
- Supervisor

Overseen by Cathedral Corporation's VP of Product Development, **Jeff Standefer** oversees and administers company platforms, technology and strategies in support of current and future business needs. This includes hardware, infrastructure, network capacity and growth management, organizational and system security, telecom services, new product development, software and standards compliance.

Cathedral will assign multiple team members from the above department to support the development, implementation and day to day processing of the City of Ormond Beach. Each member will have cross training on your projects and will be able to handle all data and technical operations on an on-going basis. Cathedral Corporation employs extensive technical expertise and depth in key support roles throughout the organization. Data integrity and security are critical components of our clients' processing requirements, and we are structured to support those interests. As an IT solutions provider, Cathedral Corporation staffs, on-site, full networking administration and support personnel, 24 hour data processing, document composition, graphic design, programming, and all levels of data center resources. From the most stringent data transmission and security standards, to custom programming and design capabilities, we are built to supply end to end systems that deliver the highest quality product to our clients with full integrity.

Our IT, development and data operations department members have all been involved in the development, implementation and daily, weekly and monthly processing of our utility clients.



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 **Qualifications, Capabilities and Experience (continued)**

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**Additional staff support:*****Print Production***

Cathedral Corporation's Production Coordinator, Angelia Samboy has years of industry and postal experience. Angelia meets throughout the day with department Supervisors ensuring timelines are maintained and notifying internal teams of issues/production concerns. Daily status reporting is provided to internal teams on production progress through departments.

***Mail Operations***

Cathedral Corporation also has a dedicated full time USPS Certified Mail Piece design Postal Liaison on-site who is certified with the USPS as a (MDP) Mail Design Professional. Isaac Knight has over 25 years of industry experience and maintains a relationship with the post office to ensure that Cathedral understands the postal changes and requirements so that our client's benefit from the discounts that are available and that your mail meets postal requirements.

***Subcontractors***

Cathedral Corporation will not be utilizing subcontracts for these services.

***Detailed items expected from the City of Ormond Beach to complete the project***

- Test Files
- Field identifier (map of data fields as they would print on the page.)
- Mock up or layout of bill and envelopes.
- Graphics – such as customer logos, if printing on the bill.
- Complete list of notice/bill types and any special requirements associated with each type.
- Day-to-day project representatives

***Testing and Live processes***

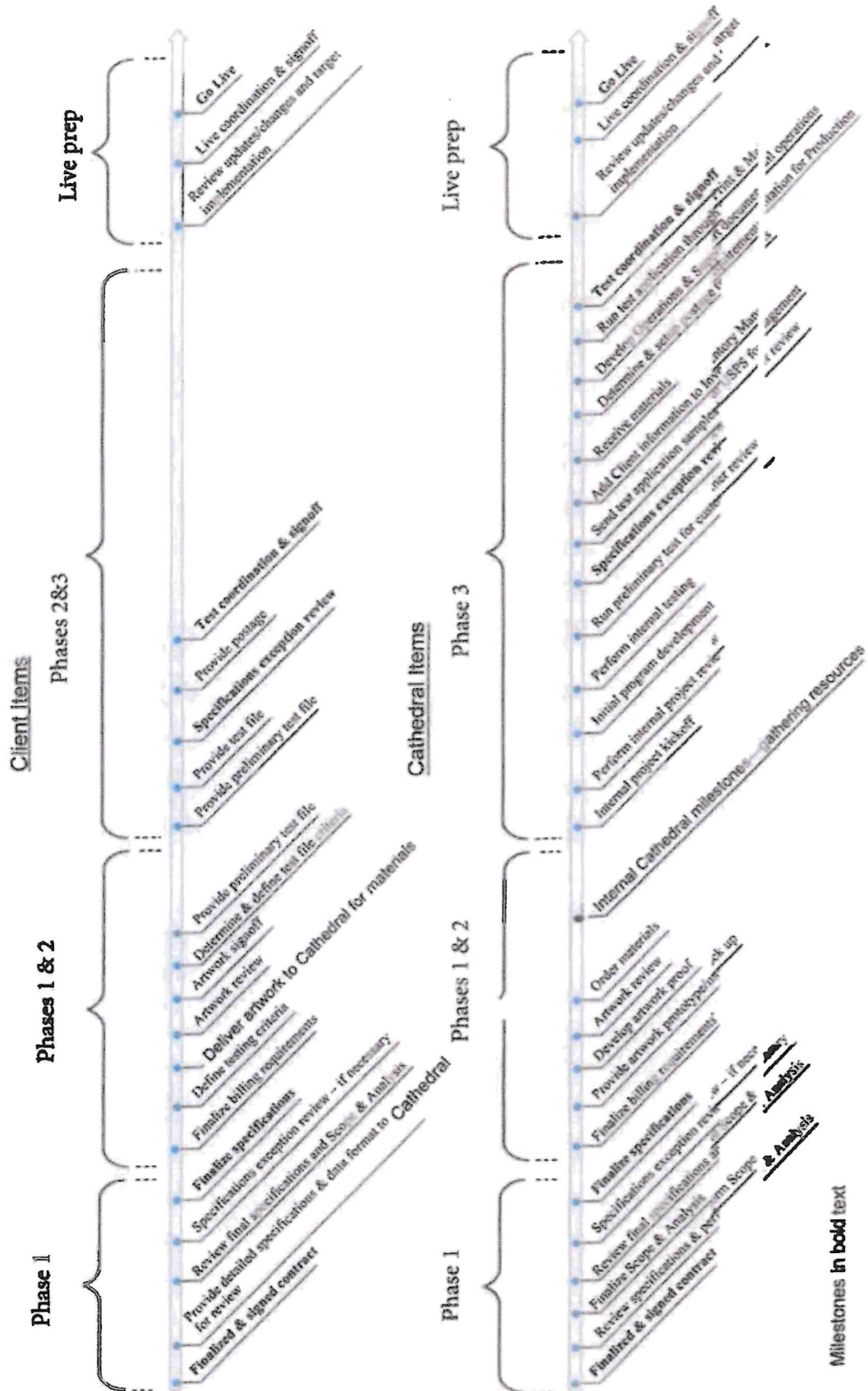
Cathedral will complete a full testing cycle. This includes creating data programs, design layout, printing samples for review by Cathedral and the City of Ormond Beach and testing on all equipment. Live samples are also provided and print production begins once client provides written approval to Cathedral.

***Flow Chart – Processing***

See the next sheet for a sample Project Implementation flow chart from testing to live.



## Cathedral Client Project Work Flow





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 **Qualifications, Capabilities and Experience (continued)**

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### **C. Document Printing**

Cathedral maintains and adheres to service level agreements with our clients. We are very flexible with regard to inbound data files, print files and materials for customers and have full capability to take the City's current data file format, run it through our standard postal process that include CASS and NCOA processing (if applicable) and print and mail. This is a standard norm to our day-to-day processing as we handle this for a number of our current utility clients today.

- **NCOA and CASS Certification** - Cathedral Corporation is a USPS approved certified vendor for NCOA (National Change of Address) processing, which includes CASS certification and processing utilizing the software by the USPS. These processes provide standardization of addresses and moved accounts based on USPS records, created IMB barcodes and sorts the mail to achieve the lowest possible automated mailing rates. We will provide a set of return files which include but not limited to the NCOA processing summary report, National Deliverability Index, ACE Address Error Report, CASS Summary Report and NCOA process return codes.

Cathedral Corporation maintains the technology and resources necessary to provide utility bill printing and mailing services for the City of Ormond Beach. We offer a full range of equipment and redundancy capabilities from one site to the other that include print technologies: MICR (for checks), plain black, highlight/spot color, full color and high speed inkjetting. Cathedral also utilizes a combination of intelligent inserters.

- **Full Color Continuous form printing** – the advantage with working with Cathedral is we have full equipment and capabilities to print your bills on demand on our Impika full color continuous high speed printer with dynamic perfering. This results in no preprint and provides the ability for you to make on-demand changes to your bill layout in addition to print variable data in color. We use blank white roll stock and everything is printed at once when in production.

Cathedral will receive the City of Ormond Beach's data files on a daily basis and on an agreed-upon time in order to meet mailing timeframes. All bills and notices will be CASS processed, combined by exact name and address and printed on our full color continuous printer in color and black ink (to match the current samples provided in this RFP). Bills and notices will be printed on 8.5 x 11, 24# blank white stock with a perforation and inserted with a customized #9 return envelope (*when applicable*) into a custom #10 single window outgoing envelope. Any accounts that have the same name and address as well as multiple page accounts will be inserted together into the same envelope. All pieces will be processed and cleared for mailing that same day directly from our Orlando, Florida facility which is a Certified Detached Mail Unit.

#### **Totals Report**

The City will receive an email notification advising of the availability of a summary report that includes customized details based on what information the City of Ormond Beach needs. Typically, we provide totals reports that include, but are not limited to volume of bills received, volume of images and packages (envelopes) we have processed and printed for that file, volume of suppressed bills, volume of bills that do not include a return envelope, and a breakdown of total postage costs for that particular mailing. This will be located on our online Client Center web portal. Cathedral will also post PDF samples of bills to our Client Center for review and approval prior to print production.

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 **Qualifications, Capabilities and Experience (continued)**

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**D. Mailing Services**

Some items requested in this section have been previously mentioned in our response – CASS/NCOA processing, capability to meet mailing timeframes, and ability to accommodate one page and multiple page statements.

***All processing, printing and mailing will be managed from our Orlando, FL.***

***Up-to-date with postal requirements***

Cathedral Corporation has a dedicated full time USPS Certified Mail Piece design Postal Liaison on-site who is certified with the USPS as a (MDP) Mail Design Professional who maintains a relationship with the post office to ensure that Cathedral understands and stays abreast with the postal changes and requirements so that our client's benefit from the discounts that are available and that your mail meets postal requirements.

***Ability to customize bills and notices***

It is the rule, rather than the exception for Cathedral to receive special handling instructions for hundreds of packages per day. We have programmed logic for just about every one of our clients where we can customize information based on the contents of the various tags in the data files (i.e. validate bill charge amounts, selective inserting - identify bills that should not include reply envelopes or inserts).

Additionally, in the event where the City needs to re-call, cancel or re-bill certain bills, Cathedral can provide options that best fit the needs of the customers. Through our Client Center web portal, our clients can place the live sign-off/file process on hold to stop live data processing. If data files are bad, we deleted that file from our system and can accept a new data file, reprocess and print the job using the most up to date file. In addition, if production has already been completed and the bills have not been delivered to the USPS, Cathedral can pull the select bills from mailing provided the City gives an account numbers so that we can accurately identify the account that needs to be pulled. If the file has not been processed yet, we can program that particular file to suppress the bill(s) that should not be printed and mailed.

We have a full document development staff on-site that includes programming, composition and design. We can work with you to customize the layout, use, and presentation of elements within your bill. Custom calculations, special handling or the presentation of data elements through graphs and usage charts are just a few examples of how transactional data elements can be customized to fit the needs of our clients.

***Postage***

Cathedral Corporation will provide you with a monthly postage estimate and invoice before the first mailing. We will create a postage escrow account where the City's postage funds will be drawn from for the mailings. We can provide postage summary reports in addition to the totals reports you get for data in order to see actual amounts used and how much the account will need to be replenished on a monthly basis for upcoming mailings.



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 **Qualifications, Capabilities and Experience (continued)**

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**E. System and Software**

***Operating System and Platforms*** – Windows Server 2008 R2 and Windows Server 2012 R2

***Document Development*** – Quadient Inspire (Formerly GMC)

***Mailing Discount (Presort)*** – BCC Presort (Formerly Satori Presort)

***Address Correction*** – FirstLogic ACE

While we do not foresee or anticipate any software upgrades in the next few months to a year, Cathedral has a demonstrated commitment to investment in technology and systems, ensuring our clients the highest level of quality and service. We implement regular technology enhancements that support multiple communication channels so that you can be assured – with the rapid pace of change in technology – that the City of Ormond Beach will be positioned to communicate with your customers via the channel of your choice.

***Data Transfer (FTP)***

Cathedral Corporation utilizes *Secure File Transfer via FTP (FTPS) over SSL*. This method of data transmission provides a secure tunnel to greatly reduce the chance of unintended use of the information being transferred. The City of Ormond Beach will have their own unique, secured FTP folder for data reception. Our FTP folders are automatically monitored by the Cathedral Data Receipt Utility that provides a secure transfer from FTP folders to our production processing environment. The reporting of file receipt is automated to client contacts as well as internal project resources. Transmission logs and statistics are maintained for appropriate quality control and audit purposes. All City of Ormond Beach data files will reside in secured, and highly restricted network folders, requiring specific user authentication, under strict auditing and oversight. User access is both monitored and reported in direct compliance with standards set for in our annual SSAE16 audit.

Cathedral can take virtually any type of file input, including the current PDF file format for the City of Ormond Beach.

***Contingency, Redundancy and Disaster Recovery***

We operate multiple production facilities: corporate headquarters production facilities are located in Rome, NY (55,000 sq. ft.) with redundant production facilities located in Lincoln, RI (65,000 sq. feet) and Orlando, Florida (90,000 sq. ft.). These facilities are in place to offer business continuity and work flow management for customer applications to ensure they run accurately and on time.

Cathedral Corporation maintains redundant data connection through fiber lines, T1 circuit lines and cable for high speed transmission and real-time failover. Should a circuit or system fail, data transmissions are dynamically routed to another circuit or connection. We offer alternate equipment servers, network and data backup at all locations, which can be utilized by all departments. Cathedral maintains consistent software and hardware licensing and profiles across all divisions within Cathedral as well.

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## Qualifications, Capabilities and Experience (continued)

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### **Disaster Recovery**

Our Back-up and recovery processes are determined through 2 phases.

First phase - Business Interruption: Business Interruption, as defined by Cathedral is the loss of commercial power or other minor interruption with impacts less than a 48 hour time frame to our facility.

- This could entail an actual loss of commercial power or an anticipated loss of commercial power in the case of an impending severe weather or hurricane. Our first line of defense should we experience a Business Interruption, such as an unexpected loss of power to our facility, is our onsite Energy Dynamics Power Systems 750 KW generator, encased in a hospital enclosure. This gives us the capability of providing power to our Orlando facility for 7 days.
- In some instances, there may not be a loss of power. However, there may be the loss of an item or multiple items of equipment. In that instance we provide redundant servers, printers, inserters and folders.

Second phase – Disaster/Recovery (Loss of Primary Facility): If there is a loss of the physical primary facility, Cathedral Corporation's multiple locations can serve as our back-up facilities.

### **F. Quality Assurance and Customer Support**

#### **Quality Control and Assurance**

Cathedral maintains quality control procedures and processes that impact the on-going production process that should be considered. These are related to Data Processing, Laser printing and inserting and mail processing.

Cathedral has developed a unique approach to the accurate, documented control of all printed items through our plant. This Standard Operating Procedure (SOP) incorporates dual signoffs within departments and additional signoffs across departments as completed work moves through production.

Cathedral accounts for each data item and printed piece through the entire production process. We reconcile at each production step, including data processing, presorting, laser printing, inserting, mailing, and USPS acceptance, with the original data file received from the customer. Each department must accept and sign for the job components received from the preceding department.

Ultimately we reconcile every piece of data sent to us from data processing, through laser printing and mailing, making certain that from the transmitted file into the secure server, to the postal meter on the back of the inserter, all pieces are in balance and accounted for.

This is a 3-way crosscheck; we prove the machine count from the inserter to the human-readable sequence number on the piece to the postal reconciliation on the inserter meter base. All three checks must agree before your mail leaves the facility. The final check is the USPS inspection and acceptance of the mailing cycle into the mail stream in the Cathedral facility.



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 **Qualifications, Capabilities and Experience (continued)**

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***Data Transmission and Processing***

Beginning with the safe, and secure transmission of data, Cathedral Corporation utilizes *Secure File Transfer via FTP (FTPS) over SSL*. This method of data transmission provides a secure tunnel to greatly reduce the chance of unintended use of the information being transferred. The City will have their own unique, secured FTP folder for data reception. Our FTP folders are automatically monitored by the Cathedral Data Receipt Utility that provides a secure transfer from FTP folders to our production processing environment. The reporting of file receipt is automated to client contacts as well as internal project resources. Transmission logs and statistics are maintained for appropriate quality control and audit purposes. All City data files will reside in secured, and highly restricted network folders, requiring specific user authentication, under strict auditing and oversight. User access is both monitored and reported in direct compliance with standards set for in our annual SSAE16 audit.

The data processing phase performed by Cathedral will employ several auditing steps that will accumulate control totals that are used for balancing purposes. The first is the accumulated total bytes of data received by Cathedral that will be matched against the bytes of data that the customer has documented sending to Cathedral. These numbers are then balanced to what is printed and inserted by Cathedral. These numbers will be balanced against the number of statements sent by the customer and a report will be generated.

***Laser Printing***

During the printing stage, the pages printed will be matched against the number of pages processed in the data processing phase by Cathedral. Each page printed will have a sequence number to enable the print operator to keep all pages in order should there be a paper jam on the printer. We have implemented the use of quality control worksheets by our printer operators for all projects. Quality of address, general detail data, message areas and print quality are all verified. Printer logs with sample pieces are maintained on all projects.

***Inserting***

*Cathedral is the first company in the United States to implement software for integrity checking utilizing the delivery point barcode.* The Manager or Supervisor in the Mail Operation department will send the file to the designated Inserter that has been assigned for that job.

On completion of each job an output file is created which includes any pieces that were missing or damaged during the inserting or printing process. This file can then be used to generate reprints more efficiently. The MSM system takes Cathedral to a higher level of integrity. There are occasions where the inserting process will damage some of the material. In these instances, Cathedral has developed a process that enables the timely reprinting of those statements. Our process is not complete until all "damaged" statements are reprinted and mailed by Cathedral. Cathedral maintains daily service and production logs on all mailing equipment within the facility.

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 **Qualifications, Capabilities and Experience (continued)**

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Cathedral has changed its Mail Operations environments to incorporate **Mail Run Data File (MRDF)** technology. This entails having file-based operations overseeing all mail inserting. File servers are attached to the intelligent mail inserters, and databases on those servers describe all components of each mail item at the component level (sheets for that item as well as all associated inserts). We place 2D optical marks on each sheet of paper for every mail item and the system tracks and verifies the accurate collation and completion of those pieces. Cameras also function at each mail station hopper to capture & verify the correct insertion of all targeted inserts for that mail item. Any variance from the information contained in the database, as well as any opportunity for error (machine stoppages, jams, etc.) causes the pieces involved to be flagged by the system for destruction and reprint. The cycle is marked as incomplete in the control database, and those tagged items are automatically diverted for secure destruction and logging. The corresponding print files for the tagged items are sent into a reprint queue to be reproduced. Once they are reproduced they are loaded to the system and scanned again. At that point, the system marks all items in the file as complete and "closes" closes that cycle.

We understand the stress your organization may go through during a change or conversion. There can be long hours spent ensuring the accurate migration and calculations of your data along with interfacing with multiple points of contact throughout the process. Our goal is to make the process as seamless as possible while offering support of your invoice design needs. As we mentioned before, we are available 24 hours a day, 7 days a week with primary and back-up phone numbers.

#### ***Accuracy Standards***

If any issues may arise after implementation and the go-live date, Cathedral representatives will notify you immediately when we learn of an issue with an explanation of what the cause is, what the impact is and what steps we are taking to rectify the situation and ensure it doesn't happen again.

Any problems or challenges with production applications are escalated immediately to the departmental supervisors who then involve plant management, customer service account management and I.T. support as needed.

#### **➤ *Procedures for Correcting Issues***

Timeliness is important but without a quality product it means little. Cathedral Corporation has raised the bar in our industry by implementing processes and procedures that have translated to an error-free rate.

Cathedral Corporation's Quality System incorporates the use of an online interactive corrective action/continuous improvement system. This system is integral in allowing Cathedral to achieve the level of performance demanded at all levels of our organization to meet or exceed Customer Requirements and expectations. Any person in our organization involved in production of your statements is required to open a **Corrective Action System (CAS)** report any time an error has been uncovered. Phase I of this report requires the author to provide basic key information, after which the report is saved. Once saved an electronic copy of this report is distributed over our internal network to all senior management from the president and C.O.O. down, as well as to departmental managers, customer service and account managers.

#### **G. Payment**

Cathedral Corporation's payment terms are net-30.



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 **Qualifications, Capabilities and Experience (continued)**

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#### **H. Confidentiality of data**

**Security** - Annually, Cathedral Corporation successfully completes an external financial audit along with an IT/Operational audit known as SSAE-16 SOC 2 certification; a stringent process to ensure the security of our clients' data and maintain our operational standards.

Our clients' records and data, including individual, non-public, personal information of our clients' customers are treated as confidential. If we receive any confidential information from or on behalf of our clients, Cathedral maintains the security and confidentiality of that information as required by applicable laws and regulations.

Cathedral Corporation has a robust security program in place to protect customer data. We follow the Philosophy of Least Privilege Use. We segregate our production servers logically and physically from non-authorized users. Perimeter monitoring, Cisco technologies, Fortinet Intrusion Prevention/Intrusion Detection (IPS/IDS), IPSwitch Whatsup Gold Professional, and Beach & Associates Network Monitoring Services are utilized by Cathedral Corporation. All hosts in the DMZ are protected by IPS/IDS. We do not allow pings, and configure all ports closed by default. Cathedral Corporation performs monthly network level vulnerability and penetration scans via a third party, Beach & Associates. Perimeter assessment is performed utilizing Nessus software and PRTG traffic monitoring. Internally we utilize GFI Languard Network Security Scanner for vulnerability scans. These are also run on a monthly basis. Copies of our tests are reviewed by our Manager, Network Services and retained for a one year period. Cathedral Corporation utilizes Checkpoint Pointsec (laptop encryption) and Symantec Endpoint Security (anti-virus, anti-malware) products. WSUS is used for patch management. We have in place Information Sensitivity (classification) and Incident Response Policies.

Network access is granted to employees on a need-to-know basis. Network access and activity is logged and monitored by members of Cathedral Corporation's Network Administration group. User and Departmental access are specifically defined. Normal users are prohibited from modifying permissions. Users have limited access to data based on their need to know to perform their job. Network accounts are locked after 3 unsuccessful log-on attempts. Only IT Administration Personnel can unlock an account. Password complexity is imposed, and user passwords must be changed at a minimum of every 90 days.

Every production job is audited through numerous reconciliation and verification operational steps and signed-off on by multiple personnel throughout our production process. Our clients' records and data, including individual, non-public, personal information of our clients' customers are treated as confidential. If we receive any confidential information from or on behalf of our clients, Cathedral maintains the security and confidentiality of that information as required by applicable laws and regulations, including the Federal Gramm Leach Bliley Act, and Federal Charter Red Flag rules and the regulations associated with such. Further, Cathedral's process automation applies data retention rules for all projects as to ensure proper archiving and deletion of client data. Files are purged from the system, based on defined retention periods, through automated processing controls. Our online Client Center is also a secure SSL site.

If the City is going to send confidential and proprietary information to Cathedral, we recommend that this information either be uploaded through our SSL Secure FTP site or SSL Secure Client Center, which is only accessible to Cathedral Clients. If communication is going to be sent via email to or from Cathedral, it should not contain any attachments or content that may be confidential or proprietary.

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 **Qualifications, Capabilities and Experience (continued)**

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The following are other technologies and practices to ensure the security throughout our facility:

- **Video Surveillance** – 24/7 video surveillance inside and outside of building
- **Key Card Access** – currently, we utilize a secure building access system. This logs all attempts at entry to secure areas and is monitored in real time by our HR Manager and Network Administrator. Certain high security areas, including server rooms, file storage, and secure client stock storage, are only accessible by Cathedral upper management and the Network Administrator to ensure no unauthorized access occurs. The access cards are issued to all employees. The access capability is different for each employee based on the need to access certain areas. (i.e. Print department cannot access the Data department).
- **Secure Email Filtering** – Cathedral maintains a hosted service for secure inbound email filtering which scans all incoming email and blocks any messages which may be SPAM, virus or malware from being delivered to the end user.
- **Employee Background Checks** – Cathedral performs FDLE background checks on all employees
- **Employee Compliance Training** – Cathedral employees complete IT security and business ethics compliance training annually.
- **E-verify Compliance** – Cathedral completes E-verification on all new hires.
- Onsite secure shredding
- Yearly review of proprietary processing with employees
- Yearly testing of our network security by an outside third party
- Cathedral carries supplemental insurance to mitigate impact of any data breach by a third party.



## Fees

| Item                                                                                                                                                                                        | Unit Price         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Utility Bill Processing – includes processing, duplex printing, inserting, mailing, and all materials (#9, #10, FLAT envelope if applicable). Includes single and multiple page statements. | \$0.131 per piece  |
| Utility Bill Processing without the #9                                                                                                                                                      | \$0.106 per piece  |
| Business Tax Renewal Processing – includes processing, printing, mailing and all materials                                                                                                  | \$0204. per piece  |
| Inserting of client supplied inserts                                                                                                                                                        | \$0.01 per insert  |
| Set-up fee                                                                                                                                                                                  | \$0                |
| Hourly programming services – custom and rush                                                                                                                                               | \$150.00 per hour  |
| NCOA services                                                                                                                                                                               | \$0.002 per record |
| Indexed PDFs – based on 23,000 bills per month                                                                                                                                              | \$0.015 per image  |
| Postage                                                                                                                                                                                     | Pass Through item  |

## Other Services Available

*In addition to our services and capabilities described within this proposal, we also offer the following:*

**Mail Essentials Mail Tracking** - Cathedral Corporation is a full-service USPS customer which allows us to obtain mail delivery information which in turn we share with our clients. This ability to share mail piece delivery information allows our clients to track, predict and view delivery of both incoming and outgoing mail pieces. Utilizing IMB barcodes on mail pieces, the USPS will capture the scans. Our custom mail tracking application has access to the data from the USPS scans which are done at regular intervals during the mailing lifecycle, allowing you to:

- o Monitor the mail processing status
- o Estimate delivery dates/times
- o Identify that a remittance has been mailed
- o Make decisions to delay service disconnect dispatches
- o Identify when mail pieces have been delivered

Having early knowledge of remittance activity negating service disruption can improve management and customer satisfaction by allowing for more informed service disruption management in addition to avoiding additional print, mail and operational costs. This feature is fully accessible through our client portal. Pricing will be provided for this additional service upon request.

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 **References**

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1. **SECO – Sumpter Electric CO-OP**  
Contact: Tim Wallace, Manager of Consumer Billing and Accounting  
Address: 301 S US Highway 301 Sumterville, FL 33585  
Phone: 352-569-9614  
Email: tim.wallace@secoenergy.com  
Service Provided: Daily processing, printing and mailing of approximately 130,000 bills per month (regular, final, past due and delinquent notices)
2. **City of Hollywood, Florida Utilities**  
Contact: Alberto Jimenez  
Address: 2600 Hollywood Blvd Room 103 Hollywood, FL 33020  
Phone: 954-921-3933  
Service Provided: Weekly processing, printing and mailing of approximately 40,000 bills per month (regular, final, past due and delinquent)
3. **WREC – Withlacoochee River Electric CO-OP**  
Contact: Jason Fladd  
Address: 14651 21<sup>st</sup> Street Dade City, FL 33523  
Phone: 352-437-2720  
Email: Jfladd@wrec.net  
Service Provided: daily processing, printing and mailing of approximately 225,000 bills per month.  
Service Dates: 2020-present
4. **City of Gainesville, GA**  
Contact: Renee Ward, Customer Service Manager  
Address: 757 Queen City Parkway SW Gainesville, FL 30501  
Phone: 770-538-2403  
Email: rward@gainesvillega.gov  
Service Provided: Same day processing, printing and mailing of approximately 50,000 bills per month  
Service Dates: 2017-present
5. **City of Altamonte Springs**  
Contact: Lisette Saurez  
Address: 225 Newburyport Ave Altamonte Springs, FL 32701  
Phone: 407-571-8042  
Email: lsuarez@altamonte.org  
Service Provided: Processing, printing and mailing of bills.

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## In Conclusion

Cathedral Corporation is uniquely qualified to provide high quality invoice production and delivery services to the City of Ormond Beach through the company's experience in handling a wide range of billing applications for many companies, and due to our intimate knowledge of municipal billing applications derived from municipal utility clients like you.

- Cathedral is experienced in developing and implementing critical business document solutions for a wide range of financial services applications.
- We are intimately familiar with the needs and requirements of municipal utility organizations – you do not need to teach us your business.
- Cathedral has a proven track record of reliability and accuracy for print and mail applications like yours.
- The flexibility we offer in the customization of systems based on individual objectives and schedules allows us to develop customized solutions that increase value for your external clients, and improve efficiencies for your internal staff.
- Proactive account management assures clear, frequent, and complete communications with you
- Cathedral has a demonstrated commitment to investment in technology and systems, ensuring our clients the highest level of quality and service.

Thank you for taking the time to review our proposal. We look forward to hearing from you regarding your decision. If there are any questions in the meantime, please do not hesitate to contact me.

Sincerely,

Tom Henderson  
Senior Regional Director  
Cell: (850) 612-5747  
Thenderson@cathedralcorporation.com



**City of Ormond Beach**  
**City Commission Agenda**  
**Staff Report**

|                                 |                                                                                                                                       |                 |                      |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------|
| <b>Agenda Date</b>              | February 17, 2026                                                                                                                     | <b>Item No</b>  | 7.D.                 |
| <b>Section</b>                  | CONSENT AGENDA                                                                                                                        | <b>Category</b> | Consent - Resolution |
| <b>Subject</b>                  | The Casements Guild Lease Agreement Renewal                                                                                           |                 |                      |
| <b>Recommended Action</b>       | Staff recommends approval of the lease agreement renewal with The Casements Guild for the operation of The Casements Guild Gift Shop. |                 |                      |
| <b>Strategic Goal</b>           | Quality of Life - Other                                                                                                               |                 |                      |
| <b>Department Staff Contact</b> | Parks and Recreation<br>Robert Carolin, Parks and Recreation Director                                                                 |                 |                      |

Summary

This is a renewal of the lease agreement for The Casements Guild to operate a gift shop at The Casements.

The Casements Guild (the Guild) has served as the volunteer group on behalf of The Casements for the City of Ormond Beach since 1979. The Guild, a 501(C)(3) volunteer organization, has operated a gift shop in the northwest corner of the first floor of The Casements for several years. It provides visitors an opportunity to purchase reasonably priced gift items, books, and cards relating to the historic period of The Casements. The shop has a volunteer manager and treasurer that report to The Casements Guild Board, accounting for all expenses and revenues and the payment of all sales taxes to the proper authorities.

Beginning in 2002, an annual lease was executed between the City and the Guild for this space. The Guild pays \$1.00 annually for this lease. The net proceeds from the gift shop and the Guild events are a primary source of the donations and improvements made to The Casements each year.

Financial Impact

None

Citizen Impact

This lease provides a way for citizens to do meaningful volunteer work for their community and the City benefits greatly from their service to the community.



#### Attachments

1. 26-19 Casements Guild Lease (P26-0008G
2. Casements Guild Lease 2026 (P26-0008G)
3. Contract Renewal Confirmation Letter
4. Agreement
5. The Casements Guild Certificate

**RESOLUTION NO. 2026-19**

A RESOLUTION AUTHORIZING THE EXECUTION OF A LEASE AGREEMENT BETWEEN THE CITY AND THE CASEMENTS GUILD FOR THE CITY OF ORMOND BEACH, INC.; AND SETTING FORTH AN EFFECTIVE DATE.

**BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:**

**SECTION ONE.** The Mayor and City Manager are hereby authorized and directed to execute a Lease Agreement between the City and The Casements Guild For the City of Ormond Beach, Inc., a copy of said Lease Agreement being attached hereto and incorporated herein by reference.

**SECTION TWO.** This Resolution shall take effect immediately upon its adoption.

**APPROVED AND AUTHENTICATED this 17<sup>th</sup> day of February, 2026.**

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**JASON LESLIE**  
Mayor

**ATTEST:**

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**SUSAN CARROLL DAUDERIS**  
City Clerk

## **LEASE AGREEMENT**

**THIS LEASE AGREEMENT**, made and entered into by and between the **CITY OF ORMOND BEACH**, a Florida municipal corporation, (“the City”), and **THE CASEMENTS GUILD FOR THE CITY OF ORMOND BEACH, INC.**, a Florida non-profit corporation (“the Guild”).

### **WITNESSETH:**

**NOW THEREFORE, FOR AND IN CONSIDERATION** of the covenants, promises, agreements and conditions to be kept and performed by the respective parties hereto, it is hereby mutually stipulated, covenanted and agreed by and between the parties hereto as follows:

**1. TERM.** The City hereby leases unto the Guild, and the Guild hereby leases from the City, that portion of the Casements building located at 25 Riverside Drive, Ormond Beach, FL 32176, commonly described as the "gift shop" in the Northwest area of the first floor bordered by the front and north entrance lobbies (“the Premises”). The term of this Lease Agreement shall be for one (1) year, from June 1, 2026, through May 31, 2027, inclusive.

**2. RENT.** The Guild shall pay to the City for its use of the Premises the sum of one (\$1.00) dollar, payable in advance.

**3. GENERAL.** The Guild shall:

- a.** make no unlawful, improper or offensive use of Premises;
- b.** observe and obey all laws, ordinances, rules and regulations promulgated and enforced by the city and by any other governmental authority having jurisdiction or responsibility over the conduct and operations at the Premises;
- c.** not use or permit the use of the Premises for any purpose or purposes other than as a gift shop with proceeds benefiting the Guild;
- d.** not assign this Lease Agreement, or sublet any part of the Premises, without the advance written consent of the City; and

e. quit and deliver up the Premises and all additions, improvements and alterations made to the same at the expiration of the term of this Lease Agreement, or any earlier term thereof, in good condition.

**4. MAINTENANCE AND IMPROVEMENTS.** The Guild covenants, promises and agrees, at its own expense, to keep and maintain the Premises, including all additions, improvements, and alterations made thereto, in a neat, clean, sanitary, well-painted condition, and good state of repair, throughout the term of this Lease Agreement. The Guild further promises and agrees to provide the City with notice, and receive approval of the City, prior to any structural changes being made in and to the Premises.

**5. INSURANCE.** The Guild covenants, promises and agrees that it will, at its own expense, purchase and maintain in full force and effect at all times during the term of this Lease Agreement, and any extension thereof, insurance as set forth in Section Two of Resolution No. 2021-144 as approved by the City Commission on September 22, 2021.

**a. Fire Insurance.** The Premises shall be insured against loss by fire at the highest insurable value, with a loss payable clause to the City. In case of loss by fire, the monies received in respect to such insurance shall be expended to repair and replace such loss.

**b. Proof of Insurance.** The Guild shall furnish evidence of all required insurance in the form of Certificates of Insurance which shall clearly outline all hazards covered, as itemized above, the amounts of insurance applicable to each hazard, the expiration dates and shall contain the following language as to cancellation:

“In the event of cancellation of this policy by the insurer or any insured, the company shall give not less than thirty (30) days’ advance written notice to:

City Clerk  
City of Ormond Beach  
Post Office Box 277  
Ormond Beach, FL 32175-0277”

If requested by the City, the Guild shall furnish copies of the insurance contracts to support the Certificates of Insurance. In the event such required insurance shall lapse, the City expressly reserves the right to renew the insurance at the expense of the Guild.

**6. INDEMNIFICATION.** To the extent allowed by law, the Guild shall indemnify and hold harmless the City and its agents, officers and employees from and against all claims, damages, losses and expenses, including but not limited to attorneys' fees arising out of or resulting from the performance of this Lease Agreement, including any claim, damage, loss or expense caused in whole or in part by any negligent act or omission of the Guild or its members, agents or employees or any subcontractor or anyone directly or indirectly employed by any one of them.

**7. DEFAULT.** It is expressly agreed between the parties hereto that, if default should be made in the Guild's performance of any of the covenants, agreements or conditions herein contained, and if such default continues after two (2) weeks' notice in writing to the Guild, this Lease agreement shall thereupon immediately terminate and expire, and it shall be lawful for the City, its successors and assigns, at any time thereafter, at its election, without notice or demand, to reenter the Premises either with or without process of law.

**IN WITNESS WHEREOF,** the undersigned parties have caused this Lease Agreement to be signed on the dates indicated hereinbelow.

DATED this \_\_\_\_ day of \_\_\_\_\_, 2026.

**Signed, Sealed and Delivered  
In the Presence of:**

**CITY OF ORMOND BEACH**

Name: \_\_\_\_\_

By: \_\_\_\_\_

**JASON LESLIE**

Mayor

Name: \_\_\_\_\_

Attest: \_\_\_\_\_

**JOYCE A. SHANAHAN**

City Manager

DATED this \_\_\_\_\_ day of \_\_\_\_\_, 2026.

**Signed, Sealed and Delivered  
In the Presence of:**

**THE CASEMENTS GUILD FOR THE  
CITY OF ORMOND BEACH, INC.**

\_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title \_\_\_\_\_

\_\_\_\_\_

Attest: \_\_\_\_\_

Name: \_\_\_\_\_

Title \_\_\_\_\_



## CITY OF ORMOND BEACH

Leisure Services Department • 399 North U.S. 1 • Ormond Beach, FL 32174 • (386) 676-3250 • Fax (386) 676-3367

January 14, 2026

**To: The Casement Guild**

**Subject: Contract Renewal Confirmation**

Dear The Casement Guild Representative,

By signing this letter, you acknowledge that your organization has reviewed and understood the terms of its existing agreement with the City of Ormond Beach. Furthermore, you confirm your intent to renew your contract under the same terms and conditions as previously agreed upon.

|                                     |                     |
|-------------------------------------|---------------------|
| Association Name                    | The Casements Guild |
| Sport(s)                            |                     |
| Authorized Representative Signature | Jayde M. Lyle       |
| Printed Name                        | Jayde M. Lyle       |
| Title                               | President           |
| Date                                | 1/16/2026           |

Sincerely,



Robert Carolin

Parks & Recreation Director  
City of Ormond Beach

**RESOLUTION NO. 2025-62**

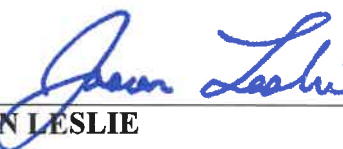
A RESOLUTION AUTHORIZING THE EXECUTION OF A LEASE AGREEMENT BETWEEN THE CITY AND THE CASEMENTS GUILD FOR THE CITY OF ORMOND BEACH, INC.; AND SETTING FORTH AN EFFECTIVE DATE.

**BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:**

**SECTION ONE.** The Mayor and City Manager are hereby authorized and directed to execute a Lease Agreement between the City and The Casements Guild For the City of Ormond Beach, Inc., a copy of said Lease Agreement being attached hereto and incorporated herein by reference.

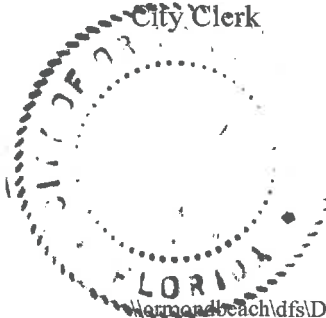
**SECTION TWO.** This Resolution shall take effect immediately upon its adoption.

**APPROVED AND AUTHENTICATED this 4<sup>th</sup> day of March, 2025.**

  
\_\_\_\_\_  
**JASON LESLIE**  
Mayor

**ATTEST:**

  
\_\_\_\_\_  
**SUSAN CARROLL DAUDERIS**  
City Clerk





## LEASE AGREEMENT

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### WITNESSETH:

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**2. RENT.** The Guild shall pay to the City for its use of the Premises the sum of one (\$1.00) dollar, payable in advance.

**3. GENERAL.** The Guild shall:

- a.** make no unlawful, improper or offensive use of Premises;
- b.** observe and obey all laws, ordinances, rules and regulations promulgated and enforced by the city and by any other governmental authority having jurisdiction or responsibility over the conduct and operations at the Premises;
- c.** not use or permit the use of the Premises for any purpose or purposes other than as a gift shop with proceeds benefiting the Guild;
- d.** not assign this Lease Agreement, or sublet any part of the Premises, without the advance written consent of the City; and

e. quit and deliver up the Premises and all additions, improvements and alterations made to the same at the expiration of the term of this Lease Agreement, or any earlier term thereof, in good condition.

**4. MAINTENANCE AND IMPROVEMENTS.** The Guild covenants, promises and agrees, at its own expense, to keep and maintain the Premises, including all additions, improvements, and alterations made thereto, in a neat, clean, sanitary, well-painted condition, and good state of repair, throughout the term of this Lease Agreement. The Guild further promises and agrees to provide the City with notice, and receive approval of the City, prior to any structural changes being made in and to the Premises.

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**b. Proof of Insurance.** The Guild shall furnish evidence of all required insurance in the form of Certificates of Insurance which shall clearly outline all hazards covered, as itemized above, the amounts of insurance applicable to each hazard, the expiration dates and shall contain the following language as to cancellation:

“In the event of cancellation of this policy by the insurer or any insured, the company shall give not less than thirty (30) days’ advance written notice to:

City Clerk  
City of Ormond Beach  
Post Office Box 277  
Ormond Beach, FL 32175-0277”

If requested by the City, the Guild shall furnish copies of the insurance contracts to support the Certificates of Insurance. In the event such required insurance shall lapse, the City expressly reserves the right to renew the insurance at the expense of the Guild.

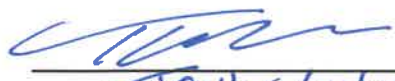
6. **INDEMNIFICATION.** To the extent allowed by law, the Guild shall indemnify and hold harmless the City and its agents, officers and employees from and against all claims, damages, losses and expenses, including but not limited to attorneys' fees arising out of or resulting from the performance of this Lease Agreement, including any claim, damage, loss or expense caused in whole or in part by any negligent act or omission of the Guild or its members, agents or employees or any subcontractor or anyone directly or indirectly employed by any one of them.

7. **DEFAULT.** It is expressly agreed between the parties hereto that, if default should be made in the Guild's performance of any of the covenants, agreements or conditions herein contained, and if such default continues after two (2) weeks' notice in writing to the Guild, this Lease agreement shall thereupon immediately terminate and expire, and it shall be lawful for the City, its successors and assigns, at any time thereafter, at its election, without notice or demand, to reenter the Premises either with or without process of law.

**IN WITNESS WHEREOF**, the undersigned parties have caused this Lease Agreement to be signed on the dates indicated hereinbelow.

DATED this 4 day of March, 2025.

**Signed, Sealed and Delivered  
In the Presence of:**

  
Name: Taylor Cochert

  
Name: Ashley Clements

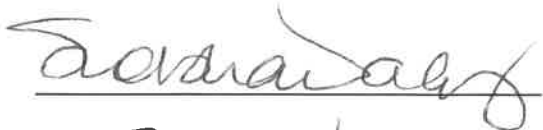
**CITY OF ORMOND BEACH**

By:   
JASON LESLIE  
Mayor

Attest:   
JOYCE A. SHAHAN  
City Manager

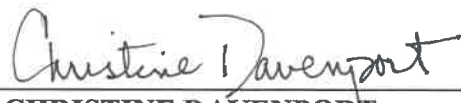
DATED this 10<sup>th</sup> day of February, 2025.

**Signed, Sealed and Delivered  
In the Presence of:**

  
Name: SIOBHAN M. DAY

  
Name: Samira Dehili

**THE CASEMENTS GUILD FOR THE  
CITY OF ORMOND BEACH, INC.**

By:   
**CHRISTINE DAVENPORT**  
Title PRES

Attest:   
Title Past Pres.



# City of Ormond Beach

## AGENDA ITEM

March 4, 2025 - City Commission

Number: 6.B

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                      |         |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------|
| <b>Section:</b>                                                 | CONSENT AGENDA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |         |
| <b>Item Category:</b>                                           | Consent - Resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Res./Ord. No:</b> | 2025-62 |
| <b>Strategic Goal:</b>                                          | Quality of Life - Other                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |         |
| <b>Department:</b>                                              | Leisure Services                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |         |
| <b>Subject:</b>                                                 | The Casements Guild Agreement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                      |         |
| <b>Summary:</b>                                                 | <p>This is a lease agreement for The Casements Guild to operate a gift shop at The Casements.</p> <p>The Casements Guild (the Guild) has served as the volunteer group on behalf of The Casements for the City of Ormond Beach since 1979. The Guild, a 501(C)(3) volunteer organization, has operated a gift shop in the northwest corner of the first floor of The Casements for several years. It provides visitors an opportunity to purchase reasonably priced gift items, books, and cards relating to the historic period of The Casements. The shop has a volunteer manager and treasurer that report to The Casements Guild Board, accounting for all expenses and revenues and the payment of all sales taxes to the proper authorities.</p> <p>Beginning in 2002, an annual lease was executed between the City and the Guild for this space. The Guild pays \$1.00 annually for this lease. The net proceeds from the gift shop and the Guild events are a primary source of the donations and improvements made to The Casements each year.</p> |                      |         |
| <b>Financial Impact:</b>                                        | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                      |         |
| <b>Citizen Impact:</b>                                          | This lease provides a way for citizens to do meaningful volunteer work for their community and the City benefits greatly from their service to the community.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                      |         |
| <b>Recommended Action (Staff, Advisory Board and/or Other):</b> | Staff recommends approval of the lease agreement with The Casements Guild for the operation of The Casements Guild Gift Shop.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                      |         |

|                       |                                                                                                                                                                                                                             |                                     |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| <b>Staff Contact:</b> | Robert Carolin, Leisure Services Director, (386) 676-3279                                                                                                                                                                   |                                     |
| <b>Attachments:</b>   | <ol style="list-style-type: none"> <li>1. 25-62 Casements Guild Lease (P25-0013G)</li> <li>2. Casements Guild Lease 2025 (P25-0013G)</li> <li>3. The Guild Agreement</li> <li>4. The Guild Insurance Certificate</li> </ol> |                                     |
| <b>Approval:</b>      | Kelly McGuire, Finance Director<br>Claire Whitley/Shawn Finley, Assistant City Manager<br>Joyce Shanahan, City Manager                                                                                                      | 2/13/2025<br>2/20/2025<br>2/24/2025 |

**RESOLUTION NO. 2024-21**

A RESOLUTION AUTHORIZING THE EXECUTION OF A LEASE AGREEMENT BETWEEN THE CITY AND THE CASEMENTS GUILD FOR THE CITY OF ORMOND BEACH, INC.; AND SETTING FORTH AN EFFECTIVE DATE.

**BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:**

**SECTION ONE.** The Mayor and City Manager are hereby authorized and directed to execute a Lease Agreement between the City and The Casements Guild For the City of Ormond Beach, Inc., a copy of said Lease Agreement being attached hereto and incorporated herein by reference.

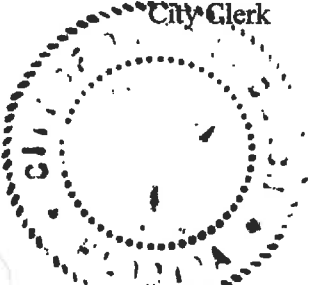
**SECTION TWO.** This Resolution shall take effect immediately upon its adoption.

**APPROVED AND AUTHENTICATED this 20<sup>th</sup> day of February, 2024.**

  
**BILL PARTINGTON**  
Mayor

**ATTEST:**

  
**SUSAN CARROLL DAUDERIS**  
City Clerk



\\ormondbeach\dfs\Dept\Legal\CITY COMMISSION ITEMS\RESOLUTION\2024\02-20-24\24-21 Casements Guild Lease (P24-0016G).docx

## LEASE AGREEMENT

**THIS LEASE AGREEMENT**, made and entered into by and between the **CITY OF ORMOND BEACH**, a Florida municipal corporation, ("the City"), and **THE CASEMENTS GUILD FOR THE CITY OF ORMOND BEACH, INC.**, a Florida non-profit corporation ("the Guild").

### WITNESSETH:

**NOW THEREFORE, FOR AND IN CONSIDERATION** of the covenants, promises, agreements and conditions to be kept and performed by the respective parties hereto, it is hereby mutually stipulated, covenanted and agreed by and between the parties hereto as follows:

1. **TERM.** The City hereby leases unto the Guild, and the Guild hereby leases from the City, that portion of the Casements building located at 25 Riverside Drive, Ormond Beach, FL 32176, commonly described as the "gift shop" in the Northwest area of the first floor bordered by the front and north entrance lobbies ("the Premises"). The term of this Lease Agreement shall be for one (1) year, from June 1, 2024, through May 31, 2025, inclusive.

2. **RENT.** The Guild shall pay to the City for its use of the Premises the sum of one (\$1.00) dollar, payable in advance.

3. **GENERAL.** The Guild shall:

- a. make no unlawful, improper or offensive use of Premises;
- b. observe and obey all laws, ordinances, rules and regulations promulgated and enforced by the city and by any other governmental authority having jurisdiction or responsibility over the conduct and operations at the Premises;
- c. not use or permit the use of the Premises for any purpose or purposes other than as a gift shop with proceeds benefiting the Guild;
- d. not assign this Lease Agreement, or sublet any part of the Premises, without the advance written consent of the City; and



e. quit and deliver up the Premises and all additions, improvements and alterations made to the same at the expiration of the term of this Lease Agreement, or any earlier term thereof, in good condition.

**4. MAINTENANCE AND IMPROVEMENTS.** The Guild covenants, promises and agrees, at its own expense, to keep and maintain the Premises, including all additions, improvements, and alterations made thereto, in a neat, clean, sanitary, well-painted condition, and good state of repair, throughout the term of this Lease Agreement. The Guild further promises and agrees to provide the City with notice, and receive approval of the City, prior to any structural changes being made in and to the Premises.

**5. INSURANCE.** The Guild covenants, promises and agrees that it will, at its own expense, purchase and maintain in full force and effect at all times during the term of this Lease Agreement, and any extension thereof, insurance as set forth in Section Two of Resolution No. 2021-144 as approved by the City Commission on September 22, 2021.

**a. Fire Insurance.** The Premises shall be insured against loss by fire at the highest insurable value, with a loss payable clause to the City. In case of loss by fire, the monies received in respect to such insurance shall be expended to repair and replace such loss.

**b. Proof of Insurance.** The Guild shall furnish evidence of all required insurance in the form of Certificates of Insurance which shall clearly outline all hazards covered, as itemized above, the amounts of insurance applicable to each hazard, the expiration dates and shall contain the following language as to cancellation:

“In the event of cancellation of this policy by the insurer or any insured, the company shall give not less than thirty (30) days’ advance written notice to:

City Clerk  
City of Ormond Beach  
Post Office Box 277  
Ormond Beach, FL 32175-0277”

If requested by the City, the Guild shall furnish copies of the insurance contracts to support the Certificates of Insurance. In the event such required insurance shall lapse, the City expressly reserves the right to renew the insurance at the expense of the Guild.

6. **INDEMNIFICATION.** To the extent allowed by law, the Guild shall indemnify and hold harmless the City and its agents, officers and employees from and against all claims, damages, losses and expenses, including but not limited to attorneys' fees arising out of or resulting from the performance of this Lease Agreement, including any claim, damage, loss or expense caused in whole or in part by any negligent act or omission of the Guild or its members, agents or employees or any subcontractor or anyone directly or indirectly employed by any one of them.

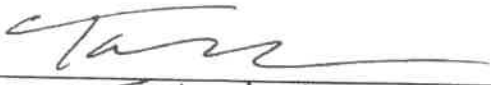
7. **DEFAULT.** It is expressly agreed between the parties hereto that, if default should be made in the Guild's performance of any of the covenants, agreements or conditions herein contained, and if such default continues after two (2) weeks' notice in writing to the Guild, this Lease agreement shall thereupon immediately terminate and expire, and it shall be lawful for the City, its successors and assigns, at any time thereafter, at its election, without notice or demand, to reenter the Premises either with or without process of law.

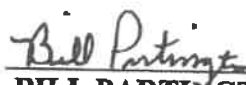
**IN WITNESS WHEREOF**, the undersigned parties have caused this Lease Agreement to be signed on the dates indicated hereinbelow.

DATED this 20 day of February, 2024.

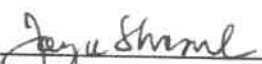
**Signed, Sealed and Delivered  
In the Presence of:**

**CITY OF ORMOND BEACH**

  
Name: Taylor Lochart

By:   
**BILL PARTINGTON**  
Mayor

  
Name: Justin Isaacs

Attest:   
**JOYCE A. SHANAHAN**  
City Manager

DATED this 12<sup>th</sup> day of February, 2024.

**Signed, Sealed and Delivered  
In the Presence of:**

Siobhan M Day  
Name: SIOBHAN M DAY

Samira Denili  
Name: Samira Denili

**THE CASEMENTS GUILD FOR THE  
CITY OF ORMOND BEACH, INC.**

By: Christine M Davenport  
**CHRISTINE DAVENPORT**  
Title PRESIDENT

Attest: Janie Pennington  
Title Vice President



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

5/24/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

**PRODUCER**  
Foundation Risk Partners, Corp. dba Foundation Risk Partners of  
Florida  
780 W. Granada Blvd.  
Ormond Beach FL 32174

**CONTACT**  
NAME:  
PHONE (A/C No. Ext): 386-677-4761 FAX (A/C No.): 386-673-5370  
E-MAIL  
ADDRESS: email@HIPFlorida.com

INSURER(S) AFFORDING COVERAGE

NAIC #

License#: L100460

CASEGUI-01

INSURER A: Auto-Owners Insurance Company

18988

**INSURED**  
The Casements Guild  
c/o Treasurer  
25 Riverside Dr.  
Ormond Beach FL 32176-6520

INSURER B:

INSURER C:

INSURER D:

INSURER E:

INSURER F:

**COVERAGES**

CERTIFICATE NUMBER: 168620877

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE                                                                                         | ADDL SUBR INSD WVD                            | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS                                              |
|----------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------|-------------------------|-------------------------|-----------------------------------------------------|
| A        | <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY                                          |                                               | 72650792      | 4/23/2024               | 4/23/2025               | EACH OCCURRENCE \$ 1,000,000                        |
|          | CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR                                                     |                                               |               |                         |                         | DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 50,000 |
|          |                                                                                                           |                                               |               |                         |                         | MED EXP (Any one person) \$ 5,000                   |
|          |                                                                                                           |                                               |               |                         |                         | PERSONAL & ADV INJURY \$ 1,000,000                  |
|          |                                                                                                           |                                               |               |                         |                         | GENERAL AGGREGATE \$ 1,000,000                      |
|          |                                                                                                           |                                               |               |                         |                         | PRODUCTS - COMP/OP AGG \$ 1,000,000                 |
|          |                                                                                                           |                                               |               |                         |                         | \$                                                  |
|          | GEN'L AGGREGATE LIMIT APPLIES PER:                                                                        |                                               |               |                         |                         |                                                     |
|          | <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC |                                               |               |                         |                         |                                                     |
|          | OTHER:                                                                                                    |                                               |               |                         |                         |                                                     |
|          | <b>AUTOMOBILE LIABILITY</b>                                                                               |                                               |               |                         |                         | COMBINED SINGLE LIMIT (Ea accident) \$              |
|          | ANY AUTO                                                                                                  |                                               |               |                         |                         | BODILY INJURY (Per person) \$                       |
|          | OWNED AUTOS ONLY                                                                                          | <input type="checkbox"/> SCHEDULED AUTOS      |               |                         |                         | BODILY INJURY (Per accident) \$                     |
|          | HIRED AUTOS ONLY                                                                                          | <input type="checkbox"/> NON-OWNED AUTOS ONLY |               |                         |                         | PROPERTY DAMAGE (Per accident) \$                   |
|          |                                                                                                           |                                               |               |                         |                         | \$                                                  |
|          | <b>UMBRELLA LIAB</b>                                                                                      | <input type="checkbox"/> OCCUR                |               |                         |                         | EACH OCCURRENCE \$                                  |
|          | <b>EXCESS LIAB</b>                                                                                        | <input type="checkbox"/> CLAIMS-MADE          |               |                         |                         | AGGREGATE \$                                        |
|          |                                                                                                           |                                               |               |                         |                         | \$                                                  |
|          | DED RETENTION \$                                                                                          |                                               |               |                         |                         |                                                     |
|          | <b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b>                                                      | <input type="checkbox"/> Y/N                  |               |                         |                         | PER STATUTE OTH-ER                                  |
|          | ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)                               | <input type="checkbox"/> N/A                  |               |                         |                         | E.L. EACH ACCIDENT \$                               |
|          | If yes, describe under DESCRIPTION OF OPERATIONS below                                                    |                                               |               |                         |                         | E.L. DISEASE - EA EMPLOYEE \$                       |
|          |                                                                                                           |                                               |               |                         |                         | E.L. DISEASE - POLICY LIMIT \$                      |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)  
Certificate Holder is Additional Insured.

**CERTIFICATE HOLDER****CANCELLATION**

City of Ormond Beach  
22 S. Beach Street  
Ormond Beach FL 32174

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

© 1988-2015 ACORD CORPORATION. All rights reserved.



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
01/29/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must have **ADDITIONAL INSURED** provisions or be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

|                                                                                                           |                                           |                                                   |               |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------|---------------|
| <b>PRODUCER</b><br><br>FOUNDATION RISK PARTNERS<br>PO BOX 30668<br>LANSING, MI 48909-8168                 | <b>CONTACT NAME:</b> Joe Armstrong        | <b>FAX (A/C, No):</b> 517-886-8655                |               |
|                                                                                                           | <b>PHONE (A/C, No, Ext):</b> 844-756-4104 | <b>E-MAIL ADDRESS:</b> ServiceCenter.AO@aoins.com |               |
| <b>INSURED</b><br><br>THE CASEMENTS GUILD C O TREASURER<br>25 RIVERSIDE DR<br>ORMOND BEACH, FL 32176-6520 | <b>INSURER(S) AFFORDING COVERAGE</b>      |                                                   | <b>NAIC #</b> |
|                                                                                                           | <b>INSURER A:</b> Auto-Owners             |                                                   | 18988         |
|                                                                                                           | <b>INSURER B:</b>                         |                                                   |               |
|                                                                                                           | <b>INSURER C:</b>                         |                                                   |               |
|                                                                                                           | <b>INSURER D:</b>                         |                                                   |               |
| <b>INSURER E:</b>                                                                                         |                                           |                                                   |               |
| <b>INSURER F:</b>                                                                                         |                                           |                                                   |               |

## COVERAGES

**CERTIFICATE NUMBER:**

**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE                                                                                                                               | ADDL INSD                                     | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS                                    |              |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------|---------------|-------------------------|-------------------------|-------------------------------------------|--------------|
| A        | <input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b>                                                                         | Y                                             |          | 90650792      | 04/23/2025              | 04/23/2026              | EACH OCCURRENCE                           | \$ 1,000,000 |
|          | <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR                                                                  |                                               |          |               |                         |                         | DAMAGE TO RENTED PREMISES (Ea occurrence) | \$ 50,000    |
|          |                                                                                                                                                 |                                               |          |               |                         |                         | MED EXP (Any one person)                  | \$ 5,000     |
|          |                                                                                                                                                 |                                               |          |               |                         |                         | PERSONAL & ADV INJURY                     | \$ 1,000,000 |
|          |                                                                                                                                                 |                                               |          |               |                         |                         | GENERAL AGGREGATE                         | \$ 1,000,000 |
|          | GEN'L AGGREGATE LIMIT APPLIES PER:<br><input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC |                                               |          |               |                         |                         | PRODUCTS - COMP/OP AGG                    | \$ 1,000,000 |
|          | OTHER:                                                                                                                                          |                                               |          |               |                         |                         |                                           | \$           |
|          | <b>AUTOMOBILE LIABILITY</b>                                                                                                                     |                                               |          |               |                         |                         | COMBINED SINGLE LIMIT (Ea accident)       | \$           |
|          | <input type="checkbox"/> ANY AUTO                                                                                                               |                                               |          |               |                         |                         | BODILY INJURY (Per person)                | \$           |
|          | <input type="checkbox"/> OWNED AUTOS ONLY                                                                                                       | <input type="checkbox"/> SCHEDULED AUTOS      |          |               |                         |                         | BODILY INJURY (Per accident)              | \$           |
|          | <input type="checkbox"/> HIRED AUTOS ONLY                                                                                                       | <input type="checkbox"/> NON-OWNED AUTOS ONLY |          |               |                         |                         | PROPERTY DAMAGE (Per accident)            | \$           |
|          |                                                                                                                                                 |                                               |          |               |                         |                         |                                           | \$           |
|          | <b>UMBRELLA LIAB</b>                                                                                                                            |                                               |          |               |                         |                         | EACH OCCURRENCE                           | \$           |
|          | <input type="checkbox"/> EXCESS LIAB                                                                                                            | <input type="checkbox"/> OCCUR                |          |               |                         |                         | AGGREGATE                                 | \$           |
|          | <input type="checkbox"/> DED                                                                                                                    | <input type="checkbox"/> RETENTION \$         |          |               |                         |                         |                                           | \$           |
|          | <b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b>                                                                                            |                                               |          |               |                         |                         | PER STATUTE                               | OTH-ER       |
|          | ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)                                                                     | Y / N                                         |          |               |                         |                         | E.L. EACH ACCIDENT                        | \$           |
|          | If yes, describe under DESCRIPTION OF OPERATIONS below                                                                                          | <input type="checkbox"/> N / A                |          |               |                         |                         | E.L. DISEASE - EA EMPLOYEE                | \$           |
|          |                                                                                                                                                 |                                               |          |               |                         |                         | E.L. DISEASE - POLICY LIMIT               | \$           |

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES** (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

City of Ormond Beach is listed as an additional insured in regard to general liab limits on this policy

## CERTIFICATE HOLDER

City of Ormond Beach  
22 S Beach Street  
Ormond Beach, FL 32174

## CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

**AUTHORIZED REPRESENTATIVE**

Joe Armstrong



**City of Ormond Beach**  
**City Commission Agenda**  
**Staff Report**

|                                 |                                                                                                                                                                              |                 |                      |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------|
| <b>Agenda Date</b>              | February 17, 2026                                                                                                                                                            | <b>Item No</b>  | 7.E.                 |
| <b>Section</b>                  | CONSENT AGENDA                                                                                                                                                               | <b>Category</b> | Consent - Resolution |
| <b>Subject</b>                  | Bid Award - 2026 Roadway Resurfacing                                                                                                                                         |                 |                      |
| <b>Recommended Action</b>       | Staff recommends award of the base bid for the 2026 Roadway Resurfacing Project, Bid Number 2026-08, to Sparks Concrete Asphalt LLC, at the contract amount of \$639,040.60. |                 |                      |
| <b>Strategic Goal</b>           | Transportation & Community Development - Other                                                                                                                               |                 |                      |
| <b>Department Staff Contact</b> | Public Works - Engineering<br>Shawn Finley, Assistant City Manager                                                                                                           |                 |                      |

Summary

This item provides public notice of the City's intent to award a bid for the 2026 Road Resurfacing Project, Bid No. 2026-08 to Sparks Concrete & Asphalt LLC in the amount of \$639,040.60.

The 2026 Road Resurfacing project is a scheduled Capital Improvement Project. Road resurfacing is an important pavement maintenance activity which prolongs the service life of city roads and defers costly reconstruction of roadways.

This project will include approximately 2.3 miles of asphalt road resurfacing on various streets throughout the city, and includes replacement of curb, gutter, and sidewalk where deemed necessary. A set of plans and street location maps are attached. Streets included in this year's project include the following:

- Tomoka Oaks Blvd from N Nova to Tomoka Oaks Country Club
- Choctaw Trail from Iroquois (SW) to Iroquois Trail
- Choctaw Trail from Iroquois (NE) to Iroquois Trail
- Iroquois Trail from Main Trail to S St. Andrews Dr
- Fleming Ave from S Center St to Laurel Dr
- Shelly Way from Winding Woods Trail to Marjorie Trail
- Plaza Grande from Cordova Ave to S Ridgewood Ave
- W Ocean Ter from N Halifax Dr to John Anderson Dr
- Sundance Trail from Oak Dr to N Halifax Dr

A disposition item for advertisement of competitive bidding was approved by the Commission on November 18, 2025. On January 13, 2026, bids were opened, and total bids ranged from \$639,040.60 - \$1,378,831.50. The low bidder was Sparks Concrete & Asphalt LLC of Port Orange, FL. Sparks Concrete & Asphalt LLC has successfully completed similar projects for the City and is recommended for this project.

#### Financial Impact

Funding in the amount of \$1,000,000 was included in the Fiscal Year 2025-2026 budget, within Fund 308 - Transportation Improvement.

#### Citizen Impact

Residents will experience minor, temporary traffic delays and access inconveniences associated with the construction activities of this project. 1–2 streets are typically milled within a day and new asphalt is paved typically within 2–3 days after milling. The process of removing and replacing curb and gutter usually takes approximately 3–5 weeks. Work will be conducted between 7 a.m. - 7 p.m., Monday through Friday.

#### Attachments

1. 26-20 Roadway Resurfacing -Sparks Concrete (P26-0005G)
2. Sparks Bid Section 00300 and 00410
3. 2026 Road Resurfacing Street List
4. 2026-08 Bid Tabulation

**RESOLUTION NO. 2026-20**

A RESOLUTION ACCEPTING THE BID OF SPARKS CONCRETE, LLC d/b/a SPARKS CONCRETE & ASPHALT REGARDING THE 2026 ROADWAY RESURFACING PROJECT, UNDER BID NO. 2026-08; REJECTING ALL OTHER BIDS; AUTHORIZING THE EXECUTION OF A CONTRACT AND PAYMENT THEREFOR; AND SETTING FORTH AN EFFECTIVE DATE.

**WHEREAS**, the City advertised for bids (Bid No. 2026-08) regarding the 2026 roadway resurfacing project (“Project”) in accordance with Section 2-300, *Code of Ordinances*, and

**WHEREAS**, the appropriate City staff members have reviewed the seven bids received and have determined that the bid submitted by Sparks Concrete, LLC d/b/a Sparks Concrete & Asphalt with a bid in the amount of \$639,040.60 is the lowest responsible and responsive bid (a copy of said bid being attached hereto and incorporated herein by reference), and

**WHEREAS**, the City Manager has certified that funds have been appropriated to the credit of the Transportation Improvement Fund (308) for the Project and have not been appropriated for any other purpose, and

**WHEREAS**, the City Commission concurs in the said determination and recommendation, now therefore,

**BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:**

**SECTION ONE.** The bid submitted by Sparks Concrete, LLC d/b/a Sparks Concrete & Asphalt to provide services for the Project is hereby accepted.



**SECTION TWO.** All other bids to provide services for the Project are hereby rejected upon the execution of a contract with Sparks Concrete, LLC d/b/a Sparks Concrete & Asphalt.

**SECTION THREE.** The Mayor and the City Manager are hereby authorized and directed to execute a contract between the City and Sparks Concrete, LLC d/b/a Sparks Concrete & Asphalt for the performance of the Project in the amount of \$639,040.60 and to pay the cost therefor from the Transportation Improvement Fund.

**SECTION FOUR.** This Resolution shall take effect immediately upon its adoption.

**APPROVED AND AUTHENTICATED this 17<sup>th</sup> day of February, 2026.**

---

**JASON LESLIE**  
Mayor

**ATTEST:**

---

**SUSAN CARROLL DAUDERIS**  
City Clerk

**SECTION 00300  
BID**

CONTRACTORS NAME Sparks Concrete LLC dba: Sparks Concrete & Asphalt LICENSE NO. SCC131153554

PROJECT IDENTIFICATION: **2026 Roadway Resurfacing**

CONTRACT IDENTIFICATION AND NUMBER: Bid No. 2026-08

THIS BID IS SUBMITTED TO:  
(Name and Address of Owner)

City of Ormond Beach  
22 South Beach Street  
Ormond Beach, Florida 32174

1. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Contract Documents to complete all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the Contract Documents.

2. BIDDER certifies that he has investigated the requirements to do business in the jurisdiction where the project is located, and that he is either qualified to do business or will obtain such prequalification prior to award of the contract.

3. BIDDER accepts all of the terms and conditions of the Instructions to Bidders (Section 00100) including, without limitation, those dealing with the disposition of Bid Security, Public Entity Crimes, and Minority Policies. This Bid will remain open for 90 days after the day of Bid opening. BIDDER will sign the Agreement and submit the Contract security and other documents required by the Contract Documents within ten (10) days after the date of OWNER'S Notice of Award.

4. In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:

(a) BIDDER has examined copies of all the Contract Documents and of the following addenda:

| <u>Date</u>                 | <u>Number</u>               |
|-----------------------------|-----------------------------|
| <u>December 2, 2025</u>     | <u>1</u>                    |
| <u>December 18, 2025</u>    | <u>2</u>                    |
| <u>                    </u> | <u>                    </u> |
| <u>                    </u> | <u>                    </u> |

(receipt of all of which is hereby acknowledged) and also copies of the Advertisement to Bid and the Instructions to Bidders;

**BID (Cont'd.)**  
**2026 Roadway Resurfacing**  
**ORMOND BEACH, FLORIDA**

(b) BIDDER has examined the site and locality where the Work is to be performed, the legal requirements (federal, state and local laws, ordinances, rules and regulations) and the conditions affecting cost, progress or performance of the Work and has made such independent investigations as BIDDER deems necessary.

(c) This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; BIDDER has not solicited or induced any person, firm or a corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for himself any advantage over any other Bidder or over OWNER; and

5. BIDDER will complete the Work for the following price(s):

**BID SCHEDULE**

| Item No. | Item Description                          | Item Quantity | Unit | Unit Price  | Total Price  |
|----------|-------------------------------------------|---------------|------|-------------|--------------|
| 1        | Asphalt Concrete Surface Course S.P. 9.5  | 3,283         | Tons | \$148.00    | \$485,884.00 |
| 2        | Asphalt Concrete Leveling Course S.P. 9.5 | 328.3         | Tons | \$148.00    | \$48,588.40  |
| 3        | Mill Existing Surface                     | 30,192        | SY   | \$2.10      | \$63,403.20  |
| 4        | Adjust Manhole to Grade                   | 10            | EA   | \$150.00    | \$1,500.00   |
| 5        | Adjust Valves to Grade                    | 8             | EA   | \$50.00     | \$400.00     |
| 6        | Thermoplastic Striping                    | 1             | LS   | \$22,265.00 | \$22,265.00  |
| 7        | Curb & Gutter                             | 250           | LF   | \$18.00     | \$4,500.00   |
| 8        | Miscellaneous Driveway                    | 250           | SY   | \$15.00     | \$3,750.00   |
| 9        | Sidewalk                                  | 250           | SY   | \$15.00     | \$3,750.00   |
| 10       | Asphalt Millings                          | 500           | CY   | \$10.00     | \$5,000.00   |

TOTAL BID \$ 639,040.60  
(Figures)  
Six Hundred Thirty Nine Thousand and Fourty Dollars and Sixty Cents.  
(Words)

**BID (Cont'd.)**  
**2026 Roadway Resurfacing**  
**ORMOND BEACH, FLORIDA**

BIDDER acknowledges that the quantities are not guaranteed and final payment will be based on actual quantities determined as provided in the Contract Documents.

BIDDER agrees that the Work will be substantially completed within 120 calendar days after the date when the Contract Time commences to run, and completed within 150 calendar days after the date when the Contract Time commences to run.

BIDDER recognizes that time is of the essence to complete this Project and that OWNER will suffer financial loss if the Work is not substantially complete within the time specified above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The BIDDER also recognize the delays, expense and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by OWNER if the Work is not substantially complete on time. Accordingly, instead of requiring any such proof, OWNER has determined and BIDDER agrees to accept that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER FOUR HUNDRED Dollars (\$400 ) for each calendar day that expires after the time specified above for substantial completion until the Work is substantially complete. After substantial completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the time specified above for completion and readiness for final payment or any proper extension thereof granted by OWNER, CONTRACTOR shall pay the OWNER an amount equal to all actual expenses incurred by the OWNER as a direct result of the CONTRACTOR'S negligence, refusal, or failure to so complete the remaining work. In the event the CONTRACTOR is terminated or abandons the work prior to the scheduled date for final completion, the CONTRACTOR may be liable for both liquidated damages attributable to delay and for excess completion costs.

6. The following documents are attached to and made a condition of this Bid:

(a) Required Bid Security in the form of

(1) a certified check drawn in favor of the City of Ormond Beach in the amount of 5 percent of the total bid; or

(2) a Bid Bond in the amount of 5 percent of the total bid.

(b) Equipment, Material, and Subcontractors List

(c) All information required by the Trench Safety Act (Part VI, Chapter 553, Florida Statutes).

(d) Drug Free Workplace Certificate

(e) Conflict, Non-Conflict of Interest, Litigation Statement

(f) Local Vendor Preference

(g) Verification of Employment Status Using E-Verify System

(h) Affidavit of Compliance F.S. 287.138 Contracting With Foreign Entities of Concern

**BID (Cont'd.)**  
**2026 Roadway Resurfacing**  
**ORMOND BEACH, FLORIDA**

(i) Human Trafficking Affidavit, Section 787.06, Florida Statutes

7. Communications to the BIDDER concerning this Bid shall be addressed to:

Mailing Address: 3060 Steel Rail Dr. Bunnell, FL 32110  
Street Address: 3060 Steel Rail Drive  
City, State, Zip Code: Bunnell, FL 32110  
Email: sparksconcrete@cfl.rr.com  
Telephone No.: 386-263-7229 Fax No.: \_\_\_\_\_

8. The terms used in this Bid which are defined in the General Conditions of the Construction Contract included as part of the Contract DOCUMENTS have the meanings assigned to them in the General Conditions.

SUBMITTED on January 12, 2026.

If BIDDER is:

An Individual

By \_\_\_\_\_  
(Individual's Name - Signature)

\_\_\_\_\_  
(Individual's Name - Typed or Printed) (SEAL)

doing business as \_\_\_\_\_

Business address: \_\_\_\_\_

\_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_



**BID (Cont'd.)**  
**2026 Roadway Resurfacing**  
**ORMOND BEACH, FLORIDA**

If BIDDER is:

A Corporation

By Sparks Concrete LLC dba: Sparks Concrete & Asphalt  
(Corporation Name)

Florida

(State of Incorporation)

By   
(Name of Person Authorized to Sign - Signature)

William Sparks

(Name of Person Authorized to Sign - Typed or Printed)

President, Manager

(Title)

(Corporate Seal)

Attest 

Business address: 3060 Steel Rail Drive  
Bunnell, FL 32110

Phone No.: 386-263-7229

Fax No.: \_\_\_\_\_

**BID (Cont'd.)**  
**2026 Roadway Resurfacing**  
**ORMOND BEACH, FLORIDA**

If BIDDER is:

A Joint Venture

By \_\_\_\_\_  
(Name - Signature)

\_\_\_\_\_  
(Name - Typed or Printed)

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

By \_\_\_\_\_  
(Name - Signature)

\_\_\_\_\_  
(Name - Typed or Printed)

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

(Each joint venturer must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above.)



**BID (Cont'd.)**  
**2026 Roadway Resurfacing**  
**ORMOND BEACH, FLORIDA**

**EQUIPMENT AND SUBCONTRACTORS LIST**

List the names of the manufacturers whose product is proposed for use. No more than one manufacturer's name shall be inserted for each item of material and/or equipment listed. Failure to list materials and equipment supplier may result in the Bid being rejected as incomplete and nonresponsive. If any Subcontractors are proposed to be used for any portions of the Work, the names, addresses, phone numbers and work classifications of each such Subcontractor must be listed. The failure to list all Subcontractors proposed for the work may result in the Bid being rejected as incomplete and nonresponsive. If more than one manufacturer or subcontractor is listed, selection will be made by the OWNER. If none is listed, those listed as the "Basis for Design" will be used.

**Materials and Equipment:**

| <u>Item</u>                   | <u>Supplier</u>                                               |
|-------------------------------|---------------------------------------------------------------|
| <u>Thermoplastic Striping</u> | <u>P&amp;P Striping</u>                                       |
| <u>Concrete</u>               | <u>Sparks Concrete LLC dba: Sparks Concrete &amp; Asphalt</u> |
| <u>Asphalt</u>                | <u>Sparks Concrete LLC dba: Sparks Concrete &amp; Asphalt</u> |
| <u> </u>                      | <u> </u>                                                      |
| <u> </u>                      | <u> </u>                                                      |
| <u> </u>                      | <u> </u>                                                      |
| <u> </u>                      | <u> </u>                                                      |
| <u> </u>                      | <u> </u>                                                      |

**Subcontractors:**

Work Classification: Thermoplastic Striping

Name: P&P Striping

Address: 1224 S. Highway 17 Satsuma, FL 32189

Phone Number: 386-916-1323 Fax Number:

**BID (Cont'd.)**  
**2026 Roadway Resurfacing**  
**ORMOND BEACH, FLORIDA**

Subcontractors:

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_



### **List of Equipment**

**1996 CMI 500 Ton/Hr, Portable Asphalt Plant**

**2017 CAT Excavator – Model 304E2/Serial# CAT0304EAME400152**

**2019 CAT SkidSteer – Model 2590/Serial# CAT0259DTFTL21974**

**2015 CAT Loader – Model 904H/Serial# CAT0904HPH4T00212**

**2010 G928 Front-Loader – Model M272619/Serial# CAT0928GEDJD02601**

**2004 Roadtec Paver RP-190-198**

**2023 CAT 655 Paver**

**2025 Weiler CAT Paver**

**Roadway Roller RWYL 424**

**CAT Roller**

**RoadTec Broom.**

**2022 BOMAG Milling Machine**

**2022 CAT D-6 Dozer**

**2022 Wacker Neuson Double Drum Roller S/n WNCRD14KVPUM00574**

**2015 LeeBoy Challenger Self Propelled Broom**

**2024 Traner Double Drum Roller**

**2000 CAT PS-150B 9 Wheel Pneumatic Roller**

**2011 International Water Truck**

**BID (Cont'd.)**  
**2026 Roadway Resurfacing**  
**ORMOND BEACH, FLORIDA**

**TRENCH SAFETY STANDARDS**

If this project includes trench excavation in excess of five (5) feet in depth, the following trench safety standards will be in effect during the period of construction of the project:

The Occupational Safety and Health Administration's excavation safety standards, 29 C.F.R.s. 1926.650 Subpart P, and any regulation promulgated there under are hereby incorporated as the standard for this project.

The Bidder hereby certifies that the Contractor performing the trench excavation will comply with the applicable trench safety standards.

The Bidder further certifies that the cost (which is included in his unit cost) of compliance with applicable trench safety standards is:

|                      | <u>Estimated<br/>Quantity</u> | <u>Units</u> | <u>Unit<br/>Price</u> | <u>Total<br/>Estimated<br/>Price</u> |
|----------------------|-------------------------------|--------------|-----------------------|--------------------------------------|
| <u>ITEM</u>          | <b>N/A</b>                    |              |                       |                                      |
| 1. Trench Excavation | <hr/>                         | L.F.         | <hr/>                 | <hr/>                                |
| 2. Sheeting/Shoring  | <hr/>                         | S.F.         | <hr/>                 | <hr/>                                |

  
Name (signature) January 9, 2026  
Date

William Sparks  
Name (typed or printed)  
President, Manager  
Title

**BID (Cont'd.)**  
**2026 Roadway Resurfacing**  
**ORMOND BEACH, FLORIDA**

**DRUG-FREE WORKPLACE CERTIFICATION**

**Identical Or "Tie" Bids:** Preference shall be given to businesses with drug-free workplace programs. Whenever two or more proposals which are equal in respect to price, quality, and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

- 1) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- 2) Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violation.
- 3) Give each employee that engages in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
- 4) In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5 ) calendar days after such conviction.
- 5) Impose sanctions on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
- 6) Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

|                                                                                      |                 |
|--------------------------------------------------------------------------------------|-----------------|
|  | January 9, 2026 |
| Name (signature)                                                                     | Date            |
| William Sparks                                                                       |                 |
| Name (typed or printed)                                                              |                 |
| President, Manager                                                                   |                 |
| Title                                                                                |                 |

**BID (Cont'd.)**  
**2026 Roadway Resurfacing**  
**ORMOND BEACH, FLORIDA**

**CONFLICT, NON-CONFLICT OF INTEREST STATEMENT**  
**LITIGATION STATEMENT**

1.

- ☒ To the best of our knowledge, the undersigned firm has no potential conflicts of interest due to any other clients or contracts for this project.
- ☐ The undersigned firm, by attachment to this form, submits information which may be a potential conflict of interest due to other clients or contracts for this project.

2.

- ☒ The undersigned firm has had no litigation on any project in the last five (5) years.
- ☐ The undersigned firm, by attachment to this form, submits a summary and disposition of individual cases of litigation during the past five (5) years.

Sparks Concrete LLC dba: Sparks Concrete & Asphalt  
COMPANY NAME

  
AUTHORIZED SIGNATURE

William Sparks  
NAME (PRINT OR TYPE)

President, Manager  
TITLE

January 9, 2026  
DATE

**BID (Cont'd.)**  
**2026 Roadway Resurfacing**  
**ORMOND BEACH, FLORIDA**

**LOCAL VENDOR PREFERENCE**

The following is taken from the Code of Ordinances, City of Ormond Beach, Chapter 2, Financial Matters, Division 3, Purchasing, Article IX, Section 2-304:

Except where otherwise provided by federal or state law or other funding source restrictions, purchases of goods and services under the Purchasing Code shall give preference to local businesses as follows:

- (a) Under a competitive bid solicitation, the City *may* give a local preference in the amount of three percent (3%) of the bid price or \$25,000, whichever is less. The bid price shall include not only the base bid price but all alternatives which are part of the bid and actually purchased or awarded.
- (b) A *local business* shall mean a vendor that has a valid occupational license issued by the City of Ormond Beach at least one year prior to bid opening, with a physical business address located within the municipal boundaries of the City of Ormond Beach from which the vendor operates or performs business on a day-to-day basis that is a substantial component of the goods or services being offered and has provided a Local Vendor Affidavit of Eligibility at the time the bid is submitted.
- (c) A *Local Vendor Affidavit of Eligibility* shall accompany the bid submittal to be considered valid and shall include, but not be limited to, the following information:
  - (1) A physical business and location address;
  - (2) A copy of current City of Ormond Beach Local Business Tax Receipt (occupational license) to verify the business location;
  - (3) Proof of payment of business tax and real property tax due to the City of Ormond Beach;
  - (4) A copy of the firm's most recent annual corporation report to the Florida Division of Corporations;
  - (5) Any additional information necessary to verify local status.
- (d) *Exemptions:* Goods or services provided under a cooperative purchasing agreement, contracts for professional services subject to Consultants' Competitive Negotiation Act, purchases or contracts funded in whole or part by a governmental entity that does not allow local preferences, purchases made under another agency's agreements or contracts (piggybacking), purchases under emergency or sole source situations and procurements subject to formal proposals including but not limited to request for proposals (RFP) or continuing contract, and request for quotes (RFQ) versus straight competitive bids.
- (e) This section shall not be deemed to require the granting of a local preference, and nothing herein prohibits the award of a contract to a non-local vendor where such award is in the public interest.

## **LOCAL VENDOR AFFIDAVIT OF ELIGIBILITY**



**BID (Cont'd.)**  
**2026 Roadway Resurfacing**  
**ORMOND BEACH, FLORIDA**

**VERIFICATION OF EMPLOYMENT STATUS USING E-VERIFY SYSTEM**

1. Undersigned firm warrants it **IS** currently registered with the U.S. Department of Homeland Security's E-Verify system, **and** is compliant with the requirements of Sections 448.09 and 448.095, *Florida Statutes*.
2. Undersigned firm warrants it **has not** had any contracts terminated as a result of violations of Sections 448.09 or 448.095, *Florida Statutes*, that prohibit it from contracting with a public agency.
3. Undersigned firm warrants that if it enters into an agreement with a subcontractor, an express provision shall be included in all of its subcontracts requiring subcontractors, who perform work or provide services pursuant to the contract, to use the E-Verify system to verify employment eligibility of all new employees hired by the subcontractor during the contract term.
4. Undersigned firm understands that any subcontractor must provide the contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien, and the contractor understands it shall maintain any such affidavits for the duration of the contract, and the contract with the subcontractor must be immediately terminated if the City has a good faith belief that the subcontractor knowingly violated Section 448.09 (1), *Florida Statutes*.
5. Undersigned firm understands that in the event the City has a good faith belief that the contractor has knowingly violated Section 448.09 (1), *Florida Statutes*, the City shall terminate the contract, and the contractor may not be awarded a public contract for a period of at least one (1) year after the date of termination. The contractor may be held liable for any additional costs incurred by the City as a result of termination of the contract.

Sparks Concrete LLC dba: Sparks Concrete & Asphalt

COMPANY NAME

  
AUTHORIZED SIGNATURE

William Sparks

NAME (PRINT OR TYPE)

President, Manager

TITLE

January 9, 2026

DATE

**BID (Cont'd.)**  
**2026 Roadway Resurfacing**  
**ORMOND BEACH, FLORIDA**

**AFFIDAVIT OF COMPLIANCE WITH SECTION 287.138, FLORIDA STATUTES  
CONTRACTING WITH FOREIGN ENTITIES OF CONCERN**

The undersigned ("Affiant"), on behalf of the entity listed below ("Entity"), hereby attests under penalty of perjury as follows:

1. Affiant is the President, Manager of Sparks Concrete LLC dba: Sparks Concrete & Asphalt  
(Title) (Business Name)  
which does business in the State of Florida, hereinafter called the "Entity".
2. Entity is not owned by the government of a foreign country of concern, as defined in Section 287.138 (1) (c), Florida Statutes.
3. The government of a foreign country of concern does not have a controlling interest in Entity, as defined in Section 287.138 (1)(a), Florida Statutes.
4. Entity is not organized under the laws of, and does not have a principal place of business in, a foreign country of concern.
5. Entity is not owned or controlled by the government of a foreign country of concern.
6. For purposes of this affidavit, a foreign country of concern means the People's Republic of China, the Russian Federation, the Islamic Republic of Iran, the Democratic People's Republic of Korea, the Republic of Cuba, the Venezuelan regime of Nicolas Maduro, or the Syrian Arab Republic, including any agency of or any other entity of significant control of such foreign country of concern, as defined in Section 287.138(1)(c), Florida Statutes.

The undersigned is authorized to execute this affidavit on behalf of the Entity.

Date: January 9, 20 26 Signed: William Sparks

Title: President, Manager Print Name: William Sparks

Entity: Sparks Concrete LLC dba: Sparks Concrete & Asphalt

STATE OF: FLORIDA COUNTY OF: FLAGLER

The foregoing instrument was acknowledged before me by means of ☒ physical presence or

☐ online notarization, this 9<sup>th</sup> day of January, 20 26,

by William Sparks and who:

☒ is personally known to me; or ☐ has produced \_\_\_\_\_  
as identification.

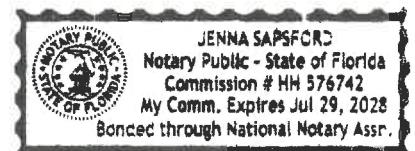
Notary Public, State of Florida at Large:

(seal)

Printed Name/Seal of Notary, Commission

My commission expires: July 29, 2028

**This page must be completed & notarized.**



**BID (Cont'd.)**  
**2026 Roadway Resurfacing**  
**ORMOND BEACH, FLORIDA**

**HUMAN TRAFFICKING AFFIDAVIT**  
**(SECTION 787.06, FLORIDA STATUTES)**

STATE OF FLORIDA

COUNTY OF FLAGLER

The undersigned ("Affiant"), on behalf of the entity listed below ("Entity"), after being duly sworn, hereby attests as follows:

1. My name is William Sparks. I am over the age of Twenty-One years old. I am the President, Manager of Sparks Concrete LLC dba: Sparks Concrete & Asphalt, a  
(Title) (Business Name)  
non-governmental entity which does business in the State of Florida, hereinafter called the "Entity."
2. I have personal knowledge of each and every statement of fact contained herein, and each and every statement of fact is true and correct.
3. Entity does not use coercion, as defined in Section 787.06, Florida Statutes, for labor or services.
4. The undersigned is an officer or representative of the entity and is authorized to execute this affidavit on behalf of the Entity.
5. Under penalties of perjury, I declare that I have read the foregoing Human Trafficking Affidavit and that the facts stated herein are true.

Date: January 9, 2026 Signature: [Signature]

Print Name: William Sparks

Title: President, Manager

The foregoing instrument was acknowledged before me by means of ☒ physical presence or

☐ online notarization, this 9th day of January, 2026.

by William Sparks and who:

☒ Is personally known to me; or ☐ has produced —  
as identification.

[Signature]  
Notary Public, State of Florida at Large:

Printed Name/Seal of Notary, Commission

(seal)

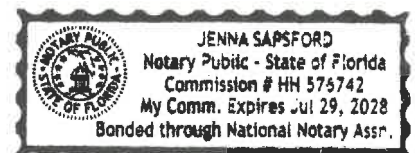
My commission expires: July 29, 2028

**This page must be completed & notarized.**

**END OF BID**

**00300-17**

Revised 1/15/25



SECTION 00410  
BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we

Sparks Concrete, LLC, 3060 Steel Rail Dr., Bunnell, FL 32110

(hereinafter called *Principal*) and

Merchants Bonding Company (Mutual), PO Box 14498, Des Moines, IA 50306-3498

(hereinafter called the *Surety*) a corporation chartered and existing under the Laws of the State of IA

with its principal offices in the County of Polk County, IA, and authorized to do business in the State of Florida, in the full and just

sum of Five Percent of Amount Bid ----- Dollars (\$ -----5%-----)

good and lawful money of the United States of America, to be paid upon demand of the City of Ormond Beach, Florida, to which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, and assigns, jointly and severally and firmly by these presents,

**WHEREAS**, the Principal is about to submit, or has submitted to the City of Ormond Beach, Florida, a bid for work to be done on the **2026 Roadway Resurfacing (Bid No. 2026-08)** in, and for the City and,

**WHEREAS**, the Principal desires to file this bond in accordance with law, in lieu of a certified or cashier's check otherwise required to accompany this Bid.

**NOW, THEREFORE:** the conditions of this obligation are such that if the Bid be accepted the Principal shall within ten (10) days after the receipt of notification of the acceptance thereof execute a contract in accordance with the Bid and upon the terms, conditions and unit or lump sum prices set forth therein, in the form and manner required by the Owner, and execute a sufficient and satisfactory Contract Bond payable to the Owner, in an amount not less than the total contract price, as indicated by the approximate quantities shown in the Bid, in form and with security satisfactory to the said City, then this obligation to be void; otherwise to be and remain in full force and virtue in law; and the Surety shall upon the failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to the aforesaid City upon demand the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

**IN TESTIMONY WHEREOF**, the Principal and Surety have caused these presents to be duly signed and sealed this 12th day January, 20 26.

Sparks Concrete, LLC

(Principal)

By:



ATTEST:

Susan L. Reich

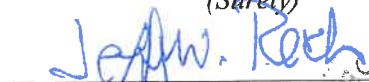
(SEAL)



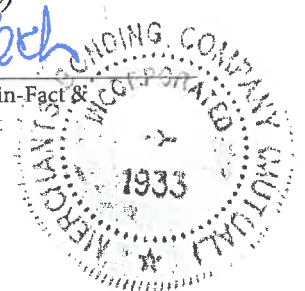
Merchants Bonding Company (Mutual)

(Surety)

By:



Jeffrey W. Reich, Attorney-in-Fact &  
FL Licensed Resident Agent  
Inquiries: 407-786-7770



END OF SECTION  
00410 - 1

**MERCHANTS**  
**BONDING COMPANY™**  
**POWER OF ATTORNEY**

Know All Persons By These Presents, that MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., both being corporations of the State of Iowa, d/b/a Merchants National Indemnity Company (in California only) (herein collectively called the "Companies") do hereby make, constitute and appoint, individually,

Cheryl A Foley; Emily J Golecki; Jeffrey W Reich; Kim E Niv; Lisa A Roseland; Nathan K Reich; Robert P Olinn; Sarah K Olinn; Sonja Amanda Floree Harris; Susan L Reich; Teresa L Durham

their true and lawful Attorney(s)-in-Fact, to sign its name as surety(ies) and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

This Power-of-Attorney is granted and is signed and sealed by facsimile under and by authority of the following By-Laws adopted by the Board of Directors of Merchants Bonding Company (Mutual) on April 23, 2011 and amended August 14, 2015 and April 27, 2024 and adopted by the Board of Directors of Merchants National Bonding, Inc., on October 16, 2015 and amended on April 27, 2024.

"The President, Secretary, Treasurer, or any Assistant Treasurer or any Assistant Secretary or any Vice President shall have power and authority to appoint Attorneys-in-Fact, and to authorize them to execute on behalf of the Company, and attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof."

"The signature of any authorized officer and the seal of the Company may be affixed by facsimile or electronic transmission to any Power of Attorney or Certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the Company, and such signature and seal when so used shall have the same force and effect as though manually fixed."

In connection with obligations in favor of the Florida Department of Transportation only, it is agreed that the power and authority hereby given to the Attorney-in-Fact includes any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts required by the State of Florida Department of Transportation. It is fully understood that consenting to the State of Florida Department of Transportation making payment of the final estimate to the Contractor and/or its assignee, shall not relieve this surety company of any of its obligations under its bond.

In connection with obligations in favor of the Kentucky Department of Highways only, it is agreed that the power and authority hereby given to the Attorney-in-Fact cannot be modified or revoked unless prior written personal notice of such intent has been given to the Commissioner-Department of Highways of the Commonwealth of Kentucky at least thirty (30) days prior to the modification or revocation.  
In Witness Whereof, the Companies have caused this instrument to be signed and sealed this 24th day of March, 2025.



**MERCHANTS BONDING COMPANY (MUTUAL)**  
**MERCHANTS NATIONAL BONDING, INC.**  
d/b/a MERCHANTS NATIONAL INDEMNITY COMPANY

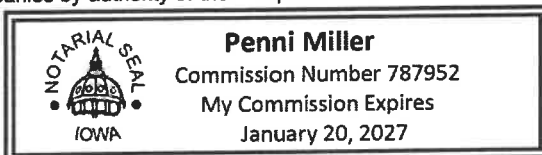
By

*Larry Taylor*

President

STATE OF IOWA  
COUNTY OF DALLAS ss.

On this 24th day of March, 2025, before me appeared Larry Taylor, to me personally known, who being by me duly sworn did say that he is President of MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC.; and that the seals affixed to the foregoing instrument are the Corporate Seals of the Companies; and that the said instrument was signed and sealed in behalf of the Companies by authority of their respective Boards of Directors.



(Expiration of notary's commission does not invalidate this instrument)

I, Elisabeth Sandersfeld, Secretary of MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., do hereby certify that the above and foregoing is a true and correct copy of the POWER-OF-ATTORNEY executed by said Companies, which is still in full force and effect and has not been amended or revoked.

In Witness Whereof, I have hereunto set my hand and affixed the seal of the Companies on this 12th day of January, 2026.



*Atta B. Smith*

Secretary

| Name             | FrSegment         | ToSegment                | Length |
|------------------|-------------------|--------------------------|--------|
| TOMOKA OAKS BLVD | N. NOVA RD        | TOMOKA OAKS COUNTRY CLUB | 810    |
| CHOCTAW TRL      | IROQUOIS TRL (SW) | IROQUOIS TRL             | 1177   |
| CHOCTAW TRL      | IROQUOIS TRL (NE) | IROQUOIS TRL             | 1615   |
| IROQUOIS TRL     | MAIN TRL          | S. ST. ANDREWS DR        | 2631   |
| FLEMING AVE      | S. CENTER ST      | LAUREL DR                | 3600   |
| SHELLY WAY       | WINDING WOODS TRL | MARJORIE TRL             | 486    |
| PLAZA GRANDE     | CORDOVA AVE       | S. RIDGEWOOD AVE         | 407    |
| W OCEAN TER      | N. HALIFAX DR     | JOHN ANDERSON DR         | 700    |
| SUNDANCE TRL     | OAK DR            | N. HALIFAX DR            | 664    |

2.289773





**Bid Number: 2026-08**

[illegible]

*[Handwritten signature]*

Submittals received timely as of the above  
tion, if any, are hereby rejected as late.

  
Opened by: Lane Carter

Page 385 of 1348



**City of Ormond Beach**  
**City Commission Agenda**  
**Staff Report**

|                                 |                                                                                                                                    |                 |                      |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------|
| <b>Agenda Date</b>              | February 17, 2026                                                                                                                  | <b>Item No</b>  | 7.F.                 |
| <b>Section</b>                  | CONSENT AGENDA                                                                                                                     | <b>Category</b> | Consent - Resolution |
| <b>Subject</b>                  | Work Authorization - Water Treatment Plant Aerator Structure Rehabilitation, SGS Contracting Services                              |                 |                      |
| <b>Recommended Action</b>       | Staff recommends approval of the Work Authorization for the WTP Aerator Structure Rehabilitation to SGS Contracting Services, Inc. |                 |                      |
| <b>Strategic Goal</b>           | Water Quality & The Environment - Other                                                                                            |                 |                      |
| <b>Department Staff Contact</b> | Public Works - Utilities Management<br>Bob Preis, Public Works Operations Manager                                                  |                 |                      |

Summary

This is a request to approve a Work Authorization with SGS Contracting Services, Inc. for services related to the Water Treatment Plant (WTP) Aerator Structure Rehabilitation.

On January 21, 2021, Resolution 2021-38 authorized design services with McKim & Creed for the rehabilitation of various components at the WTP. Only 2 bids were received, and the lowest bid submitted had a project cost value of \$3,643,710, which was well over the established budget of \$2,000,000. The bids were rejected and staff requested McKim & Creed to redesign the project to more appropriately align with the established budget. A redesign work authorization with McKim & Creed was approved by the City Commission on February 6, 2024, under Resolution 2024-13.

Staff worked with McKim & Creed to identify the most critical elements of the project, predominately located at the aerator structure. On January 14, 2025, staff received the completed revised plan documents with an engineer cost estimate of \$3,119,760. This estimate unfortunately was still above the established budget.

Over the past 10 months, staff has completed (in-house) the majority of the electrical and instrumentation work shown on the drawings at a cost of \$85,000 for materials. Upon completion of these items, staff reached out to SGS Contracting Services, Inc. to obtain a revised quote. SGS is one of the City's 6 underground utility contractors on continuing contracts approved by the City Commission on September 17, 2025, by Resolution 2025-147.



On September 17, 2025, staff presented to Commission a list of contractors recommended for approval as Construction Manager at Risk (CM@R) for Utility projects, included in this list was SGS Contracting Services, Inc. The use of contractors through the CM@R program allows the city to select from vetted contractors who in any instances have proven to provide high quality service to the city in a manner that works within the city's budget. Staff selected SGS for this project since they have extensive experience with the City's treatment plants, which allows them to provide well-suited, economical construction management services. Additionally, the proposed mechanical work efforts require coordinating multiple shutdowns of the plant. The Work Authorization provides the ability to address the critical needs at the water treatment plant through a trusted contractor skilled at performing the necessary mechanical work beyond staff's capabilities. Staff recommends awarding the base project items along with alternative items 18A, 18B, 18C, and 19. The total cost for these items is \$1,422,000.

This work authorization specifically excludes the replacement of switchboard DP-7 in the aerator building from this Work Authorization. Staff is preparing a separate bid to engage the services of an outside electrical contractor to perform this task/ Staff estimates the replacement of the DP-7 switchboard will cost approximately \$150,000.

#### Financial Impact

Funding of \$1,422,000 is available from the 2024 bond issue. A budget amendment in Fund (446)-2024 Water & Wastewater Bond Fund will be required.

#### Citizen Impact

Scheduling priority-based repairs at the City's WTP provides for reliable drinking water systems for the City's utility customers.

#### Attachments

1. 26-21 WTP Aerator Rehab-SGS (P25-0199G)
2. SGS Work Auth
3. WTP Aerator Structure Rehabilitation - Specifications
4. WTP AERATOR STRUCTURE REHABILITATION - Commission

## **RESOLUTION NO. 2026-21**

A RESOLUTION ACCEPTING A PROPOSAL FROM SGS CONTRACTING SERVICES, INC. TO PROVIDE UNDERGROUND UTILITY CONSTRUCTION MANAGEMENT SERVICES REGARDING THE WATER TREATMENT PLANT AERATOR STRUCTURE REHABILITATION PROJECT; AUTHORIZING THE EXECUTION OF A WORK AUTHORIZATION THERETO; AND SETTING FORTH AN EFFECTIVE DATE.

**WHEREAS**, the City solicited a proposal from SGS Contracting Services, Inc., a firm under continuing contract with the City, to provide underground utility construction management services regarding the water treatment plant aerator structure rehabilitation project (“the Project”) in accordance with the provisions of Section 2-300(c) of the *Code of Ordinances*, and

**WHEREAS**, the appropriate City staff have reviewed the proposal received and determined that the proposal submitted by SGS Contracting, Inc. to provide underground utility construction management services for the aforescribed project at a cost not to exceed \$1,422,000.00 is in the best overall interest of the City, and recommends that the said proposal (a copy being attached to the Work Authorization which is attached hereto and incorporated herein by reference) be accepted, and

**WHEREAS**, the City Commission concurs in the said determination and recommendation, and

**WHEREAS**, the City Manager has certified that the money for the payment of the Project has been deposited to the credit of the Water & Wastewater Bond Fund (446) and has not been appropriated for any other purpose, now therefore,

**BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:**

**SECTION ONE.** The proposal submitted by SGS Contracting Services, Inc. to provide underground utility construction management services regarding the water treatment plant aerator structure rehabilitation project at a cost not to exceed \$1,422,000.00 is hereby accepted.

**SECTION TWO.** The Mayor and the City Manager are hereby authorized and directed to execute a Work Authorization between the City and SGS Contracting Services, Inc. to provide construction management services for the Project at the said price, and to pay the cost therefor from the Water & Wastewater Bond Fund.

**SECTION THREE.** This Resolution shall take effect immediately upon its adoption.

**APPROVED AND AUTHENTICATED this 17<sup>th</sup> day of February 2026.**

---

**JASON LESLIE**  
Mayor

**ATTEST:**

---

**SUSAN CARROLL DAUDERIS**  
City Clerk

## WORK AUTHORIZATION

In accordance with and incorporating the terms of the Contract for Underground Utility Construction Management Services on a Continuing Basis dated September 17, 2025, between the City of Ormond Beach, Florida, and SGS Contracting Services, Inc., the following Scope of Work and Schedule of Payments are agreed to by the parties to the Agreement:

Project Title: Water Treatment Plant Aerator Structure Rehabilitation

Project Description: All labor, equipment, and materials necessary to: demolish and dispose of existing aerators, ancillary equipment/piping, and pumps in aerator transfer pump room; furnish and install two new cascade tray aerators and piping, new piping system, and new overhead crane; install new city-purchased pumps on existing bases; and electrically disconnect/reconnect pumps and connect new overhead crane, as detailed in the attached proposal dated November 18, 2025.

Estimated Project Construction Cost: \$2,000,000

### Schedule of Payments and Fee Basis

| Required Work Task                  | Fee Basis                       | Fee                   |
|-------------------------------------|---------------------------------|-----------------------|
| WTP Aerator Rehabilitation          | Fixed Fee                       | \$1,357,000.00        |
| Painting – Transfer Pump Room Floor | Fixed Fee                       | \$10,000.00           |
| Painting – Transfer Pump Room       | Fixed Fee                       | \$21,000.00           |
| Painting - Exterior                 | Fixed Fee                       | \$24,000.00           |
| Grating Replacement                 | Fixed Fee                       | \$10,000.00           |
| <b>Total Fee Authorized:</b>        | <b>Guaranteed Maximum Price</b> | <b>\$1,422,000.00</b> |

Funding Source: W&WW Bonds Fund (446)

Estimated Time for Completion: 52 Weeks from Authorization to Proceed (includes 36 weeks for material procurement)

AUTHORIZED:  
CITY OF ORMOND BEACH

ACCEPTED:  
SGS CONTRACTING SERVICES, INC.

By: \_\_\_\_\_  
Jason Leslie  
Mayor

By: \_\_\_\_\_  
Seth G. Simmons  
President

Date: \_\_\_\_\_

Date: \_\_\_\_\_

By: \_\_\_\_\_  
Joyce A. Shanahan  
City Manager

Date: \_\_\_\_\_

## **I. COMPLIANCE WITH FLORIDA PUBLIC RECORDS LAW**

Contractor expressly agrees that it shall comply with the public records law provided in Florida Statutes, Chapter 119, and specifically to:

- (a) Keep and maintain public records required by the City to perform the contracted service.
- (b) Upon request from the City Clerk, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law.
- (c) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to the City.
- (d) Upon completion of the contract transfer, at no cost to the City, all public records in possession of the contractor or keep and maintain public records required by the City to perform the service. If the contractor transfers all public records to the City upon completion of the contract, the contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon the completion of the contract, the contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City Clerk, in a format that is compatible with the information technology systems of the City.
- (e) Failure of the Contractor to comply with Public Records Law as provided by Florida Statutes, Chapter 119, shall subject the Contractor to penalties under Chapter 119.10 and subject this Agreement to termination for cause by the City.

**IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:**

**CITY CLERK  
22 SOUTH BEACH STREET  
ORMOND BEACH, FLORIDA 32174 (386) 610-0400  
[CITYCLERK@ORMONDBEACH.ORG](mailto:CITYCLERK@ORMONDBEACH.ORG)**

Ref: Fla. Stat. §119.0701(2016)

## **II. VERIFICATION OF EMPLOYMENT STATUS USING E-VERIFY SYSTEM**

- 1. Section 448.09, *Florida Statutes*, makes it unlawful for any person to knowingly employ, hire, recruit, or refer, either for herself or himself, or on behalf of another, for private or public employment within the state, an alien who is not duly authorized to work in the United States. Contractor warrants that it is registered with the U.S. Department of Homeland Security's E-Verify system, and is compliant with the requirements of Sections 448.09 and 448.095, *Florida Statutes*.
- 2. Contractor agrees that if the contractor enters into an agreement with a subcontractor, the subcontractor must provide the contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien, and contractor warrants it shall maintain any such affidavits for the duration of the contract. If the City has a good faith belief that a subcontractor knowingly violated Section 448.09 (1), the City shall promptly notify the contractor and order the contractor to immediately terminate the contract with the subcontractor.
- 3. In the event the City has a good faith belief that the contractor has knowingly violated Section 448.09 (1), *Florida Statutes*, the City shall terminate the contract, and as provided by statute, the contractor may not be awarded a public contract for at least one (1) year after the date of termination. The contractor may also be held liable for any additional costs incurred by the City as a result of the termination of the contract.



## SGS CONTRACTING SERVICES, INC.

Date: 11-18-2025

Contract: City of Ormond Beach Underground Utility Construction Management Services on a Continuing Basis  
CMAR Request: **WTP Aerator Project**

As requested by the City of Ormond Beach (email dated 09/22/2025) and in accordance with the aforementioned contract, we are pleased to provide a quote for the **WTP Aerator Project**, as detailed herein.

---

### **Scope of Work:**

1. Demolish and dispose of existing aerators and ancillary equipment, piping.
2. Furnish and install two (2) new cascade tray aerators, in accordance with the specifications/drawings and per the attached Technical Proposal from WesTech. Includes new 8" thick concrete pad for aerators, as shown on drawings.
3. Furnish and install new piping for new aerators.
4. Demolish and dispose existing pumps and piping in aerator transfer pump room.
5. Install new pumps (provided by City) on existing bases. Includes demolition and replacement of existing pump bases.
6. Furnish and install new piping system, as shown on the drawings.
7. Furnish and install new overhead crane, as shown on the drawings.
8. Provide protective coatings for all new pipe installed.
9. Electrically disconnect/re-connect pumps. Electrically connect new overhead crane.

The following items are understood to be provided by others and/or are expressly excluded from this proposal:

- Purchase/procurement of pumps **AND** startup/testing services for pumps.
- Bacteriological testing and clearance of new piping, pumps, aerator, etc. (this proposal includes disinfection only and assumes that City staff can handle sampling/testing/clearance protocols).
- Groundwater dewatering for when the aerator structure is out of service.

Please note the following additional considerations:

- This proposal **DOES NOT** include the temporary panelboard in the MCC, any new MCC components, electrical power devices, new DP-7 panel, and/or any SCADA work.
- This proposal **DOES NOT** include any provisions for shutdown/bypassing as related to replacement of the aerators and associated work. It does include pumping of water from Aerator structure if the additive alternate interior rehab item is selected.
- This proposal **DOES** include accommodations for shutdown/isolation of transfer pumps, as detailed on sheets M01.5 and M01.6. Temporary bypass pump to allow uninterrupted service **IS NOT** included.
- This proposal **DOES NOT** include a preliminary or final survey.

- For coating system 20HS-2, as specified for rehab of the aerator structure interior, is not included in the specifications. System 20HS-1 is included. Tnemec Series 20HS is no longer available. This proposal includes a modified system for this application that is of comparable spec.

**Schedule:**

- Material Procurement – 34 to 36 weeks\* after issuance of PO (see WesTech proposal lead times)
- Project Execution – 12 weeks\*
- Total Proposed Contract Time – 48 to 52 weeks

(\*) note that work related to pumps can begin earlier, but aerator lead time dictates overall contract length

**Pricing Section:**

| <b>ORMOND BEACH WTP AERATOR PROJECT</b> |                                                           |     |      |                       |                       |
|-----------------------------------------|-----------------------------------------------------------|-----|------|-----------------------|-----------------------|
| ITEM                                    | DESCRIPTION                                               | QTY | UNIT | UNIT PRICE            | EXT PRICE             |
| 1                                       | MOBILIZATION/DEMOBLIZATION                                | 1   | LS   | \$30,000.00           | \$30,000.00           |
| 2                                       | SURVEY & LAYOUT - N/A                                     |     |      |                       |                       |
| 3                                       | BACTEROLOGICAL CLEARANCE - N/A                            |     |      |                       |                       |
| 4                                       | EROSION & SEDIMENTATION CONTROL - N/A                     |     |      |                       |                       |
| 5                                       | SUBMIT CERTIFIED AS-BUILT DRAWINGS - N/A                  |     |      |                       |                       |
| 6                                       | PERMIT FEES & ALLOWANCES                                  | 1   | LS   | \$100,000.00          | \$100,000.00          |
| 7                                       | COORDINATION WITH CITY FOR BYPASS OF AERATOR STRUCTURE    | 1   | LS   | \$1,000.00            | \$1,000.00            |
| 8                                       | CONSTRUCT NEW HANDRAIL                                    | 1   | LS   | \$5,000.00            | \$5,000.00            |
| 9                                       | DEMO AERATORS & ASSOCIATED EQUIPMENT                      | 1   | LS   | \$35,000.00           | \$35,000.00           |
| 10                                      | FURNISH & INSTALL NEW AERATORS                            | 1   | LS   | \$684,000.00          | \$684,000.00          |
| 11                                      | REMOVE & REPLACE PUMPS                                    | 1   | LS   | \$57,000.00           | \$57,000.00           |
| 12                                      | REMOVE & REPLACE VALVES & FITTINGS IN PUMP ROOM           | 1   | LS   | \$325,000.00          | \$325,000.00          |
| 13                                      | FURNISH & INSTALL BRIDGE CRANE                            | 1   | LS   | \$100,000.00          | \$100,000.00          |
| 14                                      | PAINT AERATOR TRANSFER PUMP ROOM (SEE ADD ALT NOTE BELOW) | 1   | LS   | \$20,000.00           | \$20,000.00           |
| 15                                      | REMOVE & REPLACE ELECTRICAL EQUIPMENT - N/A (BY CITY)     |     |      |                       |                       |
| 16                                      | REMOVE & REPLACE 24" VENTURI METERS - N/A (BY CITY)       |     |      |                       |                       |
| 17                                      | REMOVE & REPLACE 16" VENTURI METERS - N/A (BY CITY)       |     |      |                       |                       |
|                                         |                                                           |     |      |                       |                       |
|                                         |                                                           |     |      |                       |                       |
|                                         | <b>SUBTOTAL</b>                                           | 1   | LS   |                       | <b>\$1,357,000.00</b> |
|                                         |                                                           |     |      |                       |                       |
|                                         | <b>ADDITIVE ALTERNATES:</b>                               |     |      | <b>TOTAL OF ALTS:</b> | <b>\$372,000.00</b>   |
| 18A                                     | PAINTING OF TRANSFER PUMP ROOM FLOOR                      | 1   | LS   | \$10,000.00           | \$10,000.00           |
| 18B                                     | PAINTING OF INTERIOR OF TRANSFER PUMP ROOM                | 1   | LS   | \$21,000.00           | \$21,000.00           |

|     |                                                                |   |    |              |              |
|-----|----------------------------------------------------------------|---|----|--------------|--------------|
| 18C | PAINTING OF EXTERIOR OF TRANSFER PUMP ROOM & AERATOR STRUCTURE | 1 | LS | \$24,000.00  | \$24,000.00  |
| 19  | REHAB INTERIOR OF AERATOR STRUCTURE                            | 1 | LS | \$307,000.00 | \$307,000.00 |
|     | GRATING REPLACEMENT IN PUMP ROOM                               | 1 | LS | \$10,000.00  | \$10,000.00  |
|     |                                                                |   |    |              |              |

Note Regarding Pay Items:

- Items 2 through 5 are deemed "N/A" for this project (or are provided by others), and as such are not included with the pricing.
- Item 14 includes painting of all pipes, but excludes coatings shown in the Additive Alternate section
- Item 15 is shown as "N/A", based on work already performed by City. The electrical work associated with the pumps and crane are included in those respective pay items.

Proposal Submitted By:

Seth G Simmons, President



| ORMOND BEACH WTP AERATOR PROJECT |                                                                   |                            |            |                   |                  |          |             |
|----------------------------------|-------------------------------------------------------------------|----------------------------|------------|-------------------|------------------|----------|-------------|
| ITEM                             | DESCRIPTION                                                       | Unit (CREW<br>Hours/Weeks) | Labor Cost | Equipment<br>Cost | Material<br>Cost | Sub Cost | Total Price |
| 1                                | MOBILIZATION/DEMOBLIZATION                                        | 52 Weeks                   | \$30,000   | \$0               | \$0              | \$0      | \$30,000    |
| 2                                | SURVEY & LAYOUT - N/A                                             |                            |            |                   |                  |          |             |
| 3                                | BACTEROLOGICAL CLEARANCE - N/A                                    |                            |            |                   |                  |          |             |
| 4                                | EROSION & SEDIMENTATION CONTROL - N/A                             |                            |            |                   |                  |          |             |
| 5                                | SUBMIT CERTIFIED AS-BUILT DRAWINGS - N/A                          |                            |            |                   |                  |          |             |
| 6                                | PERMIT FEES & ALLOWANCES                                          |                            |            |                   |                  |          | \$100,000   |
| 7                                | COORDINATION WITH CITY FOR BYPASS OF AERATOR<br>STRUCTURE         | 2 HRS                      | \$1,000    | \$0               | \$0              | \$0      | \$1,000     |
| 8                                | CONSTRUCT NEW HANDRAIL                                            | 5 HRS                      | \$3,500    | \$0               | \$1,500          | \$0      | \$5,000     |
| 9                                | DEMO AERATORS & ASSOCIATED EQUIPMENT                              | 30 HRS                     | \$28,000   | \$2,000           | \$5,000          | \$0      | \$35,000    |
| 10                               | FURNISH & INSTALL NEW AERATORS                                    | 120 HRS                    | \$115,000  | \$10,000          | \$551,000        | \$8,000  | \$684,000   |
| 11                               | REMOVE & REPLACE PUMPS                                            | 40 HRS                     | \$38,000   | \$2,000           | \$17,000         | \$0      | \$57,000    |
| 12                               | REMOVE & REPLACE VALVES & FITTINGS IN PUMP ROOM                   | 80 HRS                     | \$76,000   | \$4,000           | \$245,000        | \$0      | \$325,000   |
| 13                               | FURNISH & INSTALL BRIDGE CRANE                                    | 10 HRS                     | \$9,500    | \$500             | \$90,000         | \$0      | \$100,000   |
| 14                               | PAINT AERATOR TRANSFER PUMP ROOM (SEE ADD ALT<br>NOTE BELOW)      | 5 HRS                      | \$2,000    | \$0               | \$0              | \$18,000 | \$20,000    |
| 15                               | REMOVE & REPLACE ELECTRICAL EQUIPMENT - N/A (BYCITY)              |                            |            |                   |                  |          |             |
| 16                               | REMOVE & REPLACE 24" VENTURI METERS - N/A (BY CITY)               |                            |            |                   |                  |          |             |
| 17                               | REMOVE & REPLACE 16" VENTURI METERS - N/A (BY CITY)               |                            |            |                   |                  |          |             |
|                                  |                                                                   |                            |            |                   |                  |          |             |
|                                  |                                                                   |                            |            |                   |                  |          |             |
|                                  | SUBTOTAL                                                          |                            |            |                   |                  |          | \$1,357,000 |
|                                  |                                                                   |                            |            |                   |                  |          |             |
|                                  | ADDITIVE ALTERNATES:                                              |                            |            |                   |                  |          |             |
| 18A                              | PAINTING OF TRANSFER PUMP ROOM FLOOR                              | 2 HRS                      | \$1,000    | \$0               | \$0              | \$9,000  | \$10,000    |
| 18B                              | PAINTING OF INTERIOR OF TRASNFER PUMP ROOM                        | 4 HRS                      | \$2,000    | \$0               | \$0              | \$19,000 | \$21,000    |
| 18C                              | PAINTING OF EXTERIOR OF TRANSFER PUMP ROOM &<br>AERATOR STRUCTURE | 6 HRS                      | \$3,000    | \$0               | \$0              | \$21,000 | \$24,000    |
| 19                               | REHAB INTERIOR OF AERATOR STRUCTURE (N/A)                         |                            |            |                   |                  |          |             |
|                                  | GRATING REPLACEMENT IN PUMP ROOM                                  | 10 HRS                     | \$5,000    | \$0               | \$5,000          | \$0      | \$10,000    |

# Proposal

## WTP Aerator Structure Rehabilitation

Ormond Beach, Florida

**Representative**  
Cameron Young  
Moss Kelley  
Lake Mary, Florida  
cgy@mosskelley.com  
(407) 913-7177

**Engineer**  
McKim & Creed, Inc.  
Daytona Beach, Florida

**Owner**  
City of Ormond Beach

### Contact

Mitch Matthews  
mmatthews@westechwater.com  
(801) 290-6439

Rene Carson  
rcarson@westechwater.com  
(515) 268-8443

Proposal: 2330502.F\_Rev0  
Friday, November 14, 2025

# WESTECH<sup>®</sup>

 SWIRE WATER



# Table of Contents



## Technical Proposal



Item A – Cascade Aerator, Model AWN11I



## Clarifications and Exceptions



## Commercial Proposal



Bidder's Contact Information  
Pricing  
Payment Terms  
Schedule  
Freight



## Warranty



## Terms and Conditions



## Supplemental Information



Reference Drawings





# Technical Proposal

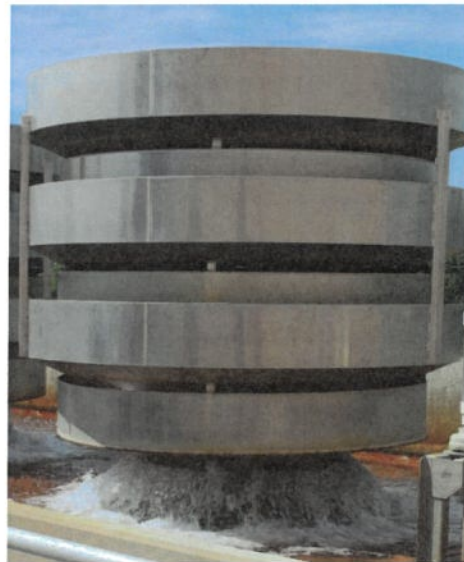
**Engineer's Reference Specification**  
**Section 1500 – Aluminum Cascade Aerators**  
**Addendum: None**

## Item A – Cascade Aerators, Model AWN11I

### Design Overview

| Parameter                           | Unit     | Value / Description                 |
|-------------------------------------|----------|-------------------------------------|
| Proposed WesTech System             | -        | Cascade Aerator, Model AWN11I       |
| Quantity                            | -        | 2                                   |
| Application                         | -        | Iron Oxidation                      |
| Design Flow Rate                    | gpm      | 5,000 Per Unit                      |
| Approximate Dimensions              | Per Unit | 10'-0" D x 9'-10" H                 |
| Estimated Shipping Weight per Unit  | lbs      | 3,110 (excludes support structure)  |
| Estimated Operating Weight per Unit | lbs      | 11,830 (excludes support structure) |

WesTech's cascade aerator includes corrosion resistant aluminum construction, eliminating the need for paint. Units are lightweight, cost effective, and have no moving parts, easing installation and minimizing maintenance. Cascade aerators utilize the natural draft of atmospheric oxygen to oxidize iron. They are ideal for high iron concentration waters (  $\geq 10$  ppm) as the open structure eliminates fouling due to iron precipitation. Other applications can include dissolved gas removal and dissolved oxygen addition at the end of tertiary treatment processes.



*Aluminum Cascade Aerator*







# Technical Proposal

## Basis of Design Information

### Water Quality

The WesTech Cascade Aerator system is designed based on the following feed water quality information:

#### Feed Water Quality\*

| Parameter                  | Unit | Value / Description |
|----------------------------|------|---------------------|
| pH                         | -    | 7.2                 |
| Sulfide                    | mg/L | 0.48                |
| Unionized H <sub>2</sub> S | mg/L | 0.18                |

\*Values are assumed and should be verified. Performance varies based on environmental conditions.

### Process Description

The natural air draft sweeps by the exposed water surface and increases the oxygen content in the water as it splashes down through a three catch-bowl design. Dissolved iron is transformed into its oxidized state, enabling it to be removed by downstream equipment. In addition, some unwanted dissolved gases (e.g., carbon dioxide, hydrogen sulfide, VOC) can be reduced to meet chemical requirements, stabilize pH, or eliminate objectionable tastes and odors.

#### System Design Constraints

| Parameter      | Value / Description                  |
|----------------|--------------------------------------|
| Wind Loads     | 5,000 lbs                            |
| Seismic Design | Risk Category III; Design Category A |





# Technical Proposal

## Scope of Supply

### Scope of Supply – Cascade Aerator System

| Item                        | Quantity | Approx. Dimensions            | NPS | Material                            |
|-----------------------------|----------|-------------------------------|-----|-------------------------------------|
| Cascade Aerator             | 2        | 10'-0" D x 9'-10" H           | 30" | Type 3000 Aluminum                  |
| Collection Pan              | 2        | 12'-0" L x 12'-6" W x 1'-8" H | 30" | 1/4" thick Type 3000 Aluminum       |
| Pan Support                 | 2        | 12'-0" L x 12'-6" W x 3'-6" H | -   | Aluminum grating with support posts |
| Wind Resisting Frame*       | 1 Lot    | -                             | -   | TBD                                 |
| Anchors, Bolts & Fasteners* | -        | By Others                     | -   | -                                   |

\*Field weldment to attach the Cascade aerator structural frame to the units may be required. Any field weldment is to be provided by the installer. Anchor bolt design and supply is not by WesTech.

## Additional Services

### On-Site Technical Assistance and Training

WesTech has not included any on-site services for this equipment due to its simplicity and general ease of installation. Any trips that the customer may request during construction, pre-commissioning, and start-up to ensure the equipment is installed and commissioned per WesTech and sub-supplier requirements can be purchased at the standard WesTech daily rates (listed on commercial proposal page below) plus travel and living expenses.





# Clarifications and Exceptions

## General Clarifications

**Terms & Conditions:** This proposal, including all terms and conditions contained herein, shall become part of any resulting contract or purchase order. Changes to any terms and conditions, including but not limited to submittal and shipment days, payment terms, and escalation clause shall be negotiated at order placement, otherwise the proposal terms and conditions contained herein shall apply.

**Escalation:** If between the proposal date and actual procurement and through no fault of the Seller, the relevant cost of labor, material, freight, tariffs, and other Seller costs combined relating to the contract, increase by greater than 2.5% of the overall contract price, then the contract price shall be subject to escalation and increased. Such increase shall be verified by documentation and the amount of contract price escalation shall be calculated as either the actual increased cost to the Seller or, if agreed by the Parties, the equivalent increase of a relevant industry recognized third-party index, and in both cases without any additional profit or margin being added.

**Build America, Buy America Act (BABAA) and Other Domestic Content Requirements:** WesTech is U.S. based and proudly manufactures many products available to meet various domestic procurement requirements. Due to variability in legislation, products, and project-based specifications, WesTech is unable to guarantee compliance with domestic content requirements unless stated otherwise in our official project proposal. For products where domestic sourcing is not currently available, WesTech can provide documentation to support application for relevant waivers (Non-Availability, De Minimis, or others).

**USA Tariffs and Current Trade Laws:** All prices are based on current USA and North America tariffs and trade laws / agreements as of January 1, 2025. Any changes in costs due to USA Tariffs and trade laws / agreements will be passed through to the purchaser at cost.

**NSF 61 Compliance:** WesTech equipment is designed to meet the standards for potable water treatment and production. Wherever possible, subcomponents will be NSF 61 certified or compliant. Larger fabricated structures will use NSF certified coatings as needed, and/or will be fabricated from NSF compliant materials.

## Exceptions

Section 11500 – Field weldment of the structural support frame may be required. All field weldment and assembly is to be provided by the installer.

Section 11500 (2.02.A) – The collection pan effluent will be 30 inches instead of the 20 inches specified.

Section 11500 (2.02.B) – Mounting hardware for influent and effluent connections are by others.





# Commercial Proposal

Proposal Name: WTP Aerator Structure Rehabilitation

Proposal Number: 2330502

Friday, November 14, 2025

## 1. Bidder's Contact Information

|                           |                            |
|---------------------------|----------------------------|
| Company Name              | WesTech Engineering, LLC   |
| Primary Contact Name      | Mitch Matthews             |
| Phone                     | (801) 265-1000             |
| Email                     | mmatthews@westechwater.com |
| Address: Number/Street    | 3665 S West Temple         |
| Address: City, State, Zip | Salt Lake City, UT 84115   |

## 2. Firm Pricing

Currency: USD

### Scope of Supply

|   |                                                              |
|---|--------------------------------------------------------------|
| A | Cascade Aerators, Model AWN11I                               |
|   | Estimated Tariffs, to be Charged at Actual Cost              |
|   | Taxes (sales, use, VAT, IVA, IGV, duties, import fees, etc.) |

Prices are valid for a period not to exceed 30 days from date of proposal.

*Purchaser is exempt from sales tax by law*

### Additional Field Service

Daily Rate (Applicable Only to Field Service Not Included in Scope)

Pricing does not include field service unless noted in scope of supply but is available at the daily rate plus expenses. The greater of a two week notice or visa procurement time is required prior to departure date. Our field service policy is subject to change and can be provided upon request.

## 3. Payment Terms

|                                                  |     |
|--------------------------------------------------|-----|
| Purchase Order Acceptance and Contract Execution | 10% |
| Submittals Provided by WesTech                   | 15% |
| Release for Fabrication                          | 35% |
| Notification of Ready to Ship                    | 40% |

All payments are net 30 days. Partial shipments are allowed. An approved Letter of Credit is required if Incoterms CIF, CFR, DAP, CIP, or CPT are applicable. Payment is required in full for all other Incoterms prior to international shipment. Other terms per WesTech proforma invoice. Please note that the advising bank must be named as: Wells Fargo Bank, International Department, 9000 Flair Drive, 3rd Floor, El Monte, California 91731, USA.

## 4. Schedule

|                                                                    |                 |
|--------------------------------------------------------------------|-----------------|
| Submittals, after Purchase Order Acceptance and Contract Execution | 10 to 12 weeks  |
| Ready to Ship, after Receipt of Final Submittal Approval           | 20 to 22 weeks  |
| Estimated Weeks to Ready to Ship                                   | 30 to 34 weeks* |

\*Customer submittal approval is typically required to proceed with equipment fabrication and is not accounted for in the schedule above. Project schedule will be extended to account for time associated with receipt of customer submittal approval. Due to supply chain disruptions and volatility, delivery schedule is a best estimate only and may be improved or hampered based on date of contract execution, scope selection, and materials availability.

## 5. Freight

|               |                                                                |                               |
|---------------|----------------------------------------------------------------|-------------------------------|
| Domestic      | FOB Shipping Point - Full Freight Allowed to Jobsite (FSP-FFA) |                               |
| From          | Final Destination                                              | Number of Trucks / Containers |
| WesTech Shops | Ormond Beach, FL                                               | TBD                           |

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SWIRE WATER

Proposal: 2330502.F\_Rev0

7





# One-Year Warranty

Equipment manufactured or sold by WesTech Engineering, LLC, once paid for in full, is backed by the following warranty:

Subject to the terms below, WesTech warrants all new equipment manufactured or sold by WesTech Engineering, LLC to be unencumbered and free from defects in material and workmanship, and WesTech will replace or repair, F.O.B. its factories or other location it chooses, any part or parts returned to WesTech which WesTech's examination and analysis determine have failed within the warranty period because of defects in material and workmanship. The warranty period is either, one calendar year immediately following start-up, or eighteen (18) months from when WesTech sent its ready-to-ship notification to the purchaser, whichever expires sooner. All repair or replacement parts qualifying under this warranty shall be free of charge. Purchaser will provide timely written notice to WesTech of any defects it believes should be repaired or replaced under this warranty. WesTech will reject as untimely any warranty defect claim that purchaser submits more than thirty (30) days after the possible warranty defect first occurred. Unless specifically stated otherwise, this warranty does not cover normal wear, consumables, or coatings. Purchasers are invited to inspect the equipment in the shop for proper surface preparation and coating application prior to shipment. This warranty is not transferable.

This warranty shall be void and shall not apply where the equipment or any part thereof

- has been dismantled, modified, repaired, or connected to other equipment, outside of a WesTech factory, or without WesTech's written approval, or
- has not been installed in complete adherence to all WesTech's or parts manufacturer's requirements, recommendations, and procedures, or
- has been subject to misuse, abuse, neglect, or accident, or has not at all times been operated and maintained in strict compliance with all of WesTech's requirements and recommendations therefor, including, but not limited to, the relevant WesTech Operations & Maintenance Manual and any other of WesTech's specified guidelines & procedures, or
- has been subject to force majeure events; use of chemicals not approved in writing by WesTech; electrical surges; overloading; significant power, water or feed supply fluctuations; or non-compliance with agreed feedwater or chemical volumes, specifications or procedures.

In any case where a part or component of equipment under this warranty is or may be faulty and the component or part is also covered under the warranty of a third party then the purchaser shall provide reasonable assistance to first pursue a claim under the third-party warranty before making a claim under this warranty from WesTech. WesTech Engineering, LLC gives no warranty with respect to parts, accessories, or components purchased other than through WesTech. The warranties which apply to such items are those offered by the respective manufacturers.

This warranty is expressly given by WesTech and accepted by purchaser in lieu of all other warranties whether written, oral, express, implied, statutory, or otherwise, including without limitation, warranties of merchantability and fitness for particular purpose. WesTech neither accepts nor authorizes any other person to assume for it any other liability with respect to its equipment. WesTech shall not be liable for normal wear and tear, corrosion, or any contingent, incidental, or consequential damage or expense due to partial or complete inoperability of its equipment for any reason whatsoever. The purchaser's exclusive and only remedy for breach of this warranty shall be the repair and or replacement of the defective part or parts within a reasonable time of WesTech's accepting the validity of a warranty claim made by the purchaser.

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 SWIRE WATER



QD-10117

2025-03-24



# Terms and Conditions

Terms and Conditions appearing in any order based on this proposal which are inconsistent herewith shall not be binding on WesTech Engineering, LLC. The sale and purchase of equipment described herein shall be governed exclusively by the foregoing proposal and the following provisions:

- 1. SPECIFICATIONS:** WesTech Engineering, LLC is furnishing its standard equipment as outlined in the proposal and as will be covered by final approved drawings. The equipment may not be in strict compliance with the Engineer's/Owner's plans, specifications, or addenda as there may be deviations. The equipment will, however, meet the general intention of the mechanical specifications of these documents.
  - 2. ITEMS INCLUDED:** This proposal includes only the equipment specified herein and does not include erection, installation, accessories, nor associated materials such as controls, piping, etc., unless specifically listed.
  - 3. PARTIES TO CONTRACT:** WesTech Engineering, LLC is not a party to or bound by the terms of any contract between WesTech Engineering, LLC's customer and any other party. WesTech Engineering, LLC's undertakings are limited to those defined in the contract between WesTech Engineering, LLC and its direct customers.
  - 4. PRICE AND DELIVERY:** All selling prices quoted are subject to change without notice after 30 days from the date of this proposal unless specified otherwise. Unless otherwise stated, all prices are F.O.B. WesTech Engineering, LLC or its supplier's shipping points. All claims for damage, delay or shortage arising from such equipment shall be made by Purchaser directly against the carrier. When shipments are quoted F.O.B. job site or other designation, Purchaser shall inspect the equipment shipped, notifying WesTech Engineering, LLC of any damage or shortage within forty-eight hours of receipt, and failure to so notify WesTech Engineering, LLC shall constitute acceptance by Purchaser, relieving WesTech Engineering, LLC of any liability for shipping damages or shortages.
  - 5. PAYMENTS:** All invoices are net 30 days. Delinquencies are subject to a 1.5 percent service charge per month or the maximum permitted by law, whichever is less on all past due accounts. Pro rata payments are due as shipments are made. If shipments are delayed by the Purchaser, invoices shall be sent on the date when WesTech Engineering, LLC is prepared to make shipment and payment shall become due under standard invoicing terms. If the work to be performed hereunder is delayed by the Purchaser, payments shall be based on the purchase price and percentage of completion. Products held for the Purchaser shall be at the risk and expense of the Purchaser. Unless specifically stated otherwise, prices quoted are for equipment only. These terms are independent of and not contingent upon the time and manner in which the Purchaser receives payment from the owner.
  - 6. PAYMENT TERMS:** Credit is subject to acceptance by WesTech Engineering, LLC's Credit Department. If the financial condition of the Purchaser at any time is such as to give WesTech Engineering, LLC, in its judgment, doubt concerning the Purchaser's ability to pay, WesTech Engineering, LLC may require full or partial payment in advance or may suspend any further deliveries or continuance of the work to be performed by the WesTech Engineering, LLC until such payment has been received.
  - 7. ESCALATION:** If between the proposal date and actual procurement and through no fault of the Seller, the relevant cost of labor, material, freight, tariffs, and other Seller costs combined relating to the contract, increase by greater than 2.5% of the overall contract price, then the contract price shall be subject to escalation and increased. Such increase shall be verified by documentation and the amount of contract price escalation shall be calculated as either the actual increased cost to the Seller or, if agreed by the Parties, the equivalent increase of a relevant industry recognized third-party index, and in both cases without any additional profit or margin being added.
  - 8. APPROVAL:** If approval of equipment submittals by Purchaser or others is required, a condition precedent to WesTech Engineering, LLC supplying any equipment shall be such complete approval.
  - 9. INSTALLATION SUPERVISION:** Prices quoted for equipment do not include installation supervision. WesTech Engineering, LLC recommends and will, upon request, make available, at WesTech Engineering, LLC's then current rate, an experienced installation supervisor to act as the Purchaser's employee and agent to supervise installation of the equipment. Purchaser shall at its sole expense furnish all necessary labor equipment, and materials needed for installation.
- Responsibility for proper operation of equipment, if not installed by WesTech Engineering, LLC or installed in accordance with WesTech Engineering, LLC's instructions, and inspected and accepted in writing by WesTech Engineering, LLC, rests entirely with Purchaser; and any work performed by WesTech Engineering, LLC personnel in making adjustment or changes must be paid for at WesTech Engineering, LLC's then current per diem rates plus living and traveling expenses.
- WesTech Engineering, LLC will supply the safety devices described in this proposal or shown in WesTech Engineering, LLC's drawings furnished as part of this order but excepting these, WesTech Engineering, LLC shall not be required to supply or install any safety devices whether required by law or otherwise. The Purchaser hereby agrees to indemnify and hold harmless WesTech Engineering, LLC from any claims or losses arising due to alleged or actual insufficiency or inadequacy of the safety devices offered or supplied hereunder, whether specified by WesTech Engineering, LLC or Purchaser, and from any damage resulting from the use of the equipment supplied hereunder.
- 10. ACCEPTANCE OF PRODUCTS:** Products will be deemed accepted without any claim by Purchaser unless written notice of non-acceptance is received by WesTech Engineering, LLC within 30 days of delivery if shipped F.O.B. point of shipment, or 48 hours of delivery if shipped F.O.B. point of destination. Such written notice shall not be considered received by WesTech Engineering, LLC unless it is accompanied by all freight bills for said shipment, with Purchaser's notations as to damages, shortages and conditions of equipment, containers, and seals. Non-accepted products are subject to the return policy stated below.
  - 11. TAXES:** Any federal, state, or local sales, use or other taxes applicable to this transaction, unless specifically included in the price, shall be for Purchaser's account.

*Purchaser is exempt from sales tax as provided by Fla. law.*

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QD-10119

2025-03-24





# Terms and Conditions

**12. TITLE:** The equipment specified herein, and any replacements or substitutes therefore shall, regardless of the manner in which affixed to or used in connection with realty, remain the sole and personal property of WesTech Engineering, LLC until the full purchase price has been paid. Purchaser agrees to do all things necessary to protect and maintain WesTech Engineering, LLC's title and interest in and to such equipment; and upon Purchaser's default, WesTech Engineering, LLC may retain as liquidated damages any and all partial payments made and shall be free to enter the premises where such equipment is located and remove the same as its property without prejudice to any further claims on account of damages or loss which WesTech Engineering, LLC may suffer from any cause.

**13. ~~INSURANCE:~~** ~~From date of shipment until the invoice is paid in full, Purchaser agrees to provide and maintain at its expense, but for WesTech Engineering, LLC's benefit, adequate insurance including, but not limited to, builders risk insurance on the equipment against any loss of any nature whatsoever.~~

**14. SHIPMENTS:** Any shipment of delivery dates recited represent WesTech Engineering, LLC's best estimate but no liability, direct or indirect, is assumed by WesTech Engineering, LLC for failure to ship or deliver on such dates.

WesTech Engineering, LLC shall have the right to make partial shipments; and invoices covering the same shall be due and payable by Purchaser in accordance with the payment terms thereof. If Purchaser defaults in any payment when due hereunder, WesTech Engineering, LLC may, without incurring any liability therefore to Purchaser or Purchaser's customers, declare all payments immediately due and payable with maximum legal interest thereon from due date of said payment, and at its option, stop all further work and shipments until all past due payments have been made, and/or require that any further deliveries be paid for prior to shipment.

If Purchaser requests postponements of shipments, the purchase price shall be due and payable upon notice from WesTech Engineering, LLC that the equipment is ready for shipment; and thereafter any storage or other charge WesTech Engineering, LLC incurs on account of the equipment shall be for the Purchaser's account.

If delivery is specified at a point other than WesTech Engineering, LLC or its supplier's shipping points, and delivery is postponed or prevented by strike, accident, embargo, or other cause beyond WesTech Engineering, LLC's reasonable control and occurring at a location other than WesTech Engineering, LLC or its supplier's shipping points, WesTech Engineering, LLC assumes no liability in delivery delay. If Purchaser refuses such delivery, WesTech Engineering, LLC may store the equipment at Purchaser's expense. For all purposes of this agreement such tender of delivery or storage shall constitute delivery.

**15. WARRANTY:** WesTech Engineering, LLC warrants equipment it supplies only in accordance with the attached WesTech Warranty. This warranty is expressly given by WesTech and accepted by purchaser in lieu of all other warranties whether written, oral, express, implied, statutory or otherwise, including without limitation, warranties of merchantability and fitness for particular purpose. WesTech neither accepts nor authorizes any other person to assume for it any other liability with respect to its equipment. WesTech shall not be liable for normal wear and tear, corrosion, or any contingent, incidental, or consequential damage or expense due to partial or complete inoperability of its equipment for any reason whatsoever. The purchaser's exclusive and only remedy for breach of this warranty shall be the repair and or replacement of the defective part or parts within a reasonable time of WesTech's accepting the validity of a warranty claim made by the purchaser.

**16. PATENTS:** WesTech Engineering, LLC agrees that it will, at its own expense, defend all suits or proceedings instituted against Purchaser and pay any award of damages assessed against it in such suits or proceedings, so far as the same are based on any claim that the said equipment or any part thereof constitutes an infringement of any apparatus patent of the United States issued at the date of this Agreement, provided WesTech Engineering, LLC is given prompt notice in writing of the institution or threatened institution of any suit or proceeding and is given full control of the defense, settlement, or compromise of any such action; and Purchaser agrees to give WesTech Engineering, LLC needed information, assistance, and authority to enable WesTech Engineering, LLC so to do. In the event said equipment is held or conceded to infringe such a patent, WesTech Engineering, LLC shall have the right at its sole option and expense to a) modify the equipment to be non-infringing, b) obtain for Purchaser the license to continue using said equipment, or c) accept return of the equipment and refund to the Purchaser the purchase price thereof less a reasonable charge for the use thereof. WesTech Engineering, LLC will reimburse Purchaser for actual out-of-pocket expenses, exclusive of legal fees, incurred in preparing such information and rendering such assistance at WesTech Engineering, LLC's request. The foregoing states the entire liability of WesTech Engineering, LLC, with respect to patent infringement; and except as otherwise agreed to in writing, WesTech Engineering, LLC assumes no responsibility for process patent infringement.

**17. SURFACE PREPARATION AND PAINTING:** If furnished, shop primer paint is intended to serve only as minimal protective finish. WesTech Engineering, LLC will not be responsible for the condition of primed or finish painted surfaces after equipment leaves its shops. Purchasers are invited to inspect paint in shops for proper preparation and application prior to shipment. WesTech Engineering, LLC assumes no responsibility for field surface preparation or touch-up of shipping damage to paint. Painting of fasteners and other touch-up to painted surfaces will be by Purchaser's painting contractor after mechanism installation.

Motors, gear motors, and other components not manufactured by WesTech Engineering, LLC will be painted with that manufacturer's standard paint system. It is WesTech Engineering, LLC's intention to ship major steel components as soon as fabricated, often before drive, motors, and other manufactured components. Unless Purchaser can ensure that shop primed steel shall be field painted within thirty (30) days after arrival at the job site, WesTech Engineering, LLC encourages the Purchaser to order these components without primer.

WesTech Engineering, LLC's prices are based on paints and surface preparations as outlined in the main body of this proposal. In the event that an alternate paint system is selected, WesTech Engineering, LLC requests that Purchaser's order advise of the paint

# Terms and Conditions

selection. WesTech Engineering, LLC will then either adjust the price as may be necessary to comply or ship the material unpainted if compliance is not possible due to application problems or environmental controls.

**18. CANCELLATION, SUSPENSION, OR DELAY:** After acceptance by WesTech Engineering, LLC, this proposal, or Purchaser's order based on this proposal, shall be a firm agreement and is not subject to cancellation, suspension, or delay except upon payment by Purchaser of appropriate charges which shall include all costs incurred by WesTech Engineering, LLC to date of cancellation, suspension, or delay plus a reasonable profit. Additionally, all charges related to storage and/or resumption of work, at WesTech Engineering, LLC's plant or elsewhere, shall be for Purchaser's sole account; and all risks incidental to storage shall be assumed by Purchaser.

**19. FORCE MAJEURE:** Neither party hereto shall be liable to the other for default or delay in delivery caused by extreme weather or other act of God, strike or other labor shortage or disturbance, fire, accident, war or civil disturbance, act of government, pandemic, delay of carriers, failure of normal sources of supply, complete or partial shutdown of plant by reason of inability to attain sufficient raw materials or power, and/or other similar contingency beyond the reasonable control of the respective parties. The time for delivery specified herein shall be extended during the continuance of such conditions, or any other cause beyond such party's reasonable control. Escalation resulting from a Force Majeure event shall be equitably adjusted per the escalation policy stated above.

**20. RETURN OF PRODUCTS:** No products may be returned to WesTech Engineering, LLC without WesTech Engineering, LLC's prior written permission. Said permission may be withheld by WesTech Engineering, LLC at its sole discretion.

**21. BACKCHARGES:** WesTech Engineering, LLC will not approve or accept backcharges for labor, materials, or other costs incurred by Purchaser or others in modification, adjustment, service, or repair of WesTech Engineering, LLC furnished materials unless such back charge has been authorized in advance in writing by a WesTech Engineering, LLC purchase order, or work requisition signed by WesTech Engineering, LLC.

~~**22. INDEMNIFICATION:** Purchaser agrees to indemnify WesTech Engineering, LLC from all costs incurred, including but not limited to court costs and reasonable attorney fees, from enforcing any provisions of this contract, including but not limited to breach of contract or costs incurred in collecting monies owed on this contract.~~

**23. ENTIRE AGREEMENT:** This proposal expresses the entire agreement between the parties hereto superseding any prior understandings, and is not subject to modification except by a writing signed by an authorized officer of each party.

**24. MOTORS AND MOTOR DRIVES:** In order to avoid shipment delays of WesTech Engineering, LLC equipment, motors and drives may be sent directly to the job site for installation by the equipment installer. Minor fit-up may be required.

**25. EXTENDED STORAGE:** Extended storage instructions will be part of information provided to shipment. If equipment installation and start-up is delayed more than 30 days, the provisions of the storage instructions must be followed to keep WARRANTY in force.

**26. LIABILITY:** Professional liability insurance, including but not limited to, errors and omissions insurance, is not included. In any event, liability for errors and omissions shall be limited to the lesser of \$100,000 USD or the value of the particular piece of equipment (not the value of the entire order) supplied by WesTech Engineering, LLC against which a claim is sought.

~~**27. ARBITRATION NEGOTIATION:** Any controversy or claim arising out of or relating to the performance of any contract resulting from this proposal or contract issued, or the breach thereof, shall be settled by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association, and judgment upon the award rendered by the arbitrator(s) may be entered to any court having jurisdiction.~~

ACCEPTED BY PURCHASER

*as amended:*

Customer Name: \_\_\_\_\_

Customer Address: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Contact Phone: \_\_\_\_\_ Contact Email: \_\_\_\_\_

Signature: \_\_\_\_\_ Printed Name: \_\_\_\_\_

Date: \_\_\_\_\_ Title: \_\_\_\_\_

**WESTECH**®

 **SWIRE WATER**

QD-10119

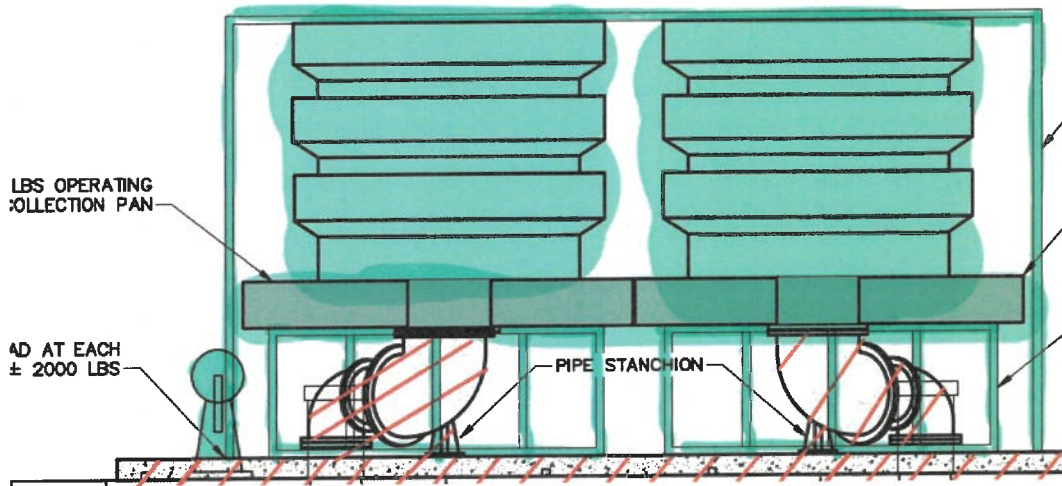
2025-03-24



# Supplemental Information

## Reference Drawings

Snip below is from plan sheet S01.2. Blue highlighted items will be provided by WesTech. Red cross-hatched items are to be provided by others.





# **WTP AERATOR STRUCTURE REHABILITATION**

**BID NO. 2025-19**



## **CITY OF ORMOND BEACH**

PREPARED BY:

McKim & Creed, Inc.  
139 Executive Circle, Suite 201  
Daytona Beach, FL 32114

M&C Project No. 010260139  
December 2024

**100% SUBMITTAL**

# WTP AERATOR STRUCTURE REHABILITATION

Ormond Beach, Florida

Bid No. 2025-19

## TABLE OF CONTENTS

### TECHNICAL SPECIFICATIONS

| <u>Section No.</u> | <u>Title</u> | <u>Pages</u> | <u>Initials</u> |
|--------------------|--------------|--------------|-----------------|
|--------------------|--------------|--------------|-----------------|

### BIDDING REQUIREMENTS

|       |                                                   |        |  |
|-------|---------------------------------------------------|--------|--|
| 0005  | Certifications Page .....                         | 1 – 3  |  |
| 00030 | Advertisement for Bids .....                      | 1 – 1  |  |
| 00100 | Instructions to Bidders .....                     | 1 – 9  |  |
| 00300 | Bid .....                                         | 1 – 16 |  |
|       | Sworn Statement .....                             | 1 – 2  |  |
|       | Conflict of Interest & Litigation Statement ..... | 1 – 2  |  |
| 00410 | Bid Bond .....                                    | 1 – 1  |  |

### CONTRACT FORMS

|       |                           |       |  |
|-------|---------------------------|-------|--|
| 00500 | Form of Agreement .....   | 1 – 6 |  |
| 00610 | Performance Bond .....    | 1 – 2 |  |
| 00615 | Payment Bond .....        | 1 – 2 |  |
| 00670 | Opinion of Attorney ..... | 1 – 1 |  |

### CONDITIONS OF CONTRACT

|       |                                |        |  |
|-------|--------------------------------|--------|--|
| 00700 | General Conditions .....       | 1 – 36 |  |
| 00800 | Supplementary Conditions ..... | 1 – 8  |  |
| L.W.  | Lien Waiver .....              | 1 – 1  |  |

### TECHNICAL SPECIFICATIONS

#### DIVISION 1 - GENERAL REQUIREMENTS

|       |                                                 |       |     |
|-------|-------------------------------------------------|-------|-----|
| 01010 | Summary of Work .....                           | 1 – 4 | CHH |
| 01025 | Measurement and Payment .....                   | 1 – 7 | CHH |
| 01027 | Applications for Payment .....                  | 1 – 3 | CHH |
| 01040 | Coordination .....                              | 1 – 1 | CHH |
| 01045 | Cutting and Patching .....                      | 1 – 2 | CHH |
| 01050 | Field Engineering .....                         | 1 – 2 | CHH |
| 01065 | Permits and Fees .....                          | 1 – 1 | CHH |
| 01070 | Codes, References and Abbreviations .....       | 1 – 3 | CHH |
| 01100 | Special Project Procedures .....                | 1 – 2 | CHH |
| 01200 | Project Meetings .....                          | 1 – 1 | CHH |
| 01310 | Administrative Requirements .....               | 1 – 4 | CHH |
| 01390 | Color Audio-Video Pre-Construction Record ..... | 1 – 3 | CHH |

**WTP AERATOR STRUCTURE REHABILITATION**  
Ormond Beach, Florida

**TABLE OF CONTENTS (Cont.)**

| <u>Section No.</u>                                   | <u>Title</u>                                            | <u>Pages</u> | <u>Initials</u> |
|------------------------------------------------------|---------------------------------------------------------|--------------|-----------------|
| <b>DIVISION 1 - GENERAL REQUIREMENTS (Continued)</b> |                                                         |              |                 |
| 01400                                                | Quality Control .....                                   | 1 – 1        | CHH             |
| 01500                                                | Temporary Facilities and Controls.....                  | 1 – 3        | CHH             |
| 01568                                                | Erosion and Sedimentation Control .....                 | 1 – 6        | CHH             |
| 01600                                                | Materials and Equipment .....                           | 1 – 4        | CHH             |
| 01640                                                | Substitutions and Product Options.....                  | 1 – 2        | CHH             |
| 01660                                                | Systems Testing, Adjusting, & Balancing .....           | 1 – 2        | CHH             |
| 01700                                                | Contract Closeout.....                                  | 1 – 3        | CHH             |
| 01710                                                | Final Cleaning .....                                    | 1 – 1        | CHH             |
| 01720                                                | Project Record Documents .....                          | 1 – 4        | CHH             |
| 01730                                                | Operating and Maintenance Data.....                     | 1 – 5        | CHH             |
| 01740                                                | Warranties .....                                        | 1 – 2        | CHH             |
| <b>DIVISION 2 – SITE WORK</b>                        |                                                         |              |                 |
| 02200                                                | Earthwork.....                                          | 1 – 8        | CHH             |
| 02220                                                | Selective Demolition.....                               | 1 – 3        | CHH             |
| 02240                                                | Dewatering (During Construction) .....                  | 1 – 2        | CHH             |
| 02616                                                | Ductile Iron Pipe & Fittings for Pressure Service ..... | 1 – 9        | CHH             |
| 02623                                                | Plastic Pipe for Pressure Service.....                  | 1 – 5        | CHH             |
| 02641                                                | Pipe Cleaning & Pigging .....                           | 1 – 2        | CHH             |
| 02650                                                | Disinfection.....                                       | 1 – 6        | CHH             |
| 02661                                                | Pressure Testing of Piping .....                        | 1 – 6        | CHH             |
| 02801                                                | Restoration of Surface Improvements .....               | 1 – 3        | CHH             |
| 02802                                                | Identification Tape for Buried Pipe .....               | 1 – 2        | CHH             |
| 02938                                                | Sodding .....                                           | 1 – 6        | CHH             |
| <b>DIVISION 3 - CONCRETE</b>                         |                                                         |              |                 |
| 03130                                                | Concrete Rehabilitation .....                           | 1 – 10       | AEA             |
| 03300                                                | Cast-in-Place Concrete.....                             | 1 – 23       | AEA             |
| 03301                                                | Anchor Systems .....                                    | 1 – 10       | AEA             |
| 03600                                                | Grouting .....                                          | 1 – 3        | AEA             |
| <b>DIVISION 4 – (NOT USED)</b>                       |                                                         |              |                 |
| <b>DIVISION 5 - METALS</b>                           |                                                         |              |                 |
| 05120                                                | Structural Steel.....                                   | 1 – 9        | AEA             |
| 05500                                                | Metal Fabrications .....                                | 1 – 11       | AEA             |
| 05510                                                | Structural Aluminum .....                               | 1 – 4        | AEA             |
| 05521                                                | Pipe Tube & Railings.....                               | 1 – 8        | AEA             |
| 05532                                                | Aluminum Grating.....                                   | 1 – 3        | AEA             |
| <b>DIVISION 6 - WOOD &amp; PLASTICS (NOT USED)</b>   |                                                         |              |                 |



# WTP AERATOR STRUCTURE REHABILITATION

## Ormond Beach, Florida

### TABLE OF CONTENTS (Cont.)

| <u>Section No.</u>                                    | <u>Title</u>                                | <u>Pages</u> | <u>Initials</u> |
|-------------------------------------------------------|---------------------------------------------|--------------|-----------------|
| <b>DIVISION 7 - THERMAL &amp; MOISTURE PROTECTION</b> |                                             |              |                 |
| 07920                                                 | Sealants & Caulking .....                   | 1 – 3        | AEA             |
| <b>DIVISION 8 - DOORS &amp; WINDOWS (NOT USED)</b>    |                                             |              |                 |
| <b>DIVISION 9 – FINISHES</b>                          |                                             |              |                 |
| 09900                                                 | Painting .....                              | 1 – 24       | CHH             |
| 09901                                                 | Painting Schedule.....                      | 1 – 1        | CHH             |
| <b>DIVISION 10 – SPECIALTIES (NOT USED)</b>           |                                             |              |                 |
| <b>DIVISION 11 - EQUIPMENT</b>                        |                                             |              |                 |
| 11001                                                 | Equipment – General Provisions .....        | 1 – 8        | CHH             |
| 11500                                                 | Aluminum Cascade Tray Aerator .....         | 1 – 8        | CHH             |
| <b>DIVISION 12 – FURNISHINGS (NOT USED)</b>           |                                             |              |                 |
| <b>DIVISION 13 - SPECIAL CONSTRUCTION</b>             |                                             |              |                 |
| 13100                                                 | I&C General Requirements.....               | 1 – 23       | LS              |
| 13120                                                 | I&C Field Equipment .....                   | 1 – 8        | LS              |
| 13130                                                 | I&C Control Enclosures .....                | 1 – 18       | LS              |
| 13360                                                 | I&C Fiber Optic Communication Systems ..... | 1 – 7        | LS              |
| <b>DIVISION 14 – CONVEYING SYSTEM</b>                 |                                             |              |                 |
| 14630                                                 | Bridge Crane System .....                   | 1 – 2        | AEA             |
| <b>DIVISION 15 – MECHANICAL</b>                       |                                             |              |                 |
| 15100                                                 | Valves & Specialties – General .....        | 1 – 3        | CHH             |
| 15101                                                 | Gate Valves & Appurtenances.....            | 1 – 3        | CHH             |
| 15103                                                 | Butterfly Valves .....                      | 1 – 3        | CHH             |
| 15110                                                 | Check Valves .....                          | 1 – 3        | CHH             |
| 15122                                                 | Air Release & Vacuum Relief Valves .....    | 1 – 3        | CHH             |
| 15125                                                 | Wall Sleeves & Seals .....                  | 1 – 2        | CHH             |
| 15130                                                 | Pressure Gauges .....                       | 1 – 2        | CHH             |
| 15140                                                 | Hangers & Supports .....                    | 1 – 4        | CHH             |
| 15155                                                 | Magnetic Flow Meter – (Fully Body).....     | 1 – 3        | CHH             |
| 15465                                                 | Sump Pump.....                              | 1 – 1        | CHH             |
| 15870                                                 | Fans.....                                   | 1 – 2        | CHH             |

**WTP AERATOR STRUCTURE REHABILITATION**  
**Ormond Beach, Florida**

**TABLE OF CONTENTS (Cont.)**

| <u>Section No.</u>              | <u>Title</u>                                                           | <u>Pages</u> | <u>Initials</u> |
|---------------------------------|------------------------------------------------------------------------|--------------|-----------------|
| <b>DIVISION 16 – ELECTRICAL</b> |                                                                        |              |                 |
| 16000                           | Electrical .....                                                       | 1 – 13       | LS              |
| 16010                           | Electrical Power Studies .....                                         | 1 – 8        | LS              |
| 16050                           | Electrical Materials and Methods .....                                 | 1 – 4        | LS              |
| 16060                           | Grounding & Bonding .....                                              | 1 – 4        | LS              |
| 16070                           | Hangers & Supports .....                                               | 1 – 4        | LS              |
| 16075                           | Electrical Identification .....                                        | 1 – 14       | LS              |
| 16080                           | Electrical Testing .....                                               | 1 – 4        | LS              |
| 16111                           | Conduit & Raceways .....                                               | 1 – 13       | LS              |
| 16115                           | Underground Conduit Ducts, Man-Holes,<br>Hand-Holes & Pull-Boxes ..... | 1 – 15       | LS              |
| 16120                           | Conductors & Cables .....                                              | 1 – 9        | LS              |
| 16130                           | Enclosures .....                                                       | 1 – 6        | LS              |
| 16140                           | Wiring Devices .....                                                   | 1 – 7        | LS              |
| 16220                           | Motors .....                                                           | 1 – 7        | LS              |
| 16260                           | Variable Frequency Drives .....                                        | 1 – 18       | LS              |
| 16291                           | Enclosed Controllers .....                                             | 1 – 12       | LS              |
| 16410                           | Enclosed Switches and Circuit Breakers .....                           | 1 – 7        | LS              |
| 16430                           | Switchboards.....                                                      | 1 – 7        | LS              |
| 16435                           | Panelboards.....                                                       | 1 – 6        | LS              |
| 16500                           | Lighting.....                                                          | 1 – 10       | LS              |
| 16671                           | Transient Voltage Surge Suppression .....                              | 1 – 7        | LS              |

**APPENDIX A PERMITS**

**END TABLE OF CONTENTS**

**SECTION 00005  
CERTIFICATIONS PAGE**

**ENGINEER CERTIFICATION**

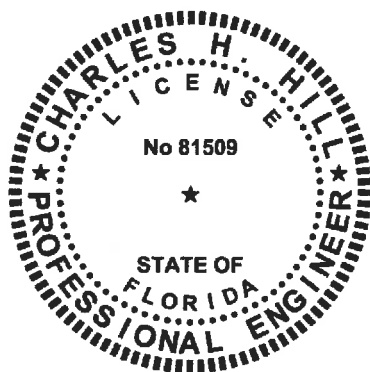
**PROJECT NUMBER:** Bid No. 2025-19

We hereby certify that the Project Manual stated herein meets all applicable provisions of Section 471 of Florida Statutes and Chapters 61G15-18 to 37 of Florida Administrative Code. We also certify that we are registered professional engineers in the State of Florida, in good standing, and that we have the necessary knowledge and experience that enables us to make this certification statement. Finally, we certify that the Drawings submitted with this Project Manual include all necessary notes and details to allow the Contractor to build the **WTP AERATOR STRUCTURE REHABILITATION**, to these engineering specifications and that the City Building Inspector can verify the construction.

**Civil Engineer**

**Divisions 1, 2, 9, 11, 15**

Professional Engineer's Seal:



Signature

Charles H. Hill, P.E., BCEE #81509  
(print name)

Address:

McKim & Creed, Inc.  
139 Executive Circle, Suite 201  
Daytona Beach, FL 32137

Phone Number: 386-274-2828

THIS ITEM HAS BEEN DIGITALLY SIGNED  
AND SEALED BY CHARLES H. HILL, P.E.  
ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT  
ARE NOT CONSIDERED SIGNED AND  
SEALED AND THE SIGNATURE MUST BE  
VERIFIED ON ANY ELECTRONIC COPIES.

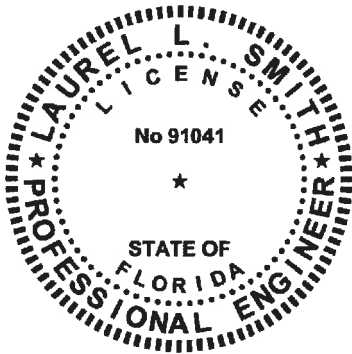
Charles H Hill

Digitally signed by Charles H Hill  
DN: CN=Charles H Hill,  
dnQualifier=A01410C00000193D9F472990012DCB9,  
O=Unaffiliated, C=US  
Date: 2024.12.18 08:38:21-05'00'

Electrical Engineer

Divisions 13, 16

Professional Engineer's Seal:



Signature

Laurel Smith, P.E. #91041

(print name)

Address:

McKim & Creed, Inc.

1365 Hamlet Avenue

Clearwater, FL 33756-3331

Phone Number: 727-442-7196

THIS ITEM HAS BEEN DIGITALLY SIGNED  
AND SEALED BY LAUREL SMITH, P.E. ON  
THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT  
ARE NOT CONSIDERED SIGNED AND  
SEALED AND THE SIGNATURE MUST BE  
VERIFIED ON ANY ELECTRONIC COPIES.

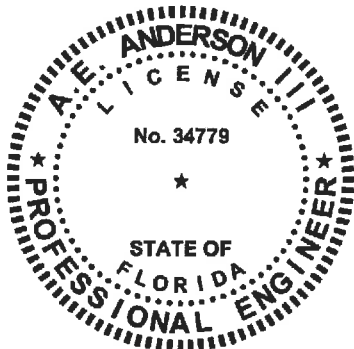
Laurel L Smith

Digitally signed by Laurel L. Smith  
DN: CN=Laurel L. Smith,  
dnQualifier=A01410D0000018895FB37C30020D9DC,  
O=Florida, C=US  
Date: 2024.12.27 12:13:52-05'00'

Structural Engineer

Divisions 3, 5, 7, 14

Professional Engineer's Seal:



Signature

A. Emmett Anderson III, P.E. #34779  
(print name)

Address:  
McKim & Creed, Inc.  
7785 Baymeadows Way, Suite 101  
Jacksonville, FL 32256

Phone Number: 904-587-0134

THIS ITEM HAS BEEN DIGITALLY SIGNED  
AND SEALED BY A. EMMETT ANDERSON  
III, P.E. ON THE DATE ADJACENT TO THE  
SEAL.

PRINTED COPIES OF THIS DOCUMENT  
ARE NOT CONSIDERED SIGNED AND  
SEALED AND THE SIGNATURE MUST BE  
VERIFIED ON ANY ELECTRONIC COPIES.

Digitally signed by  
Augustus E  
Anderson  
Date: 2024.12.27  
12:22:49-05'00'

END OF SECTION

**SECTION 00030**  
**ADVERTISEMENT FOR BIDS**

Sealed bids for furnishing all labor, materials and equipment necessary for constructing the **WTP AERATOR STRUCTURE REHABILITATION, Bid No. 2025-19** for the City of Ormond Beach, Florida, will be received at the Office of the Purchasing Coordinator, City Hall, Ormond Beach, Florida, until **[INSERT DATE & TIME]**, at which time bids will be opened and publicly read aloud in the Training Room located in the breezeway between City Hall and the Public Library. Bids received after the above time and date will be returned unopened.

**BASE BID:** The work consists of removing the blower fans, motors, enclosures, electrical panels; remove induced draft aerator enclosures and odor control pipe; furnish and install two (2) cascade tray aerators; remove and install Owner-furnished aerator transfer pumps and motors; remove and replace valves, fittings and piping in the aerator transfer pump room; incorporate bridge crane in aerator transfer pump room; remove and replace the VFD's, MCC's and all electrical equipment in the MCC room adjacent to the transfer pump room; remove four (4) venturi meters and replace with four (4) magnetic flow meters; provide other associated and/or incidental work as shown on the plans and described within the technical specifications to provide a complete and operational installation.

**ADDITIVE ALTERNATE BID:** The work consists of applying a sanded epoxy flooring system to the aerator transfer pump room and the rehabilitation of the interior of the aerator box.

The work is shown on the Drawings and specified in the Project Manual. The project Drawings, Specifications and related Bidding documents are available on-line at **www.demandstar.com**, or by calling DemandStar at (206) 940-0305. If you have difficulty obtaining these documents, please contact the City's purchasing office at (386) 676-3223.

A **pre-bid conference** to discuss the details and requirements of the contract will be held on **[INSERT DATE & TIME]**, in the Training Room at City Hall. All prospective bidders are strongly encouraged to attend. The deadline for submitting questions is **[INSERT DATE]** at 5:00pm.

**END OF SECTION**

Revised 2/14/20

**ADVERTISEMENT FOR BIDS**

**00030 - 1**

**WTP AERATOR REHABILITATION STRUCTURE**

**SECTION 00100  
INSTRUCTION TO BIDDERS**

**00101. Defined Terms**

Terms used in these Instructions to Bidders are defined in the General Conditions of the Construction Contract and have the meanings assigned to them in the General Conditions. The term "Successful Bidder" means the lowest, qualified, responsible Bidder to whom OWNER (on the basis of OWNER's evaluation as hereinafter provided) makes an award.

The OWNER for this project is:

The City of Ormond Beach  
22 South Beach Street  
Ormond Beach, Florida 32174

The ENGINEER for this project is:

McKim & Creed, Inc.  
139 Executive Circle, Suite 201  
Daytona Beach, FL 32114

**00102. Copies of Bidding Documents**

2.1 The City uses the services of DemandStar ([www.demandstar.com](http://www.demandstar.com)) to advertise/distribute its bids and RFP's via the internet.

2.2 Complete sets of the Bidding Documents may be obtained from the issuing office designated in the Advertisement for Bids.

2.3 Complete sets of Bidding Documents shall be used in preparing Bids; neither OWNER nor ENGINEER assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.4 OWNER and ENGINEER in making copies of Bidding Documents available, on the above terms, do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

**00102.1 COMPLIANCE WITH FLORIDA PUBLIC RECORDS LAW**

Contractor expressly agrees that it shall comply with the public records law provided in Florida Statutes, Chapter 119, and specifically to:

(a) Keep and maintain public records required by the City to perform the contracted service.

Revised 3/11/21

**INSTRUCTION TO BIDDERS**

**00100-1**

**WTP AERATOR STRUCTURE REHABILITATION**

(b) Upon request from the City Clerk, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law.

(c) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to the City.

(d) Upon completion of the contract, transfer at no cost, to the City all public records in possession of the contractor or keep and maintain public records required by the City to perform the service. If the contractor transfers all public records to the City upon completion of the contract, the contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon the completion of the contract, the contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City Clerk, in a format that is compatible with the information technology systems of the City.

(e) Failure of the Contractor to comply with Public Records Law as provided by Florida Statutes, Chapter 119, shall subject the Contractor to penalties under Chapter 119.10 and subject this Agreement to termination for cause by the City.

**IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:**

**CITY CLERK  
22 SOUTH BEACH STREET  
ORMOND BEACH, FLORIDA 32174 (386) 676-3331  
[CITYCLERK@ORMONDBEACH.ORG](mailto:CITYCLERK@ORMONDBEACH.ORG)**

Ref: Fla. Stat. §119.0701(2016)

**00102.2 Public Records/Non-Confidentiality of Bids**

The City of Ormond Beach cannot and does not warrant the confidentiality of any information submitted in response to this bid solicitation. Florida law provides that municipal records shall at all times be open for personal inspection by any person, Section 119, F.S., the Public Records Act. Information and materials received by the City of Ormond Beach in connection with responsive bids

Revised 3/11/21

**INSTRUCTION TO BIDDERS**

**00100-2**

**WTP AERATOR STRUCTURE REHABILITATION**



shall be deemed to be public records subject to public inspection upon award, recommendation of award, or 30 days after bid opening, whichever occurs first.

**00103. Qualifications of Bidders**

To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit, within seven days after the OWNER's request, written evidence of his ability to perform the work, such as financial data, previous experience, and evidence of authority to conduct business in the jurisdiction where the Project is located. Each Bid must contain evidence of Bidder's qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the contract.

**00104. Public Entity Crimes:**

A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a Proposal on a contract to provide any goods or services to a public entity, may not submit a Proposal on a contract with a public entity for the construction or repair of a public building or public work, may not submit Proposals on leases or real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

4.1 Discrimination Pursuant to Section 287.134(2)(a), Florida Statutes, an entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity.

**00105. Examination of Contract Documents and Site**

5.1 Before submitting a Bid, each Bidder must (a) examine the Contract Documents thoroughly, (b) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress or performance of the Work, (c) familiarize himself with federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work; and (d) study and carefully correlate Bidder's observations with the Contract Documents.

5.2 Reference is made to the Supplementary Conditions for the identification of those reports of investigations and tests for subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which have been relied upon by ENGINEER in preparing the Drawings and Specifications. OWNER will make such reports available for inspection to any Bidder or copies may be obtained from the ENGINEER by the Bidder at reproduction cost. These reports are not guaranteed as to accuracy or completeness, nor are they part of the Contract

Documents. Before submitting his Bid each Bidder will, at his own expense, make such additional investigations and tests as the Bidder may deem necessary to determine his Bid for performance of the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

5.3 On request OWNER will provide each Bidder access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of his Bid. Bidders making such investigations shall return site to original condition and shall pay for any damages resulting therefrom.

5.4 The lands upon which the Work is to be performed, rights-of-way for access thereto and other lands designated for use by CONTRACTOR in performing the Work are identified in the Supplementary Conditions, General Requirements, or Drawings.

5.5 The submission of a Bid will constitute an incontrovertible representation by the Bidder that he has complied with every requirement of this Article 4 and that the Contract Documents are sufficient in Scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

**00106. Clarification/Correction of Proposal**

The City of Ormond Beach reserves the right to allow for the clarification of questionable entries and for the correction of obvious mistakes.

**00107. Interpretations**

All questions about the meaning or intent of the Contract Documents shall be submitted in writing to the Purchasing Coordinator via email to Rob.Hart@ormondbeach.org. Replies will be issued by Addenda mailed or delivered to all parties recorded by ENGINEER as having received the Bidding Documents. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

**00108. Minority Policies**

The City of Ormond Beach, Florida, encourages the full participation of Disadvantaged and Women Business Enterprises (D&WBE) in the provision of goods and services.

**00109. Bid Security**

9.1 Bids shall be accompanied by a Bid Security. The Security shall be made payable to OWNER, in the amount of five percent (5%) of the total bid, and in the form of a certified or cashier's check or a Bid Bond issued by a Surety meeting the requirements of paragraph 5.1 of the General Conditions. The Bid Security shall be irrevocable after the time and date set for the opening of bids, and for a period of ninety (90) days thereafter.

9.2 The Bid Security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required Contract Security, whereupon it will be returned; if the successful Bidder fails to execute and deliver the Agreement and furnish the required Contract Security within fifteen (15) days of the Notice of Award, OWNER may annul the Notice of Award and the Bid Security of that Bidder will be forfeited. The Bid Security of any Bidder whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the seventh day after the "effective date of the Agreement" or the first day after the expiration of the period that Bids are specified to remain open in the Advertisement for Bids. Bid Security of other Bidders will be returned within seven (7) days of the Bid opening.

**00110. Contract Time**

The number of days within which, or the date by which, the Work is to be completed (the Contract Time) is set forth in the Bid Form and will be included in the Agreement.

**00111. Liquidated Damages**

Provisions for liquidated damages, if any, are set forth in the Bid Form and Agreement.

**00112. Subcontractors**

12.1 If the Supplementary Conditions, Bid Form and/or Specifications require the identity of certain subcontractors to be submitted to the OWNER with the bid, the bidder will list in his bid all subcontractors proposed for those portions of the work for which such identification is so required. When requested, an experience statement, pertinent information as to similar projects satisfactorily completed and other evidence of qualifications for each listed subcontractor shall be submitted within seven (7) days after the bid. If the OWNER after due investigation has reasonable objection to any proposed subcontractor, OWNER may before giving the Notice of Award request the apparent low bidder to submit an acceptable substitute without an increase in his bid price. If the apparent Successful Bidder declines to make any such substitution, the contract shall not be awarded to such Bidder, but his declining to make any such substitution will not constitute grounds for sacrificing his Bid Security. Any Subcontractor so listed and to whom OWNER does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER.

12.2 In contracts where the Contract Price is on the basis of Cost-of-the-Work Plus a Fee, the apparent Successful Bidder, prior to the Notice of Award, shall identify in writing to OWNER those portions of the Work that such Bidder proposes to subcontract and after the Notice of Award may only subcontract other portions of the Work with OWNER's written consent.

**00113. Material and Equipment List (Manufacturers)**

If the Supplementary Conditions, Bid Form and/or Specifications require the identity of certain material and equipment manufacturers be submitted to the OWNER with the bid, the bidder will list in his bid all material and equipment manufacturers proposed for those portions of the work for which such identification is so required. Such list shall be supplemented by product descriptions for each listed material and equipment item. Supplemental information will be submitted with the bid

unless it has been prefiled with the ENGINEER. In this latter case, the bid shall state that the information has been prefiled. Equipment manufacturers/suppliers must agree to OWNER'S terms of purchase. In no event will OWNER accept terms of sale that limit OWNER'S ability to reasonably recover in the event of equipment failure/defect such as, but not limited to; mandatory arbitration clauses, venue of court proceedings and applicable law outside of Volusia County, Florida, or damage limitations that preclude recovery for failed or defective equipment that would be less than full compensation for OWNER's loss. If the OWNER after due investigation has reasonable objection to any proposed material or equipment item, OWNER may before giving the Notice of Award request the apparent low bidder to submit an acceptable substitute without an increase in his bid price. If the apparent Successful Bidder declines to make any such substitution, the contract may not be awarded to such Bidder, but his declining to make any such substitution will not constitute grounds for sacrificing his Bid Security. Any material or equipment manufacturer so listed and to whom OWNER does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER. This acceptance of a material or equipment manufacturer does not relieve the CONTRACTOR from the responsibility of submitting shop drawings in accordance with Section 01300 before incorporating said material and/or equipment into the Work.

#### **00114. Material and Equipment Substitutions**

Excluding items called for in the bidders Equipment and Subcontractors List in the Bid, Section 00300, whenever it is indicated on the Drawings or specified in the Specifications that a substitute or "or equivalent" item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the "effective date of the Agreement". The procedure for submittal of any such application by CONTRACTOR and consideration by ENGINEER is set forth in Section 01630 - Substitutions and Product Options.

#### **00115. Bid Form**

15.1 Bids shall be submitted on standard forms which are furnished in this Project Manual.

15.2 Bid Forms must be completed in ink or by typewriter. All blank spaces must be filled. Where indicated on the Bid Form, the Bid price of each item on the form must be stated in words and numerals; in case of a conflict, words will take precedence.

15.3 The estimate of the various quantities of work applicable to unit price items as shown on the Bid Form is approximate and is intended solely to provide the basis of comparison upon which the award of contract is made. Final payment will be made on the basis of the actual completed quantities of each item.

15.4 Bids by corporations must be executed in the corporate name by the president or a vice president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

15.5 Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.

15.6 Bids by a Joint Venture must be executed by all individuals, Partners, or Corporations interested in the Joint Venture in the same manner that bids by these separate entities are required to be executed.

15.7 All names must be typed or printed below the signature.

15.8 The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).

15.9 The address to which communications regarding the Bid are to be directed must be shown.

15.10 Only one bid from any individual, firm, partnership or corporation under the same or different names, will be considered. Should it appear to the OWNER that any Bidder is interested in more than one bid, all bids in which such Bidder is interested will be rejected.

#### **00116. Submission of Bids**

Bids shall be submitted at the time and place indicated in the Advertisement for Bids and shall be included in an opaque sealed envelope, marked with the Bid Number, Project Title, and Bidder's Name and Address, accompanied by the Bid Security and other required documents. Include one (1) original bid form and (1) electronic file (thumb/flash drive or CD). If the Bid is sent through the mail or other delivery system, the sealed Bid shall be sent in a separate envelope with the notation "BID ENCLOSED" as well as the Bid Number, Project Title, and Bid Opening Date clearly displayed on the shipping envelope/package.

#### **Submit bids to:**

City of Ormond Beach  
Purchasing Coordinator  
22 South Beach Street  
Ormond Beach, FL 32174

#### **00117. Modification and Withdrawal of Bids**

Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.



**00118. Opening of Bids**

Bids will be opened publicly and read aloud and an abstract of the amounts of the base Bids and major alternates (if any) will be made available after the opening of Bids.

**00119. Bids to Remain Open**

All Bids shall remain open for ninety (90) days after the day of the Bid opening, but OWNER may, in his sole discretion, release any Bid and return the Bid Security prior to that date.

**00120. Award of Contract**

20.1 OWNER reserves the right to reject any and all Bids, to waive any and all informalities and to negotiate contract terms with the Successful Bidder, and the right to disregard all nonconforming, nonresponsive or conditional Bids. Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the indicated product of quantities and unit prices and the correct product thereof will be resolved in favor of the correct product. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

20.2 In evaluating Bids, OWNER shall consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, and alternates and unit prices if requested in the Bid forms. It is OWNER's intent to accept alternates (if any are accepted) in the order in which they are listed in the Bid form but OWNER may accept them in any order or combination.

20.3 OWNER may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items or material or equipment) proposed for those portions of the Work as to which the identity of Subcontractors and other persons and organizations must be submitted as provided in the Supplementary Conditions. Operating costs, maintenance considerations, performance data and guarantees of materials and equipment may also be considered by OWNER.

20.4 Irregular bids may be rejected. Irregular bids are defined as those containing serious omissions, unauthorized alternative bids, incomplete bids or unbalanced bids. Failure to provide all of the information required to accompany the bid will be considered to be a serious omission.

20.5 OWNER may conduct such investigations as he deems necessary to assist in the evaluation of any Bid.

20.6 OWNER reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to OWNER's satisfaction.

20.7 If the contract is to be awarded it will be awarded to the lowest responsible Bidder whose evaluation by OWNER indicates that the award will be in the best interests of the Project. The low bid will be based on the total cost of the Base Bid and, when applicable, any Additive or Deductive Alternates that are to be included in the Contract, as decided by the OWNER.

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Revised 3/11/21

**INSTRUCTION TO BIDDERS**

**00100-8**

**WTP AERATOR STRUCTURE REHABILITATION**

20.8 If the contract is to be awarded, OWNER will give the Successful Bidder a Notice of Award within the number of days after the day of the Bid opening specified in the Advertisement for Bids to remain open.

**00121. Performance and Other Bonds**

Paragraph 5.1 of the General Conditions and the Supplementary Conditions set forth OWNER's requirements as to performance and other Bonds. When the Successful Bidder delivers the executed Agreement to OWNER it shall be accompanied by the required Contract Security.

**00122. Signing of Agreement**

When OWNER gives a Notice of Award to the Successful Bidder, it will be accompanied by at least five (5) unsigned counterparts of the Agreement and all other Contract Documents. Within ten (10) days thereafter CONTRACTOR shall sign all and deliver at least five (5) counterparts of the Agreement to OWNER with other Contract Documents attached. Within ten (10) days thereafter OWNER will deliver fully signed counterparts to CONTRACTOR.

**00123. Special Requirements**

23.1 Financing. Funds will be available for payment of estimate draws as they become due.

23.2 Prohibited Interests. No official of the OWNER who is authorized in such capacity, and on behalf of the OWNER to negotiate, make, accept or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the project shall become directly or indirectly interested, personally, in this Contract or in any part thereof. No officer, employee, architect, attorney, engineer, or inspector of or for the OWNER who is authorized in such capacity and on behalf of the OWNER to exercise legislative, executive, supervisory, or other similar functions in connection with the construction of the project, shall become directly or indirectly interested personally, in this Contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

23.3 Performance of Work by CONTRACTOR:

Contract Assignment. The successful Bidder (or Bidders) will be required to perform the work as a prime contractor.

The CONTRACTOR shall not sublet, sell, transfer, assign or otherwise dispose of the contract or any portion thereof, or of his right, title or interest therein, without written consent of the OWNER.

**END OF INSTRUCTION TO BIDDERS**

**SECTION 00300  
BID**

CONTRACTORS NAME \_\_\_\_\_ LICENSE NO. \_\_\_\_\_

**PROJECT IDENTIFICATION: WTP AERATOR STRUCTURE REHABILITATION**

**CONTRACT IDENTIFICATION AND NUMBER:** Bid No. 2025-19

**THIS BID IS SUBMITTED TO:**

(Name and Address of Owner)

City of Ormond Beach  
22 South Beach Street  
Ormond Beach, Florida 32174

1. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Contract Documents to complete all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the Contract Documents.

2. BIDDER certifies that he has investigated the requirements to do business in the jurisdiction where the project is located, and that he is either qualified to do business or will obtain such prequalification prior to award of the contract.

3. BIDDER accepts all of the terms and conditions of the Instructions to Bidders (Section 00100) including, without limitation, those dealing with the disposition of Bid Security, Public Entity Crimes, and Minority Policies. This Bid will remain open for 90 days after the day of Bid opening. BIDDER will sign the Agreement and submit the Contract security and other documents required by the Contract Documents within ten (10) days after the date of OWNER'S Notice of Award.

4. In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:

(a) BIDDER has examined copies of all the Contract Documents and of the following addenda:

| <u>Date</u> | <u>Number</u> |
|-------------|---------------|
| _____       | _____         |
| _____       | _____         |
| _____       | _____         |
| _____       | _____         |

(receipt of all of which is hereby acknowledged) and also copies of the Advertisement to Bid and the Instructions to Bidders;

(b) BIDDER has examined the site and locality where the Work is to be performed, the legal requirements (federal, state and local laws, ordinances, rules and regulations) and the conditions affecting cost, progress or performance of the Work and has made such independent investigations as BIDDER deems necessary.

Revised 12/18/20

**BID**

**00300 - 1**

**WTP AERATOR STRUCTURE REHABILITATION**



**BID (Cont'd.)**  
**WTP AERATOR STRUCTURE REHABILITATION**  
**ORMOND BEACH, FLORIDA**

(c) This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; BIDDER has not solicited or induced any person, firm or a corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for himself any advantage over any other Bidder or over OWNER; and

5. BIDDER will complete the Work for the following price(s):

**BID SCHEDULE**

| <b>BASE BID</b>          |                                                                                           |            |             |                  |               |
|--------------------------|-------------------------------------------------------------------------------------------|------------|-------------|------------------|---------------|
| <b>ITEM NO.</b>          | <b>DESCRIPTION</b>                                                                        | <b>QTY</b> | <b>UNIT</b> | <b>UNIT COST</b> | <b>AMOUNT</b> |
| 1                        | Mobilization and Demobilization (Max 5% of Bid)                                           | 1          | LS          |                  |               |
| 2                        | Survey & Layout                                                                           | 1          | LS          |                  |               |
| 3                        | Bacteriological Clearance                                                                 | 1          | LS          |                  |               |
| 4                        | Erosion and Sedimentation Control                                                         | 1          | LS          |                  |               |
| 5                        | Submit Certified "As-Built" Drawings                                                      | 1          | LS          |                  |               |
| 6                        | Permit Fees & Allowances                                                                  | 1          | LS          | \$100,000.00     | \$100,000.00  |
| 7                        | Coordination with City for Bypass of Aerator Structure                                    | 1          | LS          |                  |               |
| <b>Aerator Structure</b> |                                                                                           |            |             |                  |               |
| 8                        | Construct New Handrail                                                                    | 1          | LS          |                  |               |
| 9                        | Remove Aerator Blower Fans, Motors, Enclosures, Induced Draft Aerator Enclosures          | 1          | LS          |                  |               |
| 10                       | Furnish & Install Two (2) 5,000 GPM Cascade Tray Aerators                                 | 1          | LS          |                  |               |
| 11                       | Remove & Install Owner-Supplied Aerator Transfer Pumps & Motors                           | 1          | LS          |                  |               |
| 12                       | Remove & Replace Valves, Pipe, Fittings and Miscellaneous Items in the Transfer Pump Room | 1          | LS          |                  |               |
| 13                       | Furnish & Install Bridge Crane in Aerator Transfer Pump Room                              | 1          | LS          |                  |               |
| 14                       | Paint Aerator Transfer Pump Room                                                          | 1          | LS          |                  |               |

Revised 12/18/20

BID

00300 - 2

**WTP AERATOR STRUCTURE REHABILITATION**

**BID (Cont'd.)**  
**WTP AERATOR STRUCTURE REHABILITATION**  
**ORMOND BEACH, FLORIDA**

VFDs and Misc Electrical  
 Completed By Staff. Only  
 Cost for new MCC and  
 reconnect of new pumps

| ITEM NO. | DESCRIPTION                                                                                                | QTY | UNIT | UNIT COST               | AMOUNT |
|----------|------------------------------------------------------------------------------------------------------------|-----|------|-------------------------|--------|
|          | BASE BID (cont'd)                                                                                          |     |      |                         |        |
|          | Aerator Structure (cont'd)                                                                                 |     |      |                         |        |
| 15       | Remove & Replace VFD's, MCC's and all Electrical Instrumentation and Control Equipment in Room for MCC #7. | 1   | LS   |                         |        |
|          | Aerator/Claricone Area                                                                                     |     |      |                         |        |
| 16       | Remove Two (2) Venturi Meters in 24-inch Pipe to Claricones and Replace with Two (2) 12-inch Mag Meters    | 1   | LS   | Completed by City Staff |        |
| 17       | Remove Two (2) Venturi Meters in 16-inch Raw Water Main and Replace with Two (2) 10-inch Mag Meters        | 1   | LS   |                         |        |
|          | ADDITIVE ALTERNATES                                                                                        |     |      |                         |        |
| 18       | Construct Sanded Epoxy Floor in Aerator Transfer Pump Room                                                 | 1   | LS   |                         |        |
| 19       | Rehabilitate Interior of Aerator Box                                                                       | 1   | LS   |                         |        |

**TOTAL BASE BID (Item Nos. 1-17)** \$ \_\_\_\_\_  
 (Figures)

(Words)  
**TOTAL ADDITIVE ALTERNATE BID (Item Nos. 18-19)** \$ \_\_\_\_\_  
 (Figures)

(Words)  
**TOTAL BID (BASE BID & ADDITIVE ALTERNATES)** \$ \_\_\_\_\_  
 (Figures)

(Words)  
 BIDDER acknowledges that the quantities are not guaranteed and final payment will be based on actual quantities determined as provided in the Contract Documents.

BIDDER agrees that the Work will be substantially completed within **300** calendar days after the date when the Contract Time commences to run, and completed within **330** calendar days after the date when the Contract Time commences to run.

BIDDER recognizes that time is of the essence to complete this Project and that OWNER will suffer financial loss if the Work is not substantially complete within the time specified above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The BIDDER also recognize the delays, expense and difficulties involved in proving, in a legal or

Revised 12/18/20  
 BID

00300 - 3

**WTP AERATOR STRUCTURE REHABILITATION**

**BID (Cont'd.)**  
**WTP AERATOR STRUCTURE REHABILITATION**  
**ORMOND BEACH, FLORIDA**

arbitration proceeding, the actual loss suffered by OWNER if the Work is not substantially complete on time. Accordingly, instead of requiring any such proof, OWNER has determined and BIDDER agrees to accept that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER **FIVE HUNDRED DOLLARS AND 00/100 (\$500.00)** for each calendar day that expires after the time specified above for substantial completion until the Work is substantially complete. After substantial completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the time specified above for completion and readiness for final payment or any proper extension thereof granted by OWNER, CONTRACTOR shall pay the OWNER an amount equal to all actual expenses incurred by the OWNER as a direct result of the CONTRACTOR'S negligence, refusal, or failure to so complete the remaining work. In the event the CONTRACTOR is terminated or abandons the work prior to the scheduled date for final completion, the CONTRACTOR may be liable for both liquidated damages attributable to delay and for excess completion costs.

6. The following documents are attached to and made a condition of this Bid:

(a) Required Bid Security in the form of

- (1) a certified check drawn in favor of the City of Ormond Beach in the amount of 5 percent of the total bid; or
- (2) a Bid Bond in the amount of 5 percent of the total bid.

(b) Equipment, Material, and Subcontractors List

(c) All information required by the Trench Safety Act (Part VI, Chapter 553, Florida Statutes).

(d) Drug Free Workplace Certificate

(e) Conflict, Non-Conflict of Interest, Litigation Statement

(f) Local Vendor Preference

(g) Verification of Employment Status Using E-Verify System

7. Communications to the BIDDER concerning this Bid shall be addressed to:

Mailing Address: \_\_\_\_\_  
Street Address: \_\_\_\_\_  
City, State, Zip Code: \_\_\_\_\_  
Email: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

8. The terms used in this Bid which are defined in the General Conditions of the Construction Contract included as part of the Contract DOCUMENTS have the meanings assigned to them in the General Conditions.

**BID (Cont'd.)**  
**WTP AERATOR STRUCTURE REHABILITATION**  
**ORMOND BEACH, FLORIDA**

SUBMITTED on \_\_\_\_\_, 20 \_\_\_\_.

If BIDDER is:

An Individual

By \_\_\_\_\_  
(Individual's Name - Signature)

\_\_\_\_\_  
(Individual's Name - Typed or Printed) (SEAL)

doing business as \_\_\_\_\_

Business address: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_



**BID (Cont'd.)**  
**WTP AERATOR STRUCTURE REHABILITATION**  
**ORMOND BEACH, FLORIDA**

If BIDDER is:

A Corporation

By \_\_\_\_\_  
(Corporation Name)

\_\_\_\_\_  
(State of Incorporation)

By \_\_\_\_\_  
(Name of Person Authorized to Sign - Signature)

\_\_\_\_\_  
(Name of Person Authorized to Sign - Typed or Printed)

\_\_\_\_\_  
(Title)

(Corporate Seal)

Attest \_\_\_\_\_

Business address: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

**BID (Cont'd.)**  
**WTP AERATOR STRUCTURE REHABILITATION**  
**ORMOND BEACH, FLORIDA**

If BIDDER is:

A Joint Venture

By \_\_\_\_\_  
(Name - Signature)

\_\_\_\_\_  
(Name - Typed or Printed)

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

By \_\_\_\_\_  
(Name - Signature)

\_\_\_\_\_  
(Name - Typed or Printed)

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

(Each joint venturer must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above.)

**BID (Cont'd.)**  
**WTP AERATOR STRUCTURE REHABILITATION**  
**ORMOND BEACH, FLORIDA**

**EQUIPMENT AND SUBCONTRACTORS LIST**

List the names of the manufacturers whose product is proposed for use. No more than one manufacturer's name shall be inserted for each item of material and/or equipment listed. Failure to list materials and equipment manufacturer may result in the Bid being rejected as incomplete and nonresponsive. If any Subcontractors are proposed to be used for any portions of the Work, the names, addresses, phone numbers and work classifications of each such Subcontractor must be listed. The failure to list all Subcontractors proposed for the work may result in the Bid being rejected as incomplete and nonresponsive. If more than one manufacturer or subcontractor is listed, selection will be made by the OWNER. If none is listed, those listed as the "Basis for Design" will be used.

**MATERIALS AND EQUIPMENT:**

| <b><u>Section</u></b> | <b><u>Item</u></b>    | <b><u>Manufacturer</u></b> |
|-----------------------|-----------------------|----------------------------|
| 02616                 | Ductile Iron Pipe     |                            |
| 02616                 | Ductile Iron Fittings |                            |
| 11500                 | Cascade Tray Aerators | Wes Tech                   |
| 14301                 | Bridge Crane & Hoist  |                            |
| 15101                 | Gate Valves           |                            |
| 15103                 | Butterfly Valves      |                            |
| 15110                 | Check Valves          |                            |
| 15155                 | Magnetic Flow Meter   | Rosemount                  |

**Subcontractors:**

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Revised 12/18/20

**BID**

**00300 - 9**

**WTP AERATOR STRUCTURE REHABILITATION**



**BID (Cont'd.)**  
**WTP AERATOR STRUCTURE REHABILITATION**  
**ORMOND BEACH, FLORIDA**

Subcontractors:

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Revised 12/18/20

BID

00300 - 10

**WTP AERATOR STRUCTURE REHABILITATION**

**BID (Cont'd.)**  
**WTP AERATOR STRUCTURE REHABILITATION**  
**ORMOND BEACH, FLORIDA**

**TRENCH SAFETY STANDARDS**

If this project includes trench excavation in excess of five (5) feet in depth, the following trench safety standards will be in effect during the period of construction of the project:

The Occupational Safety and Health Administration's excavation safety standards, 29 C.F.R.s. 1926.650 Subpart P, and any regulation promulgated there under are hereby incorporated as the standard for this project.

The Bidder hereby certifies that the Contractor performing the trench excavation will comply with the applicable trench safety standards.

The Bidder further certifies that the cost (which is included in his unit cost) of compliance with applicable trench safety standards is:

| <u>ITEM</u>             | <u>Estimated<br/>Quantity</u> | <u>Units</u> | <u>Unit<br/>Price</u> | <u>Total<br/>Estimated<br/>Price</u> |
|-------------------------|-------------------------------|--------------|-----------------------|--------------------------------------|
| 1. Trench Excavation    | _____                         | L.F.         | _____                 | _____                                |
| 2. Sheet piling/Shoring | _____                         | S.F.         | _____                 | _____                                |

\_\_\_\_\_  
Name (signature) Date

\_\_\_\_\_  
Name (typed or printed)

\_\_\_\_\_  
Title

**BID (Cont'd.)**  
**WTP AERATOR STRUCTURE REHABILITATION**  
**ORMOND BEACH, FLORIDA**

**DRUG-FREE WORKPLACE CERTIFICATION**

**Identical Or "Tie" Bids:** Preference shall be given to businesses with drug-free workplace programs. Whenever two or more proposals which are equal in respect to price, quality, and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

- 1) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- 2) Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violation.
- 3) Give each employee that engages in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
- 4) In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five ( 5 ) calendar days after such conviction.
- 5) Impose sanctions on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
- 6) Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

\_\_\_\_\_  
Name (signature)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name (typed or printed)

\_\_\_\_\_  
Title

**BID (Cont'd.)**  
**WTP AERATOR STRUCTURE REHABILITATION**  
**ORMOND BEACH, FLORIDA**

**CONFLICT, NON-CONFLICT OF INTEREST STATEMENT**  
**LITIGATION STATEMENT**

1.

- ☐ To the best of our knowledge, the undersigned firm has no potential conflicts of interest due to any other clients or contracts for this project.
- ☐ The undersigned firm, by attachment to this form, submits information which may be a potential conflict of interest due to other clients or contracts for this project.

2.

- ☐ The undersigned firm has had no litigation on any project in the last five (5) years.
- ☐ The undersigned firm, by attachment to this form, submits a summary and disposition of individual cases of litigation during the past five (5) years.

\_\_\_\_\_  
COMPANY NAME

\_\_\_\_\_  
AUTHORIZED SIGNATURE

\_\_\_\_\_  
NAME (PRINT OR TYPE)

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
DATE

**BID (Cont'd.)**  
**WTP AERATOR STRUCTURE REHABILITATION**  
**ORMOND BEACH, FLORIDA**

**LOCAL VENDOR PREFERENCE**

The following is taken from the Code of Ordinances, City of Ormond Beach, Chapter 2, Financial Matters, Division 3, Purchasing, Article IX, Section 2-304:

Except where otherwise provided by federal or state law or other funding source restrictions, purchases of goods and services under the Purchasing Code shall give preference to local businesses as follows:

- (a) Under a competitive bid solicitation, the City *may* give a local preference in the amount of three percent (3%) of the bid price or \$25,000, whichever is less. The bid price shall include not only the base bid price but all alternatives which are part of the bid and actually purchased or awarded.
- (b) A *local business* shall mean a vendor that has a valid occupational license issued by the City of Ormond Beach at least one year prior to bid opening, with a physical business address located within the municipal boundaries of the City of Ormond Beach from which the vendor operates or performs business on a day-to-day basis that is a substantial component of the goods or services being offered and has provided a Local Vendor Affidavit of Eligibility at the time the bid is submitted.
- (c) A *Local Vendor Affidavit of Eligibility* shall accompany the bid submittal to be considered valid and shall include, but not be limited to, the following information:
  - (1) A physical business and location address;
  - (2) A copy of current City of Ormond Beach Local Business Tax Receipt (occupational license) to verify the business location;
  - (3) Proof of payment of business tax and real property tax due to the City of Ormond Beach;
  - (4) A copy of the firm's most recent annual corporation report to the Florida Division of Corporations;
  - (5) Any additional information necessary to verify local status.
- (d) *Exemptions:* Goods or services provided under a cooperative purchasing agreement, contracts for professional services subject to Consultants' Competitive Negotiation Act, purchases or contracts funded in whole or part by a governmental entity that does not allow local preferences, purchases made under another agency's agreements or contracts (piggybacking), purchases under emergency or sole source situations and procurements subject to formal proposals including but not limited to request for proposals (RFP) or continuing contract, and request for quotes (RFQ) versus straight competitive bids.
- (e) This section shall not be deemed to require the granting of a local preference, and nothing herein prohibits the award of a contract to a non-local vendor where such award is in the public interest.

**BID (Cont'd.)**  
**WTP AERATOR STRUCTURE REHABILITATION**  
**ORMOND BEACH, FLORIDA**

**LOCAL VENDOR AFFIDAVIT OF ELIGIBILITY**

I certify that my company meets all of the following qualifications to be eligible for the local vendor preference:

- a. My company has a physical business address located within the municipal boundaries of the City of Ormond Beach which is used to perform business on a day-to-day basis.
- b. My company holds any business (occupational) or contractor license required by the City of Ormond Beach at least one year prior to bid opening.
- c. Payment of business tax and real property tax due to the City of Ormond Beach is current
- d. My company is in compliance with annual reporting to the Florida Division of Corporations

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Business or Contractor License Number: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Owner's Name: \_\_\_\_\_ Signature: \_\_\_\_\_

Sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_

Notary Public for the State of \_\_\_\_\_ My Commission Expires \_\_\_\_\_

Notary Public Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

To be approved as a local bidder and receive bid preference on an eligible local project, this affidavit of eligibility, a copy of your local business or contractor license, copy of business tax/real property tax and a copy of the firm's most recent annual corporation report must be submitted with your bonafide BID package. Bid preference is provided at the City's sole discretion.

|                                     |
|-------------------------------------|
| <b>VENDOR DO NOT COMPLETE BELOW</b> |
|-------------------------------------|

To be verified and completed by an authorized representative of the City of Ormond Beach's Purchasing Department:

Vendor Certified by: \_\_\_\_\_ Date: \_\_\_\_\_

Revised 12/18/20

BID

00300 - 15

**WTP AERATOR STRUCTURE REHABILITATION**

**BID (Cont'd.)**  
**WTP AERATOR STRUCTURE REHABILITATION**  
**ORMOND BEACH, FLORIDA**

**VERIFICATION OF EMPLOYMENT STATUS USING E-VERIFY SYSTEM**

1. Undersigned firm warrants it **IS** currently registered with the U.S. Department of Homeland Security's E-Verify system, **and** is compliant with the requirements of Sections 448.09 and 448.095, *Florida Statutes*.
2. Undersigned firm warrants it **has not** had any contracts terminated as a result of violations of Sections 448.09 or 448.095, *Florida Statutes*, that prohibit it from contracting with a public agency.
3. Undersigned firm warrants that if it enters into an agreement with a subcontractor, an express provision shall be included in all of its subcontracts requiring subcontractors, who perform work or provide services pursuant to the contract, to use the E-Verify system to verify employment eligibility of all new employees hired by the subcontractor during the contract term.
4. Undersigned firm understands that any subcontractor must provide the contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien, and the contractor understands it shall maintain any such affidavits for the duration of the contract, and the contract with the subcontractor must be immediately terminated if the City has a good faith belief that the subcontractor knowingly violated Section 448.09 (1), *Florida Statutes*.
5. Undersigned firm understands that in the event the City has a good faith belief that the contractor has knowingly violated Section 448.09 (1), *Florida Statutes*, the City shall terminate the contract, and the contractor may not be awarded a public contract for a period of at least one (1) year after the date of termination. The contractor may be held liable for any additional costs incurred by the City as a result of termination of the contract.

\_\_\_\_\_  
COMPANY NAME

\_\_\_\_\_  
AUTHORIZED SIGNATURE

\_\_\_\_\_  
NAME (PRINT OR TYPE)

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
DATE

**END OF BID**



SWORN STATEMENT UNDER SECTION 287.133(3) (a),  
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to \_\_\_\_\_  
[print name of public entity]

by \_\_\_\_\_  
[ print individual's name and title]

for \_\_\_\_\_  
[ print name of entity submitting sworn statement]

whose business address is \_\_\_\_\_

and if applicable, its Federal Employer Identification Number (FEIN) is \_\_\_\_\_

(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: \_\_\_\_\_.)

2. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), FLORIDA STATUTES, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any proposal or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Paragraph 287.122(1)(b), FLORIDA STATUTES, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that "affiliate" as defined in Paragraph 287.133(1)(a), FLORIDA STATUTES, means:

1. A predecessor or successor of a person convicted of a public entity crime; or
2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

- 2a. A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a proposal on a contract to provide any goods or services to a public entity, may not submit a proposal on a contract with a public entity for the construction or repair of a public building or public work, may not submit proposals on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

5. I understand that a "person" as defined in Paragraph 287.133(1)(e), FLORIDA STATUTES, means any natural person or any entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which proposals or applies to proposal on contracts for the provision of goods



or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below are true in relation to the entity submitting this sworn statement. **[Please indicate which statement applies.]**

\_\_\_\_\_ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members or agents who are active in management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

\_\_\_\_\_ The entity submitting this sworn statement, or one or more of the officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

\_\_\_\_\_ The entity submitting this sworn statement, or one or more of the officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. **[Attach a copy of the final order.]**

**I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.**

\_\_\_\_\_  
**[signature]**

\_\_\_\_\_  
**[date]**

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_\_ **[date]**

by \_\_\_\_\_ **[name and title]** of

\_\_\_\_\_ **[name of corporation]**, a

**[state or place of incorporation]** corporation, on behalf of the corporation. He/she is personally known to me or has produced \_\_\_\_\_ **[type of identification]** as identification and did (did not) take an oath.

\_\_\_\_\_  
**[notary]**

**CONFLICT, NON-CONFLICT OF INTEREST STATEMENT**  
**LITIGATION STATEMENT**

1.

- ☐ To the best of our knowledge, the undersigned firm has no potential conflicts of interest due to any other clients or contracts for this project.
- ☐ The undersigned firm, by attachment to this form, submits information which may be a potential conflict of interest due to other clients or contracts for this project.

2.

- ☐ The undersigned firm has had no litigation on any project in the last five (5) years.
- ☐ The undersigned firm, by attachment to this form, submits a summary and disposition of individual cases of litigation during the past five (5) years.

\_\_\_\_\_  
COMPANY NAME

\_\_\_\_\_  
AUTHORIZED SIGNATURE

\_\_\_\_\_  
NAME (PRINT OR TYPE)

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
DATE

**SECTION 00410  
BID BOND**

**KNOW ALL MEN BY THESE PRESENTS**, that we \_\_\_\_\_

\_\_\_\_\_ *(hereinafter called Principal)* and

\_\_\_\_\_ *(hereinafter called the Surety)* a corporation chartered and existing under the Laws of the State \_\_\_\_\_ of with its principal offices in the County of \_\_\_\_\_ and authorized to do business in the State of Florida, in the full and just sum of \_\_\_\_\_

\_\_\_\_\_ Dollars (\$) \_\_\_\_\_ ) good and lawful money of the United States of America, to be paid upon demand of the \_\_\_\_\_, Florida, to which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, and assigns, jointly and severally and firmly by these presents,

**WHEREAS**, the Principal is about to submit, or has submitted to the City of Ormond Beach, Florida, a bid for work to be done on the **WTP AERATOR STRUCTURE REHABILITATION (Bid No. 2025-19)** in, and for the City and

**WHEREAS**, the Principal desires to file this bond in accordance with law, in lieu of a certified or cashier's check otherwise required to accompany this Bid.

**NOW, THEREFORE:** the conditions of this obligation are such that if the Bid be accepted the Principal shall within ten (10) days after the receipt of notification of the acceptance thereof execute a contract in accordance with the Bid and upon the terms, conditions and unit or lump sum prices set forth therein, in the form and manner required by the Owner, and execute a sufficient and satisfactory Contract Bond payable to the Owner, in an amount not less than the total contract price, as indicated by the approximate quantities shown in the Bid, in form and with security satisfactory to the said City, then this obligation to be void; otherwise to be and remain in full force and virtue in law; and the Surety shall upon the failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to the aforesaid City upon demand the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

**IN TESTIMONY WHEREOF**, the Principal and Surety have caused these presents to be duly signed and sealed this \_\_\_\_\_ day \_\_\_\_\_, 20 \_\_\_\_.

\_\_\_\_\_  
*(Principal)*

By: \_\_\_\_\_

**ATTEST:**

\_\_\_\_\_  
*(Surety)*

By: \_\_\_\_\_

\_\_\_\_\_  
*(SEAL)*

**END OF SECTION**

**BID BOND**

**00410-1**

**WTP AERATOR STRUCTURE REHABILITATION**

**SECTION 00500  
FORM OF AGREEMENT**

THIS AGREEMENT is by and between City of Ormond Beach, a Municipal Corporation in the State of Florida (hereinafter called OWNER) and

---

(hereinafter called CONTRACTOR)

The bid for this contract was approved by the City Commission on \_\_\_\_\_, 20\_\_.

**Article 1. WORK**

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

**BASE BID:** The work consists of removing the blower fans, motors, enclosures, electrical panels; remove induced draft aerator enclosures and odor control pipe; furnish and install two (2) cascade tray aerators; remove and install Owner-furnished aerator transfer pumps and motors; remove and replace valves, fittings and piping in the aerator transfer pump room; incorporate bridge crane in aerator transfer pump room; remove and replace the VFD's, MCC's and all electrical equipment in the MCC room adjacent to the transfer pump room; remove four (4) venturi meters and replace with four (4) magnetic flow meters; provide other associated and/or incidental work as shown on the plans and described within the technical specification to provide a complete and operational installation.

The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

**WTP AERATOR STRUCTURE REHABILITATION  
BID No. 2025-19**

**Article 2. ENGINEER**

The Project has been designed by McKim & Creed, Inc., 139 Executive Circle, Suite 201, Daytona Beach, FL 32114 who is hereinafter called ENGINEER and who will assume all duties and responsibilities and will have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

**Article 3. CONTRACT TIME**

3.1 The Work will be substantially completed within **300** calendar days after the date when the Contract Time commences to run as provided in paragraph 2.3 of the General Conditions, and completed and ready for final payment in accordance with paragraph 14.10 of the General Conditions within **330** calendar days after the date when the Contract Time commences to run.

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Revised 2-2-21

FORM OF AGREEMENT

00500 - 1

**WTP AERATOR STRUCTURE REHABILITATION**

3.2 Liquidated Damages. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not substantially complete within the time specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not substantially complete on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER **FIVE HUNDRED AND 00/100 Dollars (\$500.00)** for each calendar day that expires after the time specified in paragraph 3.1 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the time specified in paragraph 3.1 for completion and readiness for final payment or any proper extension thereof granted by OWNER, CONTRACTOR shall pay the OWNER an amount equal to all actual expenses incurred by the OWNER as a direct result of the CONTRACTOR'S negligence, refusal, or failure to so complete the remaining work. In the event the Contractor is terminated or abandons the Work prior to the scheduled date for final completion, the Contractor may be liable for both liquidated damages attributable to delay and for excess completion costs.

#### **Article 4. CONTRACT PRICE**

OWNER shall pay CONTRACTOR for completion of the Work, in accordance with the Contract Documents, an amount in current funds equal to the lump sum TOTAL BID of \$\_\_\_\_\_, as listed in the Bid Form. Payment shall be for the actual completed work, as specified in the Measurement and Payment section of the project Manual and in accordance with Article 14 of the General Conditions.

#### **Article 5. PAYMENT PROCEDURES**

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

5.1 Progress Payments. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment as recommended by ENGINEER, on or about the 15<sup>th</sup> day of each month during construction as provided below, provided Applications for Payment are timely delivered pursuant to Article 14.1 of the General Conditions. All progress payments will be on the basis of the progress of the Work measured by the schedule of values provided for in paragraph 14.1 of the General Conditions.

5.1.1 When applicable, all progress payments shall be in an amount equal to:

Ninety-Five percent (95%) of the Work completed.

Ninety-Five percent (95%) of materials and equipment not incorporated in the Work but delivered and suitably stored, less in each case the aggregate of payments previously made and less such amounts as ENGINEER shall determine in accordance with paragraph 14.4 of the General Conditions.

5.2 Final Payment. Upon final completion and acceptance of the Work in accordance with paragraph 14.10 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraph 14.10.

#### **Article 6. CONTRACTOR'S REPRESENTATIONS**

In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

6.1 CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the Work.

6.2 CONTRACTOR has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which were relied upon by ENGINEER in the preparation of the Drawings and Specifications and which have been identified in the Supplementary Conditions.

6.3 CONTRACTOR has made or caused to be made examinations, investigations and tests and studies of such reports and related data in addition to those referred to in paragraph 6.2 as he deems necessary for the performance of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, and no additional examinations, investigations, tests, reports or similar data are or will be required by CONTRACTOR for such purposes.

6.4 CONTRACTOR has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.

6.5 CONTRACTOR has given ENGINEER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

#### **Article 7. CONTRACT DOCUMENTS**

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR are attached to this Agreement, made a part hereof and consists of the following:

7.1 This Agreement (pages 1 to 6, inclusive).

7.2 Exhibits to this Agreement (pages      to     , inclusive).



- 7.3 Performance and other Bonds, identified as exhibits 00610 and 00615 and consisting of 4 pages.
- 7.4 Notice of Award.
- 7.5 General Conditions (pages 1 to 36 , inclusive).
- 7.6 Supplementary Conditions (pages 1 to 8 , inclusive).
- 7.7 Specifications bearing the title:

**WTP AERATOR STRUCTURE REHABILITATION**

and consisting of 16 divisions, as listed in table of contents thereof.

- 7.8 Drawings, consisting of sheets numbered G001 thru G002; C01.1 thru C01.2; MD1.1 thru MD1.4 ; S00.1 thru S02.2; M01.1 thru M04.1; D00.1 thru D00.2; E00.1 thru E06.3; I.001 thru.I02.3 inclusive and bearing the following general title:

**WTP AERATOR STRUCTURE REHABILITATION**

- 7.9 Addenda numbers     to     , inclusive.
- 7.10 CONTRACTOR'S Bid (pages 1 to 16 , inclusive) marked exhibit        (Attach Bid Form only in special circumstances).
- 7.11 Documentation submitted by CONTRACTOR prior to Notice of Award (pages     to     , inclusive).
- 7.12 Any Modification, including Change Orders, duly delivered after execution of Agreement.

There are no Contract Documents other than those listed above in this Article 7. The Contract Documents may only be altered, amended or repealed by a Modification (as defined in Section 1 of the General Conditions).

**Article 8. MISCELLANEOUS**

- 8.1 Terms used in this Agreement which are defined in Article 1 of the General Conditions shall have the meanings indicated in the General Conditions.
- 8.2 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the

effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

8.3 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives to the other party hereto, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.



IN WITNESS WHEREOF, the parties hereto have signed this Agreement. One counterpart each has been delivered to OWNER and CONTRACTOR, and to ENGINEER as applicable. All portions of the Contract Documents have been signed by OWNER and CONTRACTOR or identified by ENGINEER on their behalf.

This Agreement will be effective on \_\_\_\_\_, 20\_\_.

OWNER City of Ormond Beach

CONTRACTOR \_\_\_\_\_

By \_\_\_\_\_

By \_\_\_\_\_

Bill Partington  
Mayor

\_\_\_\_\_  
(Title)

[CITY SEAL]

[SEAL]

Attest \_\_\_\_\_

Attest \_\_\_\_\_

Joyce A. Shanahan  
City Manager

\_\_\_\_\_  
(Title)

Address for giving notices:

Address for giving notices:

City of Ormond Beach

\_\_\_\_\_

PO Box 277

\_\_\_\_\_

Ormond Beach, FL 32175-0277

\_\_\_\_\_

License No. \_\_\_\_\_

Registered Agent for service process:

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Title)

**END OF AGREEMENT**

**Revised 2-2-21**

**FORM OF AGREEMENT**

**00500 - 6**

**WTP AERATOR STRUCTURE REHABILITATION**

**SECTION 00610  
PERFORMANCE BOND**

**KNOW ALL MEN BY THESE PRESENTS:** that

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

a(n) \_\_\_\_\_, hereinafter called Principal, and  
(Corporation, Partnership or Individual)

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

\_\_\_\_\_  
(Name of Owner)

\_\_\_\_\_  
(Address of Owner)

hereinafter called OWNER, in the penal sum of \_\_\_\_\_  
\_\_\_\_\_ Dollars, (\$ \_\_\_\_\_) in lawful money of the United  
States, for the payment of which sum will and truly to be made, we bind ourselves, successors, and assigns, jointly  
and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with  
OWNER, dated \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, for the construction of:

**WTP AERATOR STRUCTURE REHABILITATION  
Bid No. 2025-19**

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings,  
covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions  
thereof which may be granted by the OWNER, with or without notice to the Surety and during the one-year  
guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully  
indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do  
so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making  
good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change,  
extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the  
SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby  
waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the  
WORK or to the SPECIFICATIONS The Surety agrees that modifications and changes to the terms and conditions  
of the Contract that increase the total amount to be paid the Principal shall automatically increase the obligation of  
the Surety on this bond and notice to Surety is not required for such increased obligation.

Revised 9/11/15

**PERFORMANCE BOND**

**00610-1**

**WTP AERATOR STRUCTURE REHABILITATION**

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ counterparts, each one of which shall be deemed an original, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.  
(number)

ATTEST:

\_\_\_\_\_  
*Principal*  
By \_\_\_\_\_ (s)  
\_\_\_\_\_  
*(Principal) Secretary*

(SEAL)

\_\_\_\_\_  
*(Witness to Principal)*  
\_\_\_\_\_  
*(Address)*  
\_\_\_\_\_  
*(Address)*  
\_\_\_\_\_  
*(Surety)*

ATTEST:

\_\_\_\_\_  
*(Surety) Secretary*

(SEAL)

\_\_\_\_\_  
*Witness to Surety*  
\_\_\_\_\_  
*(Address)*  
\_\_\_\_\_  
*Attorney-In-Fact*  
\_\_\_\_\_  
*(Address)*

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND. All BONDS signed by an agent must be accompanied by a certified copy of the authority to act.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

END OF SECTION

Revised 9/11/15

PERFORMANCE BOND

00610-2

WTP AERATOR STRUCTURE REHABILITATION

**SECTION 00615  
PAYMENT BOND**

**KNOW ALL MEN BY THESE PRESENTS:** that

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

a(n) \_\_\_\_\_, hereinafter called Principal, and  
(Corporation, Partnership or Individual)

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

\_\_\_\_\_  
(Name of Owner)

\_\_\_\_\_  
(Address of Owner)

hereinafter called OWNER, in the penal sum of \_\_\_\_\_  
\_\_\_\_\_ Dollars, (\$ \_\_\_\_\_) in lawful money of the United  
States, for the payment of which sum will and truly to be made, we bind ourselves, successors, and assigns, jointly  
and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with  
OWNER, dated \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, for the construction of:

**WTP AERATOR STRUCTURE REHABILITATION  
Bid No. 2025-19**

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS,  
and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such  
contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants,  
oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the  
construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such  
WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full  
force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change,  
extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the  
SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby  
waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the  
WORK or to the SPECIFICATIONS. The Surety agrees that modifications and changes to the terms and conditions  
of the Contract that increase the total amount to be paid the Principal shall automatically increase the obligation of  
the Surety on this bond and notice to Surety is not required for such increased obligation.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ counterparts, each one of which shall be  
(number)  
deemed an original, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

ATTEST:

\_\_\_\_\_  
*Principal*  
By \_\_\_\_\_ (s)  
\_\_\_\_\_  
*(Principal) Secretary*

(SEAL)

\_\_\_\_\_  
*(Witness to Principal)*  
\_\_\_\_\_  
*(Address)*  
\_\_\_\_\_  
*(Address)*  
\_\_\_\_\_  
*(Surety)*

ATTEST:

\_\_\_\_\_  
*(Surety) Secretary*

(SEAL)

\_\_\_\_\_  
*Witness to Surety*  
\_\_\_\_\_  
*(Address)*  
\_\_\_\_\_  
*Attorney-In-Fact*  
\_\_\_\_\_  
*(Address)*

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND. All BONDS signed by an agent must be accompanied by a certified copy of the authority to act.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

**END OF SECTION**

Revised 9/11/15

**PAYMENT BOND**

**00615-2**

**WTP AERATOR STRUCTURE REHABILITATION**

## OPINION OF ATTORNEY

This is to certify that I have examined the attached Contract Documents, and that I am of the opinion that such documents conform to the Laws of the State of Florida, and that the execution of the Contract is in due and proper form, and that the foregoing agreements constitute valid and binding obligations on such parties.

---

*Attorney for Owner*

This the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

**END OF SECTION**

---

OPINION OF ATTORNEY

00670 - 1

WTP AERATOR REHABILITATION STRUCTURE

**SECTION 00700**  
**GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT**

**ARTICLE 1 - DEFINITIONS**

Whenever used in these General Conditions or in the other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural thereof.

1.01. Addenda - Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the bidding documents of the Contract Documents.

1.02. Agreement - The written agreement between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

1.03. Application for Payment - The form accepted by ENGINEER which is to be used by CONTRACTOR in requesting progress or final payment and which is to include such supporting documentation as required by the Contract Documents.

1.04. Approve - The word approve is defined to mean review of the material, equipment or methods for general compliance with the design concepts and with the information given in the Contract Documents. It does not imply a responsibility on the part of the ENGINEER to verify in every detail conformance with the Drawings and Specifications.

1.05. Bid - The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.06. Bonds - Bid, Performance and Payment Bonds and other instruments of security.

1.07. Change Order - A written order to CONTRACTOR signed by OWNER authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time issued after the effective date of the Agreement.

1.08. Contract - The Agreement.

1.09. Contract Documents - The Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the bid and any post-Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, Notice of Award, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, any other exhibits identified in the Agreement, together with all Modifications issued after the execution of the Agreement.

1.10. Contract Price - The Contract Price constitutes the total compensation (subject to authorized adjustments) payable by OWNER to CONTRACTOR for performing the Work.

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-1**

**WTP AERATOR STRUCTURE REHABILITATION**

- 1.11. Contract Time - The number of days (computed as provided in paragraph 16.2) or the date stated in the Agreement for the completion of the Work.
- 1.12. CONTRACTOR - The person, firm or corporation with whom OWNER has entered into the Agreement.
- 1.13. Day - A calendar day of twenty-four hours measured from midnight to the next midnight.
- 1.14. Defective - Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents or does not meet the requirements of any inspection, test or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment.
- 1.15. Drawings - The drawings, which will be identified in the Agreement, which show the character and scope of the Work to be performed and which have been prepared or approved by ENGINEER and are referred to in the Contract Documents.
- 1.16. Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
- 1.17. ENGINEER - The City Engineer of the City of Ormond Beach, Florida, or the designee of such Engineer.
- 1.18. Engineering Order - A written request issued by ENGINEER to CONTRACTOR requesting a cost for certain modifications to the Work. An Engineering Order is not an authorization to perform the modifications.
- 1.19. Field Order - A written order issued by ENGINEER which clarifies or interprets the Contract Documents or orders minor changes in the Work in accordance with paragraph 10.2, but which does not involve a change in the Contract Price or the Contract Time.
- 1.20. Furnish - The words "furnish", "furnish and install", "install", and "provide" or words with similar meaning shall be interpreted, unless otherwise specifically stated, to mean "furnish and install complete in place and ready for service".
- 1.21. General Requirements - Sections of Division 1 of the Specifications.
- 1.22. Inspection - The term "Inspection" and the act of inspecting as used in these Contract Documents is defined to mean examination of construction to ensure that it conforms to the design concept expressed in the Drawings and Specifications. These terms shall not be construed to mean supervision, superintending and/or overseeing.
- 1.23. Modification - (a) A written amendment of the Contract Documents signed by both parties, (b) a Change Order, or (c) a Field Order. A modification may only be issued after the

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-2**

**WTP AERATOR STRUCTURE REHABILITATION**



effective date of the Agreement and must be in writing to be effective.

1.24. Notice of Award - The written notice by OWNER to the apparent successful Bidder stating that upon compliance by the apparent successful Bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

1.25. Notice to Proceed - A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform his obligation under the Contract Documents.

1.26. OWNER - The City of Ormond Beach, Florida.

1.27. Product - Materials, systems, and equipment provided by the CONTRACTOR.

1.28. Project - The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

1.29. Project Manual - The term "Project Manual" includes Bidding Requirements, Conditions of the Contract, Specifications, and Drawings.

1.30. Project Representative - The authorized representative of ENGINEER who is assigned to the site or any part thereof.

1.31. Shop Drawings - All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by CONTRACTOR, a Subcontractor, manufacturer, fabricator, supplier or distributor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a manufacturer, fabricator, supplier or distributor and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.

1.32. Specifications - Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

1.33. Subcontractor - An individual, firm or corporation having a contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

1.34. Substantial Completion - The point reached when the Work (or a specified part thereof), in the opinion of ENGINEER as evidenced by his final certificate of Substantial Completion, is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it was intended; or if there be no such certificate issued, when final payment is due in accordance with paragraph 14.10. The terms "substantially complete" and "substantially completed" as applied to any Work refer to Substantial Completion thereof.

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-3**

**WTP AERATOR STRUCTURE REHABILITATION**

1.35. Surety - Any person, firm or corporation which is bound with CONTRACTOR and which engages to be responsible for CONTRACTOR and his acceptable performance of the Work by a Performance or Payment Bond, or by a Public Construction Bond.

1.36. Work - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

## **ARTICLE 2 - PRELIMINARY MATTERS**

### **Delivery of Bonds:**

2.1. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish in accordance with paragraph 5.1.

### **Copies of Documents:**

2.2. OWNER shall furnish to CONTRACTOR, at OWNER's expense, up to three copies of the Contract Documents. Additional copies will be furnished, upon request, at the cost of reproduction.

### **Commencement of Contract Time; Notice to Proceed:**

2.3. The Contract Time will commence on the day indicated in the Notice to Proceed.

### **Starting the Project:**

2.4. CONTRACTOR shall start to perform the work on the date when the Contract Time commences to run, but no work shall be done at the site prior to the date on which the Contract Time commences to run, and no work shall be done at the site before the Payment and Performance Bond is executed, delivered to the OWNER, and recorded in the public records of Volusia County, Florida.

### **Before Starting Construction:**

2.5. Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error or discrepancy which CONTRACTOR may discover; however, CONTRACTOR shall not be liable to OWNER for failure to report any conflict, error or discrepancy in the Drawings or Specifications, unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof. No verbal agreement or conversation with any officer, agent or employee of OWNER, either before or after the execution of this Contract, shall

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-4**

**WTP AERATOR STRUCTURE REHABILITATION**

affect or modify any of the terms or obligations herein contained.

2.6. Before any Work at the site is started, CONTRACTOR shall deliver to OWNER certificates (and other evidence of insurance requested by OWNER) which CONTRACTOR is required to purchase and maintain in accordance with paragraphs 5.3, 5.4, 5.6 and 5.7.

2.7. CONTRACTOR shall not allow any on-site Subcontractor to commence work on his subcontract until insurance required of the Subcontractor has been obtained and approved by the CONTRACTOR. Failure to obtain this insurance will be the sole responsibility of the CONTRACTOR.

### **ARTICLE 3 - CONTRACT DOCUMENTS; INTENT AND REUSE**

3.1. The Contract Documents comprise the entire Agreement between OWNER and CONTRACTOR concerning the Work. They may be altered only by a Modification.

3.2. The Contract Documents are complementary; a requirement contained in one is applicable to all. If, during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, he shall report it to ENGINEER in writing at once and before proceeding with the Work affected thereby; however, CONTRACTOR shall not be liable to OWNER for failure to report any conflict, error or discrepancy in the Specifications or Drawings unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof. The various Contract Documents shall be given precedence, in case of conflict, error or discrepancy, as follows: Modifications, Agreement, Addenda, Supplementary Conditions, General Conditions, Drawings and Specifications. In a series of Modifications or Addenda the latest will govern.

3.3. It is the intent of the Specifications and Drawings to describe a complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work that may reasonably be inferred from the Specifications or Drawings as being required to produce the intended results shall be supplied whether or not it is specifically called for. When words which have well-known technical or trade meaning are used to describe Work, materials or equipment such words shall be interpreted in accordance with such meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the code of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual or code in effect at the time of opening of Bids (or, on the effective date of the Agreement if there were no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their agents or employees from those set forth in the Contract Documents. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided for in paragraph 9.2.

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-5**

**WTP AERATOR STRUCTURE REHABILITATION**

3.4. The Contract Documents will be governed by the law of the State of Florida, and venue for any action brought thereunder shall lie solely and exclusively in the Circuit Court in and for Volusia County, Florida.

**Reuse of Documents:**

3.5. Neither CONTRACTOR nor any Subcontractor, manufacturer, fabricator, supplier or distributor shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER; and they shall not reuse any of them on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaptation by ENGINEER.

**ARTICLE 4 - AVAILABILITY OF LANDS; PHYSICAL CONDITIONS;  
REFERENCE POINTS**

4.1. OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way for access thereto, and such other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR believes that any delay in OWNER's furnishing these lands or easements entitles him to an extension of the Contract Time, CONTRACTOR may make a claim therefor as provided in Article 12. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

**Physical Conditions - Investigations and Reports:**

4.2. Reference is made to the Supplementary Conditions for identification of those reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which have been relied upon by ENGINEER in preparation of the Drawings and Specifications. Such reports are not guaranteed as to accuracy or completeness and are not part of the Contract Documents.

**Unforeseen Physical Conditions:**

4.3. CONTRACTOR shall promptly, after becoming aware of and before further disturbing conditions affected thereby or performing any work in connection therewith, notify ENGINEER in writing of any subsurface or latent physical conditions at the site or in an existing structure differing materially from those indicated or referred to in the Contract Documents. CONTRACTOR, upon discovering and notifying OWNER of such subsurface or latent conditions, shall not perform work in the affected area until authorized to do so by OWNER. ENGINEER will promptly review those conditions and determine if further investigation or tests are necessary. If so determined by the ENGINEER, OWNER shall promptly obtain the necessary additional investigations and tests and furnish copies to CONTRACTOR. If ENGINEER finds that the results

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-6**

**WTP AERATOR STRUCTURE REHABILITATION**

of such investigations or tests indicate that there are subsurface or latent physical conditions which differ materially from those intended in the Contract Documents, and which could not reasonably have been anticipated by CONTRACTOR, a Change Order authorizing CONTRACTOR to perform the additional work may be issued incorporating the necessary revisions.

**Reference Points:**

4.4. OWNER shall provide engineering surveys for construction to establish reference points which in his judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work (unless otherwise specified in the General Requirements), shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for replacement or relocation of such reference points by professionally qualified personnel.

**ARTICLE 5 - BONDS AND INSURANCE**

**Performance and Other Bonds:**

5.1. CONTRACTOR shall furnish Performance and Payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. The City will record the bonds in the public records at the CONTRACTOR's expense. These Bonds shall remain in effect at least until one (1) year after the date of final payment, except as otherwise provided by law. All bonds shall be deemed to contain all of the Conditions of Section 255.05, Florida Statutes, even if such language is not directly contained within the bond. CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall be in the forms prescribed by the bidding documents or Supplementary Conditions and be executed by such Sureties as (i) are licensed to conduct business in the State of Florida, and (ii) are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

5.2. If the Surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in the State of Florida or it ceases to meet the requirements of clauses (i) and (ii) of paragraph 5.1, CONTRACTOR shall within five (5) days after notice thereof, substitute another Bond and Surety, both of which shall meet the requirements of clauses (i) and (ii) of paragraph 5.1.

**CONTRACTOR's Liability Insurance:**

5.3. CONTRACTOR and on-site Subcontractors shall purchase and maintain such Commercial General Liability and other insurance as will provide protection from claims set forth

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-7**

**WTP AERATOR STRUCTURE REHABILITATION**



below which may arise out of or result from CONTRACTOR's performance of the Work and CONTRACTOR's other obligations under the Contract Documents, whether such performance is by CONTRACTOR, by any Subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable;

5.3.1. Claims under workers' compensation, disability benefits and other similar employee benefit acts;

5.3.2. Claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;

5.3.3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees.

5.3.4. Claims for damages insured by personal injury liability coverage which are sustained (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason.

5.3.5. Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; and

5.3.6. Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

The insurance required by this paragraph 5.3 shall include the specific coverages and be written for not less than the limits of liability and coverages provided in the **Supplementary Conditions**, or required by law, whichever is greater. The Commercial General Liability insurance shall include completed operations insurance. All such insurance shall contain a provision that the coverage afforded will not be canceled, materially changed or renewal refused until at least **sixty** (60) days prior written notice of such cancellation, non-renewal or change (except for nonpayment of premium, which shall be fifteen (15) days) has been given to OWNER. All such insurance shall remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing defective Work in accordance with paragraph 13.12. In addition, CONTRACTOR shall maintain such completed operations insurance for at least two years after final payment and furnish OWNER with evidence of continuation of such insurance at final payment and one year thereafter.

**Contractual Liability Insurance:**

5.4. The Commercial General Liability insurance required by paragraph 5.3 will include contractual liability insurance applicable to CONTRACTOR's obligations under paragraphs 6.15 and 6.16. The OWNER shall be named as "Additionally Insured" under the CONTRACTOR's Commercial General Liability insurance policy.

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-8**

**WTP AERATOR STRUCTURE REHABILITATION**

**Owner's Liability Insurance:**

5.5. OWNER may, at its option, purchase and maintain its own liability insurance and, at its option, may purchase and maintain such insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.

**Property Insurance:**

5.6. CONTRACTOR shall purchase and maintain property insurance upon the Work at the site to the full insurable value thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by law). This insurance shall include the interests of OWNER, CONTRACTOR, and Subcontractors in the Work, shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage, and such other perils as may be provided in the Supplementary Conditions, and shall include damages, losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including fees and charges of engineers, architects, attorneys and other professionals). If not covered under the "all risk" insurance or otherwise provided in the Supplementary Conditions, CONTRACTOR shall purchase and maintain similar property insurance on portions of the Work stored on and off the site or in transit when such portions of the Work are to be included in the Application for Payment. The policies of insurance required to be purchased and maintained by CONTRACTOR in accordance with paragraphs 5.6 and 5.7 shall contain provisions that the coverage afforded will not be canceled or materially changed until at least sixty (60) days prior written notice has been given to OWNER.

5.7. CONTRACTOR shall purchase and maintain such boiler and machinery insurance as may be required by the Supplementary Conditions or by law. This insurance shall include the interests of OWNER, CONTRACTOR and Subcontractors in the Work.

5.8. OWNER shall not be responsible for purchasing and maintaining any property insurance to protect the interests of CONTRACTOR or Subcontractors in the Work to the extent of any deductible amounts that are provided in the Supplementary Conditions. If CONTRACTOR wishes property insurance coverage within the limits of such amounts, CONTRACTOR may purchase and maintain it at his own expense.

5.9. If CONTRACTOR requests in writing that other special insurance be included in the property insurance policy, OWNER shall, if possible, include such insurance, and the cost thereof shall be charged to CONTRACTOR by appropriate Change Order. Prior to commencement of the Work at the site, OWNER shall in writing advise CONTRACTOR whether or not such other insurance has been procured by OWNER.

**Waiver of Rights:**

5.10. OWNER and CONTRACTOR waive all rights against each other and the Subcontractors and their agents and employees and separate contractors (if any) and their subcontractors' agents and employees, for damages caused by fire or other perils to the extent

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-9**

**WTP AERATOR STRUCTURE REHABILITATION**

covered by insurance provided under paragraphs 5.6 and 5.7, inclusive, or any other property insurance applicable to the Work, except such rights as they may have to the proceeds of such insurance held by OWNER as trustee. OWNER shall require similar written waivers from each separate contractor, and CONTRACTOR shall require similar written waivers from each Subcontractor (in accordance with paragraph 6.8 as applicable); each such waiver will be in favor of all other parties enumerated in this paragraph 5.10.

**Receipt and Application of Proceeds:**

5.11. Any insured loss under the policies of insurance required by paragraphs 5.6 and 5.7 shall be adjusted with CONTRACTOR and made payable to CONTRACTOR as trustee for the insured, as their interests may appear, subject to the requirements of paragraph 5.12. CONTRACTOR shall deposit in a separate account any money so received, and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof and the Work and the cost thereof covered by an appropriate Change Order.

5.12. CONTRACTOR as trustee shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within fifteen days after the occurrence of loss to CONTRACTOR's exercise of this power. If such objection be made, CONTRACTOR as trustee shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If required in writing by any party in interest, CONTRACTOR as trustee shall upon the occurrence of an insured loss, give bond for the proper performance of his duties.

**Acceptance of Bonds and Insurance:**

5.13. If OWNER has any objection to the coverage afforded by or other provisions of the Bonds or Insurance required to be purchased and maintained by CONTRACTOR in accordance with Article 5 on the basis of non-conformance with the Contract Documents, OWNER shall so notify CONTRACTOR in writing within ten days after receipt of the certificates (or other evidence requested) required by paragraph 2.6. CONTRACTOR shall provide to OWNER such additional information in respect of insurance provided as OWNER may reasonably request. If CONTRACTOR does not purchase or maintain all of the Bonds and Insurance required of CONTRACTOR by the Contract Documents, CONTRACTOR shall notify OWNER in writing of such failure to purchase prior to the start of the Work, or such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, OWNER may elect to obtain equivalent Bonds or Insurance to protect OWNER's interests at the expense of CONTRACTOR, and a Change Order shall be issued to adjust the Contract Price accordingly.

**Partial Utilization - Property Insurance:**

5.14. If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 14.7; provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-10**

**WTP AERATOR STRUCTURE REHABILITATION**



effected the changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies that the property insurance shall not be canceled or lapse on account of any such partial use of occupancy.

## **ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES**

### **Supervision and Superintendence:**

6.1. CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.

6.2. CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.

### **Materials and Equipment:**

6.3. All materials and equipment installed in the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment.

Equipment manufacturers/suppliers must agree to OWNER'S terms of purchase. In no event will OWNER accept terms of sale that limit OWNER'S ability to reasonably recover in the event of equipment failure/defect such as, but not limited to; mandatory arbitration clauses, venue of court proceedings and applicable law outside of Volusia County, Florida, or damage limitations that preclude recovery for failed or defective equipment that would be less than full compensation for OWNER's loss.

6.4. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator, supplier or distributor, except as otherwise provided in the Contract Documents.

### **Concerning Subcontractors:**

6.5. CONTRACTOR shall not employ any Subcontractor or other person or organization (including those who are to furnish the principal items of materials or equipment), whether initially or as a substitute, to which OWNER may have any reasonable objection. CONTRACTOR shall submit with his Bid in writing the names, mailing addresses, and work classifications of all

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-11**

**WTP AERATOR STRUCTURE REHABILITATION**

Subcontractors proposed for the Work. The failure to list all Subcontractors proposed for the Work may result in the Bid being rejected as incomplete and nonresponsive. A Subcontractor or other person or organization identified in writing to OWNER by CONTRACTOR prior to the Notice of Award and not objected to in writing by OWNER prior to the Notice of Award will be deemed acceptable to OWNER. Acceptance of any Subcontractor, other person or organization of OWNER shall not constitute a waiver of any right of OWNER to reject defective Work. If OWNER after due investigation has reasonable objection to any Subcontractor, other person or organization proposed by CONTRACTOR after the Notice of Award because the qualifications and experience of the Subcontractor, other person or organization indicate that he cannot perform or provide work, materials or equipment which will perform the specified functions, CONTRACTOR shall submit an acceptable substitute and the Contract Price shall be increased or decreased by the difference in cost occasioned by such substitution, and an appropriate Change Order may be issued. CONTRACTOR shall not be required to employ any Subcontractor, other person or organization to which CONTRACTOR has any reasonable objection. Whether objections are reasonable shall be determined as specified in paragraph 9.8.

6.6. CONTRACTOR shall be fully responsible for all acts and omissions of his Subcontractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that CONTRACTOR is responsible for the acts and omissions of persons directly employed by CONTRACTOR. Nothing in the Contract Documents shall create any contractual relationship between OWNER and any Subcontractor or other person or organization having a direct contact with CONTRACTOR, nor shall it create any obligation on the part of OWNER to pay or to see to the payment of any moneys due any Subcontractor or other person or organization, except as may otherwise be required by law. OWNER may furnish to any Subcontractor or other person or organization, to the extent practicable, evidence of amounts paid to CONTRACTOR on account of specific Work done.

6.7. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or delineating the Work to be performed by any specific trade.

6.8. All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and contains waiver provisions as required by paragraph 5.10. CONTRACTOR shall pay each Subcontractor an appropriate share of any insurance proceeds received by CONTRACTOR on account of losses under policies issued pursuant to paragraphs 5.6 through 5.8.

6.9. Neither the OWNER nor the ENGINEER will undertake to settle any differences between CONTRACTOR and his Subcontractors or between Subcontractors.

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-12**

**WTP-AERATOR STRUCTURE REHABILITATION**

### **Patent Fees and Royalties:**

6.10. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. CONTRACTOR shall **indemnify and hold harmless** OWNER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorneys' fees) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Documents, and shall defend all such claims in connection with any alleged infringement of such rights. OWNER will promptly notify CONTRACTOR of any such allegation of infringement of such rights.

### **Safety and Protection:**

6.11. Precaution shall be exercised at all times by the CONTRACTOR for the protection of all persons, including employees, and property. The CONTRACTOR shall comply with all laws, regulations or ordinances related to safety and health, shall make special effort to detect hazardous conditions, and shall take prompt action where loss control/safety measures are reasonably expected. The OWNER may order work to be stopped if conditions exist that present on immediate danger to persons or property. The CONTRACTOR acknowledges that such stoppage will not shift responsibility for any damages from the CONTRACTOR to the OWNER.

6.12. CONTRACTOR be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.12.1. All employees on the Work and other persons who may be affected thereby.

6.12.2. All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and

6.12.3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

CONTRACTOR shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and utilities when prosecution of the Work may affect them. All damage, injury or loss to any property referred to in

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-13**

**WTP AERATOR STRUCTURE REHABILITATION**

paragraph 6.12.2 or 6.12.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR. CONTRACTOR's duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.12 that the Work is acceptable.

6.13. CONTRACTOR shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be CONTRACTOR's superintendent unless otherwise designated in writing by CONTRACTOR to OWNER.

**Emergencies:**

6.14. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from OWNER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give OWNER prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby.

**Indemnification/Hold Harmless:**

6.15 The parties recognize that the CONTRACTOR is an independent contractor. The CONTRACTOR agrees to assume liability for and indemnify, hold harmless, and defend the CITY, its commissioners, mayor, officers, employees, agents, and attorneys of, from, and against all liability and expense, including reasonable attorney's fees, in connection with any and all claims, demands, damages, actions, causes of action, and suits in equity of whatever kind or nature, including claims for personal injury, property damage, equitable relief, or loss of use, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the CONTRACTOR, its agents, officers, contractors, subcontractors, employees, or anyone else utilized by the CONTRACTOR in the performance of this Agreement. The CONTRACTOR's liability hereunder shall include all attorney's fees and costs incurred by the CITY in the enforcement of this indemnification provision. This includes claims made by the employees of the CONTRACTOR against the CITY and the CONTRACTOR hereby waives its entitlement, if any, to immunity under Section 440.11, Florida Statutes. Such obligations contained in this provision shall survive termination of this Agreement and shall not be limited by the amount of any insurance required to be obtained or maintained under this Agreement.

In the event of any claim arising out of the paragraph above, the CITY will elect, in its sole discretion, that either:

- 1) The CONTRACTOR assume control of the defense of any claim asserted by a third party against the CITY and, in connection with such defense, shall appoint lead counsel, in each case at the CONTRACTOR's expense. The CITY shall have the right, at its option, to participate in the defense of any third party claim, without relieving CONTRACTOR of any of its obligations hereunder. If the CONTRACTOR assumes control of the defense of any third party claim in accordance with this paragraph, the

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-14**

**WTP AERATOR STRUCTURE REHABILITATION**



CONTRACTOR shall obtain the prior written consent of the CITY before entering into any settlement of such claim. If the CONTRACTOR assumes control of the defense and the CONTRACTOR has failed or is failing to prosecute or defend vigorously the third party claim, the CITY may assume the control of the defense as provided by sub (2); or

- 2) The CITY will assume control of the defense of any third party claim, but CONTRACTOR shall pay the fees of counsel retained by the CITY and all expenses, including experts' fees.

Each party shall cooperate, and cause its agents to cooperate, in the defense or prosecution of any third party claim and shall furnish or cause to be furnished such records and information, and attend such conferences, discovery proceedings, hearings, trials, or appeals, as may be reasonably requested in connection therewith. It is further the specific intent and agreement of said parties that all the Contract Documents on this Project are hereby amended to include the foregoing indemnification. CONTRACTOR expressly agrees that it will not claim, and waives any claim, that this indemnification violates Section 725.06, Florida Statutes or is unenforceable pursuant to Section 725.06, Florida Statutes.

Nothing contained in the foregoing indemnification shall be construed as a waiver of any immunity or limitation of liability the CITY may have under the doctrine of sovereign immunity or Section 768.28, Florida Statutes.

Precaution shall be exercised at all times by the CONTRACTOR for the protection of all persons, including employees and property. The CONTRACTOR shall comply with all applicable laws, regulation and ordinances related to safety and health, shall make special efforts to detect hazardous conditions, and shall take prompt action with loss control/safety measures as are reasonably necessary. The CITY may order work to be stopped if conditions exist that present an immediate danger to persons or property. The CONTRACTOR acknowledges that such work stoppage will not shift responsibility for any damages from the CONTRACTOR to the CITY.

#### **Payment on Behalf of OWNER:**

6.16. The CONTRACTOR agrees to pay on behalf of the OWNER, and to pay the cost of the OWNER's legal defense, as may be selected by the OWNER, for all claims described in 6.15 Indemnification/Hold Harmless. Such payment on behalf of the OWNER shall be in addition to any and all other legal remedies available to the OWNER and shall not be considered to be the OWNER's exclusive remedy.

### **ARTICLE 7 - WORK BY OTHERS**

7.1. OWNER may perform additional work related to the Project by itself, or have additional work performed by utility service companies, or let other direct contracts therefor which shall contain General Conditions similar to these. CONTRACTOR shall afford the utility service companies and the other contractors who are parties to such direct contracts (or OWNER, if

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-15**

**WTP AERATOR STRUCTURE REHABILITATION**

OWNER is performing the additional work with OWNER's employees) reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate his Work with theirs.

7.2. If any part of CONTRACTOR's Work depends for proper execution or results upon the work of any such other contractor or utility service company (or OWNER), CONTRACTOR shall inspect and promptly report to ENGINEER in writing any patent or apparent defects or deficiencies in such work that render it unsuitable for such proper execution and results. CONTRACTOR's failure so to report shall constitute an acceptance of the work as fit and proper for integration with CONTRACTOR's Work except for latent or non-apparent defects and deficiencies in the other work.

7.3. If the performance of additional work by other contractors or utility service companies or OWNER was not noted in the Contract Documents, written notice thereof shall be given to CONTRACTOR prior to starting any such additional work. If CONTRACTOR believes that the performance of such additional work by OWNER or others involves additional expense to CONTRACTOR or requires an extension of the Contract Time, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12.

7.4. Should any other contractor having, or who shall hereafter have, a contract with OWNER for the performance of work upon the site of the Work to be performed hereunder sustain any damage through any act or omission of CONTRACTOR hereunder or through any act or omission of any Sub-contractor of CONTRACTOR, CONTRACTOR agrees to reimburse such other contractor for all such damages and to indemnify, defend and hold OWNER harmless from all such claims.

## **ARTICLE 8 - OWNER'S RESPONSIBILITIES**

8.1. OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.2. OWNER shall furnish the data required of OWNER under the Contract Documents promptly and shall make payments to CONTRACTOR promptly after they are due as provided in paragraphs 14.3 and 14.10.

8.3. OWNER's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting performance of the Work which have been relied upon by ENGINEER in preparing the Drawings and Specifications.

8.4. OWNER's responsibilities with respect to the purchase and maintenance of liability insurance are set forth in paragraph 5.5.

8.5. In connection with OWNER's rights to request changes in the Work in accordance with

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-16**

**WTP AERATOR STRUCTURE REHABILITATION**

Article 10, OWNER (especially in certain instances as provided in paragraph 10.4) may execute Change Orders.

8.6. OWNER's responsibility with respect to certain inspections, tests and approvals is set forth in paragraph 13.4.

8.7. The provisions relative to the OWNER's right to stop Work or suspend Work are set forth in paragraphs 6.11, 13.10 and 15.1.

## **ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION**

9.1. ENGINEER will be OWNER's representative during the construction period. The authority of ENGINEER shall, under no circumstances, relieve CONTRACTOR from CONTRACTOR's responsibilities to perform the Work in accordance with this Contract.

### **Clarifications and Interpretations:**

9.2. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the Contract Documents (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. If CONTRACTOR believes that a written clarification or interpretation justifies an increase in the Contract Price or Contract Time, CONTRACTOR may make a claim therefor as provided in Article 11 or Article 12.

### **Rejecting Defective Work:**

9.3. ENGINEER will have authority to disapprove or reject WORK which is defective, and will also have authority to require special inspection or testing of the Work as provided in paragraph 13.9, whether or not the Work is fabricated, installed or completed.

### **Change Orders and Payments:**

9.4. In connection with ENGINEER's responsibilities as to Change Orders, see Articles 10, 11 and 12.

9.5. In connection with ENGINEER's responsibilities as to Applications for Payment, etc., see Article 14.

### **Project Representation:**

9.6. ENGINEER may designate a Project Representative to assist ENGINEER in inspecting the performance of the Work. The duties, responsibilities and limitations of authority of any such Project Representative and assistants will be as provided in paragraphs 9.6.1 through 9.6.3.

9.6.1. General: Project Representative is ENGINEER's Agent. He shall have the authority to

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-17**

**WTP AERATOR STRUCTURE REHABILITATION**

do anything which the ENGINEER could do. His dealings in matters pertaining to the on-site work will in general be only with OWNER, ENGINEER and CONTRACTOR. His dealings with subcontractors will only be through or with the full knowledge of CONTRACTOR or his superintendent.

9.6.2. Duties and Responsibilities: Project Representative shall:

9.6.2.1. Schedules: Review the progress schedule, schedule of Shop Drawing submissions, schedule of values and other schedules prepared by CONTRACTOR and consult with ENGINEER concerning their acceptability.

9.6.2.2. Conferences: Attend preconstruction conferences.

9.6.2.3. Liaison: Serve as ENGINEER's liaison with CONTRACTOR, working principally through CONTRACTOR's superintendent, and assist him in understanding the intent of the Contract Documents. Assist in obtaining from OWNER additional details or information, when required at the job site for proper execution of the Work.

9.6.2.4. Shop Drawings and Samples: Receive and record date of receipt of Shop Drawings and samples which have been furnished by CONTRACTOR. Review the Shop Drawings for conformance with the information given in the Contract Documents. Provide office review and approval of Shop Drawings (as that term is defined in Article 1) and samples, the results of tests and inspections and other data which any contractor is required to submit, but only for conformance with the design concept of the project and compliance with the information given in the Contract Documents; determine the acceptability of substitute materials and equipment proposed by CONTRACTOR(S); and receive and review (for general content as required by the Specifications) maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection which are to be assembled by CONTRACTOR(S) in accordance with the Contract Documents.

9.6.2.5. Review of Work, Rejection of Defective Work, Inspections and Tests: Conduct on-site inspections of the Work in progress to assist ENGINEER in determining that the Project is proceeding in accordance with the Contract Documents and that completed Work will conform to the Contract Documents. Report to ENGINEER whenever he believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspections, tests or approvals required to be made; and advise ENGINEER when he believes Work should be corrected or rejected or should be uncovered for observation, or requires special testing or inspection. Verify that tests, equipment and systems start-ups and operating and maintenance instructions are conducted as required by the Contract Documents and in the presence of the required personnel, and that CONTRACTOR maintains adequate records thereof; observe, record and report appropriate details relative to the test procedures and start-ups.

9.6.2.6. Modifications: Consider and evaluate CONTRACTOR's suggestions for modifications in Drawings or Specifications and report them to ENGINEER with recommendations. Prepare change orders as required; he may, as OWNER's representative, require special inspection or

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-18**

**WTP AERATOR STRUCTURE REHABILITATION**



testing of the work; he shall act as interpreter of the requirements of the Contract Documents, judge of the performance thereunder by the parties thereto, and transmitter of clarification and interpretation of the Contract Documents. Process contract change orders to reflect final measured contract quantities and to reflect changes in the contract Drawings and Specifications.

9.6.2.7. Payment Requisitions: Based on his on-site observations and on his review of CONTRACTOR(S) applications for payment and the accompanying data and schedules, determine the amounts owed the CONTRACTOR(S). The ENGINEER will then approve in writing payments to CONTRACTOR(S) in such amounts; such approvals of payment will constitute a presentation to OWNER, based on such observations and review, that the Work has progressed to the point indicated and that, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning Project upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, and to any qualifications stated in his approval).

9.6.2.8. Guarantees, Certificates, Maintenance and Operation Manuals: During the course of the Work verify that guarantees, certificates, maintenance and operation manuals and other data required to be assembled and furnished by CONTRACTOR are applicable to the items actually installed; and deliver this data to ENGINEER for his review prior to final acceptance of the Project.

9.6.2.9. Completion: Before ENGINEER issues a Certificate of Substantial Completion, submit to CONTRACTOR a list of observed items requiring correction. Conduct final inspection in the company of CONTRACTOR and prepare a final list of items to be corrected. Verify that all items on final list have been corrected and make recommendations to ENGINEER concerning acceptance.

9.6.3. Limitations of Authority: The Project Representative; shall not undertake any of the responsibilities of CONTRACTOR, subcontractors or CONTRACTOR's superintendent; shall not expedite Work for CONTRACTOR; shall not advise on or issue directions as to safety precautions and programs in connection with the Work; and shall not assist CONTRACTOR in maintaining up-to-date copies of Record Drawings.

#### **Decisions on Disagreements:**

9.7. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the execution and progress of the Work shall be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph, which ENGINEER will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter shall be delivered by the claimant to ENGINEER and the other party to the Agreement within fifteen days of the occurrence of the event giving rise thereto, and written supporting data will be submitted to ENGINEER and the other party within forty-five days of such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data. Failure to give the required notice constitutes a waiver of the claim.

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-19**

**WTP AERATOR STRUCTURE REHABILITATION**

9.8. The rendering of a decision by ENGINEER pursuant to paragraph 9.7 with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.13) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or at law in respect of any such claim, dispute or other matter. If the Owner agrees to pay all or part of a claim for which notice was not timely made, such agreement shall not be deemed a waiver of the right to enforce notice requirements in connection with any other claim.

**Limitations on ENGINEER's Responsibilities:**

9.9. Neither ENGINEER's authority to act under this Article 9 or elsewhere in the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of ENGINEER to CONTRACTOR, any Subcontractor, any manufacturer, fabricator, supplier or distributor, or any of their agents or employees or any other person performing any of the Work.

9.10. Whenever in the Contract Documents the terms "as ordered", "as directed", "as required", "as allowed" or terms of like effect or import are used, or the adjective "reasonable", "suitable", "acceptable", "proper" or "satisfactory" or adjectives of like effect or import are used, to describe requirements, decision, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective never indicates that ENGINEER shall have authority to supervise or direct performance of the Work or authority to undertake responsibility contrary to the provisions of paragraphs 9.11 or 9.12.

9.11. ENGINEER will not be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and ENGINEER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

9.12. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractors, or of the agents or employees of any CONTRACTOR or Subcontractor, or of any other persons at the site or otherwise performing any of the Work.

**ARTICLE 10 - CHANGES IN THE WORK**

10.1. Without invalidating the Agreement, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by Change Orders. Upon receipt of a Change Order, CONTRACTOR shall proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 11 or Article 12 on the basis of a claim made by either party.

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-20**

**WTP AERATOR STRUCTURE REHABILITATION**

10.2. ENGINEER may authorize minor changes in the Work not involving an adjustment in the Contract Price or the Contract Time, which are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order and shall be binding on OWNER, and also on CONTRACTOR who shall perform the change promptly. If CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or Contract Time, CONTRACTOR may make a claim therefor as provided in Article 11 or Article 12.

10.3. Additional Work performed without authorization of a Change Order will not entitle CONTRACTOR to an increase in the Contract Price or an extension of the Contract Time, except in the case of an emergency as provided in paragraph 6.14 and except as provided in paragraphs 10.2 and 13.9.

10.4. OWNER may execute appropriate Change Orders covering changes in the Work which are required by OWNER, or required because of unforeseen physical conditions or emergencies, or because of uncovering Work found not to be defective or as provided in paragraph 11.9, or because of any other claim of CONTRACTOR for a change in the Contract Time or the Contract Price which is recommended by ENGINEER.

10.5. If notice of any change affecting the general scope of the Work or change in the Contract Price is required by the provisions of any Bond to be given to the Surety, it will be CONTRACTOR's responsibility to so notify the Surety, and the amount of each applicable Bond shall be adjusted accordingly. CONTRACTOR shall furnish proof of such adjustment to OWNER.

## **ARTICLE 11 - CHANGE OF CONTRACT PRICE**

11.1. The Contract Price constitutes the total compensation (subject to authorized adjustments) payable by OWNER to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

11.2. The Contract Price may only be changed by a Change Order. Any claim for an increase in the Contract Price shall be based on written notice delivered to ENGINEER within fifteen days of the occurrence of the event giving rise to the claim. Notice of the amount of the claim with supporting data shall be delivered within forty-five days of such occurrence unless ENGINEER allows an additional period of time to ascertain accurate cost data.

11.3. The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

11.3.1. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved (subject to the provisions of paragraph 11.9).

11.3.2. By mutual acceptance of a lump sum.

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-21**

**WTP AERATOR STRUCTURE REHABILITATION**

11.3.3. On the basis of the Cost of the Work (determined as provided in paragraphs 11.4 and 11.5) plus a Contractor's Fee for overhead and profit (determined as provided in paragraph 11.6).

**Cost of the Work:**

11.4. The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5:

11.4.1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon in advance by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis for their time spent on the Work. Payroll cost shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' compensation, health and retirement benefits, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site.

11.4.2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and manufacturers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment shall accrue to OWNER and CONTRACTOR shall make provisions so that they may be obtained.

11.4.3. Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to CONTRACTOR and shall deliver such bids to OWNER who will then determine which bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a Fee, the Subcontractor's Cost of the Work shall be determined in the same manner as CONTRACTOR's Cost of the Work. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

11.4.4. Costs of special consultants (including, but not limited to, engineers, architects, testing laboratories, surveyors, lawyers and accountants) employed for services specifically related to the Work. Any such special consultants covered by the Consultants' Competitive Negotiations Act (Section 287.055, Florida Statutes), shall be selected in accordance with such Act.

11.4.5. Supplemental costs including the following:

11.4.5.1. The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-22**

**WTP AERATOR STRUCTURE REHABILITATION**



11.4.5.2. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workmen, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

11.4.5.3. Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof - all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

11.4.5.4. Sales, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by any government authority.

11.4.5.5. Deposits lost for causes other than CONTRACTOR's negligence, royalty payments and fees for permits and licenses.

11.4.5.6. Losses and damages (and related expenses), not compensated by insurance or otherwise, to the Work or otherwise sustained by CONTRACTOR in connection with the execution of the Work, provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's Fee. If, however, any such loss or damage requires construction and CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7. The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8. Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.4.5.9. Cost of premiums for additional Bonds and insurance required because of changes in the Work.

11.5. The term Cost of the Work shall not include any of the following:

11.5.1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and estimators, lawyers, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in his principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in subparagraph 11.4.1. - all of which are to be considered administrative costs covered by the Contractor's Fee.

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-23**

**WTP AERATOR STRUCTURE REHABILITATION**

11.5.2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.

11.5.3. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

11.5.4. Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for additional Bonds and insurance required because of changes in the Work).

11.5.5. Costs, including damages, due to the negligence of intentional acts of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

11.5.6. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

**Contractor's Fee:**

11.6. The Contractor's Fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

11.6.1. A mutually acceptable fixed fee; or if none can be agreed upon,

11.6.2. A fee based on the following percentages of the various portions of the Cost of the Work;

11.6.2.1. For costs incurred under paragraphs 11.4.1. and 11.4.2., the Contractor's Fee shall be ten percent,

11.6.2.2. For costs incurred under paragraph 11.4.3., the Contractor's Fee shall be five percent; and if a subcontract is on the basis of Cost of the Work Plus a Fee, the maximum allowable to the Subcontractor as a fee for overhead and profit shall be ten percent, and

11.6.2.3. No fee shall be payable on the basis of costs itemized under paragraphs 11.4.4., 11.4.5. and 11.5.

11.7. The amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in costs, will be the amount of the actual net decrease. When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any.

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-24**

**WTP AERATOR STRUCTURE REHABILITATION**

### **Adjustment of Unit Prices:**

11.8. Whenever the cost of any Work is to be determined pursuant to paragraphs 11.4. and 11.5., CONTRACTOR will submit in form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

11.9. Where the quantity of Work with respect to any item that is covered by a unit price differs materially and significantly from the quantity of such Work indicated in the Contract Documents, an appropriate Change Order may be issued on recommendation of ENGINEER to adjust the unit price.

## **ARTICLE 12 - CHANGE OF THE CONTRACT TIME**

12.1. The Contract Time may only be changed by a written Change Order. Any claim for an extension in the Contract Time shall be based on written notice delivered to ENGINEER within fifteen days of the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within forty-five days of such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data. All claims for adjustment in the Contract Time shall be determined by ENGINEER if OWNER and CONTRACTOR cannot otherwise agree. Any change in the Contract Time resulting from any such claim shall be incorporated in a written Change Order.

12.2. The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if a claim is made therefor as provided in paragraph 12.1. Such delays shall include, but not be limited to, acts or neglect by OWNER or others performing additional Work as contemplated by Article 7, or fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.

12.3. All time limits stated in the Contract Documents are of the essence of the Agreement. The CONTRACTOR shall not be entitled to any claim for damages on account of hindrances or delays from any cause whatsoever, but if occasioned by an act of God, or by any act or omission on the part of the Owner, such act, hindrance or delay may entitle the CONTRACTOR to an extension of time in which to complete the work which shall be determined by the ENGINEER, provided that the CONTRACTOR will give notice in writing of the cause of such act, hindrance or delay within ten (10) days after its occurrence.

## **ARTICLE 13 - WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK**

### **Warranty and Guarantee:**

13.1. CONTRACTOR warrants and guarantees to OWNER that all Work will be in accordance with the Contract Documents and will not be defective. Prompt notice of all defects shall be given to CONTRACTOR. All defective Work, whether or not in place, may be rejected,

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-25**

**WTP AERATOR STRUCTURE REHABILITATION**

corrected or accepted as provided in this Article 13.

**Access to Work:**

13.2. ENGINEER and ENGINEER's representatives, other representatives of OWNER, testing agencies and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspection and testing. CONTRACTOR shall provide proper and safe conditions for such access.

**Tests and Inspections:**

13.3. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests or approvals.

13.4. If any law, ordinance, rule, regulation, code, or order of any public body having jurisdiction requires any Work (or part thereof) to specifically be inspected, tested or approved, CONTRACTOR shall assume full responsibility therefor, pay all costs in connection therewith and furnish ENGINEER the required certificates of inspection, testing or approval. CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with OWNER's acceptance of a manufacturer, fabricator, supplier, or distributor of materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work. The cost of all other inspections, tests and approvals required by the Contract Documents shall be paid by OWNER (unless otherwise specified).

13.5. All inspections, tests or approvals other than those required by law, ordinance, rule, regulation, code or order of any public body having jurisdiction shall be performed by organizations acceptable to OWNER and CONTRACTOR.

13.6. If any Work that is to be inspected, tested or approved is covered without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation. Such uncovering shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover such Work and ENGINEER has not acted with reasonable promptness in response to such notice.

13.7. Neither observations by ENGINEER, nor inspections, tests or approvals by others shall relieve CONTRACTOR from his obligations to perform the Work in accordance with the Contract Documents, and in all events in no less than a workmanlike manner.

**Uncovering Work:**

13.8. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER's observation and replaced at CONTRACTOR's expense.

13.9. If ENGINEER considers it necessary or advisable that covered Work be observed by

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-26**

**WTP AERATOR STRUCTURE REHABILITATION**



ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose or otherwise make available for observation, inspection or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, CONTRACTOR shall bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate deductive Change Order shall be issued. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction if he makes a claim therefor as provided in Articles 11 and 12.

**Owner May Stop the Work:**

13.10. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workmen or suitable materials or equipment, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause of such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any other party.

**Correction or Removal of Defective Work:**

13.11. If required by ENGINEER, CONTRACTOR shall promptly, without cost to OWNER and as specified by ENGINEER, either correct any defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by ENGINEER, remove it from the site and replace it with nondefective Work.

**One Year Correction Period:**

13.12. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any Work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions, either correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with nondefective Work. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs of such removal and replacement, including compensation for additional professional services, shall be paid by CONTRACTOR.

**Acceptance of Defective Work:**

13.13. If, instead of requiring correction or removal and replacement of defective Work, OWNER prefers to accept it, OWNER may do so. In such case, if acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order shall be issued incorporating the necessary revisions in the Contract Documents, including appropriate reduction in the Contract Price; or, if the acceptance occurs after such recommendation, an appropriate amount shall be paid

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-27**

**WTP AERATOR STRUCTURE REHABILITATION**

by CONTRACTOR to OWNER.

**OWNER May Correct Defective Work:**

13.14. If CONTRACTOR fails, within a reasonable time after written notice of ENGINEER to proceed, to correct and to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.11., or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents (including any requirements of the progress schedule), OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising his rights under this paragraph OWNER shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees such access to the site as may be necessary to enable OWNER to exercise his rights under this paragraph. All direct and indirect costs of OWNER in exercising such rights shall be charged against CONTRACTOR in an amount verified by ENGINEER, and a Change Order shall be issued incorporating the necessary revisions in the Contract Documents and a reduction in the Contract Price. Such direct and indirect costs shall include, in particular but without limitation, compensation for additional professional services required and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR's defective Work. CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by OWNER of OWNER's rights hereunder.

**ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION**

**Application for Progress Payment:**

14.1. At least ten days before each progress payment falls due (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents and also as ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by such data, satisfactory to OWNER, as will establish OWNER's title to the material and equipment and protect OWNER's interest therein, including applicable insurance. Each subsequent Application for Payment shall include an affidavit of CONTRACTOR stating that all previous progress payments received on account of the Work have been applied to discharge in full all of CONTRACTOR's obligations reflected in prior Applications for Payment. The amount of retainage with respect to progress payments will be as stipulated in the Form of Agreement, Article 5.

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-28**

**WTP AERATOR STRUCTURE REHABILITATION**

**CONTRACTOR's Warranty of Title:**

14.2. CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by an Application for Payment, whether incorporated in the project or not, will pass to OWNER at the time of payment free and clear of all liens, claims, security interests and encumbrances (hereafter in these General Conditions referred to as "Liens").

**Review of Applications for Progress Payment:**

14.3. ENGINEER will, within ten days after receipt of each Application for Payment, either indicate in writing a recommendation of payment, or return the Application to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application. OWNER shall, within ten days of presentation to him of the ENGINEER's recommendation of payment, pay CONTRACTOR the amount recommended.

14.4. ENGINEER may refuse to recommend the whole or any part of any payment if, in his opinion, it would be incorrect to make such representations to OWNER. He may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

14.4.1. The Work is defective, or completed Work has been damaged requiring correction or replacement;

14.4.2. Written claims have been made against OWNER or Liens have been filed in connection with the Work;

14.4.3. The Contract Price has been reduced because of Modifications;

14.4.4. OWNER has been required to correct defective Work or complete the Work in accordance with paragraph 13.14;

14.4.5. Of CONTRACTOR's unsatisfactory prosecution of the Work in accordance with the Contract Documents, including failure to clean up;

14.4.6. Of liquidated damages payable by CONTRACTOR; or

14.4.7. CONTRACTOR's failure to make payment to Subcontractors, or for labor, materials or equipment.

**Substantial Completion:**

14.5. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall, in writing to ENGINEER, certify that the entire Work is substantially complete and request that ENGINEER issue a certificate of Substantial Completion. Within a

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-29**

**WTP AERATOR STRUCTURE REHABILITATION**

reasonable time thereafter, CONTRACTOR and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving his reasons therefor. If ENGINEER considers the Work substantially complete, ENGINEER will prepare a certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a list of items to be completed or corrected before final payment.

14.6. OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the list.

**Partial Utilization:**

14.7. Use by OWNER of completed portions of the Work may be accomplished prior to Substantial Completion of all the Work subject to the following:

14.7.1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any part of the Work which OWNER believes to be substantially complete and which may be so used without significant interference with construction of the other parts of the Work. If CONTRACTOR agrees, CONTRACTOR will certify to ENGINEER that said part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time thereafter CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify CONTRACTOR in writing giving his reasons therefor. If ENGINEER considers that part of the Work to be substantially complete, ENGINEER will execute and deliver to CONTRACTOR a certificate to that effect, fixing the date of Substantial Completion as to that part of the Work, attaching thereto a list of items to be completed or corrected before final payment. OWNER shall have the right to exclude CONTRACTOR from any part of the Work which ENGINEER has so certified to be substantially complete, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the list.

14.7.2. In lieu of the issuance of a certificate of Substantial Completion as to part of the Work, OWNER may take over operation of a facility constituting part of the Work whether or not it is substantially complete if such facility is functionally and separately usable; provided that prior to any such takeover, OWNER and CONTRACTOR have agreed as to the division of responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, correction period, heat, utilities and insurance with respect to such facility.

14.7.3. No occupancy of part of the Work or taking over of operations of a facility will be accomplished prior to compliance with the requirements of paragraph 5.14 with regard to property insurance.

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-30**

**WTP AERATOR STRUCTURE REHABILITATION**



**Final Inspection:**

14.8. Upon written notice from CONTRACTOR that the work is complete, ENGINEER will make a final inspection with CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.

**Final Application for Payment:**

14.9. After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents and other documents - all as required by the Contract Documents, and after ENGINEER has indicated that the Work is acceptable (subject to the provisions of paragraph 14.13), CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents and such other data and schedules as ENGINEER may reasonably require, together with complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or his property might in any way be responsible, have been paid or otherwise satisfied; and consent of the Surety, if any, to final payment. If any Subcontractor, manufacturer, fabricator, supplier or distributor fails to furnish a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

**Final Payment and Acceptance:**

14.10. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation - all as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR has fulfilled all of his obligations under the Contract Documents, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing his recommendation of payment and present the Application for payment. Thereupon ENGINEER will give written notice to CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.13. Otherwise, ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application. If the Application and accompanying documentation are appropriate as to form and substance, OWNER shall, within thirty days after receipt thereof pay CONTRACTOR the amount recommended by ENGINEER.

14.11. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-31**

**WTP AERATOR STRUCTURE REHABILITATION**

Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.1, the written consent of the Surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

**CONTRACTOR's Continuing Obligation:**

14.12. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by ENGINEER, nor the issuance of a certificate of Substantial Completion, nor any payment by OWNER to CONTRACTOR under the Contract Documents, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor the issuance of a notice of acceptability by ENGINEER pursuant to paragraph 14.10, nor any correction of defective Work by OWNER shall constitute an acceptance of Work not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents.

**Waiver of Claims:**

14.13. The making and acceptance of final payment shall constitute:

14.13.1. A waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled or unfilled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.8 or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it shall not constitute a waiver by OWNER of any rights in respect of CONTRACTOR's continuing obligations under the Contract Documents; and

14.13.2. A waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled or unfilled.

**ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION**

**Owner May Suspend Work:**

15.1. OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and Surety which shall fix the date on which Work shall be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR may be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension of work at OWNER's request if he makes a claim therefor as provided in Articles 11 and 12.

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-32**

**WTP AERATOR STRUCTURE REHABILITATION**

**Owner May Terminate:**

- 15.2. Upon the occurrence of any one or more of the following events:
- 15.2.1. If CONTRACTOR is adjudged a bankrupt or insolvent;
  - 15.2.2. If CONTRACTOR makes a general assignment for the benefit of creditors;
  - 15.2.3. If a trustee or receiver is appointed for CONTRACTOR or for any of CONTRACTOR's property;
  - 15.2.4. If CONTRACTOR files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws;
  - 15.2.5. If CONTRACTOR repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment;
  - 15.2.6. If CONTRACTOR repeatedly fails to make prompt payments to Subcontractors or for labor, materials or equipment;
  - 15.2.7. If CONTRACTOR violates any laws, ordinances, rules, regulations or orders of any public body having jurisdiction;
  - 15.2.8. If CONTRACTOR disregards the authority of ENGINEER; or
  - 15.2.9. If CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents.

OWNER may after giving CONTRACTOR and his Surety seven (7) days' written notice, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the site and demand the Surety to finish the Work by whatever methods he may deem expedient but subject to the approval of OWNER. The Surety shall use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may require. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Work, including compensation for additional professional services, such excess shall be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR and the Surety shall be jointly and severally liable to pay the difference to OWNER. Such costs incurred by OWNER shall be incorporated in a Change Order, but in finishing the Work OWNER shall not be required to accept the lowest figure for the Work to be performed by the Surety.

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-33**

**WTP AERATOR STRUCTURE REHABILITATION**

15.3. Where CONTRACTOR's services have been so terminated by OWNER, the termination shall not affect any rights of OWNER against CONTRACTOR or the Surety then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.4. Upon seven (7) days' written notice to CONTRACTOR and Surety, OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, CONTRACTOR shall be paid for all Work executed, any expense sustained plus reasonable termination expenses.

**CONTRACTOR May Stop Work or Terminate:**

15.5. If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety (90) days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within thirty (30) days after it is submitted, or OWNER fails for thirty days to pay CONTRACTOR any sum finally determined to be due, the CONTRACTOR may, upon seven (7) days' written notice to OWNER, terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if ENGINEER has failed to act on an Application for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven (7) days' notice to OWNER stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve CONTRACTOR of his obligations to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with OWNER.

**ARTICLE 16 - MISCELLANEOUS**

**Giving Notice:**

16.1. Whenever any provision of the Contract Documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

**Computation of Time:**

16.2. When any period of time is referred to in the Contract Documents by days, it shall be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day shall be omitted from the computation.

**General:**

16.3. The duties and obligations imposed by these General Conditions and the rights and

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-34**

**WTP AERATOR STRUCTURE REHABILITATION**



remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.15, 13.1, 13.11, 13.14, 14.2, and 15.2, and all of the rights and remedies available to OWNER thereunder, shall be in addition to, and not in limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by law or contractor, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph shall be as effective as if repeated specifically in the contract Documents in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the Contract Documents shall survive final payment and termination or completion of this Agreement.

#### **Liquidated Damages:**

16.4. OWNER and CONTRACTOR recognize that time is of the essence to complete this Project and that OWNER will suffer financial loss if the Work is not substantially complete within the time specified in Agreement, plus any extensions thereof allowed in accordance with Article 12. They also recognize the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by OWNER if the Work is not substantially complete on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER the amount stated in the Contract for each day that expires after the time specified in the Contract for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the time specified in the Contract or any proper extension thereof granted by OWNER, CONTRACTOR shall pay the OWNER an amount equal to all actual expenses incurred by the OWNER as a direct result of the CONTRACTOR'S negligence, refusal, or failure to so complete the remaining Work. In the event the CONTRACTOR is terminated or abandons the Work prior to the scheduled date for final completion, the CONTRACTOR may be liable for both liquidated damages attributable to delay and for excess completion costs.

#### **Reports of Investigations and Tests of Subsurface and Latent Physical Conditions:**

16.5. Reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the work which have been relied upon by ENGINEER in preparing the Drawings and Specifications are as listed in the Supplementary Conditions. OWNER will make such reports available for inspection to any Bidder or copies may be obtained from the ENGINEER by the Bidder at reproduction cost. These reports are not guaranteed as to accuracy or completeness, nor are they part of the Contract Documents.

#### **Performance of Work by CONTRACTOR:**

16.6. Contract Assignment. The successful bidder (or bidders) will be required to perform the work as a prime contractor. CONTRACTOR shall not sublet, sell, transfer, assign or otherwise dispose of the contract or any portion thereof, or of his right, title, or interest therein. CONTRACTOR shall perform on the site and with his own organization work equivalent to not less than fifty (50%) percent of the total dollar value of the work to be performed under this

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-35**

**WTP AERATOR STRUCTURE REHABILITATION**

contract except that work designated in the Supplementary Conditions as specialty work may be performed by subcontractors and the cost of any such specialty work so performed by subcontracts may be deducted from the total contract amount before computing the amount of work required to be performed by CONTRACTOR with his own organization.

**Limitation of Remedy and Liability:**

16.7 Contractor and Owner expressly waive any claim for consequential damages against the other including but not limited to, a waiver of claims for diminished bonding capacity, loss of financing, loss of business reputation, lost profits on other projects or other lost opportunity damage claims.

Contractor expressly agrees that any claim (tort, contract, claim in equity, or otherwise) by Contractor for damages against Owner shall not exceed the total amount of the contract price, less any amounts actually paid to the Contractor by the Owner (or by an insurer of the Owner).

All liability of the City allegedly resulting from, arising out of or connected with this Agreement, or from the performance or breach thereof, shall terminate three years from the termination of this Agreement.

**Waiver of Right to Jury Trial:**

16.8 THE PARTIES HEREBY KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVE ANY RIGHT WHICH ANY PARTY MAY HAVE TO TRIAL BY JURY IN RESPECT OF ANY PROCEEDING, LITIGATION OR COUNTERCLAIM BASED ON, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS AGREEMENT OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS (WHETHER VERBAL OR WRITTEN) OR ACTIONS OF ANY PARTY. IF THE SUBJECT MATTER OF ANY LAWSUIT IS ONE IN WHICH THE WAIVER OF JURY TRIAL IS PROHIBITED, NO PARTY TO THIS AGREEMENT SHALL PRESENT AS A NON-COMPULSORY COUNTERCLAIM IN ANY SUCH LAWSUIT ANY CLAIM BASED ON, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS AGREEMENT. FURTHERMORE, NO PARTY TO THIS AGREEMENT SHALL SEEK TO CONSOLIDATE ANY SUCH ACTION IN WHICH A JURY TRIAL CANNOT BE WAIVED.

**END OF SECTION**

Revised 4/1/21

**GENERAL CONDITIONS OF  
THE CONSTRUCTION CONTRACT**

**00700-36**

**WTP AERATOR STRUCTURE REHABILITATION**

**SECTION 00800  
SUPPLEMENTARY CONDITIONS**

The following supplements modify, change, delete from, or add to the General Conditions of the Construction Contract (Section 00700). Where any article of the General Conditions is modified or any paragraph, subparagraph or clause thereof is modified or deleted by these supplements, the unaltered provisions of that article, paragraph, subparagraph or clause shall remain in effect.

**ARTICLE 16 - MISCELLANEOUS**

Section 16.5 – Reports of Investigations and Test of Subsurface and Latent Physical Conditions

Add the following subparagraph:

16.5.1 The list of reports of investigations and tests of subsurface and latent physical conditions as referred to in General Conditions Section 16.5 are as follows:

None

Add the following:

16.7 Minimum Requirements for the provision and maintenance of Payment and Performance Bonds, and Contractor's Insurance

In accordance with Resolution 2021-144 as it presently exists or may hereafter change, or applicable state, federal or local law, whichever is stricter, the following minimum requirements have been established:

**A. Payment and Performance Bonds**

1. Except as otherwise provided herein, the Contractor shall, prior to beginning performance, deliver to the City, and the City shall record in the public records of Volusia County, Florida, the Contractor's Payment and Performance Bond in an amount equal to the full amount of the Contract.
2.
  - (a) Payment and Performance Bonds shall not be required for any contract except those which are for the construction of a public building, for the prosecution and completion of a public work (as described in Section 180.06, **Florida Statutes**, as amended from time to time) or for repairs upon a public building or public work (as described in Section 180.06, **Florida Statutes**, as amended from time to time).
  - (b) With respect to those Contracts for which Payment and Performance Bonds are otherwise required:

Revised 9/22/21

**SUPPLEMENTARY CONDITIONS**

**00800-1**

**WTP AERATOR STRUCTURE REHABILITATION**

- i. Unless the City Manager, or designee, determines such Bond to be necessary to protect the interests of the City, no Contractor shall be required to provide a Payment and Performance Bond for any Contract which is for \$25,000.00 or less.
  - ii. Upon the request of the contractor, good cause shown by the Contractor, and a determination that the public health, safety and welfare will be sufficiently protected, the City Commission may exempt the contractor from the requirement of providing a Payment and Performance Bond for any Contract which is for more than \$25,000.00 but is less than \$200,000.00.
3. The Payment and Performance Bond shall list the Contractor as Principal and be issued by a surety insurer authorized to do business in Florida as a surety and listed as an acceptable surety in the Federal Register.
4. The Payment and Performance Bond shall be executed pursuant to Section 255.05, **Florida Statutes**, and be in a form substantially similar to the form set forth in Section 255.05(3), **Florida Statutes**.
5. The Payment and Performance Bond shall specifically provide coverage for delay damages due to a default by the Contractor.
6. The Payment and Performance Bond shall not make the Contract part of the Bond agreement.
7. In lieu of the Payment and Performance Bond, the Contractor may file with the Finance Director of the City, in an amount equal to the full amount of the Contract, cash, a money order, a certified check, a cashier's check, an irrevocable letter of credit, or a security of a type listed in Part II, Chapter 625, **Florida Statutes**.
8. In the event the surety on any Payment and Performance Bond furnished by the Contractor is declared bankrupt or becomes insolvent, or its right to do business in the State of Florida is terminated, the Contractor shall, within five (5) working days thereafter, substitute another Payment and Performance Bond and surety acceptable to the City.
9. The Contractor is totally and solely responsible for keeping its surety informed as to the Base Contract Price as bid, significant changes in the Project Scope, and the overall progress and completion of the Project for the entire life of the Contract.
10. The payment and performance bond requirements stated herein above shall not be applicable to service-related contracts unless otherwise determined by the City Manager in order to protect the health, safety and welfare of the general public.

## **B. Contractual Provisions Relative to Risk Management**

All contracts for any public works to be performed, and service-related contracts, for or on behalf of the City shall include at a minimum, the following, or substantially similar, provisions:

### **1. Hold Harmless and Indemnity**

The Contractor agrees to assume liability for and indemnify, hold harmless, and defend the City, its commissioners, mayor, officers, employees, agents, and attorneys of, from, and against all liability and expense, including reasonable attorney's fees, in connection with any and all claims, demands, damages, actions, causes of action, and suits in equity of whatever kind or nature, including claims for personal injury, property damage, equitable relief, or loss of use, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the Contractor, its agents, officers, contractors, subcontractors, employees, or anyone else employed or utilized by the Contractor in the performance of this Contract. The Contractor's liability hereunder shall include all attorney's fees and costs incurred by the City in the enforcement of this provision.

### **2. Payment on Behalf of City**

The Contractor shall pay all costs of the City's legal defense, as may be selected by the City, for all claims described in the Hold Harmless paragraph.

Such payment on behalf of the City shall be in addition to any and all other legal remedies available to the City and shall not be considered to be the City's exclusive remedy.

### **3. Loss Control/Safety**

Precaution shall be exercised at all times by the Contractor for the protection of all persons, including employees and property. The Contractor shall comply with all applicable laws, regulations and ordinances related to safety and health, shall make special efforts to detect hazardous conditions, and shall take prompt action when loss control/safety measures are reasonably necessary.

The City may order work to be stopped if conditions exist that present an immediate danger to persons or property. The Contractor acknowledges that such work stoppage will not shift responsibility for any damages from the Contractor to the City.



#### **4. Service Bond**

For Service-related contracts only, the City may require the Contractor to secure a service bond with a minimum \$25,000 coverage limit for the period of the service agreement. The service bond covers dishonest acts of the contractor's employees against the City. A copy of the bond shall be provided to the City when the agreement commences.

Service-related contracts include and are not limited to businesses providing janitorial, pest control, general repair, security, carpet cleaning, locksmith, temporary employment, painting, moving services or other contracts as determined in the discretion of the Risk Manager as necessary to minimize loss.

### **C. Contractor's Insurance**

#### **1. General**

The Contractor, including service-related contractors, shall purchase and maintain for the entire life of the Project, including any and all approved time extensions, until its final acceptance by the City, such insurance as will protect the Contractor from claims under Workers' Compensation, disability benefit laws or other similar employee benefit laws; from claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees; from claims insured by usual or unusual injury liability coverage; from claims or injury to or destruction of tangible property and from claims insured by usual Commercial General Liability coverage. This includes loss of use resulting therefrom, any or all of which may arise out of the Contractor's operations under the Contract Documents, whether such operations be by the Contractor, by any Subcontractor, or by anyone directly or indirectly employed by any of them or for whose acts any of them may be legally liable. The Contractor's deductibles/self-insured retentions shall be disclosed to the City and may be disapproved by the City, and may be reduced or eliminated at the sole discretion of the City. The Contractor is responsible for the amount of any deductible or self-insured retention.

#### **2. Types of Insurance and Limits of Liability**

The insurance required herein shall be written for not less than any limits of liability specified and incorporated as part of the Contract Documents or as required by law, whichever is greater, and shall include and not limited to the following:

- (a)** Workers' Compensation Insurance in statutory limits for the State of Florida with Coverage B - Employer's Liability limits of not less than:

\$100,000 Each Accident Bodily Injury by Accident

\$100,000 Each Employee Bodily Injury by Disease

Revised 9/22/21

**SUPPLEMENTARY CONDITIONS**

**00800-4**

**WTP AERATOR STRUCTURE REHABILITATION**

### \$500,000 Policy Limit Bodily Injury by Disease

Certificate of Exemptions. If the contractor has a State-issued Certificate of Exemption, the contractor may provide a copy in place of the requirement for coverage. However, if the contractor subcontracts or retains any other person or entity to perform under the contract, that person or entity must provide proof of workers' compensation insurance as required by law or provide a Certificate of Exemption.

It is the intent of the City that any individual who either contracts directly with the city or performs any work on behalf of any such contractor be covered by workers' compensation insurance or have a valid exemption from said coverage.

(If applicable to the Project, the policy must include benefits under the United States Longshoremen's and Harbor Workers' Act and the Jones Act coverage--all maritime coverage.)

- (b) Commercial General Liability Insurance shall be written on a coverage form as broad as Insurance Services Office (ISO) Form CG 00 01 11 85, or its successor form, including but not limited to the following coverage (any deviation shall be noted on the Certificates of Insurance):
- a. Premises, Operations, Products and Completed Operations
  - b. Owners' & Contractors' Protective
  - c. Products & Completed Operation
  - d. Explosion, Collapse & Underground Conditions
  - e. Blanket Contractual Liability
  - f. Personal Injury Liability
  - g. Broad Form Property Damage Endorsement, including Completed Operations
  - h. Independent Contractors
  - i. Watercraft--Owned and Non-Owned (if applicable, endorsement must be included in General Liability policy or a separate Protection & Indemnity Policy must be written)
  - j. Pollution Liability (if applicable)
  - k. Asbestos Abatement (if applicable)
  - l. Fire Damage Liability

Certain coverage outlined above may not be required if they do not relate to the Project, as may be determined at the sole discretion of the City.

Commercial General Liability Coverage shall be written on an occurrence basis and the limits shall be no less and not limited to the following amounts:

Limits (not less than)

\$1 Million Each Occurrence

\$2 Million General Aggregate

\$1 Million Aggregate Products & Completed Operations

NOTE: Commercial General Liability Coverage must be purchased on either a project basis (separate policy per contract) or an endorsement allocating an aggregate limit per location or specified project.

- (c) Automobile Liability Insurance is required if an Automobile(s) is used in the performance of the contract.

ISO Symbol 1 (Any Auto), or alternatively a combination of Symbol 2 (Owned Autos), Symbol 8 (Hired Autos), and Symbol 9 (Non-Owned Autos), and limits shall be no less than:

\$1 Million

Combined Single Limit for Bodily Injury  
and Property Damage

- (d) Excess Liability

For contracts \$250,000 or greater an Excess Liability Policy of at least but not limited to \$1,000,000 in addition to the scheduled underlying policies for Commercial General Liability, Automobile Liability and Employers' Liability, the Contractor shall also provide an Excess Liability Policy with a maximum self-insured retention not to exceed \$25,0000 per occurrence.

- (e) Builder's Risk

Contractor shall purchase Builder's Risk Insurance for any contracts that are deemed to be vertical construction on an All-Risk policy, and shall also include coverage for wind, hail, and named storm. Limits of coverage shall be at least and not limited to the value of the project.

- (f) Professional Liability, Malpractice and/or Errors and Omissions  
(N/A for construction contracts)

The Contractor shall purchase and maintain professional liability, malpractice, or errors or omissions insurance with minimum limits of \$1,000,000 per occurrence. If a claims made form of coverage is provided, the retroactive date of coverage shall be no later than the inception date of claims made coverage, unless the prior policy was extended indefinitely to cover prior acts. Coverage shall be extended beyond the policy year either



by a supplemental extended reporting period (ERP) of as great a duration as is available, and with no less coverage and with reinstated aggregate limits, or by requiring that any new policy provides a retroactive date no later than the inception date of claims made coverage.

**D. Requirements for Certificates of Insurance**

1. With the execution of the Contract Documents, the Contractor, including service-related contractors, shall provide certificates of such insurance acceptable to the City. These certificates and insurance policies shall contain an endorsement that the coverage under the policies will not be canceled, non-renewed or materially changed until at least thirty (30) days' prior written notice of such cancellation, non-renewal or change (except for nonpayment of premium, which shall be ten (10) days) and a copy of the cancellation endorsement signed by an authorized representative of the insurer, be given to the City. The contractor shall be required to replace any expired or canceled policies in like amount and coverage to the satisfaction of the City. The Certificate of Insurance shall be the ACORD FORM 25-S (7/90), or its successor form, and shall be made a part of the Contract Documents.
2. New certificates of insurance shall be provided to the City at least fifteen (15) days prior to coverage renewals.
3. If requested by the City, the contractor shall immediately furnish complete copies of the Contractor's insurance policies, forms and endorsements.
4. For Commercial General Liability coverage the Contractor shall, at the option of the City, provide an indication of the amount of claims payments or reserves chargeable to the aggregate amount of liability coverage. If the Commercial General Liability form of coverage includes an annual aggregate limitation on the amount of insurance provided, a separate project aggregate limit may be required by the City for the given contract.
5. If the Contractor fails to obtain and maintain for the life of the Project the insurance required hereby or to replace any such expired or canceled policy, the City may obtain and maintain such insurance with such company as it deems satisfactory. Any amounts expended by the City in payment of premiums for such insurance shall be deducted by the City from the amount due the Contractor for the work covered by the Contract.

**E. Policies of Insurance**

1. Except as otherwise provided in this Exhibit, all insurance policies shall be issued by insurers licensed to do business in the State of Florida on an admitted basis or which is an eligible surplus lines insurer in the State of Florida, and any such

Revised 9/22/21

**SUPPLEMENTARY CONDITIONS**

**00800-7**

**WTP AERATOR STRUCTURE REHABILITATION**

insuring company is required to have a minimum financial rating of (A-), in the latest edition of "Best's Key Rating Guide", published by A. M. Best Co., Inc., or some similarly nationally recognized rating authority, including Standard and Poors and Demotech.

2. For Workers' Compensation coverage only, self-insurance programs are acceptable with a minimum A- rated reinsurance carrier; written confirmation is required.
3. All policies of insurance or certificates thereof referred to in this Exhibit shall be deposited with the City Clerk.
4. The City shall be named an Additional Insured on General Liability including products and completed operations and Automobile Liability policies of insurance and certificates thereof.

#### **END OF SECTION**

**LIEN WAIVER**

The undersigned does hereby certify that through \_\_\_\_\_, 20\_\_\_\_, the undersigned has performed labor and/or furnished materials for the construction of the \_\_\_\_\_ located at \_\_\_\_\_ owned by \_\_\_\_\_, at a price of \$\_\_\_\_\_, and in consideration of the payment to the undersigned of such sum, the receipt of which is hereby acknowledged, the undersigned does hereby release and waive all liens and claims to liens which the undersigned may have as a result of the performance of such labor and/or the furnishing of such materials, and that the undersigned has paid in full for all materials purchased by the undersigned in connection with such project and for all labor furnished by the undersigned in connection with such project. The undersigned further certifies that the last date on which the undersigned furnished such labor and/or materials was \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
By \_\_\_\_\_  
TITLE: \_\_\_\_\_

CONTRACTOR  
DATE: \_\_\_\_\_

THE STATE OF \_\_\_\_\_  
COUNTY OF \_\_\_\_\_

Before me, the undersigned authority, on this day personally appeared \_\_\_\_\_, the \_\_\_\_\_ of \_\_\_\_\_, a corporation, known to me to be the person and officer whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed, and as the act and deed of said corporation, and in capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Notary Public in and for  
said County and State

**LIEN WAIVER**

**LW-1**

**WTP AERATOR STRUCTURE REHABILITATION**

# **DIVISION 1**

## **GENERAL REQUIREMENTS**

## SECTION 01010 – SUMMARY OF WORK

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### PART 1 - GENERAL

#### 1.01 DESCRIPTION OF WORK

A. Work Covered by Contract Documents:

1. Work under this Contract is described as:

**WTP AERATOR STRUCTURE REHABILITATION  
BID NO. 2025-19**

- B. **BASE BID:** The work consists of removing the blower fans, motors, enclosures, electrical panels; remove induced draft aerator enclosures and odor control pipe; furnish and install two (2) cascade tray aerators; remove and install Owner-furnished aerator transfer pumps and motors; remove and replace valves, fittings and piping in the aerator transfer pump room; incorporate bridge crane in aerator transfer pump room; remove and replace the VFD's, MCC's and all electrical equipment in the MCC room adjacent to the transfer pump room; remove four (4) venturi meters and replace with four (4) magnetic flow meters; provide other associated and/or incidental work as shown on the plans and described within the technical specifications to provide a complete and operational installation.
- ALTERNATE BID:** The work consists of applying a sanded epoxy flooring system to the aerator transfer pump room and the rehabilitation of the interior of the aerator box.
- C. The Specification Divisions and Drawings are an integrated part of the Contract Documents and as such will not stand alone if used independently as individual Sections, Divisions or Drawings sheets.
- D. The Drawings and Specifications establish minimum standards of quality for this Project. They do not purport to cover all details entering into the design and construction of materials or equipment.
- E. Omission of a specific item or component part of a system obviously necessary for the proper functioning of the system shall not relieve CONTRACTOR of the responsibility of furnishing the item as part of the work at no additional cost to OWNER.

#### 1.02 QUALITY ASSURANCE

A. Laws and Regulations

1. The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations applicable to the work. If the CONTRACTOR observes that the Specifications or Drawings are at variance therewith, the CONTRACTOR shall give the ENGINEER prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate modification. If the CONTRACTOR performs any work knowing or having reason to know that it is contrary to such laws, ordinances, rules and regulations, and without such notice to ENGINEER, the CONTRACTOR shall bear all costs arising therefrom; however, it shall not be the CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with such laws, ordinances, rules and regulations.

### 1.03 JOB CONDITIONS

#### A. Taxes

1. The CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by him in accordance with the law of the place of the project.

#### B. Licenses

1. The CONTRACTOR and each Subcontractor must be registered with the City of Ormond Beach. Requirements for registering a business are as follows:

##### **STATE CERTIFIED CONTRACTORS**

Copy of City Occupational License (where your business is located)  
Copy of State License (if applicable)  
Certificate of Insurance  
Fee: \$25.00

##### **STATE REGISTERED CONTRACTORS**

Copy of City Occupational License (where your business is located)  
Copy of State Registration  
Certificate of Insurance  
Letter of Reciprocity (from municipality who sponsored Block Exam)  
Work History

Fee: \$40.00  
(\$15.00 for Comp Card and \$25.00 for Business Registration)

Letter of reciprocity to be sent to: City of Ormond Beach  
Licensing Department  
PO Box 277  
Ormond Beach, FL 32175-0277

2. For additional information regarding registration, licenses or permits, please call: (386) 676-3235.

#### C. Labor, Materials and Equipment

1. The CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the work and perform construction as required by the Contract Documents. The CONTRACTOR shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the work or property at the site or adjacent thereto, and except as otherwise indicated in the Supplementary Conditions, all work at the site shall be performed during regular working hours, and the CONTRACTOR will not permit overtime work or the performance of work on Saturday, Sunday or any legal holiday without the OWNER'S written consent given after prior written notice to the ENGINEER.
2. Unless otherwise shown, the CONTRACTOR shall furnish all materials, equipment, labor transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the work.

3. The CONTRACTOR shall be responsible for all materials furnished by him and shall replace at his own expense all such material found to be defective in manufacture or damaged in handling. This shall include the furnishing of all material and labor required for the replacement of installed material discovered defective prior to the final acceptance of the work.

D. Contractor Use of Premises

1. The CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workmen to areas permitted by law, ordinances, permits or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment.
2. The CONTRACTOR shall not enter upon private property for any purpose without first securing the permission of the property owner in writing and furnishing the ENGINEER with a copy of said permission. This requirement will be strictly enforced, particularly with regard to such vacant properties as may be utilized for material storage.
3. The CONTRACTOR shall conduct his work in such a manner as to avoid damage to adjacent private or public property. Any damage to existing structures or work of any kind, including permanent reference markers or property corner markers, or the interruption of utility service, shall be repaired or restored promptly at no additional expense to the OWNER.
4. The CONTRACTOR shall preserve and protect all existing vegetation such as trees, shrubs and grass on or adjacent to the site which do not reasonably interfere with the construction, as determined by the ENGINEER. The CONTRACTOR will be responsible for all unauthorized cutting or damaging of trees and shrubs, including damage due to careless operation of equipment, stockpiling of materials or tracking of grass by equipment. The CONTRACTOR will be liable for, or will be required to replace or restore at no additional expense to the OWNER, all vegetation not protected or preserved as required herein that may be destroyed or damaged.
5. The CONTRACTOR will not be required to move or remove any utilities except as specifically required by the Drawings and Specifications.
6. During the progress of the work, the CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from work. At the completion of the work, the CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by the OWNER. The CONTRACTOR shall restore to their original condition those portions of the site not designated for alteration by the Contract Documents.
7. The CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall the CONTRACTOR subject any part of the work or adjacent property to stresses or pressures that will endanger it.

E. Removal, Relocation, or Support of Existing Utilities

1. CONTRACTOR will not be required to move or remove any utilities except as specifically required by the CONTRACT DOCUMENTS.
2. Where permanent relocation of utilities is required, OWNER will arrange with the applicable utility owner to make the necessary relocations.
3. CONTRACTOR will be responsible for making any arrangements and paying any costs for temporary support or temporary relocation of utility facilities for his convenience or to accommodate his method of construction.

**PART 2 – PRODUCTS** (Not Applicable)

**PART 3 – EXECUTION** (Not Applicable)

**END OF SECTION**



## **SECTION 01025 – MEASUREMENT AND PAYMENT**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION OF WORK**

This section defines the method which will be used to determine the quantities of work performed or materials supplied, and establishes the basis upon which payment will be made.

#### **1.02 ESTIMATED QUANTITIES**

Where quantities are shown, they are approximate and are given only as a basis of calculation upon which the award of the Contract is to be made. OWNER or ENGINEER do not assume any responsibility for the final quantities, nor shall CONTRACTOR claim misunderstanding because of such estimate of quantities. Final payment will be made only for the satisfactorily completed quantity of each item.

#### **1.03 MEASUREMENT STANDARDS**

All work completed under the Contract shall be measured according to United States Standard Methods.

#### **1.04 METHOD OF MEASUREMENT**

##### **Measurement of Length:**

Unless otherwise specified for the particular items involved, all measurements of distance for items to be paid for on the basis of length shall be taken horizontally or vertically.

##### **Measurement of Area:**

In the measurement of items paid for on the basis of area of finished work, the lengths and/or widths to be used in the calculations shall be the actual dimensions measured along the surface of the completed work within the neat lines shown or designated. At intersections, the measurement used for length of side area will be measured from the outside edge of the width allowed along the main trench.

#### **1.05 PAYMENT**

##### **Lump Sum Items:**

Where payment for items is shown to be paid for on a lump sum basis, no separate payment will be made for any item of work required to complete the lump sum item within the limits of work shown or specified.

##### **Unit Price Items:**

Where payment for items is shown to be paid for on a unit price basis, separate payment will be made for the items of work described herein and listed on the Bid Form. Any related work not specifically listed, but required for satisfactory completion of the work, shall be considered to be included in the scope of the appropriate listed work items.

#### 1.06 COSTS INCLUDED IN PAYMENT ITEMS

No separate payment will be made for the following items and the cost of such work shall be included in the applicable pay items of work.

1. Clearing and grubbing, including disposal of material, unless otherwise noted.
2. Trench and roadway excavation, including necessary pavement removal, rock and cemented coquina excavation and disposal, excavation and removal of unsuitable soils, except as otherwise noted and removal of vegetative surfaces.
3. Dewatering equipment (rental and installation) and disposal of surplus water.
4. Structural fill, backfill, and grading.
5. Replacement of unpaved roadways, grass and shrubbery plots, unless otherwise noted.
6. Cleanup.
7. Foundation and borrow materials, except as hereinafter specified.
8. Testing and placing system in operation.
9. Any material and equipment required to be installed and utilized for tests.
10. Pipe, structures, pavement replacement, restoration and/or appurtenances included within the limits of lump sum work, unless otherwise shown.
11. Maintaining existing quality of service during construction.
12. Appurtenant work as required for a complete and operable system.
13. Furnishing adequate sanitary facilities for workers.
14. Supporting of existing utilities during construction.
15. Concrete encasement.
16. Shoring, sheeting and work site safety.
17. Field offices.
18. Franchise utility coordination.
19. Job signs.
20. Bonds and insurance.
21. Power.
22. Rental and installation of dewatering equipment.
23. Sanitary and potable water supplies.
24. Temporary removal and replacement of fences, walls, irrigation systems, mailboxes, etc., unless otherwise shown.

#### 1.07 APPLICATIONS FOR PAYMENT

Applications for payment shall be prepared by the CONTRACTOR and submitted to the ENGINEER in accordance with the schedule established by the Conditions of the Contract and the Agreement. The Applications for Payment shall be submitted in the number and form established by the ENGINEER at the Preconstruction Conference. The form shall be completely filled out and executed by an authorized representative of the CONTRACTOR. Supporting data such as schedules of stored materials shall be attached to each copy of the application.

#### 1.08 CHANGE ORDER PROCEDURE

As defined in the General Conditions, a Change Order is a written order to the CONTRACTOR signed by the OWNER authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time which is issued after the execution of the Agreement.

The following procedure shall be used in processing Change Orders:

**For Additions to the Work:**

The OWNER shall issue a written order to the CONTRACTOR directing him to accomplish the additional work. The CONTRACTOR shall review the order and if he feels that the additional work entitles him to additional payment or additional time, he may submit a claim as prescribed in the Conditions of the Contract.

**For Deletions from the Work:**

The OWNER shall issue a written order to the CONTRACTOR directing him to make the change. If the OWNER feels that the Contract price should be reduced as a result of the change, the OWNER shall make a claim for the reduction as provided in the Conditions of the Contract.

Cost of the changes in the work shall be determined in accordance with the requirements spelled out in the Conditions of the Contract. Modifications to incorporate the changes in cost will be made as the amount of any change is determined.

**PART 2 – PRODUCTS**  
(Not Applicable)

**PART 3 – EXECUTION**

**3.01 BID ITEMS**

**BASE BID**

**Bid Item No. 1 – Mobilization/Demobilization**

**Definition.** Mobilization shall be the preparatory work and operations in mobilizing for beginning work on the project, including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies and incidentals to the project site, and for the establishment of temporary offices, buildings, safety equipment and first aid supplies, pre-construction video, sanitary and other facilities, as required by the Contract Documents and applicable laws and regulations. The costs of bonds, required insurance, permits and any other preconstruction expense necessary for the start of the work, excluding the cost of construction materials, shall also be included in this item. Demobilization shall be the work of removing temporary facilities from the site.

**Payment.** Partial payments for this item will be made in accordance with the following schedule:

| <u>Percent of Original Contract<br/>Amount Earned</u> | <u>Allowable Percent of the<br/>Lump Sum Price for the Item</u> |
|-------------------------------------------------------|-----------------------------------------------------------------|
| Contract Approval                                     | 25                                                              |
| 10                                                    | 50                                                              |
| 25                                                    | 75                                                              |
| 50                                                    | 90                                                              |
| 100                                                   | 100                                                             |

These payments will be subject to the standard retainage provided in the agreement. Payment of the retainage will be made after completion of the work and demobilization.

**Bid Item No. 2– Survey and Layout**

**Payment.** Payment of the applicable lump sum price shall be full compensation for furnishing all plant, labor, materials and equipment necessary for the establishment of any temporary or permanent control during the extent of the project. Should any existing permanent control be

disturbed during construction, the CONTRACTOR shall direct its licensed surveyor to replace the control at no additional cost to the OWNER.

**Bid Item No. 3– Bacteriological Clearance**

**Payment.** Payment of the applicable lump sum price shall be full compensation for furnishing all plant, labor, materials and equipment necessary to obtain disinfection bacteriological clearance of the aerator box, recarbonation tank, distribution box, all piping, all fittings and all valves that are a part of this project. Pay item includes any additional valves and sample ports necessary for testing and obtaining clearance. Such clearance shall follow the criteria found within Section 02650 of these Specifications. Sample locations shall be those listed in the Volusia County Health Department construction permit.

**Bid Item No. 4 – Erosion and Sedimentation Control**

**Payment.** Payment of applicable lump sum price shall be full compensation for furnishing all plant, labor, materials and equipment necessary to provide the required erosion and sedimentation control called out in the specifications and as shown on the detail Drawings of this set.

**Bid Item No. 5 – Submit Certified “As-Built” Drawings**

**Payment.** Payment of the applicable lump sum price shall be full compensation for furnishing all plant, labor, materials and equipment necessary to submit the “as-built” Drawings, certified by a registered land surveyor or professional engineer. The CONTRACTOR’s attention is directed to Section 01720, Paragraph 1.05, which addresses the requirements for maintaining up-to-date “as-built” Drawings. Final payment will be withheld until an acceptable set of “As-Built” drawings are delivered to the OWNER.

**Bid Item No. 6 – Permit Fees and Allowances**

**Payment.** An allowance has been established to reimburse costs associated with the building permit fees, inspections and related expenses. This will be paid at actual cost. Allowance can also be used to fund Owner-approved items at actual cost plus 10%. Allowance shall only be used based upon prior written approval from the Owner and Engineer. Any funds remaining in this Bid Item after the contract is completed will remain with the Owner.

**Bid Item No. 7 –Coordination with City for Bypass of Aerator Structure**

**Payment.** Payment of applicable lump sum price shall be full compensation for furnishing all plant, labor, materials and equipment necessary for the Contractor to coordinate with the City of Ormond Beach to close certain valves and to leave certain valves open so that flow bypasses the aerator structure clearwell. Flow will continue to the sump area used as the feed for the suction lines of the aerator transfer pumps. Refer to Drawing C01.1 and C01.2 which details which valves are to be closed and which remain open.

**Bid Item No. 8 – Construct New Handrail**

**Payment.** Payment of applicable lump sum price shall be full compensation for furnishing all plant, labor, materials and equipment necessary to furnish and install approximately 45 linear feet of aluminum handrail, according to the Detail Drawings and Specification Section 05520.

**Bid Item No. 9 – Remove Aerator Blower Fans, Motors, Enclosures, Induced Draft Aerator Enclosures**

**Payment.** Payment of applicable lump sum price shall be full compensation for furnishing all plant, labor, materials and equipment necessary to remove one (1) existing aerator blower fan, motor and enclosure and the two (2) induced draft aerator enclosures. Also included in this lump sum pay item shall be the cost to remove fiberglass odor control piping; odor control piping support stands; the FVNR panels for the existing blower No. 1 and 2; an abandoned FVNR panel; aerator inlet piping to the existing induced draft aerator enclosures and any other equipment/material shown on sheet nos. MD1.1 through MD1.4.

The fiberglass duct between the blower enclosure and aerator box containing the trays shall be removed.

**Bid Item No. 10 – Furnish and Install Two (2) 5,000 GPM Cascade Tray Aerators**

**Payment.** Payment of applicable lump sum price shall be full compensation for furnishing all plant, labor, materials and equipment necessary to furnish and install two (2) 5,000 GPM cascade aerators. The trays shall be circular, 10 feet in diameter and 9'-10" high, fabricated from ¼" aluminum. A collector pan shall be part of the aerator assembly. This lump sum bid item shall also include, for both aerators, new 20" ductile iron inlet piping; 2-20" FL long radius 90 degree bends; a 20" flexible coupling; a 30" x 20" FL reducer and a 30" FL base 90 degree bend. Also included shall be the cost for the aluminum stairs and aluminum walkway with handrail. Cable tie-downs shall be incorporated to anchor the units to the roof deck, along with two concrete beams to support the tray aerators. A screen enclosure shall also be included in the lump sum price along with small diameter piping for the addition of hypochlorite for cleaning the units.

**Bid Item No. 11 – Remove and Install Owner-Supplied Aerator Transfer Pumps and Motors**

**Payment.** Payment of applicable lump sum price shall be full compensation for furnishing all plant, labor, materials and equipment necessary to remove the existing transfer pumps and motors, motor stands and drip pans. New material shall include Owner-supplied pumps, motors, motor stands, drip pans, steel base and flexible couplings. Lump sum cost shall also include additional concrete and rebar to extend the size of the pump bases, clean and prep concrete bases, paint concrete bases and all required on-site testing and required spare parts as listed in the Scope of Supply.

**Bid Item No. 12 – Remove and Replace Valves, Pipe, Fittings and Miscellaneous Items in the Transfer Pump Room**

**Payment.** Payment of applicable lump sum price shall be full compensation for furnishing all plant, labor, materials, and equipment necessary to remove the existing gate valves, check valves, butterfly valves, fittings, piping, disconnect switches, instrumentation, terminal/junction boxes, wiring and conduit within the transfer pump room, small diameter drain piping and air release valves. Furnish and install new piping, gate valves, motorized gate valves, cushioned check valves, butterfly valves, disconnect switches, instrumentation, terminal/junction boxes, conduit and wire, small diameter drain piping, ARV's, pressure gauges and all other material required for a complete and operable system.

Also included in this lump sum pay item is the cost to remove and replace the sump pump and piping; remove and replace the ceiling exhaust fan; add concrete pipe supports (3) under the 12" 90° bends. Also included shall be the cost to remove the suction flares, install temporary blow-up plugs in the pump suction lines, remove the plugs and re-install the suction flares after the work is complete. This pay item shall also include removing the existing fiberglass grating and furnishing and installing new aluminum grating on top of the pipe trench.

**Bid Item No. 13 – Furnish and Install Bridge Crane in Aerator Transfer Pump Room**

**Payment.** Payment of applicable lump sum price shall be full compensation for furnishing all plant, labor, materials, and equipment necessary to furnish and install a bridge crane system in the aerator transfer pump room. Included in the lump sum cost shall be the bridge crane mechanism, including the bridge end trucks, bumpers, trolley, pendant, motors, internal control systems, lifting hoist, conduit, wire and all other parts required for a complete system. Also included in the cost shall be runway beams, rails, support posts, beams spanning the pipe trench, base plates, anchor bolts and any and all other components required for a complete and operable system.

**Bid Item No. 14 – Paint Aerator Transfer Pump Room**

**Payment.** Payment of applicable lump sum price shall be full compensation for furnishing all plant, labor, materials and equipment necessary to paint the interior of the aerator transfer pump room. Included in this pay item shall be the cost to prep and paint the walls, ceiling, piping, valves, fittings, pumps, motors, base plates, support posts, runway beams and all components of the bridge crane. Piping not removed will receive a different painting system than new pipe. Painting shall follow the criteria in Specification Section 09900 and Section 09901.

The flooring shall consist of an epoxy coating system which will be included as an Additive Alternate Bid Item.

**Bid Item No. 15 – Remove & Replace VFD's, MCC's and Other Electrical, Instrumentation and Control Equipment in Room for MCC #7**

**Payment.** Payment of applicable lump sum price shall be full compensation for furnishing all plant, labor, materials and equipment necessary to remove Motor Control Center MCC-7 and associated Instrument and Relay Panels; and replace with new switchboard SWBD-7, variable frequency drives for Aerator Transfer Pumps, new Allen Bradley PLC Control Panel SP-020, concrete equipment pads, underground ductbank for fiber optic cable to HSPS, SCADA modifications, conduit, cable & wire, and other ancillary devices for a complete and fully functional Aeration equipment system, as shown or as required per Contract Drawings and Specification Divisions 13 and 16.

Also included in this pay item shall be the cost for all plant, material, equipment and labor as required to maintain power to and local control of existing equipment, as shown or as indicated in Contract Drawings and specifications for maintenance of operations during construction.

VFDs and Misc Electrical  
Completed By Staff.  
Only Cost for new MCC  
and reconnect of new  
pumps

**Item No. 16 – Remove Two (2) Venturi Meters in 24-inch Pipe to Claricones and Replace with Two (2) 12-inch Magnetic Flow Meters**

**Payment.** Payment of applicable lump sum price shall be full compensation for furnishing all labor, materials and equipment necessary to remove the existing Venturi meters and install magnetic flow meters

Included in this lump sum  
required raceway, underg  
mag meter to the WTP SC

**Bid Items 16 & 17 Completed  
by City Staff**

and all  
each

**Bid Item No. 17 – Remove Two (2) Venturi Meters in 16-inch Raw Water Main and Replace with Two (2) 10-inch Magnetic Flow Meters**

**Payment.** Payment of applicable lump sum price shall be full compensation for furnishing all plant, labor, materials and equipment necessary to remove the existing Venturi meters and install new magnetic flow meters in the same location.

Included in this lump sum pay item is the cost for the two (2) reducers to existing piping and all required raceway, underground conduit duct banks, and power/ control wiring to connect each mag meter to the WTP SCADA system.

#### **ADDITIVE ALTERNATES**

##### **Bid Item No. 18 – Construct Sanded Epoxy Floor in Aerator Transfer Pump Room**

**Payment.** Payment of applicable lump sum price shall be full compensation for furnishing all plant, labor, materials and equipment necessary to furnish and install a sanded epoxy floor within the aerator transfer pump room. Materials and installation shall follow the System 290-1 found within Section 09900 of the Project Manual.

##### **Bid Item No. 19 – Rehabilitate Interior of Aerator Structure**

**Payment.** Payment of applicable lump sum price shall be full compensation for furnishing all plant, labor, materials and equipment necessary to coat the interior walls and ceiling of the aerator box with the coating specified in Section 09900 and Section 09901. Also included in this bid item shall be the cost to remove the existing stainless steel diffusers, pipe, supports, brackets and other ozone related material within the pre-ozone section of the aerator. This bid item shall include the removal of any lime sludge within the structure; cost to dewater the aerator wet well and pre-ozone sections of the tank through the use of a trash pump; cost to temporarily plug the 2-16" openings between the pre-ozone section and the transfer pump well section. Also included shall be the cost to provide ventilation with all necessary equipment/materials in order to produce a safe working environment within a potentially hazardous environment containing hydrogen sulfide gas.

**END OF SECTION**

## **SECTION 01027 – APPLICATIONS FOR PAYMENT**

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### **PART 1 – GENERAL**

#### **1.01 FORMAT AND DATA REQUIRED**

- A. Coordinate the Schedule of Values and Applications for Payment with the CONTRACTOR'S Construction Schedule, Submittal Schedule, and List of Subcontracts.
- B. Schedule of Values: Coordinate preparation of the Schedule of Values with preparation of the CONTRACTOR'S Construction Schedule.
- C. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
  - 1. CONTRACTOR'S Construction Schedule.
  - 2. Application for Payment forms, including Continuation Sheets.
  - 3. List of subcontractors.
  - 4. List of products.
  - 5. List of principal suppliers and fabricators.
  - 6. Schedule of submittals.
- D. Submit the Schedule of Values at the earliest possible date but no later than 7 days before the date scheduled for submittal of the initial Applications for Payment.
- E. Format and Content: Use the Project Manual table of contents as a guide to establish the format for the Schedule of Values. Provide at least one line item for each Specification Section.
- F. Include the following Project identification:
  - 1. Project name and location.
  - 2. Name of ENGINEER.
  - 3. Project number.
  - 4. CONTRACTOR'S name and address.
  - 5. Date of submittal.
- G. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
  - 1. Related Specification Section or Division.
  - 2. Description of Work.
  - 3. Name of subcontractor.
  - 4. Change Orders (numbers) that affect value.
  - 5. Dollar value.
  - 6. Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
- H. Provide a breakdown of the Contract Sum in sufficient detail to facilitate evaluation of Applications for Payment. Break subcontract amounts down into several line items. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
- I. Update and resubmit the Schedule of Values when Change Orders or Construction Change Directives change the Contract Sum.



- J. Applications for Payment shall be consistent with previous applications and payments as certified by the ENGINEER and paid for by the OWNER.
- K. Payment Application Times: Payment dates are indicated in the Agreement. The period covered by each application is the period indicated in the Agreement.
- L. Payment Application Forms: Use AIA Document G702 and Continuation Sheets G703 as the form for Applications for Payment.
- M. Application Preparation: Complete every entry, including notarization and execution by a person authorized to sign on behalf of the CONTRACTOR. The ENGINEER will return incomplete applications without action.
  - 1. Entries shall match data on the Schedule of Values and the Contractor's Construction Schedule. Use updated schedules if revisions were made.
  - 2. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
- N. Transmittal: Submit 3 executed original copies of each Application for Payment to the ENGINEER within 24 hours. One copy shall be complete, including waivers of lien and similar attachments.
  - 1. Transmit each copy with a transmittal listing attachments and recording appropriate information related to the application.
- O. Waivers of Mechanics Lien: With each Application for Payment, submit waivers of lien from every entity who may file a lien arising out of the Contract and related to the Work covered by the previous payment.

#### 1.02 INITIAL APPLICATION FOR PAYMENT

- A. Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include the following:
  - 1. List of subcontractors.
  - 2. List of principal suppliers and fabricators.
  - 3. Schedule of Values.
  - 4. CONTRACTOR'S Construction Schedule (preliminary if not final).
  - 5. Submittal Schedule (preliminary if not final).
  - 6. List of CONTRACTOR'S staff assignments.
  - 7. Copies of building permits.
  - 8. Copies of licenses from governing authorities.
  - 9. Certificates of insurance and insurance policies.
  - 10. Performance and payment bonds.

#### 1.03 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

- A. When the OWNER requires substantiating data, CONTRACTOR shall submit suitable information, with a cover letter identifying:
  - 1. Project.
  - 2. Application number and date.
  - 3. Detailed list of enclosures.
  - 4. For stored products:
    - a. Item number and identification as shown on application.

- b. Description of specific material.
- B. Submit one (1) copy of data and cover letter for each copy of application.
- C. Submit requisite number of photographs with each application.
- D. List the name and address of all Subcontractors and Suppliers who have performed work or provided supplies or material for each application.
- E. Submit certified payroll sheets for CONTRACTOR'S forces and all Subcontractors for the month preceding the submitted application.
- F. Submit revised monthly progress schedules with each month's Application for Payment, including cash flow projections.
- G. The CONTRACTOR is to maintain an updated set of drawings to be used as record drawings in accordance with the Contract Documents. AS A PREREQUISITE FOR PAYMENT OF MONTHLY PROGRESS PAYMENTS, THE CONTRACTOR IS TO EXHIBIT THE UPDATED RECORD DRAWINGS FOR REVIEW BY THE OWNER.

#### 1.04 APPLICATION FOR PAYMENT AT SUBSTANTIAL COMPLETION

- A. Following issuance of the Certificate of Substantial Completion, submit an Application for Payment. This application shall reflect Certificates of Partial Substantial Completion issued previously for OWNER occupancy of designated portions of the Work.
- B. Administrative actions and submittals that shall precede or coincide with this application include the following:
  - 1. Occupancy permits.
  - 2. Warranties and maintenance agreements.
  - 3. Test/adjust/balance records.
  - 4. Maintenance instructions.
  - 5. Meter readings.
  - 6. Changeover information related to OWNER'S occupancy.
  - 7. Final cleaning.
  - 8. Application for reduction of retainage and consent of surety.

#### 1.05 FINAL PAYMENT APPLICATION

- A. Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:
  - 1. Completion of Project closeout requirements and submittals including As-Built Survey.
  - 2. Completion of items specified for completion after Substantial Completion.
  - 3. Transmittal of Project construction records to the OWNER.
  - 4. Certified property survey.
  - 5. Proof that taxes, fees, and similar obligations were paid.
  - 6. Removal of temporary facilities and services.
  - 7. Change of door locks to OWNER'S access.

**PART 2 – PRODUCTS** (Not Applicable)

**PART 3 – EXECUTION** (Not Applicable)

**END OF SECTION**

## **SECTION 01040 – COORDINATION**

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### **PART 1 – GENERAL**

#### **1.01 PROJECT COORDINATION**

- A. The CONTRACTOR shall provide for the complete coordination of the construction efforts. This shall include, but not necessarily be limited to, coordination of the following:
1. The work of subcontractors.
  2. The flow of material and equipment from suppliers.
  3. The effort of equipment manufacturers during test and checkout.
  4. Interrelated work with public utilities companies.
  5. The interrelated work with the OWNER where tie-ins to existing facilities are required.
  6. The effort of independent testing agencies.

#### **1.02 CUTTING AND PATCHING**

- A. The CONTRACTOR shall do all cutting, fitting and patching of his work that may be required to make its several parts come together and integrate with such other work. The CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of the ENGINEER and the others whose work will be affected.

**PART 2 – PRODUCTS** (Not Applicable)

**PART 3 – EXECUTION** (Not Applicable)

**END OF SECTION**

## **SECTION 01045 – CUTTING AND PATCHING**

---

### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION OF WORK**

- A. This Section establishes general requirements pertaining to cutting (including excavating), fitting, and patching of the Work required to:

1. Make the several parts fit properly.
2. Uncover Work to provide for installation, inspection, or both, or ill -timed work.
3. Rework existing items to provide for new construction.

#### **1.02 QUALITY ASSURANCE**

- A. Perform all cutting and patching in strict accordance with pertinent requirements of these Specifications and, in the event no such requirements are determined, in conformance with the ENGINEER'S written direction.

#### **1.03 SUBMITTALS**

- A. Request for ENGINEER'S Consent

1. Prior to cutting any item which affects structural safety, submit written request to the ENGINEER for permission to proceed with cutting.
2. Should conditions of the Work, or schedule, indicate a required change of materials or methods for cutting and patching, so notify the ENGINEER and secure his written permission prior to proceeding.

- B. Notice to the ENGINEER

1. Submit written notice to the ENGINEER designating time the Work will be uncovered to provide for the ENGINEER'S observation.

### **PART 2 – PRODUCTS**

#### **2.01 MATERIALS**

- A. Materials used in the replacement of existing work and the construction of work in conjunction with cutting and patching shall be new unless prior approval from the ENGINEER has been obtained to re-use existing materials.

#### **2.02 FABRICATION**

- A. The materials and methods used in the fabrication of items required under this section shall comply with the individual sections of this specification that have to do with new construction.

### **PART 3 –EXECUTION**

#### **3.01 CONDITIONS**

- A. Examination: Examine existing conditions, including elements subject to movement or damage during cutting, excavating, backfilling, and patching. After uncovering the Work, inspect conditions affecting installation of the new Work.

**B. Discrepancies:**

1. If uncovered conditions are not as anticipated, immediately notify the ENGINEER and secure needed directions.
2. Do not proceed in areas of discrepancy until all such discrepancies have been fully resolved.

**3.02 PREPARATION PRIOR TO CUTTING**

- A. Provide all required protection including, but not necessarily limited to, shoring, bracing, and support to maintain structural integrity of the Work, and personal protective clothing and/or equipment of CONTRACTOR'S workers.

**3.03 PERFORMANCE**

- A. Perform all required excavating and backfilling as required under pertinent Sections of these Specifications. Perform cutting and demolition by methods which will prevent damage to other portions of the Work and will provide proper surfaces to receive installation or repair and new work. Perform fitting and adjustment of products to provide finished installation complying with the specified tolerances and finishes.

**END OF SECTION**

## **SECTION 01050 – FIELD ENGINEERING**

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### **PART 1 – GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Provide field engineering service for project as indicated on Drawings and specified in this Section.

#### **1.02 QUALIFICATIONS OF SURVEYOR OR ENGINEER**

- A. Florida Registered Engineer or Land Surveyor.

#### **1.03 SURVEY REFERENCE POINTS**

- A. Existing basic horizontal and vertical control points are designated on Drawings. All elevations are referred to NGVD 1988. Establish all vertical and horizontal controls required for construction.
- B. Locate and protect control points prior to starting site work, and preserve permanent reference points during construction.
  - 1. Make no changes or relocations of such points without prior written notice to ENGINEER.
  - 2. Report to ENGINEER when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
  - 3. Require surveyor to replace control points which may be lost or destroyed. Establish replacements based on original survey control.
  - 4. ENGINEER will identify existing control points and properly line corner stakes indicated on Drawings, as required.

#### **1.04 PROJECT SURVEY REQUIREMENTS**

- A. Establish a minimum of two (2) permanent bench marks on the project site, all referenced to data established by survey control points. Record locations, with horizontal and vertical data, on Project Record Documents.
- B. Establish lines and levels, locate and lay out, by instrument and similar appropriate means.
  - 1. Site improvements.
  - 2. Building foundation, column locations, floor levels and roof levels.
  - 3. Controlling lines and levels required for mechanical and electrical trades.
- C. Verify layouts by same methods from time to time.

#### **1.05 RECORDS**

- A. Maintain a complete, accurate log of control and survey work as it progresses.
- B. On completion of foundations and major site improvements, prepare a certified survey showing finished dimensions, locations, angles and elevations of construction.

#### **1.06 SUBMITTALS**

- A. Submit name and address of surveyor or professional engineer to ENGINEER.
- B. On request of ENGINEER, submit documentation to verify accuracy of field survey work.
- C. Submit certificate signed and sealed by a State of Florida Registered Engineer or Land Surveyor certifying that elevations and locations of improvements are in conformance with Contract Documents.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

## **SECTION 01065 – PERMITS AND FEES**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

- A. Scope of Work: Obtain and pay for all permits and licenses including, but not limited to, all construction and Right-of-Way utilization permits.
- B. Permits by CONTRACTOR: CONTRACTOR will apply for and OWNER will pay for the following permits:
  - City of Ormond Beach Building Permit and/or Driveway Permit (if applicable)
- C. Permits by CONTRACTOR: CONTRACTOR will apply for and CONTRACTOR will pay for the following permits:
  - St. Johns River Water Management District Dewatering Permit (if applicable)
- D. Permits by OWNER: The OWNER has applied and paid for the following permits:
  - Volusia County Health Department
- E. Copies of the permits obtained by the OWNER are attached as an Appendix or will be distributed at the Pre-Construction Conference.

#### **PART 2 – PRODUCTS (NOT USED)**

#### **PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**



## **SECTION 01070 – CODES, REFERENCES AND ABBREVIATIONS**

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### **PART 1 – GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Referenced standards and abbreviations.

#### **1.02 REFERENCED STANDARDS**

- A. Any reference to published specifications or standards of any organization or association shall comply with the requirements of the specification or standard which is current on the date of Advertisement for Bids. In case of a conflict between the referenced specifications or standards, the one having the more stringent requirements shall govern.
- B. In case of conflict between the referenced specifications or standards and the Contract Documents, the Contract Documents shall govern.

#### **1.03 ABBREVIATIONS**

The following are definitions of abbreviations used within the Project Manual:

|        |                                                                                 |
|--------|---------------------------------------------------------------------------------|
| AA     | Aluminum Association, Inc.                                                      |
| AASHTO | American Association of State Highway and Transportation Officials              |
| ACI    | American Concrete Institute                                                     |
| AISC   | American Institute of Steel Construction, Inc.                                  |
| AISI   | American Iron and Steel Institute                                               |
| AITC   | American Institute of Timber Construction                                       |
| AMA    | Acoustical Materials Association                                                |
| AMCA   | Air Movement and Control Association, Inc.                                      |
| ANSI   | American National Standards Institute, Inc.                                     |
| APA    | American Plywood Association                                                    |
| ASHRAE | American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc. |
| ASME   | American Society of Mechanical Engineers                                        |
| ASTM   | American Society for Testing and Materials                                      |
| AWMA   | Aluminum Window Manufacturer's Association                                      |
| AWPA   | American Wood Preserves Association                                             |

|       |                                                                     |
|-------|---------------------------------------------------------------------|
| AWPB  | American Wood Preservers Bureau                                     |
| AWPI  | American Wood Preservers Institute                                  |
| AWS   | American Welding Society, Inc.                                      |
| AWWA  | American Water Works Association                                    |
| CPSC  | U.S. Consumer Product Safety Commission                             |
| CRSI  | Concrete Reinforcing Steel Institute                                |
| CS    | Commercial Standards and National Bureau of Standards               |
| FBC   | Florida Building Code                                               |
| FM    | Factory Mutual Research Corp.                                       |
| FS    | Federal Specifications                                              |
| FS    | Florida Statutes                                                    |
| GA    | Gypsum Association                                                  |
| HI    | Hydraulic Institute                                                 |
| IEEE  | Institute of Electrical and Electronic Engineers                    |
| NAAMM | National Association of Architectural Metal Manufacturers           |
| NBFU  | National Board of Fire Underwriters                                 |
| NCMA  | National Concrete Masonry Association                               |
| NECA  | National Electrical Contractors' Association                        |
| NEMA  | National Electrical Manufacturers' Association                      |
| NFiPA | National Fire Protection Association                                |
| NFoPA | National Forest Products Association                                |
| NSF   | National Sanitation Foundation                                      |
| PCA   | Portland Cement Association                                         |
| PCI   | Precast Prestressed Concrete Institute                              |
| PS    | Product Standards<br>National Institute of Standards and Technology |
| SDI   | Steel Door Institute                                                |

|         |                                                                          |
|---------|--------------------------------------------------------------------------|
| SJI     | Steel Joist Institute                                                    |
| SMACCNA | Sheet Metal and Air Conditioning Contractors' National Association, Inc. |
| SSPC    | Structural Steel Painting Council                                        |
| UL      | Underwriters Laboratories, Inc.                                          |

#### 1.04 CODES AND GOVERNMENTAL DEPARTMENTS

|      |                                                |
|------|------------------------------------------------|
| CFR  | Code of Federal Regulations                    |
| EPA  | Environmental Protection Agency                |
| FDEP | Florida Department of Environmental Protection |
| FDOT | Florida Department of Transportation           |
| FAC  | Florida Administrative Code                    |
| NEC  | National Electric Code (Published by NFIPA)    |
| OSHA | Occupational Safety and Health Act             |

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

## **SECTION 01100 – SPECIAL PROJECT PROCEDURES**

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### **PART 1 – GENERAL**

#### **1.01 PUBLIC NUISANCE**

- A. The CONTRACTOR shall not create a public nuisance including, but not limited to, encroachment on adjacent lands, flooding of adjacent lands, or excessive noise.
- B. Sound levels measured by the OWNER shall not exceed 50 dBA from 7:00 P.M. to 7:00 A.M. or 60 dBA from 7:00 A.M. to 7:00 P.M. This sound level shall be measured at the exterior of the nearest exterior wall of the nearest residence. Levels at the equipment shall not exceed 85 dBA at any time. Sound levels in excess of these values are sufficient cause to have the work halted until equipment can be quieted to these levels. Work stoppage by the OWNER for excessive noise shall not relieve the CONTRACTOR of the other portions of this Specification including, but not limited to, completion dates and bid amounts.
- C. No extra charge may be made for time lost due to work stoppage resulting from the creation of a public nuisance.

#### **1.02 SUSPENSION OF WORK**

- A. During inclement weather, all work which might be damaged or rendered inferior by such weather conditions shall be suspended. The orders and decisions of the OWNER as to suspensions shall be final and binding. During suspension of the work from any cause, the work shall be suitably covered and protected so as to preserve it from injury by the weather or otherwise; and, if the OWNER shall so direct, rubbish and surplus materials shall be removed.

#### **1.03 SPECIAL REQUIREMENTS**

- A. The following requirements shall govern:
  - 1. No additional payment will be made for pumping or other difficulties encountered due to water.
  - 2. The CONTRACTOR shall, prior to interrupting a utility service (water, sewer, etc.) for the purpose of making cut-ins to the existing lines or for any other purposes, contact the OWNER and make arrangements for the interruption which will be satisfactory to the OWNER.
  - 3. All equipment delivered to the job site shall be properly protected from dirt, dust, dampness, water and any other condition detrimental to the life of the equipment from the date of delivery to the time that control of the equipment is assumed by the OWNER. If any equipment is delivered to the job site before any building thereon is enclosed, it shall be housed in a temporary, structurally rigid, watertight enclosure.
  - 4. Certain information regarding the reputed presence, size, character and location of existing underground structures, pipes and conduits has been shown on the Contract Drawings. There is no certainty of the accuracy of this information, and the location of underground structures shown may be inaccurate and other obstructions than those shown may be encountered. The CONTRACTOR hereby distinctly agrees that the OWNER is not responsible for the correctness or sufficiency of the information given; that in no event is this information to be considered as a part of the Contract; and that consideration for equitable

compensation will be made for conditions materially different from those shown on the Drawings, as determined by the OWNER.

#### **1.04 JURISDICTIONAL DISPUTES**

- A. It shall be the responsibility of the CONTRACTOR to pay all costs that may be required to perform any of the work shown on the Drawings or specified herein in order to avoid any work stoppages due to jurisdictional disputes. The basis for subletting work in question, if any, shall conform to precedent agreements and decisions on record with the Building and Construction Trades Department, AFL-CIO, dated June, 1973, including any amendments thereto.

#### **1.05 PUMPING**

- A. The CONTRACTOR, with his own equipment, shall do all pumping necessary to prevent flotation of any part of the structures during construction operations.
- B. The CONTRACTOR shall, for the duration of the Contract and with his own equipment, pump out water which may seep or leak into the structures. Operating areas shall be kept dry at all times. The extent of pumping required in non-operating areas shall be determined by the ENGINEER.

#### **PART 2 – PRODUCTS (NOT USED)**

#### **PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

## **SECTION 01200 – PROJECT MEETINGS**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION OF WORK**

- A. Project meetings shall be scheduled as needed throughout the progress of the work. The ENGINEER or the CONTRACTOR shall be responsible for scheduling the meetings, preparing the agenda, distributing written notice of each meeting not less than four days in advance of the meeting date, making physical arrangements for the meeting, presiding at the meeting, recording the minutes (including all significant proceedings and decisions), and reproducing and distributing copies of the minutes to all participants and all parties affected by decisions made.
- B. Representatives attending the meetings shall be qualified and authorized to act on behalf of the entity that they represent.

#### **1.02 PRE-CONSTRUCTION CONFERENCE**

- A. A pre-construction conference will be held prior to beginning any work under the Contract. ENGINEER will schedule the conference in consultation with OWNER and CONTRACTOR.
- B. CONTRACTOR shall be ready to submit his anticipated progress schedule, a preliminary schedule of shop drawing submissions, and a preliminary schedule of values of work.
- C. The pre-construction conference will be attended by representatives of OWNER, ENGINEER, utility companies who will be affected by the work, County and State personnel, and such of CONTRACTOR'S subcontractors as he wishes to attend.

#### **1.03 PROGRESS MEETINGS**

- A. Regular progress meetings shall be held during the construction period. At these meetings the CONTRACTOR shall submit any updated progress schedules, advise OWNER and ENGINEER of any anticipated delays or problems in the progress of the work, and discuss any problems or events which affect the progress.

### **PART 2 – PRODUCTS (Not Applicable)**

### **PART 3 – EXECUTION (Not Applicable)**

**END OF SECTION**

## **SECTION 01310 – ADMINISTRATIVE REQUIREMENTS**

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### **PART 1 – GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Meetings, construction progress documentation, submittals, record documents.

#### **1.02 PRECONSTRUCTION CONFERENCE**

- A. The OWNER will schedule a preconstruction conference prior to beginning the Work to review shop drawing procedures, submittal requirements, and construction administration requirements (project coordination and communication). The CONTRACTOR shall bring to the preconstruction conference the proposed construction schedule, a preliminary schedule of shop drawing submissions, and a preliminary schedule of values of work. All will be reviewed with the OWNER during the meeting.

#### **1.03 PROGRESS MEETINGS**

- A. The frequency of progress meetings shall be determined during the preconstruction conference. As a minimum, progress meetings shall be held once per month during construction.
- B. The CONTRACTOR and OWNER shall attend the progress meetings.

#### **1.04 PROGRESS SCHEDULES AND REPORTS**

- A. Within 10 days after the effective date of the Agreement, the CONTRACTOR shall submit to the ENGINEER for review and acceptance, an estimated progress schedule indicating the starting and completion dates of the various stages of the work, a preliminary schedule of shop drawing submissions, and a preliminary schedule of value of the work. Include sub-schedules of related activities which are essential to its progress.
- B. Revised schedules shall be submitted periodically as changes become apparent.
- C. Unless other format or use of a network analysis system is required, schedules shall be prepared in the form of a horizontal bar chart. A separate horizontal bar shall be provided for each trade or operation. The first work day of each week shall be identified on the horizontal time scale. Scale and spacing will be such as to allow space for notations and revisions.
- D. Schedules shall show the complete sequence of construction by activity with dates for the beginning and completion of each major element of construction. Projected percentage of completion for each item as of the first day of each month shall be shown.
- E. Progress Reports: The CONTRACTOR shall prepare and submit a monthly progress report. The report shall indicate the progress at the date of submission of each activity shown on his progress schedule. It shall show changes occurring since previous submissions, activities modified since previous submissions, and revised projections of progress and completion. The submittal shall include a narrative report to define: problem areas, anticipated delays, and the impact on the schedule, and corrective action recommended and its effect.

#### 1.05 SCHEDULE OF VALUES

- A. At least 10 days prior to submitting the first Application for a progress payment, the CONTRACTOR shall submit to the ENGINEER a schedule of values of the work. This schedule shall be satisfactory in form and substance to the ENGINEER. The schedule of values shall include quantities and unit prices aggregating the contract price, and shall subdivide the work into component parts in sufficient detail to serve as the basis for progress payments during construction. Upon acceptance of the schedule of values by the ENGINEER, it shall be incorporated into the form of Application for Payment discussed and agreed upon at the preconstruction conference.
- B. Where estimated quantities and unit prices are shown in the Bid Form as the basis of payment, the quantities shown in the Bid Form are approximate and are given only as a basis of calculation upon which the award of the contract is to be made. The OWNER or ENGINEER do not assume any responsibility that the final quantities will remain in accordance with estimated quantities, nor shall the CONTRACTOR claim misunderstanding or deception because of such estimate of quantities. Final payment will be made on the basis of the actual completed quantities of each item.

#### 1.06 DEFINITIONS

- A. Shop Drawings: Shop drawings are original drawings, prepared by the CONTRACTOR, a subcontractor, supplier, or distributor, which illustrate some portion of the Work; showing fabrication, layout, setting, or erection details. Shop drawings shall be prepared by a qualified detailer and shall be identified by reference to sheet and detail numbers on the Contract Drawings.
- B. Product Data: Product data are manufacturer's standard schematic drawings and manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data. Catalog sheets, brochures, etc., shall be clearly marked to identify pertinent materials, products, or models.
- C. Samples: Samples are physical examples to illustrate materials, equipment, or workmanship and to establish standards by which work is to be evaluated.
- D. Miscellaneous Submittals: Miscellaneous submittals related directly to the work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, quality testing and certifying reports, copies of industry standard, record drawings, field measurement data, operating and maintenance materials, overrun stock, and similar information, devices and materials applicable to the work and not processed as shop drawings, product data or samples.

#### 1.07 SUBMITTAL REQUIREMENTS

- A. Prior to submission, thoroughly check shop drawings, product data, and samples for completeness and for compliance with the Contract Documents. Verify all field measurements, quantities, dimensions, specified performance criteria, fabrication, shipping, handling, storage, assembly, installation, and safety requirements.
- B. Coordinate the submittals with the requirements for other related work.
- C. Notify the ENGINEER, in writing at the time of submission, of deviations in submittals from the requirements of the Contract Document. The CONTRACTOR'S responsibility for



deviations in submittals from the requirements of the Contract Documents is not relieved by the ENGINEER'S review of submittals, unless the ENGINEER gives written acceptance of specific deviations.

- D. Submit at least six (6) copies of each shop drawing and product data. The specific number of copies required of all submittals will be determined during the preconstruction meeting. Submit the number of samples indicated in the individual Specification Sections.
- E. Where a specific product manufacturer and model number is listed in individual specification sections and is proposed by the CONTRACTOR to be used, full submittal of product data is not required. In this case, submit in letter format the name of the product, manufacturer, model number, specification section, and name of project. Certify the identified product is proposed to be used in the project.
- F. Shop drawings, product data, and samples shall be accompanied by a letter of transmittal referring to the name of the project and to the specification page number and/or Drawing number for identification of each item. Submittals for each type of work shall be numbered consecutively, and the numbering system shall be retained throughout all revisions.
- G. Submittals shall bear the CONTRACTOR'S stamp of approval certifying that they have been checked and indicate appropriate specification section and/or drawing location. Submittals without the CONTRACTOR'S initialed or signed certification stamp and submittals which, in the ENGINEER'S opinion, are incomplete, contain numerous errors or have not been properly checked, will be returned unchecked by the ENGINEER for resubmission.
- H. Begin no work which requires submittals until return of submittals with ENGINEER stamp and initials or signature indicating the submittal has been approved.
- I. Systems to be submitted in the shop drawing submittal shall include but not necessarily be limited to:
  - 1. Each item of equipment and/or materials listed in the project equipment and material schedules.
  - 2. Special casings.
- J. In addition to the above, the manufacturer shall submit through the CONTRACTOR copies of the results of the tests performed by an independent laboratory that demonstrate compliance with the reference specification for:
  - 1. Ductile iron pipe
  - 2. Casing pipe
  - 3. PVC pipe
  - 4. Asphaltic materials

#### 1.08 ENGINEER'S REVIEW OF SUBMITTALS

- A. ENGINEER'S review and approval of submittals will not extend to means, methods, techniques, sequences, procedures of construction, or to safety precautions.
- B. The review and approval of a separate item will not indicate approval of the assembly in which the item functions. ENGINEER'S review and approval of submittals shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract

Documents.

- C. The ENGINEER will review submittals with reasonable promptness. The ENGINEER'S review of submittals shall not be construed as a complete check and shall not relieve the CONTRACTOR from responsibility for complete compliance with the Contract requirements.
- D. No corrections, changes, or deviations indicated on submittals reviewed by the ENGINEER shall be considered as a change order.
- E. Where review of submittals is required by the Owner of other agencies, the ENGINEER will forward the appropriate submittals(s) to these parties after ENGINEER review. Once review of all parties is complete, the submittal(s) will be returned to the CONTRACTOR reflecting the review of all parties.
- F. If the submittal is not satisfactory, one copy of the submitted item will be retained by the ENGINEER and all other copies returned to the CONTRACTOR for appropriate action.
- G. In the event a third submittal is required, due to previous submittals of incomplete or incorrect data or not in compliance with the Contract Documents, the CONTRACTOR will be charged one-half of the cost incurred by the ENGINEER for the review of the third submittal. The CONTRACTOR shall bear the total cost incurred by the ENGINEER for all subsequent reviews. The ENGINEER costs charged to the CONTRACTOR will be at the cost plus rate generally charged by the ENGINEER and will be deducted by the OWNER from payments due to the CONTRACTOR.
- H. Distribution of copies of acceptable submittals will be as mutually determined by the CONTRACTOR, OWNER, and ENGINEER on an individual item basis during or following the preconstruction conference.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

## **SECTION 01390 - COLOR VIDEO-AUDIO PRE-CONSTRUCTION RECORD**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

- A. Scope of Work: Prior to commencing the Work, the CONTRACTOR shall have a continuous color audio-video digital recording taken (1) along the entire length of the Project or (2) within the confines of a treatment plant, to serve as a record of pre-construction conditions.

#### **1.02 APPROVAL**

- A. No construction shall begin prior to review and approval of the audio-video DVD recording covering the Project by the OWNER. The OWNER shall have the authority to reject all or any portion of the audio-video DVD recordings not conforming to specifications and order that it be redone at no additional charge.
- B. The CONTRACTOR shall reschedule unacceptable coverage within five (5) days after being notified. The OWNER shall designate those areas, if any, to be omitted from or added to the audio-video coverage.
- C. The DVD recordings shall not be made more than thirty (30) days prior to construction in any area. All DVD's and written records shall become property of the OWNER.

#### **1.03 PROFESSIONAL VIDEOGRAPHERS**

- A. The CONTRACTOR shall engage the services of a professional videographer. The color audio-video recording shall be prepared by a responsible commercial firm known to be skilled and regularly engaged in the business of pre-construction color audio-video documentation.
- B. The videographer shall furnish to the OWNER, a list of all equipment to be used for the audio-video recording, i.e., manufacturer's name, model number, specifications and other pertinent information.
- C. The videographer shall furnish the OWNER with additional information including the names and addresses of two references that the videographer has performed color audio-video recordings for projects of a similar nature within the last twelve (12) months.

#### **1.04 PHOTOGRAPHS OF LINE WORK**

- A. The CONTRACTOR shall make provision at his expense for photographs to be taken just prior to construction and for unusual conditions during construction. The photographs shall show pertinent physical features along the line of construction prior to start of construction. Two 4-inch x 6-inch prints of all pictures shall be furnished to the OWNER's representative.

### **PART 2 – PRODUCTS**

#### **2.01 COLOR PRINTS**

- A. Paper:

1. Double Weight
2. Finish: Smooth Surface, Glossy
3. Size: 8-inch x 10-inch

B. Identify Each Print on Back, Listing:

1. Name of Project
2. Orientation of View
3. Date and Time of Exposure
4. Name and Address of Photographer

2.02 DVD's

- A. Audio-video DVD's shall be new. The DVD used for the recordings shall be professional quality 12 cm color DVD media that conforms to either DVD-R or DVD+R recording standards using high quality DVD video and audio bitrates. Reprocessed disks will not be acceptable. The recorded DVD's shall be compatible for playback with any standard DVD-R or DVD+R player.

**PART 3 – EXECUTION**

3.01 TECHNIQUE

- A. Factual Presentation
- B. Correct Exposure and Focus
1. High resolution and sharpness.
  2. Maximum depth of field.
  3. Minimum distortion

3.02 DELIVERY OF PRINTS

- A. Deliver prints to ENGINEER to accompany each Application for Payment.

3.03 EQUIPMENT

- A. All equipment, accessories, materials, and labor to perform this service shall be furnished by the CONTRACTOR or professional videographer.
- B. The total audio-video recording system and the procedures employed in its use shall be such as to produce a finished product that will fulfill the technical requirements of the Project as well as those more subjective requirements of high quality audio and video production. The video portion of the recording shall reproduce bright, sharp, clear pictures with accurate colors and shall be free from distortion, or any other form of picture imperfection. The audio portion of the recording shall reproduce the commentary of the camera operator with proper volume, clarity and be free from distortion.
- C. When conventional wheeled vehicles are used, the distance from the camera lens to the ground shall not be more than ten feet (10'). In some instances, audio-video recording coverage may be required in areas not accessible by conventional wheeled vehicles. Such coverage shall be obtained by walking or special conveyance approved by the OWNER.

- D. The color video camera used in the recording system shall record the color signal with a minimum horizontal resolution of 350 lines, a luminance signal to noise ratio of 45 dB, and a minimum illumination requirement of 25-foot candles.

#### 3.04 RECORDED INFORMATION - AUDIO

- A. Each DVD shall begin with the current date, project name and be followed by the general location, i.e., viewing side and direction of progress. The audio tract shall consist of an original live recording. The recording shall contain the narrative commentary of the videographer, recorded simultaneously with its fixed elevation video record of the zone of influence of construction.
- B. The OWNER reserves the right to supplement the audio portion of the recording as deemed necessary. A representative of the OWNER shall be selected to provide such narrative.

#### 3.05 RECORDED INFORMATION - VIDEO

- A. All video recordings shall, by electronic means, display on the screen the time of day, the month, day and year of the recording. This time and date information must be continuously and simultaneously generated with the actual recording.
- B. All DVD's and their storage cases shall be identified by DVD index number, project title, and general project location. Each DVD shall have a log of that recording's contents displayed on the storage case of each DVD. The log shall describe the various segments of coverage contained on that DVD in terms of the names of streets or easements, coverage beginning and end, directions of coverage, video unit counter numbers, engineering stationing numbers and the date.

#### 3.06 LIGHTING

- A. All recordings shall be done during times of good visibility. No recording shall be done during precipitation, mist or fog. The recording shall only be done when sufficient sunlight is present to properly illuminate the subjects of recording and to produce bright, sharp video recordings of those subjects.

#### 3.07 SPEED OF TRAVEL

- A. The rate of speed in the general direction of travel of the vehicle used during taping shall not exceed 440 feet per minute (5 mph). Panning, zoom-in and zoom-out rates shall be sufficiently controlled to maintain a clear view of the object.

#### 3.08 AREA OF COVERAGE

- A. Recordings shall include all surface features located within the zone of influence of construction supported by appropriate audio coverage. Such coverage shall include, but not be limited to, existing driveways, sidewalks, curbs, pavements, ditches, mailboxes, landscaping, culverts, buildings, vaults, concrete pads, fences, signs, and headwalls within the area covered.

#### END OF SECTION

## **SECTION 01400 – QUALITY CONTROL**

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### **PART 1 – GENERAL**

#### **1.01 TESTING LABORATORY SERVICES**

- A. Arrangements for testing laboratory services will be made by CONTRACTOR. Payment for testing to show compliance with specified requirements will be paid for by CONTRACTOR. The cost of retesting when materials and workmanship fail to meet specified requirements will be deducted from monies due CONTRACTOR.

#### **1.02 LABORATORY STANDARDS**

- A. Testing laboratories shall conform to the applicable requirements of ASTM E329-77, STANDARD RECOMMENDED PRACTICE FOR INSPECTION AND TESTING AGENCIES FOR CONCRETE, STEEL AND BITUMINOUS MATERIALS AS USED IN CONSTRUCTION, LATEST EDITION, and shall be inspected and approved by the ELF/FC&PA Joint Technical Committee, Inc., or by an equivalent recognized national authority.
- B. Agents of testing laboratories performing field sampling and field testing of concrete shall be certified by the American Concrete Institute as Concrete Field Testing Technicians Grade 1 or by an equivalent recognized national authority for an equivalent level of competence, or shall be licensed Professional Engineers.

#### **1.03 ACCESS FOR INSPECTION**

- A. OWNER, ENGINEER and their authorized representatives shall be permitted free access and every reasonable facility for the inspection of all Work, materials and equipment. OWNER and his authorized representatives shall also be permitted to inspect payrolls, invoices for materials and equipment. OWNER and his authorized representatives shall also be permitted to inspect payrolls, invoices for materials and equipment and other relevant data and records.
- B. Authorized representatives of Federal, State or local agencies shall be permitted access to inspect for compliance with applicable laws, regulations and permit requirements.

### **PART 2 – PRODUCTS (Not Applicable)**

### **PART 3 – EXECUTION (Not Applicable)**

**END OF SECTION**

## **SECTION 01500 – TEMPORARY FACILITIES AND CONTROLS**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION OF REQUIREMENTS**

- A. This Section specifies the minimum requirements for temporary facilities, utilities to be brought to the site, and control required to enable the construction of the project to progress adequately. The providing of adequate facilities at every stage of performing the work is the CONTRACTOR'S sole responsibility, and is not limited by the requirements of this Section.
- B. Except as otherwise indicated, the CONTRACTOR may, at his option, provide stand-alone utility plants to provide needed services, in lieu of connected services from available public utilities, provided such stand-alone plant facilities comply with governing regulations. Prior to availability of temporary utility services, provide trucked-in/trucked-out containerized or unitized services for start-up of construction operations at the site.
- C. Except as otherwise indicated, the costs of providing and using temporary utility services are included in the Contract Sum.
- D. The CONTRACTOR shall not use the facilities of the OWNER without permission.

#### **1.02 TEMPORARY FACILITIES**

- A. The types of utility services required for general temporary use at the project site include the following (other specific services may be required for specific construction methods or operations):
  - 1. Water Service (potable for certain uses)
  - 2. Sanitary
  - 3. Storm Sewer or Open Drainage/Run-off Control
- B. Temporary Water: The CONTRACTOR shall make all necessary application and arrangements, and pay all fees and charges for water necessary for the proper completion of the project up to the time of final acceptance. The CONTRACTOR shall provide and pay for any temporary piping and connections.
- C. Temporary Sanitary Facilities: The CONTRACTOR shall provide adequate sanitary facilities for the use of those employed on the work. Such facilities shall be made available when the first employees arrive on the site of the work, shall be properly secluded from public observation, and shall be constructed and maintained during the progress of the work in suitable numbers and at such points and in such manner as may be required or approved.
- D. The CONTRACTOR shall maintain the sanitary facilities in a satisfactory and sanitary condition at all times and shall enforce their use. He shall rigorously prohibit the committing of nuisances on the site of the work, on the lands of the OWNER, or on adjacent property.
- E. Termination and Removal: At the time the need for temporary utility service or a substantial portion thereof has ended, or when its service has been replaced by use of permanent services, or not later than the time of substantial completion, promptly remove the installation unless requested by the ENGINEER to retain it for a longer period. Complete and restore work which may have been delayed or affected by the installation

and use of the temporary utility, including repairs to construction and grades and restoration and cleaning of exposed surfaces. Replace work damaged beyond acceptable restoration.

#### 1.03 TEMPORARY CONTROLS

- A. Noise Control: The CONTRACTOR shall provide adequate protection against objectionable noise levels caused by the operation of construction equipment.
- B. Dust Control: The CONTRACTOR shall provide for adequate protection against raising objectionable dust clouds caused by moving construction equipment, high winds or any other cause.
- C. Water Control: The CONTRACTOR shall provide for satisfactory disposal of surplus water and shall submit a plan to the ENGINEER for his review prior to initiation and implementation of the plan. Prior approval shall be obtained from the proper authorities for the use of public or private lands or facilities for such disposal. CONTRACTOR shall be responsible for obtaining and complying with the requirements of any dewatering or consumptive use permits required by regulatory authorities.
- D. Pollution Control:
  - 1. The CONTRACTOR shall provide for adequate protection against polluting any public or private lands, lakes, ponds, rivers, streams, creeks, and other such areas, by the disposal of material in the form of solids, liquids, or gases.
  - 2. The CONTRACTOR shall evaluate and assess the impact of any adverse effects on the natural environment which may result from construction operations and shall operate to minimize pollution of air, ground or surface waters vegetation, and afford the neighboring community the maximum protection during and up to completion of the construction project.
  - 3. All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in strict conformance with instructions.
  - 4. The CONTRACTOR shall follow all laws governing the use and disposal of toxic materials.
- E. Erosion Control
  - 1. The CONTRACTOR shall not expose, by construction operations, a larger area of erosive land at any one time than the minimum necessary for efficient construction operations, and the duration of exposure of the uncompleted construction to the elements shall be as short as practicable.
  - 2. Erosion control features shall be constructed concurrently with other work and at the earliest practicable time.

#### 1.04 STORAGE FACILITIES

- A. All products, materials and equipment shall be stored in accordance with the manufacturer's instructions, with seals and labels intact and legible. Products subject to damage by the elements shall be stored in weathertight enclosures. Temperature and humidity shall be maintained within the ranges required by the manufacturer's instructions. Fabricated products shall be stored above the ground on blocking or skids. Products which are subject to deterioration shall be covered with impervious coatings with adequate ventilation to avoid condensation. Loose granular materials shall be stored



in a well-drained area on solid surfaces to prevent mixing with foreign matter. Any products which will come in contact with potable water shall be stored off the ground so as to prevent contamination.

- B. Storage shall be arranged in such a manner to provide easy access for inspection. Periodic inspections shall be made of all stored products to assure that they are maintained under specified conditions, and free from damage or deterioration.
- C. After installation, CONTRACTOR shall provide substantial coverings as necessary to installed products to protect from damage from traffic and subsequent construction operations. Coverings shall be removed when no longer needed.

**PART 2 – PRODUCTS** (Not Applicable)

**PART 3 – EXECUTION** (Not Applicable)

**END OF SECTION**

## **SECTION 01568 – EROSION AND SEDIMENTATION CONTROL**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

- A. In addition to the requirements of Division 1 and Section 02200:
  - 1. All erosion, sedimentation and water pollution control features shall be in place or relocated as necessary prior to the start of any clearing, grading or construction. CONTRACTOR shall be responsible for the installation and maintenance of all temporary erosion control features.
  - 2. Location of the control features shall be as required to facilitate drainage and control erosion and sedimentation within and adjacent to the site.
  - 3. Control features are defined as, but not limited to, swales, berms, silt fences, silt barriers and temporary fences.

#### **1.02 QUALITY ASSURANCE**

- A. The provisions for prevention, control and abatement of erosion, sedimentation and water pollution shall be as stated in the FDOT Standard Specifications for Road and Bridge Construction, Section 104, latest edition, and as required by the St. John's River Water Management District.

#### **1.03 SUBMITTALS**

- A. Procedures shall be in accordance with General Conditions.
- B. Product data: Manufacturers' literature, application instructions and samples.
- C. List of materials and their characteristics for other erosion control items.

#### **1.04 START OF WORK**

- A. Do not start work until erosion control measures are in place.

### **PART 2 – PRODUCTS**

#### **2.01 MATERIALS**

- A. Silt Barriers
  - 1. Two (2) types of silt barriers shall be installed in accordance with the plans: silt barriers installed on the ground, and floating silt barriers.
  - 2. Silt barriers (filter fabric) shall be synthetic and contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six (6) months of expected usable construction life at a temperature range of zero degree Fahrenheit (0°F) to one hundred twenty degrees Fahrenheit (120°F). Hay bales shall not be used for silt barriers, unless specifically approved by the OWNER.
  - 3. Filter fabric shall be a pervious sheet of propylene, nylon or polyester and shall be certified by the manufacturer or supplier to conform to the following specifications:

|                                                                |          |
|----------------------------------------------------------------|----------|
| Filter efficiency (Test VTM-51):                               | 75%      |
| Minimum tensile strength at 20% elongation (Test ASTM-D-1682): | 120 lbs. |
| Tear strength (Test ASTM D2263):                               | 50 lbs.  |

4. CONTRACTOR shall submit further filter fabric specifications and installation configuration prior to start of construction.
5. Silt barriers shall be maintained in place until substantial completion of the Project.
6. Filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid use of joints. When joints are necessary filter fabric shall be spliced together only at a support post, with a six-inch (6") overlap, and securely sealed.
7. The following items shall be installed and maintained in accordance with the applicable sections of the FDOT Standard Specifications:
  - a. Temporary silt fences and staked silt barriers
  - b. Floating silt barrier

**B. Temporary Fence**

1. Brightly colored fence as manufactured by Mirafi, product Mirasafe, or approved equal.
2. Material shall be four feet (4') high, attached to six feet (6') metal posts at twelve feet (12') centers. Posts shall be driven eighteen inches (18") into ground.

**C. Filter Fabric for Placement Beneath Rip-Rap**

1. Filter Fabric should be Mirafi 600X or approved equal.

**D. Rip-Rap**

1. Rubble type rip-rap consisting of broken stone meeting the requirements of Section 530-3.3 of the FDOT Standard Specifications for Road and Bridge Construction, Latest Edition.

### **PART 3 – EXECUTION**

#### **3.01 GENERAL**

- A. Temporary erosion control features shall consist of, but not be limited to, temporary grassing, temporary sodding, temporary mulching, sandbagging, slope drains, sediment basins, artificial coverings, berms, baled hay or straw, floating silt barriers, staked silt barriers, and staked silt fences. Design details for some of these items may be found in the Water Quality Section of the applicable edition of the FDOT Roadway and Traffic Design Standards. All of these items shall be constructed in accordance with applicable sections of the FDOT Standard Specifications.
- B. Incorporate permanent erosion control features into the project at the earliest practical time. Correct conditions, using temporary measures, which develop during construction to control erosion prior to the time it is practical to construct permanent control features.

- C. Construct temporary and permanent erosion and sediment control measures and maintain them to prevent the pollution of adjacent water ways in conformance with the laws, rules and regulations of Federal, State and local agencies.
- D. Copies of approved permits will be provided to the CONTRACTOR for his review and use. CONTRACTOR shall be required to comply with all General and Special Conditions noted within the permit by the particular permitting agency. The CONTRACTOR shall maintain copies of these permits on the job site at all times.

### 3.02 INSTALLATION

- A. The following items shall be installed and in accordance with the FDOT Standard Specifications. The procedures are only generally described herein.
  - 1. Temporary Grassing: This work shall consist of furnishing and placing grass seed.
  - 2. Temporary Sod: This work shall consist of furnishing and placing sod.
  - 3. Temporary Mulching: This work shall consist of furnishing and applying a two-inch to four-inch thick blanket of straw or hay mulch and then mixing or forcing the mulch into the top two inches of the soil in order to temporarily control erosion. Only decayed straw or hay, which can readily be cut into the soil, shall be used. Other measures for temporary erosion control such as hydro-mulching, chemical adhesive soils stabilizers, etc., may be substituted for mulching with straw or hay with the approval of the City. When permanent grassing operations begin, temporary mulch materials shall be plowed under in conjunction with preparation of the ground.
  - 4. Sandbagging: This work shall consist of furnishing and placing sandbags in configurations, so as to control erosion and siltation.
  - 5. Slope Drains: This work shall consist of constructing slope drains, utilizing pipe, fiber mats, rubble, cement concrete, asphaltic concrete, plastic sheeting, or other acceptable materials, in accordance with the details shown in FDOT's Roadway and Traffic Design Standards or as suitable to adequately perform the intended function.
  - 6. Sediment Basins: Sediment basins shall be constructed in accordance with the details shown in FDOT's Roadway and Traffic Design Standards or as suitable to adequately perform the intended function. Sediment basins shall be cleaned out as necessary.
  - 7. Artificial Coverings: This work shall consist of furnishing and applying fiber mats, netting, plastic sheeting, or other approved covering to the earth surfaces.
  - 8. Berms: This work shall consist of construction of temporary earth berms to divert the flow of water from an erodible surface.
    - a. This work shall consist of construction of baled hay or straw dams or earth berms to protect against downstream accumulations of silt. The baled hay or straw dams shall be constructed in accordance with the details shown in FDOT's Roadway and Traffic Design Standards.
    - b. The berm dam shall be placed so as to effectively control silt dispersion under conditions present on this project. Alternate solutions and usage of materials may be used if approved.
  - 9. Filter Fabric for placement beneath rip-rap:
    - a. Unroll filter fabric adequately longitudinally with the swale.
    - b. Install anchoring pins in the fabric to protect the material from wind uplift.

- c. Toe filter fabric into soil a minimum of twelve inches (12") at the top and bottom of the slope.
- 10. Rubble Rip-Rap:
  - a. Rip-rap should be placed carefully to not damage or displace the filter fabric. Filter fabric which rips or becomes displaced during rip-rap placement should be repaired. The placement of the rip-rap should proceed from the bottom up to the top of the slope. At no time should the rip-rap be dumped onto the fabric from the tip of the slope and allowed to roll down the surface of the fabric.
  - b. Placement of rip-rap shall be in accordance with Section 530-3 of the FDOT Standard Specifications for Road and Bridge Construction, latest edition.
  - c. Minimum thickness of rip-rap layer is two feet (2').

### 3.03 SILT BARRIERS

- A. Silt barriers shall be installed and maintained at the locations shown on the Drawings. The CONTRACTOR is required to prevent the possibility of silting onto any adjacent parcel.
- B. Silt barrier shall be of the staked type and stakes shall be installed as indicated in the Drawings.
- C. The height of the silt barrier fabric shall be a minimum of forty-two inches (42").
- D. The stakes shall be two inch (2") x four inch (4") wood, five feet (5') long and shall be spaced a maximum of ten feet (10) apart at the barrier location and driven securely into the ground.
- E. A trench shall be excavated approximately four inches (4") wide by four (4") deep along the line of stakes. The filter fabric shall be tied or stapled to the wooden stakes and eight inches (8") of fabric shall be extended into the trench. The staples shall be heavy duty wire and at least one-half inch (1/2") long. The trench shall then be backfilled and the soil compacted over the filter fabric.

### 3.04 FLOATING SILT BARRIERS

- A. Floating silt barriers shall be located as shown on the Drawing and shall be in place prior to the start of any construction or grading.
- B. Floating silt barriers shall meet or exceed the Florida Department of Transportation Roadway and Traffic Design Standards, Index No. 102, Floating Silt Barrier. CONTRACTOR shall submit fabric filter material specifications and installation configuration for approval prior to the start of construction.

### 3.05 TEMPORARY FENCE

- A. Furnish, install and maintain on wetland lines, buffer lines, tree save lines and otherwise as shown on Drawings. Attach silt barrier to the temporary fence.
- B. Follow manufacturer's installation recommendations.

### 3.06 MAINTENANCE

- A. Silt barriers and temporary fences shall be inspected immediately after each rainfall and at least once a day during periods of prolonged rainfall. Any repairs shall be made immediately.
- B. Should the fabric on a silt barrier or temporary fence decompose or become ineffective, the installation shall be repaired or replaced immediately at no additional cost to the OWNER. If the CONTRACTOR fails to repair or replace the items as above, the OWNER shall have the right to stop work without additional cost to the OWNER in accordance with Article 15 of the General Conditions until such time as the repair or replacement has been made.
- C. Sediment deposits shall be removed after each storm event. The CONTRACTOR will repair and restore the installations to a working and effective condition to the satisfaction of the OWNER.
- D. At the completion of all work, the silt barriers and the temporary fences will be removed unless otherwise directed by the OWNER.
- E. Any sediment deposits in place after the silt fence or filter barrier is no longer required shall be dressed to conform to the existing grade and prepared for seeding or sodding.

### 3.07 CONTROL OF CONTRACTOR'S OPERATIONS WHICH MAY RESULT IN WATER POLLUTION

- A. Take sufficient precautions to prevent pollution of streams, canals, lakes, reservoirs, wetlands and other sensitive areas with silt, sediment, fuels, oils, bitumens, calcium chloride, or other harmful materials. Conduct and schedule operations so as to avoid or otherwise minimize pollution or siltation of such streams, etc. and to avoid interference with movement of migratory fish. Do not pump the residue from dust collectors or washers into any water body.
- B. Construction operations in rivers, streams, lakes, tidal waters, reservoirs, canals, and other impoundments shall be restricted to those areas where it is necessary to perform filling or excavation to accomplish the work shown in the Contract Documents and to those areas which must be entered to construct temporary or permanent structures. As soon as conditions permit, promptly clear rivers, streams, and impoundments of all obstructions placed therein or caused by construction operations.
- C. Except as necessary for construction, do not deposit excavated material in rivers, streams, canals, or impoundments, or in a position close enough thereto, to be washed away by high water or run-off.
- D. Where pumps are used to remove highly turbid waters from enclosed construction areas such as cofferdams or forms, treat the water prior to discharge into State or other waters. Pump the water into grassed swales, appropriately vegetated areas, or sediment basins, or confine it by an appropriate enclosure such as siltation curtains when other methods are not considered appropriate. Do not contaminate State or other waters.
- E. Do not disturb lands or waters outside the limits of construction, unless approved in advance and in writing by the OWNER. No operations within non-permitted wetlands or upland buffers are allowed.

### 3.08 PROTECTION DURING SUSPENSION OF CONTRACT TIME

- A. In the event that it is necessary that the construction operations be suspended for any appreciable length of time, shape the top of the earthwork in such a manner as to permit run-off of rainwater and construct earth berms along the top edges of embankments to intercept run-off water. Provide temporary slope drains to carry run-off from cuts and embankments which are located in the vicinity of rivers, streams, canals, lakes and impoundments. Should such preventative measures fail, immediately take such other action as necessary to effectively prevent erosion and siltation.

**END OF SECTION**

## **SECTION 01600 – MATERIAL AND EQUIPMENT**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

- A. Scope of Work: Material and equipment incorporated into the Work:
  - 1. Conform to applicable specifications and standards.
  - 2. Comply with size, make, type and quality specified, or as specifically approved in writing by the OWNER.
  - 3. Manufactured and fabricated products:
    - a. Design, fabricate and assemble in accord with the best engineering and shop practices.
    - b. Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.
    - c. Two (2) or more items of the same kind shall be identical, by the same manufacturer.
    - d. Products shall be suitable for service and conditions.
    - e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
  - 4. Do not use material or equipment for any purpose other than that for which it is designed or is specified.
- B. Related Requirements Described Elsewhere:
  - 1. Conditions of the Contract.
  - 2. Summary of Work: Section 01010
  - 3. Special Project Procedures: Section 01100

#### **1.02 APPROVAL OF MATERIALS**

- A. Only new materials and equipment shall be incorporated in the work. All materials and equipment furnished by the CONTRACTOR shall be subject to the inspection and approval of the OWNER. No material shall be delivered to the work without prior approval of the OWNER.
- B. Within thirty (30) days after the Effective Date of the Agreement, the CONTRACTOR shall submit to the OWNER, data relating to materials and equipment he proposes to furnish for the work. Such data shall be in sufficient detail to enable the OWNER to identify the particular product to form an opinion as to conformity to the specifications. If Asbestos is contained in any item, the CONTRACTOR shall include a notification of this fact. This notification must include the type and percent of asbestos content. All data shall comply with Paragraph 1.06 of this Section.
- C. Facilities and labor for handling and inspection of all materials and equipment shall be



furnished by the CONTRACTOR. If the OWNER requires, either prior to beginning or during the progress of the work, the CONTRACTOR shall submit samples of materials for such special tests as may be necessary to demonstrate that they conform to the specifications. Such samples shall be furnished, stored, packed and shipped as directed at the CONTRACTOR'S expense. Except as otherwise noted, the CONTRACTOR will make arrangements for and pay for the tests.

- D. The CONTRACTOR shall submit data and samples sufficiently early to permit consideration and approval before materials are necessary for incorporation in the work. Any delay of approval resulting from the CONTRACTOR'S failure to submit samples or data promptly shall not be used as a basis of claim against the OWNER.
- E. In order to demonstrate the proficiency of workmen or to facilitate the choice among several textures, types, finishes and surfaces, the CONTRACTOR shall provide such samples of workmanship or finish as may be required.
- F. The materials and equipment used on the work shall correspond to the approved samples or other data.

#### 1.03 MANUFACTURER'S INSTRUCTION FOR INSTALLATION

- A. When Contract Documents require the installation of work shall comply with manufacturer's printed instruction, obtain and distribute copies of such instruction to parties involved in the installation, including five copies to the OWNER.
- B. Handle, install, connect, clean, condition and adjust products in strict accord with such instruction and in conformity with specified requirements.
  - 1. Should job conditions or specified requirements conflict with manufacturer's instruction, consult with OWNER for further instructions.
  - 2. Do not proceed with work without clear instructions.
- C. Perform work in accordance with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

#### 1.04 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of products in accordance with construction schedules, coordinate to avoid conflict with work and conditions at the site.
  - 1. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
  - 2. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.
- B. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

#### 1.05 SPECIAL TOOLS

- A. Manufacturers of equipment and machinery shall furnish any special tools (including grease guns or other lubricating devices) required for normal adjustment, operations and maintenance, together with instructions for their use. The CONTRACTOR shall preserve and deliver to the OWNER these tools and instruction in good order no later than upon completion of the Contract.

#### 1.06 STORAGE AND HANDLING OF EQUIPMENT ON SITE

- A. If there is a long period allowed for construction, special attention shall be given to the storage and handling of equipment on site. As a minimum, the procedure outlined below shall be followed:
1. Equipment shall not be shipped until approved by the OWNER. The intent of this requirement is to reduce on-site storage time prior to installation and/or operation. Under no circumstances shall equipment be delivered to the site more than one month prior to installation without written authorization from the OWNER. Equipment shipped to the site shall be stored in accordance with Paragraph 1.05, herein.
  2. All equipment having moving parts such as gears, electric motors, etc. and/or instruments shall be stored in a temperature and humidity controlled building approved by the OWNER, until such time as the equipment is to be installed.
  3. All equipment shall be stored fully lubricated with oil, grease, etc. unless otherwise instructed by the manufacturer.
  4. Manufacturer's storage instructions shall be carefully studied by the CONTRACTOR and reviewed with the OWNER. These instructions shall be carefully followed and a written record of this kept by the CONTRACTOR.
  5. Moving parts shall be rotated a minimum of once weekly to insure proper lubrication and to avoid metal-to-metal "welding". Upon installation of the equipment, the CONTRACTOR shall start the equipment, does not deteriorate from lack of use.
  6. Lubricants shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. Mechanical equipment to be used in the work, if stored for longer than ninety (90) days, shall have the bearings cleaned, flushed and lubricated prior to testing and startup, at no extra cost to the OWNER.
  7. Prior to acceptance of the equipment, the CONTRACTOR shall have the manufacturer inspect the equipment and certify that its condition has not been detrimentally affected by the long storage period. Such certification by the manufacturer to be in a condition equal to that of equipment that has been shipped, installed, tested and accepted in a minimum time period. As such, the manufacturer will guarantee the equipment equally in both instances. If such a certification is not given, the equipment shall be judged to be defective. It shall be removed and replaced at the CONTRACTOR'S expense.

#### 1.07 WARRANTY

- A. For all major pieces of equipment, submit a warranty from the equipment manufacturer as specified in Section 01740: Warranties. The manufacturer's warranty period shall be concurrent with the CONTRACTOR'S for one (1) year after the time of completion and acceptance.

#### 1.08 SPARE PARTS

- A. Spare parts for certain equipment provided have been specified in the pertinent sections of the Specifications. The CONTRACTOR shall collect and store all spare parts so required in an area to be designated by the OWNER. In addition, the CONTRACTOR shall furnish to the OWNER an inventory listing all spare parts, the equipment they are associated with, the name and address of the supplier, and the delivered cost of each item. Copies of actual invoices for each item shall be furnished with the inventory to substantiate the delivered cost.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

## **SECTION 01640 – SUBSTITUTIONS AND PRODUCT OPTIONS**

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### **PART 1 – GENERAL**

#### **1.01 REQUESTS FOR REVIEW**

- A. Requests to review substitute items of material and equipment will not be accepted by the ENGINEER from anyone other than the CONTRACTOR. If the CONTRACTOR wishes to furnish or use a substitute or equivalent items of material or equipment, the CONTRACTOR shall make written application to the ENGINEER for acceptance, certifying that the proposed substitute will perform adequately the functions called for by the general design, be similar and of equivalent substance to that specified and be suited to the same use and capable of performing the same function as that specified. The application will state whether or not acceptance of the substitute for use in the work will require a change in Drawings or Specifications to adapt the design to the substitute and whether or not incorporation or use of the substitute in connection with the work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified shall be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by the ENGINEER in evaluating the proposed substitute. The ENGINEER may require the CONTRACTOR to furnish at the CONTRACTOR's expense additional data about the proposed substitute. The ENGINEER will be the sole judge of acceptability, and no substitute will be ordered or installed without the ENGINEER'S prior written acceptance. The OWNER may require the CONTRACTOR to furnish at the Contractor's expense, a special performance guarantee of other surety with respect to any substitute.

#### **1.02 PRODUCT SELECTION**

- A. Provide products that comply with the Contract Documents, that are undamaged, and unless otherwise indicated, new at the time of installation.
- B. To the fullest extent possible, provide products of the same kind from a single source.
- C. Compatibility among product options is required. Where more than one choice is available as options during product selection, select an option that is compatible with other products and materials already selected.
- D. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and the intended use and effect.
- E. Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- F. Where Contract Documents are at variance with specific manufacturer's details and installation procedures, contact the ENGINEER for resolution prior to start of work.
- G. For products specified by naming a number of products and manufacturers with "or equal", select any of the products and manufacturers listed, or propose a substitution. If the CONTRACTOR wishes to propose a substitution, the CONTRACTOR must submit a request for product substitution for approval by the ENGINEER and OWNER.
- H. For products specified naming only one product and manufacturer, or a number of products and manufacturers without the "or equal" allowance, no substitutes are allowed.

- I. For products specified by reference standards only, the CONTRACTOR may provide any product complying with the specified standard.
- J. For products specified by performance and descriptive methods, without naming manufacturer's products, the CONTRACTOR may provide the products of any manufacturer complying with the Contract Documents, subject to the review of the product data and concurrence by the ENGINEER as specified within.

#### 1.03 SUBSTITUTION AFTER EXECUTION OF AGREEMENT

- A. After execution of the Agreement, substitution of materials or equipment from Suppliers other than those listed or included in the Agreement will be considered only if it is demonstrated by CONTRACTOR that:
  - 1. The material or equipment proposed for substitution is superior in design, construction and/or efficiency to that of the listed manufacturer or supplier;
  - 2. The material proposed for substitution is in every way equal to that of the listed supplier, and that availability and/or delivery of listed materials within the time frame scheduled cannot be met;
  - 3. A specified product is no longer available.
  - 4. The product cannot be delivered by the manufacturer in a timely manner.
  - 5. The product is found to be incompatible with other specified products.
  - 6. The material proposed for substitution is in every way equal to that of the listed supplier and is available at a lower cost. In the event such a substitution is allowed, CONTRACTOR shall accept and execute a Change Order reducing the Contract Price by an amount equal to the cost differential.

#### 1.04 ENGINEER'S CHARGES

- A. The ENGINEER will record time required by the ENGINEER and the ENGINEER'S consultants in evaluating substitutions proposed by the CONTRACTOR and in making changes in the Drawings or Specifications occasioned by the substitution. Whether or not the ENGINEER accepts a proposed substitute, the CONTRACTOR shall reimburse the OWNER for the charges of the ENGINEER and the ENGINEER'S consultants for evaluating any proposed substitute.

#### 1.05 EQUIPMENT REQUIRING VARIATION IN SPACE

- A. It is intended that the CONTRACTOR shall furnish equipment which may be installed and shall operate properly in the structures as shown. Should the CONTRACTOR select alternate equipment resulting in an alteration to, addition to, enlargement of, or any other changes from the lines, dimensions, and grades shown, the CONTRACTOR shall make such changes or alterations as are required and no additional payment will be made by the OWNER for changes in structures occasioned by the selection of alternate equipment. All such variations shall be subject to review and acceptance by ENGINEER.
- B. Equipment requiring supplemental services in addition to those shown or specified in order to fulfill the operating objectives and including additional mechanisms, operating steps and/or controls as compared with specified equipment will not be acceptable.

**PART 2 – PRODUCTS** (Not Applicable)

**PART 3 – EXECUTION** (Not Applicable)

**END OF SECTION**

## **SECTION 01660 – SYSTEMS TESTING, ADJUSTING AND BALANCING**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION OF REQUIREMENTS**

- A. The CONTRACTOR shall be responsible for the testing, adjusting and balancing of all systems prior to placing them in service.
- B. The operation, testing, adjustment and balancing shall be as required to prove that the equipment is left in proper condition for satisfactory operation under the conditions specified.

#### **1.02 TESTING PRIOR TO SHIPMENT**

Where individual sections require certain items of equipment to be tested prior to shipment from the manufacturer's plant, these items shall be operated to the extent necessary to generate certified performance data over the entire operating range of the equipment. The testing shall be conducted on the units which will be shipped to and installed at the construction site.

#### **1.03 SERVICES OF MANUFACTURER'S REPRESENTATIVE**

- A. The CONTRACTOR shall arrange for a qualified service representative from each company manufacturing or supplying certain equipment, as listed on the Drawings, or in the Specifications, to perform the duties described.
- B. After installation of the listed equipment has been completed and the equipment is presumably ready for operation, but before it is operated by others, the representative shall inspect, operate, test, adjust and balance the equipment. The inspection shall include, but shall not be limited to, the following points as applicable:
  - 1. Soundness (without cracked or otherwise damaged parts).
  - 2. Completeness in all details, as specified.
  - 3. Correctness of setting, alignment, and relative arrangement of various parts.
  - 4. Adequacy and correctness of packing, sealing and lubricants.
- C. On completion of his work, the manufacturer's or supplier's representative shall submit in triplicate to the ENGINEER a complete signed report of the result of his inspection, operation, adjustments, and tests. The report shall include detailed descriptions of the points inspected, tests and adjustments made, quantitative results obtained if such are specified, and suggestions for precautions to be taken to ensure proper maintenance. The report also shall include a certificate that the equipment conforms to the requirements of the Contract and is ready for permanent operation and that nothing in the installation will render the manufacturer's warranty null and void.
- D. After the ENGINEER has reviewed the reports from the manufacturer's representatives, the CONTRACTOR shall make arrangements to have the manufacturer's representatives present when the field acceptance tests are made.
- E. The manufacturer's representative shall remain on the job to instruct the OWNER'S personnel in proper operation and maintenance and shall remain until the equipment is operating in a satisfactory manner.

**PART 2 – PRODUCTS (Not Applicable)**

**PART 3 – EXECUTION**

**3.01 PRESSURE AND LEAKAGE TESTS**

Tests shall be conducted in the presence of and to the satisfaction of the ENGINEER and of authorities having jurisdiction over the work. Not less than three days notice shall be given prior to start of tests. A visual check shall be made of the gravity sewers for alignment and for leakage.

**3.02 GRAVITY SEWERS**

- A. The final inspection of gravity sewer systems shall include visual inspection and testing for infiltration and exfiltration.
- B. The visual inspection shall include examination of manholes and lamping of the sewer lines. All visible leaks shall be corrected.
- C. If, in the opinion of the ENGINEER, infiltration is excessive it shall be measured using a weir or other suitable device. Wherever the leakage into the pipe is found to exceed 50 gallons per day per inch diameter per mile of sewer between successive manholes, that section of sewer shall be reworked or relaid as required until the leakage is brought below this amount.

**3.03 ENGINEER'S RIGHT TO RETESTING**

- A. Should the CONTRACTOR refuse or neglect to make any tests necessary to demonstrate the integrity of the completed system, the ENGINEER may retain the services of an outside consultant to make all such tests and their resulting adjustments and balance.
- B. The costs for such tests shall be deducted from amounts owing to the CONTRACTOR and shall not be borne by the OWNER.

**END OF SECTION**

## **SECTION – 01700 CONTRACT CLOSEOUT**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

- A. Scope of Work: Comply with requirement stated in Conditions of the Contract and in specifications for administrative procedures in closing out the Work.
- B. Related Requirements Described Elsewhere:
  - 1. Conditions of the Contract, Fiscal provisions, legal submittals and additional administrative requirements.
  - 2. Project Record Documents: Section 01720.
  - 3. Warranties: Section 01740.

#### **1.02 SUBSTANTIAL COMPLETION**

- A. When CONTRACTOR considers the Work as substantially complete, the CONTRACTOR shall submit to the OWNER:
  - 1. A written notice that the Work, or designated portion thereof, is substantially complete.
  - 2. A list of items to be completed or corrected.
- B. Within a reasonable time after receipt of such notice, the OWNER shall make an inspection to determine the status of completion.
- C. Should the OWNER determine that the Work is not substantially complete:
  - 1. The OWNER shall promptly notify the CONTRACTOR in writing, giving the reasons thereof.
  - 2. CONTRACTOR shall remedy the deficiencies in the Work and send a second written notice of substantial completion to the OWNER.
  - 3. The OWNER shall re-inspect the Work.
- D. When the OWNER finds that the Work is substantially complete, the CONTRACTOR shall:
  - 1. Prepare and deliver to OWNER a tentative Certificate of Substantial Completion on form provided herein, with a tentative list of items to be completed or corrected before final payment.

#### **1.03 FINAL INSPECTION**

- A. When CONTRACTOR considers the Work is complete, it shall submit written certification that:
  - 1. Contract Documents have been reviewed.
  - 2. Work has been inspected for compliance with Contract Documents.
  - 3. Work has been completed in accordance with Contract Documents.
  - 4. Equipment and systems have been tested in the presence of the OWNER and are operational.
  - 5. Work is completed and ready for final inspection.



- B. The OWNER shall make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.
- C. Should the OWNER consider that the Work is incomplete or defective:
  - 1. The OWNER shall promptly notify the CONTRACTOR in writing, listing the incomplete or defective work.
  - 2. CONTRACTOR shall take immediate steps to remedy the stated deficiencies, and send a second written certification to the OWNER that the Work is complete.
  - 3. The OWNER shall re-inspect the Work.

#### 1.04 REINSPECTION FEES

- A. Should the OWNER perform re-inspections due to failure of the Work to comply with the claims of status of completion made by the CONTRACTOR:
  - 1. The OWNER shall compensate the Engineer / Architect / Consultants, etc., for such additional services.
  - 2. The OWNER shall deduct the amount of such compensation from the final payment to the CONTRACTOR.

#### 1.05 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ENGINEER

- A. Project Record Documents: To requirements of Section 01720.
- B. Warranties: To requirements of Section 01740.
- C. Evidence of Payment and Release of Liens: To requirements of the General Conditions and Supplementary Conditions.
- D. Certificate of Insurance for Products and Completed Operations.

#### 1.06 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement of accounting to the OWNER.
- B. Statement shall reflect all adjustments to the Contract Sum:
  - 1. The original Contract Sum.
  - 2. Additions and deductions resulting from:
    - a. Previous change orders or written amendment
    - b. Allowances
    - c. Unit prices
    - d. Deductions for uncorrected work
    - e. Penalties and bonuses
    - f. Deductions for liquidated damages
    - g. Deductions for re-inspection payments
    - h. Other adjustments
  - 3. Total Contract Sum, as adjusted.
  - 4. Previous payments.
  - 5. Sum remaining due.

- C. The OWNER shall prepare a Final Change Order, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

1.07 FINAL APPLICATION FOR PAYMENT

- A. CONTRACTOR shall submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

## **SECTION 01710 – FINAL CLEANING**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION OF REQUIREMENTS**

- A. The CONTRACTOR shall execute cleaning, during progress of the work, and at the completion of the work, as required by General Conditions.
- B. Cleaning and disposal operations shall comply with codes, ordinances, regulations, and anti-pollution laws.

### **PART 2 – PRODUCTS (Not Applicable)**

### **PART 3 – EXECUTION**

#### **3.01 DURING CONSTRUCTION**

- A. The CONTRACTOR shall:
  - 1. Execute periodic cleaning to keep the work, the site and adjacent properties free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations.
  - 2. Provide on-site containers for the collection of waste materials, debris and rubbish.
  - 3. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.

#### **3.02 FINAL CLEANING**

- A. The CONTRACTOR shall:
  - 1. Employ skilled workmen for final cleaning.
  - 2. Broom clean exterior paved surface; rake clean other surfaces of the grounds.
  - 3. Clean windows with an approved cleaner; clean all exposed equipment with cleaners that are approved for the material they are cleaning.
  - 4. Prior to final completion, or OWNER occupancy, CONTRACTOR shall conduct an inspection of sight-exposed exterior surfaces, and all work areas, to verify that the entire work is clean.

**END OF SECTION**

## **SECTION 01720 – PROJECT RECORD DOCUMENTS**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

A. Scope of Work: Maintain at the site for the OWNER one (1) record copy at a minimum:

1. Drawings
2. Specifications
3. Addenda
4. Change Orders and other modifications of the Contract
5. Field Orders or written instructions
6. Approved Shop Drawings, Working Drawings and Samples
7. Field Test records
8. Construction photographs
9. Change Requests
10. CONTRACTOR'S Daily Reports
11. Written Interpretations and Clarifications

#### **1.02 MAINTENANCE OF DOCUMENTS AND SAMPLES**

A. Store documents and samples in CONTRACTOR'S field office apart from documents used for construction.

1. Provide files and racks for storage of documents.
2. Provide locked cabinet or secure storage space for storage of samples.

B. File documents and samples in accordance with CSI format with section numbers as provided herein.

C. Maintain documents in a clean, dry, legible, condition and in good order. Do not use record documents for construction purposes.

D. Make documents and samples available at all times for inspection by the OWNER.

E. As a prerequisite for monthly progress payments, the CONTRACTOR is to exhibit the currently updated "Record Documents" for review by the OWNER.

F. CONTRACTOR shall submit on a daily basis two (2) copies of the preceding day's daily report to the OWNER.

#### **1.03 MARKING DEVICES**

A. Provide felt tip marking pens for recording information in the color code designated by the OWNER.

#### **1.04 RECORDING**

A. Label each document "PROJECT RECORD" in two inch (2") high printed letters.

B. Keep record documents current at the end of work each day marking any changes and inserting change orders and directives into the documents.

- C. Do not permanently conceal any work until required information has been recorded. This includes markups and any "as-built" survey as required by these specifications.
- D. Record Contract Drawings: Legibly mark drawings to record actual construction with the following information verified by a registered Florida Land Surveyor.
  - 1. Depths of various elements of foundation in relation to survey datum.
  - 2. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
  - 3. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
  - 4. Field changes of dimension and detail.
  - 5. Changes made by Revision Order, Directive, and other modifications.
  - 6. Details not shown on the original Contract Drawings.
  - 7. Installation of power and control wiring with point-to-point wiring identification.
- E. Record Specifications and Addenda: Legibly mark-up each Section to record:
  - 1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
  - 2. Changes made by Revision Order, Directive, and other modifications.
  - 3. Other matters not originally specified.
- F. Shop Drawings and Samples: Legibly annotate to record changes made after approval.

#### 1.05 "AS-BUILT" DRAWINGS

- A. The CONTRACTOR shall engage the services of a professional land surveyor registered in the State of Florida prior to any construction activities. The surveyor shall be named in the list of subcontractors.
- B. The surveyor must comply with all requirements of Chapter 21 HH-6.05 of the Florida Administrative Code.
- C. The surveyor shall use the locational requirements of the State of Florida.
- D. The surveyor shall provide on-site survey while construction is in progress and at such other times as required to fulfill all professional obligations and as listed below.
  - 1. Elevations and state plane coordinates shall be identified for the ends of all conduits or pipelines installed or used for construction, ends of all duct bank stubouts, and all direct buried cable splice locations.
  - 2. Elevations and coordinates shall be identified along the center line of pipelines, direct buried cable, buried conduit or duct bank by no fewer than one elevation shot per one hundred (100) linear feet and at any change of direction vertical or horizontal of underground utility length. Slopes shall be identified.
  - 3. All elevation shots shall be referenced to "top-of-pipe" (T.O.P.), "top-of-concrete-duct-bank" (T.O.D.B.), "bottom-of-concrete-duct-bank" (B.O.D.B.), "top-of-conduit" (T.O.C.) or "top-of-electric-cable" (T.O.E.), as appropriate for the project.
  - 4. Manhole rings, slabs on grade, valve box rims, equipment pads, surface body water levels and other project construction features shall be recorded by elevation and state plane coordinates as "As-Built".
  - 5. For directionally drilled crossings and other "trenchless technology" installations,

- provide continuous plots of utility plan and profile derived from actual telemetry data used during the installation.
6. All existing structures, utilities, and features revealed during the course of construction shall be accurately located and dimensioned. Movement of such utilities or structures required by project installation shall be recorded as "As-Built". This requirement shall apply whether the existing structure, utility or feature was shown on the original contract drawings or not.
- E. At the conclusion of the work, the CONTRACTOR shall provide the OWNER three (3) approved, certified "As-Built" and one (1) "As-Built" Survey Drawing file in AutoCAD format (latest release) on a compact disk(s). The AutoCAD drawing files shall comply with the following standards:
1. The compact disk(s) shall be formatted for AutoCAD type DWG files or self-extracting compressed data file to a DWG format.
  2. The drawing format shall not contain any "X-REFS" (cross references) to other files.
  3. The drawing format shall contain only AutoCAD Standard Font Files and Acad.mnu type menu references only.
  4. Text from different layers shall not overlap. Colors and line types shall be "BY-LAYER". Only AutoCAD standard fonts and line types shall be used.
  5. All coordinate and elevation numbers shall be limited to three (3) decimal places.
  6. Text height shall be entered such that when the drawing is plotted to scale, the actual text height is no less than one-eighth inch (1/8"). The plotting scale for the drawings shall be the same scale as the construction drawings.
  7. Drawings shall be plotted on twenty-four inch (24") x thirty-six inch (36") sheets. The areas on each sheet shall match the areas shown on the construction drawings.

#### 1.06 SUBMITTALS

- A. The CONTRACTOR shall deliver the following documentation, drawing(s), data, and disk(s) to the OWNER no later than two (2) weeks after the declared date of Substantial Completion.
1. Two (2) sets of contract drawings marked in red to reflect the final "As-Built" conditions.
  2. Two (2) sets of signed and sealed plots of the "As-Built" drawings(s) provided by the surveyor together with one (1) compact disk(s) of the "As-Built" survey drawing file(s).
  3. One (1) set of Specifications with Addenda marked in red to reflect the final "As-Built" conditions.
- B. Such other documents as shall be required by the regulations of the State of Florida shall be supplied in accordance with the provisions of law.
- C. Accompany submittal with transmittal letter, in duplicate, containing:
1. Date, Project title and number.
  2. CONTRACTOR'S name and address.
  3. Title and number of each record document.
  4. Certification that each document as submitted is complete and accurate, and contains signature of CONTRACTOR, or its authorized representative.

- D. Failure to deliver any of the above items shall be considered justification for assessing additional retainage.

**PART 2 – PRODUCTS (NOT APPLICABLE)**

**PART 3 – EXECUTION (NOT APPLICABLE)**

**END OF SECTION**

## **SECTION 01730 - OPERATING AND MAINTENANCE DATA**

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### **PART 1 - GENERAL**

#### **1.01 REQUIREMENTS INCLUDED**

##### **A. Scope of Requirements:**

1. Compile product data and related information appropriate for Owner's maintenance and operation of products furnished under Contract.
2. Prepare operating and maintenance data as specified in this Section and as referenced in other pertinent sections of the Specifications.
3. Instruct Owner's personnel in maintenance of products and in operation of equipment and systems.

#### **1.02 QUALITY ASSURANCE**

##### **A. Preparation of data shall be done by personnel:**

1. Trained and experienced in maintenance and operation of described products.
2. Familiar with requirements of this Section.
3. Skilled as a technical writer to the extent required to communicate essential data.
4. Skilled as draftsman competent to prepare required drawings.

#### **1.03 FORMAT OF SUBMITTALS**

##### **A. Prepare data in form of an instructional manual for use by Owner's personnel.**

##### **B. Format:**

1. Size: 8 1/2 inches x 11 inches
2. Paper: 20 pound minimum, white, for typed pages.
3. Text: Manufacturer's printed data, or neatly typewritten.
4. Drawings:
  - a. Provide reinforced punched binder tab, bind in with text.
  - b. Reduce larger drawings and fold to size of text pages but not larger than 14 inches x 17 inches.
5. Provide fly-leaf for each separate product, or operating equipment.
  - a. Provide typed description of products and major component parts of equipment.
  - b. Provide indexed tabs.
6. Cover: Identify each volume with typed or printed title **"OPERATING AND MAINTENANCE INSTRUCTIONS"**.
7. List:
  - a. Title of project
  - b. Identity of separate structure as applicable.



- c. Identity of general subject matter covered in the manual.

C. Binders:

1. Commercial quality three-post binders with durable and cleanable plastic covers.
2. Maximum post width: 2 inches.
3. When multiple binders are used, correlate the data into related consistent groupings.

1.04 CONTENT OF MANUAL

A. Neatly typewritten table of contents for each volume, arranged in systematic order.

1. Contractor, name of responsible principal, address and telephone number.
2. A list of each product required to be included, indexed to content of the volume.
3. List, with each product, name, address and telephone number of:
  - a. Subcontractor or installer
  - b. A list of each product required to be included, indexed to content of the volume.
  - c. Identify area of responsibility of each SubContractor/Installer.
  - d. Local source of supply for parts and replacement
4. Identify each product by product name and other identifying symbols as set forth in Contract Documents.

B. Product Data:

1. Include only those sheets which are pertinent to the specified product.
2. Annotate each sheet to:
  - a. Clearly identify specific product or part installed
  - b. Clearly identify data applicable to installation
  - c. Delete references to inapplicable information.

C. Drawings:

1. Supplement product data with drawings as necessary to clearly illustrate:
  - a. Relations of component parts of equipment and systems
  - b. Control and flow diagrams.
2. Coordinate drawings with information in Project Record Documents to assure correct illustration of completed installation.
3. Do not use Project Record Documents as maintenance drawings.

D. Written text, as required to supplement product data for the particular installation:

1. Organize in consistent format under separate headings for different procedures.
2. Provide logical sequence of instructions of each procedure.

E. Copy of each warranty, bond and service contract issued.

1. Provide information sheet for Owner's personnel, give:
  - a. Proper procedures in event of failure
  - b. Instances which might affect validity of warranties or bonds.

#### 1.05 MANUAL FOR EQUIPMENT AND SYSTEMS

A. Submit four copies of complete manual in final form.

B. Content, for each unit of equipment and system, as appropriate:

1. Description of unit and component parts.
  - a. Function, normal operating characteristics, and limiting conditions.
  - b. Performance curves, engineering data and tests.
  - c. Complete nomenclature and commercial number of replaceable parts.
2. Operation procedures:
  - a. Start-up, break-in, routine and normal operating instructions.
  - b. Regulation, control, stopping, shut-down and emergency instructions.
  - c. Summer and winter operating instructions.
  - d. Special operating instructions.
3. Maintenance procedures:
  - a. Routine operations
  - b. Guide to "trouble-shooting"
  - c. Disassembly, repair and reassembly
  - d. Alignment, adjusting and checking.
4. Servicing and lubrication required:
  - a. Complete lubrications schedule.
  - b. List of all lubricants required and acceptable products from three manufacturers for each lubricant.
5. Manufacturer's printed operating and maintenance instructions.
6. Description of sequence of operation by control manufacturer.
7. Original manufacturer's parts list, illustrations, assembly drawing and diagrams required for maintenance.
  - a. Predicted life of parts subject to wear.

- b. Items recommended to be stocked as spare parts.
  - 8. As installed control diagrams by controls manufacturer.
  - 9. Each Contractor's coordination drawings.
  - 10. List of original manufacturer's spare parts, manufacturer's current prices and recommended quantities to be maintained in storage.
  - 11. Other data as required under pertinent sections of specifications.
- C. Content, for each electric and electronic system, as appropriate:
  - 1. Description of system and component parts.
    - a. Function, normal operating characteristics, and limiting conditions.
    - b. Performance curves, engineering data and tests.
    - c. Complete nomenclature and commercial number of replaceable parts.
  - 2. Circuit directories and panel boards.
    - a. Electrical service
    - b. Controls
    - c. Communications.
  - 3. As installed color coded wiring diagrams.
  - 4. Operating procedures:
    - a. Routine and normal operating instructions
    - b. Sequences required
    - c. Special operating instructions.
  - 5. Maintenance procedures:
    - a. Routine operations
    - b. Guide to "trouble-shooting"
    - c. Disassembly, repair and reassembly
    - d. Adjustment and checking.
  - 6. Manufacturer's printed operating and maintenance instructions.
  - 7. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.
  - 8. Other data as required under pertinent sections of the Specifications.
- D. Prepare and include additional data when the need for such data becomes apparent during instruction of Owner's personnel.
- E. Additional requirements for operating and maintenance data: Respective sections of Specifications.

#### 1.06 SUBMITTAL SCHEDULE

- A. Submit two copies of preliminary draft of proposed formats and outlines of contents of Operation and Maintenance Manuals within 90 days after Notice to Proceed.
  - 1. Engineer will review the preliminary draft and return one copy with comments.
- B. Submit two copies of completed data in final form no later than 30 days following Engineer's review of the last shop drawing and/or other submittal specified in Section 01300. One copy will be returned with comments to be incorporated into final copies.
- C. Submit four (4) copies of approved manual in final form directly to the offices of the Owner within 30 calendar days of product shipment to the project site and preferably within 30 days after the reviewed copy is received.
- D. Provide four (4) copies of addenda to the operation and maintenance manuals as applicable and certificates as specified within 30 days after final inspection.

#### 1.07 INSTRUCTION OF OWNER'S PERSONNEL

- A. Prior to demonstration test, fully instruct Owner's designated operating and maintenance personnel in operation, adjustment and maintenance of products, equipment and systems.
- B. Operating and maintenance manual shall constitute the basis of instruction. Review contents of manual with personnel in full detail to explain all aspects of operations and maintenance.
- C. Instructors shall be fully qualified personnel as outlined within the individual equipment specifications. If so specific training specifications are listed with the equipment, the Contractor shall provide the instruction with qualified Contractor personnel.
- D. The instructors shall provide for and prepare lessons scopes and handouts for up to five individual designated by the Owner that outline the items to be covered. Separate sessions for operation and maintenance instruction shall be provided consecutively. Handouts shall be submitted to the Owner with at least one week's notice prior to the training session.

#### PART 2 – PRODUCTS (NOT USED)

#### PART 3 – EXECUTION (NOT USED)

#### END OF SECTION

## **SECTION 01740 – WARRANTIES**

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### **PART 1 – GENERAL**

- A. All work performed under this contract shall be warranted for labor and materials for a minimum period of one year after date of Substantial Completion. Specific warranties are noted in specific Sections.
- B. Standard product warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the OWNER.
- C. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the OWNER.
- D. Refer to the General Conditions for terms of the CONTRACTOR'S period for correction of the Work.
- E. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the CONTRACTOR of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the CONTRACTOR.
- F. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.
- G. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- H. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The CONTRACTOR is responsible for the cost of replacing or rebuilding defective Work regardless of whether the OWNER has benefited from use of the Work through a portion of its anticipated useful service life.
- I. OWNER'S Recourse: Expressed warranties made to the OWNER are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the OWNER can enforce such other duties, obligations, rights, or remedies.
- J. Rejection of Warranties:
  - 1. The OWNER reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
  - 2. Where the Contract Documents require a special warranty, or similar commitment, the OWNER reserves the right to refuse to accept the Work, until

the CONTRACTOR presents evidence that entities required to countersign such commitments are willing to do so.

**K. Written Warranties**

1. Submit written warranties to the ENGINEER prior to the date certified for Substantial Completion. If the ENGINEER'S Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion, submit written warranties upon request of the ENGINEER.
2. When a designated portion of the Work is completed and occupied or used by the OWNER, by separate agreement with the CONTRACTOR during the construction period, submit properly executed warranties to the ENGINEER within 15 days of completion of that designated portion of the Work.
3. When the Contract Documents require the CONTRACTOR, or the CONTRACTOR and a subcontractor, supplier or manufacturer to execute a special warranty, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the OWNER, through the ENGINEER, for approval prior to final execution.
4. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.
5. Bind warranties and bonds in heavy-duty, commercial-quality, durable 3-ring, vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (115-by-280-mm) paper.
6. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address, and telephone number of the Installer.
7. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project title or name, and name of the CONTRACTOR.
8. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

**PART 2 – PRODUCTS** (Not Applicable)

**PART 3 – EXECUTION** (Not Applicable)

**END OF SECTION**

# DIVISION 2

# SITEWORK

## **SECTION 02200 – EARTHWORK**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION OF WORK**

- A. This Section includes digging of excavations for structures, piping and roadways; backfilling around structures and piping; shaping and contouring the ground surface to conform to established grades and elevations; compacting of earth or rock materials to specified densities; bracing, sheeting and shoring; dewatering; removal of surplus excavated materials; and related work as shown on the Drawings and as specified.

#### **1.02 DEFINITIONS**

- A. Excavation
1. Removal of earth and rock to form cavities for the construction of foundations and structures and to form trenches for the installation of piping or conduits.
  2. Cavity formed by the removal of earth and rock.
- B. Earth: Unconsolidated material in the crust of the earth derived by weathering and erosion. Earth includes:
1. Materials of both inorganic and organic origin;
  2. Boulders less than 1/3 cubic yard in volume, gravel, sand, silt, and clay;
  3. Materials which can be excavated with a backhoe, trenching machine, drag line, clam shell, bulldozer, highlift, or similar excavating equipment without the use of explosives, rock rippers, rock hammers, or jack hammers.
- C. Rock: A natural aggregate of mineral particles connected by strong and permanent cohesive forces. Rock includes:
1. Limestone, sandstone, dolomite, granite, marble, and lava;
  2. Boulders 1/3 cubic yard or more in volume;
  3. Materials which cannot be excavated by equipment which is used to remove earth overburden without the use of explosives, rock rippers, rock hammers, or jack hammers.
- D. Undercutting: Excavation of rock and unsuitable earth below the bottom of a foundation, structure, pipe or conduit to be constructed or installed.
- E. Subgrade. Undisturbed bottom of an excavation.
- F. Bedding. Earth placed in trench to support pipe and conduit.
- G. Backfill and Fill
1. Earth placed around structures from the bottom of an excavation to finished grade, or to the subbase of pavement.
  2. Earth placed in a trench from the top of bedding to finished grade, or to subbase of pavement.
- H. Topsoil: Earth containing sufficient organic materials to support the growth of grass.

#### **1.03 JOB CONDITIONS**



- A. Carefully maintain bench marks, monuments and other reference points, and if disturbed or destroyed, replace as directed.
- B. Should the CONTRACTOR encounter unusual subsurface and/or latent conditions at the site, he shall immediately give notice to the ENGINEER of such conditions before they are disturbed. The ENGINEER will promptly investigate the conditions and he will at once make such changes in the Drawings and/or Specifications as he may find necessary. Any increase or decrease in cost resulting from such changes will be adjusted in the manner provided in the General Conditions.

#### 1.04 QUALITY ASSURANCE

- A. Codes and Standards: Perform excavation and landfilling work in compliance with applicable requirements of governing authorities having jurisdiction.
- B. Testing and Inspection Service: The OWNER will retain a Soils Engineer to perform soil testing and inspection service for quality control testing of earthwork operations. Tests revealing satisfactory results will be paid for by the OWNER. The cost of tests revealing unsatisfactory results will be deducted from monies due the CONTRACTOR.

### PART 2 – PRODUCTS

#### 2.01 MATERIALS

- A. Earth for Fill and Backfill: Earth used for fill or backfill shall be of such gradation and moisture content that it will compact to the specified density and remain stable.
- B. Pipe Cover Material: Pipe cover material shall consist of durable particles ranging in size from fine to coarse (No. 200 to 1-inch) in size, in a substantially uniform combination. Unwashed bank run sand and crushed bank-run gravel will be considered generally acceptable. Bedding material may be used for cover material.
- C. Special Backfill: Special backfill shall be the following soils, classified by the Unified Soil Classification System, ASTM D-2487:

| Group Symbols | Typical Name                                                       |
|---------------|--------------------------------------------------------------------|
| GW            | Well-graded gravels and gravel-sand mixtures, little or no fines   |
| GP            | Poorly graded gravels and gravel-sand mixtures, little or no fines |
| SW            | Well-graded sands and gravelly sands, little or no fines           |
| SP            | Poorly graded sands and gravelly sands, little or no fines         |

- D. Suitable Backfill: Suitable backfill shall be the following soils, classified by the Unified Soil Classification System, ASTM D-2487:

| Group Symbols | Typical Name                                                       |
|---------------|--------------------------------------------------------------------|
| GW            | Well-graded gravels and gravel-sand mixtures, little or no fines   |
| GP            | Poorly graded gravels and gravel-sand mixtures, little or no fines |
| GM            | Silty gravels, gravel-sand-silt mixtures                           |
| GC            | Clayey gravels, gravel-sand-clay mixtures                          |
| SW            | Well-graded sands and gravelly sands, little or no fines           |
| SP            | Poorly graded sands and gravelly sands, little or no fines         |
| SM            | Silty sands, sand-silt mixtures                                    |
| SC            | Clayey sands, sand-clay mixtures                                   |
| Group Symbols | Typical Name                                                       |

|    |                                                                                                   |
|----|---------------------------------------------------------------------------------------------------|
| ML | Inorganic silts, very fine sands, rock flour, silty or clayey fine sands                          |
| CL | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays |

- E. Unsuitable Materials: Materials which are unsuitable for backfill include stones greater than 6 inches in their largest dimension, pavement, rubbish, debris, wood, metal, plastic, and the following soils, classified by the Unified Soil Classification System, ASTM D-2487:

| Group Symbols | Typical Name                                                                  |
|---------------|-------------------------------------------------------------------------------|
| OL            | Organic silts and organic silty clays of low plasticity                       |
| MH            | Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts |
| CH            | Inorganic clays of high plasticity, fat clays                                 |
| OH            | Organic clays of medium to high plasticity                                    |
| PT            | Peat, muck, and other highly organic soils                                    |

### PART 3 – EXECUTION

#### 3.01 PROTECTION OF EXISTING FACILITIES

- A. Support and protect all poles, fences, utility pipes, wire, conduits, buildings and structures.
- B. Proceed with caution during excavation so the exact location of underground utilities and structures, both known and unknown, may be determined. CONTRACTOR shall be responsible for the repair of utilities and structures when broken or otherwise damaged.
- C. Wherever water, or other pipes or conduits cross the excavation, the CONTRACTOR shall support said pipes and conduits without damage to them and without interrupting this Contract. The manner of supporting such pipes, or similar items, shall be subject to the approval of the ENGINEER.
- D. When utility lines that have to be removed or relocated are encountered within the areas of operations, the CONTRACTOR shall notify the ENGINEER in ample time for the necessary measure to be taken to prevent interruption of the service.
- E. The CONTRACTOR shall so conduct the work that no equipment, material, or debris will be placed or allowed to fall upon private property in the vicinity of the work, unless he shall have first obtained the property owner's written consent to do so and shall have shown said written consent to the OWNER.
- F. All excavated material shall be piled in a manner that will not obstruct driveways. Hydrants under pressure, valve pit covers, valve boxes, curb stop boxes, or other utility controls shall be left unobstructed and accessible until the work is completed. Drainageways shall be kept clear or other satisfactory provisions made for drainage.
- G. Natural watercourses shall not be obstructed, except where specifically permitted for the construction of outfall and subaqueous crossings.

#### 3.02 CLEARING

- A. Before excavating, clear and remove logs, stumps, brush, vegetation, rubbish, and other perishable matter from the project site.
- B. Do not remove or damage trees that do not interfere with the finished work. Completely remove trees required to be removed, including stumps and roots. Replace trees removed unnecessarily. Properly treat damaged trees which can be saved.

### 3.03 STRIPPING AND STOCKPILING TOPSOIL

- A. Strip topsoil and vegetation from the areas to be excavated. Clean topsoil may be stockpiled for reuse.

### 3.04 EXCAVATING

- A. Make excavations to elevations and dimensions necessary to permit bracing, sheeting, erection of forms, inspection of foundation, and installation of piping or conduits. Excavate trenches to the required alignment, depth and width. Excavate trenches in advance of pipe and conduit installation only as far as necessary to provide proper alignment and grade. Plan trenching operations to cause a minimum of danger to adjacent property and a minimum of inconvenience to the public.
- B. The width of trenches at the top of the pipe shall be ample to permit the pipe to be laid and joined properly and to allow the backfill to be placed and compacted as specified. Maximum trench width shall be such that design loadings on pipe will not be exceeded. Trenches shall be of such extra width, when required, to permit the placement of supports, sheeting, bracing, and appurtenances.
- C. Depth of trenches shall be such as to allow installation of pipelines at the grades or elevations shown.
- D. Trees, boulders, and other surface encumbrances, located so as to create a hazard to anyone involved in the excavation work or who is in the vicinity of the work at anytime during operations, shall be removed or made safe before excavating is begun.
- E. CONTRACTOR shall be responsible for the determination of the angle of repose of the soil in which the excavating is to be done. Excavate all slopes to at least the angle of repose except for areas where solid rock allows for line drilling or presplitting.
- F. Sides, slopes, and faces of all excavations shall meet accepted engineering requirements by scaling, benching, barricading, rock bolting, wire meshing, or other equally effective means. Give special attention to slopes which may be adversely affected by weather or moisture content.
- G. Flatten the excavation sides when an excavation has water conditions, silty materials, loose boulders, and areas where erosion and slide planes appear.
- H. Shore or otherwise support sides of excavations in hard or compact soil when the excavation is more than five feet in depth. In lieu of shoring, the sides of the excavation above the five-foot level may be sloped to preclude collapse, but shall not be steeper than a one-foot rise to each 1/2-foot horizontal.
- I. Use diversion ditches, dikes, or other suitable means to prevent surface water from entering an excavation and to provide adequate drainage of the area adjacent to the excavation. Do not allow water to accumulate in an excavation. If possible, the grade should be away from the excavation.

- J. Excavations shall be inspected by a competent CONTRACTOR'S representative after every rainstorm or other hazard-increasing occurrence, and the protection against slides and cave-ins shall be increased if necessary.
- K. Do not store excavated or other material nearer than four feet from the edge of any excavation. Store and retain materials as to prevent materials from falling or sliding back into the excavation. Install substantial stop log or barricades when mobile equipment is utilized or allowed adjacent to excavations.

### 3.05 SHEETING

- A. The CONTRACTOR has the option of sheeting excavations.
- B. Supporting systems, such as piling, cribbing, shoring, and bracing shall be designed by a qualified CONTRACTOR'S representative and meet accepted engineering requirements. When tie rods are used to restrain the top of sheeting or other retaining systems, securely anchor the tie rods well back of the angle of repose. When tight sheeting or sheet piling is used, assume full loading due to groundwater table, unless prevented by weep holes or drains or other means. Provide additional stringers, ties, and bracing to allow for any necessary temporary removal of individual supports.
- C. Materials used for sheeting, sheet piling, cribbing, bracing, shoring and underpinning shall be in good, serviceable condition. Timbers shall be sound, free from large or loose knots, and of proper dimensions.
- D. Take special precautions in sloping or shoring the sides of excavations adjacent to a previously backfilled excavation or a fill, particularly when the separation is less than the depth of the excavation. Pay particular attention to joints and seams of material comprising a face and to the slope of such seams and joints.
- E. If it is necessary to place or operate power shovels, derricks, trucks, materials, or other heavy objects on a level above or near an excavation, sheet-pile, shore, and brace the side of the excavation as necessary to resist the extra pressure due to such superimposed loads.
- F. If the stability of adjoining buildings or walls is endangered by excavations, provide shoring, bracing, or underpinning as necessary to ensure the safety of adjoining buildings or walls. Such shoring, bracing or underpinning shall be inspected daily or more often, as conditions warrant, by a competent CONTRACTOR'S representative and the protection effectively maintained.
- G. The CONTRACTOR shall be held responsible for the sufficiency of all sheeting and bracing used, and for all damage to persons or property resulting from the improper quality, strength, placing, maintaining, or removing of the same. This includes damage to trees, sidewalks, and other property on the project site as well as on the private grounds.
- H. Drive sheeting ahead of excavation. Do not remove sheeting until the excavation backfill has reached within two feet of the top of the excavation, except that the lower course of sheeting may be removed from a double sheeted excavation. When sheeting is drawn, completely fill all cavities remaining in or adjoining the excavation. When sheeting is left in place, completely fill all cavities behind such sheeting.

### 3.06 ROCK REMOVAL

- A. Rock, boulders or other hard, lumpy or unyielding materials encountered in trench bottoms shall be removed to a depth at least 6 inches below the bottom and on each side of any pipes to be installed. All rock and other hard foundation material under structures shall be freed of all loose material, cleaned, and cut to a firm surface; either level, stepped vertically and horizontally or serrated, as may be directed. All seams shall be cleaned out and filled with concrete or mortar.
- B. Blasting of rock or other hard to remove materials will not be permitted on this project.

### 3.07 SUBGRADES

- A. Do not construct foundations, footings, slabs, or piping on loose soil, mud, or other unstable or unsuitable soil.
- B. Fill excess cuts under foundations, footings, and slabs with concrete.
- C. Fill excess cuts under piping with compacted bedding as specified in this Section.

### 3.08 BACKFILLING FOUNDATION AND STRUCTURE EXCAVATIONS

- A. Remove debris and other unstable or unsuitable materials from excavations before backfilling is started.
- B. Backfill excavations in areas to be paved with Special Backfill: Place Special Backfill in 12-inch lifts. Compact each lift of backfill to not less than 98% of the maximum dry density as determined in accordance with AASHTO T-180. Compaction shall be by hand tamping or approved mechanical tamping devices, or in larger excavations by approved rollers. Do not compact backfill by puddling, unless permitted by the ENGINEER.
- C. Backfill excavations not requiring Special Backfill with Suitable Material:
  - 1. Place backfill and fill materials in lifts no greater than 12 inches in loose depth. Place backfill and fill materials in lifts no greater than four inches in loose depth where hand tampers are used. Backfill and fill shall be within 2% of optimum moisture content. For soils containing less than 5% material passing a No. 200 sieve, moisture content may be increased to within 3% of optimum. Compact backfill and fill to not less than 95% of the maximum dry density. Tests for determination of maximum dry density shall meet the requirements of AASHTO T-180. Use compaction equipment which is suited to the soil being compacted.
  - 2. If suitable, use stored excavated material for backfill and fill. Provide additional material, if required, to complete backfill and fill. Additional backfill and fill material shall be provided at no additional cost to the OWNER.
- D. Do not use the following materials for backfill:
  - 1. Unsuitable materials;
  - 2. Materials which are too wet or too dry to be compacted to the densities specified in this Section.
- E. Place the backfill and fill in a manner which will not overload foundations or structures. Place backfill and fill evenly on all sides of foundations and structures. Do not use equipment that will overload foundations or structures during filling or backfilling.
- F. Do all cutting, filling, and grading necessary to bring the entire area around foundations and outside of structures to the following subgrade levels:

1. To the underside of the respective surfacing for walks and pavement;
2. To finished grade for lawns and planted areas within the project site.

### 3.09 BACKFILLING PIPING TRENCHES

- A. Do not backfill trenches and excavations until all utilities have been inspected by the OWNER'S representative and until all underground utilities and piping systems are installed in accordance with the requirements of the specifications and the Drawings.
- B. Remove debris and other unsuitable materials from excavations before backfilling is started.
- C. Place and tamp bedding and backfilling in a manner which will not damage pipe coating, wrapping, or encasement.
- D. Bedding procedures shall be as specified in the particular Section for the applicable pipe material.
- E. If bedding does not cover the pipe, place pipe cover material from the top of bedding to 12 inches over the pipe. Compact pipe cover material to the density required to allow backfill over the pipe cover material to be compacted to the density specified.
- F. Do not use the following materials for backfilling:
  1. Unsuitable Materials;
  2. Materials which are too wet or too dry to be compacted to the densities specified in this Section.
- G. If suitable, use stored excavated material for backfill and fill. Provide additional material, if required, to complete backfill and fill. Additional backfill and fill material shall be provided at no additional cost to the OWNER.
- H. Backfill excavations in areas to be paved with Special Backfill.
  1. Place Special Backfill in 12-inch lifts. Compact each lift of backfill to not less than 98% of the maximum dry density as determined in accordance with AASHTO T-180, Method A. Compaction shall be by hand tamping or approved mechanical tamping devices, or in larger excavations by approved rollers. Backfill and fill materials shall be within 2% of optimum moisture content. Do not compact backfill by puddling, unless permitted by the ENGINEER.
- I. Backfill trenches not requiring Special Backfill with Suitable Material.
  1. Place backfill and fill materials in lifts no greater than 12 inches in loose depth and compact to produce an adequate foundation for seeding. The top 4 inches of backfill shall not contain stones or other objects larger than 1 inch in maximum dimension. Mound backfill above finish grade to allow for settlement. Fill and restore any settlement of the backfill. Grade area to be restored to finish grade after settlement of backfill and immediately before restoration of vegetated areas.

### 3.10 FINISH GRADING

- A. Shape the surface of all earthwork to conform to the lines, grades, contours and cross-sections shown on the drawings. Hand dressing may be required in certain areas or in confined areas where equipment operation is restricted.
- B. In final shaping of the surface of the earthwork a tolerance of 0.1 foot above or below the plan elevation will be allowed with the following exceptions:
  - 1. Earthwork shall be shaped to slope away from all buildings and structures.
  - 2. Earthwork shall be shaped to match adjacent pavement, curb, sidewalks, and similar appurtenances.
  - 3. Ditch bottoms and swales shall be shaped so that no water will be impounded except in areas designated for impoundment.

### 3.11 CLEANUP AND MAINTENANCE

- A. Cleanup the job site as grading is completed. Remove excess earth, rock, bedding, materials, and backfill materials. Remove unused piping materials, structure components, and appurtenances. Restore items moved, damaged, or destroyed during construction.
- B. Maintain the job site until the work has been completed and accepted. Fill excavations which settle when settlement is visible. Restore items damaged by construction or improper restorations. Keep dust conditions to a minimum.

### 3.12 STORAGE AND REMOVAL OF EXCAVATED MATERIAL

- A. Suitable excavated material required for filling and backfilling operations may be stockpiled on the job site.
- B. Remove unsuitable materials from the job site as unsuitable materials are excavated. Remove surplus suitable materials from the job site as excavations are backfilled.
- C. Excavated suitable surplus materials shall remain the OWNER'S property and shall be stockpiled at the location(s) designated by the OWNER.

### END OF SECTION



## **02220 – SELECTIVE DEMOLITION**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

**A. Scope of Work:**

1. Work necessary to demolish, remove and dispose of the equipment, materials, piping and appurtenances as shown or specified.
2. Demolition includes salvaging of designated piping and equipment, backfilling of trenches, craters, holes and pits resulting from demolition work, and filling of below ground voids.
3. Limits of demolition are indicated on the Drawings.

#### **1.02 SUBMITTALS**

- A.** Submittals shall be as specified in the General Conditions.
- B.** Develop demolition procedures and submit for review by ENGINEER before demolition is started. Use demolition procedures which provide for safe conduct of work, protection of property which is to remain undisturbed, including protection of property to be removed and delivered to OWNER.

#### **1.03 QUALITY ASSURANCE**

- A.** Accomplish all demolition work without injury to any persons or damage to adjacent structures or property. Conduct all demolition in full compliance with municipal, county, state and federal laws and ordinances. Comply with requirements of Occupational Safety & Health Administration (OSHA).
- B.** Comply with all municipal, county, state and federal laws, ordinances and regulations regarding disposal of rubble, scrap metal and refuse.

#### **1.04 EXISTING CONDITIONS**

- A.** General: Visit site and determine, to extent necessary to properly plan and execute work of this Section, nature and condition of items to be removed and extent of work required before submitting Bid.
- B.** Disconnection of Utilities: Disconnect utilities at points indicated on Drawings or as specified. Where such disconnection will interrupt utility services to area not included in Contract, make arrangements for such interruption with ENGINEER at least 72 hours in advance of interruption.

### **PART 2 – PRODUCTS**

#### **2.01 TEMPORARY MATERIALS**

- A.** Provide temporary fencing, barricades, and other items complying with Section 01500: Temporary Facilities and Controls.



## 2.02 REPAIR AND REPLACEMENT MATERIALS

- A. Use materials for repair or replacement of existing work to remain identical or equal to materials used in existing work when new.

## 2.03 OWNER RETAINED EQUIPMENT

- A. OWNER will retain title to designated equipment.

# PART 3 – EXECUTION

## 3.01 STRUCTURES AND BUILDINGS

- A. Remove all parts of existing structures and buildings to be demolished which interfere with new work.
- B. Completely remove structures which are to be totally demolished.
- C. When structures and buildings are to be partially demolished, make break between part removed and part remaining as indicated on the Drawings.
- D. Completely remove concrete bases for tanks, poles, towers and similar structures to be demolished.

## 3.02 EQUIPMENT

- A. Completely remove equipment designated to be removed. Carefully remove, without damage, all equipment designated to be retained by OWNER.

## 3.03 PIPING AND UTILITIES

- A. Completely remove piping, conduit and wiring in structures and buildings to be demolished. Completely remove piping, conduit and wiring in parts to be demolished of structures and in buildings to be partially demolished. Completely remove other piping, conduit and wiring designed to be removed.
- B. Underground piping, conduit and wiring to be abandoned which do not interfere with new work may be left in place, unless otherwise shown on the Drawings. Plug and seal cut ends of underground piping and conduit to be abandoned. Do not leave abandoned branches of piping and wiring "live". Isolate abandoned piping branches by closing branch valve at main or by disconnecting branch at main. Plug, cap and seal active branch at isolating valve or point of disconnection. Disconnect abandoned wiring branches at distribution panel(s) and remove from the panel(s).
- C. Properly disconnect, seal and plug utility services to completely demolished structures and buildings. Properly disconnect, seal and plug utility lines within partially demolished structures and buildings.

## 3.04 PAVEMENT, SIDEWALKS, CURBS AND GUTTERS

- A. Completely remove pavement, sidewalks, curbs and gutters designed to be removed.

### 3.05 OPENINGS

- A. Plug all openings in walls, floors and ceilings resulting from removal of existing equipment, piping and conduit. Plug openings in concrete with pipe plugs, blind flanges, caps, or expansive grout. Plug openings in metal building walls with sheet metal bent to conform to shape of metal building walls and of a thickness not less than existing metal building walls. Plug openings in a manner that will result in a structurally suitable seal and a neat and presentable appearance.

### 3.06 DISPOSAL

- A. Move equipment, piping and materials designated to be retained by OWNER to location designated by OWNER.
- B. Remove all equipment, piping and materials not specifically designated to be retained by OWNER from site as CONTRACTOR'S property.
- C. Do not allow debris and rubbish to accumulate on site. Remove debris and rubbish from site.

### 3.07 FILLING

- A. Backfill excavations, trenches, craters, holes and pits resulting from demolition and below ground, abandoned remains of partially demolished structures.
- B. Backfill as specified in Section 02315: Excavating, Backfilling and Compacting.

### 3.08 CLEAN UP

- A. Following demolition, clean up areas where other work is to be done as specified in Section(s) applicable to work to be done.
- B. Following demolition, clean up areas where no other work is to be done under this Contract.
- C. Remove all debris and rubbish temporary facilities and equipment. Level surface irregularities to eliminate depressions. Leave work in a neat and presentable condition.

### 3.09 PROTECTION

- A. Protect existing work. Repair work damaged to match existing work. Repair damaged work with workers specifically qualified in trade(s) involved.

**END OF SECTION**

## **SECTION 02240 – DEWATERING (DURING CONSTRUCTION)**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

- A. Scope of Work: The work to be performed under this Section shall include the design and installation of a temporary wellpoint system to dewater subsurface waters so that the installation of utilities may proceed with a dry trench. The system shall remain in place until completion of construction.
- B. Related Work Described Elsewhere:
  - 1. Earthwork: Section 02200

#### **1.02 QUALITY ASSURANCE**

- A. Qualifications: The temporary dewatering system shall be designed by a firm who regularly engages in the design of dewatering systems and who is fully experienced, reputable and qualified in the design of such dewatering systems. The firm shall have a successful record of operation for a minimum of five (5) years prior to bid date.
- B. In lieu of experience, the dewatering firm shall provide a performance and warranty bond for 1.5 times the total installed cost of the temporary dewatering system. This bond shall be executed prior to award and/or contract execution.
- C. Standards: The dewatering of any excavation areas and the disposal of water during construction shall be in strict accordance with all local and state government rules and regulations.

#### **1.03 SUBMITTALS**

- A. Materials and Shop Drawings: Shop drawings required to establish compliance with the specifications shall be submitted in accordance with the provisions of Section 01310: Administrative Requirements.

#### **1.04 CRITERIA**

- A. The wellpoint system shall be developed to the point that is capable of dewatering such that pipe can be laid and compacted satisfactorily as shown on the Drawings. Each wellpoint system shall be capable of dewatering and maintaining groundwater levels at the respective structures.

### **PART 2 – PRODUCTS**

#### **2.01 GENERAL**

- A. The equipment specified herein shall be standard wellpoint dewatering equipment of proven ability as designed and manufactured by firms having experience in the design and production of such equipment. The equipment furnished shall be designed, constructed and installed in accordance with the best practices and methods.
- B. The use of wrapped underdrains or “socks” for dewatering shall not be allowed unless approval is obtained by the OWNER.

- C. The CONTRACTOR shall be required to monitor the performance of the dewatering system during the progress of the work and require such modifications as may be required to assure that the systems will perform satisfactorily. Dewatering system shall be designed in such a manner as to preserve the undisturbed bearing capacity of the subgrade soils and to preserve the integrity of adjacent structures.

### **PART 3 – EXECUTION**

#### **3.01 INSTALLATION**

- A. Dewatering: The CONTRACTOR shall install a temporary wellpoint dewatering system for the removal of subsurface water encountered during construction of the proposed structures and/or piping.

#### **3.02 PROTECTION AND SITE CLEAN-UP**

- A. At all times during the progress of the Work the CONTRACTOR shall use all reasonable precautions to prevent either tampering with the wellpoints or the entrance of foreign material.
- B. In the event that satisfactory dewatering cannot be accomplished due to subsurface conditions or where dewatering could damage existing structures, the CONTRACTOR shall obtain the Owner/Engineer's approval of wet trench.
- C. Immediately upon completion of the wellpoint system, the CONTRACTOR shall remove all of his equipment, materials, and supplies from the site of the work, remove all surplus materials and debris, fill in all holes or excavations, and grade the site to elevations of the surface levels which existed before work started. The site shall be thoroughly cleaned and approved by the Owner/Engineer.

#### **3.03 DISPOSAL**

- A. Water pumped from the trench or other excavation shall be disposed of in storm sewers having adequate capacity, canals or suitable disposal pits.
- B. CONTRACTOR is responsible for acquiring all permits required to discharge the water and shall protect waterways from turbidity during the operation.
- C. In areas where adequate disposal sites are not available, partially backfilled trenches may be used for water disposal only when the CONTRACTOR'S plan for trench disposal is approved in writing by the Owner/Engineer. The CONTRACTOR'S plan shall include temporary culverts, barricades and other protective measures to prevent damage to property or injury to any person or persons.
- D. No flooding of streets, roadways, driveways or private property will be permitted. Engines driving dewatering pumps shall be equipped with residential type mufflers. Where practical and feasible, electrical "drops" should be used in lieu of portable generators.

**END OF SECTION**

## **SECTION 02616 – DUCTILE IRON PIPE AND FITTINGS FOR PRESSURE SERVICE**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

- A. Scope of Work: Provide and install ductile iron pipe of the sizes and in the locations shown on the Drawings and as specified herein.
- B. Related Work Described Elsewhere:
  - 1. Earthwork: Section 02200.
  - 2. Mechanical - General Requirements: Section 02600.
  - 3. Pressure Testing of Piping: Section 02661.

#### **1.02 QUALITY ASSURANCE**

- A. Standards (as applicable):
  - 1. Cement mortar lining for water: ANSI 21.4.
  - 2. Rubber gasket joints: ANSI 21.11.
  - 3. Ductile iron pipe thickness: ANSI A 21.50.
  - 4. Ductile iron pipe centrifugally cast in metal or sand lined molds: ANSI A 21.51.
  - 5. D.I. pipe flanges and fittings: ANSI B 16.1.
  - 6. Threaded flanges: DIPRA standard.
  - 7. Cast and ductile iron fittings: ANSI A 21.10.
  - 8. Ceramic epoxy lining: ASTM E96-93, ASTM B117-85, ASTM G95-87, ASTM D714-87.
- B. Qualifications: All ductile iron pipe and ductile iron fittings shall be furnished by manufacturers who are fully experienced, reputable, and qualified in the manufacture of the materials to be furnished. The pipe and fittings shall be designed, constructed and installed in accordance with the best practices and methods and shall comply with these Specifications as applicable.
- C. Manufacturer: Pipe shall be as manufactured by the American Cast Iron Pipe Company, U.S. Pipe and Foundry Company, McWane Cast Iron Pipe Company or equal.

#### **1.03 SUBMITTALS**

- A. Shop Drawings, including layouts within, and under buildings and structures shall be submitted to the Project Manager for approval in accordance with Section 01310: Administrative Requirements. Shop Drawings shall be prepared by the pipe manufacturer.
- B. Tabulated layout schedule including:
  - 1. Order of installation and closures.
  - 2. Pipe top elevation and station at each change of grade and alignment.
  - 3. Elements of curves and bends, both in horizontal and vertical alignment, including elements of the resultant true angular deflections in cases of combined curvature.
  - 4. The limits of each reach of pipe thickness class and of restrained joints.
  - 5. The limits of each reach of concrete encasement or encasement in casing.
  - 6. Locations of closures for length adjustment and for construction convenience.
  - 7. Locations of manholes and other points of access for placement of mortar lining at field joints and removal of test bulkheads.

8. Locations of valves and other mechanical equipment.
  9. Methods and locations of supports.
- C. Details of special elbows and fittings.
  - D. Calculations and/or test data demonstrating that the proposed restrained joint arrangement can transmit the required forces.
  - E. Copy of the manufacturer's quality control check of pipe material and production.
  - F. Provide an affidavit of compliance with AWWA standards referenced in this specification.

#### 1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. All pipe shall be shipped and stored at the jobsite with wood lagging between pipes such that pipes do not make contact with one another.
- B. Exercise extra care when handling cement lined pipe because damage to the lining will render it unfit for use.

### PART 2 – PRODUCTS

#### 2.01 MATERIALS

- A. Pipe: Ductile Iron Pipe conforming to ANSI A21.51 and AWWA C-151 for buried pipe, ANSI B16.1/AWWA C153 for compact fittings and ANSI 21.15 and AWWA C-115 for flanged pipe.
  1. Unless otherwise shown on the Drawings, the minimum thickness of ductile iron pipe shall be:
    - a. For buried pipe 12" and less: Pressure Class 350.
    - b. For buried pipe 14" and greater: Pressure Class 250.
    - c. For pipe with flanges (all above grade or exposed piping): Class 53.
  2. Pipe for use with sleeve type couplings shall have plain ends (without bells or beads) cast or machined at right angles to the axis.
  3. Pipe for use with split type couplings shall have ends with cast or machined shoulders or grooves that meet the requirements of the coupling manufacturer.
  4. Pipe shall be supplied in lengths not in excess of 20 feet having rubber-ring type push-on joints, standard mechanical joints or restrained joints where required for underground piping and flanged joint piping for all above grade piping as shown on the Drawings.
  5. Coatings and Linings
    - a. Exterior of pipe and fittings:
      - (1) Buried pipe and fittings: factory applied bituminous coating or coal tar varnish or asphalt base paint, one-mil thick in accordance with AWWA C-151.
      - (2) Exposed pipe and fittings: factory applied coating of an universal rust-inhibitive primer 2.0 mils dry thickness in accordance with AWWA C-115.
    - b. Interior of pipe and fittings (unless indicated otherwise on Drawings):

- (1) Potable water and reuse water: cement lining in accordance with ANSI A21.4 and AWWA C-104.
- B. Fittings: All ductile iron pipe fittings for process piping shall be cast iron or ductile iron with a minimum pressure rating as follows:
  1. All fittings shall be Class 125 (ANSI B16.1) unless otherwise specifically noted. Determine the pressure rating of the fittings based on the test pressures as shown in Section 02661: Pressure Testing of Piping, as follows:
    - a. Cast iron fittings:
      - (1) 3 to 12 inch up to 200 psi.
      - (2) Greater than 12-inch up to 150 psi.
      - (3) Coatings and linings for fittings shall be the same as for pipe material for each type of service.
    - b. Ductile iron fittings: For pressure ratings greater than shown for cast iron fittings, use ductile iron fittings of the pressure class rating required, i.e., 250 or 350 pressure rating.
  2. Grooved-end fittings shall conform to AWWA C110 and ANSI B16.1 with grooved ends conforming to AWWA C606, radius cut rigid joints. Fitting material shall conform to ASTM A 48, Class 30, or ASTM A 126, Class B.
- C. Joints (as shown on the Drawings and/or as specified):
  1. General: Joints in "runs" of above grade piping or piping located in vaults and structures shall be rigid radius grooved end or flanged. Joints in "runs" of buried piping shall be of the push-on or mechanical-joint type per AWWA C111 or factory restrained joints, except where flanged or grooved end couplings joints are required to connect to valves, meters, and other equipment.
  2. Grooved-End Couplings:
    - a. Grooved-end couplings shall be malleable iron, ASTM A 47 (Grade 32510), or ductile iron, ASTM A 536 (Grade 65-45-12).
    - b. Bolts: ASTM A 183, 110,000 psi tensile strength.
    - c. Gaskets: Halogenated butyl rubber or EPDM for water service and Buna-N for sewage service, conforming to ASTM D 2000.
    - d. Couplings: AWWA C606 for rigid radius ductile-iron pipe. Couplings shall be Victaulic Style 31, Gustin-Bacon No. 500, or equal.
    - e. Grooved-end adapter flanges for piping having an operating pressure of 150 psi and less shall be Victaulic Style 341, or equal. Flange dimensions shall conform to ANSI B16.1 Class 125.
  3. Flanges:
    - a. Flanges shall be Class 125 per ANSI B16.1 unless otherwise specifically noted. Determine the pressure rating of the fittings based on the test pressures shown in Section 02661: Pressure Testing of Piping.

- b. Gaskets: Fullface, 1/8 inch thick, cloth-inserted rubber: Johns-Manville No. 109, John Crane Co. Style 777, American Toru Seal or equal. Gaskets shall be suitable for a water pressure of 350 psi at a temperature of 180 degrees Fahrenheit (°F).
  - c. Bolts and Nuts for Flanges
    - (1) Bolts and nuts for flanges, flanges in open vaults and structures, and flanges located outdoors above ground shall be Type 316 stainless steel conforming to ASTM A 193, Grade B8 for bolts, and ASTM A 194, Grade 8 for nuts. Bolts and nuts greater than or equal to 1 inch shall be carbon steel, ASTM A 307, Grade B, with cadmium plating, ASTM A 165, Type NS.
  - d. Provide specially drilled flanges when required for connection to existing piping or special equipment.
  - e. Flanges shall be long-hub type screwed tightly on pipe by machine at the foundry prior to facing and drilling. Flange faces shall be coated with a rust inhibitor immediately after facing and drilling. Field assembled screwed on flanges are prohibited.
4. Push-on and Mechanical Joint (ANSI A21.11):
- a. The plain ends of push-on pipe shall be factory machined to a true circle and chamfered to facilitate fitting the gasket.
  - b. Provide gaskets manufactured from a composition material suitable for exposure to the liquid to be contained within the pipe.
  - c. Each joint shall be complete with rubber gasket, cast iron gland and all required bolts and nuts.
5. Restrained Joints:
- a. Acceptable methods of thrust restraint are restrained "lock type" joints manufactured by the pipe manufacturer or restraint mechanisms utilizing a multiple wedge design (Megalug, or equal). Set screws will not be allowed.
  - b. Pipe joints shall be restrained type as accepted by the Owner/Engineer and equal to American Flex-Ring or Lok-Ring by American Cast Iron Pipe Company. Restrained joints that require field welding or requiring set screws will not be acceptable.
  - c. Pipe joints shall be restrained each side of the fitting for a continuous distance in accordance with DIPRA "Thrust Restraint Design for Ductile Iron Pipe". Distance restrained shall be based on sand-silt soil type, 3.0 feet of cover and Type 2 laying condition.
  - d. Bolts and nuts for restrained joints shall be Corten, low alloy, high strength steel.



## 2.02 PIPING ACCESSORIES

### A. Outlets:

1. For outlets larger than 2 inches, provide a tee with a flanged outlet.
2. Provide outlets 2 inches and smaller by tapping and attaching a service clamp. Service clamps shall be as specified herein.

### B. Polyethylene Encasement:

1. Polyethylene encasement shall be installed on all ductile iron pipe and fittings within the areas indicated on the Drawings or as directed by the Owner/Engineer. The bags shall be color coded and in accordance with AWWA C105.

## PART 3 – EXECUTION

### 3.01 INSPECTION AND TESTING

- A. All pipe shall be inspected and tested at the foundry.
- B. The OWNER shall have the right to have any or all piping, fittings or special castings inspected and tested by an independent testing agency at the foundry or elsewhere. Such inspection and testing will be at the OWNER'S expense.
- C. Mark as rejected and immediately remove from the job site, all pipe lengths showing a crack, damaged lining, or receiving a severe blow that may cause an incipient fracture, even though no such fractures can be seen.
- D. Removal of cracked portions:
  1. Any pipe showing a distinct crack, but no incipient fracture beyond the limits of the visible crack, may be cut off and the sound portion installed. Cut the pipe at least 12 inches from the visible limits of the crack. Cutting of pipe shall be done by skilled workmen, and in such a manner as to not damage the pipe. Every cut shall be square and smooth, with no damage to the pipe lining. Cut surfaces, shall be recoated as specified for the pipe.
- E. Carefully inspect and hammer test all pipe and fittings prior to installation.

### 3.02 INSTALLATION

#### A. Assembling joints:

1. Push-on joints:
  - a. Insert the gasket into the groove of the bell.
  - b. Uniformly apply a thin film of special lubricant over the inner surface of the gasket that will contact the spigot end of the pipe.
  - c. Insert the chamfered end of the spigot end into the gasket and push until it seats against the bottom of the bell.

2. Grooved end joints:
  - a. Install grooved end pipe and fittings in accordance with the coupling manufacturer's recommendations and the following.
  - b. Clean loose scale, rust, oil, grease, and dirt from the pipe or fitting groove before installing coupling. Apply the coupling manufacturer's gasket lubricant to the gasket exterior, including lips, pipe ends, and housing interiors.
  - c. Fasten coupling alternately and evenly until coupling halves are seated. Use torques as recommended by the coupling manufacturer.
3. Flanged joints:
  - a. Bolt holes of flanges shall straddle the horizontal and vertical centerlines of the pipe. Clean flanges by wire brushing before installing flanged fittings. Clean flange bolts and nuts by wire brushing; lubricate bolts with oil and graphite.
  - b. Insert the nuts and bolts (or studs) finger tighten, and progressively tighten diametrically opposite bolts uniformly around the flange to the proper torque.
  - c. Execute care when tightening joints to prevent undue strain upon valves, pumps and other equipment.
  - d. If flanges leak under pressure testing, loosen or remove the nuts and bolts, reset or replace the gasket, reinstall or retighten the bolts and nuts, and retest the joints. Joints shall be watertight.
4. Mechanical joints:
  - a. Thoroughly clean, with a wire brush, surfaces that will be in contact with the gaskets.
  - b. Lubricate the gasket, bell and spigot by washing with soapy water.
  - c. Slip the gland and gasket, in that order, over the spigot and insert the spigot into the bell until properly seated.
  - d. Evenly seat the gasket in the bell at all points, center the spigot, and firmly press the gland against the gasket.
  - e. Insert the bolts, install the nuts finger tight, and progressively tighten diametrically opposite nuts uniformly around the joints to the proper tension with a torque wrench.
5. Restrained Joints:
  - a. Follow manufacturer's instructions for particular joint installed.

**B. Fabrication:**

**1. Tapped connections:**

- a. Make all tapped connections as shown on the Drawings or as directed by the Owner/Engineer.
- b. Make all connections watertight and of adequate strength to prevent pullout.
- c. Drill and tap normal to the longitudinal axis of the pipe.

**2. Cutting:**

- a. Perform all cutting with machines having rolling wheel cutters or knives designed to cut ductile iron. The use of a hammer and chisel to cut pipe is prohibited.
- b. After cutting, examine all cut ends for possible cracks.
- c. Carefully chamfer all cut ends to be used with push-on joints to prevent damage to gaskets when pipe is installed.

**C. Installing Buried Piping:**

1. Inspect each pipe and fitting before lowering the buried pipe or fitting into the trench. Inspect the interior and exterior protective coatings. Clean ends of pipe thoroughly. Remove foreign matter and dirt from inside of pipe and keep clean during and after laying.
2. Handle pipe in a manner to avoid any damage to the pipe. Do not drop or dump pipe into trenches under any circumstances.
3. When installing piping in trenches, do not deviate more than one inch from line or 1/4 inch from grade. Measure for grade at the pipe invert.
4. Grade the bottom of the trench by hand to the line and grade to which the pipe is to be laid, with allowance for pipe thickness. Remove hard spots that would prevent a uniform thickness of bedding. Before laying each section of the pipe, check the grade with a straightedge and correct any irregularities found. The trench bottom shall form a continuous and uniform bearing and support for the pipe at every point between bell holes, except that the grade may be disturbed for the removal of lifting tackle.
5. At the location of each joint, dig bell (joint) hole dimensions in the bottom of the trench and at the sides to permit visual inspection of the entire project.
6. Keep the trench in a dewatered condition during pipe laying in accordance with Section 02240: Dewatering (During Construction).
7. When the pipe laying is not in progress, including the noon hours, close the open ends of pipe. Do not permit trench water, animals, or foreign material to enter the pipe.
8. Polyethylene encasement shall be installed in accordance with the manufacturer's instructions, or in a manner acceptable to the Owner/Engineer. Polyethylene encasement shall overlap the upstream joint by 2 feet and shall be adhered to said joint with 2-inch wide marking tape color-coded to reflect the use of the pipe. Upon installation of the encasement, any slacks, cuts or damaged portions of the polyethylene encasement shall be securely mended with tape.
9. Backfill material shall be the same as specified for pipe without polyethylene encasement; however, extra care should be taken that the backfill be free from

- cinders, refuse, boulders, rocks, stones, or other materials that could damage the encasement. Special care shall be taken to prevent damage to the polyethylene wrapping when placing backfill.
10. Because exposure to sunlight will deteriorate polyethylene film, such exposure prior to backfilling the wrapped pipe shall be kept to a minimum.

**D. Installing Interior Piping**

1. All piping and fittings shall be installed true to alignment and rigidly supported thrust anchors shall be provided where required. Any damage to linings shall be repaired to the satisfaction of the Owner/Engineer before the pipe is installed. Each length of pipe shall be cleaned out before erection.
2. Sleeves shall be installed of proper size for all pipes passing through floors or walls as shown on the Drawings. Where indicated on the Drawings, or required for liquid or gas-tightness, the pipe shall be sealed with mechanical seal equal to Link-Seal as manufactured by Thunderline Corp., Wayne, Michigan.
3. Concrete inserts for hangers and supports shall be furnished and installed in the concrete as it is placed. The inserts shall be, in accordance with the requirements of the piping layout and jointing method and their locations shall be verified from approved piping layout drawings and the structural drawings.
4. Except as otherwise shown on the Drawings either split type couplings or flange joints may be used. Prior to approval of jointing, method layouts for hanger and supports shall be submitted to the Owner/Engineer for approval.
5. Flanged joints shall be made with bolts, bolt studs with a nut on each end, or studs with nuts where the flange is tapped.
6. All pipe and appurtenances connected to equipment shall be supported in such a manner as to prevent any strain being imposed on the equipment. When manufacturers have indicated requirements that piping loads shall not be transmitted to their equipment, a certification shall be submitted stating that such requirements have been complied with.

**E. Pipe deflection:**

1. Push-on and mechanical joints:
  - a. The maximum permissible deflection of alignment at joints, in inches, for 20 foot lengths:

| Size of Pipe (in.) | Push-On | Mechanical  |               |
|--------------------|---------|-------------|---------------|
|                    |         | Defl. (in.) | Defl. (angle) |
| 4                  | 19      | 34          |               |
| 6                  | 21      | 30          |               |
| 8                  | 21      | 22          |               |
| 10                 | 21      | 22          |               |
| 12                 | 21      | 22          |               |
| 14                 | 21      |             | 3°-35'        |
| 16                 | 21      |             | 3°-35'        |
| 18                 | 21      |             | 3°-00'        |
| 20                 | 21      |             | 3°-00'        |
| 24                 | 21      |             | 2°-23'        |

- b. The maximum permissible deflections for other lengths shall be in proportion to the above deflections.

2. Flexible and restrained joints: The maximum deflection in any direction shall not exceed the manufacturer's instructions and recommendations.

### 3.03 CLEANING AND FLUSHING

- A. Prior to the pressure and leakage tests, all piping shall be thoroughly cleaned of all dirt, dust, oil, grease, and other foreign matter.
- B. All lines shall be thoroughly flushed and pigged with clean water to clear all lines of foreign matter.

### 3.04 FIELD TESTING

- A. All field tests shall be made in the presence of the Owner/Engineer. Except as directed otherwise, all pipelines shall be tested. Pipelines laid in excavation (other than trench excavation) or embedded in concrete, shall be tested prior to backfilling of the excavation or placing of the concrete.
- B. Pressure testing of pipe shall be performed in accordance with Section 02661: Pressure Testing of Piping, herein.

### 3.05 DISINFECTION

- A. All water pipes and fittings of whatever size and wherever installed on potable water lines shall be thoroughly disinfected prior to being placed in service. Disinfection shall follow the applicable provisions of the procedure established for the disinfection of water mains in AWWA C-651, latest edition, shall be in accordance with both state and local requirements, and shall be in accordance with Section 02650: Disinfection.

**END OF SECTION**

## **SECTION 02623 – PLASTIC PIPE FOR PRESSURE SERVICE**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION OF WORK**

- A. This Section includes materials and methods of installation of Plastic Pipe for pressure service used in Piped Utility Systems.

#### **1.02 SUBMITTALS**

- A. Three certified copies of the tests made by the manufacturer or by a reliable commercial laboratory shall be submitted to the ENGINEER with each shipment of pipe.

#### **1.03 HANDLING AND STORAGE**

- A. All pipe, fittings, valves, hydrants and accessories shall be loaded and unloaded by lifting with hoists or by skidding in order to avoid shock or damage. Under no circumstances shall materials be dropped. Pipe handled on skidways shall not be rolled or skidded against pipe on the ground. Slings, hooks or pipe tongs shall be padded and used in such a manner as to prevent damage to the exterior surface or interior of the pipe.
- B. Materials, if stored, shall be kept safe from damage. The interior as well as all sealing surfaces of all pipe, fittings, and other appurtenances shall be kept free from dirt or foreign matter at all times. Valves and hydrants shall be drained and stored in a manner that will protect them from damage or freezing.
- C. Pipe stored outside and exposed to prolonged periods of sunlight shall be covered with canvas or other opaque material. Air circulation shall be provided under covering.
- D. Pipe shall not be stacked higher than the limits recommended by the manufacturer. The bottom tiers shall be kept off the ground on timbers, rails, or concrete. Pipe in tiers shall be alternated: bell, plain end; bell, plain end. Pipe shall not be stored close to heat sources.
- E. Gaskets shall be placed in a cool location out of direct sunlight. Gaskets shall not come in contact with petroleum products. Gaskets shall be used on a first-in, first-out basis. Mechanical-joint bolts shall be handled and stored in a manner that will ensure proper use with respect to types and sizes.

### **PART 2 – PRODUCTS**

#### **2.01 PLASTIC PIPE**

- A. Pipe for pressure service shall be Class 12454-A or B rigid PVC compound in accordance with the requirements of ASTM D1784. Pipe and appurtenances for use in potable water systems shall bear the seal of approval for potable water use of the National Sanitation Foundation or other accredited testing laboratory.
- B. PVC pipe having a nominal diameter less than 2-inches shall be made of 2000 psi hydrostatic design stress compounds designated PVC 1120 and shall conform to the applicable requirements of ASTM D1785. Threaded pipe and fittings shall be Schedule 80. Threaded fittings shall conform to ASTM D2464. Unthreaded pipe and fittings shall be Schedule 40 with solvent cemented joints. Cemented joints and fittings shall comply with ASTM D2466 and D2855.

- C. PVC pressure rated pipe having a nominal diameter 2-inches or greater, but less than 4-inches, shall be made of 2000 psi hydrostatic design stress compounds designated PVC 1120 and shall conform to ASTM D2241. PVC pipe shall be furnished in 20-foot lengths unless otherwise noted. PVC pipe shall have a standard dimension ratio SDR 14 and a water pressure rating of 200 psi. Pipe couplings shall have a SDR 21 and a water pressure rating of 200 psi. Pipe shall have both ends beveled for use with gasketed couplings or one end beveled and one end with a bell. Couplings and gaskets shall be furnished with each length of pipe. Rubber ring gaskets shall conform to ASTM D3139. Nontoxic gasket lubricant shall be as specified by the manufacturer.
- D. Pressure pipe 4 inches through 60 inches in diameter shall conform to the requirements of AWWA C900 for PVC 1120 pipe with cast iron pipe equivalent outside diameter. Pipe shall be DR18; colored Blue for potable water service. Pipe may be furnished with plain ends for use with elastomeric-gasket couplings or with one end plain and one end with a gasket bell. Couplings and gaskets shall be furnished with the pipe. Gaskets shall conform to ASTM D3139. Nontoxic gasket lubricant shall be as specified by the pipe manufacturer.

## 2.02 RESTRAINED JOINTS

### A. Restrained Joints.

- 1. Restrained joints for use with PVC pipe shall consist of retainer glands fabricated of ductile-iron conforming to ASTM A536. The gland shall be such that it can replace the standard mechanical joint gland and can be used with the standardized mechanical joint bell conforming to ANSI/AWWA A21.11/C111 and ANSI/AWWA A21-53/C153. The retainer glands shall have a pressure rating equal to that of the PVC pipe on which it is used.
- 2. PVC push-on joints adjacent to restrained fittings shall be restrained using harness restraint devices. This harness restraint shall be split to enable installation of the restraint after the spigot has been installed into the bell. The restraint shall consist of a split ring that fits behind the bell, a split restraint ring that installs on the spigot and a number of tie bars to connect the other two parts. Restraint components shall be of ductile-iron conforming to ASTM A536. The restraint ring shall consist of a plurality of individually activated gripping surfaces to hold the spigot and maximize restraint capability.
- 3. Twist off nuts, sized same as the tee-head bolts shall be used to insure proper actuating of restraining devices.

## 2.03 FITTINGS

- A. Fittings for use with PVC pipe 3-inches through 64-inches in diameter shall be ductile-iron fittings conforming to the requirements of ANSI/AWWA C153/A21.53. Bolts for use with mechanical joints shall conform to the requirements of the joint standard. Fittings shall be suitable for a working pressure of the following:

- 1. 3" through 24": 350 psi
- 2. 30" through 48": 250 psi
- 3. 54" through 64": 150 psi

### B. Exterior Coating:

- 1. Fittings for buried service and fittings for installation in exposed locations which are not to be painted shall be coated with a bituminous coating approximately 1 mil thick. The finished coating shall be continuous, smooth, neither brittle when

- cold nor sticky when exposed to the sun and shall be strongly adherent to the pipe.
2. Fittings in exposed locations which are to be painted shall be primed with a universal shop primer suitable for use under the finish paint specified.

### **PART 3 – EXECUTION**

#### **3.01 EXAMINATION**

- A. Excavation:
1. Excavate trenches as specified in Section 02200.
  2. All pipe and appurtenances shall be examined at the point of delivery. Material found to be defective due to manufacture or damage in shipment shall be rejected. Tests as specified in the applicable material standard may be performed to ensure conformance with the standard.

#### **3.02 TRENCH CONSTRUCTION**

- A. Alignment and Grade: The pipelines shall be laid and maintained to the lines and grades established by the Drawings and Specifications, with fittings and valves at the required locations unless otherwise approved by the ENGINEER. Valve-operating stems shall be oriented to allow proper operation.
- B. Underground Conflicts: Prior to excavation, investigation shall be made to the extent necessary to determine the location of existing underground structures and conflicts. Care shall be exercised to avoid damage to existing structures. When obstructions that are not shown on the drawings are encountered during the progress of work and interfere so that an alteration of the plans is required, the ENGINEER will alter the Drawings or order a deviation in line and grade or arrange for removal, relocation, or reconstruction of the obstructions. When crossing existing pipelines or other structures, alignment and grade shall be adjusted as necessary, with the approval of the ENGINEER, to provide clearance as required by the ENGINEER to prevent future damage or contamination of either structure.
- C. Trench Construction:
1. The trench shall be excavated to the required alignment, depth, and width. Trench preparation shall proceed in advance of pipe installation for only as far as necessary to allow proper pipe installation. The width of the trench at the top of the pipe shall be ample to permit the pipe to be laid and joined properly and allow the backfill to be placed as specified.
  2. PVC pipe shall be installed with pipe bedding and a compacted envelope as shown on the Drawings. Material used as bedding and in the pipe envelope (pipe embedment zone) shall be Class I, Class II or Class III material as identified in ASTM D-2321. Bedding material shall consist of 4 inches minimum of non-cohesive granular material placed uniformly under the pipe. Bedding material shall be lightly compacted.
  3. Material within the haunching area shall be compacted to 95% density within non-paved areas and 98% density within paved areas, according to AASHTO T-180. Excessive compaction shall be avoided if any distortion of the pipe wall is observed. Material above the haunching area may be native material if free of particles larger than 1-1/2 inches. At least 12 inches of backfill material shall be placed over the top of the pipe before compacting directly over the crown of the pipe.



4. Holes for the bells shall be provided at each joint but shall not be larger than necessary for joint assembly and assurance that the pipe barrel will lie flat on the trench bottom. Other than noted previously, the trench bottom shall be true and even in order to provide support for the full length of the pipe barrel, except that a slight depression may be provided to allow withdrawal of pipe slings or other lifting tackle.
5. When excavation of rock is encountered, all rock shall be removed to provide a clearance of at least 6-inches below and on each side of all pipe, valves and fittings. When excavation is completed, a bed of sand, crushed stone, or earth that is free from stones, large clods, or frozen earth, shall be placed on the bottom of the trench to the previously mentioned depths; leveled, and tamped. These clearances and bedding procedures shall also be observed for pieces of concrete or masonry and other debris of subterranean structures, such as masonry walls, piers, or foundations that may be encountered during excavation. This installation procedure shall be followed when gravel formations containing loose boulders greater than 8-inches in diameter are encountered. In all cases, the specified clearances shall be maintained between the bottom of all pipe and appurtenances and any part, projection, or point of rock, boulder, or stones of sufficient size and placement which, in the opinion of the ENGINEER could cause a fulcrum point.
6. Should the trench pass over a sewer or other previous excavation, the trench bottom shall be sufficiently compacted to provide support equal to that of the native soil or conform to other regulatory requirements in a manner that will prevent damage to the existing installation.
7. When the subgrade is found to be unstable or to include ashes, cinders, refuse, organic material, or other unsuitable material, such material shall be removed, to a minimum of at least 4 inches, or to the depth ordered by the ENGINEER and replaced under the directions of the ENGINEER with clean, stable backfill material. The bedding shall be consolidated and leveled in order that the pipe may be installed as specified.
8. When the bottom of the trench or the subgrade is found to consist of material that is unstable to such a degree that, in the judgment of the ENGINEER it cannot be removed, a foundation for the pipe and/or appurtenance shall be constructed using piling, timber, concrete, or other materials at the direction of the ENGINEER.

### 3.03 PIPE INSTALLATION

- A. Proper implements, tools, and facilities shall be provided and used for the safe and convenient performance of the work. All pipe, fittings, and valves, and hydrants shall be lowered carefully into the trench by means of suitable tools or equipment in such a manner as to prevent damage to pipeline materials. Under no circumstances shall pipeline materials be dropped or dumped into the trench. The trench shall be dewatered prior to installation of the pipe.
- B. The sealing surface of the pipe, the inside of the bell and the gasket shall be cleaned immediately before assembly.
- C. Foreign material shall be prevented from entering the pipe while it is being placed in the trench. During laying operations, no debris, tools, clothing, or other materials shall be placed in the pipe.
- D. As each length of pipe is placed in the trench, the joint shall be assembled and the pipe brought to correct line and grade. The pipe shall be secured in place with approved backfill material.

- E. At times when pipe laying is not in progress, the open ends of the pipe shall be closed by a watertight plug or other means approved by the ENGINEER. When practical, the plug shall remain in place until the trench is pumped completely dry. Care shall be taken to prevent pipe flotation should the trench fill with water.
- F. Trench width at the top of pipe, bedding conditions, and backfill placement and compaction shall be such that design loadings on the pipe will not be exceeded.
- G. Joint Assembly: Pipe joints shall be assembled in accordance with the manufacturer's instructions.
- H. Pipe Deflection: When it is necessary to deflect pipe from a straight line in either the vertical or horizontal plane, or where long radius curves are permitted, the amount of deflection shall not exceed that recommended by the manufacturer.
- I. Pipe Cutting:
  - 1. Cutting pipe for the insertion of valves, fittings, or closure pieces shall be done in a neat, workmanlike manner without creating damage to the pipe. Ends shall be cut square and perpendicular to the pipe axis.
  - 2. Burrs shall be removed from spigots and ends shall be smoothly beveled. Field cut ends shall be marked for proper depth of joint assembly.
- J. Locator Tape: Install all plastic pipe with a locator tape of the type specified.
- K. Thrust Restraint:
  - 1. All plugs, caps, tees, and bends, unless otherwise specified, shall be provided with reaction backing, or restrained joints as specified.
  - 2. Thrust-restraint design pressure shall be equal to 1.5 times the design pressure of the line.

#### 3.04 TESTING

- A. After completion of installation, perform testing in accordance with requirements of Section 02661: Pressure Testing of Piping.

#### END OF SECTION

## **SECTION 02641 – PIPE CLEANING AND PIGGING**

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### **PART 1 – GENERAL**

#### **1.01 SCOPE OF WORK**

- A. CONTRACTOR shall be required to clean potable water mains 4 inches and larger by pigging prior to testing and disinfection.
- B. Provide all supervision, labor, tools, transportation, material and equipment necessary to clean new water mains, using Polly Pigs and an approved Polly Pig procedure. Install all items required, provide Polly Pig launching and retrieval devices as required and furnish all swabs and Polly Pigs required for thorough removal of foreign materials.

#### **1.02 QUALIFICATIONS**

- A. The materials and work specified herein shall be furnished and performed by firms who are fully experienced, reputable, and qualified in the manufacture, installation and use of the specified items.

#### **1.03 SUBMITTALS**

- A. The CONTRACTOR shall provide evidence of qualification by providing copies of his/her state certification or license to perform such work as herein described and shall provide verifiable references upon request.

#### **1.04 CONTRACTOR RESPONSIBILITIES**

- A. Supervision: There shall be on-site at all times during the work, one superintendent with a minimum of three years supervisory experience in cleaning new and old water mains.
- B. Cleaning: Cleaning shall be performed using swabs or Polly Pigs to remove all foreign objects and, for old pipe, restore the original flow characteristics without abrading the interior walls of the pipe.
- C. Equipment:
  - 1. The CONTRACTOR shall furnish pig launching equipment which will minimize the CONTRACTOR's or OWNER'S need to provide for additional valving, fittings and auxiliary water supplies. Said equipment shall be of the latest design and construction and shall include the means to maintain constant monitoring of the in-line flows and pressures of the system being cleaned and the constant location of the cleaning pigs in the system.
  - 2. The CONTRACTOR shall maintain on site for the duration of the project and have available for immediate use an electronic Polly Pig detector with the appropriately sized cavity Polly Pig for use in the system being cleaned to provide a means of tracking the passage of the pig in the system to locate areas of potential or suspected blockage, and to find "lost" valves and other disparities within the system.
  - 3. The CONTRACTOR shall also have available auxiliary centrifugal pumps for cleaning.
- D. Testing: The CONTRACTOR shall perform pre-cleaning and post-cleaning flow testing to determine sizes, types, densities and numbers of pigs and/or swabs to be used to

establish the means and procedures to properly and safely clean the piping, to evaluate the system and to measure the effects of the cleaning operation.

- E. Communication: The CONTRACTOR shall provide radio communication and job site transportation between launching and retrieval points.
- F. Report upon Completion: The CONTRACTOR shall provide a written report upon completion of line cleaning to outline and detail information acquired during the cleaning progress about the system to confirm existing information.

## **PART 2 – PRODUCTS**

### **2.01 POLLY PIGS**

- A. Furnish Polly Pigs in sufficient numbers and sizes of appropriate densities, coatings and configurations to properly clean the system(s) prior to the system(s) being put into service.
- B. Polly Pigs shall be those as manufactured by Knapp Polly Pigs of Houston, Texas, or approved equal.

### **2.02 EQUIPMENT**

- A. Furnish and install Polly Pig launching and retrieval devices as required.
- B. Launching and retrieval device shall be fabricated, designed and manufactured according to ANSI standards and capable of withstanding working pressures of 150 P.S.I.G.

## **PART 3 – EXECUTION**

### **3.01 LINE PIGGING**

- A. Equipment shall be installed in accordance with manufacturer's recommendations.
- B. Evaluation of new pipeline conditions, selection of the cleaning pigs, cleaning and flushing shall be provided by personnel thoroughly trained, knowledgeable and experienced in the technology and procedures required for the proper and safe "pigging" of this system.
- C. New piping shall be thoroughly cleaned of all material, sand, grit, gravel, stones, fluids, construction debris, threats to its sanitation, and other items that can generally be construed as "foreign" material and that would not be found in a properly cleaned system. This cleaning shall provide a smooth interior periphery of the pipe as a consequence of the cleaning procedure and will result in a conduit or pipe virtually free of any material and fluids, other than those used for the cleaning procedure, within the system.
- D. The CONTRACTOR shall provide all required material, labor, special fittings, connections, traffic control and temporary facilities necessary to accomplish the work. Night work may be required. The CONTRACTOR shall perform such night work at no additional cost to the OWNER.

### **END OF SECTION**

## **SECTION 02650 – DISINFECTION**

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### **PART 1 – GENERAL**

#### **1.01 WORK INCLUDED**

- A. Scope of Work: The work covered by this Section includes furnishing all labor, equipment and materials required for the disinfection of all potable and raw water mains; tanks; process units; wells; and the collection and testing of water samples for bacteriological analysis and regulatory approval. If necessary, this work shall be conducted in phases, with separate regulatory clearances for each phase of the work. Phasing of the work shall be done at no additional cost to the OWNER.
- B. Related Work (Select from list according to type of Project):
  - 1. Section 02616: Ductile Iron Pipe & Fittings
  - 2. Section 02623: Plastic Pipe for Pressure Service

#### **1.02 REFERENCE STANDARDS**

- A. The disinfection shall be performed in accordance with AWWA C651 "Disinfecting Water Mains".

#### **1.03 SUBMITTALS**

- A. The CONTRACTOR shall submit planned procedures to ENGINEER for review prior to beginning work. Submit certificates of compliance with specified standards for all materials to be used. The CONTRACTOR shall obtain sterile sample containers, collect samples, and submit to the approved laboratory. Provide six copies of laboratory test reports to ENGINEER.

#### **1.04 QUALITY CONTROL**

- A. Laboratories used for bacteriological testing of samples shall be certified by the Florida Department of Environmental Protection (FDEP) as acceptable to that agency.
- B. All disinfection and bacteriological sampling and testing shall be in compliance with Rule 62-555-F.A.C. A letter of clearance must be issued by the FDEP prior to placing any temporary or permanent construction into service.

### **PART 2 – PRODUCTS**

#### **2.01 MATERIALS FOR DISINFECTION**

- A. The disinfecting agent shall be liquid chlorine conforming to AWWA B301 or sodium hypochlorite or calcium hypochlorite conforming to the requirements of AWWA B300.
- B. Testing and chlorination shall be furnished and paid for by the CONTRACTOR.

## **PART 3 – EXECUTION**

### **3.01 DISINFECTION OF WATER MAINS**

#### **A. Flushing**

##### **1. New Mains**

- a. Flush mains prior to application of disinfecting agent. Flush with sufficient clear water to provide a full cross section of flow in the pipe at a cleansing velocity (minimum of 2.5 feet per second). Where insufficient water is available to provide cleansing velocity, 10-inch diameter and larger mains shall be cleaned during flushing by using a polyurethane bare swab. The swab shall be a light density, open-cell urethane foam body, base coated with urethane elastomer. The swab shall be able to reduce itself a minimum of 35 percent of its original cross-sectional area, negotiate mitered bends, short radius elbows, pass through tees and crosses and shall be abrasion resistant.
- b. Flushing shall continue until clear water flows from the nearest available point closest to the end of the line.

##### **2. Existing Mains (Maintenance, Rehabilitation)**

- a. The cleaning of the existing piping system shall be accomplished by the controlled and pressurized passage of a series of hydraulic or pneumatic polyurethane plugs of varying dimensions, coatings, and densities; which shall be selected by the pipe cleaning Contractor. The CONTRACTOR shall provide a means to enter the pig into the system, control and regulate flow, monitor flows and pressures, and to remove the pig from the system. The CONTRACTOR shall maintain a constant surveillance of the system and immediately report to the proper authority any in-line problems encountered or any malfunctions discovered in the piping system. A record of pig models, sizes, styles, and other pertinent information shall be kept by the CONTRACTOR and turned over to the OWNER.

#### **B. Disinfection**

1. Disinfection of all piping, valves, and appurtenances shall be by the Continuous Feed Method in accordance with AWWA C651:
  - a. Continuous Feed Method: A solution containing not less than 75 mg/l of chlorine shall be applied to all piping, valves, fittings, hydrants and appurtenances. Solution shall remain in the pipelines for a minimum period of 24 hours. A free chlorine residual of 10 mg/l is required after the 24-hour holding period.
2. During the disinfection procedure, valves and hydrants shall be opened and closed several times during the contact period to insure that all parts are contacted by the disinfecting solution.
3. After disinfection has been completed, the main shall be flushed with potable water until the chlorine residual is stabilized and matches the chlorine residual of the flushing water. Chlorine residual determination shall be made in accordance with Standard Methods using the DPD Colormetric Method.

C. Sampling and Testing

1. Sample locations shall be in compliance with the FDEP construction permit.
2. Samples of water shall be collected from the mains by the CONTRACTOR/OWNER in sterile containers and delivered to an approved laboratory for bacteriological testing. Sampling and testing shall be continued until satisfactory results are obtained on two consecutive days.
3. The interior of pipe, fittings, valves, and appurtenances used for cutting into or repairing existing mains shall be swabbed or sprayed with a one-percent hypochlorite solution before being installed.
4. Tapping sleeves shall be cleaned and disinfected in accordance with Section 4.7 of AWWA C651.

3.02 DISINFECTION OF TANKS

A. Cleaning

1. Tanks shall be thoroughly cleaned in accordance with requirements of AWWA C652.

B. Disinfection

1. After completion of cleaning, tanks shall be disinfected in accordance with the requirements of Chlorination Method 1, 2 or 3 of AWWA C652.

C. Sampling and Testing

1. After completion of disinfection, samples shall be collected by the CONTRACTOR/OWNER in sterile containers and submitted to an approved laboratory for bacteriological testing. Sampling and testing shall be continued until satisfactory results are obtained on two consecutive days.
2. In addition to bacteriological testing, the water in the storage facility shall also be tested to ensure that no offensive odor exists due to chlorine reaction or excess chlorine residual.

3.03 DISINFECTION OF PROCESS UNITS

A. Cleaning

1. Process units shall be thoroughly cleaned prior to disinfection in accordance with requirements of AWWA C653.

B. Flushing

1. All surfaces which will come in contact with potable water shall be thoroughly washed with chlorine water and scrubbed with stiff brooms to remove all dirt, cuttings and other foreign matter. During this operation, the workmen shall wear rubber boots which have been thoroughly cleaned and which shall not be worn outside of the unit during the scrubbing operation.
2. Filter units and media shall be thoroughly backwashed to remove all dirt and debris.

C. Disinfection

1. After completion of cleaning and flushing, the process units shall be disinfected in accordance with the requirements of Chlorination Method [1] [2] [3] of AWWA C652.
2. Filters shall be disinfected in accordance with Section 4.4.3, AWWA C653.
3. Piping valves and appurtenances shall be disinfected in accordance with AWWA C651.

D. Sampling and Testing

1. After completion of flushing, the unit shall be filled with clean water and samples shall be collected by the CONTRACTOR/OWNER in sterile containers and submitted to an approved laboratory for bacteriological testing. Sampling and testing shall be continued until satisfactory results are obtained on two consecutive days.

3.04 REDISINFECTION

A. General

1. If consistently unsatisfactory bacteriological test results are reported, the facilities shall be re-cleaned and re-disinfected.

3.05 DISPOSAL OF HEAVILY CHLORINATED WATER

A. Passive Non-Chemical Methods

1. Discharge to Sanitary Sewers
  - a. Determine location of nearest sanitary sewer system to the point of discharge.
  - b. Determine capacity of sanitary sewer and wastewater treatment plant to handle additional load.
  - c. Investigate potential of upset of treatment plant operations due to presence of chlorine.
  - d. Obtain permission from owner of sanitary sewer system before discharging chlorinated water.
2. Discharge to Storm Sewers
  - a. Determine whether storm sewer from inlet connects/discharges to a receiving stream or waters leading to streams.
  - b. Determine distance to nearest inlet; the farther the chlorinated water has to travel (over paved surfaces), the more chlorine is removed from the water.
3. Retention in Holding Tanks
  - a. Determine approximate volume of discharge water so appropriate storage vessel may be utilized.



- b. Monitor chlorine concentration in holding tank; release chlorinated water when it has met regulatory discharge limits.

4. Land Application

- a. Organic and inorganic impurities in soil and pavements exert a significant amount of chlorine demand and rapidly neutralize chlorine in waters.
- b. Spraying chlorinated water onto soils is an effective method for neutralizing chlorine in waters.
- c. Determine if water will percolate or will flow to receiving waters. If volume is sufficient to carry flow to waters, use a field test kit to determine chlorine residual and take the following action:
  - (1) If at or below regulatory discharge limits, allow to discharge to stream.
  - (2) If above regulatory limits, addition of chemical is necessary in order to reduce chlorine concentration.

B. Chemical Dechlorination

- 1. Chemicals used to dechlorinate water (Also refer to AWWA C651, Appendix C, or C652, Appendix B for listing)
  - a. Sulfur Dioxide
    - (1) Reacts instantaneously with free chlorine.
    - (2) Toxic chemical—not best suited for field applications.
  - b. Sodium Thiosulfate
    - (1) Skin, eye, nose, and throat irritant.
    - (2) Reacts slowly with chlorine and requires more time for dechlorination than most other dechlorination chemicals.
    - (3) Not toxic to aquatic species.
  - c. Sodium Sulfite
    - (1) Is available in tablet form, unlike most other dechlorinating chemicals.
    - (2) Effective for dechlorinating constant, low flow rate chlorinated releases.
  - d. Sodium Bisulfite
    - (1) Skin, eye, and respiratory tract irritant.
    - (2) Highly corrosive and caution must be used when handling.
  - e. Sodium Metabisulfite
    - (1) Eye, throat, skin, and lung irritant.
  - f. Calcium Thiosulfate

- (1) Not toxic to aquatic species.
    - (2) Extremely long time required for dechlorination to occur.
  - g. Ascorbic Acid (Vitamin C)
    - (1) Eye, skin, and lung irritant.
    - (2) Does not scavenge dissolved oxygen.
  - h. Sodium Ascorbate
    - (1) Does not scavenge dissolved oxygen
    - (2) Stable compound as solid; once mixed, degrades within a day or two.
2. Dechlorination Chemical Summary
- a. Choice of Chemical Depends Upon:
    - (1) Nature of water release.
    - (2) Strength of chlorine.
    - (3) Volume of water release.
    - (4) Distance from receiving waters.
  - b. Use field test kit to measure chlorine strength prior to any discharge to streams, lakes, or other bodies of water.

**END OF SECTION**

## **SECTION 02661 – PRESSURE TESTING OF PIPING**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

- A. Scope of Work: This section specifies the leakage and pressure testing of piping.
- B. Testing Records:
  - 1. Provide record of each piping installation during the testing. These records shall include:
    - a. Date of test.
    - b. Identification of pipeline tested or re-tested.
    - c. Identification of pipeline material.
    - d. Identification of pipe section tested.
    - e. Test pressure
    - f. Remarks: Leaks identified (type and location), types of repairs, or corrections made.
    - g. Certification by CONTRACTOR that the leakage rate measured conformed to the Specifications.
    - h. Signature of Project Manager witnessing pipe test.

#### **1.02 SUBMITTALS**

- A. Submit five (5) copies of the test records to the Owner/Engineer upon completion of the testing.

### **PART 2 – PRODUCTS**

#### **2.01 GENERAL**

- A. Testing fluid shall be water, unless specified otherwise.
- B. All testing shall be performed in accordance with applicable AWWA Standards (C-600) latest edition.

#### **2.02 MATERIALS AND EQUIPMENT**

- A. Provide pressure gauges, pipes, pipe fittings, bulkheads, hydraulic force pumps, meters and graduated containers to perform the hydrostatic testing.
- B. Pressure gauges used shall have been calibrated just prior to their use.

### **PART 3 – EXECUTION**

#### **3.01 TESTING PREPARATION**

- A. Pipes shall be in place and anchored before commencing pressure testing.
- B. Conduct hydrostatic tests on exposed and above ground piping after the piping has been installed and attached to the pipe supports, hangers, anchors, expansion joints, valves and meters.

- C. Before conducting hydrostatic tests, flush pipes with water to remove dirt and debris.
- D. Test new pipelines which are to be connected to existing pipelines by isolating the new line from the existing line by means of pipe caps, plugs, special flanges, or blind flanges. After the new line has been successfully tested, and all other tests/certifications/releases have been obtained, remove caps or flanges and connect to the existing piping.

### 3.02 PIPE FLUSHING

#### A. General

- 1. All pressure mains shall be thoroughly flushed of sand and debris prior to pressure leakage testing. Flushing shall continue until clear water flows from the available point closest to the ends of the mains or at the end of the main itself.
- 2. Pressure mains 4 inches in diameter and larger shall be cleaned during flushing using a polyurethane plug manufactured of eight (8) lb./cubic foot density blown elastomer with open cell construction. The plug ("pig") shall have a resilient surface that engages the inner surface of the main with a sliding seal. The plug shall be able to reduce itself a minimum of 35 percent of its original cross-sectional area, negotiate bends, short radius elbows, pass through tees, crosses, multiple pipe sizes and valves and shall be abrasion resistant and capable of traveling in either direction.

### 3.03 HYDROSTATIC TESTS (DUCTILE IRON, PVC AND PCCP PIPE)

#### A. General

- 1. Hydrostatic tests shall consist of a pressure test and a leakage test. Hydrostatic tests shall be conducted on all newly installed pressure pipes, joints, valves and all service lines from tapped connection of main to the curb stops. AIR TESTING of pressure pipes WILL NOT BE PERMITTED under any circumstance. Tests may be made on sections not exceeding 2,000 feet, or as field conditions dictate. Length of the pipe to be tested shall be acceptable to the OWNER. CONTRACTOR shall furnish all necessary equipment and material, make all taps, and furnish all closure pieces in the pipe as required.
- 2. The CONTRACTOR may conduct hydrostatic tests after the trench has been partially backfilled with the joints left exposed for inspection for his informational purposes only. The hydrostatic tests for acceptance shall only be conducted after the trenches have been completely backfilled and compacted as specified. Where any section of pipe is provided with concrete thrust blocking or encasement, pressure test will not be made until at least seven days have elapsed after the thrust blocking is installed. If high-early cement is used for the concrete thrust blocking, the time may be reduced to 3 days if the OWNER concurs that the concrete has cured and reached adequate strength. When testing mortar-lined or PCCP pipe, fill the pipe to be tested with water and allow it to soak for at least 48 hours to absorb water before conducting the pressure test.

- B. Testing Criteria: All pipe sections to be pressure tested, including water mains, reuse mains and force mains, shall be subjected to a hydrostatic pressure of 150 psi. The duration of each pressure test shall be for a period of 2 hours. If during the test, the integrity of the tested line is in question, the OWNER may require a 6-hour pressure test. The basic provisions of AWWA C-600 and C-605/M23 shall be applicable.

- C. Procedure For Pressure Test: Each section of pipe to be tested, as determined by the OWNER, shall be slowly filled with water and the specified test pressure shall be applied

by means of a pump connected to the pipe in a satisfactory manner. Before applying the specified test pressure, all air shall be expelled from the pipe. To accomplish this, taps shall be made, and appropriate valves installed to ensure bleeding of all air from the main. If defective pipes, fittings, valves, or hydrants are discovered in consequence of this pressure test, all such items shall be removed and replaced by the CONTRACTOR with sound material and the test shall be repeated until satisfactory results are obtained. Provisions of AWWA C600 and C605/M23, where applicable, shall apply.

D. Procedure For Leakage Test

1. After completion of the pressure test, a leakage test shall be conducted to determine the quantity of water lost by leakage under the specified test pressure. Applicable provisions of AWWA C600 and C605/M23 shall apply.
2. For DUCTILE IRON PIPE, allowable leakage in gallons per hour shall not be greater than that determined by the formula:

$$L = \frac{SD(P)^{1/2}}{133,200}$$

Where:

- |   |   |                                                                               |
|---|---|-------------------------------------------------------------------------------|
| L | = | Allowable leakage, in gallons per hour.                                       |
| S | = | Length of pipe tested, in feet.                                               |
| D | = | Nominal diameter of the pipe, in inches.                                      |
| P | = | Average test pressure during leakage test, in pounds per square inch (gauge). |

3. For PVC PIPE, allowable leakage in gallons per hour shall not be greater than that determined by the formula:

$$L = \frac{ND(P)^{1/2}}{7,400}$$

Where:

- |   |   |                                                                               |
|---|---|-------------------------------------------------------------------------------|
| L | = | Allowable leakage, in gallons per hour.                                       |
| N | = | Number of joints in the length of pipeline tested.                            |
| D | = | Nominal diameter of the pipe, in inches.                                      |
| P | = | Average test pressure during leakage test, in pounds per square inch (gauge). |

4. Leakage is defined as the quantity of water to be supplied in the newly installed pipe or any valved section under test, which is necessary to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled. Should any test of pipe installed disclose leakage greater than that allowed, CONTRACTOR shall locate and replace or repair the defective joints, pipe or valve until the leakage from subsequent testing is within the specified allowance.

3.04 HYDROSTATIC TESTS (HDPE PIPE)

A. General

1. CONTRACTOR shall test pipelines installed under this Contract in accordance with these specifications prior to acceptance of the pipeline by the OWNER. All field tests shall be made in the presence of the OWNER. Except as otherwise directed, all pipelines shall be tested. All piping to operate under liquid pressure shall be tested in sections of approved length. The pressure testing of an HDPE line section shall be tested separately from the PVC and DIP line sections. Where impractical,

the HDPE test section shall include only a minimum amount of PVC and ductile iron pipe within the test section. If at all possible, the PVC and DIP test sections shall be left exposed during the pressure test for visual leakage observation. For these tests, the CONTRACTOR shall furnish clean water, suitable temporary testing plugs or caps, and other necessary equipment, and all labor required. If the CONTRACTOR chooses to pressure test against an existing OWNER water main / valve, the new water main must be disinfected prior to connection to the OWNER line. The OWNER will not be responsible for failure of the pressure test due to the existing valve leaking. The OWNER may elect to furnish suitable pressure gauges for these tests. If not, the CONTRACTOR will furnish suitable pressure gauges, calibrated by an approved testing laboratory, which increments no greater than 2 psi. Gauges used shall be of such size that pressures tested will not register less than 10 percent or more than 90 percent of the gauge capacity. All valved sections shall be hydrostatic tested to insure sealing (leak allowance) of all line valves.

2. Unless it has already been done, the section to pipe to be tested shall be filled with potable water and air shall be expelled from the pipe. If blow-offs or other outlets are not available at high points for releasing air, the CONTRACTOR shall provide 1-inch [minimum taps and blow-off valves (at the 12:00 position)], as necessary. The cost of constructing blow-off valves and plugging them, after a successful pressure test, shall be included in the unit price bid amount for the HDPE pipe.

**B. Testing Criteria**

1. Hydrostatic testing shall consist of a 150 psig test pressure, based on the elevation of the highest point of the line or section under test. Pressure shall be applied by means of a pump connected to the pipe in a manner satisfactory to the OWNER. The pump, pipe connection and all necessary apparatus shall be furnished by the CONTRACTOR and shall be subject to the approval of the OWNER.
2. Maximum duration for pressure test, including initial and final phase of the test, shall not exceed eight (8) hours. If the test is not completed due to leakage, equipment failure, etc., depressurize the test section, and then allow it to "relax" for at least eight (8) hours before bringing the test section up to test pressure again.

**C. Procedure For Pressure Test**

1. Initial Phase of Pressure Testing: First, all air must be removed from the test section. The pressure test shall be completed after the line is backfilled. If possible, all flanged or mechanical joint valves and fittings shall be left exposed for visual leak inspection. If possible all PVC and DIP test sections shall be left exposed for visual leak inspection. Initially, the pressure within the test section shall be raised to approximately 160 psi and then allowed to be idle (no additional make-up water / pressure to be injected), for approximately 3 hours. During this 3-hour period, the test section shall be allowed to stabilize and come to an equilibrium stage. No additional make-up water / pressure shall be applied to the test section during this 3-hour stabilization period unless the line pressure drops below 140 psi. In this case, make-up water / pressure shall only be applied to the test section to maintain a minimum of 140 psi (during the 3-hour stabilization period).
2. Final Phase of Pressure Testing: The final phase of the pressure test shall involve applying make-up water / pressure to achieve an "Initial test pressure" of 150 psi (minimum) / 155 psi (maximum). The test section is then allowed to be idle (no make-up water / pressure is added) for a period of 2 hours. After this 2-hour period, make-up water / pressure is applied and measured to re-establish the "initial test pressure." The quantity of water utilized to re-pump the line shall be measured and compared to the allowable quantities as determined by TABLE 1, shown below. If the actual make-up water quantity is equal to or less than the allowable amount, the

pressure test passes. If the actual make-up water quantities are greater than the allowable amount, the pressure test fails.

| <b>TABLE 1: ALLOWABLE MAKE-UP AMOUNT (HDPE) PIPE</b> |                                                                                    |
|------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>Nominal Pipe Size<br/>(inches)</b>                | <b>Make-up Water Allowance<br/>(U.S. Gallons /100 ft. of Pipe)<br/>2-Hour Test</b> |
| 6                                                    | 0.30                                                                               |
| 8                                                    | 0.50                                                                               |
| 10                                                   | 0.65                                                                               |
| 12                                                   | 1.15                                                                               |
| 14                                                   | 1.40                                                                               |
| 16                                                   | 1.65                                                                               |
| 18                                                   | 2.15                                                                               |
| 20                                                   | 2.75                                                                               |
| 22                                                   | 3.50                                                                               |
| 24                                                   | 4.40                                                                               |
| 26                                                   | 5.00                                                                               |
| 28                                                   | 5.55                                                                               |
| 30                                                   | 6.35                                                                               |
| 32                                                   | 7.15                                                                               |
| 34                                                   | 8.10                                                                               |
| 36                                                   | 9.00                                                                               |
| 42                                                   | 11.55                                                                              |
| 48                                                   | 13.50                                                                              |
| 54                                                   | 15.70                                                                              |

3. In the event a section fails to pass the tests, the CONTRACTOR shall do everything necessary to locate, uncover (even to the extent of uncovering the entire section), and replace the defective pipe, valve, fitting or joint. Visible leaks shall be corrected regardless of total leakage. Lines which fail to meet these tests shall be retested as necessary until test requirements are complied with. All testing shall be performed at the CONTRACTOR'S expense.

### 3.05 TESTS FOR NON-PRESSURE PIPING

#### A. GENERAL

Testing of non-pressure gravity flow pipe shall be accomplished by infiltration or exfiltration testing. Non-pressure piping which has a crown elevation below the groundwater table shall be tested by measuring the infiltration. Non-pressure piping which has a crown elevation above the groundwater table shall be tested by measuring the exfiltration.

#### B. INFILTRATION TESTING

The CONTRACTOR shall identify and prepare each section of piping to be tested. The designated piping shall be monitored for a minimum period of four (4) hours. Any accumulated liquid shall be measured; the line shall not be accepted until this measured quantity is less than 25 gallons per inch of diameter of pipe per mile of pipe per 24 hours. All buried leaks shall be located and repaired immediately and retested. All visible leaks must be repaired regardless of the measured leakage.

#### C. EXFILTRATION TESTING

The CONTRACTOR shall close all openings in the section of pipe to be tested. The hydrostatic water level of the pipe system shall be raised to a height equal to the maximum design submergence, but in no case less than 3 feet above the highest point in the line. The closed system shall be maintained for a minimum duration of 4 hours. Any loss of volume shall be noted. The line will not be accepted until this measured quantity is less than 25 gallons per inch of diameter of pipe per mile of pipe per 24 hours. All buried leaks shall be located and repaired as soon as possible. All visible leaks must be repaired regardless of the measured leakage.

**D. LOW PRESSURE TESTING**

If impractical to conduct the infiltration or exfiltration tests as specified, the line can be pressurized for low pressure air testing. The air test shall be made by attaching an air compressor or testing apparatus to a suitable opening. After closing all other inlets and outlets to the system, force air into the system until there is a uniform gauge pressure of 5 psi. This pressure shall be held constant without introduction of additional air for a period of at least 30 minutes.

**E. MANDREL TESTING**

Perform mandrel testing throughout the entire length of the gravity pipe system. The mandrel size shall be 95% of the inside diameter of the pipe.

**F. MANHOLE TESTING**

The allowable limits of infiltration or exfiltration of manholes shall not exceed a rate of 0.165 gallons per manhole per hour.

**G. RE-TESTING**

Should any test fail, necessary repairs shall be accomplished by the CONTRACTOR and the test repeated until within the established limits. The CONTRACTOR shall furnish the necessary labor, water and all other items required to conduct the required testing and shall perform the necessary system repairs required to comply with the specified test.

**3.06 TESTS FOR VALVES**

**A. General: All valves shall be tested according to the following criteria:**

1. Butterfly and plug valves shall be tested in accordance with AWWA C504.
2. Ball valves shall be tested in accordance with AWWA C507.
3. Gate valves shall be tested in accordance with AWWA C509 and C515.

**END OF SECTION**



## **SECTION 02801 – RESTORATION OF SURFACE IMPROVEMENTS**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION OF WORK**

- A. This Section includes the restoration of driveways, lawn areas, trees and plants, roadways, sprinkler systems, walks and any other existing improvement affected by the proposed work, as shown on the Drawings and as specified.

#### **1.02 QUALITY ASSURANCE**

- A. Standards
  - 1. Florida Grades and Standards for Nursery Plants, Part 1:
  - 2. Florida Department of Transportation, Standard Specifications for Road and Bridge Construction (latest Edition), hereafter called the Standard Specifications.
- B. Asphaltic Concrete Mix Designs: Contractor shall provide mix designs prepared by an independent laboratory for each type of material used. Mix designs shall be prepared in accordance with the procedures described in Manual MS-2, Mix Design Methods for Asphalt Concrete, a publication of the Asphalt Institute.

### **PART 2 – PRODUCTS**

#### **2.01 SOD**

- A. The sod shall match the existing sod in the area. St. Augustine sod shall be replaced with St. Augustine Floratam. In areas without well established sod, Argentine Bahia shall be used.
- B. The sod shall have well matted roots and be sufficiently thick to secure a dense stand of live grass, with a minimum thickness of two inches. The sod shall be live, fresh and uninjured at the time of planting. It shall be planted as soon as possible after being dug and shall be shaded and kept moist from the time it is dug until it is planted.

#### **2.02 PLANTS**

- A. Existing damaged plants shall be replaced by plants of equal type, quality and size whenever possible. All new plants shall be sound, healthy, vigorous and free from defects, decay, disfiguring, bark abrasions, plant diseases, insect pests, their eggs or larvae.
- B. Existing plants may be removed, preserved, and replaced at the Contractors option. Plants shall be handled by an approved nursery.
- C. Plants shall be watered and cared for until new growth appears. Dead and dying plants shall be immediately replaced. Plants used shall be in accordance with the "Grades and Standards", Florida No. 1 or better.
- D. Plants shall conform to the sizes indicated by the OWNER.

## 2.03 MULCH

- A. Mulch for all planter areas shall be Cypress Bark, clean, bright and free from weeds, moss, sticks, and other debris. Bark size shall not be over 2-1/2-inch diameter.

## 2.04 WATER

- A. The water used in the performance of this Contract shall be of drinking water quality, clean and free from injurious amounts of oil, acid, alkali, or organic matter.

## 2.05 PLANTING MIXTURE

- A. The planting mixture, when required, shall consist of a thorough mixture of 40% peat and 60% sand. The peat shall be Florihome peat or equivalent and the sand shall be clean and free from debris of any kind.

## 2.06 FERTILIZER

- A. Fertilizer shall be pelletized 8-8-8, or equivalent.

## 2.07 PORTLAND CEMENT

- A. Portland cement used in the performance of restoration work on this Contract shall have a compressive strength of 3000 psi at 28 days and shall conform to the requirements of Section 03300.

# PART 3 – EXECUTION

## 3.01 LANDSCAPING RESTORATION

- A. Lawn Areas: Any lawn area affected by the required work shall be restored to a condition equal to or better than the conditions existing before the commencement of work. Grass areas disturbed by CONTRACTOR shall be restored with sod.
- B. Balled Plants:
  - 1. Plants where required shall be adequately balled with firm natural balls of soil, sized as set forth in "Grades and Standards". Balls shall be firmly wrapped with burlap or equally approved strong cloth. No balled plant will be planted if the ball is cracked or broken before or during the process of planting.
  - 2. Option: Plants may be furnished as container grown instead of balled if all other requirements are met.
- C. Preparation of Plant Pits: All plant pits shall be circular in outline and have vertical sides. Tree pits shall be two feet wider than the width of the ball and one foot deeper than the depth of the ball. Shrubs that are either B&B or in 3 gallon containers shall have pits that are two feet wider than the width of the plant ball and 6-inches deeper than the depth of the ball. Smaller shrubs shall have pits that are at least one foot wider than the width of the plant ball and 6-inches deeper than the ball depth.

D. Setting Plants

1. All plants except as otherwise specified, shall be centered in pits. Deep planting shall be avoided and unless otherwise specified, plants shall be set at such a level that after settlement they will bear the same relation to the required grade as they have to the natural grade before being transplanted.
2. Balled and burlapped plants and palms shall be placed on 6 inches to 12 inches of tamped planting mixture and adjusted so as to be at the proper level. The rope and burlap shall be cut away and the burlap folded down to the bottom of the pit. Very large B&B plants shall remain wrapped until fully backfilled and then just the upper portion of the burlap shall be removed. Backfill of planting mix shall be placed halfway up the pit and then water tamped. After this water has drained away, backfill around the edge of the pit to form a saucer and fill area three times with water.

E. Water: Water to be used initially during plant installation shall be furnished by the CONTRACTOR. The existing irrigation system, where damaged, shall be promptly repaired after the installation of the plants.

F. Sod Placement:

1. Immediately before sod is placed, 8-8-8 fertilizer shall be applied at the rate of approximately 500 pounds per acre, by broadcasting and raking into the planting area.
2. Sod shall be firmly embedded by light tamping. Wherever necessary to prevent an erosion condition caused by vertical edges at the outer limits of the sodded area, the sod shall be tamped so as to produce a featheredge at the outer limits. The sod shall be kept in a moist condition after it is planted. Water shall not be applied between the hours of 8 A.M. and 4 P.M., or when there is danger of freezing.

G. Maintenance: CONTRACTOR shall maintain the planted areas in a satisfactory condition until final acceptance of the project. Such maintenance shall include watering, filling, leveling and repairing of any washed or eroded areas as may be necessary.

3.02 PAVEMENT, CURB AND SIDEWALK REMOVAL

A. Pavement materials shall be removed and separated from other excavated materials. Prior to removal, asphaltic and Portland cement materials shall be saw cut to neat lines parallel to the trench and sufficiently remote from the edge of the trench to prevent settling or breaking off.

3.03 TESTS

A. The CONTRACTOR shall furnish facilities for making all density tests and make such restorations as may be necessary due to test operations. All density tests on backfill or base replacement will be made by a commercial testing laboratory employed by the OWNER and at such locations as may be recommended by the ENGINEER. If the densities as determined by the specified tests fall below the required minimums, the CONTRACTOR shall pay for all retests.

**END OF SECTION**

## SECTION 02802 – IDENTIFICATION TAPE FOR BURIED PIPE

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### PART 1 – GENERAL

#### 1.01 DESCRIPTION

- A. Furnish and install identification tape over the centerline of all buried potable water lines, wastewater force mains, raw water mains, and wastewater effluent reuse mains.

#### 1.02 SUBMITTALS

- A. Submit manufacturer's descriptive literature, illustrations, specifications and other pertinent data.

### PART 2 – PRODUCTS

#### 2.01 IDENTIFICATION TAPE

- A. Identification Tape for Ductile Iron and Steel Pipe: Identification tape shall be manufactured of inert polyethylene so as to be highly resistant to alkalies, acids and other destructive agents found in soil, and shall have a minimum thickness of 6 mils with a minimum tensile strength of 22 pounds per inch and a maximum adhesive factor of 40 ounces per inch. Tape width shall be 2 inches and shall have background color specified below, imprinted with black letters. Imprint shall be as specified below and shall repeat itself a minimum of once every 2 feet for entire length of tape.
- B. Identification Tape for Polyvinyl Chloride Pipe: Identification tape shall be manufactured of polyethylene with a minimum thickness of 4-mils and shall have a 1-mil thick metallic foil core. The tape shall be highly resistant to alkalies, acids and other destructive agents found in soil. Tape width shall be 3 inches and shall have background color specified below, imprinted with black letters. Imprint shall be as specified below and shall repeat itself a minimum of once every 2 feet for entire length of tape.
- C. Tape background colors and imprints shall be as follows:

| Imprint                                                | Background Color |
|--------------------------------------------------------|------------------|
| "Caution Caution – Potable Water Line Buried Below"    | Blue             |
| "Caution Caution – Wastewater Force Main Buried Below" | Green            |
| "Caution Caution – Sewer"                              | Green            |
| "Caution Caution – Reuse Water Main Buried Below"      | Lavender         |
| "Caution Caution – Raw Water Main Buried Below"        | White            |

- D. Identification tape shall be "Terra Tape" as manufactured by Reef Industries, Inc., Houston, TX, (800) 231-6074, Allen Systems Inc., Wheaton, IL (800) 323-1749, or approved equal.

## 2.02 LOCATE WIRE

- A. Locate wire shall be #10 THHN solid copper tracing wire.
- B. Wire insulation shall be 45 mils and shall be color coded as per the locator tape.

## PART 3 – EXECUTION

### 3.01 INSTALLATION OF IDENTIFICATION TAPE

- A. Identification tape shall be installed for all buried pressure mains in accordance with the manufacturer's installation instructions and as specified herein.
- B. For potable, raw, reuse water and force mains, identification tape shall be installed 18 inches below final grade over centerline of pipe.
- C. For wastewater gravity sewers, identification tape shall be continuously spiral-wrapped around the pipe with the bands 12 to 18 inches apart.

### 3.02 INSTALLATION OF LOCATE WIRE

- A. Locate wire shall be installed under all buried pressure mains in accordance with plan details. Wire shall be extended to top of all valve boxes and at 500-foot intervals as shown on Drawing details.
- B. Contractor will perform a 12-volt DC electrical continuity test on the wire. No more than one (1) volt of loss per 1,000 feet of mainline pipe will be acceptable. The wire will pass the 12-volt DC electrical continuity test prior to final acceptance of the pipeline. Any cuts or breaks in the wire will be repaired by the Contractor at his expense.
- C. The locate wire will be tested by the Contractor at the time of pressure testing. If this test fails, the Contractor is responsible for repairing the locate wire and the pressure test will be rescheduled when the wire will pass.

**END OF SECTION**

## **SECTION 02938 – SODDING**

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### **PART 1 – GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### **1.02 WORK INCLUDED**

- A. Provide all labor, materials, equipment and incidentals required to prepare lawn bed, install sodding, and repair existing sod in accordance with the drawings, scheduled mowings, and all work that is part of the 30-day grow-in period, and as specified.

#### **1.03 RELATED WORK**

- A. Irrigation System
- B. Trees, Shrubs, and Groundcover
- C. Fine Grading

#### **1.04 QUALITY ASSURANCE**

- A. Sod shall be grown by certified Florida State Plant Board SOD FARM or as approved by the OWNER'S Representative. The OWNER'S Representative shall inspect sod prior to cutting and delivery to site.
- B. The OWNER'S Representative shall have the right at any stage of the construction operation to reject any and all work and materials, which, in his opinion, do not meet the requirements of these specifications. Such rejected work and materials shall be immediately removed from the site and replaced in an acceptable manner.

#### **1.05 SUBMITTALS**

- A. Certificates and Guarantee
  - 1. Growers' Certification and Guarantee
    - a. All sod shall be Florida Standard Grade sod as defined by the "Florida Turf Producers Association" that is true to botanical variety and 98% free of weeds and foreign grasses.
    - b. Florida Standard Grade may have no visible broadleaf weeds when viewed from a standing position and the turf shall be visibly consistent with no obvious patches of foreign grasses. In no case may the total amount of foreign grasses or weeds exceed 2% of the total. The sod shall be neatly mowed and be mature enough that when grasped at one end, it can be picked up and handled without damage.
    - c. Grass species and variety with date and location of field from which sod is cut.
    - d. One certificate per truckload is required.

- e. Compliance with State and Federal quarantine restriction, if applicable.
  - 2. Manufacturer's certification of fertilizer and herbicide composition.
  - 3. CONTRACTOR shall submit all certifications, reports, etc., to the OWNER'S Representative a minimum of one week prior to installation.
- B. Provide Florida State Department of Agriculture, Bureau of Plant Industry, inspection certificates at time of delivery of sod.
  - C. Submit soils tests to LANDSCAPE ARCHITECT for all locations shown on plans. Analysis shall include recommendation for fertilization specific to the soil chemistry of the existing soil.

## **PART 2 – PRODUCTS**

### **2.01 SOD**

- A. Sod shall be as shown in plans and shall have a firm texture having a compacted growth and good root development. Sod shall conform to the following:
  - 1. Furnish in pads that are not stretched, broken or torn.
  - 2. Sod thickness shall be 1-1/2 inch, minimum (excluding top growth and thatch).
  - 3. Sod shall be uniformly 2 inch in height.
  - 4. Uniform in color, leaf texture and density.
- B. Sod shall be certified to meet Florida State Plant Board specifications, absolutely true to varietal type, and free from weeds or other objectionable vegetation, fungus, insects and disease of any kind.
- C. Before being cut and lifted, the sod shall have been mowed to a two-inch length three times with final mowing not more than a week before cuffing into uniform dimensions.
- D. Time delivery so that sod will arrive at site within twenty-four (24) hours after being stripped. Do not deliver more sod than can be installed within 24 hours. OWNER'S Representative reserves the right to reject sod left in extended storage on site.
- E. Protect sod against drying and breaking.
- F. Maintain proper moisture conditions, prior to placing, to insure sod vitality and to prevent the dropping off of soils during handling.

### **2.02 SOIL CONDITIONERS**

- A. Fertilizer:
  - 1. Fertilizer shall be complete fertilizer, the elements of which are derived from organic sources. Fertilizer shall be a standard product complying with State and Federal fertilizer laws.
  - 2. For purpose of bidding, assume 8% nitrogen, 8% phosphorus, and 8% potash by weight. At least 50% of the total nitrogen shall contain no less than 3% water-insoluble nitrogen.
  - 3. At the CONTRACTOR'S expense, samples of existing on-site soils will be submitted to a certified testing laboratory for analysis as to the suitability of the fertilizer mix specified above. The findings, together with any recommendations

- for amending the specified fertilizer mix shall be reviewed and approved by the OWNER prior to delivery and installation of plant materials at the job.
4. At the CONTRACTOR'S expense, fertilizer amendments shall be added in the amount and manner prescribed by a soil analysis. Results from soil analysis and a list of the prescribed amendments shall be presented to the OWNER'S Representative prior to incorporating into the soil.
  5. Fertilizer shall be delivered to the site, mixed as specified, in the original unopened standard size bags showing weight, analysis and name of manufacturer. Containers shall bear the manufacturer's guaranteed statement of analysis, or a manufacturer's certificate of compliance covering analysis shall be furnished to the OWNER'S Representative. Store fertilizer in a waterproof place and in such a manner that it will be kept dry and its effectiveness will not be impaired.
- B. Superphosphate shall be composed of finely ground phosphate rock as commonly used for agricultural purposes containing not less than 20% available phosphoric acid.

### **PART 3 – EXECUTION**

#### **3.01 LAWN BED PREPARATION**

- A. Areas specified to receive sod shall be cleared of all rough grass, weeds, and debris and the ground brought to an even grade as approved by OWNER'S Representative.
- B. Preparation for Finish Grading:
  1. Weeding: Before and during preliminary and finish grading, dig-out all weeds and grasses by the roots and dispose of off-site. Grasses not of the perennial type less than two and one-half inches (2-1/2") high and not bearing seeds, may be turned under. Perennial weeds and grasses are to be removed. Also, remove other noxious or invasive weeds encountered on the site. The use of Round-Up or approved equal is an approved method of removal of weeds.
  2. Loosen rough-graded material by roto-tilling to a depth of four to six inches (4"-6") and regrade to maintain proper elevation.
  3. Remove all stones over two inches (2") in size, rubbish, and all other extraneous matter from rough grade before beginning finish grading.
- C. Superphosphate at a rate for bidding purposes of 5 pounds per 1000 square foot and complete fertilizer at a rate for bidding purposes of 16 pounds per 1000 square foot shall be evenly distributed over entire area and cross-disc'd in to a depth of 4-6 inches.
- D. The areas shall then be brought to proper grade, free of all construction debris, sticks, stones, or other foreign matter over 1-inch in diameter or dimension. The surface shall conform to finish grade, less the thickness of sod, free of water-retaining depressions, the soil friable and of uniformly firm texture.

#### **3.02 SOD HANDLING AND INSTALLATION**

- A. Sodding Lawns
  1. Limits of sod and sod types are delineated on the Drawings.
  2. Sod shall be as shown on the Drawings certified to be of high quality in accordance with the standards established by the FTGA.



3. Do not sod areas until the planting of trees, shrubs, and other plants are sufficiently completed in that area, to eliminate the possibility of incurring damage to the lawn areas by tree planting operations.
4. Roto-till soil to a depth of six inches (6"), incorporate specified amendments, and fine grade to remove irregularities.
  - a. Lightly roll to firm surface and regrade, as necessary, to even base grade.
  - b. During rolling, soil should be sufficiently dry to avoid dense compaction.
5. Prior to sodding, clear the surface of all stones or other objects and of all roots, weeds, brush, wire, and other objects that might be a hindrance to maintenance operations.
6. Leveling: Level out all undulations or irregularities in the surface resulting from tillage, fertilizing, liming, or other operations.
7. Treat soil, as necessary, with approved fumigant or herbicide to control weeds.
8. Pre-irrigate soil to wet it to a depth of two inches (2"). Soil should be damp but not muddy.
9. Lay sod within twenty-four (24) hours after delivery to site and within forty-eight (48) hours after being cut. Do not expose sod to hot sun longer than necessary.
  - a. Roll out sod or lay squares carefully. Use a 2'x4' laid on its side as a "kicker" to butt against sod strips and force them into place.
  - b. Stagger or offset all joints between sod sections. Butt side and end joints. Ensure that joints are tight, thereby eliminating the need to patch and/or topdress to eliminate gaps.
  - c. Cut sod with a sharp knife or spade to conform to walks, planter beds, header boards, and other characteristics.
  - d. Bring new sod into close contact with the soil by thorough rolling with a 100 lb. roller.
10. After laying and rolling, water area thoroughly and deeply.
  - a. Keep sod well watered during the first two (2) weeks after installation to insure good rooting into base soil.
  - b. Supplement watering from irrigation system by hose, as necessary, to assure adequate water to berms and other critical areas to establish sod.
11. Finish grade of all sod after laying shall not be higher than adjacent paving, curbs, yard boxes, and other on-grade elements of site development.
  - a. All surfaces shall drain to drainage devices provided without puddling or ponding.
  - b. The surface of the sod shall be smoothed with gentle curves and transitions. All sodded areas shall be verified that they meet the approval of OWNER'S representative prior to proceeding with subsequent phases of construction. The OWNER'S representative reserves the right to reject uneven areas in order to achieve the intended appearance of the project.

12. Peg sod on slopes greater than one (1) in three (3) with minimum of two (2) stakes per square yard.

### 3.03 MAINTENANCE

- A. The CONTRACTOR shall produce a dense, well-established lawn. The CONTRACTOR shall be responsible for the repair and resodding of all eroded or bare spots until project substantial acceptance. Repair sodding shall be accomplished as in the original work except that fertilizing may be omitted.
- B. Sufficient watering shall be applied by the CONTRACTOR to maintain adequate moisture for optimum development of the lawn areas. Sodded areas shall receive no less than 1.5 inches of water per week or as directed by the OWNER'S Representative.
- C. Areas of sod that are not intended to be watered by the irrigation system shall be hand-watered to receive a minimum of 1.5 inches of water per week for the length of the plant establishment period. The plant establishment period shall be for thirty (30) consecutive calendar days unless otherwise directed by the OWNER'S Representative. Adjust watering frequency and amounts to accommodate prevailing weather conditions.
- D. Mow newly sodded lawn area as soon as sod is rooted sufficiently to permit mowing. Also, maintain existing established lawn within phase one limits during the establishment period until accepted by the OWNER'S Representative.
- E. Do not permit new lawn areas to grow in excess of three inches high during maintenance period.
- F. After the OWNER or his representative has accepted an established stand of grass, the OWNER'S Representative assumes all responsibility for maintenance; however, it is the CONTRACTOR'S responsibility to instruct the OWNER'S Representative in proper maintenance procedures in writing.

### 3.04 REPAIRS TO LAWN AREAS DISTURBED BY CONTRACTOR'S OPERATIONS

- A. Lawn areas planted under this Contract and lawn areas outside the designated areas damaged by CONTRACTOR'S operations Planting, Irrigation, Landsculpturing, Plant Styling, etc. shall be repaired at once by proper sod bed preparations, fertilizing and resodding, in accordance with these specifications.

### 3.05 ACCEPTANCE

- A. A substantial completion inspection shall be conducted with all deficiencies noted and given to the CONTRACTOR as a punch list of items to be corrected. Substantial completion acceptance will not be issued until all punch list items have been completed and a reinspection by the OWNER is done.
- B. For the purpose of establishing an "Acceptance" standard, sod shall be healthy, well-rooted, evenly colored, viable; free of weeds, disease, open joints and bare spots.
  1. Perform other operations necessary to complete maintenance and ensure that plants are healthy, vigorous, visually pleasing, and undamaged.
  2. Perform all maintenance tasks as specified in this section.
- C. Once the reinspection for compliance with the punch list requirements has been conducted and barring any new deficiencies being noted during the reinspection, written

acceptance will be given for all work of this Section, exclusive of possible replacement of sod subject to warranty.

1. If any deficiencies of requirements exist, they will be noted in writing.
- D. Upon written substantial completion acceptance being given, the OWNER will assume all responsibilities for maintenance of landscape work. The CONTRACTOR is responsible for all maintenance as specified in this section up to this point.
- E. At the conclusion of the warranty period, an inspection will be made to determine the condition of warranted plant material.
  1. Remove all sod material noted as not being in a healthy-growing condition.
  2. At no additional cost, replace sod during the following planting season with material of like kind and size, in accord with specifications for original sodding.
  3. Warranty period applies also to replaced material.

### 3.06 GUARANTEE AND REPLACEMENT

#### A. Lawns

1. All sodding shall be established or exhibit signs of being established in thirty (30) days or less from the date of installation, or the sod shall be removed and replaced at no additional cost to the OWNER. Sodding installed by the LANDSCAPE CONTRACTOR shall be warranted in writing for a period of six (6) months from the date of substantial completion.

**END OF SECTION**

# DIVISION 3

# CONCRETE

## **SECTION 03130 - CONCRETE REHABILITATION**

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### **PART 1 - GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### **1.02 SUMMARY**

- A. Section Includes:
  - 1. Type I Repairs
  - 2. Type II Repairs
  - 3. Type III Repairs
  - 4. Type IV Repairs
  - 5. Type V Repairs

#### **1.03 ACTION SUBMITTALS**

- A. Product Data: For each type of product. Include construction details, material descriptions, chemical composition, physical properties, test data, and mixing, preparation, and application instructions.

#### **1.04 INFORMATIONAL SUBMITTALS**

- A. Qualification Certificates from Manufacturer: The installers must have a minimum of 5 years of experience applying the specified or similar products and submit a certification from the manufacturer of the mortar to be installed.
- B. Material Certificates: For each type of product supplied for mixing or adding to products at Project site.
- C. Product Test Reports: For each proposed product, provide tests performed by manufacturer and witnessed by a qualified testing agency.
- D. Field quality-control reports.

#### **1.05 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Each product manufacturer shall employ factory-trained technical representatives who are available for consultation and Project-site inspection and assistance at no additional cost.
- B. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by the manufacturer to apply the products proposed for this project.
- C. Maintenance Program: Prepare a written plan for maintenance of work, including each phase or process, protection of surrounding materials during operations, and control of

debris and runoff during the Work. Describe in detail materials, methods, equipment, and sequence of operations to be used for each phase of work.

#### 1.06 DELIVERY, STORAGE AND HANDLING

- A. Comply with manufacturer's written instructions for minimum and maximum temperature requirements and other conditions for storage.
- B. Store cementitious materials off the ground, under cover, in a dry location.
- C. Store aggregates covered and in a dry location; maintain grading and other required characteristics and prevent contamination.

#### 1.07 FIELD CONDITIONS

- A. Environmental Limitations for Epoxies: Do not apply when air and substrate temperatures are outside limits permitted by manufacturer. During hot weather, cool epoxy components before mixing, store mixed products in shade, and cool unused mixed products to retard setting. Do not apply to wet substrates unless approved by manufacturer.
  - 1. Use only ASTM C881 Class A epoxies when substrate temperatures are below or are expected to go below 40 deg F (5 deg C) within 8 hours.
  - 2. Use only ASTM C881 Class A or B epoxies when substrate temperatures are below or are expected to go below 60 deg F (16 deg C) within 8 hours.
  - 3. Use only ASTM C881 lass C epoxies when substrate temperatures are above and are expected to stay above 60 deg F (16 deg C) for 8 hours.
- B. Cold-Weather Requirements for Cementitious Materials: Do not apply unless concrete-surface and air temperatures are above 40 deg F (5 deg C) and will remain so for at least 48 hours after completion of Work.
- C. Cold-Weather Requirements for Cementitious Materials: Comply with the following procedures:
  - 1. When air temperature is below 40 deg F (5 deg C), heat patching-material ingredients and existing concrete to produce temperatures between 40 and 90 deg F (5 and 32 deg C).
  - 2. When mean daily air temperature is between 25 and 40 deg F (minus 4 and plus 5 deg C), cover completed Work with weather-resistant insulating blankets for 48 hours after repair or provide enclosure and heat to maintain temperatures above 32 deg F (0 deg C) within the enclosure for 48 hours after repair.
  - 3. When mean daily air temperature is below 25 deg F (minus 4 deg C), provide enclosure and heat to maintain temperatures above 32 deg F (0 deg C) within the enclosure for 48 hours after repair.
- D. Hot - Weather Requirements for Cementitious Materials: Protect repair work when temperature and humidity conditions produce excessive evaporation of water from patching materials. Provide artificial shade and wind breaks, and use cooled materials as required. Do not apply to substrates with temperatures of 90 deg F (32 deg C) and above.

## PART 2 - PRODUCTS

### 2.01 MATERIALS, GENERAL

- A. Source Limitations: Obtain each color, grade, finish, type, and variety of product from single source with resources to provide products of consistent quality in appearance and physical properties.
- B. VOC Content: Provide materials that comply with VOC limits of authorities having jurisdiction.

### 2.02 TYPE I REPAIR

Type I Repairs shall be for cracks larger than 1/16" and less than 1/4" in width where no rust stains, spalling or loose concrete is observed and concrete removal is not required.

- A. Concrete Surface Preparation:
  - 1. Route crack to a width of 1/4" and 1/2" depth.
  - 2. Clean out debris and loose concrete; vacuum or blow clear with compressed air.
  - 3. Crack surface must be clean, dry and free of oil, grease and other contaminants. Take precaution to prohibit surface from becoming contaminated prior to product application.
- B. For Crack Repairs:
  - Primer
    - 1. Sikaflex 429
    - 2. Approved equivalent
  - Polyurethane, elastomeric sealant/adhesive:
    - 1. Sikaflex-1A
    - 2. Approved equivalent
- C. For surfaces to be coated reference Section 09 90 00.

### 2.03 TYPE II REPAIR

Type II Repairs shall be for areas that have concrete section loss where no reinforcing bars have been exposed. This would include cracks greater than 1/4" in width and areas of poor consolidation.

- A. Concrete Surface Preparation:
  - 1. Remove all loose materials, deteriorated concrete, laitance, existing coatings and other bond-inhibiting materials from the surface in accordance with SSPC-SP13/NACE 6 minimum surface profile of ICRI-CSP6.
  - 2. The edges of the repair should be saw cut perpendicular to the surface to a depth of at least 1/4". Break out the complete repair area to a minimum depth of 1/4" up to the sawed edge to prevent feather edging. Avoid cutting the reinforcing steel.

3. Surface must be clean, dry and free of oil, grease and other contaminants. Take precaution to prohibit surface from becoming contaminated prior to product application.
- B. Repair Mortar for repairs less than ½-inch in thickness:
1. Tnemec Series 218
  2. Sherwin Williams Dura Plate 2300
  3. Sika Sikatop 123 Plus.
- C. Repair Mortar for repairs between ½ inch and 2 inches in thickness:
1. Tnemec Series 217
  2. AW Cook Silatec Microsilica Concrete
  3. SikaRepair 224
- D. For surfaces to be coated reference Section 09 90 00.

#### 2.04 TYPE III REPAIR

Type III Repairs shall be for areas that have concrete section loss up to 4" in depth (>4" shall depth use Type V Repair) where reinforcing bars have been exposed but do not need to be replaced including areas of poor consolidation and where rust stains are observed.

##### A. Surface Preparation:

1. Concrete
  - a. Remove all loose materials, deteriorated concrete, laitance, existing coatings and other bond-inhibiting materials from the surface in accordance with SSPC-SP13/NACE 6 minimum surface profile of ICRI-CSP6.
  - b. The edges of the repair should be saw cut perpendicular to the surface to a depth of at least ¼". Break out the complete repair area to a minimum depth of ¼" up to the sawed edge to prevent feather edging. Avoid cutting the reinforcing steel.
  - c. Surface must be clean, dry and free of oil, grease and other contaminants. Take precaution to prohibit surface from becoming contaminated prior to product application.
2. Steel Reinforcement
  - a. Remove rust and active corrosion by sandblasting per SSPC SP6 or mechanical wire brushing to produce white metal finish per SSPC SP11.
  - b. Surface must be clean, dry and free of oil, grease and other contaminants. Take precaution to prohibit surface from becoming contaminated prior to product application.

##### B. Bonding Agent:

1. Concrete Resurface Scrub Coat



- a. Tnemec Series 217
- b. AW Cook Silatec Microsilica Concrete.
- c. Sika Repair 224.

2. Steel Reinforcing

- a. Sika Armatec 110 EpoCem two coats @ 20 mils DFT each.

C. Repair Mortar:

- 1. Tnemec Series 217
- 2. AW Cook Silatec Microsilica Concrete
- 3. SikaRepair 224

D. For surfaces to be coated reference Section 09 90 00.

2.05 TYPE IV REPAIR

Type IV Repairs shall be for areas that have concrete section loss up to 4" in depth (>4" depth shall use Type V Repair) where reinforcing bars have been exposed and need to be replaced including areas of poor consolidation and where rust stains are observed.

A. Surface Preparation:

1. Concrete

- a. Remove all loose materials, deteriorated concrete, laitance, existing coatings and other bond-inhibiting materials from the surface in accordance with SSPC-SP13/NACE 6 minimum surface profile of ICRI-CSP6.
- b. The edges of the repair should be saw cut perpendicular to the surface to a depth of at least 1/4". Break out the complete repair area to a minimum depth of 1/4" up to the sawed edge to prevent feather edging. Avoid cutting the reinforcing steel.
- c. Surface must be clean, dry and free of oil, grease and other contaminants. Take precaution to prohibit surface from becoming contaminated prior to product application.

2. Steel Reinforcement

- a. Where section loss of reinforcing bar is more than 25 percent, or 20 percent in two or more adjacent bars, cut bars and remove and replace per structural drawing details. Remove additional concrete as necessary to provide at least 3/4-inch clearance at existing and replacement bars. Splice replacement bars to existing bars according to ACI 318 (ACI 318M) by lapping, welding, or using mechanical couplings.
- b. Remove remaining rust and active corrosion by sandblasting or mechanical wire brushing to produce white metal finish.

- c. Surface must be clean, dry and free of oil, grease and other contaminants. Take precaution to prohibit surface from becoming contaminated prior to product application.
- B. Bonding Agent:
  - 1. Concrete Resurface Scrub Coat
    - a. Tnemec Series 217
    - b. AW Cook Silatec Microsilica Concrete.
    - c. Sika Repair 224.
  - 2. Steel Reinforcing
    - a. Sika Armatec 110 EpoCem two coats @ 20 mils DFT each.
- E. Repair Mortar:
  - 4. Tnemec Series 217
  - 5. AW Cook Silatec Microsilica Concrete
  - 6. SikaRepair 224
- F. For surfaces to be coated reference Section 09 90 00.

## 2.06 TYPE V REPAIR

Type V Repairs shall be for areas that have concrete section loss greater than 4" in depth.

- A. Surface Preparation:
  - 1. Concrete
    - a. Remove all loose materials, deteriorated concrete, laitance, existing coatings and other bond-inhibiting materials from the surface in accordance with SSPC-SP13/NACE 6 minimum surface profile of ICRI-CSP6.
    - b. The edges of the repair should be saw cut perpendicular to the surface to a depth of at least 2" or to the rebar, whichever is shallower and abraid/roughen saw cut surfaces. Break out the complete repair area to a minimum depth of 2" up to the sawed edge to prevent feather edging. Avoid cutting the reinforcing steel.
    - c. Surface must be clean, dry and free of oil, grease and other contaminants. Take precaution to prohibit surface from becoming contaminated prior to product application.
  - 2. Steel Reinforcement
    - a. Where section loss of reinforcing bar is more than 25 percent, or 20 percent in two or more adjacent bars, cut bars and remove and replace

per structural drawing details. Remove additional concrete as necessary to provide at least 3/4-inch clearance at existing and replacement bars. Splice replacement bars to existing bars according to ACI 318 (ACI 318M) by lapping, welding, or using mechanical couplings.

- b. Remove remaining rust and active corrosion by sandblasting or mechanical wire brushing to produce white metal finish.
- c. Surface must be clean, dry and free of oil, grease and other contaminants. Take precaution to prohibit surface from becoming contaminated prior to product application.

**B. Bonding Agent:**

- 1. Concrete Resurface Scrub Coat
  - a. Tnemec Series 217
  - b. AW Cook Silatec Microsilica Concrete.
  - c. Sika Repair 224.
- 2. Steel Reinforcing
  - a. Sika Armatec 110 EpoCem two coats @ 20 mils DFT each.

**C. Repair Mortar:**

- 1. Tnemec Series 217
- 2. AW Cook Silatec Microsilica Concrete
- 3. SikaRepair 224

**D. Shotcrete (as alternative to Repair Mortar)**

- 1. Shotcrete: Wet mix and dry mix shotcrete shall be applied by experienced nozzlemen certified by American Concrete Institute (ACI) as outlined in ACI certification publication CP-60
- 2. Shotcrete Compressive Strength f'c shall be 4,000 psi or greater at 28 days.

**E. For surfaces to be coated reference Section 09 90 00.**

### **PART 3 – EXECUTION**

#### **3.01 EXAMINATION**

- A. Notify Owner seven days in advance of dates when areas of deteriorated or delaminated concrete and deteriorated reinforcing bars will be located.
- B. Locate areas of deteriorated or delaminated concrete using hammer or chain-drag sounding and mark boundaries. Mark areas for removal by simplifying and squaring off boundaries. At columns and walls make boundaries level and plumb unless otherwise indicated.

- C. Use Nondestructive examination procedure such as Pachometer Testing or Surface Penetrating Radar to locate and determine cover on reinforcing steel so damage to it can be avoided during concrete removal.
- D. Perform surveys as the Work progresses to detect hazards resulting from concrete-maintenance work.

### 3.02 PREPARATION

- A. Ensure that supervisory personnel are on-site and on duty when concrete maintenance work begins and during its progress.
- B. Preparation for Removal of Deteriorated Concrete: Examine construction to be repaired to determine best methods to safely and effectively perform concrete maintenance work. Examine adjacent work to determine what protective measures will be necessary. Make explorations, probes, and inquiries as necessary to determine condition of construction to be removed in the course of repair.
  - 1. Verify that affected utilities have been disconnected and capped.
  - 2. Inventory and record the condition of items to be removed for reinstallation or salvage.
  - 3. Provide and maintain shoring, bracing, and temporary structural supports as required to preserve stability and prevent unexpected or uncontrolled movement, settlement, or collapse of construction being demolished and construction and finishes to remain.
- C. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from concrete maintenance work.
  - 1. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.
  - 2. Use only proven protection methods appropriate to each area and surface being protected.
  - 3. Provide barricades, barriers, and temporary directional signage to exclude public from areas where concrete maintenance work is being performed.
  - 4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during course of concrete maintenance work.
  - 5. Contain dust and debris generated by concrete maintenance work and prevent it from reaching the public or adjacent surfaces.
  - 6. Use water-mist sprinkling and other wet methods to control dust only with adequate, approved procedures and equipment that ensure that such water will not create a hazard or adversely affect other building areas or materials.
  - 7. Protect floors and other surfaces along haul routes from damage, wear, and staining.
  - 8. Provide supplemental sound-control treatment to isolate removal and dismantling work from other areas of the building.

9. Protect adjacent surface and equipment by covering them with heavy polyethylene film and waterproof masking tape. If practical, remove items, store, and reinstall after potentially damaging operations are complete.
  10. Neutralize and collect alkaline and acid wastes for disposal off Owner's property.
  11. Dispose of debris and runoff from operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.
- D. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Engineer immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is in working order.
1. Prevent solids such as aggregate or mortar residue from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from concrete maintenance work.
  2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.
- E. Concrete Removal:
1. Provide shoring, bracing, and supports as necessary. Strengthen or add new supports when required during progress of removal work. Do not overload structural elements with debris.
  2. Saw-cut perimeter of areas indicated for removal to a depth of at least ¼" deep. Make cuts perpendicular to concrete surfaces and no deeper than cover on reinforcement.
  3. Remove deteriorated and delaminated concrete by breaking up and dislodging from reinforcement.
  4. Remove additional concrete if necessary to provide a depth of removal of at least ¼" deep over entire removal area.
  5. Where half or more of the perimeter of reinforcing bar is exposed, bond between reinforcing bar and surrounding concrete is broken, or reinforcing bar is corroded, remove concrete from entire perimeter of bar and to provide at least a ¾ -inch clearance around bar.
  6. Test areas where concrete has been removed by tapping with hammer, and remove additional concrete until unsound and disbonded concrete is completely removed.
  7. Provide surfaces with a fractured profile of at least ¼" in depth that are approximately perpendicular or parallel to original concrete surfaces. At columns and walls, make top and bottom surfaces level unless otherwise directed.
  8. Thoroughly clean removal areas of loose concrete, dust, and debris.

### 3.03 APPLICATION

- A. General: Comply with manufacturer's written instructions and recommendations for application of products, including surface preparation.

### 3.04 FIELD QUALITY CONTROL

- A. Contractor will coordinate with the Owner and Engineer to allow for them to observe that the repairs are being conducted in accordance with the Contract Documents.

### 3.05 MANUFACTURER REPRESENTATION

- A. The product manufacturer(s)' representative will be required to attend the following to observe and provide guidance on the installation of the repair system:
1. One (1) Pre-installation Meeting for each repair system to be installed
  2. One (1) Substantial Completion Walkthrough

**END OF SECTION**

## **SECTION 03300 – CAST-IN-PLACE CONCRETE**

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### **PART 1 – GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Code references
  - 1. Florida Building Code (FBC) 2023 Edition.
  - 2. ACI 301, "Structural Concrete for Buildings."
  - 3. ACI 318, "Building Code Requirements for Reinforced Concrete."
  - 4. ACI 350, "Code Requirements for Environmental Engineering Concrete Structures"

#### **1.02 SUMMARY**

- A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:
  - 1. Minor equipment pads and pipe encasements.
  - 2. Structural Concrete – All other concrete.
- B. Related Sections:
  - 1. Section 02220 "Excavation, Backfill, Fill and Grading for Structures" for fill under slabs-on-grade and bottom slabs and footings. Section 07100 Waterproofing, Dampproofing and Caulking.
  - 2. Section 07920 "Sealants and Caulking" for concrete joint applications.
  - 3. Section 09900 "Painting".
  - 4. Section 09901 "Painting Schedule".

#### **1.03 DEFINITIONS**

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

#### **1.04 ACTION SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. Submittals:
  - 1. Design Mixtures: Submit concrete mixture proportions, characteristics and location for use for each concrete mixture. Submittal shall include documentation indicating the proposed concrete proportions will produce an average compressive strength equal to or greater than the required average compressive

strength and shall consist of field strength records (field test data) or trial mixtures in accordance with ACI 301, 4.2.3.4.a or 4.2.3.4.b, respectively. Submit alternate design mixtures when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.

2. Indicate amounts of mixing water to be withheld for later addition at Project site.
- C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.
- D. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and support of formwork.
  1. Shoring and Reshoring: Indicate proposed schedule and sequence of stripping formwork, shoring removal, and reshoring installation and removal.
- E. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
  1. Location of construction joints is subject to approval of the Engineer.
- F. Samples: None.

#### 1.05 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer, manufacturer and testing agency.
- B. Welding certificates.
- C. Material Certificates: For each of the following, signed by manufacturers:
  1. Cementitious materials.
  2. Admixtures.
  3. Form materials and form-release agents.
  4. Steel reinforcement and accessories.
  5. Waterstops.
  6. Curing compounds.
  7. Floor and slab treatments.
  8. Bonding agents.
  9. Adhesives.
  10. Vapor retarders.
  11. Semi rigid joint filler.
  12. Joint-filler strips.
  13. Repair materials.
- D. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:



1. Aggregates. Include service record data indicating absence of deleterious expansion of concrete due to alkali aggregate reactivity.
- E. Floor surface flatness and levelness measurements indicating compliance with specified tolerances.
- F. Field quality-control reports.
- G. Minutes of pre-installation conference.

#### 1.06 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.
- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
  1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- C. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
  1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
  2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.
- D. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- E. Welding Qualifications: Qualify procedures and personnel according to AWS D1.4/D 1.4M, "Structural Welding Code - Reinforcing Steel."
- F. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
  1. ACI 301, "Specifications for Structural Concrete."
  2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
  3. ACI 318, "Building Code Requirements for Reinforced Concrete."
  4. ACI 350, "Environmental Engineering Concrete Structures."
  5. ACI 305, "Hot Weather Concreting."
  6. ACI 306, "Cold Weather Concreting."

- G. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.
- H. Mockups: None.
- I. Pre-installation Conference: Conduct conference at Project site.
  - 1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
    - a. Contractor's superintendent.
    - b. Independent testing agency responsible for concrete design mixtures.
    - c. Ready-mix concrete manufacturer.
    - d. Concrete subcontractor.
    - e. Special concrete finish subcontractor.
  - 2. Review special inspection and testing and inspecting agency procedures for field quality control, concrete finishes and finishing, cold- and hot-weather concreting procedures, curing procedures, construction contraction and isolation joints, and joint-filler strips, semi rigid joint fillers, forms and form removal limitations, shoring and reshoring procedures, vapor-retarder installation, anchor rod and anchorage device installation tolerances, steel reinforcement installation, floor and slab flatness and levelness measurement, concrete repair procedures, and concrete protection.

#### 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement, if applicable.
- B. Waterstops: Store water stops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

### PART 2 - PRODUCTS

#### 2.01 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
  - 1. Plywood, metal, or other approved panel materials.
  - 2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
    - a. High-density overlay, Class 1 or better.
    - b. Medium-density overlay, Class 1 or better; mill-release agent treated and edge sealed.
    - c. Structural 1, B-B or better; mill oiled and edge sealed.
    - d. B-B (Concrete Form), Class 1 or better; mill oiled and edge sealed.

- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.
- C. Forms for Cylindrical Columns, Pedestals, and Supports: Metal, glass-fiber-reinforced plastic, paper, or fiber tubes that will produce surfaces with gradual or abrupt irregularities not exceeding specified formwork surface class. Provide units with sufficient wall thickness to resist plastic concrete loads without detrimental deformation.
- D. Pan-Type Forms: Glass-fiber-reinforced plastic or formed steel, stiffened to resist plastic concrete loads without detrimental deformation.
- E. Void Forms: Biodegradable paper surface, treated for moisture resistance, structurally sufficient to support weight of plastic concrete and other superimposed loads.
- F. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.
- G. Rustication Strips: Wood, metal, PVC, or rubber strips, kerfed for ease of form removal.
- H. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
  - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- I. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
  - 1. Furnish units that will leave no corrodible metal closer than 1 inch to the plane of exposed concrete surface.
  - 2. Furnish ties that, when removed, will leave holes no larger than 1 inch in diameter in concrete surface.
  - 3. Furnish ties for liquid containment structures that have an integral water stop that is tightly welded to the tie.
  - 4. Furnish ties for exposed concrete that are the cone-washer type. The cones shall be made of approved wood or plastic. Common wire will not be allowed for form ties

## 2.02 STEEL REINFORCEMENT

- A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 25 percent.
- B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
- C. Low-Alloy-Steel Reinforcing Bars: None.
- D. Galvanized Reinforcing Bars: None.
- E. Epoxy-Coated Reinforcing Bars: None.

- F. Stainless-Steel Reinforcing Bars: None.
- G. Steel Bar Mats: None.
- H. Plain-Steel Wire: ASTM A 82/A 82M. None.
- I. Deformed-Steel Wire: ASTM A 496/A 496M.
- J. Epoxy-Coated Wire: None.
- K. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain, fabricated from as-drawn steel wire into flat sheets.
- L. Deformed-Steel Welded Wire Reinforcement: None.
- M. Galvanized-Steel Welded Wire Reinforcement: None.
- N. Epoxy-Coated Welded Wire Reinforcement: None.

#### 2.03 REINFORCEMENT ACCESSORIES

- A. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), plain-steel deformed bars, cut true to length with ends square and free of burrs.
- B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:
  - 1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

#### 2.04 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
  - 1. Portland Cement: ASTM C 150, Type II, gray, no substituted are allowed. Cement replacement by weight can be up 20% of the total weight, replace with Fly Ash and/or Slag.
    - a. Fly Ash: ASTM C 618, Class F.
    - b. Slag: ASTM 989, Grade 120
  - 2. Blended Hydraulic Cements: ASTM C595, Type IP (MS), specifically excluding type IS ( $\geq 70$ ) which is not intended as principal cementing constituents in concrete. ASTM C595 cements that incorporate ASTM 1157 cements are not allowed.

- B. Normal-Weight Aggregates: ASTM C 33, Provide aggregates from a single source with documented service record data of at least 10 years' satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials.
  - 1. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement. Use Clean, sharp, natural silica sand free of loam, clay, lumps, and other deleterious substances. Dune sand, bank run sand, and manu-factured sand are not acceptable.
  - 2. Coarse Aggregate: Clean, uncoated, processed aggregate containing no clay, mud, loam, or foreign matter. Coarse aggregate shall comply with the following:
    - a. Crushed stone, processed from natural rock or stone.
    - b. Washed gravel, either natural or crushed. Slag, pit gravel, and bank-run gravel are not allowed.
    - c. Coarse Aggregate Size: ASTM C33/C33M, No. 57 stone, unless otherwise approved by ENGINEER.
- C. Water: ASTM C 94/C 94M and potable.

## 2.05 ADMIXTURES

- A. Air-Entraining Admixture: ASTM C 260.
- B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
  - 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
  - 2. Retarding Admixture: ASTM C 494/C 494M, Type B.
  - 3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
  - 4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
  - 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
  - 6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

## 2.06 WATERSTOPS

- A. Flexible PVC Waterstops: CE CRD-C 572, with factory-installed metal eyelets, for embedding in concrete to prevent passage of fluids through joints. Factory fabricated corners, intersections, and directional changes.
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. BoMetals, Inc.
    - b. Greenstreak.
    - c. Vinylex Corp.

2. Profile: Ribbed with center bulb.
  3. Dimensions: 6 inches by 3/8 inch thick or 9 inches by 3/8 inch thick; nontapered.
- B. Self-Expanding Rubber Strip Waterstops: Manufactured rectangular or trapezoidal strip, bentonite-free hydrophilic polymer modified chloroprene rubber, for adhesive bonding to concrete.
1. Products: Subject to compliance with project requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Adeka Ultra Seal/OCM, Inc.; Adeka Ultra Seal.
    - b. Sika/Greenstreak; Hydrotite.
    - c. Vinylex Corp.; Swellseal.
    - d. Sika; Sika Swell S-2.
    - e. CETCO Waterstop-RX
- C. Self-sealing, non-swelling preformed joint sealant Waterstop: Shall provide a lasting, watertight bond on both fresh and cured concrete surfaces.
1. Products: Henry Company; Synko-Flex Waterstop.
- D. Retrofit waterstops shall TPE material type. An acceptable product is Sika Westec Envirostop TPE-R installed per manufacturers instructions. Other products may be considered subject to compliance with project requirements.

## 2.07 VAPOR RETARDERS

- A. Sheet Vapor Retarder: ASTM E 1745, Class C. Include manufacturer's recommended adhesive or pressure-sensitive joint tape.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Fortifiber Building Systems Group; Moistop Plus.
    - b. Raven Industries Inc.; Vapor Block 6.
    - c. Reef Industries, Inc.; Griffolyn Type-65 or Type-85.
    - d. Stego Industries, LLC; Stego Wrap, 10 mil Class C.
- B. Granular Fill: Clean mixture of crushed stone or crushed or uncrushed gravel; ASTM D 448, Size 57, with 100 percent passing a 1-1/2-inch (37.5-mm) sieve and 0 to 5 percent passing a No. 8 (2.36-mm) sieve.

## 2.08 LIQUID FLOOR TREATMENTS

- A. VOC Content: Liquid floor treatments shall have a VOC content of 200 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

- B. Penetrating Liquid Floor Treatment: Clear, chemically reactive, waterborne solution of inorganic silicate or silicate materials and proprietary components; odorless; that penetrates, hardens, and densifies concrete surfaces.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. ChemMasters; Chemisil Plus.
    - b. ChemTec Int'l; ChemTec One.
    - c. Conspec by Dayton Superior; Intraseal.
    - d. Curecrete Distribution Inc.; Ashford Formula.
    - e. Dayton Superior Corporation; Day-Chem Sure Hard (J-17).
    - f. Edoco by Dayton Superior; Titan Hard.
    - g. Euclid Chemical Company (The), an RPM company; Euco Diamond Hard.
- C. Penetrating Liquid Floor Treatments for Polished Concrete Finish: Clear, waterborne solution of inorganic silicate or silicate materials and proprietary components; odorless; that penetrates, hardens, and is suitable for polished concrete surfaces.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Advanced Floor Products; Retro-Plate 99.
    - b. L&M Construction Chemicals, Inc.; FGS Hardener Plus.
    - c. QuestMark, a division of CentiMark Corporation; DiamondQuest Densifying Impregnator Application.

## 2.09 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) when dry.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.
- D. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating. Allowed for non-liquid containment structures.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. BASF Construction Chemicals - Building Systems; Kure 200.
    - b. ChemMasters; Safe-Cure Clear.
    - c. Conspec by Dayton Superior; W.B. Resin Cure.
    - d. Dayton Superior Corporation; Day-Chem Rez Cure (J-11-W).
    - e. Edoco by Dayton Superior; Res X Cure WB.



- f. Euclid Chemical Company (The), an RPM company; Kurez W VOX; TAMMSCURE WB 30C.
- g. L&M Construction Chemicals, Inc.; L&M Cure R.
- h. Meadows, W. R., Inc.; 1100-CLEAR.
- i. SpecChem, LLC; Spec Rez Clear.
- j. Symons by Dayton Superior; Resi-Chem Clear.

## 2.10 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: Provide preformed expansion joint filler complying with ASTM D 1752, Type I (spong rubber) or Type II (cork).
- B. Semi rigid Joint Filler: Two-component, semi rigid, 100 percent solids, epoxy resin with a Type A shore durometer hardness of 80 aromatic polyurea with a Type A shore durometer hardness range of 90 to 95 per ASTM D 2240.
- C. Bonding Agent: ASTM C 1059/C 1059M, Type II, non-redispersible, acrylic emulsion or styrene butadiene.
- D. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:
  - 1. Types I and II, non-load bearing and Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.
- E. Reglets: Fabricate reglets of not less than 0.022 thick, galvanized-steel sheet. Temporarily fill or cover face opening of reglet to prevent intrusion of concrete or debris.
- F. Dovetail Anchor Slots: Hot-dip galvanized-steel sheet, not less than 0.034 inch thick, with bent tab anchors. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

## 2.11 REPAIR MATERIALS

- A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.
  - 1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
  - 2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
  - 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by underlayment manufacturer.
  - 4. Compressive Strength: Not less than 4500 psi at 28 days when tested according to ASTM C 109/C 109M.



- B. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch and that can be filled in over a scarified surface to match adjacent floor elevations.
1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
  2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
  3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.
  4. Compressive Strength: Not less than 4500 psi at 28 days when tested according to ASTM C 109/C 109M.

## 2.12 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301. Reference Section 1.04.
1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.
- B. Cementitious Materials: Use fly ash and/or slag as needed to reduce the total amount of portland cement, which would otherwise be used. Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
1. Fly Ash only: 20 percent by weight.
  2. Slag only: 20 percent by weight.
  3. Fly Ash + Slag: 20 percent by weight.
- C. Limit water-soluble, chloride-ion content in hardened concrete to 0.06 percent by weight of cement.
- D. Admixtures: Use admixtures according to manufacturer's written instructions.
1. Use high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
  2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
  3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.42.
  4. Use corrosion-inhibiting admixture in concrete mixtures where indicated.
- E. Color Pigment: If required by Architectural contract drawings, add color pigment to concrete mixture according to manufacturer's written instructions and to result in hardened concrete color consistent with approved mockup.

## 2.13 CONCRETE MIXTURES

### A. Minor equipment pads and pipe encasements:

1. Minimum Compressive Strength: 3000 psi at 28 days.
2. Concrete mixture proportions in accordance with accepted design mixes. Reference Section 1.04.

### B. Structural Concrete:

1. Minimum Compressive Strength: Reference Design Criteria Sheet S-01.
2. Concrete mixture proportions in accordance with accepted design mixes. Reference Section 1.04.
3. Concrete mixes at walls, foundations that are subjected to hydrostatic pressures and water bearing walls and slabs at containment structures shall have Xypex Admin C-500 Red Admixture with Red Oxide pigment for confirmation. Dosage rate shall meet the manufacturer's recommendation of 1% to 1.5% by weight of cement.

## 2.14 FABRICATING REINFORCEMENT

### A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

## 2.15 CONCRETE MIXING

### A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

## PART 3 – EXECUTION

### 3.01 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:
  1. Class A, 1/8 inch for smooth-formed finished surfaces.
  2. Class B, 1/4 inch for rough-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.

- E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
  - 1. Install keyways, reglets, recesses, and the like, for easy removal.
  - 2. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Chamfer exterior corners and edges of permanently exposed concrete.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

### 3.02 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
  - 1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."
  - 2. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
  - 3. Install dovetail anchor slots in concrete structures as indicated.

### 3.03 REMOVING AND REUSING FORMS

- A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less

than 50 deg F (10 deg C) for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations and curing and protection operations need to be maintained.

1. Leave formwork for beam soffits, joists, slabs, and other structural elements that supports weight of concrete in place until concrete has achieved at least 75 percent of its 28-day design compressive strength.
  2. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
- B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

#### 3.04 VAPOR RETARDERS

- A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder according to ASTM E 1643 and manufacturer's written instructions.
1. Lap joints 6 inches and seal with manufacturers recommended tape.
- B. Bituminous Vapor Retarders: if applicable.

#### 3.05 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
1. Weld reinforcing bars according to AWS D1.4/D 1.4M, where indicated.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

- F. Zinc-Coated Reinforcement: Repair cut and damaged zinc coatings with zinc repair material according to ASTM A 780. Use galvanized steel wire ties to fasten zinc-coated steel reinforcement.

### 3.06 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
  - 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
  - 2. Form keyed joints as indicated. Embed keys at least 1-1/2 inches into concrete.
  - 3. Locate joints for beams, slabs, joists, and girders in the middle third of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
  - 4. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
  - 5. Space vertical joints in walls as indicated. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
  - 6. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
  - 7. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
  - 1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
  - 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8 inch wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
  - 1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.

2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants, specified in Section 07920 "Joint Sealants," are indicated.
  3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

### 3.07 WATERSTOPS

- A. Flexible Waterstops: Install in construction joints and at other joints indicated to form a continuous diaphragm. Install in longest lengths practicable. Support and protect exposed water stops during progress of the Work. Field fabricate joints in water stops according to manufacturer's written instructions.
- B. Self-Expanding Strip Waterstops: Install in construction joints and at other locations indicated, according to manufacturer's written instructions, adhesive bonding, mechanically fastening, and firmly pressing into place. Install in longest lengths practicable.

### 3.08 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Engineer.
- C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
  2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
  3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete



embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

- E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
  - 1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
  - 2. Maintain reinforcement in position on chairs during concrete placement.
  - 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
  - 4. Slope surfaces uniformly to drains where required.
  - 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleed water appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- F. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
  - 1. When average high and low temperature is expected to fall below 40 deg F (4.4 deg C) for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
  - 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
  - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- G. Hot-Weather Placement: Comply with ACI 301 and as follows:
  - 1. Maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  - 2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

### 3.09 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Equipment Bases and Foundations:

1. Coordinate sizes and locations of concrete bases with actual equipment provided.
2. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 12-inch centers around the full perimeter of concrete base.
3. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base, and anchor into structural concrete substrate.
4. Prior to pouring concrete, place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
5. Cast anchor-bolt insert into bases. Install anchor bolts to elevations required for proper attachment to supported equipment.

### 3.10 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.
- E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
  1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
    - a. Water.
    - b. Continuous water-fog spray.
    - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
  2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
    - a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.



- b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
  - c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.
- 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
  - a. Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer.
- 4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

### 3.11 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
  - 1. Defer joint filling until concrete has aged at least one month. Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- C. Install semi rigid joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

### 3.12 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete. Limit cut depth to 3/4 inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
  2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
  3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
  2. After concrete has cured at least 14 days, correct high areas by grinding.
  3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
  4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
  5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
  6. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
  7. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

- E. Perform structural repairs of concrete, subject to Engineer's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Engineer's approval.

### 3.13 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Testing and Inspecting: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
- C. Inspections:
  - 1. Steel reinforcement placement.
  - 2. Steel reinforcement welding.
  - 3. Headed bolts and studs.
  - 4. Verification of use of required design mixture.
  - 5. Concrete placement, including conveying and depositing.
  - 6. Curing procedures and maintenance of curing temperature.
  - 7. Verification of concrete strength before removal of shores and forms from beams and slabs.
  - 8. Water levels for hydraulic structures.
- D. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
  - 1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
    - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
  - 2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
  - 3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
  - 4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each composite sample.

5. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
  6. Compression Test Specimens: ASTM C 31/C 31M.
    - a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
    - b. Cast and field cure two sets of two standard cylinder specimens for each composite sample.
  7. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
    - a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
    - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
  8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
  9. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
  10. Test results shall be reported in writing to Engineer, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
  11. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Engineer but will not be used as sole basis for approval or rejection of concrete.
  12. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Engineer. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Engineer.
  13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
  14. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.
- E. Measure floor and slab flatness and levelness according to ASTM E 1155 (ASTM E 1155M) within 48 hours of finishing.

### 3.14 PROTECTION OF LIQUID FLOOR TREATMENTS

- A. Protect liquid floor treatment from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by liquid floor treatments installer.

**END OF SECTION**

## **SECTION 03301 - ANCHOR SYSTEMS**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

**A. Scope:**

1. CONTRACTOR shall provide all labor, materials, equipment, and incidentals as shown, specified, and required to furnish and install anchor systems.
2. This Section includes all anchor systems required for the Work, but not specified under other Sections.

**B. Coordination:**

1. Review installation procedures under this and other Sections and coordinate installation of items to be installed with or before anchor systems Work.

#### **1.02 REFERENCES**

**A. Standards referenced in this Section are:**

1. ACI 318, Building Code Requirements for Structural Concrete.
2. ANSI B212.15, Cutting Tools - Carbide-tipped Masonry Drills And Blanks For Carbide-tipped Masonry Drills.
3. ANSI/MSS SP-58, Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation.
4. ASTM A194/A194M, Specification for Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both.
5. ASTM A276, Specification for Stainless Steel Bars and Shapes.
6. ASTM A493, Specification for Stainless Steel Wire and Wire Rods for Cold Heading and Cold Forging.
7. ASTM A563, Specification for Carbon and Alloy Steel Nuts.
10. ASTM A1011/A1011M, Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
11. ASTM B633, Specification for Electrodeposited Coatings of Zinc on Iron and Steel.
12. ASTM C307, Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacing.
13. ASTM C881/C881M, Specification for Epoxy-Resin-Base Bonding Systems for Concrete.
14. ASTM 0695, Test Method for Compressive Properties of Rigid Plastics.
15. ASTM 0790, Test Methods for Flexural Properties of Unreinforced and reinforced Plastics and Electrical Insulating Materials.
16. ASTM E329, Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.
17. ASTM E488, Test Methods for Strength of Anchors in Concrete and Masonry Elements.
18. ASTM F593, Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs.
19. ASTM F594, Specification for Stainless Steel Bolts, Hex Cap Screws, and studs.
20. ASTM F1554, Specification for Anchor Bolts, Steel, 36, 55 and 105-ksi Yield Strength.
21. ICC-ES AC508, Acceptance Criteria for Adhesive Anchors in Masonry Elements.

22. ICC-ES AC60, Acceptance Criteria for Anchors in Unreinforced Masonry Elements.
23. ICC-ES AC308, Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements.
24. ISO 3506-1, Mechanical Properties of Corrosion-Resistant Stainless Steel Fasteners -- Part 1: Bolts, Screws and Studs.
25. NSF/ANSI 61, Drinking Water System Components- Health Effects.

### 1.03 QUALITY ASSURANCE

#### A. Qualifications:

1. Testing Laboratory: Shall comply with ASTM E329 and shall be experienced in tension testing of post-installed anchoring systems.
2. Post-installed Anchor Installer: Shall be experienced and trained by post-installed anchor system manufacturer in proper installation of manufacturer's products. Product installation training by distributors or manufacturer's representatives is unacceptable unless the person furnishing the training is qualified as a trainer by the anchor manufacturer.

### 1.04 SUBMITTALS

#### A. In accordance with Division 1 requirements, submit the following:

1. Shop Drawings:
  - a. Listing of all anchor systems products intended for use in the Work including product type, intended location in the Project, and embedded lengths.
2. Product Data:
  - a. Manufacturer's specifications, load tables, dimension diagrams, acceptable base material conditions, acceptable drilling methods, and acceptable bored hole conditions.
  - b. When required by ENGINEER, copies of valid ICC ES reports that presents load-carrying capacities and installation requirements for anchor systems.
  - c. Post installed anchors shall be epoxy adhesive type. Mechanical wedge type anchors are not allowed.

#### B. Informational Submittals: Submit the following:

1. Certificates:
  - a. For each type of anchor bolt or threaded rod, submit copies of laboratory test reports and other data required to demonstrate compliance with the Contract Documents.
    - 1) Reports shall demonstrate compliance with ductile steel element definition of ACI 350, Appendix D, Section D.1.



- b. Post-installed anchor system manufacturer's certification that installer received training in the proper installation of manufacturer's products required for the Work.
  - c. For each adhesive anchor installer, submit ACI/CRSI Adhesive Anchor Installer Certification.
- 2. Manufacturer's Instructions:
  - a. Installation instructions for each anchor system product proposed for use, including bore hole cleaning procedures and adhesive injection, cure and gel time tables, and temperature ranges (storage, installation and in-service).

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Storage and Protection:
  - 1. Keep materials dry during delivery and storage.
  - 2. Store adhesive materials within manufacturer's recommended storage temperature range.
  - 3. Protect anchor systems from damage at the Site. Protect products from corrosion and deterioration.

### PART 2 – PRODUCTS

#### 2.01 SYSTEM PERFORMANCE

- A. General:
  - 1. At all locations, provide stainless steel type 316 anchor systems.
  - 2. Stainless Steel Nuts:
    - a. For anchor bolts and adhesive anchors, provide ASTM A194/A194M, Grade SS stainless steel nuts for stainless steel anchors used for anchoring equipment, gates, and weirs, and other locations, if any, where the attachment will require future removal for operation or maintenance. Provide lock washer or double nuts on each anchorage device provided for equipment, as required by equipment manufacturer.
  - 3. Materials that can contact potable water or water that will be treated to become potable shall be listed in NSF/ANSI 61.
- B. Design Criteria
  - 1. Size, Length, and Load-carrying Capacity: Comply with the Contract Documents. When size, length or load-carrying capacity of anchor system is not otherwise shown or indicated, provide the following:
    - a. Anchor Bolts: Provide size, length, and capacity required to carry design load based on values and requirements of Paragraph 3.2.A of this Section. For conditions outside limits of critical edge distance and spacing in Paragraph 3.2.A of this Section, minimum anchor bolt embedment as shown or indicated in Paragraph 3.2.A of this Section



apply and capacity shall be based on requirements of Laws and Regulations, including applicable building codes.

- b. Adhesive Anchors and Concrete Inserts: Provide size, length, type, and capacity required to carry design load. Anchor capacity shall be based on the procedures required by the building code in effect at the Site. Where Evaluation Service Reports issued by the ICC Evaluation Service are required in this Section, anchor capacities shall be based on design procedure required in the applicable ICC Evaluation Service Report.
  - 1) General: Determine capacity considering reductions due to installation and inspection procedures, embedment length, strength of base fastening materials, spacing, and edge distance, as indicated in the manufacturer's design guidelines. For capacity determination, concrete shall be assumed to be in the cracked condition, unless calculations demonstrate that the anchor system will be installed in an area that is not expected to crack under any and all conditions of design loading.
  - 2) Concrete Adhesive Anchors: Unless otherwise shown or indicated in the Contract Documents or approved by ENGINEER, provide minimum embedment depth, edge distance and spacing as recommended by the manufacturer.
  - 3) Concrete Masonry Adhesive Anchors: Unless otherwise shown or indicated in the Contract Documents or approved by ENGINEER, provide minimum anchor spacing and edge distance as indicated in anchor manufacturer's instructions.
- 2. Design Loads. Comply with the Contract Documents. When design load of supported material, equipment, or system is not otherwise shown or indicated, provide the following:
  - a. Equipment Anchors: Use design load recommended by equipment manufacturer. When equipment can be filled with fluid, use loads that incorporate equipment load and load imposed by fluid.
  - b. Pipe Hangers and Supports: Use full weight of pipe, and fluid contained in pipe that are tributary to the support plus the full weight of valves and accessories located between the hanger or support being anchored and the next hanger or support.
  - c. Hangers and Supports for Electrical Systems, and HVAC, Plumbing, and Fire Suppression Systems and Piping: Use the full weight of supported system that is tributary to the support plus the full weight of accessories located between the hanger or support being anchored and the next hanger or support. When piping or equipment is to be filled with fluid, anchor systems shall be sized to support such loads in addition to the weight of the equipment, piping, or system, as applicable.
  - d. Delegated Design: When anchor systems are used for supporting materials, equipment, or systems delegated to a design professional retained by CONTRACTOR, Subcontractor, or Supplier, provide anchor system suitable for loads indicated in delegated design documents and consistent with the design intent expressed in the Contract Documents.

C. Application:

1. Anchor Bolts:

- a. Where anchor bolt is shown or indicated, use cast-in-place anchor bolt unless another anchor type is approved by ENGINEER.
- b. Provide anchor bolts as shown or indicated, or as required to secure structural element to appropriate anchor surface.

2. Concrete Adhesive Anchors:

- a. Use where adhesive anchors are shown or indicated for installation in concrete.
- b. Suitable for use where subject to vibration.
- c. Suitable for use in exterior locations or locations subject to freezing.
- d. Suitable for use in submerged, intermittently submerged, or buried locations.
- e. Do not use in overhead applications, unless otherwise shown or approved by ENGINEER.
- f. Do not use for pipe hangers, unless otherwise shown or approved by ENGINEER.

3. Concrete Masonry Adhesive Anchors:

- a. Use where adhesive anchors are shown or indicated for installation in grout-filled or hollow masonry units.
- b. Suitable for use where subject to vibration.
- c. Suitable for use in exterior locations or locations subject to freezing.
- d. Do not use for pipe hangers, unless otherwise shown or approved by ENGINEER.

4. Concrete Inserts:

- a. Use only where shown or indicated in the Contract Documents.
- b. Allowed for use to support pipe hangers and pipe supports for pipe size and loading recommended by the concrete insert manufacturer.

2.02 MATERIALS

A. Anchor Bolts:

- 1. All locations: Provide stainless steel straight threaded rods complying with ASTM F593, AISI Type 316, Condition A, with ASTM F594, AISI Type 316, stainless steel nuts. Embedded anchor bolts shall be headed type and hooked bolts are unacceptable.

- a. Stainless steel straight threaded rod shall comply with ductility requirements of ACI 350 or ACI 318 Appendix D, Section 0.3.3.
  - 2. Equipment: Provide anchor bolts complying with material requirements of this Section and equipment manufacturer's requirements relative to size, embedment length, and anchor bolt projection. Anchor bolts shall be straight threaded rods with washers and nuts as specified in this Section. Hooked bolts are unacceptable.
  - 3. Anchoring of Structural Elements: Provide anchor bolts of size, material, and strength shown or indicated in the Contract Documents.
- B. Concrete Adhesive Anchors:
- 1. General:
    - a. Adhesive anchors shall consist of threaded rods anchored into hardened concrete using an adhesive system.
  - 2. Products and Manufacturers: Provide one of the following:
    - a. HIT-HY 200 Adhesive Anchoring System, by Hilti Fastening Systems, Inc.
    - b. C6 Adhesive Anchoring System by Red Head.
  - 3. Adhesives
    - a. Epoxy adhesives shall comply with physical requirements of ASTM C881/C881M, Type IV, Grade 2 and 3, Class A, B, and C, except gel times.
    - b. Adhesives shall have a current evaluation report by ICC Evaluation Service for use in both cracked and uncracked concrete with seismic recognition for SOC A through F as tested and assessed in accordance with ICC-ES AC308.
  - 4. Anchor:
    - a. Provide continuously-threaded, AISI Type 316 stainless steel adhesive anchor rod. Threaded rods shall comply with the concrete adhesive anchor manufacturer's specifications as included in the ICC Service Evaluation Report for the anchor submitted. Nuts shall have specified proof load stresses equal to or greater than the minimum tensile strength of the stainless steel threaded rod used.
    - b. Stainless steel threaded rod shall comply with ductility requirements of ACI 350 or ACI 318 Appendix D, Section D.3.3.
- C. Concrete Masonry Adhesive Anchors:
- 1. General:
    - a. Grout-filled concrete masonry adhesive anchors shall consist of threaded rods anchored into grout-filled concrete block masonry using an adhesive system.

- b. Hollow concrete masonry adhesive anchors shall consist of threaded rods with a cylindrical mesh steel or plastic screen tube anchored into hollow concrete block masonry using an adhesive system.
- 2. Products and Manufacturers: Provide one of the following:
  - a. HBU-38 Umbrella Insert with A7 Adhesive, by Red Head.
  - b. Acrylic-Tie Adhesive, by Simpson Strong-Tie Company, Inc.
- 3. Adhesive:
  - a. Adhesive system shall use two-component adhesive mix.
  - b. Hybrid adhesives shall comply with the following:
    - 1) ASTM D695 compressive yield strength greater than 7,200 psi on a seven-day cure.
  - c. Adhesives shall have current ICC Evaluation Service Report for use in grout-filled concrete masonry, tested and assessed in accordance with ICC-ES AC 58 and TCC-ES AC 60.
- 4. Anchor:
  - a. Provide stainless steel adhesive anchor rod complying with ASTM F593, AISI Type 316, Condition CW, with ASTM F594, AISI Type 316 stainless steel nuts.
- 5. Mesh Screen Tube (for hollow masonry applications):
  - a. Provide with mesh size, length, and diameter as specified by adhesive anchor manufacturer.
- D. Concrete Inserts:
  - 1. Manufacturers: Provide products of one of the following:
    - a. Unistrut Corporation
    - b. Cooper B-Line, Inc.
    - c. Anvil International, Inc.
  - 2. Spot Concrete Inserts:
    - a. Provide inserts recommended by insert manufacturer for required loading. Inserts shall comply with ANSI/MSS SP-58, malleable iron, Type 18. Spot inserts shall allow for lateral adjustment and have means for attachment to forms. Provide nuts compatible with insert and to suit threaded hanger rod sizes.

3. Continuous Concrete Inserts:

- a. Provide inserts recommended by insert manufacturer for required loading. Inserts shall be continuous type and shall be manufactured from minimum 2-gage cold-formed channel sections, complying with ASTM A1011/A1011M, stainless steel, Grade 33, complete with Styrofoam inserts, end caps, and means for attaching to forms. Provide channel nuts compatible with insert suitable for threaded hanger rod sizes.

4. Provide inserts with plain finish.

### **PART 3- EXECUTION**

#### **3.01 INSPECTION**

- A. Examine conditions under which materials will be installed and advise ENGINEER in writing of conditions detrimental to proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions are corrected.

#### **3.02 INSTALLATION**

A. Anchor Bolts:

1. Provide anchor bolts as shown or indicated in the Contract Documents, or as required to secure structural element to the appropriate anchor surface.
2. Locate and accurately set anchor bolts using templates or other devices as required, prior to placing concrete. Wet setting of anchor bolts is unacceptable.
3. Protect threads and shank from damage during installation and subsequent construction operations.

B. Adhesive Anchors-General:

1. Prior to drilling, locate existing reinforcing steel in vicinity of proposed holes. If reinforcing conflicts with proposed hole location, obtain ENGINEER's approval of alternate hole locations to avoid drilling through or damaging existing reinforcing bars.

C. Adhesive Anchors:

1. Comply with manufacturer's written installation instructions and the following.
2. Drill holes to adhesive system manufacturer's recommended drill bit diameter to the specified depth. Drill holes in hammering and rotation mode with carbide-tipped drill bits that comply with the tolerances of ANSI B212.15. Core-drilled holes are unacceptable.
3. Before setting adhesive anchor, hole shall be made free of dust and debris by method recommended by adhesive anchor system manufacturer. Hole shall be brushed with adhesive system manufacturer-approved brush and blown clean with clean, dry, oil-free compressed air to remove all dust and loose particles. Hole shall be dry as defined by adhesive system manufacturer.
4. Before injecting adhesive, obtain ENGINEER's concurrence that hole is dry and free of oil and other contaminants.
5. Prior to injecting adhesive into the drilled hole, dispense to a location appropriate for such waste, an initial amount of adhesive from the mixing nozzle, until adhesive is uniform color.

6. Inject adhesive into hole through injection system mixing nozzle and necessary extension tubes, placed to bottom of hole. Discharge end shall be withdrawn as adhesive is placed but kept immersed to prevent formation of air pockets. Fill hole to depth that ensures that excess material is expelled from hole during anchor placement.
7. Twist anchors during insertion into partially-filled hole to guarantee full wetting of rod surface with adhesive. Insert rod slowly to avoid developing air pockets.
8. Provide adequate curing in accordance to adhesive system manufacturer's requirements prior to continuing with adjoining Work that could place load on installed adhesive anchors. Do not begin adjoining Work until adhesive anchors are successfully tested or when allowed by ENGINEER.
9. Limitations:
  - a. At time of anchor installation, concrete shall have compressive strength ( $f_c$ ) of not less than 2,500 psi.
  - b. At time of anchor installation, concrete shall have age of not less than 21 days.
  - c. Installation Temperature: Comply with manufacturer's instructions for installation temperature requirements. Provide temporary protection and other measures, such as heated enclosures, necessary to ensure that base material temperature complies with anchor systems manufacturer's requirements during installation and curing of adhesive anchor system.
  - d. Oversized Holes: Advise ENGINEER immediately if size of drilled hole is larger than recommended by anchor system manufacturer. Cost of corrective measures, including but not limited to redesign of anchors due to decreased anchor capacities, shall be paid by CONTRACTOR.
  - e. Embedment depths shall be based on installation in normal-weight concrete with compressive strength of 2,500 psi when embedded in existing concrete, and 4,000 psi when embedded in new concrete.

**F. Concrete Inserts:**

1. Comply with concrete insert manufacturer's installation instructions.
2. Inserts shall be flush with slab bottom surface.
3. Protect embedded items from damage during concrete placing. Ensure that embedded items are securely fastened to prevent movement during concrete placing, and ensure that embedded items do fill with concrete during concrete placing.
4. Inserts intended for piping greater than four-inch diameter shall be provided with hooked rods attached to concrete reinforcing.

**G. Anti-Seizing Compound:**

1. Provide anti-seizing compound in accordance with anti-seizing compound manufacturer's installation instructions, at locations indicated in Paragraph 2.1.B of this Section.
2. Do not use anti-seizing compound at locations where anchor bolt or adhesive anchor will contact potable water or water that will be treated to become potable.

### 3.03 CLEANING

- A. After embedding concrete is placed, remove protection and clean bolts and inserts.

### 3.04 FIELD QUALITY CONTROL

#### A. Site Tests – Adhesive Anchors

1. CONTRACTOR will employ independent testing agency to perform field quality tensile testing of production adhesive anchors at the Site, unless otherwise specified.
  - a. Testing shall comply with ASTM E488.
  - b. Test at least ten percent of all types of adhesive anchors. If one or more adhesive anchors fail the test, CONTRACTOR shall pay cost of testing, or at ENGINEER's option CONTRACTOR may arrange for testing paid by CONTRACTOR, for all adhesive anchors of same diameter and type installed on the same day as the failed anchor. If anchors installed on the same day as the failed anchor also fail the test, ENGINEER may require retesting of all anchors of the same diameter and type installed in the Work. CONTRACTOR shall be responsible for retesting costs.
  - c. ENGINEER will direct which adhesive anchors are to be tested and indicate test load to be used.
  - d. Apply test loads with hydraulic ram.
  - e. Displacement of post-installed anchors shall not exceed  $D/10$ , where D is nominal diameter of anchor being tested.

#### B. Manufacturer's Services:

1. Provide at the Site services of qualified adhesive manufacturer's representative during initial installation of adhesive anchor systems to train CONTRACTOR's personnel in proper installation procedures. Manufacturer's representative shall observe to confirm that installer demonstrates proper installation procedures for adhesive anchors and adhesive material.

**END OF SECTION**



## **SECTION 03600 – GROUTING**

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### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

- A. This Section includes grouting of equipment bases and such locations as shown on the Drawings and as specified.
- B. The types of grouting include the following:
  - 1. Portland Cement Grout
  - 2. Non-shrink, Non-expanding Grout

#### **1.02 DELIVERY AND STORAGE**

- A. Prevent damage to or contamination of grouting materials during delivery, handling and storage.
- B. Store all grouting materials in undamaged condition with seals and labels intact as packaged by the manufacturer.

#### **1.03 SUBMITTALS**

- A. All submittals shall be in accordance with Specification 01340 – Shop Drawings, Project Data and Samples.

### **PART 2 - PRODUCTS**

#### **2.01 PREMIXED GROUTS**

- A. Portland Cement Grout
- B. (For grouting CMU cells and similar items –  $f'c=3000$  psi minimum)
  - 1. Portland Cement: ASTM C150, Type II
  - 2. Sand: ASTM C33, Fine Aggregate
  - 3. Water: Potable
  - 4. Pea Gravel: ASTM C33. Coarse aggregate, graded so that at least 90% passes 3/8-inch sieve and 90% is retained by a number 4 sieve.
- C. (Grout Mortar for use as fillets and leveling)
  - 1. Portland Cement: ASTM C150, Type II
  - 2. Sand: ASTM C33, Fine Aggregate (Marson's sand)
  - 3. Water: Potable
  - 4. Mix 1-part Portland cement to 3-parts sand.
- D. Pre-Mixed non-shrink, Non-expanding Grout (Nonmetallic). Non-shrink grout as shown on the Drawings shall be a mixture of selected silica sands, Portland cement, water reducing agents, plasticizing and shrinkage compensating agents. Grout shall be nonmetallic non-corrosive, non-staining and comply with CRD-C-588, Type D.



- E. The grout shall be non-shrink in accordance with ASTM C827, ASTM C191, and ASTM C109. The water-grout ratio shall be approximately 8 to 10 quarts of water per cubic foot of grout adjustable for varying job conditions.
- F. Grout shall not contain calcium chloride or other salt; aluminum or other metals; chemical additives, gypsum or expansive cements. Grout shall not expand after set.
- G. Grout shall be used and applied in accordance with the manufacturer's written instructions.
- H. Subject to compliance with requirements provide from the following:
  - 1. L&M Construction Chemicals, Inc. – Crystex
  - 2. Grout Corp. - Five Star Non-shrink Grout or equivalent

## 2.02 NONSHRINK GROUT

- A. Non-shrink grout shall conform to the following requirements:
  - 1. Manufactured under rigid quality control specifically for grout used in transferring heavy loads.
  - 2. Contain nonmetallic aggregates specially graded to minimize bleeding.
  - 3. Have an initial setting time of approximately one hour at 70°F.
  - 4. Produce no settlement or drying shrinkage at 3 days or later.
  - 5. Have higher strength at all ages than plain cement grout of the same flowability.
  - 6. Resist attack by oil and water and have lower absorption than plain cement grout of the same flowability.
  - 7. Minimum compressive strength, in accordance with ASTM C-109, shall be 2500 psi after 1 day and 7000 psi after 28 days.

## 2.03 MIXES

- A. For less than 2-inch clearance, or where size or shape of space makes grouting difficult, grout mix shall consist of Portland cement, fine aggregate and water.
- B. For greater than 2-inch clearances where coarse aggregate will not obstruct free passage of the grout, extend grout by adding 50 pounds of pea gravel per 100 pounds grout material.
- C. Use minimum amount of water necessary to produce a flowable grout without causing either segregation or bleeding.
- D. Portland cement mortar for raked-out edges of non-shrink grout: one part Portland cement, two parts sand and 0.50 part water by weight.

## 2.04 MIXING

- A. Mix grout in accordance with manufacturer's printed specifications.
- B. Mix grouting materials and water in a mechanical mixer for no less than 3-minutes.
- C. Mix grout as close to the work area as possible and transport the mixture quickly and in a manner that does not permit segregation of materials.
- D. After the grout has been mixed, do not add more water for any reason.

## **PART 3 – EXECUTION**

### **3.01 PROCEDURES**

- A. Installation methods and procedures shall be approved by Engineer and shall be in accordance with manufacturer's printed specifications before work is begun.

### **3.02 SURFACE PREPARATION**

- A. Surface preparation shall be in accordance with manufacturer's printed specifications.
- B. Remove defective concrete, laitance, dirt, oil, grease and other foreign material from concrete surfaces by bush-hammering, chipping, or other similar means, until a sound, clean concrete surface is achieved.
- C. Lightly roughen the concrete, but not enough to interfere with the proper placement of grout. Cover concrete areas with waterproof membrane until ready to grout. Immediately before grouting remove waterproof membranes and clean any contaminated surfaces.
- D. Remove foreign materials from metal surfaces in contact with grout. Align, level and maintain final positioning of all components to be grouted.
- E. Saturate concrete surfaces with clean water; remove excess water and leave none standing.

### **3.03 PLACING**

- A. Placing shall be in accordance with manufacturer's printed specifications.
- B. Place non-shrink grouting material quickly and continuously by the most practical means permissible; pouring, pumping or under gravity pressure.
- C. Do not use either pneumatic-pressure or dry packing methods without written permission of the Engineer.
- D. Apply grout from one side only to avoid entrapping air.
- E. Final installation shall be thoroughly compacted and free from air pockets.
- F. Do not vibrate the placed grout mixture or allow it to be placed if the area is being vibrated by nearby equipment.
- G. Do not remove leveling shims for at least 48 hours after grout has been placed. After shims have been removed, fill voids with plain cement-sand grout.
- H. After non-shrink grout has reached initial set, rake out exposed edges approximately 1-inch into the grouted area and paint with Portland cement mortar.

### **3.04 CURING**

- A. Cure grout for 3-days after placing by keeping wet and covering with curing paper or by another approved method.

## **END OF SECTION**

# **DIVISION 5**

## **METALS**

## **SECTION 05120 – STRUCTURAL STEEL**

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### **PART 1 – GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### **1.02 SUMMARY**

- A. This Section includes structural steel.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Section 01310: Administrative Requirements.
  - 2. Section 09900: Painting.

#### **1.03 PERFORMANCE REQUIREMENTS**

- A. Structural Performance: Engineered structural steel connections required by the Contract Documents to be selected or completed by the fabricator to withstand design loadings indicated.
- B. Engineering Responsibility: Engage a fabricator who utilizes a qualified professional engineer to prepare calculations, Shop Drawings, and other structural data for structural steel connections.

#### **1.04 SUBMITTALS**

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product Data for each type of product specified.
- C. Shop Drawings detailing fabrication of structural steel components.
  - 1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
  - 2. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld.
  - 3. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify high-strength bolted slip-critical, direct-tension, or tensioned shear/bearing connections.
  - 4. Include Shop Drawings signed and sealed by a qualified professional engineer responsible for their preparation.
- D. Qualification data for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

- E. Mill test reports signed by manufacturers certifying that their products, including the following, comply with requirements.
  - 1. Structural steel, including chemical and physical properties.
  - 2. Bolts, nuts, and washers, including mechanical properties and chemical analysis.
  - 3. Direct-tension indicators.
  - 4. Shop primers.

#### 1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who has completed structural steel work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.
- B. Fabricator Qualifications: Engage a firm experienced in fabricating structural steel similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to fabricate structural steel without delaying the Work.
  - 1. Fabricator must participate in the AISC Quality Certification Program and be designated an AISC-Certified Plant as follows:
    - a. Category: Category I, conventional steel structures.
    - b. Category: Category II, complex steel building structures.
    - c. Fabricator shall be registered with and approved by authorities having jurisdiction.
- C. Comply with applicable provisions of the following specifications and documents:
  - 1. AISC's "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design."
  - 2. AISC's "Load and Resistance Factor Design (LFRD) Specification for Structural Steel Buildings."
  - 3. AISC's "Specification for Allowable Stress Design of Single-Angle Members."
  - 4. AISC's "Specification for Load and Resistance Factor Design of Single-Angle Members."
  - 5. ASTM A 6 "Specification for General Requirements for Rolled Steel Plates, Shapes, Sheet Piling, and Bars for Structural Use."
  - 6. Research Council on Structural Connections' (RCSC) "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
  - 7. Research Council on Structural Connections' (RCSC) "Load and Resistance Factor Design Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- D. Professional Engineer Qualifications: A professional engineer who is legally authorized to practice in the jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for projects with structural steel framing that are similar to that indicated for this Project in material, design, and extent.
- E. Welding Standards: Comply with applicable provisions of AWS D1.1 "Structural Welding Code--Steel."

1. Present evidence that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.
  - F. Pre-installation Conference: Conduct conference at Project site to comply with the requirements of Section 01310: Administrative Requirements.
- 1.06 DELIVERY, STORAGE, AND HANDLING
- A. Deliver structural steel to Project site in such quantities and at such times to ensure continuity of installation.
  - B. Store materials to permit easy access for inspection and identification. Keep steel members off ground by using pallets, platforms, or other supports. Protect steel members and packaged materials from erosion and deterioration.
    1. Store fasteners in a protected place. Clean and re-lubricate bolts and nuts that become dry or rusty before use.
    2. Do not store materials on structure in a manner that might cause distortion or damage to members or supporting structures. Repair or replace damaged materials or structures as directed.
- 1.07 SEQUENCING
- A. Supply anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, templates, instructions, and directions, as required, for installation.

## **PART 2 – PRODUCTS**

### **2.01 MATERIALS**

- A. Structural Steel Shapes, Plates, and Bars: Carbon Steel: ASTM A 36.
- B. Structural Steel Shapes, Carbon Steel: ASTM A 572.
- C. Cold-Formed Structural Steel Tubing: ASTM A 500, Grade B.
- D. Hot-Formed Structural Steel Tubing: ASTM A 501.
- E. Steel Pipe: ASTM A 53, Type E or S, Grade B.
  1. Weight Class: Standard.
  2. Weight Class: Extra strong.
  3. Weight Class: Double extra strong.
  4. Finish: Black.
  5. Finish: Galvanized.
  6. Finish: Black, except where indicated to be galvanized.
- F. Anchor Rods, Bolts, Nuts, and Washers: As follows:
  1. ASTM F1554 – GRADE 50

- G. Non-High-Strength Bolts, Nuts, and Washers: ASTM A 307, Grade A; carbon-steel, hex-head bolts; carbon-steel nuts; and flat, unhardened steel washers.
  - 1. Finish: Hot-dip zinc-coating, ASTM A 153, Class C
- H. High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy hex steel structural bolts, heavy hex carbon-steel nuts, and hardened carbon-steel washers.
  - 1. Finish: Hot-dip zinc-coating, ASTM A 153, Class C
  - 2. Direct-Tension Indicators: ASTM F 959, Type 325.
    - a. Finish: Plain, uncoated.
    - b. Finish: Mechanically deposited zinc coating, ASTM B 695, Class 50.
    - c. Finish: Mechanically deposited zinc coating, ASTM B 695, Class 50, epoxy coated.
- I. Welding Electrodes: Comply with AWS requirements.
- J. Headed Steel Anchors (HSA) as manufactured by TRW Nelson Division type [H4L] or approved equal conforming to ASTM A108, grade 1015 forged steel headed, uncoated, size as shown on Drawings.

## 2.02 PRIMER

- A. Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer with good resistance to normal atmospheric corrosion, complying with performance requirements of FS TT-P-664.
- B. Galvanizing Repair Paint: High-zinc-dust-content paint for re-galvanizing welds and repair painting galvanized steel, with dry film containing not less than 93 percent zinc dust by weight, and complying with DOD-P-21035A or SSPC-Paint 20.

## 2.03 GROUT

- A. Nonmetallic, Shrinkage-Resistant Grout: Premixed, nonmetallic, non-corrosive, non-staining grout containing selected silica sands, Portland cement, shrinkage compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107, of consistency suitable for application, and a 30-minute working time. (Minimum compressive strength of 7,000 psi after 28 days)

## 2.04 FABRICATION

- A. Fabricate and assemble structural steel in shop to greatest extent possible. Fabricate structural steel according to AISC specifications referenced in this Section and in Shop Drawings.
  - 1. Camber structural steel members where indicated.
  - 2. Identify high-strength structural steel according to ASTM A 6 and maintain markings until steel has been erected.
  - 3. Mark and match-mark materials for field assembly.
  - 4. Fabricate for delivery a sequence that will expedite erection and minimize field handling of structural steel.

5. Complete structural steel assemblies, including welding of units, before starting shop-priming operations.
  6. Comply with fabrication tolerance limits of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for structural steel.
- B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
1. Plane thermally cut edges to be welded.
- C. Finishing: Accurately mill ends of columns and other members transmitting loads in bearing.
- D. Holes: Provide holes required for securing other work to structural steel framing and for passage of other work through steel framing members, as shown on Shop Drawings.
1. Cut, drill, or punch holes perpendicular to metal surfaces. Do not flame-cut holes or enlarge holes by burning. Drill holes in bearing plates.
  2. Weld threaded nuts to framing and other specialty items as indicated to receive other work.

## 2.05 SHOP CONNECTIONS

- A. Shop install and tighten non-high-strength bolts, except where high-strength bolts are indicated.
- B. Shop install and tighten high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- C. Weld Connections: Comply with AWS D1.1 for procedures, appearance and quality of welds, and methods used in correcting welding work.
1. Assemble and weld built-up sections by methods that will maintain true alignment of axes without warp.
  2. Verify that weld sizes, fabrication sequence, and equipment used for architecturally exposed structural steel will limit distortions to allowable tolerances. Prevent surface bleeding of backside welding on exposed steel surfaces. Grind smooth exposed fillet welds 1/2 inch and larger. Grind flush butt welds. Dress exposed welds.

## 2.06 SHOP PRIMING

- A. Shop prime steel surfaces, except the following:
1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches.
  2. Surfaces to be field welded.
  3. Surfaces to be high-strength bolted with slip-critical connections.
  4. Surfaces to receive sprayed-on fireproofing.
  5. Galvanized surfaces.
- B. Surface Preparation: Clean surfaces to be painted. Remove loose rust, loose mill scale, and spatter, slag, or flux deposits. Prepare surfaces according to SSPC specifications as follows:



1. SSPC-SP 5 "White Metal Blast Cleaning."
- C. Priming: Immediately after surface preparation, apply primer according to manufacturer's instructions and at rate recommended by SSPC to provide a dry film thickness of not less than 1.5 mils. Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
  2. Apply 2 coats of shop paint to inaccessible surfaces after assembly or erection. Change color of second coat to distinguish it from first.
- D. Painting: Apply a 1-coat, non-asphaltic primer complying with SSPC's "Painting System Guide No. 7.00" to provide a dry film thickness of not less than 1.5 mils.
- 2.07 GALVANIZING
- A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel indicated for galvanizing according to ASTM A 123. (2.0 oz per square foot)
- 2.08 SOURCE QUALITY CONTROL
- A. Owner will engage an independent testing and inspecting agency to perform shop inspections and tests and to prepare test reports.
1. Testing agency will conduct and interpret tests and state in each report whether test specimens comply with or deviate from requirements.
  2. Provide testing agency with access to places where structural steel Work is being fabricated or produced so required inspection and testing can be accomplished.
- B. Correct deficiencies in or remove and replace structural steel that inspections and test reports indicate do not comply with specified requirements.
- C. Additional testing, at Contractor's expense, will be performed to determine compliance of corrected Work with specified requirements.
- D. Shop-bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- E. Shop-bolted connections will be tested and inspected according to RCSC's "Load and Resistance Factor Design Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
1. Direct-tension indicator gaps will be verified to comply with ASTM F 959, Table 2.
- F. In addition to visual inspection, shop-welded connections will be inspected and tested according to AWS D1.1 and the inspection procedures listed below, at testing agency's option.
1. Liquid Penetrant Inspection: ASTM E 165.
  2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
  3. Radiographic Inspection: ASTM E 94 and ASTM E 142; minimum quality level "2-2T."

4. Ultrasonic Inspection: ASTM E 164.

### **PART 3 – EXECUTION**

#### **3.01 EXAMINATION**

- A. Before erection proceeds, and with the steel erector present, verify elevations of concrete and masonry bearing surfaces and locations of anchorages for compliance with requirements.
- B. Do not proceed with erection until unsatisfactory conditions have been corrected.

#### **3.02 PREPARATION**

Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place, unless otherwise indicated. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

#### **3.03 ERECTION**

- A. Set structural steel accurately in locations and to elevations indicated and according to AISC specifications referenced in this Section.
- B. Base and Bearing Plates: Clean concrete and masonry bearing surfaces of bond-reducing materials and roughen surfaces prior to setting base and bearing plates. Clean bottom surface of base and bearing plates.
  1. Set base and bearing plates for structural members on wedges, shims, or setting nuts as required.
  2. Tighten anchor bolts after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of base or bearing plate prior to packing with grout.
  3. Pack grout solidly between bearing surfaces and plates so no voids remain. Finish exposed surfaces, protect installed materials, and allow to cure.
    - a. Comply with manufacturer's instructions for proprietary grout materials.
- C. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."
  1. Maintain erection tolerances of architecturally exposed structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."
- D. Align and adjust various members forming part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
  1. Level and plumb individual members of structure.
  2. Establish required leveling and plumbing measurements on mean operating temperature of structure. Make allowances for difference between temperature at

time of erection and mean temperature at which structure will be when completed and in service.

- E. Splice members only where indicated.
- F. Do not use thermal cutting during erection.
- G. Finish sections thermally cut during erection equal to a sheared appearance.
- H. Do not enlarge unfair holes in members by burning or by using drift pins. Ream holes that must be enlarged to admit bolts.

#### 3.04 FIELD CONNECTIONS

- A. Install and tighten strength-strength bolts, except where high-strength bolts are indicated.
- B. Install and tighten high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- C. Install and tighten high-strength bolts according to RCSC's "Load and Resistance Factor Design Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
  - 1. Bolts: ASTM A 325 high-strength bolts, unless otherwise indicated.
  - 2. Connection Type: Snug tightened, unless indicated as slip-critical, direct-tension, or tensioned shear/bearing connections.
  - 3. Connection Type: Slip-critical, direct-tension, or tensioned shear/bearing connections as indicated.
- D. Weld Connections: Comply with AWS D1.1 for procedures, appearance and quality of welds, and methods used in correcting welding work.
  - 1. Comply with AISC specifications referenced in this Section for bearing, adequacy of temporary connections, alignment, and removal of paint on surfaces adjacent to field welds.
  - 2. Assemble and weld built-up sections by methods that will maintain true alignment of axes without warp.
  - 3. Verify that weld sizes, fabrication sequence, and equipment used for architecturally exposed structural steel will limit distortions to allowable tolerances. Prevent surface bleeding of backside welding on exposed steel surfaces. Grind smooth exposed fillet welds 1/2 inch and larger. Grind flush butt welds. Dress exposed welds.

#### 3.05 FIELD QUALITY CONTROL

- A. OWNER will engage an independent testing and inspecting agency to perform field inspections and tests and to prepare test reports.
  - 1. Testing agency will conduct and interpret tests and state in each report whether tested Work complies with or deviates from requirements.
- B. Correct deficiencies in or remove and replace structural steel that inspections and test reports indicate do not comply with specified requirements.

- C. Additional testing, at Contractor's expense, will be performed to determine compliance of corrected Work with specified requirements.
- D. Field-bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- E. Field-bolted connections will be tested and inspected according to RCSC's "Load and Resistance Factor Design Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
  - 1. Direct-tension indicator gaps will be verified to comply with ASTM F 959, Table 2.
- F. In addition to visual inspection, field-welded connections will be inspected and tested according to AWS D1.1 and the inspection procedures listed below, at testing agency's option.
  - 1. Liquid Penetrant Inspection: ASTM E 165.
  - 2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
  - 3. Radiographic Inspection: ASTM E 94 and ASTM E 142; minimum quality level "2-2T."
  - 4. Ultrasonic Inspection: ASTM E 164.

### 3.06 CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint. Apply paint to exposed areas using same material as used for shop painting.
  - 1. Apply by brush or spray to provide a minimum dry film thickness of 1.5 mils.
- B. Touchup Painting: Cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint on structural steel are included in Section 09900: Painting.
- C. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and apply galvanizing repair paint according to ASTM A 780.

### END OF SECTION

## **SECTION 05500 – METAL FABRICATIONS**

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### **PART 1 – GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### **1.02 SUMMARY**

- A. Section Includes:

- 1. Steel framing and non-ferrous supports for mechanical and electrical equipment.
- 2. Steel framing and non-ferrous supports for applications where framing and supports are not specified in other Sections.
- 3. Miscellaneous steel trim including steel angle corner guards and steel edgings.
- 4. Metal bollards.
- 5. Abrasive metal nosings, treads and thresholds.
- 6. Loose bearing and leveling plates for applications where they are not specified in other Sections.

- B. Products furnished, but not installed, under this Section include the following:

- 1. Anchor bolts, steel pipe sleeves, slotted-channel inserts, and wedge-type inserts indicated to be cast into concrete or built into unit masonry.
- 2. Steel weld plates and angles for casting into concrete for applications where they are not specified in other Sections.

- C. Related Requirements:

- 1. Section 03300 "Cast-in-Place Concrete" for installing anchor bolts, steel pipe sleeves, slotted-channel inserts, wedge-type inserts, and other items cast into concrete.
- 2. Section 05521 "Pipe and Tube Railings."
- 3. Section 05532 "Aluminum Grating."

#### **1.03 COORDINATION**

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of metal fabrications that are anchored to or that receive other work. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

#### **1.04 ACTION SUBMITTALS**

- A. Product Data: For the following:

- 1. Metal nosings and treads.
- 2. Paint products.
- 3. Grout.

- B. Shop Drawings: Show fabrication and installation details. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide Shop Drawings for the following:
1. Steel framing and non-ferrous supports for mechanical and electrical equipment.
  2. Steel framing and non-ferrous supports for applications where framing and supports are not specified in other Sections.
  3. Miscellaneous steel trim including steel angle corner guards and steel edgings.
  4. Metal bollards.
  5. Abrasive metal nosings, treads and thresholds.
  6. Loose steel bearing plates.
  7. Loose steel lintels.

#### 1.05 INFORMATIONAL SUBMITTALS

- A. Mill Certificates: Signed by stainless-steel manufacturers, certifying that products furnished comply with requirements.
- B. Welding certificates
- C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.
- D. Research/Evaluation Reports: For post-installed anchors, from ICC-ES.

#### 1.06 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to the following:
1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
  2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
  3. AWS D1.6/D1.6M, "Structural Welding Code - Stainless Steel."
  4. All field welding shall be inspected by a Certified Welding Inspector (CWI), Hired and paid for by the Contractor.

#### 1.07 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

### PART 2 – PRODUCTS

#### 2.01 PERFORMANCE REQUIREMENTS

- A. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.
1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

## 2.02 METALS

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
- B. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 25 percent.
- C. Steel Plates, Shapes, and Bars: ASTM A992 (Fy=50 ksi).
- D. Stainless-Steel Sheet, Strip, and Plate: ASTM A240/A240M or ASTM A666, Type 316L.
- E. Stainless-Steel Bars and Shapes: ASTM A276, Type 31603 (310L) (Fy=25 ksi).
- F. Rolled-Steel Floor Plate: ASTM A786/A786M, rolled from plate complying with ASTM A36/A36M or ASTM A283/A283M, Grade C or D.
- G. Rolled-Stainless-Steel Floor Plate: ASTM A793.
- H. Steel Tubing: ASTM A500/A500M, Grade B (Fy=46 ksi).
- I. Steel Pipe: ASTM A53/A53M, Grade B (Fy=35 ksi).
- J. Slotted Channel Framing: Cold-formed metal box channels (struts) complying with MFMA-4.
  - 1. Size of Channels: 1-5/8 by 1-5/8 inches or as indicated.
  - 2. Material: Galvanized steel, ASTM A653/A653M, commercial steel, Type B structural steel, Grade 33 (Grade 230), with G90 (Z275) coating; 0.108-inch 0.079-inch 0.064-inch nominal thickness.
- K. Cast Iron: Either gray iron, ASTM A48/A48M, or malleable iron, ASTM A47/A47M, unless otherwise indicated.
- L. Aluminum Shapes, Plate and Sheet: ASTM B209 (ASTM B209M), Alloy 6061-T6.  
Aluminum Extrusions: ASTM B221 (ASTM B221M), Alloy 6061-T6.
- M. Aluminum-Alloy Rolled Tread Plate: ASTM B632/B632M, Alloy 6061-T6.
- N. Aluminum Castings: ASTM B26/B26M, Alloy 443.0-F.

## 2.03 FASTENERS

- A. General: Unless otherwise indicated, provide Type 316 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B633 or ASTM F1941 (ASTM F1941M), Class Fe/Zn5, at exterior walls. Select fasteners for type, grade, and class required.
  - 1. Provide stainless-steel fasteners for fastening aluminum.
  - 2. Provide stainless-steel fasteners for fastening stainless steel.
- B. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A325, Type 3 (ASTM A325M, Type 3); with hex nuts, ASTM A563, Grade C3 (ASTM A563M, Class 8S3); and flat washers.



- C. Stainless-Steel Bolts and Nuts: Regular hexagon-head annealed stainless-steel bolts, ASTM F593; with hex nuts, ASTM F594; and flat washers; Alloy Group 2.
- D. Anchor Bolts: ASTM F1554, Grade 36, of dimensions indicated; with nuts, ASTM A563 (ASTM A563M); and flat washers.
  - 1. Hot-dip galvanize all Grade 36 anchor bolts.
- E. Anchors, General: Anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E488/E488M, conducted by a qualified independent testing agency.
- F. Cast-in-Place Anchors in Concrete: Headed type only allowed.
- G. Post-Installed Anchors: Adhesive Hilti HIT-HY 200, Red Head C6 with ASTM F593 316SS threaded rods or equivalent. Expansion or mechanical anchors are not allowed.
- H. Slotted-Channel Inserts: Cold-formed, hot-dip galvanized-steel box channels (struts) complying with MFMA-4, 1-5/8 by 7/8 inches by length indicated with anchor straps or studs not less than 3 inches long at not more than 8 inches o.c. Provide with temporary filler and tee-head bolts, complete with washers and nuts, all zinc-plated to comply with ASTM B633, Class Fe/Zn5, as needed for fastening to inserts.

#### 2.04 MISCELLANEOUS MATERIALS

- A. Shop Primers: Provide primers that comply with Section 09900 "Painting."
- B. Galvanized Steel: Reference Section 09900 "Painting".
- C. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- D. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.
- E. Non-shrink, Nonmetallic Grout: Factory-packaged, non-staining, noncorrosive, nongaseous grout complying with ASTM C1107/C1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.
- F. Concrete: Comply with requirements in Section 03300 "Cast-in-Place Concrete" for normal-weight, air-entrained, concrete with a minimum 28-day compressive strength of 3000 psi (20 MPa) or greater.

#### 2.05 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.



- D. Form exposed work with accurate angles and surfaces and straight edges.
- E. Weld corners and seams continuously to comply with the following:
  - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  - 2. Obtain fusion without undercut or overlap.
  - 3. Remove welding flux immediately.
  - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.
- G. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- H. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.
- I. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.
- J. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors, 1/8 by 1-1/2 inches, with a minimum 6-inch embedment and 2-inch hook, not less than 8 inches from ends and corners of units and 24 inches o.c., unless otherwise indicated.

## 2.06 MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.
- B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.
  - 1. Fabricate units from slotted channel framing where indicated.
  - 2. Furnish inserts for units installed after concrete is placed.
- C. Galvanize miscellaneous framing and supports where indicated.
- D. Prime miscellaneous framing and supports with primer specified in Section 09900 "Painting." where indicated.

## 2.07 SHELF ANGLES

- A. Fabricate shelf angles from steel angles of sizes indicated and for attachment to concrete framing. Provide horizontally slotted holes to receive bolts as specified on design drawings.
  - 1. Provide mitered and welded units at corners.
  - 2. Provide open joints in shelf angles at expansion and control joints. Make open joint approximately 2 inches larger than expansion or control joint.
- B. For cavity walls, provide vertical channel brackets to support angles from backup masonry and concrete.
- C. Galvanize and prime shelf angles located in exterior walls.
- D. Prime shelf angles located in exterior walls primer specified in Section 09900 "Painting."
- E. Furnish wedge-type concrete inserts or adhesive anchor fasteners, to attach shelf angles to cast-in-place concrete as specified on design drawings.

## 2.08 MISCELLANEOUS STEEL TRIM

- A. Unless otherwise indicated, fabricate units from steel shapes, plates, and bars of profiles shown with continuously welded joints and smooth exposed edges. Miter corners and use concealed field splices where possible.
- B. Provide cutouts, fittings, and anchorages as needed to coordinate assembly and installation with other work.
  - 1. Provide with integrally welded steel strap anchors for embedding in concrete or masonry construction.
- C. Prime exterior miscellaneous steel trim with primer specified in Section 09900 "Painting."

## 2.09 METAL BOLLARDS

- A. Fabricate metal bollards from Schedule 80 steel pipe 1/4-inch wall-thickness or as specified on the design drawings.
  - 1. Cap bollards with 1/4-inch thick steel plate.
  - 2. Where bollards are indicated to receive controls for door operators, provide cutouts for controls and holes for wire.
  - 3. Where bollards are indicated to receive light fixtures, provide cutouts for fixtures and holes for wire.
- B. Fabricate bollards with 1/2-inch thick steel baseplates for bolting to concrete slab, and drill baseplates at all four corners for 3/4-inch anchor bolts, unless indicated otherwise on the design drawings.
  - 1. Where bollards are to be anchored to sloping concrete slabs, angle baseplates for plumb alignment of bollards.
- C. Fabricate sleeves for bollard anchorage from steel pipe or tubing with 1/4-inch thick steel plate welded to bottom of sleeve. Make sleeves not less than 8 inches deep and 3/4 inch larger than OD of bollard.

- D. Fabricate internal sleeves for removable bollards from Schedule 40 steel pipe or 1/4-inch wall-thickness steel tubing with an OD approximately 1/16 inch less than ID of bollards. Match drill sleeve and bollard for 3/4-inch steel machine bolt.
- E. Prime bollards with primer specified in Section 09900 "Painting."

## 2.10 ABRASIVE METAL NOSINGS, TREADS AND THRESHOLDS

- A. Cast-Metal Units: Cast [iron] [aluminum] [bronze (leaded red or semi-red brass)] [nickel silver (leaded nickel bronze)], with an integral-abrasive, as-cast finish consisting of aluminum oxide, silicon carbide, or a combination of both. Fabricate units in lengths necessary to accurately fit openings or conditions.
  - 1. Nosings: Cross-hatched units, 4 inches wide with 1/4-inch or 1-inch lip, for casting into concrete.
  - 2. Nosings: Cross-hatched units, 1-1/2 by 1-1/2 inches, for casting into concrete.
  - 3. Treads: Cross-hatched units, full depth of tread with 3/4-by-3/4-inch nosing, for application over bent plate treads or existing stairs.
  - 4. Thresholds: Fluted-saddle-type units, 5 inches wide by 1/2 inch high, with tapered edges.
  - 5. Thresholds: Fluted-interlocking- (hook-strip-) type units, 5 inches wide by 5/8 inch high, with tapered edge.
  - 6. Thresholds: Plain-stepped- (stop-) type units, 5 inches wide by 1/2 inch high, with 1/2-inch step.
- B. Extruded Units: Aluminum or as indicated on drawings, Bronze, with abrasive filler consisting of aluminum oxide, silicon carbide, or a combination of both, in an epoxy-resin binder. Fabricate units in lengths necessary to accurately fit openings or conditions.
  - 1. Provide ribbed units, with abrasive filler strips projecting 1/16 inch above aluminum extrusion.
  - 2. Nosings: Square-back units, 1-7/8 inches wide, for casting into concrete steps.
- C. Provide anchors for embedding units in concrete, either integral or applied to units, as standard with manufacturer.
- D. Drill for anchors and countersink. Locate holes not more than 4 inches from ends and not more than 12 inches o.c., evenly spaced between ends, unless otherwise indicated. Provide closer spacing if recommended by manufacturer.
  - 1. Provide two rows of holes for units more than 5 inches wide, with two holes aligned at ends and intermediate holes staggered.
- E. Apply bituminous paint to concealed surfaces of cast-metal units.
- F. Apply clear lacquer to concealed surfaces of extruded units.

## 2.11 LOOSE BEARING AND LEVELING PLATES

- A. Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction. Drill plates to receive anchor bolts and for grouting.
- B. Galvanize plates.
- C. Prime plates with primer specified in Section 09900 "Painting."

## 2.12 LOOSE STEEL LINTELS

- A. Fabricate loose steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated. Fabricate in single lengths for each opening unless otherwise indicated. Weld adjoining members together to form a single unit where indicated.
- B. Size loose lintels to provide bearing length at each side of openings equal to 1/12 of clear span, but not less than 8 inches unless otherwise indicated.
- C. Galvanize and prime loose steel lintels located in exterior walls.
- D. Prime loose steel lintels located in exterior walls with primer specified in Section 09900 "Painting."

## 2.13 STEEL WELD PLATES AND ANGLES

- A. Provide steel weld plates and angles not specified in other Sections, for items supported from concrete construction as needed to complete the Work. Provide each unit with no fewer than two integrally welded steel strap anchors for embedding in concrete.

## 2.14 GUTTERS AND DOWNSPOUTS

- A. Gutters: Form from 0.0179-inch- thick, aluminum-zinc alloy-coated steel sheet prepainted with coil coating. Fabricate in minimum 96-inch long sections, sized according to SMACNA's "Architectural Sheet Metal Manual." Furnish gutter supports spaced 24 inches o.c., fabricated from same metal as gutters. Provide bronze, copper, or aluminum wire ball strainers at outlets. Finish gutters to match roof fascia. Join sections with riveted and soldered or lapped and sealed joints. Attach gutters to eaves with gutter hangers spaced not more than 2 feet o.c. using manufacturer's standard fasteners. Provide end closures and seal watertight with sealant. Provide for thermal expansion.
- B. Downspouts: Form from 0.0179-inch- thick, aluminum-zinc alloy-coated steel sheet prepainted with coil coating; in 10-foot- long sections, complete with formed elbows and offsets. Finish downspouts to match walls. Join sections with 1-1/2-inch telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch away from walls; locate fasteners at top and bottom and at approximately 36 inches o.c. in between. Tie downspouts to drainage system indicated.
- C. Install gutters and downspouts; and other accessories according to manufacturer's written instructions, with positive anchorage to building and weather tight mounting. Coordinate installation with flashings and other components.

## 2.15 FINISHES, GENERAL

- A. Finish metal fabrications after assembly.
- B. Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.

## 2.16 STEEL AND IRON FINISHES

- A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A153/A153M for steel and iron hardware and with ASTM A123/A123M for other steel and iron products.
  - 1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.

- B. Preparation for Shop Priming Galvanized Items: After galvanizing, thoroughly clean railings of grease, dirt, oil, flux, and other foreign matter, and treat with metallic phosphate process.
- C. Shop prime iron and steel items not indicated to be galvanized unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.
  - 1. Shop prime with primers specified in Section 09900 "Painting." as indicated.
- D. Preparation for Shop Priming: Prepare surfaces to comply with requirements indicated below:
  - 1. Exterior Items: SSPC-SP6/NACE No. 3, "Commercial Blast Cleaning."
  - 2. Items Indicated to Receive Zinc-Rich Primer: SSPC-SP6/NACE No. 3, "Commercial Blast Cleaning."
  - 3. Items Indicated to Receive Primers Specified in Section 09900 "Painting": SSPC-SP6/NACE No. 3, "Commercial Blast Cleaning."
  - 4. Other Items: SSPC-SP3, "Power Tool Cleaning."
- E. Shop Priming: Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.
  - 1. Stripe paint corners, crevices, bolts, welds, and sharp edges.

## 2.17 ALUMINUM FINISHES

- A. As-Fabricated Finish: AA-M12.
- B. Clear Anodic Finish: AAMA 611, Class I, AA-M12C22A41.

## PART 3 – EXECUTION

### 3.01 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: Comply with the following requirements:
  - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  - 2. Obtain fusion without undercut or overlap.
  - 3. Remove welding flux immediately.
  - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.
- E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.
- F. Corrosion Protection: Coat concealed surfaces of aluminum that come into contact with grout, concrete, masonry, wood, or dissimilar metals with the following:
  - 1. Cast Aluminum: Heavy coat of bituminous paint.
  - 2. Extruded Aluminum: Two coats of clear lacquer.

### 3.02 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.
- B. Install pipe columns on concrete footings and slabs with grouted baseplates. Position and grout column baseplates as specified in "Installing Bearing and Leveling Plates" Article.
  - 1. Grout baseplates of columns supporting steel girders after girders are installed and leveled.

### 3.03 INSTALLING METAL BOLLARDS

- A. Fill metal-capped bollards solidly with concrete and allow concrete to cure seven days before installing.
  - 1. Do not fill removable bollards with concrete.
- B. Anchor bollards to existing construction with expansion anchors, anchor bolts or through bolts. Provide four 3/4-inch bolts at each bollard unless otherwise indicated.
  - 1. Embed anchor bolts at least 4 inches in concrete.
- C. Anchor bollards in concrete with pipe sleeves preset and anchored into concrete or in formed or core-drilled holes not less than 8 inches deep and 3/4 inch larger than OD of bollard. Fill annular space around bollard solidly with non-shrink grout; mixed and placed to comply with grout manufacturer's written instructions. Slope grout up approximately 1/8 inch toward bollard.
- D. Anchor bollards in place with concrete footings. Center and align bollards in holes 3 inches above bottom of excavation. Place concrete and vibrate or tamp for consolidation. Support and brace bollards in position until concrete has cured.
- E. Anchor internal sleeves for removable bollards in concrete by inserting in pipe sleeves preset into concrete or formed or core-drilled holes not less than 8 inches deep and 3/4 inch larger than OD of sleeve. Fill annular space around internal sleeves solidly with non-shrink grout; mixed and placed to comply with grout manufacturer's written instructions. Slope grout up approximately 1/8 inch toward internal sleeve.



- F. Anchor internal sleeves for removable bollards in place with concrete footings. Center and align sleeves in holes 3 inches above bottom of excavation. Place concrete and vibrate or tamp for consolidation. Support and brace sleeves in position until concrete has cured.
- G. Place removable bollards over internal sleeves and secure with 3/4-inch machine bolts and nuts. After tightening nuts, drill holes in bolts for inserting padlocks. Owner furnishes padlocks.
- H. Fill bollards solidly with concrete, mounding top surface to shed water.
  - 1. Do not fill removable bollards with concrete.

#### 3.04 INSTALLING NOSINGS, TREADS, AND THRESHOLDS

- A. Center nosings on tread widths unless otherwise indicated.
- B. For nosings embedded in concrete steps or curbs, align nosings flush with riser faces and level with tread surfaces.

#### 3.05 INSTALLING BEARING AND LEVELING PLATES

- A. Clean concrete and masonry bearing surfaces of bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of plates.
- B. Set bearing and leveling plates on wedges, shims, or leveling nuts. After bearing members have been positioned and plumbed, tighten anchor bolts. Do not remove wedges or shims but, if protruding, cut off flush with edge of bearing plate before packing with non-shrink grout. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

#### 3.06 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
  - 1. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.
- B. Touchup Painting: Cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint are specified in Section 09900 "Painting."
- C. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780/A780M.

#### END OF SECTION

## **SECTION 05510 - STRUCTURAL ALUMINUM**

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### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION**

**A. Scope:**

1. Contractor shall provide all labor, materials, equipment and incidentals as shown, specified and required to design, furnish and install structural aluminum members, including beams, columns, stair stringers, stair treads, intermediate platforms, platform grating, handrails, platform columns, horizontal and vertical bracing, surface preparation and shop priming.
2. The extent of structural aluminum shall be as shown on the design drawings.
3. The Work also includes:
  - a. Providing base plates and anchor bolt requirements at column base to concrete foundations.

**B. Coordination:**

1. Review installation procedures under this and other Sections and coordinate the installation of items that must be installed with, or before the aluminum Work.
2. Field verify all dimensions and elevations before installation.

**C. Related Sections:**

1. Section 03301 "Anchor Systems."
2. Section 05500 "Metal Fabrications."
3. Section 05521 "Pipe and Tube Railings."

#### **1.02 REFERENCES**

**A. Codes and standards referenced in this Section are listed below:**

1. Florida Building code (FBC) 2023 Edition.
2. ASCE 7-22 "Minimum Design Loads for Buildings and Other Structures."
3. ADM1-2020 "Aluminum Design Manual-Part 1-A Specification for Aluminum Structures."
4. American Society for Testing and Materials, (ASTM).
  - a. ASTM B 209, Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
  - b. ASTM B 211, Specification for Aluminum and Aluminum-Alloy Bar, Rod and Wire.
  - c. ASTM B 221, Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles and Tubes.
  - d. ASTM B 308/B 308M, Specification for Aluminum-Alloy 6061-T6 Standard Structural Profiles.
  - e. ASTM B 429, Specification for Aluminum-Alloy Extruded Structural Pipe and Tube.
  - f. ASTM F 593, Specification for Stainless Steel Bolts, Hex Cap Screws and Studs.
  - g. ASTM F 594, Specification for Stainless Steel Nuts.



5. American Welding Society, (AWS).
  - a. AWS D1.2/D1.2M, Structural Welding Code-Aluminum.
6. National Association of Architectural Metal Manufacturers, (NAAMM).
  - a. NAAMM, Metal Stairs Manual and Metal Finishes Manual.

#### 1.03 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
  1. Manufacturer shall have a minimum of five years experience producing substantially similar equipment and shall be able to show evidence of at least five installations in satisfactory operation for at least five years.
- B. Component Supply and Compatibility:
  1. Obtain all products included in this Section regardless of the component manufacturer from a single aluminum manufacturer.
  2. The aluminum fabricator to review and approve to prepare all Shop Drawings and other submittals for all components furnished under this Section.
  3. All components shall be specifically constructed for the specified service conditions and shall be integrated into the overall assembly by the aluminum fabricator.
- C. Source Quality Control: Contractor shall be responsible for entire design, fabrication and installation of aluminum canopy and stair Work.
- D. The Shop Drawings and calculations shall be prepared by a Registered Professional Engineer licensed in the State of Florida and is a recognized expert in the type of Work shown and specified.

#### 1.04 SUBMITTALS

- A. Action Submittals: Submit the following:
  1. Shop Drawings:
    - a. Erection and detailed Shop Drawings, which show the plan location, elevation and details for the fabrication and erection of the aluminum Work. Show anchorage and accessory items. Include details of all connections between all materials.
  2. Delegated Design Submittals:
    - a. Provide signed and sealed Shop Drawings and calculations, which are prepared by a Registered Professional Engineer licensed in the State of Florida.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Packing, Shipping, Handling and Unloading:
  1. Deliver materials to the Site to ensure uninterrupted progress of the Work. Deliver anchor bolts and anchorage devices which are to be embedded in cast-in-place concrete in ample time to prevent delay of that Work.

B. Storage and Protection:

1. Store materials to permit easy access for inspection and identification. Keep all material off the ground, using pallets, platforms, or other supports. Protect materials from corrosion and deterioration.

C. Acceptance at Site:

1. All boxes, crates and packages shall be inspected by Contractor upon delivery to the Site. Replace loss and repair damage to new condition in accordance with manufacturer's instructions.

## **PART 2 - PRODUCTS**

### **2.01 DESIGN CRITERIA**

- A. Aluminum structures shall comply with the design criteria established on the drawings and specifications.
- B. Pre-engineered aluminum stairs shall comply with additional requirements of the NAAMM, "Metal Stairs Manual".
- C. Sizes of miscellaneous items such as carrier angles and platform stiffeners, and design stresses shall be as recommended in Section 4 of the "Metal Stairs Manual", unless otherwise shown.
- D. All required gravity and wind loadings shall comply with the 2023 Florida Building Code.

### **2.02 FABRICATION**

A. General:

1. Use welding for joining pieces together, unless otherwise shown or specified. Welding to comply with the applicable provisions of AWS D1.2/D1.2M. Fabricate units so that bolts and other fastenings do not appear on finish surfaces. Make joints true and tight, and make connections between parts light-proof tight. Provide continuous welds, ground smooth where exposed.
2. Construct units to conform to sizes and arrangements as shown. Provide aluminum framing, hangers, columns, struts, clips, brackets, bearing plates and other components as required. Erect units to line, plumb, square, and true with horizontal runs registering level with floor and platform levels.
3. Provide brackets and bearing surfaces as detailed and as required to anchor and contain the aluminum structures on the supporting structures.
4. Finish: Provide architectural mill finish as specified in the NAAMM Manual.
5. Protection of Aluminum from Dissimilar Materials: Coat all surfaces of aluminum in contact with dissimilar materials, such as concrete, masonry and steel as specified in Division 09 - Finishes.

B. Stair Framing:

1. Fabricate stringers of structural aluminum channels, or plates, or a combination thereof, as shown. Provide closures for exposed ends of stringers.
2. Construct platforms of structural aluminum channel headers and miscellaneous framing members, as shown. Bolt or weld headers to stringers. Bolt or weld framing members to strings and headers.
3. Stair stringer depth shall be no less than 12-inches.

C. Aluminum Grating Treads and Platforms:

1. For aluminum grating and treads, refer to Section 05530 Gratings.
2. Fabricate grating treads with abrasive nosing on one edge and with aluminum angle or aluminum plate carrier at each end for stringer connections. Secure treads to stringers with bolts.
3. Fabricate grating platforms, with nosing matching that on grating treads, at all landings. Provide toe-plates at open-sided edges of floor grating fastened to platform framing members.
4. Provide platforms 3/8-inch minimum thick with solid abrasive surface matching that on treads. Secure platforms to platform framing members with bolts.

D. Stair Aluminum Railing:

1. Aluminum railings shall conform to the requirements of Section 05521 Pipe and Tube Railings.

**PART 3 - EXECUTION**

3.01 INSPECTION

- A. Contractor shall examine the conditions under which the Work is to be installed and notify the Owner, in writing, of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Provide concrete inserts, anchor bolts and miscellaneous items having integral anchors, which are to be embedded in concrete or masonry construction. Anchor bolts to existing concrete shall be epoxy adhesive type. Mechanical wedge type anchors are not allowed.

3.03 INSTALLATION

A. Fastening to In-Place Construction:

1. Provide anchorage devices and fasteners where necessary for securing aluminum members to in-place construction; including, threaded fasteners for concrete and masonry inserts, toggle bolts, through bolts and other connectors as required. The anchorage devices and fasteners shall be Type 316 stainless steel. Anchor bolts to existing concrete shall be epoxy adhesive type. Mechanical wedge type anchors are not allowed.

B. Cutting, Fitting and Placement:

1. Perform cutting, drilling and fitting required for the installation of the aluminum members. Set the aluminum members accurately in location, alignment and elevation, plumb, level, true and free of rack, measured from established lines and levels. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry or similar construction.
2. Fit exposed connections accurately together to form tight hairline joints. Weld connections that are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Grind joints smooth and touch-up shop paint coat. Do not weld, cut or abrade the surfaces of exterior units that have been hot-dip galvanized after fabrication and are intended for bolted or screwed field connections.

**END OF SECTION**

## **SECTION 05521 – PIPE AND TUBE RAILINGS**

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### **PART 1 – GENERAL**

#### **1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### **1.02 SUMMARY**

- A. Section Includes:
  - 1. Aluminum pipe railings.
- B. Related Sections:
  - 1. Section 05500 "Metal Fabrications".

#### **1.03 PERFORMANCE REQUIREMENTS**

- A. Delegated Design: Design railings, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. General: Railings to withstand structural loads indicated.
- C. Structural Performance: Railings shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
  - 1. Handrails and Top Rails of Guards:
    - a. Uniform load of 50 lbf/ ft. applied in any direction.
    - b. Concentrated load of 200 lbf applied in any direction.
    - c. Uniform and concentrated loads need not be assumed to act concurrently.
  - 2. Infill of Guards:
    - a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft.
    - b. Infill load and other loads need not be assumed to act concurrently.
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.
  - 1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- E. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

#### 1.04 ACTION SUBMITTALS

- A. Product Data: For the following:
  - 1. Manufacturer's product lines of mechanically connected railings.
  - 2. Railing brackets.
  - 3. Grout.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Samples for Initial Selection: For products involving selection of color, texture, or design.
- D. Samples for Verification: For each type of exposed finish required.
  - 1. Sections of each distinctly different linear railing member, including handrails, top rails, posts, and balusters.
  - 2. Fittings and brackets.
  - 3. Assembled Sample of railing system, made from full-size components, including top rail, post, handrail, and infill. Sample need not be full height.
    - a. Show method of finishing and connecting members at intersections.
- E. Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the professional engineer registered in the State of Florida responsible for their preparation.

#### 1.05 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified professional engineer.
- B. Mill Certificates: Signed by manufacturers of stainless-steel products certifying that products furnished comply with requirements.
- C. Welding certificates.
- D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, according to ASTM E894 and ASTM E935.

#### 1.06 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of railing from single source from single manufacturer.
- B. Welding Qualifications: Qualify procedures and personnel according to AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."

#### 1.07 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication. Provide additional railing posts at middle rail interruption locations.

## 1.08 COORDINATION AND SCHEDULING

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- C. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not satisfy structural performance requirements.

## PART 2 – PRODUCTS

### 2.01 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:
  - 1. Aluminum Pipe and Tube Railings:
    - a. Blum, Julius & Co., Inc.
    - b. Hollaender Manufacturing Company.
    - c. Superior Aluminum Products, Inc.
    - d. Tuttle Railing Systems; Div. of Tuttle Aluminum & Bronze, Inc.

### 2.02 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
- B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

### 2.03 ALUMINUM

- A. Aluminum, General: Provide alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than the strength and durability properties of alloy and temper designated below for each aluminum form required.
- B. Extruded Bars and Tubing: ASTM B221 (ASTM B221M), Alloy 6063-T5/T52.
- C. Extruded Structural Pipe and Round Tubing: ASTM B429/B429M, Alloy 6063-T6.
  - 1. Provide Standard Weight (Schedule 40) pipe, unless otherwise indicated.
- D. Drawn Seamless Tubing: ASTM B210 (ASTM B210M), Alloy 6063-T832.
- E. Plate and Sheet: ASTM B209 (ASTM B209M), Alloy 6061-T6.

F. Die and Hand Forgings: ASTM B247 (ASTM B247M), Alloy 6061-T6.

G. Castings: ASTM B26/B26M, Alloy A356.0-T6.

## 2.04 FASTENERS

A. General: Provide the following:

1. Aluminum Railings: Type 316 stainless-steel fasteners.

B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.

C. Fasteners for Interconnecting Railing Components:

1. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless otherwise indicated.

D. Post-Installed Anchors: Adhesive Hilti HIT-HY 200, Red Head C6 with ASTM F593 316SS threaded rods or equivalent. Expansion or mechanical anchors are not allowed. Anchors shall be capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E488, conducted by a qualified independent testing agency.

1. Material for Exterior Locations: Stainless Steel, ASTM F593 with hex nuts, ASTM F594, Alloy Group 2.

## 2.05 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

1. For aluminum railings, provide type and alloy as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.

B. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187.

C. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

## 2.06 FABRICATION

A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.

B. Assemble railings in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.



- C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- D. Form work true to line and level with accurate angles and surfaces.
- E. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
- G. Connections: Fabricate railings with welded connections unless otherwise indicated.
- H. Welded Connections for Aluminum Pipe: Fabricate railings to interconnect members with concealed internal welds that eliminate surface grinding, using manufacturer's standard system of sleeve and socket fittings.
- I. Form changes in direction as follows:
  - 1. As detailed.
- J. Bend members in jigs to produce uniform curvature for each configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- K. Close exposed ends of railing members with prefabricated end fittings.
- L. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is 1/4 inch or less.
- M. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.
  - 1. At brackets and fittings fastened to plaster or gypsum board partitions, provide crush-resistant fillers, or other means to transfer loads through wall finishes to structural supports and prevent bracket or fitting rotation and crushing of substrate.
- N. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by railings. Coordinate anchorage devices with supporting structure.
- O. For removable railing posts, fabricate slip-fit sockets from stainless-steel tube or pipe whose ID is sized for a close fit with posts; limit movement of post without lateral load, measured at top, to not more than one-fortieth of post height. Provide socket covers designed and fabricated to resist being dislodged.
  - 1. Provide chain with eye, snap hook, and staple across gaps formed by removable railing sections at locations indicated. Fabricate from same metal as railings.
- P. Toe Boards: Where indicated, provide toe boards at railings around openings and at edge of open-sided floors and platforms. Fabricate to dimensions and details indicated.



## 2.07 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- D. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.

## 2.08 ALUMINUM FINISHES

- A. Mechanical Finish: AA-M12 (Mechanical Finish: nonspecular as fabricated).
- B. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

# PART 3 – EXECUTION

## 3.01 EXAMINATION

- A. Examine plaster and gypsum board assemblies, where reinforced to receive anchors, to verify that locations of concealed reinforcements have been clearly marked for Installer. Locate reinforcements and mark locations if not already done.

## 3.02 INSTALLATION, GENERAL

- A. Fit exposed connections together to form tight, hairline joints.
- B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
  - 1. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
  - 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet.
  - 3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.
- C. Corrosion Protection: Coat concealed surfaces of aluminum that will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.
- D. Adjust railings before anchoring to ensure matching alignment at abutting joints.

- E. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

### 3.03 RAILING CONNECTIONS

- A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Seal recessed holes of exposed locking screws using plastic cement filler colored to match finish of railings.
- B. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.
- C. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve extending 2 inches beyond joint on either side, fasten internal sleeve securely to one side, and locate joint within 6 inches of post.

### 3.04 ANCHORING POSTS

- A. Anchor posts to concrete and metal surfaces with base plates as required by conditions, connected to posts and to metal supporting members as follows:
  - 1. For aluminum pipe railings, weld posts to plate and bolt to supporting surfaces. Bolt and plate assembly designed and engineered for this purpose.

### 3.05 ATTACHING RAILINGS

- A. Attach railings to wall with wall brackets, except where end flanges are used. Provide brackets with 1-1/2-inch clearance from inside face of handrail and finished wall surface. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
- B. Clean aluminum by washing thoroughly with clean water and soap and rinsing with clean water.
- C. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.
  - 1. Use type of bracket with flange tapped for concealed anchorage to threaded hanger bolt or predrilled hole for exposed bolt anchorage.
  - 2. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.

### 3.06 ADJUSTING AND CLEANING

- A. Clean aluminum by washing thoroughly with clean water and soap and rinsing with clean water.

### 3.07 PROTECTION

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

**END OF SECTION**

## **SECTION 05532 - ALUMINUM GRATING**

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### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

- A. The extent of aluminum grating shall be as shown on the Drawings and include all necessary fasteners and accessory items to make a complete system.

#### **1.02 QUALITY ASSURANCE**

- A. Codes and Standards: Provide the aluminum grating to conform to the following codes and standards per current edition:
  - 1. ASTM B 221: Specification for Aluminum Alloy Extruded Bars, Rods, Wire, Shapes and Tubes.
  - 2. ANSI/NAAMM MBG 531: Metal Bar Grating Manual
  - 3. ASTM E-448: Test Method for Strength of Anchors in Concrete and Masonry Elements
  - 4. AWS D1.2: Structural Welding Code - Aluminum

#### **1.03 SUBMITTALS**

- A. All submittals shall be in accordance with Specification 01310 – Administrative Requirements.
- B. Submit manufacturer's specifications, load tables, dimensions, diagrams, anchor details and installation instructions.
- C. On request, furnish reports of load versus deflection tests conducted on assembled grating panels. Such tests shall be certified by an independent, nationally recognized testing laboratory.
- D. Shop Drawings: Submit shop drawings for the fabrication and erection of all assemblies of work which are not completely shown by the manufacturer's data sheets. Include plans, elevations, and details of sections and connections. Show anchorage and accessory items.
  - 1. Include setting drawings and templates for location and installation of items anchorage devices. Coordinate installation of anchorages for gratings and supports and deliver items to project site in time for installation

#### **1.04 JOB CONDITIONS**

- A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible, to ensure proper fitting of the work. However, don't delay job progress; allow for trimming and fitting wherever the taking of field measurements before fabrication might delay the work.
- B. Shop Assembly: Preassemble items in the shop to the greatest extent possible, so as to minimize field splicing and assembly of units as the project site. Disassemble units only to the extent necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

## 1.05 WARRANTY/GUARANTEE

- A. **Manufacturer's Standard Warranty:** The grating sections shall be free of defects in material and workmanship for 3 years from final completion. If the materials are defective, the manufacturer shall repair or replace them at no additional cost.

## PART 2 - PRODUCTS

### 2.01 ALUMINUM GRATING

- A. **The aluminum grating design** shall be manufactured with alloy 6061-T6 or 6063-T6 and size as noted on the Drawings.
- B. **Loading and Deflection Requirements:** The grating shall be designed to support a 100 psf uniform live load with a theoretical design deflection of 0.25 inch or less, or as noted on the Drawings if requirements are more stringent.
- C. **Walking Surface Finish:** The grating surface shall have a plain fluted pattern surface.
- D. **Color:** The grating color shall be natural aluminum.

### 2.02 ACCESSORIES

- A. **Fastener:** Provide Type 50 aluminum fasteners with hold down clips for sectional and frame attachment with stainless steel Allen wrench screw type by the manufacturer.
- B. **Frame:** Provide extruded aluminum alloy 6063-T6 frame by the grating manufacturer. The frame finish shall match that of the specified grating.

## PART 3 - EXECUTION

### 3.01 INSPECTION

- A. **Verify** that the grating installation will not disrupt other trades and verify that the substrate is clean and free of foreign matter. Correct all defects prior to installation.

### 3.02 INSTALLATION

- A. **General:** Install the grating in accordance with the project drawings, specifications, approved shop drawings, and manufacturer's installation standards.
- B. **Grating panels** shall be fabricated to be square within manufacturer's tolerances and free from warping and any defect that may affect serviceability and reliability.
- C. **Install** the grating with a min. 1-1/2 inch bearing surface at the frame or support ends. The grating shall be fastened to the frame or support substrate using fasteners and clips supplied by the grating manufacturer. Fastening shall be consistent with the manufacturer's instructions.
- D. **Tolerances** between sections shall not exceed the dimensional spacing of the grating style type. Adjacent sections shall line up to form an uninterrupted straight line, where possible.
- E. **Grating sections** shall be installed to be removable unless indicated otherwise.

- F. Openings shall be field cut by the installer where indicated to permit field installation of wiring, equipment, piping, etc. All rectangular cutouts shall be made to the next bearing section past the obstruction. The cutout clearance to obstruction from the edge of the grating shall be no larger than 2 inches. Cutouts shall be done in the field (unless otherwise requested).

**END OF SECTION**

**DIVISION 7**  
**THERMAL & MOISTURE**  
**PROTECTION**

## **SECTION 07920 - SEALANTS AND CAULKING**

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### **PART 1 - GENERAL**

#### **1.01 APPLICABLE PUBLICATIONS**

- A. The publications listed below form a part of this specification to the extent referenced. The publications are reread to in the text by the basic designation only.
- B. American Society for Testing and Materials (ASTM) Publications: C 920-79 Elastomeric Joint Sealants

#### **1.02 SUBMITTALS**

- A. Submit under provisions of Section 01340.
- B. Certificates of Conformance or Compliance: Submit certificates from the manufacturers attesting that materials meet the specified requirements.
- C. Manufacturer's Descriptive Data: Submit complete descriptive data for each type of material. Clearly mark data to indicate the type the Contractor intends to provide. Data shall state conformance to specified requirements. Data for sealant and calking shall include application instructions, shelf life, mixing instructions for multicomponent sealants, and recommend cleaning solvents.

#### **1.03 DELIVERY AND STORAGE**

Deliver materials to the job site in the manufacturers' external shipping containers, unopened, with brand names, date of manufacture, and material designation clearly marked thereon. Containers of elastomeric sealant shall be labeled as to type, class, grade, and use. Carefully handle and store all materials to prevent inclusion of foreign materials or subjection to sustained temperatures exceeding 100 degree F or less than 40 degree F.

### **PART 2 – PRODUCTS**

#### **2.01 MANUFACTURER**

Manufacturer: Subject to compliance with requirements provide products manufactured by single source.

#### **2.02 MATERIALS**

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Products shall conform to the reference documents listed for each use. Color of sealant and calking shall match adjacent surface color unless specified otherwise. For ASTM C 920 sealants, use a sealant that has been tested on the type(s) of substrate to which it



will be applied. Interior Calking or Sealant: Provide ASTM C 920, Type M, Grade NS, Class 12.5, Use NT. Color of calking or sealant shall be selected by Owner from manufacturer's full range.

- C. Exterior Sealant: For joints in vertical surfaces, provide ASTM C 920, Type M, Grade NS, Class 25, Use NT. For joints in horizontal surfaces, provide ASTM C 920, Type M, Grade P, Class 25, Use T. Color of sealant shall be selected by Owner from manufacturer's full range.
- D. Latex rubber modified, acrylic emulsion polymer sealant compound; manufacturer's standard, one part, nonsag, mildew resistant, acrylic emulsion sealant complying with ASTM C834, formulated to be paintable and recommended for exposed applications on interior locations involving joint movement of not more than plus or minus 5 percent.
- E. Floor Joints Sealant: Provide ASTM C-920, Type S or M, Grade P, Class 25, Use T. Color of sealant shall be selected by Owner from manufacturer's standard colors.
- F. Primer for Sealant: Use a non-staining, quick-drying type and consistency recommended by the sealant manufacturer for the particular application.
- G. Bond Breakers: Use the type of consistency recommended by the sealant manufacturer for the particular application.
- H. Silicone Joint Sealants: Use Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, for Use NT.
- I. Backstops: Use glass fiber roping or neoprene, butyl, polyurethane, or polyethylene foams free from oil or other staining elements as recommended by the sealant manufacturer. Backstop material shall be compatible with the sealant. Do not use oakum and other types of absorptive materials as backstops.

### **PART 3 - EXECUTION**

#### **3.01 SURFACE PREPARATION**

- A. Surfaces shall be clean, dry to the touch, and free from frost, moisture, grease, oil, wax, lacquer, paint, or other foreign matter that would tend to destroy or impair adhesion. Where adequate grooves have not been provided, clean out grooves to a depth of ½" and grind to a minimum width of ¼" without damage to the adjoining work. No grinding shall be required on metal surfaces.
- B. Steel Surfaces: Remove loose mill scale by sandblasting or, if sandblasting is impractical or would damage finish work, scraping and wire brushing. Remove protective coatings by sandblasting or using a solvent that leaves no residue.
- C. Copper or Bronze Surfaces: Remove temporary protective coatings from surfaces that will be in contact with sealant. When masking tape is used as a protective coating, remove tape and any residual adhesive just prior to sealant application. Use non-staining solvents recommended by the item manufacturer.

### 3.02 SEALANT PREPARATION

Do not modify the sealant by addition of liquids, solvents, or powders. Mix multicomponent elastomeric sealants in accordance with manufacturer's printed instructions.

### 3.03 APPLICATION

- A. Backstops: Where joint cavities are constructed deeper than indicated, tightly pack the back or bottom with backstop material to provide a joint of the depth indicated. Install backstops dry and free of tears or holes.
- B. Primer: Just prior to application of the sealant or caulking compound, clean out all loose particles from joints. Apply primer in accordance with compound manufacturer's directions. Do not apply primer to exposed finish surfaces.
- C. Bond Breaker: Provide bond breakers as recommended by the sealant manufacturer for each type of joint and sealant used.
- D. Sealant and Caulking Compounds: Use a compound that is compatible with the material to and against which it is applied. Do not use a compound that has exceeded its shelf life or has become too jelled to be discharged in a continuous flow from the gun. Apply the compound in accordance with the manufacturer's printed instructions. Force the compound into the joints with sufficient pressure to fill the joints solidly. Compound shall be uniformly smooth and free from wrinkles.
- E. Interior Sealant and Caulking: Provide sealant or caulking at all exposed joints in the building and at all joints indicated to receive sealant or caulking.
- F. Exterior Sealant: Provide sealant at all joints around the perimeter of openings and at all exposed joints on the building and at all joints indicated to receive sealant.
- G. Floor Joints Sealants: Provide sealant in all control joints and in other floor joints indicated or specified.
- H. Provide colors of exposed sealants to match colors of grout in tile adjoining sealed joints, unless otherwise indicated.

### 3.04 PROTECTION AND CLEANING

- A. Protection: Protect areas adjacent to joints from compound smears. Masking tape may be used for this purpose if removed 5 to 10 minutes after the joint is filled.
- B. Cleaning: Immediately scrape off fresh compound that has been smeared on masonry and rub clean with a solvent as recommended by the compound manufacturer. Upon completion of compound application, remove all remaining smears and stains resulting therefrom and leave the work in a clean and neat condition.

**END OF SECTION**

# DIVISION 9

## FINISHES

## **SECTION 09900 – PAINTING**

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### **PART 1 - GENERAL**

#### **1.01 SCOPE OF WORK**

- A. The Contractor shall furnish all labor, tools, materials, equipment, scaffolding or other structures and incidentals necessary to complete this Contract in its entirety.
- B. The work includes painting and finishing of all new interior and exterior exposed items above and below grade and submerged surfaces, such as concrete, structural steel, miscellaneous metals, ceilings, walls, floors, doors, frames, transoms, roof fans, construction signs, guardrails, posts, fittings, valves, tanks, equipment and all other work obviously required to be painted unless otherwise specified herein or on the Drawings. The omission of minor items in the Schedule of Work shall not relieve the Contractor of his obligation to include such items where they come within the general intent of the Specification as stated herein.
- C. The following items shall not be painted:
  - 1. Any code-requiring labels, such as Underwriter's Laboratories and Factory Mutual, or any equipment identification, performance rating, name or nomenclature plates.
  - 2. Any moving parts of operating units, mechanical and electrical parts, such as valve and damper operators, linkages, sinkages, sensing devices, motor and fan shafts, unless otherwise indicated.
  - 3. Aluminum handrails (except where in contact with concrete) walkways, windows, louvers and grating unless otherwise specified herein.
  - 4. Signs and nameplates.
  - 5. Finish hardware.
  - 6. Chain link fence.
  - 7. Piping buried in the ground or embedded in concrete.
  - 8. Concealed surfaces of pipe or crawl space.
  - 9. Nonferrous metals, unless specifically noted otherwise.
  - 10. Electrical switchgear and motor control centers.
  - 11. Stainless steel angles, tubes, pipe, etc.
  - 12. Products with polished chrome, aluminum, nickel or stainless steel finish.
  - 13. Plastic switch plates and receptacle plates.
  - 14. Flexible couplings, lubricated bearing surfaces, insulation and metal and plastic pipe interior.
  - 15. Sprinkler heads.
  - 16. Lifting chain on cranes and hoists
  - 17. Electrical cable, festooned conductor system, cables, collector pole brackets, etc.
- D. All work shall be done in strict accordance with this Specification, the Design Drawings and the painting package, including manufacturer's printed instructions.
- E. The Contractor will obtain, at its own expense, all permits, licenses and inspections and shall comply with all laws, codes, ordinances, rules and regulations promulgated by authorities having jurisdiction which may bear on the Work. This compliance will include Federal Public Law 91-596 more commonly known as the "Occupational Safety and Health Act of 1970".

#### **1.02 DEFINITIONS**

- A. Field Painting is the painting of new or rebuilt items at the job site. Field painting shall be

the responsibility of the Contractor.

- B. Shop Painting is the painting of new or rebuilt items in the shop prior to delivery to the jobsite.
- C. Abbreviations The abbreviations and definitions listed below, when used in this specification, shall have the following meanings:
  - 1. SSPC - Steel Structures Painting Council
  - 2. Exterior - Outside, exposed to weather
  - 3. Interior Dry - Inside, concealed or protected from weather
  - 4. Interior Wet - Inside, subject to immersion services
  - 5. ASTM - American Society of Test Materials
  - 6. NACE - National Association of Corrosion Engineers
  - 7. NSF - National Sanitation Foundation
  - 8. AWWA - American Water Works Association
- D. Dry Film Thickness shall be in Mils.

#### 1.03 RESOLUTION OF CONFLICTS

- A. It shall be the responsibility of the Contractor to arrange a meeting prior to the start of painting, or flooring installation between the Contractor, the Paint Manufacturer, whose products are to be used, and the County. All aspects of surface preparation, application and coating systems as covered by this Specification will be reviewed at this meeting.
- B. Clarification shall be requested promptly from the County when instructions are lacking, conflicts occur in the Specifications, or the procedure seems improper or inappropriate for any reason.
- C. Copies of all manufacturer's instructions and recommendations shall be furnished to the County by the Painting Contractor.
- D. It shall be the responsibility of the Coating Manufacturer to have their factory representative meet in person with the Contractor and County a minimum of three times during the job as a consultant on surface preparation, mil thickness of coating and proper application of coating unless meeting is determined to be unnecessary by the County.

#### 1.04 SUBMITTALS

- A. Contractor shall submit catalog data and cut sheets for the painting system being used if not the TNEMEC materials specified.
- B. Samples as detailed in 3.01 B shall be submitted regardless of system being used, showing each color to be used.
- C. Hazardous Material Disposal documentation shall be submitted if applicable.

### PART 2 - PRODUCTS

#### 2.01 EQUIPMENT

- A. Effective oil and water separators shall be used in all compressed air lines serving spray painting and sandblasting operations to remove oil or moisture from the air before it is used. Separators shall be placed as far as practicable from the compressor.

- B. All equipment for application of the paint and the completion of the work shall be furnished by the Contractor in first-class condition and shall comply with recommendations of the paint manufacturer.
- C. Contractor will provide free of charge to the County a "Nordson-Mikrotest" or "Positest" dry film thickness gauge for ferrous metal and an OG232 "Tooke" gauge or equal for non-ferrous and cementitious surface, to be used to inspect coatings by the County and Contractor. The gauges may be used by the Contractor and returned each day to the County. County will return gauges to Contractor at completion of job.

## 2.02 MATERIALS

- A. All materials specified herein are manufactured by the TNEMEC Company, Inc., North Kansas City, Missouri. These products are specified to establish standards of quality and are approved for use on this Project.
- B. Equivalent materials of other manufacturers may be substituted on approval of the County. Requests for substitution shall include manufacturer's literature for each product giving the name, generic type, descriptive information and evidence of satisfactory past performance and an independent laboratory certification that their product meets the performance criteria of the specified materials.
- C. Abrasion - Fed. Test Method Std. No. 141, Method 6192, CS-17 Wheel, 1,000 grams load.
- D. Adhesion - Elcometer Adhesion Tester.
- E. Exterior Exposure - Exposed at 45 degrees facing the ocean (South Florida Marine Exposure)
- F. Hardness - ASTM D3363-74
- G. Humidity - ASTM D2247-68
- H. Salt Spray (Fog) - ASTM B117-73
- I. Standard practice for Operating the Severe Wastewater Analysis Testing Apparatus ASTM G210-13
- J. Substitutions which decrease the total film thickness, change the generic type of coating, or fail to meet the performance criteria of the specified materials shall not be approved. Prime and finish coats of all surfaces shall be furnished by the same manufacturer.
- K. All coatings to be shop applied must meet the requirements for volatile organic compounds (VOC) of not more than 3.5 lbs/gallon after thinning.
- L. Colors, where not specified, shall be as selected by the County or their Representative.
- M. All coatings in contact with potable water need to be NSF Certified in accordance with ANSI/NSF Standard 61.
- N. All above ground potable water mains and appurtenances shall be painted Scott Paints safety blue or approved equal; purple (Pantone purple 522 C) for reclaimed water; or Hunter Green (Rustoleum 7538) for pressure sewer. Exterior of the new EQ Return PS shall be painted Bradenton Beige to match the other structures at the facility. Contractor shall submit color chart to owner for color selection approval prior to ordering material.

## **PART 3 - EXECUTION**

### **3.01 INSPECTION OF SURFACES**

- A. Before application of the prime coat and each succeeding coat, all surfaces to be coated shall be subject to inspection by the County. Any defects or deficiencies shall be corrected by the Contractor before application of any subsequent coating.
- B. Samples of surface preparation and of painting systems shall be furnished by the Contractor to be used as a standard throughout the job, unless omitted by the County.
- C. When any appreciable time has elapsed between coatings, previously coated areas shall be carefully inspected by the County, and where, in his opinion, surfaces are damaged or contaminated, they shall be cleaned and recoated at the Contractor's expense. Recoating times of manufacturer's printed instructions shall be adhered to.
- D. Coating thickness shall be determined by the use of a properly calibrated "Nordson-Mikrotest" "Positest" Coating Thickness Gauge (or equal) for ferrous metal or an OG232 "Tooke" Paint Inspection gauge (or equal) for non-ferrous and cementitious surfaces. Please note that use of the "Tooke" gauge is classified as a destructive test.

### **3.02 SURFACE PREPARATION**

The surface shall be cleaned as specified for the paint system being used. All cleaning shall be as outlined in the Society for Protective Coatings (SSPC) Surface Preparation Specification, And the International Concrete Repair Institute (ICRI) unless otherwise noted. If surfaces are subject to contamination, other than mill scale or normal atmospheric rusting, the surfaces shall be pressure washed, and acid or caustic pH residues neutralized, in addition to the specified surface preparation.

### **3.03 STANDARDS FOR SURFACE PREPARATION**

- A. Chemical and/or Solvent Cleaning: Remove all grease, oil, salt, acid, alkali, dirt, dust, wax, fat, foreign matter and contaminates, etc. by one of the following methods: steam cleaning, alkaline cleaning, or volatile solvent cleaning.
- B. Hand Tool Cleaning: Removal of loose rust, loose mill scale and loose paint to a clean sound substrate by hand chipping, scraping, sanding and wire brushing.
- C. Power Tool Cleaning: Removal of loose rust, loose mill scale and loose paint to a clean sound substrate by power tool chipping, descaling, sanding, wire brushing and grinding.
- D. Flame Cleaning: Dehydrating and removal of rust, loose mill scale and some light mill scale by use of flame, followed by wire brushing.
- E. White Metal Blast Cleaning: Complete removal of all mill scale, rust, rust scale, previous coating, etc., leaving the surface a uniform gray-white color.
- F. Commercial Grade Blast Cleaning: Complete removal of all dirt, rust scale, mill scale, foreign matter and previous coating, etc., leaving only shadows and/or streaks caused by rust stain and mill scale oxides. At least 66% of each square inch of surface area is to be free of all visible residues, except slight discoloration.
- G. Brush-Off Blast Cleaning: Removal of rust scale, loose mill scale, loose rust and loose coatings, leaving tightly-bonded mill scale, rust and previous coatings. On concrete



surfaces, brush-off blast cleaning shall remove all laitance, form oils and solid contaminants. Blasting should be performed sufficiently close to the surface so as to open up surface voids, bugholes, air pockets and other subsurface irregularities, but so as not to expose underlying aggregate.

- H. Pickling: Complete removal of rust and mill scale by acid pickling, duplex pickling or electrolytic pickling (may reduce the resistance of the surface to corrosion, if not to be primed immediately).
- I. Near-White Blast Cleaning: Removal of all rust scale, mill scale, previous coating, etc., leaving only light stains from rust, mill scale and small specks of previous coating. At least 95% of each square inch of surface area is to be free of all visible residues and the remainder shall be limited to slight discoloration.
- J. Power Tool Cleaning to Bare Metal: Complete removal of rust, rust scale, mill scale, foreign matter and previous coatings, etc., to a standard as specified on a Commercial Grade Blast Cleaning (SSPC-SP-6, NACE-3) by means of power tools that will provide the proper degree of cleaning and surface profile.
- K. Surface Preparation of Concrete (SSPC-SP13)
- L. Visual standards "Pictorial Surface Preparation Standards for Painting Steel Surfaces", and the National Association of Corrosion Engineer, "Blasting Cleaning Visual Standards" TM-01-70 and TM-01-75 shall be considered as standards for proper surface preparation.
- M. Oil, grease, soil, dust, etc., deposited on the surface preparation that has been completed shall be removed prior to painting according to Solvent Cleaning under this Specification.
- N. Weld flux, weld spatter and excessive rust scale shall be removed by Power Tool Cleaning as per these Specifications.
- O. All weld seams, sharp protrusions and edges shall be ground smooth prior to surface preparation or application of any coatings.
- P. All areas requiring field welding shall be masked off prior to shop coating, unless waived by the County.
- Q. All areas which require field touch-up after erection, such as welds, burnbacks, and mechanically damaged areas, shall be cleaned by thorough Power Tool as specified in these Specifications.
- R. Touch-up systems will be same as original specification except that approved manufacturer's organic zinc-rich shall be used in lieu of inorganic zinc where this system was originally used. Also strict adherence to manufacturer's complete touch-up recommendations shall be followed. Any questions relative to compatibility of products shall be brought to the County's attention; otherwise, Contractor assumes full responsibility.

#### 3.04 PRETREATMENTS

When specified, the surface shall be pretreated in accordance with the specified pretreatment prior to application of the prime coat of paint.



### 3.05 STORAGE

Materials shall be delivered to the job site in the original packages with seals unbroken and with legible unmutilated labels attached. Packages shall not be opened until they are inspected by the County and required for use. All painting materials shall be stored in a clean, dry, well-ventilated place, protected from sparks, flame, direct rays of the sun or from excessive heat. Paint susceptible to damage from low temperatures shall be kept in a heated storage space when necessary. The Contractor shall be solely responsible for the protection of the materials stored by himself at the job site. Empty coating cans shall be required to be neatly stacked in an area designated by the County and removed from the job site on a schedule determined by the County. County may request a notarized statement from Contractor detailing all materials used on the Project.

### 3.06 PREPARATION OF MATERIALS

- A. Mechanical mixers, capable of thoroughly mixing the pigment and vehicle together, shall mix the paint prior to use where required by manufacturer's instructions; thorough hand mixing will be allowed for small amounts up to one gallon. Pressure pots shall be equipped with mechanical mixers to keep the pigment in suspension, when required by manufacturer's instructions. Otherwise, intermittent hand mixing shall be done to assure that no separation occurs. All mixing shall be done in accordance with SSPC Vol. 1, Chapter 4, "Practical Aspects, Use and Application of Paints" and/or with manufacturer's recommendations.
- B. Catalysts or thinners shall be as recommended by the manufacturer and shall be added or discarded strictly in accordance with the manufacturer's instruction.

### 3.07 APPLICATION

- A. Paint shall be applied only on thoroughly dry surfaces and during periods of favorable weather, unless otherwise allowed by the paint manufacturer. Except as provided below, painting shall not be permitted when the atmospheric temperature is below 50 deg F, or when freshly painted surfaces may be damaged by rain, fog, dust, or condensation, and/or when it can be anticipated that these conditions will prevail during the drying period.
- B. No coatings shall be applied unless surface temperature is a minimum of 5 Degrees above dew point; temperature must be maintained during curing.
- C. See coating schedule for actual coating systems to be used on this project.

### 3.08 DEW POINT CALCULATION CHART

#### DEW POINT CALCULATION CHART

Ambient Air Temperature - Fahrenheit

| Relative Humidity | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 |
|-------------------|----|----|----|----|----|----|----|----|-----|-----|-----|
| 90%               | 18 | 28 | 37 | 47 | 57 | 67 | 77 | 87 | 97  | 107 | 117 |
| 85%               | 17 | 26 | 36 | 45 | 55 | 65 | 76 | 84 | 95  | 104 | 113 |
| 80%               | 16 | 25 | 34 | 44 | 54 | 63 | 73 | 82 | 93  | 102 | 110 |
| 75%               | 15 | 24 | 33 | 42 | 52 | 62 | 71 | 80 | 91  | 100 | 108 |
| 70%               | 13 | 22 | 31 | 40 | 50 | 60 | 68 | 78 | 88  | 96  | 105 |
| 65%               | 12 | 20 | 29 | 38 | 47 | 57 | 66 | 76 | 85  | 93  | 103 |
| 60%               | 11 | 19 | 27 | 36 | 45 | 55 | 64 | 73 | 83  | 92  | 101 |

PAINTING

09900-6

#### WTP AERATOR STRUCTURE REHABILITATION

## DEW POINT CALCULATION CHART

Ambient Air Temperature - Fahrenheit

| Relative Humidity |    |    |    |    |    |    |    |    |    |    |    |
|-------------------|----|----|----|----|----|----|----|----|----|----|----|
| 55%               | 9  | 17 | 25 | 34 | 43 | 53 | 61 | 70 | 80 | 89 | 98 |
| 50%               | 6  | 15 | 23 | 31 | 40 | 50 | 59 | 67 | 77 | 86 | 94 |
| 45%               | 4  | 13 | 21 | 29 | 37 | 47 | 56 | 64 | 73 | 82 | 91 |
| 40%               | 1  | 11 | 18 | 26 | 35 | 43 | 52 | 61 | 69 | 78 | 87 |
| 35%               | -2 | 8  | 16 | 23 | 31 | 40 | 48 | 57 | 65 | 74 | 83 |

### SURFACE TEMPERATURE AT WHICH CONDENSATION OCCURS

#### Dew Point

Temperature at which moisture will condense on surface. No coatings should be applied unless surface temperature is a minimum of 5deg above this point. Temperature must be maintained during curing.

#### Example

If air temperature is 70 deg F and relative humidity is 65%, the dew point is 57 deg F. No coating should be applied unless surface temperature is 62 deg F minimum.

- A. No coating shall be applied unless the relative humidity is below 85%.
- B. Suitable enclosures to permit painting during inclement weather may be used if provisions are made to control atmospheric conditions artificially inside the enclosure, within limits suitable for painting throughout the painting operations.
- C. Field painting in the immediate vicinity of, or on, energized electrical and rotating equipment, and equipment and/or pipes in service shall not be performed without the approval of the County.
- D. Extreme care shall be exercised in the painting of all operable equipment, such as valves, electric motors, etc., so that the proper functioning of the equipment will not be affected.
- E. The Contractor's scaffolding shall be erected, maintained and dismantled without damage to structures, machinery, equipment or pipe. Drop cloths shall be used where required to protect buildings and equipment. All surfaces required to be clear for visual observation shall be cleaned immediately after paint application.
- F. Painting shall not be performed on insulated pipe within three (3) feet of insulation operations or on insulation whose covering and surface coat have not had time to set and dry. Painting shall not be performed on uninsulated pipe within one (1) foot of any type of connection until the connection has been made, except as directed by the County.
- G. The prime coat shall be applied immediately following surface preparation and in no case later than the same working day. All paint shall be applied by brushing, paint mitt and roller, conventional spraying, or airless spraying, using equipment approved by the paint manufacturer.
- H. Each coat of paint shall be recoated as per manufacturer's instructions. Paint shall be

considered recoatable when an additional coat can be applied without any detrimental film irregularities such as lifting or loss of adhesion.

- I. Surfaces that will be inaccessible after assembly shall receive either the full specified paint system or three shop coats of the specified primer before assembly.
- J. Finish colors shall be in accordance with the COLOR SCHEDULE and shall be factory mixed (i.e., there shall be no tinting by the Contractor, unless authorized by the County).
- K. All edges and weld seams in immersion service shall receive a "stripe coat" (applied by brush) of the 2nd coat prior to application of the full 2nd coat.
- L. All open seams in the roof area of tanks shall be filled after application of the topcoat with a flexible caulking such as Sika Flex 1A.

### 3.09 WORKMANSHIP

- A. The Contractor must show proof that all employees associated with this Project shall have been employed by the Contractor for a period not less than six (6) months.
- B. Painting shall be performed by experienced painters in accordance with the recommendations of the paint manufacturer. All paint shall be uniformly applied without sags, runs, spots, or other blemishes. Work which shows carelessness, lack of skill, or is defective in the opinion of the County, shall be corrected at the expense of the Contractor.
- C. The Contractor shall provide the names of at least three other projects of similar size and scope that they have successfully completed under their current company name.

### 3.10 APPLICATION OF PAINT

- A. By Brush and/or Rollers
  - 1. Top quality, properly styled brushes and rollers shall be used. Rollers with a baked phenol core shall be utilized.
  - 2. The brushing or rolling shall be done so that a smooth coat as nearly uniform in thickness as possible is obtained. Brush or roller strokes shall be made to smooth the film without leaving deep or detrimental marks.
  - 3. Surfaces not accessible to brushes or rollers may be painted by spray, by dauber or sheepskins, and paint mitt.
  - 4. It may require two coats to achieve the specified dry film thickness if application is by brush and roller.
- B. Air, Airless or Hot Spray
  - 1. The equipment used shall be suitable for the intended purpose, shall be capable of properly atomizing the paint to be applied and shall be equipped with suitable pressure regulators and gauges.
  - 2. Paint shall be applied in a uniform layer, with a 50% overlap pattern. All runs and sags should be brushed out immediately or the paint shall be removed and the surface resprayed.
  - 3. High build coatings should be applied by a cross-hatch method of spray application to ensure proper film thickness of the coating.
  - 4. Areas inaccessible to spray shall be brushed; if also inaccessible to brush, daubs or sheepskins shall be used, as authorized by the manufacturer.
  - 5. Special care shall be taken with thinners and paint temperatures so that paint of

- the correct formula reaches the receiving surface.
6. Nozzles, tips, etc., shall be of sizes and designs as recommended by the manufacturer of the paint being sprayed.
  7. The first coat on concrete surfaces in immersion service should be sprayed and back rolled.

### 3.11 PROTECTION AND CLEANUP

- A. It shall be the responsibility of the Contractor to protect at all times, in areas where painting is being done, floors, materials of other crafts, equipment, vehicles, fixtures, and finished surfaces adjacent to paint work. Cover all electric plates, surface hardware, nameplates, gauge glasses, etc., before start of painting work.
- B. At the option of the County during the course of this project, the Contractor will contain all spent abrasives, old paint chips, paint overspray and debris by means suitable to the County, including, but not limited to, full shrouding of the area.
- C. If shrouding is required, the Contractor must provide a complete design of the intended shroud or cover. Care must be taken not to modify or damage the structure during the use of the shroud. If damage should occur, the Contractor is held responsible for all repairs.
- D. At completion of the work, remove all paint where spilled, splashed, spattered, sprayed or smeared on all surfaces, including glass, light fixtures, hardware, equipment, painted and unpainted surfaces.
- E. After completion of all painting, the Contractor shall remove from job site all painting equipment, surplus materials and debris resulting from this work.
- F. The Contractor is responsible for the removal and proper disposal of all hazardous materials from the job site in accordance with Local, State and Federal requirements as outlined by the Environmental Protection Agency.
- G. A notarized statement shall be presented to the County that all hazardous materials have been disposed of properly including, but not limited to: name of disposal company, disposal site, listing of hazardous materials, weights of all materials, cost per pound and EPA registration number.

### 3.12 TOUCH-UP MATERIALS

The Contractor shall provide at the end of the Project at least one (1) gallon of each generic topcoat in each color as specified by the County for future touch-up. Two gallons may be required for (2) component materials.

### 3.13 ON-SITE INSPECTION

During the course of this Project, the County will reserve the option of incorporating the services of a NACE Level III inspection service. The inspection service will be responsible for assuring the proper execution of this Specification by the successful Contractor.

### 3.14 STEEL - STRUCTURAL, TANKS, PIPES AND EQUIPMENT

#### A. EXTERIOR EXPOSURE (NON-IMMERSION)

##### 1. System No. 1095-1: Epoxy/High Build Urethane

This system is highly resistant to abrasion, wet conditions, corrosive fumes and chemical contact. Provides 3-4 times the color and gloss retention of conventional paints. Second coat to be close to finish color but not the same color. This system should be used for above ground exterior steel surfaces that are neither submerged, nor buried.

Surface Preparation: SSPC-SP6 Commercial Blast Cleaning

|                                         |                  |
|-----------------------------------------|------------------|
| Shop Coat: 66HS-1211 Epoxoline Primer   | 3.0 - 4.0        |
| 2nd Coat: 66HS-Color Hi-Build Epoxoline | 2.0 - 3.0        |
| 3rd Coat: 1095-Endura-Shield III        | <u>2.0 - 3.0</u> |
| Dry Film Thickness                      | 7.0 - 10.0       |
| Minimum                                 | 8.0 Mils         |

##### 2. System No. 1095-2: High Build Urethane for Marginally Cleaned Surfaces or Topcoating Existing System

This system can be used over factory finish paint or cover non-sandblasted steel and offer the high performance of a urethane coating. Specify Series 1074U Endura-Shield for gloss finish.

Surface Preparation: SSPC-SP6 Commercial Blast Cleaning or SSPC-SP3 Power Tool Cleaning

|                                                                  |                  |
|------------------------------------------------------------------|------------------|
| Shop Coat: Manufacturer Standard Primer<br>(or existing coating) | 3.0-5.0          |
| 2nd Coat: 135 Chembuild                                          | 3.0 - 5.0        |
| 3rd Coat: 1095-Color Endura-Shield                               | <u>2.0 - 3.0</u> |
| Dry Film Thickness                                               | 8.0 - 13.0       |
| Minimum                                                          | 9.5 Mils         |

##### 4. System 90-97: Zinc/Epoxy/Urethane

This system offers the added corrosion protection of a zinc rich primer. Series 90-97 Tneme-Zinc is an organic zinc-rich primer that can be used for field touch up of a zinc primer or for touch up of galvanized surfaces that are damaged.

Surface Preparation: SSPC-SP6 Commercial Blast Cleaning

|                                         |                  |
|-----------------------------------------|------------------|
| Shop Coat: 90-97 Tneme-Zinc             | 2.5 - 3.5        |
| 2nd Coat: 66HS-Color Hi-Build Epoxoline | 2.0 - 3.0        |
| 3rd Coat: 1095 Endurashield             | <u>2.0 - 3.0</u> |
| Dry Film Thickness                      | 6.5 - 9.5        |
| Minimum                                 | 8.0 Mils         |

B. INTERIOR EXPOSURE (NON-IMMERSION)

1. System No. 66HS-1: High Build Epoxy

This system will provide chemical and corrosion resistance against abrasion, moisture, corrosion fumes, chemical contact and immersion in non-potable water. Primer coat must be touched-up before second coat is applied. Substitute Series 161HS for low temperature cure or quick recoats. Use this system for interior exposed, non submerged metals.

Surface Preparation: SSPC-SP6 Commercial Blast Cleaning

|                                         |                  |
|-----------------------------------------|------------------|
| Shop Coat: 66HS-1211 Epoxoline Primer   | 3.0 - 5.0        |
| 2nd Coat: 66HS-Color Hi-Build Epoxoline | <u>4.0 - 6.0</u> |
| Dry Film Thickness                      | 7.0 - 11.0       |
| Minimum                                 | 9.0 Mils         |

2. System No. 66HS-2: High Build Epoxy (Over OEM Finishes)

This system is to be used over standard manufacturer's primer to offer a high performance epoxy finish. Excellent for areas of rust not able to be completely cleaned.

Surface Preparation: Spot SSPC-SP6 Commercial Blast Cleaning or SSPC- SP11 Power Tool Cleaning to Bare Metal

|                                                             |                  |
|-------------------------------------------------------------|------------------|
| Shop Coat: Manufacturer's Standard<br>(or existing coating) | 1.0 - 2.0        |
| 2nd Coat: 27WB                                              | 2.5 - 4.0        |
| 3rd Coat: 66HS-Color Hi-Build Epoxoline                     | <u>2.0 - 4.0</u> |
| Dry Film Thickness                                          | 5.5 - 10.0       |
| Minimum                                                     | 7.0 Mils         |

C. IMMERSION

1. System No. 104-1: High Solids Epoxy (Non-Potable Water)

This system will provide chemical and corrosion resistance for protection against abrasion, moisture, corrosive fumes, chemical contact and immersion in **mild to moderate** Wastewater, such as clarifiers, chlorine contact basins, aeration basins, settling basins and other open top (aerobic) structures. Primer coat must be touched-up before second coat is applied. Scarify the surface before topcoating if the Series 66HS has been exterior-exposed for 60 days or longer. Substitute Series 161HS for low temperature cure or quick recoats.

Surface Preparation: SSPC-SP10 Near-White Blast Cleaning

|                                        |                |
|----------------------------------------|----------------|
| Shop Coat: 66HS-1211 Epoxoline Primer  | 3.0 - 5.0      |
| 2nd Coat: 104-Color Hi-Build Epoxoline | 6.0-8.0        |
| 3rd Coat: 104-Color Hi-Build Epoxoline | <u>6.0-8.0</u> |
| Dry Film Thickness                     | 15.0 - 21.0    |
| Minimum                                | 11.0 Mils      |

2. System No. 20HS-1: Epoxy-Polyamide (Potable Water)

This system meets American Water Works Association AWWA D 102 Inside Paint System Number 1. Series 20HS meets the new requirements of approval for



potable water use as established by the National Sanitation Foundation Standard 61. Substitute Series FC20HS for low temperature cure or quick recoats.

Surface Preparation: SSPC-SP10 Near-White Blast Cleaning

|                                            |                  |
|--------------------------------------------|------------------|
| Shop Coat: 20HS-WH02 Pota-Pox (Tank White) | 3.0 - 5.0        |
| 2nd Coat: 20HS-1255 Pota-Pox (Beige)       | 4.0 - 6.0        |
| 3rd Coat: 20HS-WH02 Pota-Pox (Tank White)  | <u>4.0 - 6.0</u> |
| Dry Film Thickness                         | 11.0-17.0        |
| Minimum                                    | 12.0 Mils        |

### 3.15 OVERHEAD METAL DECKING, JOIST

#### A. INTERIOR EXPOSURE

##### System No. 115-1: Uni-Bond

This system should be used on ceiling areas where a one-coat system is desired. Can be applied over steel, galvanized and aluminum decking, joist, shop primed beams, conduits and concrete.

Surface Preparation: Surfaces must be dry, clean and free of oil, grease and other contaminants. Allow concrete to cure 28 days.

|                    |                    |
|--------------------|--------------------|
| Coating:           | 115-Color Uni-Bond |
| Dry Film Thickness | 2.5 - 4.0          |

#### B. EXTERIOR EXPOSURE

##### System No. 1029-1: Enduratone

This system can be applied over a wide variety of coatings and factory finishes. It can also be applied direct to galvanized aluminum decking, joists, & conduits

Surface Preparation: Pressure clean to remove all dirt, oil, grease, chemicals and foreign contaminants. Remove loose paint and all rust by hand and power tool cleaning (SSPC-SP 2 & 3)

|                    |                        |                |
|--------------------|------------------------|----------------|
| 1st Coat:          | 1029-Color Endura-tone | 2.0-3.0        |
| 2nd Coat:          | 1029-Color Enduratone  | <u>2.0-3.0</u> |
| Dry Film Thickness |                        | 4.0-6.0        |

### 3.16 GALVANIZED STEEL - PIPE AND MISCELLANEOUS FABRICATIONS

#### A. EXTERIOR / (NON-IMMERSION)

##### System No. 1095-3: Epoxy/High Build Urethane

Series 66HS has excellent adhesion to galvanized steel. This system is highly resistant to abrasion, wet conditions, corrosive fumes and chemical contact. Provides 3-4 times the color and gloss retention of conventional paints. First coat to be same color as or close to the finish color. Specify Series 1074U Endura-Shield for gloss finish.

Surface Preparation: SSPC-SP1 Solvent Cleaning, followed by Sweep Abrasive Blasting (SSPC-SP7)

|                                         |                  |
|-----------------------------------------|------------------|
| 1st Coat: 66HS-Color Hi-Build Epoxoline | 2.0 - 4.0        |
| 2nd Coat: 1095-Color Endura-Shield      | <u>2.0 - 4.0</u> |
| Dry Film Thickness                      | 4.0 - 8.0        |
| Minimum                                 | 5.0 Mils         |

B. INTERIOR EXPOSURE (NON IMMERSION) AND ALUMINUM IN CONTACT WITH CONCRETE

System No. 66HS-3: Polyamide Epoxy

Surface Preparation: SSPC-SP1 Solvent Cleaning

|                                         |                  |
|-----------------------------------------|------------------|
| 1st Coat: 66HS-Color Hi-Build Epoxoline | 2.0 - 4.0        |
| 2nd Coat: 66HS-Color Hi-Build Epoxoline | <u>2.0 - 4.0</u> |
| Dry Film Thickness                      | 4.0 - 8.0        |
| Minimum                                 | 5.0 Mils         |

3.17 CONCRETE

A. EXTERIOR - ABOVE GRADE

1. System No. 1026-1: Acrylic Emulsion Low Sheen

***If semi-gloss finish is desired, use Series 1029 Tneme-Cryl SG as the second coat.***

Surface Preparation: Allow new concrete to cure for 28 days. Surface must be clean and dry.

|                                 |                  |
|---------------------------------|------------------|
| 1st Coat: 1026-Color Tneme-Cryl | 2.0 - 3.0        |
| 2nd Coat: 1026-Color Tneme-Cryl | <u>2.0 - 3.0</u> |
| Dry Film Thickness              | 4.0 - 6.0        |
| Minimum                         | 5.0 Mils         |

2. System No. 156-1: Modified Acrylic Elastomer

If texture is needed, use 157 Enviro-Crete TX (medium texture) For application over previously applied coatings, use TNEMEC Series 151 Elasto-Grip at 1.0 - 2.5 mils DFT prior to the application of Series 156 Enviro-Crete.

Surface Preparation: Surface must be clean and dry.

|                                  |                  |
|----------------------------------|------------------|
| 1st Coat: 156-Color Enviro-Crete | 4.0 - 8.0        |
| 2nd Coat: 156-Color Enviro-Crete | <u>4.0 - 8.0</u> |
| Dry Film Thickness               | 8.0 - 16.0       |
| Minimum                          | 10.0 Mils        |

B. EXTERIOR - BELOW GRADE

1. System No. 46-31: Coal Tar-Epoxy

Surface Preparation: Surface shall be clean and dry.

|                    |                            |
|--------------------|----------------------------|
| One Coat:          | 46H-413 Hi-Build Tneme-Tar |
| Dry Film Thickness | 14.0 - 20.0                |

C. EXTERIOR/INTERIOR EXPOSURE (NON-IMMERSION)



1. System No. 1026-2: Acrylic Emulsion, Low Sheen (Interior/Exterior)

This system will provide a decorative coating with good exterior durability, color retention, and a high vapor transmission rate. **For Semi-Gloss finish, use 1029-Color Tneme-Cryl S/G.**

Surface Preparation: Surface shall be clean and dry. Allow concrete to cure for 28 days.

|                                          |                  |
|------------------------------------------|------------------|
| Block Filler (CMU only): 1254 Epoxoblock | 125 SF/GL        |
| 1st Coat: 1026-Color Tneme-Cryl          | 2.0 - 3.0        |
| 2nd Coat: 1026-Color Tneme-Cryl          | <u>2.0 - 3.0</u> |
| Dry Film Thickness                       | 4.0 - 6.0        |
| Minimum                                  | 5.0 Mils         |
| *Does not include Block Filler           |                  |

2. System No. 66HS-4: Epoxy-Polyamide (Interior)

**Series 66HS provides excellent protection from abrasion, moisture, corrosive fumes and chemical contact.**

Surface Preparation: Surfaces shall be clean and dry. Allow concrete to cure for 28 days. All surfaces must be clean and dry.

|                                          |                  |
|------------------------------------------|------------------|
| Block Filler (CMU only): 1254 Epoxoblock | 125 SF/GL        |
| 1st Coat: 66HS-Color Hi-Build Epoxoline  | 3.0 - 5.0        |
| 2nd Coat: 66HS-Color Hi-Build Epoxoline  | <u>4.0 - 6.0</u> |
| Dry Film Thickness                       | 7.0-11.0*        |
| Minimum                                  | 9.0 Mils *       |
| (Does not include Block Filler)          |                  |

D. IMMERSION - POTABLE & NON-POTABLE WATER

1. System No. 104-2: High Solids Epoxy (Non-Potable Water). This system will provide chemical and corrosion resistance for protection against abrasion, moisture, corrosive fumes, chemical contact and immersion in **mild to moderate** Wastewater, such as clarifiers, chlorine contact basins, aeration basins, settling basins and other open top (aerobic) structures.

Surface Preparation: Existing Concrete: all existing surfaces (walls, floors, top of walls) shall be pressure washed with 3,000-4,000psi potable water to remove all contaminants. Completely remove existing failing coating system using sweep abrasive blasting. New Concrete: Allow new concrete to cure for 28 days. Sweep abrasive blast per SSPC-SP13 to remove all laitance, fines, curing compounds, form release oils, and other contaminants, and to establish a surface profile equal to ICRI CSP 5 or greater.

Apply Tnemec Series 218 to all surfaces at a minimum of 1/16" to re-surface concrete, fill voids and bugholes, mitigate concrete outgassing, and to create a monolithic, paintable surface.

|                                      |                  |
|--------------------------------------|------------------|
| 1st Coat: 104-1255 H.S. Epoxy Primer | 6.0 - 8.0        |
| 2nd Coat: 104 Color H.S. Epoxy       | <u>6.0 - 8.0</u> |
| 3rd Coat: 104 Color H.S. Epoxy       | <u>6.0-8.0</u>   |
| Dry Film Thickness                   | 18.0 - 240.0     |
| Minimum                              | 20.0 Mils        |

2. System No. 21 Phenalkamine Epoxy (Potable Water)

This system meets American Water Works Association AWWA D 102 Inside System Nos. 1, 2, 5 and 6. Series 21 meets the requirements of approval for potable water use as established by the National Sanitation Foundation Standard 61.

Surface Preparation: Allow new concrete to cure for 28 days. Sweep abrasive blast per SSPC-SP13 to remove all laitance, fines, curing compounds, form release oils, and other contaminants, and to establish a surface profile equal to ICRI CSP 3. Large cracks, voids and other surface imperfections shall be filled with a recommended filler or surfacer.

Apply Tnemec Series 218 to all surfaces at a minimum of 1/16" to re-surface concrete, fill voids and bugholes, and to create a monolithic, paintable surface.

|                                                        |             |
|--------------------------------------------------------|-------------|
| 1st Coat: Self-priming, L69, N69, L140, N140, 215, 218 | 4.0 - 6.0   |
| 2nd Coat: Series 21, 72, 73, 406, 1094, 1095, 1096     | 4.0 - 6.0   |
| 3rd Coat: Series 21, 72, 73, 406, 1094, 1095, 1096     | 4.0 - 6.0   |
| Dry Film Thickness                                     | 12.0 - 18.0 |
| Minimum                                                | 13.0 Mils   |

Note: A 30-day maximum recoat time applies when top coating with Series 72, 73, 406. All others are a 9-month maximum.

E. INTERIOR EXPOSURE (NON-IMMERSION)

1. System No. 66HS-5: High Solids Epoxy

This system will produce a slick, tile-like finish that has excellent chemical and water resistance. Surface will be easy to clean.

Surface Preparation: Allow new concrete to cure for at least 28 days. Surface to be clean and dry.

|                                 |                  |
|---------------------------------|------------------|
| 1st Coat: 66HS-Color H.S. Epoxy | 6.0 - 8.0        |
| 2nd Coat: 66HS-Color H.S. Epoxy | <u>6.0 - 8.0</u> |
| Dry Film Thickness              | 12.0 - 16.0      |
| Minimum                         | 4.0 Mils         |

2. System No. 113-1: Acrylic-Epoxy Semi-Gloss

This system will provide high performance and can be applied directly over existing coatings without lifting. Can be used when low odor is required during application. Specify Series 114 Tneme-Tufcoat for Gloss Finish.

Surface Preparation: Allow new concrete to cure for at least 28 days. Surface must be clean and dry.

|                    |                         |
|--------------------|-------------------------|
| One or Two Coats:  | 113-Color Tneme-Tufcoat |
| Dry Film Thickness | 4.0 - 6.0               |

### 3.18 CONCRETE FLOORS

#### A. EPOXY FLOOR COATINGS

1. System No. 290-1: Epoxy- Chemical Resistant Urethane

***This system will provide a durable, long-wearing coating that bonds tightly to concrete and stands up under heavy foot traffic, frequent cleaning, spillage of water, oil, grease, or chemical, and UV Exposure.***

Surface Preparation: Allow new concrete to cure for 28 days. Mechanically abrade or Sweep Abrasive Blast Cleaning

Moisture vapor transmission should not exceed three lbs per 1,000 sq ft in a 24 hour period. (Reference ASTM F 1869 "Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.") Relative humidity should not exceed 80%. (Reference ASTM F 2170 "Standard Test Method for Determining Relative Humidity in Concrete using in situ Probes.")

***Note: For moisture content up to 10 lbs per 1,000 sq ft or relative humidity up to 90%, Series 208 may be substituted for Series 201 as the primer.***

|                                 |            |
|---------------------------------|------------|
| 1st Coat: 201- Epoxoprime       | 5.0-7.0    |
| 2nd Coat: 237-Color Tneme-Glaze | 8.0-10.0   |
| 3 <sup>rd</sup> Coat: 290 CRU   | 2.0-3.0    |
| Dry Film Thickness              | 15.0- 20.0 |
| Minimum                         | 17.0 Mils  |

For a non-skid finish, broadcast 30-50 mesh clean, dry silica sand into the 2nd coat at a rate of 5 lbs per 150 square feet.

2. System No. 241/222: Decorative Quartz Flooring (Non-Slip)

This system provides a decorative, chemical, abrasion, impact resistant, non-slip, seamless flooring system with a moisture mitigating base coat that resists up to 20 lbs of moisture vapor pressure.

Surface Preparation: Allow new concrete to cure for 28 days. Mechanically abrade or Sweep abrasive Blast to provide a minimum surface profile equal to ICRI CSP3

|                                   |                              |
|-----------------------------------|------------------------------|
| 1st Coat: 241 Ultra-Tread MVT     | 70 square feet per small kit |
| 2nd Coat: 222 Deco-Tread          | (1 ct. @ 1/16" ea.)          |
| 3rd Coat: 284 Tneme-Glaze (clear) | 8.0 - 12.0                   |
| Minimum Dry Film Thickness        | 1/8"+                        |

### 3.19 POROUS MASONRY

#### A. EXTERIOR/INTERIOR EXPOSURE

1. System No. 156-2: Modified Epoxy - Sand Texture

Modified Waterborne Acrylate. This system offers long term protection against wind-driven rain, mold/mildew growth, chalking & fading, and bridges hairline cracks.

Surface Preparation: Surface shall be clean and dry.

|                                 |           |
|---------------------------------|-----------|
| 1st Coat: 157-Color Envirocrete | 6.0-9.0   |
| 2nd Coat: 157 Envirocrete       | 6.0-9.0   |
| Dry Film Thickness              | 12.0-18.0 |
| Minimum DFT:                    | 14.0 mils |

2. System No. 104-3: High Solids Epoxy (Interior Only)

This system will produce a film thickness of 16 mils. The surface will be tile-like for easy cleaning and will provide protection against chemical attack, corrosive fumes, high humidity and wash down. Backroll first coat to fill porosity.

Surface Preparation: Surface to be clean and dry.

|                                |                   |
|--------------------------------|-------------------|
| 1st Coat: 104-Color H.S. Epoxy | 8.0 - 10.0        |
| 2nd Coat: 104-Color H.S. Epoxy | <u>8.0 - 10.0</u> |
| Dry Film Thickness             | 16.0 - 20.0       |
| Minimum                        | 18.0 Mils         |

3. System No. 113-2: Acrylic-Epoxy Semi-Gloss (Interior Only)

Series 113 Tneme-Tufcoat has very low odor and can be used when painting in occupied areas.

***Specify Series 114 Tneme-Tufcoat for a gloss finish.***

Surface Preparation: Surface must be clean and dry.

|                                    |                  |
|------------------------------------|------------------|
| 1st Coat: 1254 Epoxoblock WB       | 125 SF/Gal       |
| 2nd Coat: 113-Color Tneme-Tufcoat* | <u>4.0 - 6.0</u> |
|                                    | **4.0 - 6.0      |

\* ***Two coats may be required if applied by roller***

\*\* ***Total Dry Film Thickness of Topcoats Only***

4. System No. 156-3: Modified Acrylic Elastomer

If texture is needed, use 157 Enviro-Crete TX For application over previously applied coatings, use TNE MEC 151 Elasto-Grip at 1.0 - 2.5 mils DFT in lieu of Series 1254.

Surface Preparation: Surfaces must be clean and dry.

|                                  |                  |
|----------------------------------|------------------|
| 1st Coat: 1254 Epoxoblock WB     | 125 SF/Gal       |
| 2nd Coat: 156-Color Enviro-Crete | 4.0 - 8.0        |
| 3rd Coat: 156-Color Enviro-Crete | <u>4.0 - 8.0</u> |
| Dry Film Thickness               | 8.0 - 16.0       |
| Minimum                          | 10.0 Mils        |

### 3.20 GYPSUM WALLBOARD

#### A. INTERIOR EXPOSURE

1. System No. 113-3: Acrylic-Epoxy

Surface Preparation: Surface must be clean and dry.

|                                   |                  |
|-----------------------------------|------------------|
| 1st Coat: 51PVA Sealer            | 1.0 - 2.0        |
| 2nd Coat: 113 H.B. Tneme-Tufcoat* | <u>4.0 - 5.0</u> |
| Dry Film Thickness                | 5.0 - 7.0        |
| Minimum                           | 6.0 Mils         |

\*Two coats may be required if application is by brush and roller.

2. System No. 66HS-5: Hi-Build Epoxoline

Surface Preparation: Surface must be clean and dry.

|                                          |                  |
|------------------------------------------|------------------|
| 1st Coat: 51PVA Sealer                   | 1.0 - 2.0        |
| 2nd Coat: 66HS-Color Hi-Build Epoxoline* | <u>4.0 - 6.0</u> |
| Dry Film Thickness                       | 5.0 - 8.0        |
| Minimum                                  | 5.0 Mils         |

\*Two coats may be required if applied by roller

3. System No. 1026--3: Acrylic Emulsion, Low Sheen  
(Interior/Exterior Exposure)

This system is designed for mild use areas like office walls, laboratory ceilings, stairwells, etc. For Semi-Gloss finish, use 1029-color Tneme-Cryl S/G.

Surface Preparation: Surface must be dry and clean.

|                                 |                  |
|---------------------------------|------------------|
| 1st Coat: 1026-Color Tneme-Cryl | 2.0 - 3.0        |
| 2nd Coat: 1026-Color Tneme-Cryl | <u>2.0 - 3.0</u> |
| Dry Film Thickness              | 4.0 - 6.0        |
| Minimum                         | 5.0 Mils         |

### 3.21 WOOD

#### A. EXTERIOR/INTERIOR EXPOSURE

1. System No. 1029-2: Acrylic Emulsion Semi-Gloss

***Specify Series 1028 Hi-Build Tneme-Gloss for High Gloss finish.***

Surface Preparation: Surface shall be clean and dry.

|                              |                  |
|------------------------------|------------------|
| 1st Coat: 10-99W Undercoater | 2.0-3.0          |
| 2nd Coat: 1029 Enduratone    | 1.5 - 3.5        |
| 3rd Coat: 1029 Enduratone    | <u>1.5 - 3.5</u> |
| Dry Film Thickness           | 5.0 - 10.5       |
| Minimum                      | 6.0 Mils         |

### 3.22 PVC PIPE

#### A. EXTERIOR OR INTERIOR

System No. 1095-4: Acrylic Polyurethane

Surface Preparation: SSPC-SP1 followed by hand or power sanding to scarify / degloss surface.

Two Coats: 1095 Endurashield Dry Film Thickness      2.0-3.0 mils per coat.

### 3.23 INSULATED PIPE

#### A. INTERIOR EXPOSURE

System No. 1026-4: Acrylic Emulsion, Low Sheen

***For semi-gloss finish, use 1029-Color Tneme-Cryl S/G.***

Surface Preparation: Surface shall be clean and dry.

|                                 |                  |
|---------------------------------|------------------|
| 1st Coat: 1026-Color Tneme-Cryl | 2.0 - 3.0        |
| 2nd Coat: 1026-Color Tneme-Cryl | <u>2.0 - 3.0</u> |
| Dry Film Thickness              | 4.0 - 6.0        |
| Minimum                         | 5.0 Mils         |

### 3.24 HIGH HEAT COATING

#### A. EXTERIOR/INTERIOR EXPOSURE

##### 1. System No. 1528-1: Inert Multipolymeric Matrix (1200 deg F Maximum)

Surface Preparation: SSPC-SP10 Near-White Blast Cleaning - 1.5 Mil Surface Profile

|                                      |                |
|--------------------------------------|----------------|
| 1st Coat: 1528-Color Endura-Heat DTM | 2.0-4.0        |
| 2nd Coat: 1528-Color Endura-Head DTM | <u>2.0-4.0</u> |
| Dry Film Thickness                   | 4.0-6.0        |

### 3.25 SURFACES EXPOSED TO H<sub>2</sub>S/H<sub>2</sub>SO<sub>4</sub> (SEVERE EXPOSURE/IMMERSION)

#### A. CEMENTITIOUS SURFACES

System No. 434-1: Polyamine Epoxy Mortar system

Surface Preparation: Allow new concrete to cure for 28 days. Sweep abrasive blast per SSPC-SP13 to remove all laitance, fines, curing compounds, form release oils, and other contaminants, and to establish a surface profile equal to ICRI CSP 5 or greater.

Apply Tnemec Series 218 to all surfaces at a minimum of 1/16" to re-surface concrete, fill voids and bugholes, mitigate concrete outgassing, and to create a monolithic, paintable surface.

|                            |                  |
|----------------------------|------------------|
| 1st Coat: 434 Perma-Shield | 125 mils         |
| 2nd Coat: 435 Perma-Glaze  | <u>18.0-20.0</u> |

|                    |         |
|--------------------|---------|
| Dry Film Thickness | 143-145 |
| Minimum            | 144.0   |

B. FERROUS METAL SURFACES

System No. 142-1: Flake /Aluminum Oxide Filled Polyamine Epoxy  
Surface Preparation: SSPC-SP-10 Near White Metal Blast Cleaning (1.5 Mil Profile)

|                              |                  |
|------------------------------|------------------|
| 1st Coat: Series 1 Omnithane | 2.5-3.5          |
| 2nd Coat: 142 Epoxoline      | <u>14 - 18.0</u> |
| Dry Film Thickness           | 16.0 – 23.5.0    |
| Minimum                      | 20.0 Mils        |

3.26 EXTERIOR OF PRESTRESSED CONCRETE TANKS

A. System No. 156-4: New Tanks

Surface Preparation: Allow new concrete to cure for at least (3) days. Surface to be clean and dry.

|                                 |                  |
|---------------------------------|------------------|
| 1st Coat: 156-Color Envirocrete | 4.0 - 6.0        |
| 2nd Coat: 156-Color Envirocrete | <u>4.0 - 6.0</u> |
| Dry Film Thickness              | 8.0 - 12.0       |
| Minimum                         | 10.0 Mils        |

B. System No. 156-5: Existing Tanks (Previously Painted)

Surface Preparation: Remove all dirt, oil, grease, chalk, and loose paint per high pressure water blast (min. 3500 psi).

|                                                                                       |                  |
|---------------------------------------------------------------------------------------|------------------|
| 1st Coat: 151 Elasto-Grip                                                             | 1.0 - 2.5        |
| Stripe Coat: Stripe all hairline cracks with a brushed coat of Series 156 Envirocrete | 3.0 - 5.0        |
| Topcoat: 156-Envirocrete                                                              | <u>4.0 - 6.0</u> |
| Dry Film Thickness (Cracks)                                                           | 8.0 - 13.5       |
| Dry Film Thickness (Other)                                                            | 5.0 - 8.5        |

3.27 SECONDARY CONTAINMENT AREAS

A. System No. 239SC-1: Modified Novolac Epoxy

This system offers superior chemical resistance to a wide range of aggressive chemicals, including Sulfuric Acid, Hydrofluosilicic Acid, Sodium Hydroxide, Sodium Hypochlorite, Polymer Emulsion, and hydrocarbons.

Surface Preparation: Allow new concrete to cure for 28 days. Sweep abrasive blast per SSPC-SP13 to remove all laitance, fines, curing compounds, form release oils, and other contaminants, and to establish a surface profile equal to ICRI CSP 5 or greater.

Moisture vapor transmission should not exceed three lbs per 1,000 sq ft in a 24 hour period. (Reference ASTM F 1869 "Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.") Relative humidity should not exceed 80%. (Reference ASTM F 2170 "Standard Test Method for Determining Relative Humidity in Concrete using in situ Probes.") Note: For moisture content up to 10 lbs per 1,000 sq ft or relative humidity up to 90%, Series 241 may be substituted for the primer. Refer to the Series 241 product data sheet for more



information.

Apply Tnemec Series 218 to all vertical surfaces at a minimum of 1/16" to re-surface concrete, fill voids and bugholes, and to create a monolithic, paintable surface.

Apply Tnemec Series 215 or 218 as needed to fill voids in horizontal surfaces.

|                                          |                 |
|------------------------------------------|-----------------|
| Primer: Tnemec Series 239SC RCK          | 6.0-8.0         |
| Basecoat: Tnemec Series 239SC MCK        | 60.0-80.0       |
| Fiberglass Mat: Tnemec Series 211-0215SC | NA              |
| Saturant Coat: Tnemec Series 239SC RCK   | 10.0-12.0       |
| Top Coat: Tnemec Series 282              | <u>8.0-10.0</u> |
| Dry Film Thickness                       | 84.0-110.0      |

Notes:

1. See Tnemec's *Fiberglass Mat Reinforced Mortar Application Guide* for System details
2. Series 282 is not color stable. For extended color and gloss retention, apply a finish coat of Tnemec Series 290 CRU @ 2.0-3.0 mils DFT

B. System No. 61-1: Cycloaliphatic Amine Epoxy

This system offers superior resistance to gasoline, diesel fuel, and other hydrocarbons. Use TNEMEC Series 215 between coats as a filler and surfacer wherever it is required.

**Surface Preparation:** Allow new concrete to cure for 28 days. Sweep abrasive blast per SSPC-SP13 to remove all laitance, fines, curing compounds, form release oils, and other contaminants, and to establish a surface profile equal to ICRI CSP 5 or greater.

Moisture vapor transmission should not exceed three lbs per 1,000 sq ft in a 24 hour period. (Reference ASTM F 1869 "Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.") Relative humidity should not exceed 80%. (Reference ASTM F 2170 "Standard Test Method for Determining Relative Humidity in Concrete using in situ Probes.") Note: For moisture content up to 10 lbs per 1,000 sq ft or relative humidity up to 90%, Series 241 may be applied prior to the "Primer" coat. Refer to the Series 241 product data sheet for more information.

Apply Tnemec Series 218 to all **vertical** surfaces at a minimum of 1/16" to re-surface concrete, fill voids and bugholes, mitigate concrete outgassing, and to create a monolithic, paintable surface.

Apply Tnemec Series 215 or 218 as needed to fill voids in **horizontal** surfaces.

|                                     |                   |
|-------------------------------------|-------------------|
| Primer: 61-5002 Tneme-Liner (Beige) | 8.0 - 12.0        |
| Topcoat: 61-5001 Tneme-Liner (Gray) | <u>8.0 - 12.0</u> |
| Dry Film Thickness                  | 16.0 - 24.0       |

3.28 CLEAR WATER REPELLENT FOR CONCRETE, MASONRY AND BRICK

A. Silane /Siloxane Sealer (Min. 42% Solids)

**Surface Preparation:** Allow new concrete to cure 28 days. All surfaces must be clean, dry, and free of oils, curing compounds, form release oils, and other contaminants that might interfere with the penetration of the sealer.



COATING: BRICK, CONCRETE

Tnemec Series 662 .... Two Coats @ 75-200 SF/GAL

SPLIT FACED OR POROUS MASONRY

Tnemec Series 662..... Two Coats @ 35-100 SF/GAL

3.29 CANAL PIPE (AERIAL) CROSSINGS

- A. System 701-1: NEW. Zinc/Epoxy/Fluoropolymer for New Pipe or Existing Pipe Requiring Removal of Existing Coatings

Surface Preparation: SSPC-SP6 Commercial Blast Cleaning

|                                         |                  |
|-----------------------------------------|------------------|
| Primer: 90-97 Tneme-Zinc                | 2.5 - 3.5        |
| 2nd Coat: 66HS-Color Hi-Build Epoxoline | 2.0 - 3.0        |
| 3rd Coat: 701-Color Hydroflon           | <u>2.0 - 3.0</u> |
| Dry Film Thickness                      | 6.5 - 9.5        |
| Minimum                                 | 8.0 Mils         |

- B. System No. 701-2: EXISTING. High Build, Semi- Gloss Fluoropolymer for Marginally Cleaned Surfaces or Topcoating Over Existing Systems

Surface Preparation: High Pressure Water Blast (min. 3500 psi) or Solvent Clean (SSPC-SP1) and Spot Hand or Power Tool Clean (SSPC-SP 2 - 3) or Brush Blast (SSPC-SP7). Existing coatings must be clean, dry and tightly adhering prior to application of coatings.

|                                             |                  |
|---------------------------------------------|------------------|
| Spot Coat: 135-Color Chembuild              | 3.0 - 5.0        |
| Prime Coat: 135-Color Chembuild             | 3.0 - 5.0        |
| 2nd Coat: 701-Color Hydroflon               | <u>2.0 - 3.0</u> |
| Minimum Dry Film Thickness (NIC Spot Coat)? | 6.0              |

3.30 PROJECT DESIGNER SYSTEMS REFERENCE GUIDE

A. STEEL

EXTERIOR (NON-IMMERSION)

- A.1 System No. 1095-1-1: Epoxy/High Build Urethane
- A.2 System No. 1095-2: High Build Urethane
- A.4 System 90-97: Zinc/Epoxy/Urethane

INTERIOR EXPOSURE (NON-IMMERSION)

- B.1 System No. 66HS-1: High Solids Epoxy
- B.2 System No. 66HS-2: High Build Epoxy

IMMERSION

- C.1 System No. 104-1: High Solids Epoxy (Non-Potable)
- C.2 System No. 20HS-1: High Build Epoxy (Non-Potable)

B. OVERHEAD METAL DECKING, JOIST (INTERIOR EXPOSURE)

System No. 115-1: Uni-Bond

- C. OVERHEAD METAL DECKING, JOINT (EXTERIOR EXPOSURE)  
System No. 1029-1 Enduratone
- D. GALVANIZED STEEL-PIPE AND MISCELLANEOUS FABRICATORS  
System No. 1095-3: Epoxy/High Build Urethane
- E. GALVANIZED STEEL-INTERIOR EXPOSURE (NON-IMMERSION) AND ALUMINUM IN CONTACT WITH CONCRETE  
System No. 66HS-3: Polyamide Epoxy
- F. CONCRETE  
EXTERIOR-ABOVE GRADE  
  - A.1 System No. 1026-1: Acrylic Emulsion Low Sheen
  - A.2 System No. 156-1: Modified Acrylic Elastomer
EXTERIOR-BELOW GRADE  
  - B.1 System No. 46-61: Coal Tar Pitch Solution
EXTERIOR/INTERIOR EXPOSURE (NON-IMMERSION)  
  - C.1 System No. 1026-2: Acrylic Emulsion Low Sheen
  - C.2 System No. 66HS-4: Epoxy-Polyamide
IMMERSION (POTABLE & NON-POTABLE)  
  - D.1 System No. 104-2: High Solids Epoxy (Non-Potable)
  - D.2 System No. 20HS-2: Epoxy Polyamide (Potable)
INTERIOR EXPOSURE (NON-IMMERSION)  
  - E.1 System No. 66HS-5: High Solids Epoxy
  - E.2 System No. 113-1: Acrylic Epoxy Semi-Gloss
- G. CONCRETE FLOORS  
  - A.1 System No. 290-1: Epoxy-Polyamide
  - A.5 System No. 241/222: Decorative / Functional Flooring (Non-Slip)
- H. POROUS MASONRY - EXTERIOR/INTERIOR EXPOSURE  
  - A.1 System No. 156-2: Modified Epoxy-Sand Texture
  - A.2 System No. 104-3: High Solids Epoxy (Interior Only)
  - A.3 System No. 113-2: Acrylic Epoxy Semi-Gloss (Interior Only)
  - A.4 System No. 156-3: Modified Acrylic Elastomer
- I. GYPSUM WALLBOARD  
  - A.1 System No. 113-3: Acrylic Epoxy
  - A.2 System No. 66HS-5: Hi-Build Epoxoline

- A.3 System No. 1026-3: Acrylic Emulsion, Low Sheen
- J. WOOD EXTERIOR/INTERIOR EXPOSURE.
  - A.1 System No. 1029-2: Acrylic Emulsion Semi-Gloss
  - A.2 System No. 6-5: Acrylic Latex
- K. PVC PIPE EXTERIOR/INTERIOR EXPOSURE
  - A.1 System No. 1095-5: Acrylic Polyurethane
- L. INSULATED PIPE-INTERIOR EXPOSURE
  - A.1 System No. 1026-4: Acrylic Emulsion, Low Sheen
- M. HIGH HEAT SURFACES-FERROUS METAL
  - A.1 System No. 1528-1: Silicone Aluminum (1200deg F Maximum)
- N. SURFACES EXPOSED TO H<sub>2</sub>S/H<sub>2</sub>SO<sub>4</sub> (SEVERE EXPOSURE/IMMERSION)
  - A.1 System No. 434-1: Polyamine Epoxy Mortar Systems
  - A.2 System No. 142-1: Flake / Aluminum Oxide Filled Polyamine Epoxy
- O. EXTERIOR OF PRESTRESSED CONCRETE TANKS
  - A. System 156-4 New Tanks
  - B. System 156-5: Existing Tanks (Previously Painted)
- P. SECONDARY CONTAINMENT AREAS
  - A. System No. 239SC-1: Modified Novolac Epoxy
  - B. System No. 61-1: Cycloaliphatic Amine Epoxy
- Q. CLEAR WATER REPELLENT FOR CONCRETE, MASONRY AND BRICK
  - A. Silane /Siloxane Sealer (Min. 42% Solids)
- R. CANAL PIPE (AERIAL) CROSSINGS
  - A. System No. 701-1: Zinc/Epoxy/Fluoropolymer
  - B. System No. 701-2: High Build/Fluoropolymer
  - C. Ductile Iron Pipe Above Grade: Series 66 High Build Epoxy
- 3.31 COATING SCHEDULE (Section 09901, Unless noted below)
  - 1. Galvanized steel in pump room - System 1095-3

Contractor shall submit color chart to owner for color selection.

#### END OF SECTION

## **SECTION 09901 – PAINTING SCHEDULE**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION OF WORK**

- A. Exposed surfaces, both interior and exterior of areas shown, shall be painted according to the schedule listed in the following paragraph.

### **PART 2 – PRODUCTS**

#### **2.01 SCHEDULE**

| <b>Surface</b>                                                | <b>Painting System<br/>(Section 09900)</b> | <b>Page</b> |
|---------------------------------------------------------------|--------------------------------------------|-------------|
| <b>EXTERIOR</b>                                               |                                            |             |
| Aerator Structure Walls; Transfer Pump Bldg.                  | 156-1                                      | 13          |
| Piping within Valve Pits (Ductile Iron)                       | 1095-1                                     | 10          |
| Above Grade Piping (Ductile Iron)                             | 1095-1                                     | 10          |
| Above Grade Piping (PVC)                                      | 1095-4                                     | 19          |
| <b>INTERIOR</b>                                               |                                            |             |
| Transfer Pump Room Walls/Ceiling<br>MCC #7 Room Walls/Ceiling | 66HS-4                                     | 14          |
| Transfer Pump Room Floor                                      | 290-1                                      | 16          |
| Piping & Equipment in Transfer Pump Room                      | 66HS-1                                     | 11          |
| Pump Bases                                                    | 66HS-4                                     | 14          |
| Aerator Walls, Ceiling, Baffles                               | 20HS-2                                     | 15          |
| Galvanized Steel Pipeline                                     | 1095-3                                     | 12          |

### **PART 3 – EXECUTION**

#### **3.01 GENERAL**

- A. Paint materials and equipment according to the manufacturer's recommendations.

**END OF SECTION**

# **DIVISION 11**

# **EQUIPMENT**

## **SECTION 11001 – EQUIPMENT – GENERAL PROVISIONS**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION OF WORK**

- A. Provisions: Requirements specified in Conditions of Contract and Division 1, form a part of this Section.
- B. Work Included in this Section: The CONTRACTOR shall provide all the required labor, project equipment and materials, tools, construction equipment, safety equipment, transportation, and test equipment (unless otherwise specified) for furnishing, installation, adjustment, and full test loading of all the mechanical work shown on the Drawings and included in these Specifications.

#### **1.02 QUALITY ASSURANCE**

- A. Incorporated Documents: Published specifications, standards, tests, or recommended methods of trade, industry, or governmental organizations apply to work of these Specifications where cited by abbreviations noted in Section 01070 and below. In every situation, the latest specifications, standards, tests, etc., shall apply unless otherwise noted.
- B. Variances: In instances where two codes are at variance, the more restrictive requirements shall apply.
- C. Standard of Quality: Items of equipment are specified herein by the name of a manufacturer for the purpose of establishing a standard of quality and acceptable experience. Alternate equipment will be given consideration, per Section 01640: Product Selection and Substitution Procedures.
- D. Data: Unless otherwise specified, all equipment furnished shall have a data plate fabricated of 316 stainless steel with a minimum thickness of 1/16 inch and embossed or preprinted lettering, and fastened to the frame with corrosion-resisting pins. Nameplates shall have stamped on them the manufacturer, serial number, model number, type, operating and performance data, and other pertinent data. Letters and numerals shall not be smaller than 3/16 inch high.
- E. Taggings: Where the size of the equipment prevents the fastening of data plates, name tags shall be provided and attached to the equipment and device item to identify it. The name tags shall have a rectangular configuration with square corners and shall be approximately 1-1/2 inches by 3 inches in size. They shall be made from brass or stainless steel sheet metal and have a minimum thickness of 0.032 inches. Letters and numerals shall be engraved or etched in the name tags by a professional engraver and shall not be smaller than 3/16 inch high in size. The name and number for each item of equipment, as designated on the Drawings, shall appear on the name tag for the item. Valve tag information shall conform to Section 09905 (if applicable). A 3/16-inch diameter hole shall be provided in the upper left-hand corner of each name tag and shall be used to attach the name tags to the equipment and device items with 1/8-inch stainless steel cable.

#### **1.03 DRAWINGS**

- A. Project Drawings: The Drawings are diagrammatic and show the general layout of the complete construction work.
  - 1. Locations of equipment, inserts, anchors, motors, panels, conduits, stub-ups, fittings, fixtures, water, power and process inlets, unless specifically dimensioned on

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**EQUIPMENT – GENERAL PROVISIONS**

**11001-1**

**WTP AERATOR STRUCTURE REHABILITATION**

- the Drawings, shall be determined to suit field conditions encountered, and the CONTRACTOR shall be responsible for ensuring clearance between pipes, equipment, and similar appurtenances, without extra cost to the OWNER.
2. The CONTRACTOR shall review the Drawings and Specifications of other trades and shall include the mechanical work shown thereon that will be required for the installations.
  3. Should there be a need to deviate from the Drawings and Specifications; the CONTRACTOR shall submit written details and reasons for all changes to the Owner/Engineer for approval before making such changes. All extra costs to make the changes shall be borne by the CONTRACTOR.

**B. Shop Drawings**

1. Prior to fabrication, the CONTRACTOR shall obtain, from the manufacturer, shop drawings for all equipment. Shop drawings shall include fabrication, assembly, unit support drawings, installation drawings, and wiring diagrams together with detailed specifications and data covering materials used, power drive assembly, parts, devices, and other accessories forming a part of the equipment to be furnished.
2. The CONTRACTOR shall submit Certified performance or Certified test curves, as specified for all pumps furnished under this Contract. The CONTRACTOR shall notify the Owner/Engineer three weeks prior to all testing should the Owner/Engineer elect to witness the tests.
3. Submit shop drawings and material lists for approval as specified in applicable Sections and in conformance with the requirements of Section 01310: Administrative Requirements.

**1.04 ADAPTATION OF EQUIPMENT**

- A. Should any alternate equipment selected require any revision to the structure, piping, electrical, or other work shown on the Drawings, the CONTRACTOR shall include the cost of such revisions in his bid for the equipment and no extra payment shall be made for such revision. All such revisions shall be subject to the approval of the Owner/Engineer.

**1.05 UTILITY SERVICE AND PROCESS INTERRUPTION**

- A. All utility service and/or process interruptions initiated by the CONTRACTOR in the prosecution of his work shall be scheduled in advance and approved by the appropriate Utility Company and the OWNER.

**1.06 OPERATION AND MAINTENANCE MANUALS**

- A. The CONTRACTOR shall submit to the Owner/Engineer operation and maintenance manuals on all mechanical equipment in accordance with the requirements of the General Conditions.

**PART 2 – PRODUCTS**

**2.01 MATERIALS AND WORKMANSHIP**

- A. All equipment furnished under this Division shall be new and guaranteed free from defects in materials, design, and workmanship. These Specifications, to the extent possible, identify service conditions and requirements for all equipment; however, it shall be the manufacturer's responsibility to ascertain, to his satisfaction, the conditions and service under which the equipment will operate and to warrant that operation under those conditions will be successful. All parts of the equipment shall be amply proportioned for all stresses that may occur during fabrications, erection, and intermittent or continuous operation.

- B. All equipment shall be designed, fabricated, and assembled in accordance with the best modern engineering and shop practices. Individual parts shall be manufactured to standard sizes and gauges so that repair parts, furnished at any time, can be installed in the field. Like parts of duplicate units shall be interchangeable. Equipment shall not have been in service at any time prior to delivery, except as required for tests. Materials shall be suitable for service conditions.
- C. Except where otherwise specified, structural and miscellaneous fabricated steel used in items of equipment shall conform to the Standards of the American Institute of Steel Construction. All structural members shall be considered as subject to shock or vibratory loads. Unless otherwise specified, all steel which will be submerged, all or in part, during normal operation of the equipment, shall have a minimum nominal thickness of 1/4 inch. The location of the fabricator and his shop schedule shall be furnished to the Owner/Engineer prior to the beginning of fabrication so that the Owner/Engineer can schedule shop inspection if so desired.

#### 2.02 SAFETY GUARDS

- A. All belt or chain drives, fan blades, couplings, exposed shafts and other moving or rotating parts shall be covered on all sides by safety guards which shall be free of all sharp edges and corners. Safety guards shall conform to the requirements of appropriate safety agencies, such as OSHA.
- B. Safety Guards shall be fabricated from 16 US Standard gauge, or heavier, galvanized or aluminum-clad sheet steel or 1/2-inch mesh, galvanized expanded metal. Each guard shall be designed for easy installation and removal. All necessary supports and accessories shall be provided for each guard. Supports and accessories, including bolts, shall be hot-dip galvanized. All safety guards in outdoor locations shall be designed to prevent the entrance of rain and dripping water.

#### 2.03 EQUIPMENT BASES AND BEDPLATES

- A. A heavy cast-iron or welded steel base shall be provided for each item of equipment which is to be installed on a concrete foundation. Equipment assemblies, unless otherwise specified, or shown on the Drawings, shall be mounted on a single, heavy, cast-iron or welded steel bedplate. Bases and bedplates shall be provided with machined support pads, tapered dowels for alignment of mating, or adjacent items, adequate openings to facilitate grouting, and openings for electrical conduits. All seams and contact edges between steel plates and shapes shall be continuously welded and ground smooth. The plates shall have a minimum thickness of 1/4 inch. All pump bedplates must include a drip lip and provision for directing accumulated gland leakage to a single disposal drain point. Pipe all accumulated gland and seal water leakage and spent cooling water to a floor drain provided adjacent to each piece of equipment. Floor drain may be provided for more than one piece of equipment provided the equipment drain line does not create a safety or tripping hazard.

#### 2.04 JACKING SCREWS AND ANCHOR BOLTS

- A. Jacking screws shall be provided in the equipment bases and bedplates to aid in leveling prior to grouting.
- B. Equipment suppliers shall furnish anchor bolts, nuts, washer, and sleeves of adequate design as required for proper anchorage of the bases and bed plates to the concrete bases. Sleeves shall be a minimum of 1-1/2 times the diameter of the anchor bolts. Unless otherwise shown or specified, anchor bolts for items of equipment mounted on baseplates shall be long enough to permit 1 inch of grout beneath the baseplate and to provide adequate anchorage into structural concrete. Anchor bolts, together with templates or setting



drawings, shall be delivered sufficiently early to permit setting the anchor bolts when the structural concrete is placed. Anchor bolts shall be 316 stainless steel which conforms to ASTM A-167 and ASTM A-267.

## 2.05 DRIVES

- A. General: All drive units shall have an AGMA rating and service factor suitable for 24 hours per day operation under the specified maximum, or "worse case" operating load. Drive unit housing shall be constructed of high-grade cast iron, welded steel, or other suitable material. Thermal rating of each unit shall exceed the design load or proper cooling devices shall be provided. All drives shall be designed especially for the service for which they are to operate.
- B. Electric Motors: All electric motors supplied under this Contract shall conform to all requirements specified in Division 16. Additional or superseding requisites for certain motors may be found in Division 11, and to a lesser extent, in other Divisions wherein electric motor driven equipment is specified. The CONTRACTOR must coordinate the work of all trades, and the functional, safety and Code requirements for each installation, in order to comply with these Specifications.
- C. V-Belt Drives: Where motors are mounted above the driven machine on a pedestal, the belt tensioning shall be accomplished by four studs which are double nutted to the motor plate to raise and lower the motor plate. Hinges with a jacking screw to tension the belts shall not be used. Where motors are mounted horizontally adjacent to the driven equipment, belt tensioning shall be accomplished by utilization of sliding rail type motor mount, with manual adjustment of motor location, and thereby, belt tension, through a manual, permanently mounted hand crank mechanism. All V-belt tensioning devices shall be such that under no circumstances will it be possible for any device, once set to the desired adjustment, to go out of the adjustment due to the load being imposed upon the drive at that setting. This requirement shall be construed to mean that a set belt tension may not go out of adjustment due to gradual stretching of belts, but shall mean that no portion of any device or devices used to accomplish belt tensioning may slip, become loose, or otherwise move from the desired setpoint, once selected, except when manually reset by operating personnel by use of the adjustment device or devices.

## 2.06 LUBRICATION

- A. Lubrication of equipment shall ensure constant presence on all wearing surfaces. Lubricant fill and drain openings shall be readily accessible. Easy means for checking the lubricant level shall be provided. Prior to testing and/or operation, the equipment shall receive the prescribed amount and type of lubricant as required by the equipment manufacturer. The CONTRACTOR shall provide to the OWNER a 1-year supply of lubricants for each piece of equipment installed. All lubricants shall be properly packaged, labeled, and delivered to the OWNER concurrent with equipment installation. An inventory listing of lubricant types by equipment and quantities shall be provided.

## 2.07 GEARS

- A. Provide oil-lubricated totally-enclosed gear reducers and increasers.
- B. Service Ratings: Each gear shall have a nameplate service horsepower rating at least equal to the nameplate rating of the driving motor. Each gear shall have mechanical and thermal capacity equal to or greater than an equivalent horsepower determined by multiplying the service horsepower rating by the specified service factor recommended by AGMA for heavy duty service, except each set of worm gears shall have a minimum service factor of 1.20 and all other gears shall have a minimum service factor of 1.50.

- C. Bearings: Provide antifriction bearings throughout, designed to give a minimum 20,000 hours B10 life for the specified horsepower in continuous operation, of proportions, mountings, and adjustment consistent with acceptable modern practices for applied radial and thrust loads at speeds involved. Provide thrust bearing rates of 1-1/2 times the maximum thrust loading involved.
- D. Gear Nameplates: Equip each gear with an AGMA nameplate which shows service horsepower, actual service factor for actual mechanical or thermal rating as applicable, and AGMA gear Class I rating.

### **PART 3 – EXECUTION**

#### **3.01 COORDINATION**

- A. The Drawings show, in a diagrammatic form, the arrangements desired for the principal apparatus, piping, and similar appurtenances, and shall be followed as closely as possible. Proper judgment must be exercised in carrying out the work to secure the best possible headroom and space conditions throughout, to secure neat arrangement of piping, valves, fixtures, hangers, and similar appurtenances, and to overcome local difficulties and interferences of structural conditions wherever encountered.
- B. The CONTRACTOR shall take all measurement for his work at the installation sites, verify all subcontractor Drawings prior to required submittal and be responsible for the proper installation, within the available space, of the apparatus specified and shown on the Drawings. The CONTRACTOR must secure the approval of the Owner/Engineer for all variations and/or substitutions before making any changes.

#### **3.02 PROTECTION**

- A. All equipment shall be boxed, crated, or otherwise completely enclosed and protected during shipment, handling and storage. All equipment shall be protected from exposure to the elements and shall be kept thoroughly dry and clean at all times. Pumps, motors, electrical equipment, and other equipment having anti-friction or sleeve bearings shall be stored in weathertight storage facilities such as warehouses. All materials and equipment showing evidence of rust, dirt contamination, or other surface or subsurface deterioration shall be cleaned and restored to the Owner/Engineer's satisfaction prior to installation.
- B. Painted surfaces shall be protected against impact, abrasion, discoloration, and other damage. All painted surfaces which are damaged prior to acceptance of equipment shall be repainted in accordance with the requirements of Section 09900 to the satisfaction of the Owner/Engineer.
- C. Electrical equipment, controls, and insulation shall be protected against moisture or water damage.
- D. The CONTRACTOR shall maintain equipment storage facilities in accordance with the provision of Division 1.
- E. All equipment shall be stored in the designated storage facilities from delivery until installation.
- F. All mechanical equipment, whether in the CONTRACTOR'S designated storage facility prior to final installation, or whether installed, but not yet placed into service or accepted by the OWNER, shall be periodically exercised at intervals, and in accordance with procedures prescribed by each manufacturer, if such a recommendation is included in the manufacturer's installation, operation and maintenance instructions.

### 3.03 INSTALLATION CHECK

- A. The CONTRACTOR shall have an experienced, competent, and authorized representative of the manufacturer or supplier of each major item of equipment visit the site of the work and inspect, check, adjust if necessary, and approve the equipment installation. In each case, the equipment supplier's representative shall be present when the equipment is placed in operation. The CONTRACTOR shall have the equipment supplier's representative revisit the job site as often as necessary until all problems are corrected and the equipment installation and operation is satisfactory to the Owner/Engineer.
- B. Each equipment supplier's representative shall furnish to the OWNER, through the CONTRACTOR, a written report certifying that the equipment: (1) has been properly installed and lubricated; (2) is in accurate alignment; (3) is free from all stress imposed by connecting piping or anchor bolts; and (4) has been operated successfully under full load conditions.
- C. Equipment manufacturers shall furnish the services of competent, factory-trained personnel during the warranty period specified to inspect, service, and repair the equipment where required. Service requests shall be answered and acted upon promptly. This requirement shall not include normal maintenance and service of equipment, which will be the responsibility of the OWNER.
- D. All costs for this work shall be included in the price bid by the CONTRACTOR.

### 3.04 EQUIPMENT INSTALLATION

- A. All equipment shall be installed in full accordance with the equipment manufacturer's recommendations and good practice. Where specified in other parts of this Division, factory-trained service personnel shall be on-site to supervise the installation. Sufficient notice shall be given to the Owner/Engineer prior to equipment installation in order that the Owner/Engineer or his representative may be present during installation. In general, the following installation practices shall be followed:
  - 1. Examine equipment for damage in shipping and handling. The examination shall include checking for corrosion, poor workmanship, dirt or deleterious substances, and poor fits.
  - 2. Level the base plate or bedplate.
- B. Install equipment.
- C. Check alignment of couplings.
- D. If grout has been used, check alignment and levelness after the grout has set.
- E. Check direction of rotation and correct, if necessary, to insure proper operation.
- F. Provide drain lines from all equipment gland leakage housings, seal water openings, and strainers to nearest floor drain or point of disposal. Blow-down valves shall be provided on all strainers whether or not shown on the Drawings.

### 3.05 PLACING IN OPERATION

- A. Prior to being placed in operation, equipment shall be inspected by the manufacturer's factory-trained personnel. All defects discovered during this inspection shall be corrected prior to initial equipment start-up. Internal coatings applied at the factory shall be removed if required. Lubricant shall be applied in the proper places and levels shall conform to the

manufacturer's recommendations. In the presence of the Owner/Engineer, full-load operational testing shall be performed and the results of such tests shall be recorded. Unsatisfactory performance shall be corrected and tests shall be repeated until the equipment performance meets the Specifications. The CONTRACTOR shall furnish all power, materials, services, test equipment and labor required to successfully complete all full load equipment testing specified. The CONTRACTOR shall certify in writing to the Owner/Engineer, in triplicate, that all tests were conducted in accordance with these Specifications and that all components within each system successfully function as required. The CONTRACTOR shall notify the Owner/Engineer ten (10) calendar days in advance of the time when the equipment will be placed into operation. During the course of initial operation, the CONTRACTOR shall instruct OWNER'S personnel in the proper operation and maintenance of the equipment, as specified herein.

### 3.06 INSTRUCTION

- A. After the equipment specified in Divisions 11 and 16 has been installed, tested, adjusted, and placed in satisfactory operating condition, services of representatives of each equipment manufacturer shall be provided to instruct the operating personnel in the use and maintenance of the equipment. The instruction period shall be scheduled at a time mutually agreed upon with the OWNER. The manufacturer's representatives shall fully instruct the OWNER'S personnel regarding use and maintenance of the equipment. During this instruction period, it shall be the responsibility of the manufacturer to answer all questions for the OWNER'S operating personnel. Manufacturer shall also demonstrate lubrication, disassembly, adjusting, routine parts replacement, and other "hands-on" activities related to maintenance of the equipment. Provide a minimum of not less than three (3) hours for this instruction for each piece of equipment or set of identical pieces of equipment provided unless otherwise specified. More days shall be provided if called for in the individual equipment specification. Each manufacturer shall include the service in the price of his equipment. Training session schedules shall be coordinated with the Owner/Engineer and under no circumstances shall more than two training sessions be scheduled for the same day. The CONTRACTOR shall designate an individual through whom manufacturer's training will be coordinated. This individual will coordinate all training sessions through OWNER'S designated training coordinator.

### 3.07 SPECIAL TOOLS AND ACCESSORIES

- A. All special tools, special tool lists, equipment, or accessories required for the installation and maintenance of equipment specified in Division 11, shall be provided by the equipment manufacturer. Special tools shall be defined as those items manufactured by the equipment supplier specifically for performing maintenance and installation of their respective equipment.

### 3.08 SHOP PAINTING

- A. Except as specifically supplemented or superseded by requirements herein, shop painting shall conform to requirements in Section 09900. Electric motors, gears, starters, and other similar self-contained or enclosed components shall be shop primed and finished with high-grade oil-resistant acrylic enamel. Surfaces which will be inaccessible after assembly shall be painted or otherwise protected before assembly by a method which provides protection for the life of the equipment.
- B. Surfaces to be painted at the project site shall be shop painted with one or more coats of a primer which will adequately protect the equipment until finishes are applied at the project site. Primers shall be as specified in Section 09900. All equipment shall be primed with primer compatible with the coating system selected by the CONTRACTOR, and if not, the

CONTRACTOR shall re-prime the equipment such that it is compatible and in conformance with Section 09900.

- C. Machined and polished metallic surfaces which are not to be painted shall be coated with a rust preventative compound as specified in Section 09900.

### 3.09 DAMAGED PRODUCTS

- A. The CONTRACTOR shall notify the Owner/Engineer in the event that any equipment or material is damaged subsequent to receipt at the job site, and prior to acceptance of the installation by the OWNER.
- B. Repairs to damaged products in lieu of replacement shall not be made without prior approval by the Owner/Engineer.

**END OF SECTION**



## SECTION 11500 – ALUMINUM CASCADE AERATORS

### PART 1 – GENERAL

#### 1.01 QUALITY ASSURANCE

- A. This specification covers the furnishing of WesTech Engineering, LLC water treatment equipment. The equipment and material specified is deemed most suitable for the proposed water treatment system. The Contractor shall prepare his bid based on the materials and equipment listed herein. Prequalified Alternates will not be considered until after award of contract.

The Base Bid Equipment shall be: General Filter™ Products Model AWN11I Aluminum Cascade Aerator as manufactured by WesTech Engineering, LLC.

#### 1.02 PREQUALIFICATION OF ALTERNATE EQUIPMENT

- A. The Contractor may submit other manufacturer's equipment for consideration as an alternative to the equipment specified as the Basis of Design. An addendum will be issued at least five days before the bid date naming alternate suppliers that conform to the specifications and are approved to bid equipment for the project. To qualify alternate equipment, the Contractor shall provide the following information to the Engineer at least 15 days prior to the bid date:

1. Drawings, specifications, and product literature with adequate detail to determine that what is proposed will meet the requirements of the plans and specifications. This design presubmittal shall be complete and shall include as a minimum, the following:

|                         |                                                                                   |                               |     |
|-------------------------|-----------------------------------------------------------------------------------|-------------------------------|-----|
| Capacity (gpm):         | 5,000                                                                             |                               |     |
| Size: Diameter:         | 120                                                                               | inch(es) x Height:            | 114 |
| Inlet Connection:       | 30                                                                                | inch(es) Effluent Connection: | 20  |
| Collector box size:     | Two (2) 12'-00" x 5'-6" x 20" Depth and<br>Two (2) 12'-00" x 4' - 10" x 20" Depth |                               |     |
| Collector box material: | aluminum                                                                          |                               |     |

2. A list of 10 installations of similar type and size with plant addresses and telephone numbers. The Engineer and Owner may contact these installation sites to determine experience. The alternate equipment supplier shall also provide a list of total Aluminum Cascade Aerator plants.
3. Evidence of manufacturing capability including a description of facilities, the number and professional qualifications of personnel, and quality control practices. The alternate equipment supplier shall identify major outside fabricators for the purpose of determining experience.
4. Show evidence of being able to provide the quality of equipment and services described in this specification. The equipment supplier shall submit their ANAB-accredited ISO 9001 quality system certification. AIAO-BAR accredited systems are not a recognized equivalent and are therefore specifically prohibited. The quality procedures shall provide for a means of qualifying all sub-vendors and shall specify that the fabrication facility is a critical vendor and shall require inspection. The quality system shall be audited on-site by a third-party independent registrar at least annually. Certification shall remain in effect throughout the project start-up.

5. Evidence of technical capability to design and check out the complete alternate system, including modifications which will be required in structures, foundations, and equipment provided by others.
  6. Evidence of financial responsibility adequate to complete the project and assure viability of equipment warranty.
  7. A complete listing of changes which will be required in the Contract plans and specifications to accommodate the alternate equipment.
- B. Alternate bidders shall guarantee, in writing and signed by a company officer, that the equipment offered will provide comparable or superior features, performance quality, and materials of construction as the equipment specified. Prior approval of the alternate equipment shall not constitute final approval of specific equipment, but rather constitute only approval of the respective equipment manufacturers to provide price quotations based on equipment meeting the specifications. Alternate equipment manufacturers shall modify their standard products as necessary to meet all provisions of the specifications without exception.
- C. A photocopy of the alternate equipment manufacturer's quotation must be attached to the bid documents to assure that the alternate equipment bid is in accordance with the equipment that has been prequalified.
- D. The cost of any changes incidental to installation of the alternate equipment such as electrical wiring, relocation of piping, engineering supervision, as built drawings, etc., shall be borne by the Contractor with no additional expense to the Owner.
- E. If after installation the alternate equipment does not perform in accordance with the specifications or other deficiencies are noted, the Owner will require the modification or replacement of such equipment to meet the specifications at no additional expense.

#### 1.03 WORK INCLUDED

1. The Contractor shall provide all labor, materials, equipment, and incidentals as shown, specified, and required to furnish, install, and test (if applicable) the aeration equipment.
2. To assure the highest quality control, the equipment supplier and manufacturer shall be the same.

#### 1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

1. Comply with the pertinent provisions of the delivery schedule.
2. Equipment and materials to be shipped F.O.B. shipping points with freight prepaid to the jobsite. Fabricated parts when delivered to the site shall be stored off the ground and protected from weather and damage.
3. Ship fabricated assemblies in largest sections permitted by carrier regulations. Match-mark all sections for ease of field installation.
4. Handle to prevent damage to equipment during handling and transportation.

#### 1.05 JOB CONDITIONS

1. All work must be accomplished within the constraints of the construction schedule as specified. All work shall be scheduled with the Owner and Engineer.

#### 1.06 SUBMITTALS

A. Approval Drawings: Submit one electronic set for approval of the following:

1. All work must be accomplished within the constraints of the construction schedule as specified. All work shall be scheduled with the Owner and Engineer.
  - a. Approval drawings showing dimensions, construction and installation details, materials used, and shipping and operating weights.
  - b. Manufacturer's literature and catalog cuts of purchased items.
  - c. Show evidence of being able to provide the quality of equipment and services described in this specification. The equipment supplier shall submit their ANAB-accredited ISO 9001 quality system certification. AIAO-BAR accredited systems are not a recognized equivalent and are therefore specifically prohibited. The quality procedures shall provide for a means of qualifying all sub-vendors and shall specify that the fabrication facility is a critical vendor and shall require inspection. The quality system shall be audited on-site by a third-party independent registrar at least annually. Certification shall remain in effect throughout the project start-up.
2. Installation, Operation, & Maintenance Manuals: Submit one copy in electronic format including the following:
  - a. Complete manufacturer's installation instructions with detailed installation drawings.
  - b. Complete manufacturer's operational instructions.
  - c. Complete manufacturer's maintenance instructions with complete catalog information, parts list, and instructions for periodic maintenance of the aeration unit.

This information shall be provided to the Contractor and Engineer at least two weeks prior to the shipment of the equipment.

#### 1.07 GENERAL REQUIREMENTS

- A. The Contractor shall submit to the Owner/Engineer operation and maintenance manuals on all mechanical equipment in accordance with the requirements of the General Conditions.
1. The equipment shall consist of two (2) Model AWN11I Aluminum Cascade Aerators with associated equipment to comprise a complete system. The unit shall oxidize dissolved iron and affect some reduction of dissolved gases such as carbon dioxide, hydrogen sulfide, radon, etc. from the raw water.



2. The units shall be for treating raw water of the following approximate characteristics at a flow rate of 5,000 GPM:

**(Engineer to insert raw water analysis here)**

## **PART 2 – SCHEDULE OF EQUIPMENT AND MATERIALS**

### **2.01 AERATOR**

- A. Provide two (2) – 5,000 GPM, General Filter™ Products Model AWN11I aluminum cascade aerators of seven-pass cascade design as manufactured by WesTech Engineering, LLC. Height of aerator shall be 9 feet - 6 inches.
- B. Each shop assembled aerator shall consist of three 10 feet - 0 inch diameter, 1/4 inch thick, #3003F aluminum catch bowls fitted with perimeter splash guards and mounted on and supported by a 30 inch aluminum central inlet pipe. Mounted below each catch bowl shall be an aluminum deflector plate. All mounting plates and braces shall be designed to prevent undue vibration when aerator is in operation.
- C. Provide properly located spray baffles to effectively eliminate overspray without interfering with free passage of air throughout the splash areas.
- D. The aluminum central inlet pipe shall have an overflow baffle at top and a bottom-mounting flange.

### **2.02 COLLECTION PLAN**

- A. Provide one 12 foot - 0 inch x 5 foot-6 inch x 1 foot-8 inch deep and one 12 foot-0 inch x 4 foot-10 inch x 1 foot-8 inch deep aluminum collection pans per cascade aerator. Pans shall be 1/4 inch thick 3003F with 20 inch plain end effluent connection.
- B. Provide flange gaskets and stainless steel flange bolts and nuts for securing aerator to connecting inlet and outlet piping. Outlet piping mounting hardware is to be furnished by the installing Contractor.

**Note:** Support structure for collector pan is to be furnished by installing Contractor.

### **2.03 FINISH**

- A. Surfaces in contact with concrete or other dissimilar metal are shipped bare metal for field placement onto a coal tar or mastic base pad coating (provided and installed by Contractor).
- B. All manufactured aluminum and stainless steel shall receive factory handling care during fabrication to prevent discoloration, gouges or scarring. Oil, grease, protective mill coatings, and other soluble contaminants should be removed at the factory by solvent cleaning with solvents or commercial cleaners by wiping down or pressure washing.

## **PART 3 – EXECUTION AND PERFORMANCE**

### **3.01 WARRANTY**

- A. A warranty shall be provided covering all materials and workmanship for twelve months from the initial startup or eighteen months from when WesTech sent its ready-to-ship notification to the purchaser, whichever occurs first.

**END OF SECTION**

# **DIVISION 13**

## **SPECIAL CONSTRUCTION**

## **SECTION 13100 – I&C GENERAL REQUIREMENTS**

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### **PART 1 – GENERAL**

#### **1.01 THE REQUIREMENT**

- A. The CONTRACTOR shall provide, through the services of a single Control Systems Integrator (CSI), all components, configuration, programming, system installation services and testing, as well as all required and specified ancillary services, in connection with the Instrumentation and Control System (ICS).
- B. The system shall include all materials, labor, tools, fees, and documentation required to furnish, install, test, and place into operation, a "TURNKEY" complete and operable ICS as shown and/or specified within this section, related ICS specification sections, and subsections within equipment specifications.
- C. The system shall include all measuring elements, signal converters, transmitters, specialty cables, control panels, digital hardware and software, signal and data transmission systems, interconnecting wiring and such accessories as shown, specified, and/or required to provide the functions indicated, whether specifically mentioned or not.
- D. The specifications provided within this section shall be applied to all of the Instrumentation and Control specifications listed below as well as additional specification sections as referenced under paragraph 1.3. The ICS shall be provided as a single and complete system as specified herein and as specified within the following ICS specifications:
  - 1. Section 13120: Instrumentation and Control, Field Equipment
  - 2. Section 13120A: Instrument Schedule
  - 3. Section 13130: Instrumentation and Control, Control Enclosures
  - 4. Section 13130A: PLC SP-020 Input Output Schedule
- E. The CONTRACTOR shall be ultimately responsible for installation of the ICS. However, the CSI will include installation within the scope of his subcontract to provide for installation of the complete system as specified. The CSI shall also coordinate this work with the CONTRACTOR to ensure that the proper type, size, and number of wires with their conduits are provided and installed. This coordination will also ensure that proper electrical power circuits are provided for all components and systems.
- F. The CONTRACTOR'S responsibilities, as distinct from the CSI's responsibilities, shall be to provide all additional materials and work necessary to supplement the materials and work provided by the CSI; thereby satisfying all requirements that are within ICS specification sections.
- G. The CONTRACTOR shall coordinate structural work, penetrations, painting, etc., as required for installation of a complete ICS. In-line or integrally mounted items (such as flow elements, level sensors, etc.) shall be installed under the supervision of the CSI.
- H. The CSI shall be responsible for all application software services and programming, to include the integration of all new/modified I/O into the existing plant VT-SCADA network. Additionally, the CSI shall provide all materials, labor, documentation, etc., including coordination, startup, and testing services, as necessary to ensure the complete system is fully tested and capable of providing all specified functions. CSI shall be responsible for

calibrating and fully testing all PLC I-O, including verification of the operation of PLC hardware and that I-O signals are successfully transmitted into, or out of as applicable, the PLC software.

- I. The CONTRACTOR shall be responsible for coordinating interfaces between ICS equipment provided under the ICS specification sections and the equipment provided under other sections of the specifications. The CONTRACTOR shall verify and coordinate space requirements, process equipment power supply and voltage, process equipment control power supply and voltage, compatibility of control signals, details of equipment installation and interconnection. Coordination shall include distribution of approved shop drawings to all vendors, subcontractors, etc., involved in the control interface. Likewise, the CONTRACTOR shall ensure that instrumentation and control devices provided under other sections of the specifications are compatible and of the same manufacturer, quality and characteristics as similar devices specified under the ICS specification sections.

## 1.02 SCOPE OF WORK

- A. For SP-020, this project shall include the integration of I/O signals from three (3) new Aeration Transfer Pump VFDs, two (2) new motor operated valves, four (4) new magnetic flow meters [additive alternate], three (3) new check valve limit switches, one (1) new level float switch, and one (1) new ultrasonic level transmitter, into the City of Ormond Beach (herein referred to as OWNER) Water Treatment Plant SCADA and instrumentation control system (ICS). The ICS shall monitor and control the new blower and pumping systems, instruments, valves, and associated equipment, as shown on the drawings and as specified herein and other related sections.

1. Aeration Transfer Pump PLC control shall be programmed with the option for either Wetwell Level or Influent Flow control setpoint, as selected by the operator. Aeration Tank Wetwell Low-Low level, high motor temp, and open disconnect switch status shall stop pumps. Check valve fail-to-open status shall trigger an alarm condition, but not shut down the pump.

Pumps will operate in a Lead/Lag/Standby arrangement that automatically rotates between pumps. If any one pump is off-line, that pump shall be skipped in rotation, such that there is always a lead and lag pump selected. PLC control operator can override automatic controls for any one pump through manual pump selection via SCADA.

Aerator Contact Chamber Wet Well level transmitter shall provide backup level control (off/ lead/ lag DO set points) direct to VFDs, for automatic operation if PLC is offline.

3. All motor operated valves shall utilize PLC control operator selectable open/close service through SCADA.

- B. This project will provide for the following components, systems or subsystems:

1. Furnish various local process monitoring instrumentation complete with surge protection and signal transmission as specified.
2. Furnish and install new equipment inside the Aeration Building control panels as required to provide local control and monitoring for the pumps, flow meters and valves, and provide all specified SCADA Input signals.

3. Furnish surge protection devices (SPD) for instrumentation and control panels as specified.
  4. Furnish spare parts and testing equipment as described herein and other related sections.
  5. Provide implementation and testing of the complete system.
  6. Furnish training of OWNER'S personnel.
  7. Provide Operations and Maintenance Manuals.
- C. VTSCADA programming to be provided by the CSI:
1. WTP SCADA and Historian Server application programming.
  2. WTP SCADA graphics modifications to incorporate Aeration PLC Control Panel and related I/O functions.
- D. The CSI shall provide the Aeration PLC control panel complete with wiring, relay logic, pilot devices, backup power systems, power and signal line surge protection, and appropriate interfaces for all equipment connected to the Aeration PLC control panel.
- E. The CONTRACTOR, working in conjunction with the CSI, shall be responsible to provide a complete and operational system in full compliance with the specifications and contract drawings. The CSI shall be responsible for the detailed design, field verification, installation, technical oversight, testing, quality assurance, and documentation of all technical details involving instrumentation and control for this project. The CSI shall furnish trained personnel on site during any activities requiring installation, calibration, testing, or startup of any of the pump stations' instruments, controls, and communications.

#### 1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Division 11 – Equipment
1. Refer to individual product specifications within specification sections for additional requirements specific to those devices. Instrumentation and control equipment supplied as part of packaged systems shall be integrated into the ICS as specified.
- B. Division 15 – Mechanical
1. Refer to individual product specifications within specification sections for additional requirements specific to those devices. Instrumentation and control equipment supplied as part of packaged systems shall be integrated into the ICS as specified.
- C. Division 16 – Electrical
1. Refer to individual product specifications within specification sections for additional requirements specific to those devices. Instrumentation and control equipment supplied as part of packaged systems shall be integrated into the ICS as specified.
  2. Where electrical subcomponents are to be provided as part of ICS equipment, but for which there is no specification, provide in accordance with Division 16 - Electrical. These subcomponents shall be compatible and of the same quality and characteristics as similar devices specified under Division 16 - Electrical. If possible, the same make and/or model supplied under Division 16 shall be provided.
  3. The following work shall be provided under Division 16 – Electrical:

- a. Conduit, raceways, and installation of wire and cable for all instrumentation and control system signal wiring, grounding systems, special cables and network cables, except as noted.
- b. Instrumentation and control system signal field wire.
- c. Grounding systems for all ICS equipment.
- d. Mounting of ICS electrical enclosures (i.e. control panels, SPD boxes, electronic instrumentation, etc.) with exclusion of final measuring elements of instrumentation (i.e. flow tubes, sensors in process piping, etc.) which shall be as coordinated by the CONTRACTOR.

#### 1.04 CODES AND STANDARDS

- A. The ICS shall comply with the National Electric Code, National Electric Safety Code, OSHA, and with all applicable federal, state, county, city, municipal, and electrical utility codes and regulations, as well as the Contract Documents. In the event of any conflict between these codes, regulations, and Contract Documents, the most restrictive shall apply.
- B. The Instrumentation and Control System shall comply with the following codes and standards as well as any others referenced within the specifications and drawings. In the event of any conflict between these codes, regulations, standards and Contract Documents, the most restrictive shall apply.
  - 1. Applicable state, county, city and municipal code requirements.
  - 2. Applicable standards of the National Fire Protection Association (NFPA)
    - a. National Electrical Code (NEC)
    - b. Standard for Electrical Safety in the Workplace (NFPA 70E)
  - 3. Applicable standards of the Underwriter's Laboratories, Inc. (U.L.)
    - a. UL 508 Industrial Control Equipment
    - b. UL 508A Industrial Control Panels
  - 4. Applicable standards of the Institute of Electrical and Electronics Engineers (IEEE).
  - 5. Applicable standards of the National Electrical Manufacturers Association (NEMA).
    - a. NEMA 250 Enclosures for Electrical Equipment (1000 V Maximum)
    - b. NEMA ICS 1 Industrial Control and Systems: General Requirements
    - c. NEMA ICS 6 Enclosures for Industrial Control and Systems
  - 6. Applicable standards of the International Society of Automation (ISA)
    - a. ISA 5.1 - Instrumentation Symbols and Identification
    - b. ISA 5.4 - Instrument Loop Diagrams

- c. ISA 20 - Specification Forms for Process Measurement and Control Instruments, Primary Elements, and Control Valves
- d. ISA TR20.00.01 - Specification Forms for Process Measurement and Control Instruments

#### 1.05 SUBMITTALS

- A. Submittals shall be provided in accordance with the requirements set forth in Division 1.
- B. Every submittal shall have a separate section entitled "Requested Deviations from ICS Specifications" which shall clearly define and clearly explain all requested deviations and exceptions of the Instrumentation and Control System to this Specification. Only those deviation requests listed in this section will be reviewed.
- C. After all changes or corrections resulting from the Engineer/Owner's review of the system supplier's drawings have been made, panels may be built and instrumentation devices may be supplied in accordance with the approved drawings. One set of "as shipped" prints shall be included in all panels when shipped from the system supplier's wiring and assembly shop.
- D. The following major list of submittals shall be provided as a minimum. Major submittals are generally listed in the order they are to be provided. Refer to related ICS specification sections and equipment subsections for additional submittals and submittal requirements.
  - 1. Process Instrumentation Submittal
  - 2. Control Panel Submittal, including SCADA hardware and/or software as specified.
  - 3. Testing Submittal
  - 4. Tools, Supplies, and Spare Parts Lists Submittal
  - 5. Preliminary & Final Operation and Maintenance Manuals
- E. Process Instrumentation Submittal
  - 1. This submittal shall provide complete documentation of all field devices and other instrument and control equipment not specified to be submitted elsewhere.
    - a. Provide data sheets for each component listing all model numbers, optional, and ancillary devices that are being provided.
    - b. The data sheets shall be provided with an index and proper identification and cross referencing. They shall include but not be limited to the following information.
      - (1) Plant Equipment Number and ISA tag number per the Loop Diagrams.
      - (2) Product (item) name used herein and on the Contract Drawings.
      - (3) Manufacturers complete model number.
      - (4) Location of the device.
      - (5) Input - output characteristics.
      - (6) Range, size, and graduations.
      - (7) Physical size with dimensions, enclosure NEMA classification and mounting details.
      - (8) Materials of construction of all components.



- (9) Instrument or control device sizing calculations where applicable.
- (10) Certified calibration data on all flow metering devices.
- c. Provide equipment specification sheets which shall fully describe the device, the intended function, how it operates and its physical environmental and performance characteristics. Each data sheet shall have appropriate cross references to loop or equipment identification tags. As a minimum the specification sheets shall include the following:
  - (1) Dimension, rigid-clearances.
  - (2) Mounting or installation details.
  - (3) Connection.
  - (4) Electrical power or air requirements.
  - (5) Materials of construction.
  - (6) Environmental characteristics.
  - (7) Performance characteristics.
- d. The submittal shall also contain all planning information, site preparation instructions, grounding and bonding procedures, cabling diagrams, plug identifications, safety precautions or guards, and equipment layouts in order to enable the CONTRACTOR to proceed with the detailed site preparation for all equipment.

**F. Control Panel Submittal**

- 1. Provide detailed drawings covering control panels, consoles and/or enclosures which shall include:
  - a. Cabinet assembly and layout drawings to scale. These shall include both front and interior layouts. In cases where the project scope includes existing panels that are to be refurbished, include details of panel modifications showing new and existing equipment and panel components.
  - b. Material, fabrication and painting specifications.
  - c. Color selection samples for selection by the ENGINEER/OWNER.
  - d. Heat calculations for control panels incorporating a PLC control system.
  - e. Power supply device sizing calculations, which includes UPS systems (where applicable).
  - f. Panel wiring diagrams showing all power connections to equipment within and on the panel, combined panel power draw requirements (volts, amps), breaker sizes, fuse sizes, and grounding. This wiring diagram shall be in ladder logic format and shall reference the appropriate loop drawing for continuations or details where required. Show all wire numbers and terminal block designations
- 2. Provide detailed loop diagrams on a single 11-in x 17-in or 8.5-in x 11-in sheet for each monitoring or control loop. The loop diagram shall show all components of the loop both analog, digital, and discrete including all relays, switches, dropping resistors, etc. which are being provided for proper operation. Loop numbers used



shall correspond to the loop numbers indicated in the Contract Documents. The format shall be the International Society of Automation, Standard for Instrument Loop Diagrams, ISA-5.4 plus the following requirements:

- a. On each diagram, present a tabular summary of (1) the output capability of the transmitting instrument, (2) the input impedance of each receiving instrument, (3) an estimate of the loop wiring impedance based on wire sizes and approximate length used, (4) the total loop impedance, (5) reserve output capacity.
  - b. Show all interconnecting wiring between equipment, panels, terminal junction boxes and field mounted components. The diagrams shall show all components and panel terminal board identification numbers and all wire numbers. This diagram shall include all intermediate terminations between field elements and panels (e.g. terminal junction boxes). The diagrams shall be coordinated with the electrical contractor and shall bear his mark showing this has been done.
  - c. Show location of all devices.
  - d. Show instrument description showing type, manufacturer, model number, range, set points, and operation (e.g. fail open, open on energize, normally closed, etc.) as applicable.
  - e. Show all instrument loop power or instrument air requirements back to termination on terminal block or bulkhead, fuse block (including fuse size), etc., as applicable.
3. Provide complete documentation of the proposed hardware (PLCs, communications equipment, peripherals, etc.) including:
- a. A system block diagram(s) showing in schematic form, the interconnections between major hardware components such as: control centers, panels, consoles, computer and peripheral devices, telemetry equipment, local digital processors and similar equipment. The block diagram shall reflect the total integration of all devices in the system and shall reflect any man/machine interface locations. All components shall be clearly identified with appropriate cross references to the location of each.  
  
The diagram shall reference all interconnecting cabling requirements for components of the system including any data communication links.
  - b. Data sheet for each hardware component, listing all model numbers, optional, auxiliary, and ancillary devices that are being provided.  
  
The data sheets shall be provided with an index and proper identification and cross referencing. They shall include but not be limited to the following information.
    - (1) Equipment Number and ISA tag number per the Loop Diagrams (as applicable).
    - (2) Product (item) name used herein and on the Contract Drawings.
    - (3) Manufacturers complete model number.

- (4) Location of the device.
    - (5) Input - output characteristics.
    - (6) Range, size, and graduations.
    - (7) Physical size with dimensions, enclosure NEMA classification and mounting details.
    - (8) Materials of construction of all components.
    - (9) Power supply device sizing calculations where applicable.
  - c. Equipment specification sheets which shall fully describe the device, the intended function, how it operates and its physical environmental and performance characteristics. Each data sheet shall have appropriate cross references to loop or equipment identification tags. As a minimum the specification sheets shall include the following:
    - (1) Dimensions and working clearances.
    - (2) Mounting or installation details.
    - (3) Connection diagrams.
    - (4) Electrical power requirements (volts, amps).
    - (5) Materials of construction.
    - (6) Environmental characteristics.
    - (7) Performance characteristics.
  - d. The submittal shall also contain all planning information, site preparation instructions, grounding and bonding procedures, cabling diagrams, plug identifications, safety precautions or guards, and equipment layouts in order to enable the Contractor to proceed with the detailed site preparation for all equipment.
4. Provide a complete system Input/Output (I/O) and termination list for the pump station PLC panel. Each list shall be sorted first by ISA tag name and second by I/O type (i.e. AI, AO, DI, DO, PI, PO. etc.). Each list shall contain as a minimum the following for each active point and spare point:
- a. Full ISA instrument tag (or "SPARE").
  - b. Type of I/O (i.e., DI, DO, AI or AO).
  - c. I/O terminal point physical location (panel name, rack, slot, point, etc.).
  - d. I/O point address.
  - e. Point name and description.
  - f. Terminal Strip and Number
5. Provide complete documentation for all required software, licensing and/or upgrades required and specified for the new pump station.
- G. Testing Submittals
- 1. The test plan shall be submitted after all equipment submittals have been approved by the OWNER and/or ENGINEER.

2. The test plan shall demonstrate that the CSI has designed and configured a system that meets the design specifications. The documents for the test plan shall be structured so that it is easily understood what the inputs are, what the predicted outputs should be, and what the actual outputs are. The test plan should have sign-off and date block for the CSI, the CONTRACTOR, and the OWNER.
3. The complete test plan should include but not be limited to the following:
  - a. Test assumptions and methods
  - b. Test Equipment List
  - c. Test Personnel Staffing and Qualifications
  - d. Test Schedule with time allotted for each task
  - e. System hardware and software summary.
  - f. Communications test to the various PLCs for Discrete and Analog I/O data transfer.
  - g. 100 percent I/O point test including all spare points based upon the previously submitted System I/O list.
  - h. Functional tests.
4. Test Procedures: Submit the procedures proposed to be followed during the test. Procedures shall include test descriptions, forms, and checklists to be used to control and document the required tests. Testing may not be started until all Testing Submittals have been approved.
5. Test Documentation: Submit a copy of the signed off test procedures upon completion of each required test.

H. Tools, Supplies, and Spare Parts Lists Submittal

1. This submittal shall include a list of all required and recommended spares. The following information shall be provided in table format:
  - a. Specification Section
  - b. Tag name
  - c. Description
  - d. Quantity
  - e. Manufacturer
  - f. Model, part, order number
  - g. Storage instructions for all spare parts.
  - h. Local distributor and manufacturer contact information. Contact information shall include address, phone number, and website.

I. Operation and Maintenance Manuals (O&Ms)

1. Prior to installation of any equipment onsite, preliminary O&M manuals shall have been submitted and approved. No installation of equipment shall be permitted without the Contractor maintaining an updated version of these preliminary O&M manuals onsite for the OWNER's and ENGINEER's use.
2. After all field changes or corrections made during installation and field check out have been completed, then all system supplier documentation, including drawings, shall be revised to reflect the "as installed, corrected and accepted" condition of the system and final record copies of O&M manuals for the system shall be provided to the OWNER and ENGINEER for approval.
3. Final system documentation shall be provided in 3-hole type binders of archival quality (e.g. slant D or elliptical binding, vinyl with metal hinge or extra heavy weight vinyl, etc.) with a binding no larger than three (3) inches. Materials shall be printed on 8.5" x 11" or 11" x 17" tear resistant paper or ring reinforced paper where tear resistant is not available. Drawings shall be either folded to fit within an 8.5" x 11" binder or in an 11" x 17" 3-hole binder. Each binder shall include fifteen percent (15%) spare space for the addition of future material. Tear resistant paper shall be Xerox Never Tear or equal.
4. Final documentation shall also be provided in an electronic format. Electronic documentation shall be organized and provided on CD which shall include all CAD drawings, manuals and word processing documents. Electronic documentation format shall be primarily Adobe .pdf with additional documents provided in AutoCAD .dwg, Microsoft Office, HTML or as approved by the ENGINEER or OWNER. Organization of the electronic documentation shall be such as to allow point and click navigation from a table of contents to the particular documents with the ability to return to the table of contents from any location with one mouse click.
5. AutoCAD drawings files shall include all supporting files, symbol libraries and print configurations needed to support future modifications and properly print additional drawing copies.
6. All electronic media (i.e. software, electronic documentation, configuration files/reports, device backups, etc.) shall be provided with two (2) backup copies, each organized into a separate binder. Media storage binders shall include but not be limited to the following:
  - a. Table of contents.
  - b. Archival media holders (e.g. CD, DVD, etc.).
  - c. Support contacts (i.e. company, phone, internet link, etc.).
  - d. Software system requirements and installation instructions.
7. Laminated or water/tear resistant copies of all applicable instrumentation and control system drawings shall be supplied in drawing pocket of each control enclosure after "as installed, corrected, and accepted" revisions have been made to the enclosure.
8. Operation and Maintenance manuals shall include but not be limited to the following:
  - a. Manufacturer standard O&M manuals for all equipment and software furnished.

- b. Custom O&M information describing the specific configuration of equipment and software, and the operation and maintenance requirements for this particular project.
- c. The manuals shall contain all illustrations, detailed drawings, wiring diagrams and instructions necessary for installing, operating and maintaining the equipment.
- d. All modifications to manufacturer standard equipment and/or components shall be clearly identified and shown on the drawings and schematics. All information contained therein shall apply specifically to the equipment furnished and shall only include instructions that are applicable.
- e. A functional description of the entire system, with references to drawings and instructions.
- f. A complete "as built" set of all approved shop drawings, which shall reflect all work required to achieve final system acceptance.
- g. A complete list of the equipment supplied, including serial numbers, ranges, configuration parameters and other pertinent data.
- h. Full specifications on each item.
- i. Detailed service, maintenance and operation instructions for each item supplied.
- j. Special maintenance requirements particular to this system shall be clearly defined, along with special calibration and test procedures.
- k. Complete parts lists with stock numbers and name, address and telephone number of the local supplier.
- l. References to manufacturers' standard literature where applicable.
- m. Warning notes shall be located throughout the manual where such notes are required to prevent accidents or inadvertent misuse of equipment.
- n. The operating instructions shall clearly describe the step by step procedures that must be followed to implement all phases of all operating modes. The instructions shall be in terms understandable and usable by operating personnel and maintenance crews and shall be useful in the training of such personnel.
- o. The maintenance instructions shall describe the detailed preventive and corrective procedures required, including environmental requirements during equipment storage and system operation, to keep the system in good operating condition. All hardware maintenance documentation shall make reference to appropriate diagnostics, where applicable, and all necessary wiring diagrams, component drawings and PCB schematic drawings shall be included.

## 1.06 MEETINGS

- A. The CONTRACTOR shall be required to give the OWNER and their representatives, a minimum of two weeks' notice prior to any scheduled meetings. The notice may be shortened by consent of both the OWNER and the ENGINEER.
- B. Preliminary Site Testing Meeting: A preliminary site testing meeting shall be conducted by the CONTRACTOR for the OWNER and ENGINEER, to ensure site readiness, testing strategies and proper coordination between parties related or involved in testing the ICS. The CONTRACTOR shall be responsible for arranging the on-site meeting after the Site Testing Plan has been approved and no earlier than 3 weeks prior to testing. The ENGINEER must be satisfied that the site is ready and that the testing will be performed to their satisfaction prior to any documented ICS testing being performed. The CONTRACTOR shall arrange for detailed meeting minutes to be recorded, approved, and distributed to meeting attendees. Additional meetings may be required at the discretion of the OWNER and ENGINEER to resolve specific action items not addressed in the preliminary site testing meeting. Two weeks prior to the meeting the CONTRACTOR shall submit the following for approval:
  - 1. A proposed list of meeting attendees including organization and phone number.
  - 2. A proposed meeting agenda.
  - 3. A list of personnel to be involved in the testing including their responsibilities, qualifications, and phone numbers.
  - 4. A list of tasks requiring OWNER, ENGINEER, or outside party involvement in testing.
  - 5. A testing schedule that coordinates the ICS testing with the operability of the specific equipment being tested.
- C. Additional meetings may be required at the discretion of the OWNER and ENGINEER, to resolve specific action items not addressed in the preliminary site testing meeting.

## 1.07 CONTROL SYSTEM INTEGRATOR (CSI)

- A. The Contractor shall have total system responsibility for all instrumentation, controls, services, and systems, as indicated in the contract drawings and described herein. These sections of the specifications shall be considered as a single unit and shall be included in the single source responsibility from the CONTRACTOR.
- B. The Contractor shall provide the services of a single, approved, Control System Integrator, working as a direct sub-contractor to the Contractor, who shall be responsible to provide all of the equipment, controls and instrumentation, hardware, configuration, testing, startup, calibration and training required to provide a complete and working system as described herein.
- C. The Control System Integrator shall provide the services of one or more trained and highly qualified service technician(s) who shall provide all of the necessary services relative to installation, calibration, wiring, coordination, startup, troubleshooting, and training for all equipment and systems provided as part of this project. The qualified service technician(s) shall remain on site during the major installation and startup events to verify and certify that all equipment and systems are properly installed, wired, calibrated, and made operational.
- D. The Control System Integrator shall be regularly engaged in the detailed design, fabrication, installation and startup of instrumentation and control systems for water and wastewater treatment facilities in the state of Florida. Any CSI that has been subject to litigation or the

assessment of liquidated damages for nonperformance on any project within the last five calendar years shall not be acceptable.

- E. Where specific manufacturers and/or models of major hardware or software products (PLC, Software, Network Equipment, etc.) are specified to be used on this project, the CSI shall have completed at least one project using that specified hardware or software. As used herein, the term "completed" shall mean that a project has been brought to final completion and final payment has been made.
- F. Control System Integrator shall meeting the following minimum qualifications:
  - 1. A minimum of 7-years of experience with at least 5 years in water/wastewater projects.
  - 2. References for three (3) completed projects of like size and application to the project specified herein.
  - 3. Project bonding capacity of at least \$2 million.
  - 4. UL 508 certified panel shop.
- G. The Contractor shall select the Control System Integrator from one of the following:
  - 1. Wood/CEC Controls, Bradenton, FL
  - 2. Revere Controls, Birmingham, AL
  - 3. or Approved Equal (Will require written submission of background/qualification information for Owner/Engineer review. Approval must be granted, in writing, prior to submission of bids.)
  - 4. Named listing in this specification in no way relieves the Control System Integrator from meeting the qualifications specified herein.
- H. The OWNER shall have the right of access to the CSI's facilities and the facilities of their equipment suppliers to inspect materials and parts, witness inspections, tests and work in progress, and examine applicable design documents, records and certifications during any stage of design, fabrication and tests. The CSI and their equipment suppliers shall furnish office space, supplies and services required for these surveillance activities.

#### 1.08 QUALITY ASSURANCE

- A. The listing of specific products in this specification in no way relieves the CONTRACTOR of furnishing equipment which shall meet the performance and quality criteria specified herein.
- B. All equipment and materials shall be new and the products of reputable recognized suppliers having adequate experience in the manufacture of these particular items.
- C. For uniformity, only one manufacturer will be accepted for each type of product.
- D. All equipment shall be designed for the service intended and shall be of rugged construction, of ample strength for all stresses that may occur during fabrication, transportation, and erection as well as during continuous or intermittent operation. Equipment and components shall be adequately stayed, braced and anchored and shall be installed in a neat and workmanlike manner. Appearance and safety, as well as utility, shall be given consideration in the design of details.
- E. All components and devices installed shall be standard items of industrial grade, unless otherwise noted, which shall be of sturdy and durable construction and be suitable for long, trouble free service.

- F. All equipment shall be suitable for the specified environmental conditions.
- G. Optional or substituted equipment or both requiring changes in details or dimensions required to maintain all structural, mechanical, electrical, control, operating, maintenance or design features incorporated in these specifications and drawings, shall be made at no additional cost to the OWNER. In the event that the changes are necessary, calculations and drawings showing the proposed revisions shall be submitted for approval. The CONTRACTOR shall coordinate all changes with other affected trades and contracts and pay all additional charges incurred.

## 1.09 DEFINITIONS AND ABBREVIATIONS

- A. The following definitions and abbreviations are used throughout the specifications and drawings when referring to instrumentation and control equipment, functions, and service. Definitions and abbreviations are not listed for those used in common industry practice except where to provide explicit meaning. Refer to ISA, IEEE, and other industry standard references for those not listed herein.

|       |                                          |
|-------|------------------------------------------|
| CSI   | Control System Integrator                |
| ICS   | Instrumentation and Control System       |
| OIT   | Operator Interface Terminal              |
| OWS   | Operator WorkStation                     |
| RTU   | Remote Telemetry Unit                    |
| PID   | Proportional-Integral-Derivative Control |
| SCADA | Supervisory Control and Data Acquisition |
| TVSS  | Transient Voltage Surge Suppression      |
| PLC   | Programmable Logic Controller            |

## PART 2 – PRODUCTS

### 2.01 GENERAL REQUIREMENTS

- A. All materials, equipment, and devices shall, as a minimum, meet the requirements of UL, where UL Standards are established for those items, and the requirements of NFPA-70. All control panels shall comply with the requirements of UL 508A for Industrial Control Panels. All items shall be new and unused unless specified or indicated otherwise.
- B. Properly store, adequately protect, and carefully handle equipment and materials to prevent damage before and during installation. Handle, store, and protect equipment and materials in accordance with the manufacturer's recommendations. Replace damaged or defective items.
- C. All equipment shall be the latest and proven design. Specifications and drawings call attention to certain features, but do not purport to cover all details entering into design of the instrumentation system. The completed system shall be compatible with functions required and the equipment furnished by the CONTRACTOR.
- D. All electrical components of the system shall operate on 120 volt, single phase, 60 Hz power source, except as otherwise noted in the Specifications. Drawings and specifications indicate the energy sources that will be provided. Any other devices necessary to obtain proper operation of the instrumentation and control system from these energy sources shall be furnished with the system.



- E. All necessary fuses or switches required by the instrumentation manufacturer for equipment shall be provided with the equipment. All instruments requiring internal power supply shall have integrated on-off switches.
- F. The mechanical, process, and electrical drawings indicate the approximate locations of field instruments, control panels, systems and equipment as well as field mounted equipment provided by others. The CSI shall examine the mechanical, process and electrical drawings to determine actual size and locations of process connections and wiring requirements for instrumentation and controls furnished under this Contract. The CSI shall inspect all equipment, panels, instrumentation, controls and appurtenances either existing or furnished under other Divisions of the Specifications to determine all requirements to interface same with the ICS. The CONTRACTOR shall coordinate the completion of any required modifications with the associated supplier of the item furnished.
- G. Instrumentation equipment and enclosures shall be suitable for ambient conditions specified. All system elements shall operate properly in the presence of telephone lines, power lines, and electrical equipment.
- H. Inside control rooms and climate-controlled electrical rooms, the temperature will normally be 20 to 25 degrees C; relative humidity 40 to 80 percent without condensation and the air will be essentially free of corrosive contaminants and moisture. Appropriate air filtering shall be provided to meet environmental conditions (i.e., for dust).
- I. Other indoor areas may not be air conditioned/heated; temperatures may range between 0 and 40 degrees C with relative humidity between 40 and 95 percent.
- J. Field equipment, including instrumentation and panels, may be subjected to wind, rain, lightning, and corrosives in the environment, with ambient temperatures from -20 to 40 degrees C and relative humidity from 10 to 100 percent. All supports, brackets and interconnecting hardware shall be as shown on the installation detail drawings, otherwise aluminum or 316 stainless steel.

## 2.02 TOOLS, SUPPLIES, AND SPARE PARTS

- A. Provide special tools, other than those normally found in an electronic technician's tool box, required to test, diagnose, calibrate, install, wire, connect, disconnect, assemble and disassemble any digital equipment, instrument, panel, rack, cabinet or console mounted equipment for service and maintenance (i.e., connector pin insertion and removal tools, wire crimping tool, special wrenches, special instrument calibrators, indicator lamp insertion and removal tools, etc.). **Where possible, provide equipment that does not require special tools to test, replace or maintain. Any equipment which requires special tools to operate under normal operating conditions shall be rejected.**
- B. Provide tools and test equipment together with items such as instruction manuals, carrying/storage cases, unit battery charger where applicable, special tools, calibration fixtures, cord extenders, patch cords and test leads, which are not specified but are necessary for checking field operation of equipment supplied under this Section. Instruction on purpose and use of all special tools shall be included in the O&M of any equipment which requires special tools.
- C. The CSI shall provide supplies as needed or as required by the OWNER during the specified warranty period. All fuses consumed during installation, testing, start-up, the

system availability demonstration, and the warranty period shall be replaced by the CONTRACTOR.

- D. Provide spare parts for items of ICS equipment as recommended by the manufacturer and in accordance with the Contract Documents.
- E. Furnish all spares in moisture-proof boxes designed to provide ample protection for their contents. Label all boxes to clearly identify contents and purpose.
- F. Refer to individual product specifications for additional requirements specific to those devices.

## 2.03 SIGNAL TRANSMISSION

- A. The CONTRACTOR shall be responsible for providing a signal transmission system free from electrical interference that would be detrimental to the proper functioning of the ICS equipment.
- B. The CONTRACTOR shall be responsible for coordinating signal types and transmission requirements between the various parties providing equipment under this Contract. This shall include, but not be limited to, distribution of appropriate shop drawings among the equipment suppliers and subcontractors.
- C. The CSI shall provide 24 VDC power supplies for signals and instruments where applicable and as required inside panels, controls, etc. Where two-wire instruments transmit directly to the instrumentation and control system, the CSI shall provide power supplies at the PLC-equipped control panels for those instruments. Where four-wire instruments with on-board loop power supplies transmit directly to the instrumentation and control system, the CSI shall provide necessary signal isolators or shall otherwise isolate the input from the ICS loop power supply. Similar provisions shall be made when a third element such as a recorder, indicator or single loop controller with integral loop power supply is included in the loop.
- D. Analog signal transmission between electric or electronic instruments, controllers, and all equipment and control devices shall be individually isolated, linear 4-20 mA and shall operate at 24 VDC. Signal output from all transmitters and controllers shall be current regulated and shall not be affected by changes in load resistance within the unit's rating. All cable shields shall be grounded at one end only, at the control panel, with terminals bonded to the panel ground bus. Analog signal isolation and/or conversion shall be provided where necessary to interface with instrumentation, equipment controls, panels and appurtenances.
- E. Non-standard analog transmission systems such as pulse duration, pulse rate, and voltage regulated shall not be permitted except where specifically noted in the Contract Documents. Where transmitters with nonstandard outputs do occur, their outputs shall be converted to an isolated, linear, 4-20 mA signal.
- F. All discrete inputs to equipment and PLC's, from field devices, starters, panels, etc., shall be dry contacts in the field device or equipment, powered from the PLCs, unless specified otherwise. Sensing power (wetting voltage) supplied by the PLC shall be 24 VDC.
- G. All discrete outputs from local control panels and Control and Information System PLCs, to field devices, starters, panels, etc., shall be 120 VAC / 24 VDC 5A dry contacts. Output contacts may be powered from the field equipment, or powered from 24 VDC / 120 VAC sourced from PLCs cabinet power system, as required to interface with field equipment.

Outputs to solenoid valves, horns, and strobe lights shall be 120 VAC, powered from the PLC or control panel unless specified or shown otherwise.

- H. Discrete signals between starters, panels, etc. where 120 VAC is utilized shall be clearly identified in the starter, panel, etc. as being powered from a different power supply, than other starter/panel components. Where applicable, warning signs shall be affixed inside the starter, panel, etc., stating that the panel is energized from multiple sources. Output contacts in the starter, panel, etc. which are powered from other locations shall be provided with special tags and/or color coding. Disconnecting terminal strips shall be provided for such contacts. The above requirements shall apply to all starters and panels, regardless of supplier.

## 2.4 NAMEPLATES

- A. All items of equipment listed in the instrument schedule, control panels, and all items of digital hardware shall be identified with nameplates. Each nameplate shall be located so that it is readable from the normal observation position and is clearly associated with the device or devices it identifies. Nameplates shall be positioned so that removal of the device for maintenance and repair shall not disturb the nameplate. Nameplates shall include the equipment identification number and description. Abbreviations of the description shall be subject to the ENGINEER'S approval.
- B. Nameplates shall be made of 1/16 inch thick machine engraved laminated phenolic plastic having white numbers and letters not less than 3/16 inch high on a black background.
- C. Nameplates shall be attached to equipment utilizing stainless steel screws. In cases where the label cannot be attached by the above method, it shall be drilled and attached to the associated device by means of stainless steel wire.

## PART 3 – EXECUTION

### 3.01 INSTALLATION

- A. The CSI shall provide the CONTRACTOR a periodic written report detailing progress of start-up. This report shall include specific tabulations of devices on which start-up has been completed.
- B. Equipment shall be located so that it is accessible for operation and maintenance. The CSI shall examine the Contract Drawings and Shop Drawings for various items of equipment in order to determine the best arrangement for the work as a whole, and shall supervise the installation of ICS equipment.
- C. Instrumentation and Control System equipment shall be installed in accordance with the manufacturer's instructions. The locations of equipment, transmitters, alarms and similar devices shown on the Drawings are approximate only. Exact locations shall be as approved by the ENGINEER during construction. Obtain in the field, all information relevant to the placing of process control work and in case of any interference with other work, proceed as directed by the ENGINEER and furnish all labor and materials necessary to complete the work in an approved manner.
- D. The CSI shall investigate each space in the building through which equipment must pass to reach its final location. If necessary, the CSI shall be required to ship his material in sections sized to permit passing through restricted areas in the building. The CSI shall also

investigate, and make any field modifications to the allocated space for each cabinet, enclosure and panel, to assure proper space and access (front, rear, side).

- E. Two complete sets of approved shop drawings shall be kept at the job site during all on-site construction. Both sets shall be identically marked up to reflect any modifications made during field installation or start-up. All markings shall be verified and initialed by the ENGINEER or his designated representative. Following completion of installation and the operational readiness test, one set of the marked up drawings shall be provided to the ENGINEER, the other retained by the CSI for incorporation of the mark-ups into final as-built documentation.
- F. All work shall be in strict accordance with codes and local rulings, should any work be performed contrary to said rulings, ordinances and regulations, the CONTRACTOR shall bear full responsibility for such violations and assume all costs arising there from.
- G. Brackets and hangers required for mounting of equipment shall be provided. They shall be installed in a workmanlike manner and not interfere with any other equipment.
- H. The CONTRACTOR shall take steps to keep electrical and control enclosures clean and free of contaminants throughout installation. Cleaning only after installation is not acceptable. Under no circumstances are electrical and control enclosures to be cleaned using compressed air to blow out dust, causing contaminants to be forced into sensitive electronics.
- I. Provisions shall be made to completely capture filings (metal, etc.) when drilling into enclosures, to prevent contamination of electrical equipment.
- J. Upon completion of the instrumentation and control work, the CONTRACTOR shall thoroughly clean all soiled surfaces of installed equipment and materials and remove all surplus materials, rubbish, and debris that has accumulated during the construction work. The entire area shall be left neat, clean, and acceptable to the OWNER.

### 3.02 WIRING AND GROUNDING

- A. The following wiring practice guidelines shall be used in order to minimize ground loops, to minimize electromagnetic interference/radio frequency interference (EMI/RFI) to this equipment, and to provide maximum practical immunity from damage resulting from lightning-induced transients.
- B. Common wires or conductors shall not be utilized (either within panels or external to panels or for grounding of field devices) for both signal shield or signal grounding and for safety grounds.
- C. Exposed wire lengths extending from within shielded signal cables shall be minimized to reduce pick-up of EMI/RFI by signal circuits. Exposed lengths of less than one inch are preferred, and a maximum exposed length of two inches may be permitted where necessary. No splicing of signal wires is permitted.
- D. All signal wiring shall be shielded, both within panels and external to panels. Unless otherwise specified, all signal wiring shall be No. 16 AWG stranded tinned two-conductor twisted pair, with 100 percent coverage aluminized Mylar or aluminized polyester shield and tinned copper drain wire.

- E. Signal wiring within outdoor or indoor field device enclosures shall conform to the same requirements as panel wiring.
- F. The shield on each process instrumentation cable shall be continuous from source to destination and grounded at one end only. In general, grounding of signal cable shields shall be done at the control panel end. The signal cable for no signal shall share a common cable shield grounding wire with the signal cable shield for any other signal and shall not share a common grounding wire with any other circuit. The length of no signal cable shield grounding wire shall not exceed two inches, with less than one-inch maximum length preferred.
- G. All outdoor instruments and all outdoor enclosures shall be grounded using the practice defined in Section 800.40 of the National Electric Code.

### 3.03 TESTING, GENERAL REQUIREMENTS

- A. The CSI shall test all equipment hardware and configuration at the factory prior to shipment. Unless otherwise specified in the individual specification sections, all equipment provided by the CONTRACTOR/CSI shall be tested at the factory as a single fully integrated system.
- B. As a minimum, testing shall include the following:
  - 1. Factory Acceptance Test (FAT)
  - 2. Operational Readiness Testing (ORT).
  - 3. System Acceptance Testing (SAT).
- C. Each test shall be in the cause and effect format. The person conducting the test shall initiate an input (cause) and, upon the system's or subsystem's producing the correct result (effect), the specific test requirement will have been satisfied.
- D. All tests shall be conducted in accordance with prior ENGINEER approved procedures, forms, and check lists. Each specific test to be performed shall be described and a space provided after it for sign off by the appropriate party after its satisfactory completion.
- E. Copies of these sign off test procedures, forms, and check lists will constitute the required test documentation.
- F. Provide all special testing materials and equipment. Wherever possible, perform tests using actual process variables, equipment, and data. Where it is not practical to test with real process variables, equipment, and data; provide suitable means of simulation. Define these simulation techniques in the test procedures.
- G. The CONTRACTOR shall require the CSI to coordinate all of his testing with him, all affected Subcontractors, and the OWNER.
- H. The ENGINEER reserves the right to test or retest all specified functions whether or not explicitly stated in the prior approved test procedures.
- I. The ENGINEER'S decision shall be final regarding the acceptability and completeness of all testing.
- J. The CONTRACTOR/CSI shall furnish the services of servicemen, all special calibration and test equipment, and labor to perform the field tests.

### 3.04 FACTORY ACCEPTANCE TESTING (FAT)

- A. The entire system except for primary elements, final control elements, and field mounted transmitters, shall be interconnected and tested to ensure the system will operate as specified. All analog and discrete input/output points not interconnected at this time shall be simulated to ensure proper operation of all alarms, monitoring devices/functions, and control devices/functions.
- B. All panels and assemblies shall be inspected and tested to verify that they are in conformance with related submittals, specifications, and Contract Documents.
- C. Factory acceptance testing shall take place over a contiguous time period after all factory fabrication has been completed.
- D. The test shall verify the functionality, performance, and stability of the hardware and configuration. The system must operate continually for 96 hours without failure before the test shall be judged successful. All deficiencies identified during testing shall be corrected and retested prior to the beginning this continuous test.
- E. Successful completion of this test, as determined by the ENGINEER, shall be the basis for approval of the system to be shipped to the site. No equipment shall be shipped until the ENGINEER has reviewed all test results, and approved the system as ready for shipment.
- F. The ENGINEER and the OWNER reserve the right to attend the factory acceptance testing in its entirety. A minimum of two weeks' notice shall be given prior to the start of testing.

### 3.5 OPERATIONAL READINESS TESTING (ORT)

- A. The entire system shall be certified (inspected, calibrated, tested, and documented) that it is ready for operation. Each specified function shall be verified on a paragraph-by-paragraph, loop-by-loop and site-by-site basis.
- B. The OWNER and/or ENGINEER reserve the right to witness any test, inspection, calibration, or start-up activity. Acceptance by the ENGINEER of any plan, report, or documentation relating to any testing or commissioning activity specified herein, shall not relieve the CONTRACTOR of his responsibility for meeting all specified requirements.
- C. The CSI shall provide the services of factory trained technicians, tools and equipment to field calibrate, test, inspect and adjust each instrument to its specified performance requirement in accordance with manufacturer's specifications and instructions. Any instrument which fails to meet any contract requirements, or any published manufacturer performance specification for functional and operational parameters, shall be repaired or replaced, at the discretion of the ENGINEER, at no cost to the OWNER. The CONTRACTOR shall bear all costs and provide all personnel, equipment and materials necessary to implement all installation tests and inspection activities for equipment specified herein.
- D. Each instrument shall be calibrated at 0, 25, 50, 75 and 100 percent of span using test instruments to simulate inputs and read outputs. Test instruments shall be rated to an accuracy of at least five (5) times greater than the specified accuracy of the instrument being calibrated. Where applicable, such test instruments shall have accuracies as set forth by the National Institute for Standards and Technology (NIST).

- E. The CSI shall provide a written calibration sheet to the ENGINEER for each instrument, certifying that it has been calibrated to its published specified accuracy. The CONTRACTOR shall submit proposed calibration sheets for various types of instruments for ENGINEER approval prior to the start of calibration. This sheet shall include but not be limited to date, instrument tag numbers, calibration data for the various procedures described herein, name of person performing the calibration, a listing of the published specified accuracy, permissible tolerance at each point of calibration, calibration reading as finally adjusted within tolerance, defect noted, corrective action required and corrections made.
- F. If doubt exists as to the correct method for calibrating or checking the calibration of an instrument, the manufacturer's printed recommendations shall be used as an acceptable standard, subject to the approval of the ENGINEER.
- G. Upon completion of calibration, devices calibrated hereunder shall not be subjected to sudden movements, accelerations, or shocks, and shall be installed in permanent protected positions not subject to moisture, dirt, and excessive temperature variations. Caution shall be exercised to prevent such devices from being subjected to over-voltage, incorrect voltages, overpressure or incorrect air. Damaged equipment shall be replaced and recalibrated at no cost to the OWNER.
- H. After completion of instrumentation installation and calibration, the CSI shall perform a loop check. The CONTRACTOR shall submit final loop test results with all instruments listed in the loop. Loop test results shall be signed by all representatives involved for each loop test.
- I. Loop/Component Inspections and Tests: The entire system shall be checked for proper installation, calibrated, and adjusted on a loop-by-loop and component-by-component basis to ensure that it is in conformance with related submittals and the Contract Documents.
  - 1. The Loop/Component Inspections and Tests shall be implemented using ENGINEER approved forms and check lists.
  - 2. The CONTRACTOR shall require the CSI to maintain the Loop Status Reports and Components Calibration sheets at the job-site and make them available to the ENGINEER/OWNER at any time.
  - 3. These inspections and tests do not require witnessing. However, the ENGINEER will review and initial all Loop Status Sheets and Component Calibration Sheets and spot-check their entries periodically and upon completion of the Operational Readiness Tests. Any deficiencies found shall be corrected.

### 3.6 SYSTEM ACCEPTANCE TEST (SAT)

- A. Successful completion of the operational readiness test, as determined by the OWNER and/or ENGINEER shall be the basis for starting the witnessed system acceptance test. The ENGINEER shall approve the ORT test results and the ENGINEER and OWNER shall be given a minimum of two weeks' notice prior to the start of the System Acceptance Test.
- B. The system acceptance test shall repeat loop and functional testing done during the operational readiness test in order to demonstrate to the OWNER and ENGINEER that the system has been started up, is operating, and is in compliance with these Specifications. Each specified function shall be demonstrated on a paragraph-by-paragraph, loop-by-loop and site-by-site basis.

- C. The following documentation shall be made available to the ENGINEER during the test:
  - 1. All Contract Drawings and Specifications, addenda, and change orders.
  - 2. Master copy of the test procedure.
  - 3. One copy of all O&M Manuals shall be made available to the ENGINEER at the job-site both before and during testing.
- D. Any malfunction during the tests shall be analyzed, and corrections made by the CSI. The ENGINEER and/or OWNER will determine whether any such malfunctions are sufficiently serious to warrant a repeat of this test.
- E. After all functions have been tested and all corrections made, the system shall operate continuously for 15 days without failure before this test will be considered successful.
- F. The total availability of the system shall be greater than 99.5 percent during this test period. Availability shall be defined as "Avail. = (Total Time-Down Time,) / (Total Time) x 100%". Down times due to power outages or other factors outside the normal protection devices or back-up power supplies provided, shall not contribute to the availability test times above.

### 3.7 TRAINING

- A. The CSI shall provide project specific classroom training at the OWNER'S site or other approved location. Training shall be provided for the operation and maintenance of all equipment provided, as well as site specific installation configuration training for the system as a whole.
- B. Each student shall be provided with training materials. All training materials shall be provided in hardcopy as well as on a training CD, with all materials in Microsoft Office or Adobe PDF file format. All training CD's shall be updated with final configuration information and resubmitted for approval. Final CD media shall be archival quality.
- C. The OWNER reserves the right to video tape any and all training sessions for the purposes of future or refresher training.
- D. To facilitate the OWNER'S operations staff scheduling, training shall be conducted in two (2) four-hour sessions, a morning session and an afternoon session. Morning and afternoon sessions will cover the same material on a given day. The training shall consist of one (1) day minimum with (2) sessions per day.
- E. Maintenance training shall be provided to designated maintenance personnel, so that each component may be maintained without the assistance of outside organizations. The training shall be extensive so that after training, personnel shall be able to identify component malfunctions and repair components to the board/module replacement level. Training shall cover the entire system including controls and field equipment.
- F. Maintenance training shall be conducted in one (1) session, with a minimum of one (1) day of instruction.
- G. Refer to related specification sections for additional training requirements.
- H. Training sessions shall be carried out to the satisfaction of the OWNER before final acceptance will be provided.



### 3.8 WARRANTY

- A. The warranty period for this system shall be for one year and shall begin upon final acceptance of the complete system by the OWNER. During this warranty period, the CSI shall provide, at no additional cost to the OWNER, the services of a trained, competent, field service engineer who shall arrive on site within 36 hours of notification by the OWNER or ENGINEER, to repair and/or replace any faulty device or equipment supplied by the system supplier as part of this Instrumentation and Control System. All preventive and corrective activities shall be documented with service reports, which shall identify the equipment being serviced, state the condition of the equipment, describe all work performed, and list materials used. A copy of all service reports shall be delivered to the OWNER on or before the next business day.
- B. The CSI shall be capable of providing, after the warranty period for this system expires, a 1-year renewable service contract whereby a trained, competent field service ENGINEER shall arrive on site within 36 hours of notification by the OWNER. Information relative to charges for such service and availability of such service shall be submitted to the OWNER and the ENGINEER.

**END OF SECTION**

## **SECTION 13120 – I&C FIELD EQUIPMENT**

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### **PART 1 – GENERAL**

#### **1.01 THE REQUIREMENT**

- A. The CONTRACTOR, through the services of a single Control Systems Integrator (CSI), shall furnish, test, install and place in satisfactory operation all equipment required to provide a complete and operable Instrumentation and Control System (ICS) as specified herein and as shown on the Contract Drawings, even if each needed item is not specified or shown.
- B. The CSI shall provide full onsite supervision of all field equipment installations provided under this section, including instances where installation is provided by others.
- C. Field equipment (i.e. primary elements, measuring devices, transmitters, field controllers, chart recorders, indicators, and other instrumentation and accessories) shall be provided with all components necessary for a fully functional system, whether specifically mentioned in these specifications or not. This shall include, as applicable or recommended by the manufacturer: sample conditioning, sample sink(s), sensors, sensor holder and mounting brackets, transmitter, all required cables, calibration equipment, chemicals, reagents and spare parts.
- D. Specialty cables & conduits between sensors/probes and their electronics/transmitters shall be furnished with each instrument. Cables shall be coordinated with the conduit installation and shall be of sufficient length to not require any splicing. Special cables include any type of cable not specified in Division 16 – Electrical.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this section, the requirements of specification Section 13100: Instrumentation and Control, General Requirements, and the sections referenced therein shall be applied.
- B. Refer to Attachment A at the end of this section for the Instrument Schedule which includes a list of field instruments required under this contract.

### **PART 2 – PRODUCTS**

#### **2.01 GENERAL REQUIREMENTS**

- A. Unless otherwise specified, instruments shall be provided with enclosures to suit the specified environmental conditions. Field-mounted devices shall be rugged and mounted on walls, equipment racks, or pipe stanchions. Where the field equipment's integral enclosure for a specified instrument is not available with the specified environmental rating, the field equipment shall be provided in a control enclosure as specified in Specification Section 13130: Instrumentation and Controls, Control Enclosures.
- B. Where separate elements and transmitters are required, they shall be fully matched, and unless otherwise noted or shown on the Contract Drawings, installed adjacent or near to each other, in a readily accessible location. Special cables that are required for interconnection between sensors or probes and transmitters shall be furnished with the instrumentation devices by the associated equipment manufacturer. Special cables shall be

of the required length for the equipment locations and conduit routing paths shown on the Contract Drawings. No splicing of cables will be accepted.

- C. Electronic equipment shall utilize printed circuitry and shall be coated (tropicalized) to prevent contamination by dust, moisture and fungus. Ambient conditions shall be -15 to 50° C and twenty to ninety-five percent (20% - 95%) relative humidity, unless otherwise specified. Field mounted equipment and system components shall be designed for installation in dusty, humid and corrosive service conditions.
- D. All non-loop-powered instruments and equipment shall be designed to operate on a 60 Hz alternating current power source at a nominal 120 VAC, except where specifically noted. All regulators and power supplies required for compliance with the above shall be provided. Where equipment requires voltage regulation, constant voltage transformers shall be supplied.
- E. All analog transmitter and controller outputs shall be isolated, 4-20 mA into a load of 0-750 ohms minimum, unless specifically noted otherwise.
- F. Process taps for primary sensors shall be sized to suit each individual installation and the requirements of the instrument served. It is the Contractor's responsibility to ensure that the location, supports, orientation and dimensions of the connections and taps for instrumentation furnished under this Division are such as to provide the proper bracing, the required accuracy of measurement, protection of the sensor from accidental damage, and accessibility for maintenance while the plant is in operation. Isolation valves shall be provided at all process taps.
- G. All instrumentation exposed to sunlight shall be provided with sunshields constructed from 316 stainless steel. Sunshields shall be designed to withstand regional wind loads. Sunshield design shall be submitted for approval.
- H. All outdoor external sample/process piping, including valves and appurtenances, shall be insulated with weather-proof insulation.

## 2.2 TOOLS, SUPPLIES, AND SPARE PARTS

- A. Tools, supplies and spare parts shall be provided as specified in Section 13100: Instrumentation and Controls, General Requirements, and as specified for each equipment item. In addition, the following items shall be provided:
  - 1. All instruments shall be supplied with one (1) years' worth of supplies, including chemicals and reagents, for the calibration, operation and maintenance of the device.

## 2.3 ACCESSORIES

- A. Instrument tubing shall be 1/4 x 0.065-inch seamless, annealed, ASTM A-269 Type 316L stainless steel with Type 316 - 37° stainless steel flared fittings, or Swagelock or Parker-CPI flareless fittings.
- B. Diaphragm seals shall be provided to systems as shown on the Contract Drawings, as specified herein and/or for isolation of pressure gauges, switches and transmitters attached to systems containing non-potable water, chemical solutions or corrosive fluids. As a minimum, seals shall be of all 316 stainless steel construction. Diaphragms shall be 316L

stainless steel for operating pressures at or above 15 psi, and elastomers for operating pressures below 15 psi. Diaphragm material shall be non-reactive with the process fluid. Refer to Attachment A Instrument Schedule for specific materials requirements. Seal shall have fill connection, 1/4-inch NPT valve flush port and capable of disassembly without loss of filler fluid. Where specified, diaphragm seals shall comply with the above requirements, and shall be provided with 316 stainless steel factory filled capillaries. Seals shall be Helicoid Type 100 HA, Mansfield & Green, Ashcroft, or equal.

- C. Isolation valves shall be 1/2-inch diameter ball valves with 316 stainless steel body, 316 stainless steel ball.

#### 2.4 SURGE PROTECTION DEVICES

- A. SPD shall be supplied for all field equipment power, signal, and communications wires. Refer to Specification Section 13130: Instrumentation and Controls, Control Enclosures for requirements.

#### 2.5 PRESSURE GAUGE

- A. General: Unless otherwise noted or specified, pressure and vacuum gauges shall conform to the following requirements:
- B. Mounting Type: Gauges shall be of the stem-mount type unless noted otherwise.
- C. Construction: Gauges shall be of the bourdon tube or bellows type with 270 degrees clockwise pointer travel. Dials shall be white face with black numerals. Dial size shall be 4-1/2 inches. Connections for all gauges shall be male 1/2 NPT with square wrench flats. Wetted parts shall be corrosion-resistant to the process fluid shown and unless otherwise specified shall be the manufacturer's best quality standard. The case shall be filled with glycerin and shall be black phenolic. Accuracy shall be  $\pm 0.5$  percent of span.
- D. Chemical Seal: Where specified or shown in the drawings, the gauge, with optional locking device, shall be furnished with a diaphragm seal. The diaphragm seal shall have a 316 stainless steel (minimum) top and bottom housing and a 316 stainless steel diaphragm welded to the top housing. When the process fluid or pressure is not compatible with 316 stainless steel, the manufacturer shall provide a diaphragm seal compatible with the process fluid. The process connection shall be a 3/4-inch threaded connection with a flushing connection. The fill fluid shall be glycerin. A locking device shall be included from the factory on all fluid-filled instruments to prevent inadvertent loosening or removal from the seal.
- E. Where no seal is specified the gauge will be supplied with a pressure limiting snubber to protect against surges and pulsations.
- F. Manufacturers: The gauges shall be as manufactured by Ashcroft, Wika, McDaniels, U.S. Gauge or approved equal.
- G. The diaphragm seals shall be field serviceable for oil filling. Refer to paragraph 2.3 for other requirements and list of approved manufacturers.
- H. Refer to specification 15130 – Pressure Gauges for requirements.

## 2.6 MAGNETIC FLOW METERS

- A. Magnetic Flowmeters shall consist of a flowmeter with remote signal converter/transmitter that is capable of converting and transmitting a signal from the flow tube. The flow tube shall utilize the characterized principle of electromagnetic induction and shall produce DC signals directly proportional to the flow rate.
- B. Refer to specification 15155 for additional requirements.
- C. The flowmeter accuracy shall be  $\leq \pm 0.5\%$  of reading from 2-100% meter capacity.
- D. The flowmeter shall include but not be limited to the following:
  - 1. NEMA 6P / IP68 accidental submersion enclosure
  - 2. Meter body shall be powder coated aluminum or carbon steel with an epoxy finish
  - 3. Electrical Housing shall be epoxy painted aluminum
  - 4. ANSI Class 150 flanges (minimum)
  - 5. Tefzel or polyurethane liner to suit process requirements
  - 6. Flush type or bullet type (slurry applications) electrodes compatible with process fluid
  - 7. Empty pipe detection
  - 8. SST bolts/nuts, centering device, Teflon gaskets
  - 9. Grounding rings when installed in non-metallic piping. Grounding rings shall be chemically resistant to process, 316SST minimum.
  - 10. The cables for interconnecting the flow tube to the transmitter shall be furnished by the manufacturer and of sufficient length as to not require splicing.
- E. The transmitter shall include but not be limited to the following:
  - 1. NEMA 4X enclosure
  - 2. 120VAC, 60Hz input power
  - 3. Process display with keypad for menu driven configuration
  - 4. One (1) 4-20ma output
  - 5. HART protocol
  - 6. One (1) alarm relay output
  - 7. Empty pipe detection
  - 8. Lo-flow cutoff
  - 9. Damping
  - 10. Flow Totalizer
  - 11. Non-volatile memory
- F. Magnetic Flowmeters shall be Rosemount meter with integral or remote display and signal converter.
- G. Also see Specification 15155 – Magnetic Flow Meter.

## 2.7 LEVEL / FLOW TRANSMITTER, ULTRASONIC TYPE:

- A. Ultrasonic transmitters shall be provided for continuous measurement of storage tanks, concrete tanks, chemical storage tanks and/or as indicated on the Contract Drawings. Transmitters shall also be suitable for open channel, weir and flume flow measurement

based on level measurement. Equipment shall be provided with features and accessories as described herein and suitable for the application.

- B. Ultrasonic level transmitters shall meet the following specifications as a minimum:
1. NEMA 4X enclosure
  2. 120VAC, 60Hz input power
  3. Process LCD display with keypad for menu driven configuration
  4. One (1) isolated 4-20 mA output
  5. Up to six (6) relays for alarm or pulse output
  6. Accuracy: 0.25 %
- C. The CSI shall provide all mounting hardware needed for all applications for this project; and shall coordinate the details of the installation so that the instruments are installed in keeping with the best standard and recommended practices of the manufacturer and conforming to the requirements set forth by the Engineer.
- D. Level transmitters shall be fully programmable and configurable using an integral keypad. The final documentation shall be provided with a tabulation of the Programming Parameters used in each level transmitter so that the initial calibration can be reproduced if a spare transmitter is installed.
- E. Level transmitters shall be four wire type and provided with analog signal isolation as part of the transmitter assembly. Signal analog output shall be provided for level applications. Dual analog outputs shall be provided for flow/level or differential level applications. All conduit connections shall be sealed to prevent damage or corrosion due to vapors or wetness.
- F. In cases where the transducer is used for hazardous areas, sensors shall be hermetically welded PVDF pulse time of flight, rated for NEMA 6P submergence and Class 1, Division 2 classification.
- G. In cases where the transducer is used to monitor a covered wet well, channel or tank, the transducer shall be installed using a hinged protective enclosure, or an enclosure that is designed to work in conjunction with the tank cover. The enclosure shall be a special corrosion resistant instrument enclosure made of polyurethane or fiberglass with stainless steel hardware. Enclosures shall be model C-6, as provided by O'Brien Corp, St. Louis, Missouri. The case shall be secured to the slab using heavy anchors over an appropriately sized hole cored through the slab. The enclosure shall also have a hole in the bottom to match the hole in the slab so that the transducer can be easily installed from above. The transducer shall be installed on a heavy aluminum plate which would lie in the bottom of the enclosure and allow the transducer to extend into the cored hole.
- H. In cases where the transducer is used to monitor a water storage tank or other type of location, the CSI shall provide a mounting design and mounting hardware to provide an installation which is appropriate for the operation of the device and easily maintained. The transducer shall be mounted above the location on a suitable bracket extending out far enough from the tank sides or other obstructions to receive a strong signal over the entire level range without reflections. The transmitter shall be mounted outside of the wall at a convenient ground-level working height.
- I. In cases where the transducer is used in a turbulent area, the sensor shall be flange mounted to a stilling well to minimize incorrect responses to wave action in the liquid. The

stilling well shall be a six (6) inch PVC pipe which shall extend the entire depth of the measured range and to below the normal low liquid level. The stilling well shall have holes drilled periodically along the length or include an air gap between the sensor and the well, sufficient to allow adequate response to changes in liquid level. The stilling well shall be supported in a manner which produces a rigid installation minimizing the movement due to the turbulent liquid.

- J. In cases where the transmitter is used in potentially hazardous locations and/or for differential level measurements across a screen, two hazardous area rated sensors shall be utilized. The transmitter shall provide a 4-20 mA dc output signal based on the differential level.
- K. In cases where the transmitter is used for open channel flow measurement, the transmitter shall use internal standard algorithms for the appropriate flume type to calculate and provide a 4-20 mA dc output signal in terms of flow based on the flume conditions. The unit shall also totalize the flow value for display.
- L. Ultrasonic Level Transmitters shall be Siemens transmitter/sensor with local display or equal by Endress + Hauser. Refer to contract drawings for mounting requirements. Transmitters shall be installed using the appropriate transducer, suitable for the range and process connection of the installation. The cable provided with the transducer shall be of sufficient length to provide installation without splicing the cable at any point.

## 2.8 CHECK VALVE LIMIT SWITCH:

- A. Limit switches shall sense the position of a pump discharge check valve to determine pump flow and operate a SPDT switch to actuate alarms or control circuits. The switch contacts shall be rated for up to 10-ampere maximum load at 120 VAC, 60 Hz. The limit switch shall consist of a lever sensor and operating head. The lever sensor shall be 316 stainless steel or other material suitable for the application.
- B. The lever sensor shall be a roller type or pushpin arm to allow reaction to the movement of the check valve arm and as required based on the specific requirements of the installation. The operating head shall be housed in a NEMA 4 enclosure with an electrical conduit connection.
- C. The switch shall be field adjusted for correct operation. Repeatability of sensing shall be within 1.0 percent ( $\pm 1.0\%$ ) of full switch range.
- D. Lever type limit switches shall be model 802T type as manufactured by Allen Bradley or valve manufacturer's equal as approved by engineer. Coordinate switch requirements with valve manufacturer.
- E. Also see Specification 15110 – Check Valves.

## 2.9 VACUUM HIGH AND LOW SWITCH

- A. The vacuum switch shall include a sensor wired to an electronic monitor and transmitter with a digital readout and three (3) alarm relays: one Low Alarm relay, one High Alarm relay and one Latch Alarm relay. All relays shall be general purpose NO/NC type, 120V @ 5 Amps. Include a 1-100 second adjustable alarm delay timer and LED indicators for all alarm trip points. Switch and monitor shall come standard with analog output, for future use.

- B. Vacuum sensor shall come standard with an oil based protection device that allows direct contact with many gases and liquids, including ammonia, chlorine and sulfur dioxide.
- C. Unit power requirements include allowable voltage input of 120 VAC, +/- 25%.
- D. Provide NEMA 4X rated enclosure with clear chemically resistant cover, to allow operator full view of digital readout and LED alarm indicators without opening cover.
- E. Vacuum Switch shall be VAC-1000 by Reim Electronics, or engineer approved equal.

#### 2.10 FLOAT SWITCHES, SUSPENDED FLOAT TYPE

- A. Level switches of the direct acting float operated design shall be comprised of a hermetically sealed, approximately 5-inch diameter plastic casing float, containing microswitches and flexibly supported by means of a heavy neoprene or PVC jacket, with three-conductor cable a minimum of 20 feet in length. Unless otherwise specified, media specific gravity is 0.95 to 1.05. Microswitches shall be one normally open and one normally closed, 5A 115V AC capacity. Float hangers and supports shall be provided as shown on the installation detail drawings.
- B. Float switches shall be Model ENM as manufactured by Flygt or equal.

#### 2.11 SUNSHIELDS

- B. All outdoor mounted transmitters shall be provided with sunshields, constructed of 316 stainless steel with a white epoxy coating finish, both inside and outside of sunshield. Sunshields are to be sized so that the sunshield will extend a minimum of three (3) inches beyond the transmitter enclosure on all sides.
- C. The sunshield shall be sized to include protection for the transmitter and the surge arresting device.
- D. All sunshield and instrument mounting hardware shall be 316 stainless steel.
- E. Sunshields and related installations shall be designed to withstand regional wind loading.

### PART 3 – EXECUTION

#### 3.01 REQUIREMENTS

- A. In addition to the requirements specified in this section, refer to Section 13100: Instrumentation and Control, General Requirements.



**WTP AERATOR STRUCTURE REHABILITATION  
CITY OF ORMOND BEACH  
13120 ATTACHMENT A -- INSTRUMENT SCHEDULE**

| TAG        | SPECIFICATION             | DESCRIPTION                        | SERVICE                                        | RANGE                            |
|------------|---------------------------|------------------------------------|------------------------------------------------|----------------------------------|
| FE/FIT-010 | 13120-2.6; 15155          | Magnetic Flow Meter                | Aeration South Raw Water Intake Flow           | GPM                              |
| FE/FIT-020 | 13120-2.6; 15155          | Magnetic Flow Meter                | Aeration North Raw Water Intake Flow           | GPM                              |
| FE/FIT-210 | 13120-2.6; 15155          | Magnetic Flow Meter                | Claricone Softener No. 1 Flow                  | GPM                              |
| FE/FIT-220 | 13120-2.6; 15155          | Magnetic Flow Meter                | Claricone Softener No. 2 Flow                  | GPM                              |
| LIT-100    | 13120-2.7                 | Ultrasonic Level Transducer        | Aeration Tank Wet Well Level                   | Lead, Lag & Low Level Alarms, FT |
| LSHH-100   | 13120-2.10                | Level Switch, Float                | Aeration Tank High-High Level                  | High Level Alarm                 |
| MOV-141    | 15103-2.01,A,14           | Motorized Butterfly Valve Actuator | Aeration Pump Station to Claricone 1           | Open/Closed                      |
| MOV-142    | 15103-2.01,A,14           | Motorized Butterfly Valve Actuator | Aeration Pump Station to Claricone 2           | Open/Closed                      |
| ZSC-130    | 13120-2.8, 15110-2.01,A,6 | Check Valve Limit Switch           | Aerator Transfer Pump No. 1 Check Valve Status | Open/Closed                      |
| ZSC-140    | 13120-2.8, 15110-2.01,A,6 | Check Valve Limit Switch           | Aerator Transfer Pump No. 2 Check Valve Status | Open/Closed                      |
| ZSC-150    | 13120-2.8, 15110-2.01,A,6 | Check Valve Limit Switch           | Aerator Transfer Pump No. 3 Check Valve Status | Open/Closed                      |

**END OF SECTION**

## **SECTION 13130 – I&C CONTROL ENCLOSURES**

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### **PART 1 – GENERAL**

#### **1.01 THE REQUIREMENT**

- A. The CONTRACTOR, through the services of a single Control Systems Integrator (CSI), shall furnish, modify, test, install and place into satisfactory operation all control enclosures (i.e. field panels, control panels, cabinets, consoles, boxes, etc.) required to provide a complete and operable Instrumentation and Control System (ICS) as specified herein and as shown on the Contract Drawings.
- B. The Contractor shall be responsible to provide modifications to existing control panels as described herein or as indicated in the SCADA Network Diagram or PLC Input/Output Schedule Attachment. Modifications to existing control panels shall also conform to the requirements of these specifications.
- C. New control enclosures and/or subpanels shall be assembled, wired and tested in the CSI's own facilities, unless specified otherwise.
- D. All components and all necessary accessories (e.g. mounting hardware, conditioning equipment, SPD, fuses, circuit breakers, terminals, ground bars, relays, contactors, starters, indicators, control operators, power supplies, signal conditioning, connectors, digital hardware, etc.) that may be required to complete the system, shall be provided.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this section, the requirements of specification Section 13100: Instrumentation and Control, General Requirements, and the sections referenced therein shall be applied.
- B. The Instrumentation drawings and Attachment A of this section provide a summary of the inputs and outputs, both discrete and analog, which shall be included for the PLC referenced and in the SCADA system implementation.

#### **1.03 SUBMITTALS**

- A. All submittals shall be in accordance with Division 1 and as specified in Section 13100: Instrumentation and Control, General Requirements. In addition, the following specific submittal items shall be provided:
  - 1. Cabinet sizing in relation to heat dissipation and cooling/heating system sizing calculations shall be submitted for all cabinets containing PLCs, UPSs, VFDs, SCRs and, at the request of the ENGINEER, for all cabinets containing sensitive electronic equipment or chemicals.
  - 2. Battery Backup and UPS sizing calculations.

## 1.04 DESCRIPTION OF MAJOR CONTROL PANELS

### A. AERATION PLC CONTROL PANEL (SP-020)

1. Furnish and install an Aeration system main control panel. Aeration PLC Control Panel shall be PLC-based, and shall include one (1) operator interface terminal (OIT) mounted on the front door of the cabinet as specified and shown on the drawings. The control panel and SCADA OIT shall be interfaced with all site status, processes, and control signals and equipment, providing a complete and fully functional control package.

### B. TYPICAL PANEL REQUIREMENTS

1. The SCADA OIT shall be configured to include interface screens and configuration settings to provide the facility operators with real-time information regarding process signals, equipment status, and alarms. In addition, the SCADA OIT shall provide the ability to enter local supervisory control commands and set points.
2. SCADA software, licensing and associated configuration and development will be provided by others, separate from the scope of this contract.
3. Refer to the design drawings for signal and cabinet layout details.

## PART 2 – PRODUCTS

### 2.01 GENERAL REQUIREMENTS

- A. All enclosures shall fit within the allocated space shown on the Drawings. The CONTRACTOR shall examine plans and/or field inspect new and existing structures as required to determine installation requirements and shall coordinate the installation of all enclosures with the OWNER, other equipment suppliers, and all affected subcontractors. The CONTRACTOR shall be responsible for all costs associated with installation of enclosures, including enclosures provided by the other equipment suppliers and all costs associated with the repair of damage to structures (incidental, accidental or unavoidable).
- B. Minimum estimated control panel size is shown on the Drawings. The CONTRACTOR shall furnish enclosures of the size and quantity required to house the manufacturers' equipment supplied and all other electrical components installed in the enclosure. In addition, provide useful space and power supply capacity as spare for future expandability to a minimum of one (1) item per item type installed or twenty percent (20%) of quantity of each type of item installed, whichever yields the greater spare space.
- C. Enclosures (cabinets, panels, boxes, etc.) shall be formed or welded construction, reinforced with Unistrut, Powerstrut or equal to facilitate mounting of internal components or equipment. Sufficient access plates and doors shall be provided to facilitate maintenance and testing of the supplier's equipment. Doors shall be removable. Enclosures with any dimension thirty-six (36) inches or greater, or where assembled enclosure system weight warrants, shall be provided with removable lifting lugs designed to facilitate safe moving and lifting of the panel during installation. No screws or bolts shall protrude through from the enclosure interior.
- D. All steel enclosures shall be free from dirt, grease and burrs, and shall be treated with a phosphatizing metal conditioner (phosphate conversion coating) before painting. All surfaces shall be filled, sanded, and finish coated by spraying a 1-2 mil epoxy prime coat and smooth, level, high grade textured finish between flat and semi-gloss shine. The

colors shall be selected by the OWNER from a minimum of six (6) color samples provided. All stainless steel enclosures shall be polished to a No. 4 finish.

- E. Enclosures shall be prefabricated cabinets and panels by Hoffman, Shaefer or approved equal. The CONTRACTOR may optionally provide enclosures custom fabricated by a reputable panel fabrication shop acceptable to the OWNER.
- F. Each panel shall incorporate a removable back panel on which control components shall be mounted. Back panels shall be secured to the enclosures with collar studs. All components shall be of the highest industrial quality and securely mounted to the removable back panels with screw and lock washers. Back panels shall be tapped to accept all mounting screws. Self-tapping screws shall not be used to mount any component.
- G. All enclosures with any dimension twenty-four (24) inches or larger shall be provided with drawing pockets for as-built panel drawings. One (1) laminated copy of the appropriate panel as-built drawings shall be furnished and left in the pocket of each panel.
- H. All enclosures shall be protected from internal corrosion by the use of corrosion-inhibiting vapor capsules as manufactured by Northern Instruments Model Zerust VC, Hoffman Engineering Model A-HCI, or equal.
- I. All metallic enclosures with door mounted equipment shall have the door grounded by means of flexible ground strap.
- J. The enclosure and all interior and exterior equipment shall be identified with nameplates. The equipment shall be mounted such that service can occur without removal of other equipment. Panel mounted equipment shall be flush or semi-flush mounted. Where component installation would leave cabinet cut-out exposed, install escutcheon. All equipment shall be accessible such that adjustments can be made while the equipment is in service and operating. All enclosures shall fit within the allocated space as shown on the Contract Drawings.
- K. Enclosures shall provide mounting for UPS, power supplies, control equipment, input/output subsystems, panel mounted equipment and appurtenances. Ample space shall be provided between equipment to facilitate servicing and cooling. Enclosures shall be sized to adequately dissipate heat generated by equipment mounted inside the panel. Louvered openings fitted with dust filters near the bottom and top of the cabinet shall be provided for NEMA 12 enclosures. Where specifically called-out, or where required by heat-loading study, cabinets shall be provided with filtered fans. All cooling provisions shall be thermostatically controlled and adjustable.
- L. Each PLC control panel internal temperature shall be monitored by a temperature controller thermostat, providing a high temperature alarm contact input to the PLC. Thermostat controller shall be Hoffman ATEMNO, or approved equal.
- M. Enclosures shall be provided with a main circuit breaker and a circuit breaker on each individual branch circuit distributed from the panel. Main breaker and branch breaker sizes shall be coordinated such that an overload in a branch circuit will trip only the branch breaker but not the main breaker. In addition, circuit breakers shall be provided for the following internal branch circuits distributed within the panel:
  - 1. Receptacles and power strips.

2. Lighting.
  3. UPS.
  4. HVAC equipment.
- N. Enclosures shall be provided with LED internal cabinet lighting. Size and count as required to provide adequate lighting for inspecting and servicing internal components. Cabinet lighting system(s) shall include rigidly installed, heavy-duty, door-activated actuation switch(es). Typical lighting installations shall be at top-center of cabinet interior. Alternate locations and/or configurations shall be submitted for ENGINEER approval.
- O. Enclosures containing PLC, OPI or SCADA equipment shall be provided with 120 volt duplex "programming" receptacle, for use with a laptop in servicing the equipment. Programming receptacle shall be identified by an equipment nameplate reading "Programming Receptacle Only". Programming receptacle shall be installed in a dedicated branch-circuit within the enclosure. Receptacle shall be Phoenix Contact 15A, GFCI receptacle EM-DUO/120/15/GFI-5600462, or approved equal.
- P. Cabinet loads not requiring a surge protection device (i.e. receptacles, lighting, HVAC, etc.) shall be connected ahead of the enclosure primary power SPD device.
- Q. Locate equipment, devices, hardware, power supplies, instrumentation and controls, electrical equipment and wiring to be installed inside the enclosures and/or as facial features on the enclosures, so that connections can be easily made and so that there is ample room for servicing each item. Every component in and on the enclosures shall be able to be removed individually without affecting the other components and without the need to move other components. Support and restrain all internally, as well as panel mounted components, to prevent any movement.
- R. All cabinets and/or enclosures shall be NEMA rated for the environment in which it is to be installed and as noted in the Drawings.
- S. Materials and equipment used shall be U.L. approved wherever such approved equipment and materials are available.
- T. Control panels shall be built in accordance with UL508A Industrial Control Panels and NEC Article 409 Industrial Control Panels. Control panels for areas classified as Hazardous shall be built in accordance with UL698 Industrial Control Equipment for Use in Hazardous Locations. Control panels shall be UL508A and/or UL698 labeled and marked as defined in NEC 409.110 with the following:
1. Manufacturer's name and contact information (i.e. address, phone, website, email, etc.).
  2. Supply voltage, phase, frequency and full-load current.
  3. Short-circuit current rating of the industrial panel based on one of the following:
    - a. Short-circuit current rating of a listed and labeled assembly.
    - b. Short-circuit current rating established utilizing an approved method.
  4. Electrical wiring diagram numbers or the index sheet to the electrical wiring diagrams.
  5. The enclosure type number (i.e. NEMA 1A, 3R, 12, 4X, 7, 9, etc.)
  6. If the industrial control panel is intended as service equipment, it shall be marked to identify it as being suitable for use as service equipment.

- U. All work shall be performed in a professional manner and in consideration of allowing ease of future troubleshooting and maintenance. All equipment should be mounted so as to minimize crowding within the panel. All devices shall be mounted and wired in a neat and workmanlike manner. Each component shall be prominently identified with the use of permanent engraved legend plates.
- V. Grounding: All suppressors shall be grounded per the suppressor manufacturer's recommendations. Furnish control panels with an integral copper grounding bus for connection of suppressors and other required instrumentation. Provide single-point connection of all grounds to grounding bus using the shortest possible path. Each grounded object shall have a separate connection to the ground bus. Do not connect cable shields to suppressor ground terminal or daisy-chain ground connections. Provide 1-inch wide by 1/8-inch thick copper ground bus as a minimum.

## 2.02 PANEL ENCLOSURE MATERIAL AND CONSTRUCTION

### A. OUTDOOR ENCLOSURES

1. All outdoor enclosures shall be rated NEMA 4X, constructed of 316 stainless steel with a white powder epoxy coating finish unless specified otherwise. Outdoor enclosures shall have a hinged and gasketed door. Door latches shall be all stainless steel, fast operating clamp assemblies (quick release), which do not require bolts or screws to secure. Gaskets shall be polyurethane.
2. Outdoor panels shall be fitted with pad-lockable latch kits.
3. Outdoor enclosures with internal digital electronics, exterior indicators, or exterior indicator lights shall have external sun shields or sun shades, constructed of the same materials as the associated enclosure, unless otherwise specified.
4. Outdoor enclosures shall be designed for ambient conditions of -15 to 50°C and twenty to ninety-five percent (20% - 95%) relative humidity, unless otherwise specified. Outdoor enclosures shall be provided with thermostatically controlled space heaters to provide condensation protection.

### B. INDOOR ENCLOSURES

1. Indoor enclosures located in the same area (i.e. room, etc.) as open process tanks, open process channels, closed process piping or process equipment containing wet liquids or possible airborne powders, shall be rated NEMA 4X, constructed of 316 stainless steel. Enclosures shall have a hinged and gasketed door. Door latches shall be all stainless steel, fast operating clamp assemblies (quick release) which do not require bolts or screws to secure. Gaskets shall be polyurethane.
2. Indoor enclosures located in a dry or environmentally controlled area (i.e. electrical room, etc.) shall be NEMA 12 steel, unless specified otherwise. Enclosures shall have a hinged and gasketed door. Door latches shall be 3 point door latch with handle for all enclosures with a dimension of 24 inches or larger, or otherwise shall be fast operating clamp assemblies (quick release) which do not require bolts or screws to secure. Gaskets shall be polyurethane.
3. Indoor enclosures in a non-air conditioned space shall be designed for ambient conditions of 0 to 40°C and twenty to ninety-five percent (20% - 95%) relative humidity, unless otherwise specified. Indoor enclosures in an air conditioned space shall be designed for ambient conditions of 20 to 30°C and twenty to eighty-five percent (20% - 85%) relative humidity, unless otherwise specified.

### C. TERMINALS

1. Terminal blocks shall be assembled on 35mm DIN mounting rails, securely bolted to the cabinet sub-panel. Terminals shall be of the screw down pressure plate type as manufactured by Phoenix Contact, Allen Bradley, Wieland, Square D, or equal. Power terminal blocks shall be single tier with a minimum rating of 600 volts, 30 amps. Signal terminal blocks shall be single tier with a minimum rating of 600 volts, 20 amps.
2. Fused terminal blocks or miniature thermal circuit breaker terminal blocks shall be supplied for protection and isolation of enclosed equipment, or as specified in the Contract documents. Blown fuse indicators shall be provided and/or tripped breaker status shall be clearly visible. Fused or miniature thermal circuit breaker terminal blocks shall be provided for, but not limited to each of the following:
  - a. Each PLC module requiring external power.
  - b. Each piece of equipment provided with a power supply (integral, internal or external) with the exception of devices with internal fusing, plugged into a receptacle.
  - c. As required to logically and electrically group and/or segregate critical components or functions.
3. Terminals shall be marked with a black waterproof, permanent, continuous marking strip. One side of each terminal shall be reserved exclusively for field incoming conductors. Common connections and jumpers required for internal wiring shall not be made on the field side of the terminal.

### D. WIRING

1. All wiring shall be bundled and run open or enclosed in vented plastic wireway, as required. All conductors run open shall be bundled and bound with nylon cable ties, at regular intervals, with intervals not to exceed 12 inches. Adequately support and restrain all wiring runs to prevent sagging or other movement. Care shall be taken to separate communication, network, electronic signal, AC discrete signal, DC discrete signal and power wiring. Wiring to equipment mounted on doors, or where movement of the equipment will take place, shall be installed in nylon spiral wrapping sheaths.
2. Wires shall be color coded as follows:

|                                      |                   |
|--------------------------------------|-------------------|
| Equipment Ground                     | GREEN             |
| 120 VAC Power Distribution           | BLACK             |
| 120 VAC Neutral                      | WHITE             |
| 120 VAC Control (Internally Powered) | RED               |
| 120 VAC (Externally Powered)         | YELLOW            |
| 24 VAC Control                       | ORANGE            |
| 24 VAC Neutral                       | ORANGE/WHITE      |
| 24 VDC (+)                           | BLUE              |
| 24 VDC (-)                           | BLUE/WHITE (BLUE) |
| Analog Signal (+)                    | BLACK             |
| Analog Signal (-)                    | CLEAR/WHITE       |

3. All wiring shall comply with accepted standard instrumentation and electrical practices. Field wiring for power, control and signal wires shall comply with Division 16 of the specifications.
4. Internal panel wiring shall be as follows:
  - a. AC power wiring: 14 AWG minimum, stranded copper conductors, THHN/THHW wire rated for 600 volts and 90 °C. For conductors carrying more than 15 amps, size as required by NEC.
  - b. AC control and DC power and control wiring: 16 AWG minimum, stranded copper conductors, THHN/THHW wire rated for 600 volts and 90 °C.
  - c. Instrument signal wiring: 18 AWG stranded conductors, tinned copper, twisted pair or triad, overall one hundred percent (100%) aluminum foil shield with stranded drain wire, rated 300V/60°C, polyethylene insulated wire with PVC jacket. Instrument signal wire shall be equal to: Belden 8760, Carol C2534A, or approved equal. Where required by application and code, plenum-rated cable shall be used.
5. All stranded wire shall have a minimum of sixteen (16) strands, except for drain wires.

#### E. IDENTIFICATION

1. Provide nameplates on the front of all enclosures to identify each console, panel or cabinet. Nameplates shall be phenolic plate, white base, black laminate, with beveled edges and 1/2 inch engraved lettering (exposing base). Nameplates shall be located and sized for clear readability. Where specifically designated, provide as shown on the Drawings.
2. Provide legend plates and nameplates for each front panel mounted device. Nameplates shall be phenolic plate, white base, black laminate, with beveled edges and 1/4 inch engraved lettering (exposing base). Nameplates shall be located and sized for clear readability. Where specifically designated, provide as shown on the Drawings.
3. Provide equipment ID nameplates for each interior subpanel mounted device. Nameplates shall be phenolic plate, white base, black laminate, with beveled edges and 1/8 inch engraved lettering (exposing base). Nameplates shall be located and sized for clear readability, and shall be installed such that they are unaffected by equipment removal or replacement. Where specifically designated, provide as shown on the Drawings.
4. Provide equipment ID nameplates for each field mounted device. Nameplates shall be phenolic plate, white base, black laminate, with beveled edges and 1/8 inch engraved lettering (exposing base). Nameplates shall be located and sized for clear readability, and shall be installed such that they are unaffected by equipment removal or replacement.
5. Caution/Warning nameplates shall be white base with red laminate.
6. Nameplates shall be attached using stainless steel machine screws into tapped holes. Attach front panel nameplates with both a permanent adhesive and stainless steel machine screws into tapped holes. Where necessary to avoid altering equipment rating (ex. NEMA 4X enclosures), attach nameplate utilizing permanent adhesive or stainless steel wire.



7. Number and label each wire in the systems. Every unique wiring circuit segment (electrically) shall have its own individual unique number. Numbers shall be shown on all submitted drawings. All wire segments shall be labeled at each end termination. All multi-conductor cables shall be labeled at each jacket end with cable ID number "CBL-XXX", and at each termination point the individual conductors shall be labeled with their respective wire number. Labeling shall be self-laminating, white with transparent over-laminate end section, self-extinguishing vinyl strips (Brady DAT 7 292 or equal). Length shall be sufficient to provide at least two and one-half (2 ½) wraps. All labels shall be machine-printed with wire and/or cable numbers.

#### F. ACCESSORIES

1. Control operators for all equipment shall be as specified herein and of the same type and manufacturer unless otherwise specified or indicated on the Contract Drawings.
2. Control operators such as pushbuttons (PB), selector switches (SS), and pilot lights (PL) shall be Allen Bradley 800H, Square D Company Type SK or equal. Control operators shall be 30.5 mm, round, heavy-duty, oil tight NEMA 4X corrosion resistant.
3. Pushbuttons and selector switches shall be non-illuminated, spring release type. Pushbuttons shall include a full guard. Panic stop/alarm pushbuttons shall be red mushroom type with manual-pull release. Pilot lights shall be of the proper control voltage, LED type (indoor) and lamp type (outdoor).
4. Where required to interface between motor control centers, equipment controls, and control panels, interposing relays and associated control wiring circuitry shall be furnished and installed to provide the monitoring and/or control functions specified herein. Interposing relays shall be miniature type with DPDT contacts rated a minimum 10 amp @ 120 VAC, push-to-test button, and status indicator. Relay coils shall be 120/240 VAC or 24 VDC as required. Relays shall be as manufactured by Idec, Square D, Omron, Allen-Bradley or approved equal.
5. Digital Indicators shall be provided to indicate rates and readings in digital format and true engineering units. Indicators shall accept a 4-20 mA input signal and shall be programmable through the front panel to provide scaling, calibration, options and accessories. Units shall be 4 digit minimum with red LED indication, 120 VAC power. Digital Indicators shall be Precision Digital, Red Lion or approved equal.

#### G. POWER SUPPLIES

1. Each control panel requiring 24 VDC shall be provided with a 24 VDC power supply. Power supplies shall be DIN rail mounted, enclosed type, 24 VDC, 5 Amp (minimum), with operating temperature range of minus 20 to 70 degrees C. Power supply shall provide a dry-contact alarm output. Power supplies shall be sized to support the connected loads plus 25% spare capacity.
2. Power supplies external to the PLC, provided for loop and/or PLC power shall be redundant and each shall alarm to the PLC upon failure.

#### H. SURGE PROTECTIVE DEVICES (SPDs)

1. Surge protective devices for all equipment shall be as specified herein and of the same type and manufacturer unless otherwise specified or indicated on the Contract Drawings.

2. Surge protective devices shall be provided at the following minimum locations:
  - a. At any connections between AC power and electrical and electronic equipment, including panels, assemblies and field mounted instruments.
  - b. At both ends of all analog signal circuits that have any portion of the circuit extending outside of the control panel.
  - c. At the control panel for all discrete signal circuits that have any portion of the circuit extending outside of the control panel.
  - d. At both ends of all copper-based communications cables that extend outside of a building.
  - e. At all specified spare analog inputs and outputs and spare discrete signal inputs in PLCs and RTUs.
3. SPDs shall be listed/recognized by UL 1449 latest edition, Standard for Safety Surge Protective Devices.
4. These protective devices shall be external to, and installed in addition to, any protective devices built into the equipment. Power and signal protection shall be installed in either in a NEMA 4X enclosure or in the enclosure that houses the equipment to be protected.
5. All surge protective devices shall be mounted and wired per the manufacturer's recommendations, including local grounding for surge energy dissipation. For surge suppressors use No. 8 cable for ground connection or install suppressor directly on ground bus using grounding screw.
6. Panel-mounted power circuit protectors shall be provided in all enclosures powered by 120 VAC. The protector shall be DIN rail mount plug-in type surge protection with a 3-stage hybrid, solid-state power line protector with noise filtering, common mode and normal mode suppression and nanosecond reaction time. The unit shall include fault signaling and remote indication contact. SPD devices shall be EDCO HSP121BT, Phoenix Contact PT-2-PE/S-120VAC (2856812) or approved equal.
7. Panel-mounted signal circuit protectors shall be DIN rail mount type. Each SPD shall include a moveable grounding link to allow each signal cable shield to be individually grounded to the panel via the mounting rail through the SPD for that cable without the use of any additional grounding wire or to be isolated from ground at the SPD. Each mounting rail shall be grounded to the panel by the use of rail mounting screws at approximately one-foot intervals. Protection shall be from line to line and from each line to ground. Protection shall also be from shield to ground where the shield is not grounded at the protector. Each SPD shall have the ability to protect against surge currents greater than 10,000 amperes. Each SPD shall add no more than 22 ohms per signal wire to the total signal loop resistance of the analog signal loop in which it is installed. SPDs shall not introduce error-producing ground loop currents into the instrumentation signal circuits.
  - a. For analog signal surge protection: The surge protection controller module shall be connected to the protection modules via pluggable bus connectors. The controller module shall provide dry-contact outputs representing 1) common module warning and 2) common module failure. The warning and failure alarms shall be wired into the PLC. Protection

devices shall be Phoenix Contact PlugTrab-PT Series, or approved equal.

8. Signal circuit SPDs for 2-wire field instruments shall be a conduit connected/pipe nipple type and shall have characteristics equal to the panel mounted devices. Units shall be mounted to a transmitter conduit entry point where available. When not available or practical, these devices shall be mounted utilizing a T-style conduit body, located at the field devices. SPD devices shall be Phoenix Contact PipeTrab S-PT1-2PE-24DC (2818122) or approved equal.
9. Signal circuit SPDs for 4-wire field instruments shall be a separate enclosure unit capable of providing protection on both the power and signal side. The unit shall contain the characteristics of the line power protector and signal circuit protectors discussed above. Units shall be enclosed in a manufacturer assembled wall-mount, NEMA 4X enclosure. SPD devices shall be Phoenix Contact BoxTrab, BXT-N4X 4-WIRE (5603514) or approved equal.
10. SPD devices for CAT 5 or 6 Ethernet cable data signal protection shall be DIN-rail mount type with RJ45 plug connection to the device it is protecting. Surge suppressor type shall be gas-filled surge arrester and diodes with a total surge current of 10kA. SPD shall be Phoenix Contact, DT-LAN-CAT.6+ (281007), or approved equal.
11. SPD device specifications and ratings for signal or communication types not defined herein shall be as specified elsewhere or of a type recommended by the manufacturer of the device being protected. SPD devices shall be Phoenix Contact or approved equal.

## 2.03 PROGRAMMABLE LOGIC CONTROLLER (PLC), GENERAL

- A. The control system hardware configuration as specified herein, in other related sections, and as shown on the Contract Drawings depicts overall system configuration requirements. Unless otherwise specified, designs which vary from this concept will be rejected.
- B. All discrete and analog data acquisition, pre-processing, storage and process control functions shall be performed at the PLC level.
- C. PLC-to-PLC communication protocols shall be Ethernet-based.
- D. The Controls System Integrator (CSI) shall provide all software, operating systems, network interface, special drivers and network integrations required and shall perform all configurations, commissioning, troubleshooting and diagnostics required for a complete and functional system.
- E. The equipment specifications included herein define a level of performance based on current technology to establish a basis of bid. However, it is recognized that computer technology changes rapidly and that this technology level, while leading edge today, will be surpassed by the time equipment will be purchased. It is therefore expected that a comparable, leading edge value in technology will be provided at the time of purchase.
- F. Cable systems shall be provided for various requirements, including but not limited to data network, fiber optic, printer, power cables, and others as required. Cables shall be routed in suitable conduits, cable ducts, channels and wire ducts to provide a clean, safe, non-obtrusive and workmanlike installation.

- I. The Control System Integrator shall furnish programmable controllers (PLCs) as specified herein and as shown on the Drawings. PLCs shall be provided complete with rack, power supply, Input/Output (I/O) modules, special function cards, instructions, memory, input/output capacity and appurtenances to provide all features and functions as described herein.
- J. All components of the PLC system shall be of the same manufacturer; who shall have fully tested units similar to those being furnished, in an industrial environment with associated electrical noise. The PLC system shall have been tested to meet the requirements of NEMA Standard ICS 2-230 (Arc Test) and IEEE C37.90.1 (SWC). The processing unit shall perform the operations functionally described herein, based on the program stored in memory and the status of the inputs and outputs.
- K. The programmable controller shall be designed to operate in an industrial environment. The PLC shall operate in an ambient temperature range of 0°-60°C and a relative humidity of five to ninety-five percent (5% - 95%), non-condensing. The PLC shall operate on supply voltages of 90-132 VAC at 47-63 Hz, or 24 VDC if provided with a battery backup system. Overcurrent and under-voltage protection shall be provided on the power supply.
- L. System configuration shall be as shown on the Contract Drawings. PLC types shall be designated on the system block diagram and correspond to the specifications herein. Only a single type of processor shall be supplied for all PLCs of a designated type. Memory, processor and PLC type shall be adequate for all control functions specified
- M. The processor and its associated memory shall be enclosed in a modular component package. A multiple-position selector switch or equivalent shall be used to select processor operating mode. LED-type indicating lights shall be provided to indicate processor, memory and battery status. Errors in memory shall be recognized, and shall activate the memory error indicating lights. The PLC processor shall monitor the internal operation of the PLC for failure, and provide an alarm. Memory shall consist of battery-backed RAM or EEPROM, which shall retain the configuration, logic program and current operating parameters/addresses for at least one (1) year, in the event of power loss. Visual indication shall be provided if battery charge is insufficient to maintain the program in RAM memory for at least two (2) weeks.
- N. The instruction set for the PLC shall include the following, as a minimum.
  - 1. Relay type instructions.
  - 2. Counter and timer instructions.
  - 3. Comparison instructions (equal, greater than, limit tests, etc.).
  - 4. Integer, long integer and floating point mathematical instructions.
  - 5. Advanced math and trigonometric functions.
  - 6. Matrix and array instructions.
  - 7. Logical instructions (and, not, or, etc.).
  - 8. Bit modification, moving and shift instructions.
  - 9. Diagnostic instructions.
  - 10. Sequencer instructions.
  - 11. Program control instructions (jump, goto, subroutine, etc.).
  - 12. PID control loops.
  - 13. Block read and write capability.
  - 14. Master and slave communications capabilities.
  - 15. Immediate I/O and communications update instructions.

16. Real-time clock and date.

- O. In addition to a port for communications as shown on the Contract Documents, additional communication ports shall be provided for any other devices as required (i.e., operator interface unit, connection to a laptop computer for programming and configuration.)

#### 2.04 PLC TYPE

- A. The PLC furnished under this contract shall be provided as specified or shown in the Contract Documents, and shall meet but not be limited to the following requirements:
1. Two (2) 10/100 Mbps Ethernet IP communication ports, one (1) USB serial port.
  2. I/O Module Expansion Capacity: Up to sixteen (16) modules, not to include processor or power supply.
  3. One power supply for each I/O module bank.
  4. I/O modules shall be of a dedicated type, i.e. AI, AO, DI, DO.
  5. No mixed I/O modules shall be acceptable.
  6. 3MB of user memory, and 1GB SD memory card for memory backup.
- B. The PLC input/output hardware shall be modular DIN-rail mounted units mechanically locked together with a tongue and groove design. Modules shall include an integral communications bus that is connected from module to module with a moveable bus connector. Additional I/O module banks shall be connected with an expansion cable in a horizontal or vertical configuration, up to three banks, one local bank which includes the controller and two additional banks.
- C. Modules shall be placed to ensure adequate power supply voltage to all modules with a maximum of three (3) modules on the left of the power supply and eight (8) on the right side of the power supply, for the bank with the controller, and maximum of eight (8) modules on both sides of the power supply for additional I/O module banks.
- D. Power supply shall be compatible with the Allen Bradley PLC. Input shall be 120VAC and shall supply power to the PLC, Communication and I/O Modules. Shall be Allen-Bradley 1769-PA4. Provide redundant power supply module.
- E. PLCs shall be Allen Bradley CompactLogix, 5370 L3 Controller: Type-2 manufacturer number 1769-L36ERM.

#### 2.05 PLC INPUTS/OUTPUTS

- A. Input/output hardware shall be either plug-in modules in associated I/O rack assemblies or add-on modules for remote station type PLCs. Each PLC within an enclosure shall handle the required number of process inputs and outputs, plus a minimum of ten percent (10%) pre-wired spares for each I/O type furnished except discrete inputs which shall have a minimum of twenty percent (20%) pre-wired spares, plus a minimum of twenty percent (20%) spare I/O rack expansion space for the addition of future circuit cards or modules.
- B. PLC input/output systems and processing modules shall be of the same model series. No third party manufacturer models will be accepted.
- C. Discrete inputs (DI) shall be 16-point module, 24VDC developed from dry field contacts, for Allen Bradley 1769-IQ16.

- D. Discrete outputs (DO) shall be 16-point, 120 VAC / 28 VDC 5A relay contact modules. Output contacts may be powered from the field equipment or powered from 24 VDC / 120 VAC sourced from PLC control panel's power system, as required to interface with field equipment. Outputs to solenoid valves shall be 120 VAC, powered from the PLC or control panel unless specified or shown otherwise. Provide interposing relays as required to meet dry contact rating. CompactLogix – 1769-OW16.
- E. Analog input (AI) circuits shall be isolated, 12-bit (minimum) resolution type. Analog input hardware shall be provided as required for all types of analog inputs being transmitted to the PLC. In general, analog input modules shall be capable of receiving 4-20 mA signals. Each input circuit shall have optical isolation to protect the equipment against high voltage transients. CompactLogix – 1769-IF4I.
- F. Analog outputs (AO) shall be coordinated with the receivers but shall generally be isolated 24 VDC, 4-20mA outputs powered from the PLC. Each output circuit shall have optical isolation to protect the equipment against high voltage transients. CompactLogix – 1769-OF4CI.
- G. Network interface modules shall be provided where specified to communicate with equipment and devices utilizing Modbus/TCP Protocol. The module shall include a single Ethernet port for diagnostic and application data. Communication module shall support Allen Bradley processors and occupy one (1) slot on the PLC backplane.
- H. Input/output modules shall be configured for ease of wiring and maintenance. The modules shall be connected to wiring arms which can be disconnected to permit removal of a module without disturbing field wiring. Covers shall be provided to prevent operator personnel from inadvertently touching the terminals. The process interface modules shall be provided with screw-type terminal blocks with barriers between adjacent terminals for connection of field inputs. Terminals shall be suitable for accepting up to and including No. #22...#12 AWG (0.2...4 mm<sup>2</sup>) wire.
- I. Output failure mode shall be selectable so that upon station or communication system failure, all outputs shall be placed in the non-conducting mode or remain as they were prior to failure. Light-emitting diodes shall be provided for status indication for each input and output point.
- J. Signal and control circuitry to individual input/output modules shall be arranged such that module failure shall not disable more than one half (½) of the control loops within any group of controlled equipment (e.g., one pump out of a group of three pumps, two pumps out of four, etc.). Where possible, individual control loops and equipment shall be assigned to individual modules such that failure of the module will disable only one (1) loop or piece of equipment.

## 2.06 PLC PROGRAMMING SOFTWARE

- A. The PLC programming and configuration software shall be the manufacturer's latest version. The software package shall consist of all programming, configuration, and documentation software needed to place the control and information system in satisfactory operation. The software shall allow on-line and off-line program development and documentation. Programming shall be accomplished through the use of ladder logic. PLC programming software shall include CD-ROM and zip drive documentation.

- B. The existing VTScada License for the City of Ormond Beach Water is a 25,000 I/O tag system with unlimited Clients. Control Systems Integrator (CSI) shall coordinate with City IT staff as needed for the addition of all new and modified I/O points into the City's VTSCADA system. Control System Integrator shall be ultimately responsible for the programming and implementation of all SCADA system modifications.
- C. All software licensing, support contracts, etc., shall be registered to the City of Ormond Beach, Florida. The particular contact person and address shall be coordinated with the OWNER prior to purchasing of any equipment or software.

#### 2.07 OPERATOR INTERFACE TERMINAL (OIT)

- A. Operator Interface Terminal (OIT) shall be provided as specified herein and shown on drawings.
- B. The OIT shall be an industrial panel PC, with 18.5" LCD touchscreen supporting 1920 x1080 resolution (minimum), 1.7GHz processor (minimum), 8GB DDR3 SODIMM, 160GB SSD and two (2) open PCI slots. The OIT shall have two (2) RJ45 Ethernet (10/100/1000 Mbps) network ports, one (1) RS-232/422/285 port, three (3) USB 2.0 ports and one (1) USB 3.0 port.
- C. Input power for OIT shall be 24VDC.
- D. OIT operating system shall be MS Windows 10 IoT Enterprise64-bit, including latest service packs.
- E. The OIT shall be manufactured by Phoenix Contact, VL3 PPC Industrial Panel PC, Model 1376798/D37/A20/I55/R42/RD00/M96/M00/OS74/S00/EF15/EF11/EF21/AP01.

#### 2.08 INDUSTRIAL ETHERNET SWITCH, UNMANAGED

- A. Provide an industrial, DIN rail mount type unmanaged Ethernet switch inside the PLC cabinet, as required, for communications over the plant Ethernet network. Refer to the design drawings for specific instances of utilization.
- B. The switch shall provide a minimum of six (6) copper Ethernet 10/100 RJ-45 network ports, where each port includes an LED light to indicate communication activity and data rate. The switch shall also provide a minimum of two (2) FO Ports. Coordinate port format with City.
- C. Input voltage shall be 10-30 VDC, with temperature range of minus 40 to 75 degrees C.
- D. Redundant power supply capable with local (LED) and remote (dry contact) alarm to indicate failure of one or both power supplies.
- E. Switch shall be Phoenix Contact FL Switch SFNT 6TX/2FX (2891314), or approved equal.

#### 2.09 UNINTERRUPTIBLE POWER SUPPLY (UPS)

- A. UPS units shall be line interactive units, provided for new PLC control panels as specified herein or shown elsewhere within the Contract Documents.
- B. The capacity of each UPS shall be sized to support the maximum power requirements of the equipment intended to be connected to it, plus twenty (20) percent spare capacity, and to maintain this combined load for a minimum of forty (40) minutes following loss of

primary power.

- C. UPS units provided for PLC cabinets shall be provided with dry contact outputs to indicate UPS failure and UPS low battery condition. UPS alarm outputs shall be wired into the PLC I/O to represent UPS status.
- D. Where located in a control or PLC enclosure, the UPS shall be located at the bottom of the enclosure but mounted on a raised shelf or platform.
- E. Provide a network interface card for alarms, network management support and power management over Modbus TCP protocol. The interface card shall be configured and connected to the network switch at each location.
- F. Each UPS shall meet the following requirements:
  - 1. Input voltage shall be 120 VAC, single phase, 60 Hz.
  - 2. Operating temperature range shall be 0 to 40 degree C.
  - 3. Voltage regulation shall be plus or minus five percent (+/-5%) for line and load changes.
  - 4. The output frequency shall be phase-locked to the input AC line on AC operation and shall be 60 hertz (+/-0.5%) when on battery operation.
  - 5. The batteries shall be replaceable and of the sealed, lead acid or lead calcium gelled electrolyte type, suitable for high temperatures.  
Note - Where UPS is to be installed inside a non-ventilated cabinet, batteries and/or UPS system shall be rated for such application.
  - 6. Sound absorbing enclosure.
  - 7. EMI/RF noise filtering.
  - 8. Surge protection shall be provided on the AC input circuit, which shall have a UL SPD clamping voltage rating of 400 V with a <5 ns response time.
- G. UPS systems shall be Eaton or approved equal.

## 2.010 TOOLS, SUPPLIES, AND SPARE PARTS

- A. Tools, supplies, and spare parts shall be provided as specified in Section 13100: Instrumentation and Control, General Requirements and as specified for each equipment item. In addition, the following items shall be provided:
  - 1. One (1) of each type of panel mounted device (i.e., indicators, signal converters, etc.) provided under this Contract (excluding OIT).
  - 2. Three (3) of each type of interposing relay provided under this Contract.
  - 3. One (1) of each type of power SPD device used.
  - 4. Five (5) of each type of signal SPD device used.
  - 5. Two (2) of each type of communication SPD device used.
  - 6. One (1) of each type of power supply used.
  - 7. One year supply of corrosion-inhibiting vapor capsules.

## PART 3 – EXECUTION

### 3.01 REQUIREMENTS

- A. In addition to the requirements specified in this section, refer to Section 13100: Instrumentation and Control, General Requirements.



- B. Floor and concrete equipment pad mounted enclosures shall be installed on 1/4 inch thick rubber mat. Mats shall be sized to completely cover the base of the enclosure.
- C. Keep enclosures clean at all times. Keep enclosure doors closed except when actually working in the enclosure. Protect all equipment during installation, including hole punching for conduit connection. Remove all filings and thread cuttings from enclosures. Careful attention must be paid to provide installations which are both functional and esthetically acceptable.
- D. All conduits used in conjunction with control panels or instrumentation of any kind shall be sealed using a suitable duct-sealing compound to minimize the possible damage caused by vapors or wetness. It shall be the responsibility of the CSI to verify that this is accomplished early in the project, so that corrosion damage does not occur during the time of construction.
- E. The CONTRACTOR shall provide the ENGINEER a periodic written report detailing construction progress. This report shall include specific tabulations of equipment on which construction/installation has been completed.
- F. Equipment shall be located so that it is accessible for operation and maintenance. The CSI shall examine the Contract Drawings and Shop Drawings for various items of equipment in order to determine the best arrangement for the work as a whole and shall supervise the installation of all equipment.

### 3.02 WIRING AND GROUNDING

- A. The following wiring practice guidelines shall be used in order to minimize ground loops, minimize the effects of electromagnetic interference/radio frequency interference (EMI/RFI) and to provide maximum practical immunity from damage resulting from lightning-induced transients.
- B. Common wires or conductors shall not be utilized (either within panels or external to panels, or for grounding of field devices) for signal shielding, signal grounding, or safety grounds.
- C. Exposed wire lengths extending from within shielded signal cables shall be minimized to reduce pick-up of EMI/RFI by signal circuits. Exposed lengths of less than one inch is preferred with a maximum exposed length of 2 inches only permitted where necessary. No splicing of signal wires shall be permitted.
- D. The shield on each process instrumentation cable shall be continuous from source to destination and grounded at one end only. In general, grounding of signal cable shields shall be done at the control panel end. No signal cable shall share a common cable shield grounding wire with any other signal cable or other circuit. The exposed length of cable shield grounding wires shall not exceed two inches prior to termination with less than one-inch maximum length preferred.
- E. All outdoor instruments and all outdoor enclosures shall be grounded using the practice defined in Section 800.100 of the National Electric Code.

**WTP AERATOR STRUCTURE REHABILITATION  
CITY OF ORMOND BEACH  
AERATION PLC CONTROL PANEL (SP-020)  
13130 ATTACHMENT A -- PLC INPUT/OUTPUT SCHEDULE**

| TAG NAME | DESCRIPTION                                                | TYPE | INACTIVE | ACTIVE | UNITS |
|----------|------------------------------------------------------------|------|----------|--------|-------|
| FIT-010  | SOUTH RAW WATER AERATION TANK INFLUENT FLOW                | AI   | 0        | XXX    | GPM   |
| FIT-020  | NORTH RAW WATER AERATION TANK INFLUENT FLOW                | AI   | 0        | XXX    | GPM   |
| LSHH-100 | AERATOR CONTACT CHAMBER WET WELL HIGH HIGH LEVEL           | DI   | NORMAL   | ALARM  |       |
| LIT-100  | AERATOR CONTACT CHAMBER WET WELL LEVEL                     | AI   | 0        | XXX    | FT    |
| SC-110   | AERATION TRANSFER PUMP NO. 1 VFD SPEED CONTROL             | AO   | 0        | 100    | %     |
| SI-110   | AERATION TRANSFER PUMP NO. 1 VFD SPEED FEEDBACK            | AI   | 0        | 100    | %     |
| HS-110   | AERATION TRANSFER PUMP NO. 1 VFD CALL TO RUN               | DO   | STOP     | START  |       |
| PB-110   | AERATION TRANSFER PUMP NO. 1 VFD RESET COMMAND             | DO   | OFF      | RESET  |       |
| OA-110-1 | AERATION TRANSFER PUMP NO. 1 VFD FAULT STATUS              | DI   | NORMAL   | ALARM  |       |
| OA-110-2 | AERATION TRANSFER PUMP NO. 1 MOTOR HIGH TEMP               | DI   | NORMAL   | ALARM  |       |
| OA-110-3 | AERATION TRANSFER PUMP NO. 1 CHECK VALVE FAIL TO OPEN      | DI   | NORMAL   | ALARM  |       |
| OA-110-4 | AERATION TRANSFER PUMP NO. 1 HIGH LEVEL                    | DI   | NORMAL   | ALARM  |       |
| OL-110-1 | AERATION TRANSFER PUMP NO. 1 VFD IN REMOTE                 | DI   | OFF      | REMOTE |       |
| OL-110-2 | AERATION TRANSFER PUMP NO. 1 VFD RUN STATUS                | DI   | OFF      | ON     |       |
| SC-120   | AERATION TRANSFER PUMP NO. 2 VFD SPEED CONTROL             | AO   | 0        | 100    | %     |
| SI-120   | AERATION TRANSFER PUMP NO. 2 VFD SPEED FEEDBACK            | AI   | 0        | 100    | %     |
| HS-120   | AERATION TRANSFER PUMP NO. 2 VFD CALL TO RUN               | DO   | STOP     | START  |       |
| PB-120   | AERATION TRANSFER PUMP NO. 2 VFD RESET COMMAND             | DO   | OFF      | RESET  |       |
| OA-120-1 | AERATION TRANSFER PUMP NO. 2 VFD FAULT STATUS              | DI   | NORMAL   | ALARM  |       |
| OA-120-2 | AERATION TRANSFER PUMP NO. 2 MOTOR HIGH TEMP               | DI   | NORMAL   | ALARM  |       |
| OA-120-3 | AERATION TRANSFER PUMP NO. 2 CHECK VALVE FAIL TO OPEN      | DI   | NORMAL   | ALARM  |       |
| OA-120-4 | AERATION TRANSFER PUMP NO. 2 HIGH LEVEL                    | DI   | NORMAL   | ALARM  |       |
| OL-120-1 | AERATION TRANSFER PUMP NO. 2 VFD IN REMOTE                 | DI   | OFF      | REMOTE |       |
| OL-120-2 | AERATION TRANSFER PUMP NO. 2 VFD RUN STATUS                | DI   | OFF      | ON     |       |
| SC-130   | AERATION TRANSFER PUMP NO. 3 VFD SPEED CONTROL             | AO   | 0        | 100    | %     |
| SI-130   | AERATION TRANSFER PUMP NO. 3 VFD SPEED FEEDBACK            | AI   | 0        | 100    | %     |
| HS-130   | AERATION TRANSFER PUMP NO. 3 VFD CALL TO RUN               | DO   | STOP     | START  |       |
| PB-130   | AERATION TRANSFER PUMP NO. 3 VFD RESET COMMAND             | DO   | OFF      | RESET  |       |
| OA-130-1 | AERATION TRANSFER PUMP NO. 3 VFD FAULT STATUS              | DI   | NORMAL   | ALARM  |       |
| OA-130-2 | AERATION TRANSFER PUMP NO. 3 MOTOR HIGH TEMP               | DI   | NORMAL   | ALARM  |       |
| OA-130-3 | AERATION TRANSFER PUMP NO. 3 CHECK VALVE FAIL TO OPEN      | DI   | NORMAL   | ALARM  |       |
| OL-130-1 | AERATION TRANSFER PUMP NO. 3 VFD IN REMOTE                 | DI   | OFF      | REMOTE |       |
| OL-130-2 | AERATION TRANSFER PUMP NO. 3 VFD RUN STATUS                | DI   | OFF      | ON     |       |
| HS-141-1 | AERATION TRANSFER PUMP NO. 3 ISOLATION VALVE OPEN COMMAND  | DO   | OFF      | OPEN   |       |
| HS-141-2 | AERATION TRANSFER PUMP NO. 3 ISOLATION VALVE STOP COMMAND  | DO   | OFF      | STOP   |       |
| HS-141-3 | AERATION TRANSFER PUMP NO. 3 ISOLATION VALVE CLOSE COMMAND | DO   | OFF      | CLOSE  |       |
| OA-141   | AERATION TRANSFER PUMP NO. 3 ISOLATION VALVE FAULT STATUS  | DI   | NORMAL   | ALARM  |       |
| OL-141-1 | AERATION TRANSFER PUMP NO. 3 ISOLATION VALVE OPENED STATUS | DI   | OFF      | OPEN   |       |
| OL-141-2 | AERATION TRANSFER PUMP NO. 3 ISOLATION VALVE CLOSED STATUS | DI   | OFF      | CLOSED |       |
| OL-141-3 | AERATION TRANSFER PUMP NO. 3 ISOLATION VALVE REMOTE STATUS | DI   | OFF      | REMOTE |       |
| HS-142-1 | AERATION TRANSFER PUMP NO. 3 ISOLATION VALVE OPEN COMMAND  | DO   | OFF      | OPEN   |       |

| TAG NAME  | DESCRIPTION                                                | TYPE | INACTIVE | ACTIVE | UNITS |
|-----------|------------------------------------------------------------|------|----------|--------|-------|
| HS-142-2  | AERATION TRANSFER PUMP NO. 3 ISOLATION VALVE STOP COMMAND  | DO   | OFF      | STOP   |       |
| HS-142-3  | AERATION TRANSFER PUMP NO. 3 ISOLATION VALVE CLOSE COMMAND | DO   | OFF      | CLOSE  |       |
| OA-142    | AERATION TRANSFER PUMP NO. 3 ISOLATION VALVE FAULT STATUS  | DI   | NORMAL   | ALARM  |       |
| OL-142-1  | AERATION TRANSFER PUMP NO. 3 ISOLATION VALVE OPENED STATUS | DI   | OFF      | OPEN   |       |
| OL-142-2  | AERATION TRANSFER PUMP NO. 3 ISOLATION VALVE CLOSED STATUS | DI   | OFF      | CLOSED |       |
| OL-142-3  | AERATION TRANSFER PUMP NO. 3 ISOLATION VALVE REMOTE STATUS | DI   | OFF      | REMOTE |       |
| FIT-210   | CLARICONE NO. 1 INFLUENT FLOW                              | AI   | 0        | XXX    | GPM   |
| FIT-220   | CLARICONE NO. 2 INFLUENT FLOW                              | AI   | 0        | XXX    | GPM   |
| TAH-330   | SP-020 HIGH TEMPERATURE ALARM                              | DI   | NORMAL   | ALARM  |       |
| OA-350-1B | SP-020 UPS LOW BATTERY ALARM                               | DI   | NORMAL   | ALARM  |       |
| OA-3502B  | SP-020 UPS FAILURE ALARM                                   | DI   | NORMAL   | ALARM  |       |
| OA-360B   | SP-020 24VDC POWER SUPPLY FAILURE ALARM                    | DI   | NORMAL   | ALARM  |       |
| OA-370-1B | SP-020 ANALOG SURGE ARRESTOR COMMON WARNING                | DI   | NORMAL   | ALARM  |       |
| OA-370-2B | SP-020 ANALOG SURGE ARRESTOR COMMON ALARM                  | DI   | NORMAL   | ALARM  |       |
| OA-370-3B | SP-020 DIGITAL SURGE ARRESTOR COMMON ALARM                 | DI   | NORMAL   | ALARM  |       |
| OA-380    | SP-020 ETHERNET SWITCH COMMON ALARM                        | DI   | NORMAL   | ALARM  |       |

**END OF SECTION**

## **SECTION 13360 – I&C FIBER OPTIC COMMUNICATION SYSTEMS**

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### **PART 1 – GENERAL**

#### **1.01 GENERAL**

- A. The Control System Integrator (CSI) shall provide additions and modifications to the existing fiber optic communications system for the transmission of SCADA related and other network communications through the facility, as noted in the project herein and the project drawings.
- B. The CSI shall provide an approved professional Fiber Optic Cable System Installer to have total system responsibility for all installation, termination, testing, and commissioning of the fiber optic systems as indicated in the contract drawings and described herein.
- C. As an alternative, the CSI can request the self-performance of the fiber optic system provided that the requirements of training, certification and compliance with the specifications can be demonstrated.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. The CSI shall coordinate the work of this section as it relates to other sections of the specification. Particularly:
  - 1. 13100 – I&C GENERAL REQUIREMENTS
- B. The Instrumentation drawings and Attachment A of section 13130 provide a summary of the inputs and outputs, both discrete and analog, which shall be included for the PLC and in the SCADA system implementation.

#### **1.03 SUBMITTALS**

- A. The Fiber Optic Communication Submittal shall be in accordance with Division 1 and as specified in Section 13100 – Instrumentation and Control, General Requirements.

#### **1.04 DESCRIPTION OF WORK**

- A. The CSI shall provide all equipment, materials, labor, installation, troubleshooting, testing, and training, required to provide for all fiber optic communications links as shown in the contract drawings and as described herein.
- B. Installed cable shall follow routes as shown on Contract Drawings and shall be terminated as directed.

#### **1.05 QUALITY ASSURANCE**

- A. The CSI shall select and oversee the services of an appropriate, well established, contracting firm, which is experienced in all facets of fiber-optic cable installation.
- B. This subcontractor, designated herein as the Fiber Optic Installer, shall provide installation technicians who are trained, experienced, qualified, and who shall provide all of the appropriate installation, termination, testing, and maintenance of the fiber optic

communications medium and appurtenances. These technicians shall install the cable and related equipment in accordance with the best-recommended standards and practices of the manufacturer and the fiber-optic cable industry.

## **PART 2 – PRODUCTS**

### **2.01 GENERAL REQUIREMENTS**

- A. The fiber optic cable system as specified herein, as specified in related sections and as shown on the Contract Drawings depicts overall system configuration requirements. Adjustments shall be made as needed to support the installation requirements and provide a fully functional fiber optic communications system.
- B. The Contractor shall provide all cable, hardware, hand holes, vaults, patch panels, etc. with the approval of the Owner and Engineer. Approval of equipment and locations shall be obtained prior to purchasing or installation of any equipment.

### **2.02 FIBER OPTIC CABLE – OUTDOOR INSTALLATION**

- A. Fiber optic cable shall be heavy-duty, flame-retardant, UV-resistance, gel-free, multi-fiber, water-blocked, loose tube, distribution style cable designed for high tensile strength and durability. Cable shall be designed for installation in buried duct, aerial, and outdoor environments
- B. Cable shall be suitable for installation with a rated pull strength capability in excess of 200 lb. The CSI shall use procedures, measurements and precautions so that no more than 50% of the maximum rated pull strength capability of the cable is ever applied during any point in the installation procedure.
- C. Cable shall be suitable for installation with a minimum bend radius installation of 6.2 inches for a maximum fiber count of 12 strands or as shown on the contract drawings. The contractor shall use procedures, measurements and precautions so that the cable is never exposed to a bend radius of greater than that specified by the manufacturer during any point in the installation procedure.
- D. Jacketing shall be Polyethylene, providing high abrasion and cut-through resistance. Outer jacket shall be flame-retardant, UV-resistant stabilized for outdoor use and overall ruggedness. Jackets shall have low friction resistance and high strength so that long pulls will not cause damage.
- E. Cable shall be rated and approved for building interior and plenum installations.
- F. Fibers shall have a 62.5-micron core, with a 0.275 numerical aperture. Multimode fiber shall utilize low loss core, with a typical maximum attenuation of 3.4 dB/km @850 nm.
- G. Fibers shall have a glass core, surrounded by a layer of glass cladding. Core and cladding shall be buffered to 900-microns.
- H. Cable shall have Kevlar ripcord, inner and outer jacket, with gel-free water-blocking materials that swell to absorb water to protect against water penetration.
- I. All cable elements shall be helically stranded, with a lay length not to exceed 30 times the finished cable diameter.

- J. All strands of each cable shall be individually color-coded.
- K. Cables shall have a minimum of twelve (12) fibers or as shown on Contract Drawings.
- L. Fiber-optic cable shall be as supplied by Corning Altos cables, Optical Cable Corporation, or approved equal.

#### 2.03 FIBER OPTIC CABLE – INDOOR INSTALLATION

- A. Fiber optic cable shall be dielectric armor, flame-retardant, crush-resistant, multi-fiber, tight-buffer, distribution style cable designed for high tensile strength and durability. Cable shall be designed for installation indoor environments.
- B. Cable shall be suitable for installation with a rated pull strength capability in excess of 100 lbs. The CSI shall use procedures, measurements and precautions so that no more than 50% of the maximum rated pull strength capability of the cable is ever applied during any point in the installation procedure.
- C. Cable shall be suitable for installation with a minimum bend radius of 6.2 inches for a maximum fiber count of 6. The contractor shall use procedures, measurements and precautions so that the cable is never exposed to a bend radius greater than that specified by the manufacturer during any point in the installation procedure.
- D. Jacketing shall be PVC, providing flexibility and crush resistance. The outer jacket shall be flame-retardant. Jackets shall have low friction resistance and high strength so that long pulls will not cause damage.
- E. Cable shall be rated and approved for building interior and plenum installations.
- F. Fibers shall have a 62.5-micron core, with a 0.275 numerical aperture. Multimode fiber shall utilize low loss core, with a typical maximum attenuation of 3.4 dB/km @850 nm.
- G. Fibers shall have a glass core, surrounded by a layer of glass cladding. Core and cladding shall be buffered to 900-microns.
- H. All strands of each cable shall be individually color-coded.
- I. Cables shall have a minimum of six (6) fibers or as shown on Contract Drawings.
- J. Fiber-optic cable shall be as supplied by Corning MIC DX Tight-Buffered Armored cables, Optical Cable Corporation, or approved equal.

#### 2.04 FIBER OPTIC PATCH PANELS, GENERAL

- A. Patch Panels supplied shall consist of the following:
  - 1. Each patch panel shall have termination plates or slide-hinged faceplate installed, with sufficient termination connectors for the application. Termination plates and slide-hinged faceplates shall have SC-style connectors. Connectors are to remain individually booted until used.

B. Cable and Termination Landing.

1. Provide documentation listing: termination number, cable number, fiber strand color, and destination description.
2. Documentation sheet shall be laminated in clear plastic.
3. Documentation sheet shall be securely attached using appropriate adhesive, no screws shall be allowed.
4. For building/structure interior installations, documentation sheet shall be secured to patch panel interior door or control panel enclosure where the patch panel is installed in.

2.05 FIBER OPTIC PATCH PANEL, TYPE 1

- A. Provide and install patch panels inside the PLC control panel. Patch panels shall be suitably sized to accommodate the fiber optic cable requirements while providing protection to fiber strands and terminations.
- B. Patch panels shall have provisions for future cable installations and a minimum of twenty-four (24) terminations. Provide SC connection termination panel inserts for all fiber strands.
- C. The fiber optic patch panel(s) shall be manufactured by Corning, Model WCH-02P, Fiber Instrument Sales, Inc., Model F1-EW24 or approved equal.

2.06 FIBER OPTIC PATCH PANEL, TYPE 2

- A. Provide and install patch panels external to the PLC control panel. Mount patch panel within an enclosure suitable for the environment and adequate to manipulate fiber cables and strands without damage.
- B. Patch panels shall have provisions for future cable installation and a minimum of seventy-two (72) terminations. Provide SC connection termination panel inserts for all finer strands.
- C. The fiber optic patch panel(s) shall be manufactured by Corning, Model WCH-06P with Hoffman CSD242410 enclosure or approved equal.

**PART 3 – EXECUTION**

3.01 GENERAL INSTALLATION

- A. The Contractor shall provide all labor, materials, equipment, and expertise required to carry out the installation, calibration, termination, testing and start-up of all cables, connectors, patch panels and related equipment, in a manner in keeping with the best standard practices available and in accordance with the manufacturer's recommendations.
- B. Where cable must be routed above ground, install cable in conduit. Conduit shall be as specified in the electrical sections of these specifications.
- C. Where cable must pass under existing slab or paving to gain access to structures, install cable in conduit. Conduit shall extend a minimum of three (3) feet beyond the existing slab or paving and shall be terminated in an appropriate pull box.



- D. Existing slab or paving may be cut to facilitate the installation of conduit and cable. However, all modifications to existing slab or paving and structures shall be patched and repaired in accordance with the other sections of this specification.
- E. Careful attention should be paid to provide installations at each location, which are both functional and aesthetically acceptable.
- F. Provide pre-manufactured fiber optic patch cords at each fiber optic patch panel, as specified on the Contract Drawings or a minimum of (6) six per patch panel. Patch cords shall be; multi-mode fiber, compatible with the installed fiber optic cable, dual channel, and terminated with SC-style connectors. Length shall be six (6) feet or as needed to provide the connection to transmission components.
- G. All strands of each cable installed shall be terminated and connected to a patch panel connector.
- H. All fiber optic patch panel connectors and patch cord termination connectors that are not used shall be booted and secured to prevent contamination or damage.
- I. All work shall be scheduled in accordance with the Owner's staff, to minimize down time of any system. All modifications to existing and proposed systems shall be carefully documented and included in the as-built documentation to be delivered at the end of the project.

### 3.02 CABLE ROUTE AND CONTINUITY

- A. Fiber optic cable shall be installed un-broken and un-spliced for the entire distance from one designated termination point to the next, unless otherwise noted. The designated termination points shall be as shown on the Contract Drawings and/or listed in these specifications.
- B. Where the cable run length exceeds the maximum continuous on-roll length available from the cable manufacturer, the installed cable may be spliced. In this circumstance, the Contractor shall notify the Engineer, in writing, before proceeding with the installation of the run.
- C. All cables shall be fully tested after installation and the cable system loss shall not exceed the theoretically calculated optical budget.
- D. Each installed cable shall be terminated in a fiber optic patch panel. Every strand of each cable entering a patch panel shall be terminated and connected.

### 3.03 FIBER AND TERMINATION TESTING

- A. Terminations shall be made in a manner in keeping with the recommended practices of the fiber optic cable manufacturer.
- B. All terminations shall be neatly and properly made, tested and immediately booted, or placed in their final termination, so that they are fully protected from damage. Each fiber, including those designated as spares, shall be terminated and tested.
- C. All cables entering patch panel, and all patch panel termination connectors, shall be clearly marked to indicate their respective routing.



- D. The technician(s) who are designated to perform the termination and testing, shall be fully familiar, trained, and qualified to service the items which are being provided.
- E. Accurate and appropriate test equipment, and industry standard test procedures shall be used to demonstrate that the cabling and associated equipment operate within the expected tolerance of accuracy. The operation shall be verified at various points throughout the designed operating range. Fiber testing shall be in accordance with TIA/EIA 568, latest edition, minimum.
- F. All finished cables shall be fully tested under actual loading conditions, utilizing a light source and calibrated power meter, or OTDR. The theoretical power loss for the cable system, including all terminating connectors, shall be calculated and compared to the actual field measurements. Any significant visual defects or any power loss in excess of 2 dB over the theoretical calculation shall be reason to fail the test.
- G. Failed terminators shall be cut off and re-terminated. If any fiber of a cable fails, the entire cable shall be replaced in its full length, to the next termination point.
- H. The Owner's Project Representative shall be given the opportunity to witness the testing. The notice shall be in writing and shall be delivered a minimum of three (3) days in advance of the testing.
- I. A written, dated, report shall be prepared by the technician for each fiber test, troubleshooting, or maintenance event, which identifies the fiber serviced, defines procedures, describes the results of the testing including measured values, identifies witnesses, and provides conclusions. The report shall contain OTDR Trace Report which includes a graph of the signal over a distance for each fiber run. Each test report, as a minimum, shall include a table which includes columns each with the following information:
1. Test Date
  2. Cable ID
  3. Fiber Number
  4. Wavelength (nm)
  5. Quantity of Connectors
  6. Beginning of Fiber Testing Location
  7. End of Fiber Testing Location
  8. A-B Distance (Meters)
  9. Actual A-B Loss (dB)
  10. Max Attenuation (dB/km) @ 850/1300 nm
  11. Calculated A-B Loss
  12. Splice Loss
  13. Pass or Fail
- The report shall also include the serial number and calibration number, for all equipment used in performing the testing.
- J. All reports shall be distributed to the Owner's Project Representative, and a copy shall be kept on-site for the duration of the project for reference. Copies of all reports shall be included in the final O&M manual.
- K. Final signed test reports, indicating successful testing, for each fiber, of every cable, shall be delivered to the Engineer and Owner for review, before final completion will be approved.

### 3.04 TRAINING AND MAINTENANCE EQUIPMENT

- A. TRAINING: The Fiber Optic Installer shall provide training, to the OWNER's designated maintenance staff, on the installation, operation, maintenance, and troubleshooting, of the fiber optic system.
  - 1. The classes shall include but not be limited to the following:
    - a. Installing SC connectors on fibers
    - b. Calculation of optical budgets
    - c. Testing fibers cable strands
    - d. Installation techniques
    - e. Maintenance and troubleshooting
    - f. Field splicing and emergency repairs
- B. Course format shall be hands-on and shall include special emphasis on information and techniques particularly applicable to the respective project.
- C. Training shall be performed using the test and repair equipment which is to be provided to the Owner as part of the project.
- D. Training location shall be at the discretion of the Owner and shall be coordinated through the Owner's Project Representative.
- E. Courses shall be formally prepared, scheduled, and tailored to the appropriate personnel. Provide one (1) session of four (4) hour duration.

### 3.05 WARRANTY

- A. The CSI / Fiber Optic Installer shall provide a three (3) year warranty minimum. Warranty shall cover all parts, components, installations and system performance.

**END OF SECTION**

# **DIVISION 14**

## **CONVEYING SYSTEM**

## **SECTION 14630 – BRIDGE CRANE SYSTEM**

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### **PART 1 - GENERAL**

#### **1.01 SCOPE**

- A. The new 2-ton bridge crane system is intended to pick up/drop off the pumps and motors in the existing Aerator Pump Room.
- B. The new crane system shall be a complete installation above the crane rail, runway beams, runway beam supports shown on the design drawings. The new crane system shall include powered hoist, powered bridge, end trucks with a 2-ton hoist capacity.
- C. The new crane system shall adhere to the minimum clearances and lifting height shown on the design drawings.
- D. The crane electrification is to have a central power source along with control pendant/remote in accordance with applicable codes.

#### **1.02 DESIGN REQUIREMENTS**

- A. Codes and Standards: The Contractor shall comply with the following codes and standards unless specifically directed otherwise:
  - 1. AISC "Manual of Steel Construction Allowable Stress Design", Fourteenth Edition.
  - 2. AISC "Code of Standard Practice for Steel Buildings and Bridges.
  - 3. AISC "Specifications for Structural Joints Using ASTM A 325 or A 490 Bolts".
  - 4. AWS D1.1 "Structural Welding Code", Latest Edition.
  - 5. Florida Building Code (FBC), 2020 Edition.
- B. Performance Requirements: Design, fabricate, and erect the crane system to withstand loads from gravity, and structural movement, and resist in-service use without failure. Design members to withstand stresses resulting from combinations of loads that produce maximum allowable stresses.
- C. Design Live Loads: Lifted loads of crane system. The minimum hoist capacity for the crane system shall be 2-ton minimum.
- D. Design Dead Loads: Weight of the crane system.

#### **1.03 SUBMITTALS**

- A. The contractor shall submit the following for review and acceptance:
  - 1. Crane system layout: Include plan layout and vertical layout of crane system. Do not proceed with preparation of Shop Drawings or Fabrication prior to acceptance of this information.
  - 2. Structural Calculations: Include design criteria, referenced design codes and standards, structural member calculations and structural connection calculations.
  - 3. Product Data: Include manufacturer's product information for manufactured components of crane system.
  - 4. Shop Drawings: Provide shop drawings for manufactured components of crane system.

#### 1.04 QUALITY ASSURANCE

Manufacturers services. A manufacturer's representative for the equipment specified shall be present at the jobsite for inspection, certification, testing, startup, and training.

### **PART 2 - PRODUCTS**

#### 2.01 Metals - Provide the following:

- A. Hot-Rolled Structural Steel Shapes: ASTM A36 or A529.
- B. Steel Tubing or Pipe: ASTM A500, Grade B, ASTM A501, or ASTM A53.
- C. Steel Members Fabricated from Plate or Bar Stock: ASTM A529, A570, or A572. Provide 42,000-psi minimum yield strength.
- D. Hot-Rolled Carbon Steel Sheet: ASTM A568 or ASTM A569.
- E. Structural Quality Zinc-Coated (Galvanized) Steel Sheet: ASTM A446 with G90 coating complying with ASTM A525.
- F. Bolts for Structural Framing: ASTM A307 or ASTM A325 as necessary for design loads and connection details.

#### 2.02 Paint Materials: Comply with performance requirements of federal specifications indicated.

- A. Shop Primer for Ferrous Metal: Fast-curing, lead-free, universal primer. Comply with FS TT-P-645.
- B. Shop Primer for Galvanized Metal Surfaces: Zinc dust-zinc oxide primer. Comply with FS TT-P-641.

**END OF SECTION**

# **DIVISION 15**

# **MECHANICAL**

## **SECTION 15100 - VALVES AND SPECIALTIES - GENERAL**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

- A. Scope of Work: Furnish, install, support, and test valves, gates, cocks, stops, and faucets, when applicable, (hereinafter referred to as ("valves")) in the location(s) and of the size(s) and quantities shown on the Drawings and/or as directed by the Owner/Engineer.
- B. Related Work Described Elsewhere:
  - 1. Mechanical - General Requirements: Section 15000
  - 2. Gate Valves and Appurtenances: Section 15101
  - 3. Butterfly Valves: Section 15103
  - 4. Pressure/Relief/Pressure Sustaining Valve: Section 15106
  - 5. Check Valves: Section 15110

#### **1.02 QUALITY ASSURANCE**

- A. Qualifications:
  - 1. All equipment furnished under this Specification shall be new and unused and shall be a standard product which has a successful record of reliable service in similar installations for a minimum of five (5) years.
  - 2. All valves of same type and duty shall be furnished by a single manufacturer.
- B. Standards:
  - 1. ANSI
  - 2. AISI
  - 3. SSPC
  - 4. AWWA

#### **1.03 SUBMITTALS**

- A. Materials and Shop Drawings: Copies of all materials required to establish compliance with the Specification shall be submitted in accordance with the provisions of Section 01310: Administrative Requirements. Submittals shall include at least the following:
  - 1. Certified shop drawings showing all important details of construction, dimensions (including laying length), and weight.
  - 2. Descriptive literature, bulletins, and/or catalogs showing all valve parts, and describing material of construction by material and specification (e.g., AISI).
  - 3. Valve coatings and linings, if any.
  - 4. A complete total bill of materials for all equipment.
  - 5. See individual sections for additional requirements.
- B. Operating Instructions: Copies of operating and maintenance instructions shall be furnished in accordance with Section 01730: Operation and Maintenance Data. These shall include equipment lists, descriptions, and information necessary to instruct operating and maintenance personnel unfamiliar with the valves.

#### 1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

##### A. Shipping:

1. All parts shall be properly protected so that no damage or deterioration will occur during a prolonged delay from the time of shipment until installation is completed.
2. Factory assembled parts and components shall be dismantled for shipment unless permission is received in writing from the Owner/Engineer.
3. Finished surfaces of all exposed openings shall be protected by wooden blanks, strongly built and securely bolted thereto.
4. Finished iron or steel surfaces not painted shall be properly protected to prevent rust and corrosion.
5. After hydrostatic or other tests, all entrapped water shall be drained prior to shipment, and proper care shall be taken to protect parts from the entrance of water during shipment, storage and handling.
6. Each box or package shall be properly marked to show its net weight in addition to its contents.

##### B. Storage:

1. Store valves and accessories in an area on the construction site protected from weather, moisture, or possible damage.
2. Do not store valves or accessories directly on the ground.

##### C. Handling:

1. Handle valves and accessories to prevent damage of any nature.
2. Carefully inspect all materials for:
  - a. Defects in workmanship and materials.
  - b. Removal of debris and foreign material in valve openings and seats.
  - c. Proper functioning of all operating mechanisms.
  - d. Tightness of all nuts and bolts.

#### 1.05 WARRANTY AND GUARANTEES (See Section 01740: Warranties and Bonds).

### PART 2 – PRODUCTS

#### 2.01 MATERIALS

- A. Materials shall be as indicated in specific sections, or on the Drawings, and compatible with intended use.
- B. Valves shall have the name of the manufacturer and the size of the valve cast or molded onto the valve body or bonnet or shown on a permanently stainless steel attached plate.
- C. Bolts, washers, nuts, and gaskets for flanged valves shall be as described in the specific piping sections.
- D. Coat metal valves located above grade or in vaults and structures the same as the adjacent piping. Apply the specified prime coat at the place of manufacture. Apply finish coat in field. Finish coat shall match color of the adjacent piping.



## **PART 3 – EXECUTION**

### **3.01 PREPARATION**

- A. Apply a shop coat finish of asphalt varnish to:
  - 1. Interior surfaces of all valves except corrosion resistant or specially coated valves as specified.
  - 2. Exterior surfaces of buried or submerged valves.
  - 3. Miscellaneous piping appurtenances.
- B. Apply coats of paint primer and enamel to parts customarily finished at the shop.
- C. Apply a shop coat of grease or other suitable rust resistant coating to ferrous surfaces obviously not to be painted.
- D. Do not apply any coatings to valves that have a factory-applied epoxy coating inside and out.

### **3.02 INSTALLATION**

- A. Install valves and accessories in strict accordance with manufacturer's instruction and recommendations, as shown on the Drawings and/or as directed by the Owner/Engineer.
- B. Carefully erect all valves and support them in their respective positions free from distortion and strain.
- C. Bolt holes of flanged valves shall straddle the horizontal and vertical centerlines of the pipe run to which the valves are attached. Clean flanges by wire brushing before installing flanged valves. Clean flange bolts and nuts by wire brushing, lubricate threads with oil and graphite, and tighten nuts uniformly and progressively. Clean threaded joints by wire brushing or swabbing. Apply Teflon joint compound or Teflon tape to pipe threads before installing threaded valves. Joints shall be watertight.
- D. Support all valves connected to pumps and equipment, and in piping systems that cannot support valves.
- E. Repair any scratches, marks and other types of surface damage etc., with original coating as supplied by the factory.

### **3.03 INSPECTION AND TESTING**

- A. Check and adjust all valves and accessories for smooth operation.
- B. Test valves for leakage at the same time that connecting pipelines are tested. See Section 02661: Pressure Testing of Piping, for pressure testing requirements. Protect or isolate any parts of valves, operators, or control and instrument systems whose pressure rating is less than the pressure tests.
- C. If flanges leak under pressure testing, loosen or remove the nuts and bolts, reseal or replace the gasket, reinstall or retighten the bolts and nuts, and retest the joints.

**END OF SECTION**

## SECTION 15101 - GATE VALVES AND APPURTENANCES

### PART 1 – GENERAL

#### 1.01 DESCRIPTION

- A. Scope of Work: The CONTRACTOR shall furnish and install all gate valves and appurtenances as shown on the Drawings and specified herein.

#### 1.02 GENERAL REQUIREMENTS

- A. The CONTRACTOR'S attention is directed to the requirements of Section 15000 in regard to the general requirements for all equipment furnished and installed under this section of the specifications.
- B. The valves shall be furnished with end connections as shown on the Drawings. Flanged valves shall be faced and drilled to the ANSI B16.1-latest, Class 125 Standard. Mechanical joint and bell ends shall conform to ANSI A21.11 latest Standard. Threaded ends shall conform to ANSI B2.1-latest NPT Standard.
- C. All exposed nuts, bolts, springs, washers, etc., shall be 316 SS on above ground service and 316 SS on buried or submerged service.
- D. When extension stems are required, substantial, adjustable wall brackets and extension stems shall be furnished and located as directed. Extension stems shall be provided on all buried valves when the operating nut is deeper than 4 feet below the final grade.

### PART 2 – PRODUCTS

#### 2.01 GATE VALVES

- A. Gate valves 2 to 48 inches in diameter shall be designed for 250 psi maximum working pressure. When full open, gate valves shall have a clear waterway equal to the nominal diameter of the pipe. Valves, 2-inch to 48-inch shall be iron body, resilient-wedge gate valves with non-rising stems. All valves shall open by turning in a counter-clockwise direction. Valves shall have O-ring seals. Valves 2-inch to 48-inch shall conform to ANSI/AWWA C515. The operating nut or wheel shall have an arrow cast in the metal indicating the direction of opening. Each valve shall have the manufacturer's name, pressure rating, and year of manufacture cast on the body. Prior to shipment from the factory, each valve shall be tested by applying to it a hydraulic pressure equal to twice the specified working pressure.
- B. Gate valves smaller than 2 inches, unless otherwise noted on the Drawings, shall be all bronze/brass construction and shall conform to Federal Specification WW-V-54.
- C. All gate valves smaller than 2 inches shall be handwheel operated and if installed below ground shall have an adjustable valve box with cover. Minimum weight of valves shall be as follows:

| VALVE SIZE IN INCHES | VALVE WEIGHT IN POUNDS |
|----------------------|------------------------|
| 1/2                  | 1.0                    |
| 3/4                  | 1.3                    |
| 1                    | 2.5                    |
| 1-1/4                | 3.8                    |

|       |     |
|-------|-----|
| 1-1/2 | 5.2 |
|-------|-----|

- D. Buried Valves: Gate valves larger than 2" in size shall be mechanical joint and equipped with a two-inch operating nut and adjustable valve box and cover.
- E. Above Grade Valves: Gate valves located above grade or inside structures shall be handwheel operated, non-rising stem type with flanged ends.
- F. Valve Joints: All gate valves shall have either mechanical joint ends, flanged ends, or screw joints to fit the pipe run in which they are to be used, except valves installed on slip joint pipe shall have mechanical joint ends, unless otherwise specified.
- G. Manufacturers shall be limited to the following:
  - 1. Mueller Models A-2360, A-2361.
  - 2. M&H Model 4067, 7000.
  - 3. Kennedy KS-FW, KS-RW, R/W.
  - 4. American Flow Control Series 2500

## 2.02 ACCESSORIES

### A. Valve Boxes

- 1. General: The CONTRACTOR shall furnish, assemble and place a valve box for each buried valve.
- 2. Valve Boxes: Adjustable screw type valve boxes of suitable length shall be used, having cast iron base, 5-1/4" shaft, center section and top section with cover. Cover shall be marked "Water" or "Sewer" as appropriate. The top section shall be adjustable for elevation and shall be set to allow equal movement above and below finished grade. The base shall be centered over the valve and shall be approximately on line with nut at top of valve stem and the entire assembly shall be plumb. The castings shall be manufactured of clean, even grain, gray cast iron conforming to ASTM Designation A48, Class 20B, Gray Iron Castings. The casting shall be smooth, true to pattern, free from blow holes, sand holes, projections, or other harmful defects. The valve boxes shall be coated with a single thin coat of coal tar pitch varnish before machining, so that machined seating surfaces will be free of any coating. The seating surfaces of both the cover and the jacket shall be machined to fit so that the cover will not rock after it has been seated in any position in its associated jacket.
- 3. The CONTRACTOR shall mount the valve box in a concrete collar with bronze disc giving the nomenclature of the valve. Refer to detail Drawings.

- B. Valve Coatings: All interior and exterior surfaces of valves for buried service shall have a factory-applied epoxy coating. The exterior of all above ground valves shall be shop painted with two coats of a primer compatible with the finish paint schedule.

## PART 3 – EXECUTION

### 3.01 CLEANING AND FLUSHING

- A. All gate valves shall be thoroughly cleaned of all dirt, dust, oil, grease, and other foreign matter. This work shall be done with care to avoid damage to any inside coating.
- B. All gate valves shall be thoroughly flushed with clean water to clear the lines of foreign matter.

C. After cleaning, gate valves shall be tested for pressure and leakage.

3.02 FIELD TESTING

A. All gate valves shall be tested in accordance with the requirements of AWWA Standard C-515 and C-600.

3.03 DISINFECTION

A. All gate valves within the potable water and raw water system(s) shall be disinfected in accordance with AWWA Standard C-651 and Section 02650: Disinfection.

**END OF SECTION**

## **SECTION 15103 - BUTTERFLY VALVES**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

- A. Scope of Work: Furnish and install butterfly valves of the type(s) and size(s) and in the location(s) as shown on the Drawings and or specified herein.
- B. Related Work Described Elsewhere:
  - 1. Section 15100: Valves and Specialties - General

#### **1.02 QUALITY ASSURANCE**

- A. Qualifications:
  - 1. All butterfly valves of same type, class, and duty shall be manufactured by one (1) manufacturer.
  - 2. Acceptable Manufacturers are limited to the following:
    - a. Pratt
    - b. DeZurik
    - c. American
    - d. Keystone
    - e. Mueller

#### **1.03 SUBMITTALS**

- A. Materials and Shop Drawings: Copies of all materials required to establish compliance with the Specification shall be submitted in accordance with the provisions of the General Conditions and Section 15100: Valves and Specialties - General.

#### **1.04 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. All materials shall be delivered, stored and handled in accordance with Section 15100: Valves and Specialties - General.

#### **1.05 WARRANTY AND GUARANTEES**

- A. The manufacturer's written warranty shall be submitted for all major pieces of equipment, as specified in Section 01740: Warranties and Bonds. The manufacturer's warranty period shall be concurrent with the Contractor's correction period for 1 year after the time of completion and acceptance.

## PART 2 – PRODUCTS

### 2.01 MATERIALS

#### A. AWWA Water Service:

1. Use where shown on the Drawings.
2. Equal or exceed requirements AWWA C-504, Class 150B for frequent operation.
3. Suitable for direct burial when required.
4. Bubble-tight shutoff at rated pressure.
5. Body: Cast or ductile iron ASTM A-126, Class B, with ANSI B-16.1 flanged drillings.
6. Disc: Stainless steel, cast iron, ductile iron, Ni-resist per manufacturer's standard and valve size.
7. Valve Shaft: Valve shafts shall be in compliance with AWWA C-504.
8. Valve Seat: Natural or synthetic rubber, or elastomer material as described in AWWA C-504.
9. Bearings: Shaft bearings shall be of self-lubricating corrosion resistant sleeve type as specified in AWWA C-504.
10. Valve connections shall be as shown on the Drawings or generally as follows:
  - a. Acceptable Valve Connections:
    - (1) Buried: Mechanical joint, restrained where shown on the Drawings.
    - (2) Above Grade: Flanged (125 lb. standard).
11. Testing: All valves shall be hydrostatic and leak tested in accordance with AWWA C-504.
12. Working pressure: 150 psi unless otherwise shown on the Drawings.
13. Operator:
  - a. Buried: Wrench nut (2 inch), T-handle wrench, valve box with cover for valves 6 inches in diameter or smaller. Worm gear or travel nut (AWWA C-504), wrench nut, T-handle wrench valve box with cover for valves 8 inches in diameter and greater.
  - b. Above Grade: Lever actuator with infinite lockable positioning capability standard on 6 inch and smaller valves, and worm gear or travel nut with handwheel for valves 8 inches in diameter or greater.
  - c. Gear driven chain wheel for all exposed valves, 4 inches in diameter and greater, mounted over 6 feet above finished floor or slab.
14. Motorized Valve Actuator
  - a. Electric motor operators shall meet the requirements of the latest edition of AWWA Electric Operators, except as specified herein. Provide electric motor actuators where shown on Drawings.
  - b. Electric operators shall include motor, motor controller with remote-local switch, associated gearing, torque switches, auxiliary hand wheel for manual operation, open-close-stop push buttons for local operation and open and closed indicator lights.

- c. Motor shall be totally enclosed non-ventilated (TENV), 230/460 volt, 3 phase, 60 HZ with Class F installation and Class B thermal overload protection. The motors shall be sized to operate the valves from full open to full close in 60 seconds and for modulating service. The actuator shall have a torque output capable of operating the valves at the specified working pressure.
- d. Motors shall be provided with space heaters to prevent build-up of moisture. For motors used in modulating service, they shall be capable of 100 starts per hour.
- e. Limit switches shall be provided at the extreme open and close position of the operator travel. At least two independent switches at each end of operator travel shall be provided.
- f. Torque switches shall be provided in both the open and closed circuits of the operators. The torque switches shall be field adjustable and designed to stop the operator motor when the torque exceeds the safe limits for either the operator or the valve.
- g. All electrical equipment shall be mounted in NEMA 4 enclosure, unless otherwise specified or shown on the Drawings, and wired to the motor controller enclosure. Terminal blocks shall be provided for, and all limit switches, etc., which are not required in the motor controller circuit, shall be wired to them. All connections for remote equipment shall be wired to terminal blocks. Open/Stop/Close and Local/Remote selector switches shall be prewired and factory tested before shipment.
- h. Mechanical emergency operation in event of power failure shall be provided by a clutchable handwheel drive mechanism completely independent from the motor gearing. Hand operation shall be direct drive permitting fast manual valve operation. Failure of motor gearing shall not prevent emergency handwheel operation. Manual operation shall prevent (disconnect) electrical operation.
- i. Electric motor actuators shall be manufactured by BETTIS, no equivalent.
- j. For buried valves the actuator shall have an extended bonnet consisting of a 316 stainless steel shaft and exterior ductile iron casing pipe of sufficient length to place the actuator three (3) feet above grade.

## **PART 3 – EXECUTION**

### **3.01 INSTALLATION**

- A. Install in accordance with manufacturer's recommendations.

## **END OF SECTION**

## **SECTION 15110 – CHECK VALVES**

---

### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

- A. Scope of Work: Furnish all labor, materials, equipment and incidentals required, and install and test check valves including all appurtenances required as shown on the Drawings and specified herein.
- B. Related Work Described Elsewhere:
  - 1. Section 15100: Valves and Specialties – General.

#### **1.02 QUALITY ASSURANCE**

- A. Manufacturer shall have a minimum of ten (10) years' experience in the manufacture of air-cushioned swing check valves.
- B. Manufacturer shall have an ISO-9001 quality management system certified by an accredited body.

#### **1.03 SUBMITTALS**

- A. Materials and Shop Drawings: Copies of all materials required to establish compliance with the Specification shall be submitted in accordance with the provisions of the General Terms and Conditions; Section 01310: Administrative Requirements; and Section 15100: Valves and Specialties - General.
- B. See individual product types under PART 2 - PRODUCTS of this Section for additional requirements.

#### **1.04 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. All materials shall be delivered, stored and handled in accordance with Section 15100: Valves and Specialties - General.

#### **1.05 WARRANTY AND GUARANTEES**

- A. The manufacturer's written warranty shall be submitted for all major pieces of equipment, as specified in Section 01740: Warranties and Bonds. The manufacturer's warranty period shall be concurrent with the CONTRACTOR'S correction period for two (2) years after the time of completion and acceptance.

### **PART 2 – PRODUCTS**

#### **2.01 CHECK VALVES**

- A. Air-Cushioned Lever and Weight Swing Check Valves:
  - 1. The swing check valve shall conform to the design, materials of construction and testing required by AWWA C508 (latest revision) plus be supplied with an outside lever, adjustable counterweight and adjustable air-cushion chamber to minimize slam and hammer caused by rapid flow reversal.



2. The valve flow area anyplace through the valve shall be no less than the area of the nominal inlet pipe size when the disc has swung no more than 25 degrees away from the seat
3. The swing check valve shall be NSF-61 certified for contact with drinking water and NSF-372 certified lead free.
4. The standard valve shall have the same size flanged inlet and outlet connections faced, drilled and of the thickness required by ANSI/ASME B16.1 Class 125 or Class 250, as shown on plans or in the valve schedule.
5. All air-cushioned swing check valves of same type and style shall be by one (1) manufacturer and shall be manufactured by:
  - a. GA Industries, GA250
6. The valve shall be equipped with a double pole, double throw NEMA 1, 4 and 13 limit switch to indicate valve closed position.

## 2.02 MATERIALS

- A. The valve body shall be made from cast iron conforming to ASTM A126 Class B with a bolted cover through which all internal parts can be removed for service. The body shall have a mechanically retained and replaceable Type 316 stainless steel seat ring.
- B. The hinge shaft shall be made from Type 303 stainless steel and be supported at both ends by non-corrosive, lead free bushings. The shaft shall be sealed where it passes through the body by compression packing retained by a packing gland, gland studs and nuts. Non-adjustable or O-ring shaft packing is not acceptable.
- C. A ductile iron disc arm shall be keyed to and suspended from the hinge shaft. A non-rotational, cast iron disc with replaceable Buna-N rubber disc seat ring shall be attached to the disc arm by means of a center pin and nut providing 360-degree oscillation. The disc seat ring shall be retained by a Type 316 stainless steel follower ring and stainless steel screws.
- D. Valve closure shall be cushioned by the action of a bronze piston in a bronze cushion cylinder. The cushion chamber assembly shall be non-pivoting and be mounted to the side of the valve body on machined pads without the need for brackets. The amount of cushioning shall be adjustable. Pivoting and/or commercial pneumatic cylinders are not acceptable.
- E. Cover bolts, nuts and studs shall be zinc plated carbon steel.

## 2.03 JOINTS

- A. Check valves shall be fitted with joints suitable for the pipe with which they are to be used.
- B. Gaskets for use with flanges shall be rubber, either ring or full face, 1/8-inch thick and shall conform to the dimensions shown in the Appendix to ANSI/AWWA C115/A21.15.
- C. Bolts and nuts for flanged joints shall be hex head with hex nuts and shall conform to the requirements of ANSI B18.2.1 and B18.2.2.
- D. Gaskets, bolts and nuts for mechanical joints shall conform to the requirements of ANSI/AWWA – A21.11/C111.
- E. Threaded joints shall conform to ANSI B2.1 Standards for Pipe Threads.

#### 2.04 COATINGS AND LININGS

- A. The exterior of check valves in exposed locations, which are to be painted, shall receive a primer coat, which will be compatible with the finished paint to be applied.
- B. The exterior of check valves, which are to be installed in concealed locations, shall receive an epoxy coating conforming to the requirements of ANSI/AWWA C550.
- C. The interior ferrous surfaces, except stainless steel parts, of all check valves shall receive an epoxy coating conforming to the requirements of ANSI/AWWA C550, NSF-61.

### PART 3 – EXECUTION

#### 3.01 INSTALLATION

- A. Install in accordance with Section 15100: Valves and Specialties - General.

**END OF SECTION**

## **SECTION 15122 - AIR RELEASE AND VACUUM RELIEF VALVES**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

- A. Scope of Work: This work under this Section includes materials and installation of air and vacuum valves, air release valves, combination air release valves, slow-closing air and vacuum valves, and slow-closing combination air release valves for wastewater service.
- B. Related Work Described Elsewhere:
  - 1. Section 02661: Pressure Testing of Piping
  - 2. Section 15000: Mechanical - General Requirements

#### **1.02 QUALITY ASSURANCE**

- A. Qualifications:
  - 1. The specified equipment shall be the standard product of manufacturers who regularly engage in the production of this type of equipment and who are fully experienced, reputable, and qualified in the manufacture of the equipment to be furnished. The equipment shall be designed, constructed, delivered, and installed in accordance with the best practices and methods.
  - 2. Each component and ancillary equipment item furnished under this specification shall be new and unused, and the product of manufacturer having a successful record of operation, manufacturing and servicing the equipment for a minimum of five years.
- B. All air and vacuum release valves shall be manufactured by one (1) manufacturer.
- C. Acceptable Manufacturers:
  - 1. Val-Matic
  - 2. APCO
  - 3. A.R.I.

#### **1.03 SUBMITTALS**

- A. Materials and Shop Drawings: Copies of all materials required to establish compliance with the Specification shall be submitted in accordance with Section 01310: Administrative Requirements.

### **PART 2 – PRODUCTS**

#### **2.01 COMPONENTS**

- A. Clean Water Service:
  - 1. Air Release Valves:
    - a. 3/4 inch and smaller:
      - (1) Simple-lever type.

- (2) Cast iron body ASTM A-48, Class 35, 316 stainless steel trim, viton orifice button.
- (3) Valves shall have a working pressure rating of at least 150 psi.
- (4) Val-Matic No. 22, 25; APCO Model 55, 65 or equal.

b. 1 inch or larger:

- (1) Valves to have heavy duty compound lever operating mechanism with stainless steel pivot pins and 316 stainless steel retaining rings.
- (2) Valves to be constructed of cast iron ASTM A-48, Class 35 with 316 stainless steel trim and float.
- (3) Valves to have an adjustable orifice button, constructed of 316 stainless steel with viton or Buna-N seating.
- (4) 1/2 inch threaded outlet and stainless steel plug for top cover and body drain.
- (5) Valves shall have a working pressure rating of at least 300 psi.
- (6) Val-Matic No. 38, 45; APCO Model 200; ARI D-040-C with one-way valve (for use on pipe exposed to atmosphere), ARI D-040 with one-way valve (for use on pipe in valve vaults).

B. Valve End Connections:

- 1. Valves smaller than 3 inches shall have threaded ends. Valves 3 inches or larger shall have flanged ends.
- 2. Flanges for Class 150 valves shall comply with ANSI B-16.1, Class 125.
- 3. Flanges for Class 300 valves shall comply with ANSI B-16.1, Class 250.
- 4. Threaded ends shall comply with ANSI B-2.1.

C. Bolts and Nuts for Flanged Valves:

- 1. Bolts and nuts for flanged valves located outdoors above ground shall be Type 316 stainless steel conforming to ASTM A-183, Grade B&M for bolts, and ASTM A-194, Grade 8M for nuts.

D. Gaskets: Gaskets for flanged end valves shall be described in the detail piping specifications.

## 2.02 ACCESSORIES

- A. All air release and vacuum release valves shall be isolated from the service line with a stainless steel ball valve for valves up to 2 inches, and a flanged body butterfly valve for valves greater than 2 inches (provide a spacer plate if required to clear the rotation of the butterfly disc).

## PART 3 – EXECUTION

### 3.01 INSTALLATION

- A. Install valves in accordance with manufacturer's instructions and recommendations and as shown in the Drawings.
- B. Install all valves in the vertical position and allow sufficient clearance around valve for proper maintenance and removal.

- C. Clean flanges by wire brushing before installing flanged valves. Clean flange bolts and nuts by wire brushing, lubricate threads with oil and graphite, and tighten nuts uniformly and progressively. If flanges leak under pressure testing, loosen and remove the nuts and bolts, reseal or replace the gasket, reinstall or re-tighten the bolts and nuts, and retest the joints. Joints shall be watertight.
- D. Clean threaded joints by wire brushing and swabbing. Apply Teflon joint compound or Teflon tape to pipe threads before installing threaded valves. Joints shall be watertight.
- E. Valve Pressure Testing: Test valves at the same time that the connecting pipelines are pressure tested. Refer to Section 02661: Pressure Testing of Piping for pressure testing requirements. Protect or isolate any parts of valves, operators, or control and instrumentation systems whose pressure rating is less than the test pressure.

### 3.02 STARTUP

- A. Check all air release valves for proper operation in the presence of the Owner/Engineer.

### END OF SECTION

## **SECTION 15125 - WALL SLEEVES AND SEALS**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

- A. Scope of Work: Furnish and install wall sleeves and seals of the types and sizes and in the locations shown on the Drawings and specified herein.

#### **1.02 QUALITY ASSURANCE**

- A. Qualifications:
  - 1. Provide and install all sleeves of the types specified herein, as shown on the Drawings and as directed by the OWNER/ENGINEER.
  - 2. Provide sleeves that are airtight, gas-tight or water-tight as required.

### **PART 2 – PRODUCTS**

#### **2.01 MATERIALS AND EQUIPMENT (Type per Location)**

- A. Masonry Walls (Unless otherwise shown on the Drawings):
  - 1. 24-gauge, zinc coated (galvanized) steel tubes with wired or hemmed edges.
  - 2. Minimum 1/4 inch annular space between sleeve and pipe or insulation.
  - 3. Firmly pack with oakum and seal both ends with silicone sealant.
- B. Concrete Tank Wall Sleeves:
  - 1. High Density Polyethylene (HDPE) Sleeves:
    - a. Provide with integrally formed hollow water stop sized having a minimum of four (4) inches larger than the outside diameter of the sleeve.
    - b. Shall allow for 1/2-inch movement between wall forms to resist pour forces.
    - c. Each sleeve assembly shall have end caps manufactures of the same material as the sleeve and installed at each end of the sleeve to prevent deformation during concrete pour.
    - d. Sleeves shall be model CS Century-Line, as manufactured by Thunderline/Link-Seal or approved equal.
    - e. Each concrete tank wall sleeve shall include Model S-316 Link-Seal Modular Seal, as manufactured by Thunderline/Link-Seal or approved equal.
- C. Concrete foundation walls, pipe below grade and into interior space: Same as concrete tank walls.
- D. Other conditions shall be sleeved as shown on the Drawings or as approved by the OWNER/ ENGINEER.
- E. Wall Plates: Provide split type cast iron or brass wall plates on pipes penetrating walls in finished spaces such as labs and offices.

- F. Provide high temperature "link seals" where shown on the Drawings.

### **PART 3 – EXECUTION**

#### **3.01 INSTALLATION**

- A. New Construction:
  - 1. Concrete: Set sleeves in proper location prior to placing concrete.
  - 2. Masonry: Provide sleeves and locations to masonry trades for installation.
  - 3. Partitions: Cleanly cut partitions and patch prior to any finish work.
- B. Wall sleeves and Seals: Install as required and in strict accordance with the manufacturer's instruction and recommendations.

**END OF SECTION**

## **SECTION 15130 - PRESSURE GAUGES**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

- A. Scope of Work: This section includes materials and installation of pressure gauges and accessories.
- B. Related Work Described Elsewhere:
  - 1. Section 15000: Mechanical - General Requirements
- C. General Design: Gauges and tools shall be as manufactured by Ashcroft, Crosby, Marshalltown, Marsh, or equal.

#### **1.02 SUBMITTALS**

- A. Materials and Shop Drawings:
  - 1. Submit Shop Drawings in accordance with Section 01310: Administrative Requirements.
  - 2. Submit manufacturer's catalog data and descriptive literature. Call out materials of construction by ASTM reference and grade. Submit manufacturer's certificate of compliance with the referenced ANSI standards.

### **PART 2 – PRODUCTS**

#### **2.01 GENERAL**

- A. Gauge Design: Gauges shall comply with ANSI B40.1, Grade 2A. Gauges shall incorporate the following features.
  - 1. Solid or open front with side or rear blowout relief.
  - 2. Pressure tight.
  - 3. 270 degree arc with adjustable pointer.
  - 4. Stem mounted.
  - 5. Liquid filled unless specified otherwise.
  - 6. Size of gauge shall be a minimum of 4 inches for all process liquid and 6 inches for process air unless otherwise indicated on the Drawings.
  - 7. Stem or connection size shall be ¼-inch.
  - 8. For potable water, provide a gauge having a pressure range determined by the greater of the following two criteria:
    - a. Two times the normal operating pressure; and
    - b. One and one-third times the test pressure. (Test pressure is defined as the pressure shown in Section 15044: Pressure Testing of Piping).
  - 9. For sewage force mains, provide a gauge having a pressure range determined by the greater of the following two criteria:
    - a. Two times the normal operating pressure; and



- b. Two-thirds the test pressure. (Test pressure is defined as the pressure shown in Section 02661: Pressure Testing of Piping).

## 2.02 MATERIALS

- A. Materials of construction shall be as shown in the following table:

|                 |                                              |                        |
|-----------------|----------------------------------------------|------------------------|
| 1. Case         | Stainless steel                              | AISI 316               |
| 2. Bourdon tube | Stainless steel                              | AISI 316               |
| 3. Windows      | Glass                                        | ————                   |
| 4. Ring         | Stainless steel                              | AISI 316               |
| 5. Stem         | Stainless steel                              | AISI 316               |
| 6. Dial face    | Aluminum with clear baked-on acrylic coating | 6061-T6,<br>ASTM B 209 |

## 2.03 ACCESSORIES

- A. Pipe Nipples and Fittings: Nipples for connecting gauges to piping shall be Schedule 80S, Grade TP 316 seamless stainless steel, conforming to ASTM A 312. Fittings shall conform to ASTM A 403, Class WP316. Threads shall conform to ANSI B2.1. Size of pipe nipple shall be as shown on the Drawings.
- B. Tools for Gauges: Provide one gauge tool kit, containing a hand jack set, screwdriver, five reamers (minimum), two pin vise holders, wiggler, tweezer, and carrying case.
- C. Gauge Protectors (For use in process piping containing liquids having a solids concentration greater than 0.50 percent or on raw sewage lines).
1. Gauge protectors shall consist of an interchangeable top housing and diaphragm capsule.
  2. A fill / bleed connection shall be provided, which permits filling the seal and instrument simultaneously after evacuation.
  3. An O-ring, compatible with all standard fill liquids and a Teflon back-up ring shall provide a seal between the diaphragm capsule and the top housing.
  4. The diaphragm shall be Teflon coated, thus assuring a leak-tight connection between the diaphragm and bottom housing.
  5. Protector shall be Ashcroft Type 100 or approved equivalent.

## PART 3 – EXECUTION

### 3.01 INSTALLATION

- A. Install gauges before conducting pressure tests. Ream, clean, and remove burrs from threaded piping before making up joints. Apply thread lubricant to threaded ends before assembling.
- B. Gauges shall be installed on each pump suction and discharge line.
- C. Pump suction gauges shall be provided as compound, positive and negative scale.

### 3.02 INSPECTION AND TESTING

- A. Compare pressure readings of permanent gauges with hydrostatic test gauge.

## END OF SECTION

## **SECTION 15140 – HANGERS AND SUPPORTS**

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### **PART 1 – GENERAL**

#### **1.01 DESCRIPTION**

- A. Scope of Work: Furnish and install pipe hangers and supports to rigidly support pipes, maintain the necessary pitch, prevent vibration, and to allow expansion and contraction of the type(s) and in the location(s) shown on the Drawings and specified herein.
- B. Related Work Described Elsewhere:
  - 1. Section 09900: Painting and Special Coatings.
  - 2. Section 15000: Mechanical - General Requirements.

#### **1.02 SUBMITTALS**

- A. Submit Shop Drawings in accordance with Section 01310: Administrative Requirements.
- B. Show materials of construction by ASTM reference and grade.
- C. Submit catalog data with model or figure number and show dimensions.

### **PART 2 – PRODUCTS**

#### **2.01 MATERIALS**

- A. Overhead hangers: (Unless otherwise indicated on the Drawings).
  - 1. For Pipes 8 Inches In Diameter And Smaller:
    - a. Clevis type.
    - b. Acceptable manufacturers:
      - 1) Anvil International, Fig. 65
      - 2) Or equal.
  - 2. Threaded Hanger Rods:
    - a. Right-hand and left-hand machine threads.
    - b. Suspended from pipe hanger flanges.
    - c. Acceptable manufacturers:
      - 1) Anvil International, Fig. 146
      - 2) Or equal.
  - 3. Pipe Hanger Flange
    - a. Attached to wood trusses or concrete.
    - b. Acceptable manufacturers:

- 1) Anvil International, Fig. 153
- 2) Or equal.

B. Wall and Column Supports: (Unless otherwise indicated on the Drawings).

1. Galvanized wall strap.
2. Acceptable manufacturers:
  - a. Anvil International, Fig. 262
  - b. Or equal.

C. Brick and Concrete Piers: (Unless otherwise shown on the Drawings).

1. Locate where shown on the Drawings and/or where required for proper support.
2. Construct piers to accurately conform to the bottom one-third to one-half of the pipe as shown on the Drawings.

D. Plastic and FRP Pipe Hangers: (Unless otherwise indicated on the Drawings).

1. UV stabilized nylon resin.
2. Acceptable manufacturers:
  - a. Snap-N-Strut, "Strut-N-Rod", "Handy-Snap".
  - b. Or equal.

### PART 3 – EXECUTION

#### 3.01 INSTALLATION

A. General:

1. Install hangers or supports at all changes in direction and at the end of piping runs.
2. Install all hangers, supports, rods, inserts, clamps, bolts and other supporting devices of sizes and spacings to prevent loads from exceeding the manufacturer's maximum recommended loading with a safety factor of 5.00.
3. Secure hangers to beams, trusses, or approved concrete insert where possible.
4. When piping is installed on structural steel supports, provide blocking of pipe rolls to prevent lateral pipe movement.
5. Do not support piping from other pipes or from stairs and walkways.
6. Set all inserts before the concrete is placed.

B. Expansion and Contraction:

1. Rigidly support all piping with adequate provisions for expansion and contraction.
2. Firmly anchor horizontal runs over 50 feet in length at the midpoint of the runs to force expansion equally toward the ends.

C. Spacing:

1. Install hangers and supports at sufficiently close intervals to maintain alignment and prevent sagging.
2. Maximum spacing of hangers and supports shall be as specified in Tables 15140-A and 15140-B.

- D. Supporting Vertical Piping:
1. Support at each floor level.
  2. Support at all points necessary to insure rigid installation with adequate provisions to allow expansion and contraction and prevent vibration.
  3. Support by approved pipe collars, clamps, brackets, or wall rests.
- E. Supporting PVC And Fiberglass Piping:
1. Support in strict accordance with the manufacturer's instructions and recommendations for the conditions of operation temperature and size of pipe.
  2. Support in a manner which will prevent subsequent visible sagging of the pipe between supports due to plastic deformation.
- F. Drain, Waste, And Vent Piping: Support by adjustable hangers.
- G. Valves, Fittings & Specialties: Independently support pipe connected to pumps, equipment and piping systems.

**TABLE 15140-A**

**HANGER AND SUPPORT SPACING FOR VARIOUS PIPE MATERIALS**

| Pipe Size<br>(Inches)                                                                                                                                                                                                                                                       | Spacing Feet |                 |            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------|------------|
|                                                                                                                                                                                                                                                                             | Copper       | Ductile<br>Iron | Steel Pipe |
| 1 & Smaller                                                                                                                                                                                                                                                                 | 4            | N/A             | 6          |
| 1-1/4 to 2                                                                                                                                                                                                                                                                  | 6            | N/A             | 9          |
| 2-1/2 to 3                                                                                                                                                                                                                                                                  | 10           | 8               | 11         |
| 4 and Larger                                                                                                                                                                                                                                                                | N/A          | 10-Note 3       | 14         |
| <p>Note:</p> <ol style="list-style-type: none"> <li>1. PVC piping (all sizes) - Refer to Table 15140-B.</li> <li>2. Fiberglass piping - See manufacturer's recommendations.</li> <li>3. May increase depending on pipe size. Refer to AWWA standard of practice.</li> </ol> |              |                 |            |

**TABLE 15140-B**  
**SUPPORT SPACING (IN FEET) FOR SCHEDULE 80**  
**THERMOPLASTIC PIPE**  
**PVC**

| Nominal Pipe Size<br>(Inches) | 100°F | 140°F |
|-------------------------------|-------|-------|
| 1/2                           | 4-1/2 | 2-1/2 |
| 3/4                           | 4-1/2 | 2-1/2 |
| 1                             | 5     | 3     |
| 1-1/2                         | 5-1/2 | 3-1/2 |
| 2                             | 6     | 3-1/2 |
| 3                             | 7     | 4     |
| 4                             | 7-1/2 | 4-1/2 |
| 6                             | 9     | 5     |

**END OF SECTION**

## **SECTION 15155 – MAGNETIC FLOW METER – (FULL BODY)**

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### **PART 1 – GENERAL**

#### **1.01 SCOPE OF WORK**

- A. The CONTRACTOR shall furnish and install, at the location(s) shown on the Contract Drawings, as specified or as directed, the metering equipment and other appurtenances, and furnish all labor, supervision, materials, tools, and incidentals.
- B. In general, this work shall include the furnishing and installation of the following:
  - 1. Four (4) magnetic flow meters – (full body) with ANSI CL-150 flange fittings and neoprene liner.
- C. This Section shall include the complete installation and responsibility for the proper operation of the various components of this Section. It shall also include painting, field testing and additional services of the equipment supplier.
- D. It is the intent of this Contract that the installation shall be complete in all respects and ready for use and operation. The CONTRACTOR will be responsible for all incidental details and for any special construction necessary to complete the work in an acceptable manner.

#### **1.02 WORKMANSHIP AND MATERIALS**

- A. All equipment and materials furnished under this Contract shall be new, suitable for the conditions of service to which they will be subject, and equal to the best of their respective classes. Grade and quality shall meet or exceed the applicable City of Ormond Beach's specifications and standards.
- B. Workmanship shall be the highest quality and shall be carried out by competent and experienced workmen.

#### **1.03 SHOP DRAWINGS AND MANUALS**

- A. Detailed, dimensioned shop drawings and data conforming to the requirements of Section 01310: Administrative Requirements, shall be submitted to the Owner/Engineer and approved before fabrication, shipment or work specified under this Section begins.
- B. The CONTRACTOR shall also furnish under this Section four (4) bound copies of the complete and detailed instructions for the operation, lubrication, and maintenance of all equipment furnished and installed hereunder. The manuals shall be furnished after final approval of all shop and working drawings but prior to shipment of equipment. Manuals shall be complete with lubrication schedules and recommended lubricants, drawings, cut parts lists, and other necessary data. All parts shall be numbered and otherwise clearly identified to facilitate ordering of replacements. Descriptions of all operational control devices and their specific functions shall also be included.

#### **1.04 PATENTS AND CLAIMS**

- A. Under this Section, the CONTRACTOR shall be responsible for all patents and licenses relating to the furnishing and use of the equipment supplied hereunder and to any special construction inherent to the installation of said equipment. The CONTRACTOR shall pay all patent fees and license costs and shall indemnify the OWNER and the

OWNER/ENGINEER from all claims pertaining thereto in accordance with the General Terms and Conditions of these Specifications.

**1.05 WARRANTY**

- A. All equipment supplied under this Section shall be warranted by the CONTRACTOR and equipment manufacturers for a period of one (1) year. Warranty period shall commence on date of final payment as outlined in the General Conditions and the Contract.

**PART 2 – PRODUCTS**

**2.01 GENERAL**

- A. The CONTRACTOR shall furnish and install, at the location shown on the Contract Drawings, flow meter(s) and associated appurtenances.

**2.02 ELECTROMAGNETIC FLOW METER – (FULL BODY-FLANGED)**

**A. Materials of Construction**

1. The body shall be constructed of painted 304 stainless steel.
2. A neoprene liner shall be incorporated within the body of the meter.
3. Electrodes shall be self-cleaning and fabricated of 316 stainless steel.
4. A grounding ring, fabricated of 316 stainless steel, shall be incorporated into the meter.

**B. Metering Tube**

1. Keypad: 3-line, 16-character, backlit LED display for flow rate and two lines for engineering units, totalizers, alarm status, velocity and percent of range.
2. Internal Totalizer: Resettable 9-digit for forward, reverse and net totals. The totalizer shall be able to be programmed to reset from an external input.
3. Time Constant: Fully programmable from one to greater than 100 seconds.

**C. Outputs**

1. Analog: Fully programmable for zero, full scale, up to 21 mA and flow direction. Fully isolated. Output capability  $\leq 16$  (800 ohm, 4-20 mA).
2. Pulse / Frequency: One frequency / pulse output for forward and one for reverse flow. Forward and reverse flows 0 to 800 Hz square wave or fixed pulse width up to 2.5 sec. Fully programmable for pulse rate, pulse factor, low flow cut off, pulse width, etc. Hart protocol.
3. Dual Alarms: Two separate outputs. Fully programmable for high / low rates, percentage of range, empty-pipe zero, fault conditions, forward / reverse polarity, analog over-range, pulse over-range, pulse cutoff, etc.
4. RS-232C: 9-pin data connector for local hand-held configurator or any computer with several communications.

- D. Accuracy shall be  $\pm 0.5$  percent reliability durability, and shall accurately measure velocities between 1.0 ft. / sec. and 39 ft. / sec.

- E. Microprocessor-based signal converter shall be housed in a NEMA 4X IP 65 enclosure of polypropylene. 120VAC power. Transmitter shall include a process display with keypad for menu driven configuration.

- F. Mag meter shall be a 10-inch and 12-inch Rosemount.

## **PART 3 – EXECUTION**

### **3.01 INSPECTION AND TESTING**

- A. Meter shall be hydrostatically tested in place in accordance with AWWA standards.

**END OF SECTION**



## SECTION 15465 - SUMP PUMP

---

### PART 1 – GENERAL

#### 1.1 DESCRIPTION OF WORK

This Section includes furnishing and installing a sump pump within the pipe trench of the aerator transfer pump room as specified.

#### 1.2 QUALITY ASSURANCE

A. **Available Manufacturers.** Subject to compliance with requirements, provide from the following:

1. Goulds.
2. Approved equivalent.

#### 1.3 SUBMITTALS

Submit manufacturers Certificate of Compliance for all items used in the sump system.

### PART 2 – PRODUCTS

#### 2.1 SUMP PUMP

- A. Provide a sump pump capable of pumping 30 GPM at 20-ft. TDH. Motor shall be 1/2 Hp, single phase, 120VAC, totally enclosed, submersible type.
- B. Discharge shall be into a common manifold.
- C. Provide an independent float switch mounted in the top of the motor housing for automatic operation of pump.
- D. A mechanical seal shall prohibit water from entering the motor housing and an enclosure shall surround the pump and motor.
- E. The sump pump shall include a heavy-duty, 6-foot long electrical cord.

#### 2.2 PIPE AND VALVES

Discharge shall be a 1-1/2-inch PVC through one 1-1/2-inch check valve and one bronze gate valve.

### PART 3 – EXECUTION

#### 3.1 INSTALLATION

Install in accordance with the manufacturer's recommendations and with piping and valving shown on the Drawings.

END OF SECTION

## **SECTION 15870 - FANS**

---

### **PART 1 - GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Ceiling Exhaust/Ventilators

#### **1.02 REFERENCES**

- A. Air Movement and Control Association, Inc. (AMCA Requirements applicable to product Certified Ratings Seal.
- B. Underwriters Laboratories Inc. (UL) Requirements applicable to product listing and labeling.

#### **1.03 QUALITY ASSURANCE**

- A. Provide ceiling exhaust fans bearing AMCA Certified Ratings Seal.
- B. Provide fans which have been UL listed and labeled.

### **PART 2 - PRODUCTS**

#### **2.01 GENERAL**

- A. Provide fans that have been factory assembled, wired and tested.
- B. Provide fans in compliance with the performance and electrical requirements specified in Schedule at end of this Section.
- C. Fan Performance: Based on sea level conditions.
- D. Statically and dynamically balance fans to eliminate vibration or noise transmission to occupied areas of the building.
- E. Provide belt guards on belt driven fans.
- F. Provide safety screen/guard where inlet or outlet is exposed.

#### **2.02 CHARACTERISTICS**

- A. Motor shall be ½-hp, single phase, 120 volt.
- B. Exhaust fan shall produce 2,300 CFM @ 0.375 static pressure at 1,140 rpm.

#### **2.03 CEILING EXHAUST/VENTILATOR FANS**

- A. Acceptable Manufacturers:
  - 1. Greenheck AE-20-430-B5
  - 2. Approved equivalent
- B. Type: Axial exhaust fan, direct drive.

- C. Housing: One-piece, heavy gauge aluminum, with a rolled bead, specifically designed and manufactured for ceiling installation; integral backdraft damper fan discharge; removable inlet grille.
- D. Propeller: Fabricated aluminum propeller with steeply pitched blades designed for low rpm. Propeller shall be dynamically and statically balanced.
- E. Motor: Permanent split-capacitor, permanently lubricated; grounded, overload protected and vibration isolated.
- F. Electrical: Junction box for electrical connection on housing; receptacle for motor plug-in.
- G. Bird Screen: 1/2-inch square galvanized rigid wire mesh.
- H. Curb Cap: Curb cap and veturi inlet are constructed of aluminum. Cub cap to incorporate pre-punched mounting holes to ensure correct attachment to roof.
- I. Vibration Isolation: includes vibration isolators to support the motor and propeller.

### **PART 3 - EXECUTION**

#### **3.01 INSTALLATION**

- A. Install fans plumb, level, and firmly anchored.

**END OF SECTION**

# **DIVISION 16**

## **ELECTRICAL**

## **SECTION 16000 – ELECTRICAL**

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### **PART 1 - GENERAL**

#### **3.01 REQUIREMENT SUMMARY**

- A. Contractor shall furnish all labor, materials, equipment and incidentals required for a complete electrical installation for the scope of work required under this Contract as hereinafter specified and/or shown in the Contract Documents.
- B. Contractor shall read and examine all Contract Documents thoroughly to gain a complete understanding of the electrical scope of work.
- C. The electrical Scope Of Work (SOW) includes but not limited to the following:
  - 1. Temporary Electrical Power Systems and Equipment as required during construction.
  - 2. Existing Electrical Modifications
    - a. Demolition, removal and/or modifications of existing power and control raceways and conductors as required within the scope of work and as shown on the Contract Documents.
    - b. Extension and/or relocation of existing power and control circuitry with new to that new and/or existing equipment to include terminations and electrical testing.
    - c. Demolition, removal and/or modifications to existing electrical and control equipment, including MCC-7, motor disconnects, instrumentation and associated support structures.
  - 3. Duct-Bank Systems and required conductors, cabling and wires for power, control and data circuitries.
    - a. Reference Specification Sections:
      - 1) 16120 – CONDUCTORS AND CABLES
      - 2) 16060 – GROUNDING AND BONDING
      - 3) 16111 – CONDUIT AND RACEWAYS
      - 4) 16115 – UNDERGROUND CONDUIT DUCTS, MAN-HOLES, HAND-HOLES AND PULL-BOXES
  - 4. Switchboards to include required conductors, cabling and wires for power, control, data and grounding.
    - a. Reference Specification Sections:
      - 1) 16430 – SWITCHBOARDS
  - 5. Variable Frequency Drives (VFD) to include required conductors, cabling and wires for power, control, data and grounding.
    - a. Reference Specification Sections:

- 1) 16260 – VARIABLE FREQUENCY CONTROLLERS
6. Feeders and Branch Circuits to include all required disconnects, pull-boxes, junction-boxes, terminal-boxes, conduit bodies, raceways, conductors, cabling and wires for power, control and data.
  - a. Reference Specification Sections:
    - 1) 16120 – CONDUCTORS AND CABLES
    - 2) 16060 – GROUNDING AND BONDING
    - 3) 16111 – CONDUIT AND RACEWAYS
    - 4) 16435 – PANELBOARDS
    - 5) 16410 – ENCLOSED SWITCHES AND CIRCUIT BREAKERS
7. Wiring Devices to include switches, receptacles, devices, covers and plating and all required appurtenances.
  - a. Reference Specification Sections:
    - 1) 16140 – WIRING DEVICES
8. Electrical for Process Controls and Equipment, SCADA, Telemetry, Data and Network Systems to include power and control wiring, raceways and devices components (as provided under Division 13 for installation) as required to provide complete and fully operable Process Control Systems.
  - a. Reference Specification Sections:
    - 1) 13100 – INSTRUMENTATION AND CONTROL, GENERAL REQUIREMENTS
9. Electrical for Process Equipment and Systems to include power and control wiring, raceways and devices components (as provided under Divisions 11, 14, & 15 for installation) as required to provide complete and fully operable Process Systems.
  - a. Reference Specification Sections:
    - 1) 11001 – EQUIPMENT – GENERAL PROVISIONS
    - 2) 11215 – HORIZONTAL SPLIT CASE CENTRIFUGAL PUMPS
    - 3) 14630 - BRIDGE CRANE
    - 4) 15100 – VALVES AND SPECIALTIES GENERAL
    - 5) 15103 – BUTTERFLY VALVES
    - 6) 15110 – CHECK VALVES
    - 7) 15155 – MAGNETIC FLOW METER
10. Concrete foundations and/or structural elements to include but not limited to house-keeping pads, equipment rack anchorage, light-pole bases, etc. to securely mount and install Electrical Equipment and Systems. These concrete foundation and/or structural element designs shall be prepared by a Florida licensed professional engineer for Engineer review prior to installation.
  - a. Reference Specification Sections:
    - 1) DIVISION 3 – CONCRETE

- D. Provide complete and functioning systems in compliance with manufacturer's instructions, performance requirements specified or shown on the Contract Documents and modifications resulting from reviewed and approved submittals and field coordinated drawings.
- E. Contractor shall immediately notify the Engineer, if there are discrepancies between the Contract Documents and any related Specification Sections.
- F. Electrical Scope Of Work, apparatus and materials which shall be furnished under these Specifications and accompanying Contract Documents shall include all items listed hereinafter and/or shown on the Contract Documents. Certain equipment will be furnished as specified in other sections of these Specifications which will require wiring thereto and/or complete installation as indicated. All materials necessary for the complete installation shall be furnished and installed by the Contractor to provide complete power, control instrumentation, wiring, and ancillary systems as indicated on the Contract Documents and/or as specified herein.
- G. It is the intent of these Specifications and Contract Documents that the electrical and control system(s) be suitable in every way for the service and functionality design intent. All material and all work which may be reasonably implied as being incidental to the work of this Section shall be furnished at no extra cost to the Owner.
- H. The scheduling and duration of any power or control interruption for the removal of existing equipment or the installation of new equipment shall be coordinated with the Owner.

### 3.02 RELATED WORK SPECIFIED ELSEWHERE

- A. In addition to the requirements specified in this section, the requirements of Division 16 and those Project Documents referenced herein shall be applied.
- B. Related Specification Sections include but not limited to:
  - 1. Division 0 – PROCUREMENT AND CONTRACTING REQUIREMENTS
  - 2. Division 1 – GENERAL CONDITIONS
  - 3. Division 2 – SITE CONSTRUCTION

### 3.03 ENVIRONMENTAL CONDITIONS

- A. Outdoor locations may contain wet and corrosive areas:
  - 1. Corrosive areas are identified on the Contract Documents. Areas not identified as such shall be considered wet.
- B. Indoor locations may contain unclassified, damp, wet and corrosive areas:
  - 1. Damp, wet and corrosive areas are identified on the Contract Documents. Areas not identified as such, but provided with heating shall be considered unclassified. Areas not identified as such, but provided without heating shall be considered damp.

### 3.04 DEFINITIONS

- A. Outdoor Areas:

1. Those locations on the Project site where the equipment is normally exposed to wind, dust, rain, snow, etc. Outdoor areas include areas protected by a roof or rain/sun shields but not enclosed within a structure.

B. Indoor Areas:

1. Those locations on the Project site where the equipment is normally protected from wind, dust, rain, snow, etc.

### 3.05 REFERENCES

A. Codes and Standards:

1. American Iron and Steel Institute (AISI):
2. American National Standards Institute (ANSI):
  - a. C2, National Electrical Safety Code.
3. American Society for Testing and Materials (ASTM):
4. Factory Mutual System (FM):
  - a. A Guide to Equipment, Materials and Services.
5. Institute of Electrical and Electronics Engineers (IEEE):
  - a. 141, Recommended Practice for Electrical Power Distribution for Industrial Plants
  - b. 142, Recommended Practice for Grounding of Industrial and Commercial Power Systems
  - c. 242, Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems
6. National Electrical Contractors Association (NECA):
  - a. NECA 1, Good Workmanship in Electrical Construction
  - b. NECA 200, Recommended Practice for Installing and Maintaining Temporary Electrical Power at Construction Sites
  - c. All Project applicable NECA standards and recommendations
7. National Electrical Installation Standards (NEIS):
  - a. Project applicable standards and recommendations
8. National Electrical Manufacturers Association (NEMA):
  - a. 250, Enclosures for Electrical Equipment (1000V Maximum)
  - b. ICS 6, Enclosures for Industrial Control and Systems



9. National Fire Protection Association (NFPA):
  - a. 70, National Electrical Code (NEC)
  - b. 70E, Standard for Electric Safety in the Workplace
  - c. 79, Electrical Standard for Industrial Machinery
  - d. 820, Standard for Fire Protection in Wastewater Treatment and Collection Facilities
10. Underwriters Laboratories, Inc (UL):
  - a. 96A, Installation Requirements for Lightning Protection Systems
  - b. 508, Industrial Control Equipment
  - c. 508A, Industrial Control
  - d. 698, Industrial Control Equipment for Use in Hazardous Locations
- B. When a specific code or standard has not been cited, the applicable codes and standards of the following code making authorities and standards organizations shall apply:
  1. American Association of State Highway and Transportation Officials (AASHTO).
  2. American Iron and Steel Institute (AISI)
  3. American National Standard Institute (ANSI)
  4. American Society for Testing and Materials (ASTM)
  5. ETL Testing Laboratories, Inc (ETL)
  6. Insulated Cable Engineers Association (ICEA)
  7. Institute of Electrical and Electronic Engineers (IEEE)
  8. Illuminating Engineering Society of North America (IES)
  9. Instrument Society of America (ISA)
  10. Lightning Protection Institute (LPI)
  11. National Electrical Manufacturers Association (NEMA)
  12. National Fire Protection Association (NFPA)
  13. Occupational, Health and Safety Administration (OSHA)
  14. Underwriters Laboratories Inc (UL)
- C. In case of conflict or disagreement between codes, standards, laws, ordinances, rules, regulations, drawings and specifications, or within either document itself, the more stringent condition shall govern.

### 3.06 SUBMITTALS

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:
  1. 01310 – ADMINISTRATIVE REQUIREMENTS
- B. Shop Drawings:
  1. Shop drawings shall be arranged and labeled according to specification section and Contract Drawing.

2. Submit shop drawings prior to purchase or fabrication of equipment. See individual Division 16 Sections for additional specific requirements.
3. Prior to submittals of shop drawings, coordinate electrical equipment, particularly motor control equipment, control panels, and instrumentation, with all applicable equipment and systems interfacing with that equipment.
4. Submittals shall be made in the following combinations:
  - a. Low Voltage Electrical Equipment (less than 1kV)
    - 1) Metal-Enclosed Switchgear, Switchboards, Panelboards, Load Centers, (lighting panels), Motor Control Centers (MCC), Disconnect Switches, Transformers, Power Factor correction equipment.
  - b. Raceways
    - 1) Conduits, Cable Trays, Duct-Bank details, Manholes, Handholes, Pull-Boxes, Junction Boxes, Conduit Bodies and Fittings.
    - 2) Raceway layout drawings for major and/or complex raceway routings
    - 3) Duct-Bank section layout drawings for all duct-banks with more than three (3) raceways
  - c. Wire and Cables
    - 1) Feeder Circuitry power cables and conductors
    - 2) Branch Circuitry cables and conductors
    - 3) Control/Signal Circuitry
    - 4) Low Voltage Systems: Tele/Com, Data, Security, Video
  - d. Wiring Devices
    - 1) Receptacles, Switches
  - e. Lighting
    - 1) Interior/Exterior Lighting Fixtures, Site Lighting Fixtures
      - a) Lighting Contactors and Controllers
  - f. Supports and Hardware
    - 1) Strut-Channel, Equipment Racks and Stanchions, Fasteners, Concrete Bases, Anchorage, etc.
      - a) Installation Detail Sketches, Layouts, BOM
  - g. Wire/Cable Raceway Schedule
    - 1) Provide a wire or cable identification schedule for all power, control, signal, process and protective circuits. The schedule shall be submitted in an electronic spreadsheet type Excel compatible file format and include the following information at a minimum:

- a) Wire or Cable tag number.
  - b) Number of conductors.
  - c) Conductor size and type.
  - d) Wire or Cable usage description.
  - e) Conduit tag number
  - f) Conduit routing (to and from).
  - g) Conduit size and type.
  - h) Additional notes
- 5. For each product, clearly identify manufacturer by name. When general data sheets are provided as part of the submittal, specifically identify the products to be used on this Project. Provide manufacturer's technical information on products to be used, including:
  - a. Product descriptive bulletin.
  - b. Electrical data pertinent to the Project and necessary to assure compliance with Specifications and Contract Documents.
  - c. Equipment dimensions, where applicable.
  - d. Evidence that the products submitted meet the requirements of the standards referenced.
  - e. Specify part number with explanation of options selected.
- 6. Ensure that all submittals clearly indicate the equipment is UL or ETL listed.
- 7. For all equipment, provide manufacturer's installation instructions.
- C. When a quality standard has been established by identification of a specific manufacturer or catalog number, submittals for proposed alternates and substitutions shall include:
  - 1. Alternate and substitute equipment cross referenced to the equipment it is replacing. Submittal shall be marked to show how differences will be accommodated.
  - 2. Calculations and other detail data to allow determination of alternate and substitute equipment equivalency to the equipment it is replacing. Data supplied shall allow detailed comparison of all significant characteristics upon which the design equipment is based.
  - 3. Dimensioned drawings, of the same or larger scale as the Contract Documents, for all alternate and substitute equipment, which differs in size, configuration, service accessibility or in any significant way from the equipment it is replacing.
    - a. Complete system layout, except that portion which is identical to the Contract Documents.

- b. Redesign and modifications to all work required by the alternate or substitute equipment.

D. Operation and Maintenance Manuals.

3.07 DELIVERY, STORAGE, AND HANDLING

- A. The Contractor shall unload and handle materials using methods, rigging, and equipment that will prevent damage to the materials. Care shall be used to prevent damage to painted and galvanized surfaces.

- 1. Bare wire rope slings shall not be used for unloading and handling materials and equipment, except with the specific written permission of the Engineer.

- B. Equipment and materials, in accordance with the manufacturer's recommendations, shall be stored, supported and protected to prevent damage.

- 1. Stored materials and equipment shall not be allowed to contact the ground.
- 2. Equipment and materials which incorporate electrical equipment or which have finished painted surfaces, and other items which would be damaged by outdoor exposure, shall be stored indoors.

- a. Provide covering and shielding for all equipment to protect from damage.

- b. When such storage would present an unreasonable building space or volume requirement, the equipment or materials may, when acceptable to the Engineer, be stored under weatherproof coverings on shoring or platforms.

- 3. All small loose items that could be easily lost, stolen, broken, or misused shall not be stored on open platforms or shoring.

- 4. All storage methods and schedules shall be acceptable to the Engineer.

- C. Ensure that equipment is not used as steps, ladders, scaffolds, platforms, or for storage either inside or on top of enclosures.

- D. Protect nameplates on electrical equipment to prevent defacing.

- E. Repair, restore or replace damaged, corroded and rejected items at no additional cost to the Owner.

- F. Record Drawings:

- 1. Contractor shall maintain a marked up set of Document Drawings showing actual installed circuit numbers, conduit sizes, cable tray routing, number of conductors, conductor sizes (other than 12AWG) and all other deviations from the design drawings.
- 2. All underground conduit and concealed items shall be dimensioned on the Document Drawings from permanent, visible, building features.
- 3. Provide actual motor size, starter size, and heater size, along with all other protective equipment for all motor circuits as part of the one-line record drawings.
- 4. Revise all wire/cable identification schedules to indicate as installed conditions.
- 5. Revise all panelboard schedules to indicate as installed conditions.

## **PART 2 - PRODUCTS**

### **3.01 MANUFACTURERS**

- A. Refer to related Division 16 Sections. All equipment of a similar type shall be by one manufacturer unless otherwise noted in the Specifications.
- B. Subject to compliance with the Contract Documents all electrical equipment and materials shall be acceptable as specified in the Owner's Approved Products List

### **3.02 MATERIALS**

- A. Trade names and catalog numbers may be used in the Contract Documents or Specifications to establish quality standards and basics of design.
  - 1. Other listed manufacturers in the applicable specification sections with equal equipment may be acceptable.
  - 2. If no other manufacturer is listed then any manufacturer of equal equipment may be acceptable.
- B. Listed: Where UL test procedures have been established for the product type, electrical equipment shall be approved by UL or ETL and shall be provided with the UL or ETL label.

### **3.03 FABRICATION**

- A. When equipment is shop fabricated for the Project, the electrical devices and enclosures utilized shall be UL or ETL listed and labeled or shall be UL recognized.
  - 1. Contractor shall submit for Engineer review all fabricated electrical and control equipment assemblies, enclosures including but not limited to: equipment racks or support systems.
- B. Shop or Factory Finishes: Interiors of other painted equipment shall be white.

## **PART 3 - EXECUTION**

### **3.01 INSTALLATION**

- A. Equipment shall be installed in accordance with the requirements of the NEC.
- B. Enclosures for use with electrical equipment unless specifically shown or specified elsewhere in the Contract Documents:
  - 1. NEMA 1G/12:
    - a. Acceptable for use in the Electrical Building or those interior spaces that are provided with temperature and humidity controlled conditioned air.
  - 2. NEMA 4X:
    - a. Acceptable for use in all exterior and interior areas or spaces.
    - b. Enclosures shall be 304-Stainless-Steel minimum.

- c. Nonmetallic enclosures are not acceptable.
- 3. NEMA 6P:
  - a. Acceptable for use in those spaces prone to flooding and/or submersion.
  - b. Enclosures and/or devices shall be cast aluminum or malleable-iron.
  - c. Exception: Those spaces identified as Class-I Division 2 shall be NEMA 9 minimum.
- 4. NEMA 9:
  - a. Acceptable for use in those spaces and/or areas identified as Hazardous Class-I Division 2.
  - b. Enclosures and/or devices shall be cast aluminum or malleable-iron.
- 5. Exceptions:
  - a. As required in other Division 16 Sections.
  - b. As otherwise indicated in the Contract Documents.
- C. Coordinate the installation of electrical equipment with other trades.
  - 1. Arrange for the building in of equipment during structure construction.
  - 2. Where equipment cannot be built in during construction, arrange for sleeves, box outs, openings, etc., as required to allow installation of equipment after structure construction is complete.
- D. Verify that equipment will fit support layouts indicated.
- E. Equipment Dimensions and Clearances:
  - 1. Equipment shall fit in the locations shown in the Contract Documents.
  - 2. Do not use equipment or arrangements of equipment that reduce required clearances or exceed the space allocation.
- F. Install equipment in accordance with the manufacturer's instructions.
- G. Equipment Access:
  - 1. Install equipment so it is readily accessible for operation and maintenance.
  - 2. Equipment shall not be blocked or concealed.
  - 3. Do not install electrical equipment such that it interferes with normal maintenance requirements of other equipment.
- H. Equipment shall be installed plumb, square and true with the building construction and shall be securely fastened.
- I. Outdoor wall mounted equipment and indoor equipment mounted on earth or water bearing walls shall be provided with corrosion resistant spacers to maintain 1/4IN separation between the equipment and the wall.

- J. Screen or seal all openings into outdoor equipment to prevent the entrance of rodents and insects.
- K. Equipment fabricated from aluminum shall not be placed in direct contact with earth or concrete.
- L. Provide all necessary anchoring devices and supports.
  - 1. Reference Specification Section 16070 – HANGERS AND SUPPORTS
  - 2. Use supports as detailed in the Contract Drawings and as specified.
  - 3. Where not detailed on the Contract Drawings or specified, use supports and anchoring devices rated for the equipment load and as recommended by the manufacturer.
- M. Contractor shall verify exact rough in locations and dimensions for connection to electrical items to be installed under this Contract.
  - 1. Shop drawings shall be secured from those furnishing the equipment.
  - 2. Proceeding without proper information may require the Contractor to remove and replace work that does not meet the conditions imposed by the equipment supplied.
  - 3. Provide sleeves wherever openings are required through new concrete or masonry members. Place sleeves accurately and coordinate locations with the Engineer.
  - 4. Should any cutting and patching be required on account of failure of the Contractor to coordinate penetrations, such cutting and patching shall be done at the expense of the Contractor.
    - a. Contractor shall not endanger the stability of any structural member by cutting, digging, chasing, or drilling and shall not, at any time, cut or alter the work without the Engineer's written consent.
      - 1) Provide additional reinforcing if required.
      - 2) Cutting shall be done neatly using proper tools and methods.
    - b. Subsequent patching to restore walls, ceilings, or floors to their original condition shall be done by workmen skilled in their particular field.
- N. Provide concrete foundations or pads required for electrical equipment as indicated or specified.
  - 1. Floor mounted equipment shall be mounted on a 4IN high concrete housekeeping pad. Pad shall be poured on top of the finished floor or slab.
- O. Material that may cause rusting or streaking on a building surface shall not be used.
- P. Contractor shall coordinate the installation of the conduit and wire associated with the HVAC equipment supplied under this Contract.

### 3.02 IDENTIFICATION

- A. Contractor shall reference and provide all identification, tagging and labeling for electrical and control systems as required per Specification Section:
  - 1. 16075 – ELECTRICAL IDENTIFICATION

### 3.03 FIELD QUALITY CONTROL

- A. Contractor shall reference and provide all testing procedures, reports and data for Engineer review and approval for electrical systems as required per Specification Section:
  - 1. 16080 – ELECTRICAL TESTING
- B. Verify all components are operational.
- C. Perform ground fault performance testing as required by NEC Article 230 95(c).
- D. Test Equipment Interface:
- E. Verify systems coordination and operation.
  - 1. Set all adjustable trip protective devices as required for system protection and coordination.
- F. Verify all system and equipment ground continuity.
- G. Adjust installed equipment for proper operation of all electrical and mechanical components.
- H. Replace equipment and systems found inoperative or defective and re test.
  - 1. If equipment or system fails re test, replace it with products that conform to Contract Documents.
  - 2. Continue remedial measures and re tests until satisfactory results are obtained.
  - 3. Remedial measures and re tests will be done at no cost to the Owner.
- I. The Engineer shall be notified of tests and Engineer may witness individual tests at their discretion.
- J. Required certificates of testing and test reports shall be presented to the Engineer upon completion of the tests.
- K. At Completion of Installation:
  - 1. Test to ensure all equipment is free of short circuits and improper grounds.
  - 2. Test to ensure all equipment is operational.
- L. After installation, all equipment shall be tested as recommended by the manufacturer.

### 3.04 STRUCTURAL COORDINATION

- A. Contractor shall reference all structural and building requirements prior to installing work and shall not interfere with any structural foundation component such as footings, bearing walls, etc. Contractor shall identify any structural interference and notify the Engineer immediately prior to continuation of work.
- B. Do not remove or damage fireproofing materials.
  - 1. Install hangers, inserts, supports, and anchors prior to installation of fireproofing.
  - 2. Repair or replace fireproofing removed or damaged.



- C. Make all penetrations through roofs prior to installation of roofing.
- D. All penetrations required after installation of roofing, shall be completed by an authorized roofer to maintain the roof warranty.
- E. Make all penetrations of electrical work through walls water and weather tight.
- F. Equipment furnished under this Contract for use on future work and all concealed equipment, including conduits, shall be dimensioned, on the Record Drawings, from visible and permanent building features.

### 3.05 PROJECT CLOSEOUT

#### A. Cleaning

1. Clean dirt and debris from all interior and exterior surfaces.
2. Exterior surfaces shall be cleaned with manufacturer approved cleaning agents.
3. Apply touch up paint as required to repair scratches, etc.
4. Replace nameplates or wire and cable markers damaged during installation.
5. Thoroughly vacuum the interior of all enclosures to remove dirt and debris. Do not use pressurized air systems to blow out dirt and debris.

#### B. Demonstration

1. Demonstrate equipment has been installed and operational in accordance with Contract Requirements and Project Specifications.

### END OF SECTION

## **SECTION 16010 – ELECTRICAL POWER STUDIES**

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### **PART 1 - GENERAL**

#### **1.01 REQUIREMENT SUMMARY**

- A. Contractor shall furnish short-circuit and protective device coordination studies as prepared by the electrical equipment supplier or an approved engineering firm.
- B. Contractor shall furnish an Arc Flash Hazard Analysis Study per the requirements set forth in NFPA 70E - Standard for Electrical Safety in the Workplace. The arc flash hazard analysis shall be performed according to the IEEE 1584 equations that are presented in NFPA70E-2004, Annex D.
- C. The scope of work for the studies shall include all new distribution equipment supplied by the electrical equipment supplier under this Contract as well as all the applicable existing electrical equipment at the Project site.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this Section, the requirements of Division 16 and those Project Documents referenced herein shall be applied.

#### **1.03 REFERENCES**

##### **A. Codes and Standards**

- 1. Institute of Electrical and Electronics Engineers, Inc. (IEEE):
  - a. IEEE 141 – Recommended Practice for Electric Power Distribution and Coordination of Industrial and Commercial Power Systems
  - b. IEEE 242 – Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems
  - c. IEEE 399 – Recommended Practice for Industrial and Commercial Power System Analysis
  - d. IEEE 241 – Recommended Practice for Electric Power Systems in Commercial Buildings
  - e. IEEE 1015 – Recommended Practice for Applying Low-Voltage Circuit Breakers Used in Industrial and Commercial Power Systems.
  - f. IEEE 1584 - Guide for Performing Arc-Flash Hazard Calculations
- 2. American National Standards Institute (ANSI):
  - a. ANSI C57.12.00 – Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers
  - b. ANSI C37.13 – Standard for Low Voltage AC Power Circuit Breakers Used in Enclosures

- c. ANSI C37.010 – Standard Application Guide for AC High Voltage Circuit Breakers Rated on a Symmetrical Current Basis
  - d. ANSI C 37.41 – Standard Design Tests for High Voltage Fuses, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches and Accessories.
3. The National Fire Protection Association (NFPA)
- a. NFPA 70 - National Electrical Code, latest edition
  - b. NFPA 70E – Standard for Electrical Safety in the Workplace

#### 1.04 SUBMITTALS

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:

1. 01310 – ADMINISTRATIVE REQUIREMENTS

- B. For Engineer Review

1. The short-circuit and protective device coordination studies shall be submitted to the Engineer prior to receiving final approval of the distribution equipment shop drawings and/or prior to release of equipment drawings for production. If formal completion of the studies may cause delay in equipment manufacturing, approval from the Engineer may be obtained for preliminary submittal of sufficient study data to ensure that the selection of device and characteristics will be satisfactory.

- C. For Construction

1. The results of the short-circuit, protective device coordination and arc flash hazard analysis studies shall be summarized in a final report. No more than five (5) bound hard copies of the complete final report shall be submitted. Electronic copies of the resultant computer analysis software study(ies) shall be included and compatible with the latest version of SKM® Systems software.
2. The report shall include the following sections:
- a. Executive Summary
  - b. Descriptions, purpose, basis and scope of the study
  - c. Tabulations of circuit breaker, fuse and other protective device ratings versus calculated short circuit duties
  - d. Protective device time versus current coordination curves, tabulations of relay and circuit breaker trip unit settings, fuse selection
  - e. Fault current calculations including a definition of terms and guide for interpretation of the computer printout
  - f. Details of the incident energy and flash protection boundary calculations
  - g. Recommendations for system improvements, where needed

- h. One-line diagram
- 3. Arc flash labels shall be provided and installed by the Contractor in accordance with Specification Section:

- a. 16075 – ELECTRICAL IDENTIFICATION

#### 1.05 QUALIFICATIONS

- A. The short-circuit, protective device coordination and arc flash hazard analysis studies shall be conducted under the supervision and approval of a Registered Professional Electrical Engineer in the State of North Carolina skilled in performing and interpreting the power system studies.
- B. The Registered Professional Electrical Engineer shall be a full-time employee of the equipment manufacturer or an approved engineering firm
- C. The Registered Professional Electrical Engineer shall have a minimum of five (5) years of experience in performing power system studies.
- D. The equipment manufacturer or approved engineering firm shall demonstrate experience with Arc Flash Hazard Analysis by submitting names of at least ten actual arc flash hazard analysis it has performed in the past year.

#### 1.06 COMPUTER ANALYSIS SOFTWARE

- A. The studies shall be performed using the latest version of SKM® Systems software program or approved equal.

### PART 2 - PRODUCTS

#### 2.01 STUDIES

- A. Contractor shall furnish short-circuit and protective device coordination studies as prepared by equipment supplier or an approved engineering firm.
- B. The contractor shall furnish an Arc Flash Hazard Analysis Study per NFPA 70E - Standard for Electrical Safety in the Workplace, reference Article 130.3 and Annex D.

#### 2.02 DATA COLLECTION

- A. Contractor shall furnish all data as required by the power system studies. The engineer performing the short-circuit, protective device coordination and arc flash hazard analysis studies shall furnish the Contractor with a listing of required data immediately after award of the contract. Contractor shall expedite collection of the data to assure completion of the studies as required for final approval of the distribution equipment shop drawings and/or prior to the release of the equipment for manufacturing.
- B. Source combination may include present and future motors and generators.
- C. Load data utilized may include existing, new and proposed loads obtained from the Contract Documents, Engineer or Owner.

- D. If applicable, include fault contribution of existing motors in the study. The Contractor shall obtain required existing equipment data, if necessary, to satisfy the study requirements.

#### 2.03 SHORT-CIRCUIT AND PROTECTIVE DEVICE EVALUATION STUDY

- A. Use actual conductor impedances if known. If unknown, use typical conductor impedances based on IEEE Standard 141-1993.
- B. Transformer design impedances shall be used when test impedances are not available.
- C. Provide the following:
  - 1. Calculation methods and assumptions
  - 2. Selected base per unit quantities
  - 3. One-line diagram of the system being evaluated
  - 4. Source impedance data, including electric utility system and motor fault contribution characteristics
  - 5. Tabulations of calculated quantities
  - 6. Results, conclusions, and recommendations.
- D. Calculate short-circuit momentary and interrupting duties for a three-phase bolted fault at each:
  - 1. Electric utility's supply termination point
  - 2. Incoming switchgear
  - 3. Motor control centers
  - 4. Standby generators
  - 5. Branch circuit panelboards
  - 6. Other significant locations throughout the system.
- E. For grounded systems, provide a bolted line-to-ground fault current study for areas as defined for the three-phase bolted fault short-circuit study.
- F. Protective Device Evaluation:
  - 1. Evaluate equipment and protective devices and compare to short circuit ratings
  - 2. Adequacy of switchgear, motor control centers, and panelboard bus bars to withstand short-circuit stresses
  - 3. Notify Engineer in writing, of existing, circuit protective devices improperly rated for the calculated available fault current.

#### 2.04 PROTECTIVE DEVICE COORDINATION STUDY

- A. Proposed protective device coordination time-current curves (TCC) shall be displayed on log-log scale graphs.
- B. Include on each TCC graph, a complete title and one-line diagram with legend identifying the specific portion of the system covered.
- C. Terminate device characteristic curves at a point reflecting maximum symmetrical or asymmetrical fault current to which the device is exposed.
- D. Identify the device associated with each curve by manufacturer type, function, and, if applicable, tap, time delay, and instantaneous settings recommended.

- E. Plot the following characteristics on the TCC graphs, where applicable:
1. Electric utility's overcurrent protective device
  2. Medium voltage equipment overcurrent relays
  3. Medium and low voltage fuses including manufacturer's minimum melt, total clearing, tolerance, and damage bands
  4. Low voltage equipment circuit breaker trip devices, including manufacturer's tolerance bands
  5. Transformer full-load current, magnetizing inrush current, and ANSI through-fault protection curves
  6. Conductor damage curves
  7. Ground fault protective devices, as applicable
  8. Pertinent motor starting characteristics and motor damage points, where applicable
  9. Pertinent generator short-circuit decrement curve and generator damage point
  10. The largest feeder circuit breaker in each motor control center and applicable panelboard.
- F. Provide adequate time margins between device characteristics such that selective operation is provided, while providing proper protection.

## 2.05 ARC FLASH HAZARD ANALYSIS

- A. The arc flash hazard analysis shall be performed according to the IEEE 1584 equations that are presented in NFPA70E-2004, Annex D.
- B. The flash protection boundary and the incident energy shall be calculated at all significant locations in the electrical distribution system (switchboards, switchgear, motor-control centers, panelboards, busway and splitters) where work could be performed on energized parts.
- C. The Arc-Flash Hazard Analysis shall include all significant locations in 240V and 208V systems fed from transformers equal to or greater than 125kVA where work could be performed on energized parts.
- D. Safe working distances shall be based upon the calculated arc flash boundary considering an incident energy of 1.2 cal/cm<sup>2</sup>.
- E. When appropriate, the short circuit calculations and the clearing times of the phase overcurrent devices will be retrieved from the short-circuit and coordination study model. Ground overcurrent relays should not be taken into consideration when determining the clearing time when performing incident energy calculations
- F. The short-circuit calculations and the corresponding incident energy calculations for multiple system scenarios must be compared and the greatest incident energy must be uniquely reported for each equipment location. Calculations must be performed to represent the maximum and minimum contributions of fault current magnitude for all normal and emergency operating conditions. The minimum calculation will assume that the utility contribution is at a minimum and will assume a minimum motor contribution (all motors off). Conversely, the maximum calculation will assume a maximum contribution from the utility and will assume the maximum amount of motors to be operating. Calculations shall take into consideration the parallel operation of synchronous generators with the electric utility, where applicable.

- G. The incident energy calculations must consider the accumulation of energy over time when performing arc flash calculations on buses with multiple sources. Iterative calculations must take into account the changing current contributions, as the sources are interrupted or decremented with time. Fault contribution from motors and generators should be decremented as follows:
  - 1. Fault contribution from induction motors should not be considered beyond 3-5 cycles.
  - 2. Fault contribution from synchronous motors and generators should be decayed to match the actual decrement of each as closely as possible (e.g. contributions from permanent magnet generators will typically decay from 10 per unit to 3 per unit after 10 cycles).
- H. For each equipment location with a separately enclosed main device (where there is adequate separation between the line side terminals of the main protective device and the work location), calculations for incident energy and flash protection boundary shall include both the line and load side of the main breaker.
- I. When performing incident energy calculations on the line side of a main breaker (as required per above), the line side and load side contributions must be included in the fault calculation.
- J. Mis-Coordination should be checked amongst all devices within the branch containing the immediate protective device upstream of the calculation location and the calculation should utilize the fastest device to compute the incident energy for the corresponding location.
- K. Arc Flash calculations shall be based on actual overcurrent protective device clearing time. Maximum clearing time will be capped at 2SEC based on IEEE 1584-2002 section B.1.2. Where it is not physically possible to move outside of the flash protection boundary in less than 2SEC during an arc flash event, a maximum clearing time based on the specific location shall be utilized.

## 2.06 REPORT SECTIONS

- A. Input data shall include, but not be limited to the following:
  - 1. Feeder input data including feeder type (cable or bus), size, length, number per phase, conduit type (magnetic or non-magnetic) and conductor material (copper or aluminum).
  - 2. Transformer input data, including winding connections, secondary neutral-ground connection, primary and secondary voltage ratings, kVA rating, impedance, % taps and phase shift.
  - 3. Reactor data, including voltage rating, and impedance.
  - 4. Generation contribution data, (synchronous generators and Utility), including short-circuit reactance ( $X''_d$ ), rated MVA, rated voltage, three-phase and single line-ground contribution (for Utility sources) and X/R ratio.
  - 5. Motor contribution data (induction motors and synchronous motors), including short-circuit reactance, rated horsepower or kVA, rated voltage, and X/R ratio.
- B. Short-Circuit Output Data shall include, but not be limited to the following reports:
  - 1. Low Voltage Fault Report shall include a section for three-phase and unbalanced fault calculations and shall show the following information for each applicable location:

- a. Voltage
    - b. Calculated fault current magnitude and angle
    - c. Fault point X/R ratio
    - d. Equivalent impedance
  - 2. Momentary Duty Report shall include a section for three-phase and unbalanced fault calculations and shall show the following information for each applicable location:
    - a. Voltage
    - b. Calculated symmetrical fault current magnitude and angle
    - c. Fault point X/R ratio
    - d. Calculated asymmetrical fault currents
      - 1) Based on fault point X/R ratio
      - 2) Based on calculated symmetrical value multiplied by 1.6
      - 3) Based on calculated symmetrical value multiplied by 2.7
    - e. Equivalent impedance
  - 3. Interrupting Duty Report shall include a section for three-phase and unbalanced fault calculations and shall show the following information for each applicable location:
    - a. Voltage
    - b. Calculated symmetrical fault current magnitude and angle
    - c. Fault point X/R ratio
    - d. No AC Decrement (NACD) Ratio
    - e. Equivalent impedance
    - f. Multiplying factors for 2, 3, 5 and 8 cycle circuit breakers rated on a symmetrical basis
    - g. Multiplying factors for 2, 3, 5 and 8 cycle circuit breakers rated on a total basis
- C. Recommended Protective Device Settings:
- 1. Phase and Ground Relays:
    - a. Current transformer ratio



- b. Current setting
  - c. Time setting
  - d. Instantaneous setting
  - e. Recommendations on improved relaying systems, if applicable.
- 2. Circuit Breakers:
  - a. Adjustable pickups and time delays (long time, short time, ground)
  - b. Adjustable time-current characteristic
  - c. Adjustable instantaneous pickup
  - d. Recommendations on improved trip systems, if applicable.
- D. Incident energy and flash protection boundary calculations
  - 1. Arcing fault magnitude
  - 2. Protective device clearing time
  - 3. Duration of arc
  - 4. Arc flash boundary
  - 5. Working distance
  - 6. Incident energy
  - 7. Hazard Risk Category
  - 8. Recommendations for arc flash energy reduction

### **PART 3 - EXECUTION**

#### **3.01 FIELD ADJUSTMENT**

- A. Adjust relay and protective device settings according to the recommended settings table provided by the coordination study. Field adjustments to be completed by the start-up and commissioning technician of the electrical equipment manufacturer under the Startup and Acceptance Testing contract portion.
- B. Make minor modifications to equipment as required to accomplish conformance with short circuit and protective device coordination studies.
- C. Notify Engineer in writing of any required major equipment modifications.

#### **3.02 ARC FLASH WARNING LABELS**

- A. The Contractor shall provide and install labels in accordance Specification Section:
  - 1. 16075 – ELECTRICAL IDENTIFICATION
- B. All labels will be based on recommended overcurrent device settings and will be provided after the results of the analysis have been presented to the Engineer for review and after any system changes, upgrades or modifications have been incorporated in the system.

**END OF SECTION**

## **SECTION 16050 – ELECTRICAL MATERIALS AND METHODS**

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### **PART 1 - GENERAL**

#### **1.01 REQUIREMENT SUMMARY**

- A. Contractor shall furnish all labor, materials, equipment and incidentals required to complete electrical systems that require excavation and/or concrete work as required under this Contract as hereinafter specified and/or shown in the Contract Documents.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this section, the requirements of Division 16 and those Project Specification Sections referenced therein shall be applied.
- B. Related Specification Sections include but not limited to:
  - 1. DIVISION 3 – CONCRETE

#### **1.03 REFERENCES – NOT USED**

#### **1.04 SUBMITTALS**

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:
  - 1. 01310 – ADMINISTRATIVE REQUIREMENTS
- B. Contractor shall obtain from the equipment manufacturer and submit shop drawings. Each submittal shall be identified by the applicable Specification Section.
- C. Shop drawings shall include but not be limited to:
  - 1. Equipment specifications and product data sheets identifying all materials used and methods of fabrication.
  - 2. Complete assembly, layout, installation, and foundation drawings with clearly marked dimensions.

#### **1.05 QUALITY ASSURANCE**

- A. Manufacturers: Firms regularly engaged in manufacture of products for electrical related work of sizes, types, ratings, and materials required, whose products have been in satisfactory use in similar service for not less than three (3) years.

#### **1.06 PROJECT CONDITIONS**

- A. Protect property from any and all damage that might result from excavating and backfilling.
- B. Protect persons from injury at excavations, by barricades, warnings and illumination.
- C. Coordinate excavations with weather conditions, to minimize possibility of washouts, settlements and other damages and hazards.

### **PART 2 - PRODUCTS - NOT USED**

## **PART 3 - EXECUTION**

### **3.01 EXCAVATIONS**

- A. General: Do not excavate for electrical work until the work is ready to proceed without delay, so that total time lapse from excavation to completion of backfilling will be minimized.
- B. Excavate with vertical-sided excavations to greatest extent possible, except where otherwise indicated. Where necessary, provide sheeting and cross-bracing to sustain sides of excavations. Remove sheeting and cross-bracing during backfilling wherever such removal would not endanger the work or other property. Where not removed, cut sheeting off at sufficient distance below finished grade to not interfere with other work.
- C. Excavations shall not interfere or adversely compromise structural foundations, elements or features. Excavations that encroach structural foundations, elements or features shall be coordinated with structural Engineer of Record prior to commencing work.
- D. Depth for sub-base Support: Unless otherwise noted, provide installation of sub-base material(s). Excavate for installation of sub-base material in depth indicated or, if not otherwise indicated, 6IN below bottom of work to be supported.
- E. Shoring and Bracing: Provide materials for shoring and bracing, such as sheet piling, uprights, stringers and cross-braces, in good serviceable condition.
  - 1. Establish requirements for trench shoring and bracing to comply with local codes and authorities having jurisdiction.
  - 2. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.
- F. Excavate trenches to the uniform dimensions required for the particular item(s) to be installed and provide sufficient working clearances. Dig trenches to approximate depth and hand grade bottom to accurate elevation as required.
- G. Where rock is encountered, carry excavation 6IN below required elevation and backfill with a 6IN layer of sand prior to installation of conduit.
- H. Where soil conditions at bottom of indicated excavation are unsatisfactory, excavate additional depth as directed to reach satisfactory soil-bearing condition. Backfill with sub-base material compacted as directed, to indicated excavation depth.
- I. Unless otherwise noted in the Contract Drawings, store excavated material (temporarily) near excavation, in manner that will not interfere with or damage excavation or other work. Do not store under trees (within drip-line).
- J. Retain excavated material that complies with requirements for backfill material.
- K. Dispose of excess or unsatisfactory excavated material(s) as directed by the Contract requirements and site conditions.
- L. Refer to the Contract requirements and site conditions for removal of large subsurface materials.

### 3.02 DEWATERING

- A. Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area.
- B. Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey rain water and water removed from excavations to collecting or run-off areas. Do not use trench excavations as temporary drainage ditches.
- C. Maintain dry excavations for electrical work, by removing water. Protect excavations from inflow of surface water. Pump minor inflow of ground water from excavations; protect excavations from major inflow of ground water, by installing temporary sheeting and waterproofing. Provide adequate barriers that will protect other excavations and below-grade property from being damaged by water, sediment or erosion from or through electrical work excavations.

### 3.03 BASE PREPARATION

- A. Install sub-base material to receive electrical work, and compact by tamping to form a firm base for the work.
- B. Provide finely-graded sub-base material for equipment to be buried.
- C. Tamp fill to uniform compacted density.
- D. Where conduit crosses over areas which have been previously excavated to depths greater than required for conduit installation, provide suitable support that comply with details shown and Contract requirements.

### 3.04 BACKFILLING

- A. Backfill with approved backfill materials.
- B. Backfill with finely-graded subbase material to 6IN above equipment to be buried. Backfill materials shall be soil materials free of clay, rock or gravel larger than 3/4IN, debris, waste, frozen materials, vegetation and other deleterious matter.
- C. Condition backfill material by either drying or adding water uniformly, to whatever extent may be necessary to facilitate compaction to required densities. Do not backfill with frozen soil materials.
- D. Backfill simultaneously on opposite sides of electrical work, and compact simultaneously; do not dislocate the work from installed positions.
- E. Backfill excavations in 8IN high courses of backfill material, uniformly compacted to the following densities (% of maximum density, ASTM D 1557), using power-driven hand-operated compaction equipment.
- F. When backfilling excavations for electrical work, backfill to elevations matching finished grades.
- G. Backfill trenches with concrete where trench excavations pass within 18IN of column or wall footings and which are carried below bottom of such footings, or which pass under wall footings. Place concrete to level of bottom of adjacent footing.

- H. Do not backfill trenches until tests and inspections have been made and backfilling authorized by the Engineer. Use care in backfilling to avoid damage or displacement of conduit systems.

### 3.05 INSTALLATION OF CONCRETE

- A. Refer to Specification Section 03300 – CAST – IN – PLACE CONCRETE
- B. Miscellaneous Concrete Work
  - 1. Concrete Grouting: Grout openings and recesses as indicated on the Contract Drawings and around all electrical work and other work that penetrates or adjoins all concrete work. Provide formwork where required, and tamp, screed and trowel surfaces. Cure grout as specified for concrete work.
  - 2. Refer to Specification Sections for grouting of equipment base plates on foundations (with high-strength, non-shrinking grout), and similar grouting requirements not defined herein.
- C. Clean-Up: Upon completion of work, clean excess concrete and grout from adjacent areas and surfaces. Remove excess concrete and grout by proper methods of removal, using care not to scratch or otherwise damage finished surfaces.

### 3.06 SUPPORT AND FASTENERS

- A. Contractor shall reference and provide all hangers, supports, equipment racks, etc. for all electrical equipment components and devices as required per Specification Section:
  - 1. 16070 – HANGERS AND SUPPORTS
- B. Concrete or Masonry Inserts
  - 1. Contractor shall be responsible for the furnishing and installation of all conduit sleeves, anchor bolts, masonry inserts, and similar devices required for installation of equipment furnished under this Contract.
  - 2. Contractor shall furnish leveling channels for all switchgear, switchboards, motor control centers, and similar equipment spanning 60IN, in any direction, along the floor. The leveling channels shall be provided for installation into the equipment supporting pads. Coordination of the installation of these channels within the concrete pad is essential and required. Pad height shall be as required to maintain coverage of the reinforcement bars while not exceeding the maximum mounting heights requirements of the NEC.
  - 3. Aluminum support members shall not be installed in direct contact with concrete. Stainless steel or non-metallic ABS plastic spacers shall be used to prevent contact of aluminum with concrete.
  - 4. Contractor is responsible for the design of supporting structures and shall submit design details to the Engineer for acceptance before proceeding with the fabrication and installation.
  - 5. Wherever dissimilar metals come into contact, the Contractor shall isolate these metals as required with UV resistant nylon washers or 9MIL polyethylene tape or gaskets.

#### END OF SECTION

## **SECTION 16060 – GROUNDING AND BONDING**

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### **PART 1 - GENERAL**

#### **1.01 REQUIREMENT SUMMARY**

- A. Contractor shall furnish and install grounding systems complete in accordance with the minimum requirements established by Article 250 of the NEC. Article 250 of the NEC shall be considered as a minimum requirement for compliance with this Specification Section.
- B. Grounding of all instrumentation and control systems shall be furnished and installed in accordance with the manufacturer/system requirements and IEEE 1100-92, Powering and Grounding of Sensitive Electronic Equipment. Conflicts shall be promptly brought to the attention of the Engineer.
- C. In addition to the NEC requirements, building structural steel columns shall be permanently and effectively grounded:
- D. Additional requirements for grounding and bonding as shown on the Contract Documents.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this section, the requirements of Division 16 and those Project Specification Sections referenced therein shall be applied.

#### **1.03 REFERENCES**

- A. All grounding components and the completed system shall comply with the following codes and standards as well as within the Specifications or as shown in the Contract Documents:
- B. Codes and Standards:
  - 1. American National Standards Institute (ANSI/IEEE):
    - a. C2, National Electrical Safety Code (NESC)
  - 2. Institute of Electrical and Electronic Engineers (IEEE):
    - a. IEEE 81, Guide for Measuring Earth Resistivity.
    - b. IEEE 142, Recommended Practice for Grounding of Industrial and Commercial Power Systems.
  - 3. National Fire Protection Association (NFPA):
    - a. NFPA 70, National Electric Code (NEC)
  - 4. Underwriters Laboratories Inc (UL):
    - a. 588, Grounding Equipment

#### 1.04 SUBMITTALS

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:
  - 1. 01310 – ADMINISTRATIVE REQUIREMENTS
- B. Contractor shall obtain from the equipment manufacturer and submit the following:
  - 1. Shop Drawings
  - 2. Reports of certified field tests. Each submittal shall be identified by the applicable Specification Section.
  - 3. Equipment specifications and product data sheets identifying all materials used and methods of fabrication.
- C. Contractor shall provide drawings and written description(s) of how the grounding/bonding system will be installed for Engineer review prior to commencing work.

### PART 2 - PRODUCTS

#### 2.01 MANUFACTURERS

- A. The equipment covered by these specifications shall be standard equipment of proven performance as manufactured by reputable concerns. Equipment shall be designed, constructed, and installed in accordance with the best practices of the trade, and shall operate satisfactorily when installed as shown on the Contract Drawings.

#### 2.02 GROUNDING CONDUCTOR

- A. A green, insulated equipment grounding conductor, which shall be separate from the electrical system neutral conductor, shall be furnished and installed for all circuits. Equipment grounding conductors shall be furnished and installed in all conduits. Use of conduits as the NEC required equipment grounding conductor is not acceptable.
- B. Where specified or shown a 3IN strap shall be furnished and installed as the grounding conductor.

#### 2.03 EQUIPMENT GROUND CONDUCTOR

- A. Equipment ground conductors shall be solid and continuous from a connection at earth to all distribution panelboards. Ground connections at panelboards, outlets, equipment, and apparatus shall be made in an approved and permanent manner.

#### 2.04 BONDING FITTINGS

- A. Grounding connections to equipment shall be bolted. Cable end connections may be made by use of the crucible weld process or bolted type connectors. Bolted type connectors for this application shall consist of corrosion resistant copper alloy with silicone bronze bolts, nuts and lock-washers which are designed for this purpose.

#### 2.05 GROUND RODS

- A. Ground rods shall be rolled to a commercially round shape from copper clad steel manufactured by the molten welding process or by the electro formed process (molecularly

bonded). They shall have an ultimate tensile strength of 75kPSI and an elastic limit of 49kPSI. The rods shall be not less than 3/4IN diameter by 10FT in length; and the proportion of copper shall be uniform throughout the length of the rod. The copper shall have a minimum wall thickness of 0.013IN at any point on the rod.

- B. The maximum resistance to ground of a driven ground rod shall not exceed 25OHM under normally dry conditions. Where the resistance obtained with one (1) ground rod exceeds 25OHM, additional ground rods shall be coupled, by exothermic welds. Except where specifically indicated otherwise, all exposed non-current carrying metallic parts of electrical equipment, metallic raceway systems, grounding conductors in non-metallic raceways and neutral conductors of wiring systems shall be grounded.
- C. The ground connection shall be made at the main service equipment and shall be extended to the point of entrance of the metallic water service. Connection to the water pipe shall be made by a suitable ground clamp or lug connection to a plugged tee. If flanged pipes are encountered, connection shall be made with the lug bolted to the street side of the flanged connection. If there is not suitable metallic water service to the facility, the ground connection shall be made to the driven ground rods on the exterior of the building.
- D. Where ground fault protection is employed, care shall be taken so that the connection of the ground and neutral does not interfere with the correct operation of the ground fault protection system.

## 2.06 GROUNDING GRID

- A. A grounding grid shall be provided for each structure and interconnected between structures. The grounding grid shall be installed such that the ground resistance does not exceed 5OHM. The grounding grid shall be interconnected by bare copper conductors sized to the largest service entrance ground, spliced and connected to ground rods by exothermic welds. The grounding conductors shall be installed after the excavations for the building have been completed and prior to the pouring of concrete for the footings, mats, etc. Copper "pigtailes" shall be connected to the grounding grid system and shall enter the buildings and structure from the outside and shall be connected to steel structures, and equipment as described in this Section and as shown in the Contract Documents.

## PART 3 - EXECUTION

### 3.01 INSTALLATION

- A. Metal surfaces where grounding connections are to be made shall be clean and dry. Steel surfaces shall be ground or filed to remove all scale, rust, grease, and dirt. Copper and galvanized steel shall be cleaned with emery cloth to remove oxide before making connections.
- B. Grounding conductors shall be continuous between points of connection; splices shall not be permitted.
- C. Where conductors are exposed and subject to damage from personnel, traffic, etc., conductors shall be installed in PVC SCH-80 raceway.
- D. Mechanical connections shall be permitted to ground rods in "Ground Test Wells" and shall be exposed to permit maintenance and inspection for continuity and effectiveness of grounding system.



- E. Where subsurface conditions do not permit use of driven ground rods to obtain proper ground resistance, rods shall be installed in a trench or plate electrodes shall be provided, as applicable and necessary to obtain proper values of resistance.
- F. Conduit:
  - 1. Conduit that enters equipment such as motor control centers, switchboards, switchgear, variable frequency drives, instrument and control panels, and similar equipment shall be bonded to the ground bus, where provided, and as otherwise required by the NEC.

### 3.02 TESTING

- A. All testing shall be performed in accordance with the requirements of Specification Section(s):
  - 1. 16070 – ELECTRICAL TESTING
- B. If tests reveal defects or deficiencies, the Contractor shall make the necessary repairs or shall replace the cable as directed by the Engineer, without additional cost to the Owner.
- C. All tests shall be made by and at the expense of the Contractor who shall supply all testing equipment.
- D. Field Tests:
  - 1. Ground resistance shall be measured with a three-point, fall of potential instrument.
  - 2. All ground rods shall be tested after being driven and prior to connection to the grounding system. Where test results show resistance-to-ground is greater-than 25OHM, additional ground rods shall be driven by coupling with exothermic welds. The compliance shall be demonstrated by retesting ground rod.
  - 3. Upon completion of installation of the grounding and bonding system, the entire system shall be tested at the ground test well(s), as indicated in the Contract Documents. The completed system shall have less-than 5OHM of ground resistance.

**END OF SECTION**

## **SECTION 16070 – HANGERS AND SUPPORTS**

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### **PART 1 - GENERAL**

#### **1.01 REQUIREMENT SUMMARY**

- A. Contractor shall furnish, install and place in satisfactory condition all conduit, cable-tray, raceway and equipment hangers and/or supports as required for proper installation of those systems per equipment manufacturer installation instructions and applicable codes and standards. All hardware and fasteners required for the installation shall be furnished and installed by the Contractor.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this section, the requirements of Division 16 and those Project Specification Sections referenced therein shall be applied.
- B. Related Specification Sections include but not limited to:
  - 1. 15103 – BUTTERFLY VALVES
  - 2. 15110 – CHECK VALVES
  - 3. 15140 – HANGERS AND SUPPORTS
  - 4. 15155 – MAGNETIC FLOW METER

#### **1.03 REFERENCES**

- A. Abbreviations and Acronyms:
  - 1. American Society for Testing and Materials (ASTM)
  - 2. National Electric Code (NEC)
  - 3. National Electric Manufacturers Association (NEMA)
  - 4. National Fire Protection Agency (NFPA)
  - 5. Nationally Recognized Testing Laboratories (NRTL)
  - 6. Polyvinyl Chloride (PVC)
  - 7. Underwriters Laboratories, Inc. (UL)
- B. Codes and Standards:
  - 1. ASTM A1011 – Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength
  - 2. ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials
  - 3. ASTM F1136 – Standard Specification for Zinc/Aluminum Corrosion Protective Coatings for Fasteners
  - 4. ASTM A1018 – Standard Specification for Steel, Sheet and Strip, Heavy-Thickness Coils, Hot-Rolled, Carbon, Commercial, Drawing, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength
  - 5. ASTM B633 – Specification for Electrodeposited Coatings of Zinc on Iron and Steel
  - 6. NEMA Standards Publication VE-2 – Cable Tray Installation Guidelines
  - 7. NFPA 70 – National Electrical Code

#### 1.04 SUBMITTALS

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:
  - 1. 01310 – ADMINISTRATIVE REQUIREMENTS
- B. Product data shall be submitted for each support system component and accessory; including clamps, brackets, hanger rods and fittings. The information shall include, but not be limited to, types, materials, finishes, gauge thickness and mounting-hole patterns.

#### 1.05 QUALITY ASSURANCE

- A. Qualifications:
  - 1. Electrical components shall be listed and labeled by UL, CSA or other NRTL testing and listing agencies that provide third-party certification follow-up services.
  - 2. Strut-Channel and fittings shall have a unique identifying number that trace the product back to material test reports. Stainless steel items shall have a part number that contains a material designator or a separate stamp that includes a reference to the type of material used.

### PART 2 - PRODUCTS

#### 2.01 GENERAL REQUIREMENTS

- A. Acceptable manufacturers:
  - 1. Allied Power-Strut Products
  - 2. B Line Systems
  - 3. Rob-Roy Industries
  - 4. Thomas & Betts
  - 5. Unistrut Building Systems
- B. All strut, clamps, fittings and fastener materials shall conform to the following unless otherwise noted on the Contract Drawings.
  - 1. Indoor/Wet Areas: Aluminum 6063-T6
  - 2. Indoor/Corrosive Areas: Fiberglass (ASTM D-4385)
  - 3. Outdoor Areas:
    - a. Stainless Steel Type-316 (ASTM A240)
- C. Strut-Channel shall not be bent, drilled, cut or otherwise modified to produce fittings, braces or brackets for conduit and equipment supports.
- D. Manufactured strut-channel braces, brackets, fittings and post-bases shall be provided and installed with associated hardware and fasteners as a complete system for conduit and equipment supports.

#### 2.02 COMPONENTS

- A. Materials:

1. Strut-Channel systems shall be furnished with fittings and accessories designed for use with the manufacturers strut system and made by the same manufacturer.
2. Contractor shall furnish all necessary locknuts, bushings, pipe clamps, ground clamps, supports, pull boxes, mounting bolts, inserts, lugs and any other materials necessary and proper in the execution of the work.
3. All fasteners and hardware materials shall be:
  - a. Stainless-Steel Type 316 (ASTM A276).
4. Anti-Vibratory type fasteners and hardware shall be utilized on all equipment subject to movement and/or vibration or as indicated on the Contract Documents.
5. Hanger rods shall be that as listed in Section 2.2A.3 or as noted in the Contract Documents and 3/8IN minimum diameter for conduit supports and 1/2IN minimum for cable tray supports.
6. Material types other than those listed in Section 2.2A.3, are not acceptable and considered rejected work by the Engineer.

### **PART 3 - EXECUTION**

#### **3.01 INSTALLATION**

##### **A. Systems Integration**

1. Contractor shall coordinate with other trades and craft to ensure electrical, plumbing and HVAC systems utilize common support and hanger systems to minimize individual support systems for each trade.
  - a. Hanger and support installed for multiple systems shall be designed and installed in accordance with the loading requirements.
  - b. Multiple individual support and hanger systems installed within common areas and spaces for electrical, plumbing and HVAC systems are not acceptable and considered rejected work by Engineer.

##### **B. General**

1. Boxes, wall brackets, cabinets and hangers shall be secured by means of toggle bolts in hollow masonry and gyp-board, preset inserts or expansion bolts in solid masonry and concrete, machine screws or bolts on metal surfaces and wood or sheet metal screws in wood construction. Brackets and hangers may also be welded to metal surfaces. Boxes and cabinets shall not be welded to metal surfaces.
2. Electrical cabinets, panelboards, transformers, boxes, disconnect switches, etc., and their supporting hardware, shall be fastened securely to the building structure, bolted strut or fabricated structure.
3. Metal strut shall be installed for surface-mounted cabinets, panelboards, disconnects, control enclosures, pull boxes, junction boxes, transformers and any other electrical devices.
  - a. Fiberglass materials where indicated in the Contract Documents
4. In open overhead spaces, cast boxes threaded to raceways need not be supported separately, except where used for fixture support. Sheet metal boxes shall be supported directly from the building structure.

5. Hanger rods shall be fastened to structural steel members with heavy duty beam clamps. Under concrete floors, rods shall be fastened to concrete inserts set flush to the surface. When a hanger is required with no structural steel member directly above, the Contractor shall span between steel members with strut-channel and attach the rod to the strut.
6. Raceway supports shall be selected and installed in accordance with the manufacturer's recommendations. Raceways shall be supported within 1FT of an unsupported box or fitting. Individual horizontal raceways shall be supported with separate conduit hangers. Horizontal conduit racks shall be trapeze-type hangers utilizing strut and all-thread hanger rods. Each conduit on the rack shall be clamped with conduit clamps designed for use with strut. Trapeze hangers shall be used for all RAC, PVC-RAC and PVC conduits. In vertical applications, raceways shall be supported so the load produced by the weight of the raceway and the enclosed conductors is carried entirely by the raceway supports, with no load on the raceway fittings. Vertical conduit racks shall utilize strut attached to walls with conduits attached with pipe clamps.
7. Vertical conductor supports and conductors shall be installed simultaneously.
8. Conduits, fittings, enclosures, conduit straps and clamps shall not be welded.
9. Supporting devices and raceways shall be installed plumb, horizontal, or parallel to building lines, finished floors and each other.
10. Cable tray supports shall conform to NEMA Standards Publication VE-2, and the cable tray support detail drawings.
11. All electrical equipment shall not be mounted or supported in any manner to hand-rails, stair-wells, ladder-wells, or safety railing systems unless approved by structural Engineer of record
12. Residential and/or Commercial supports and hanger methods and materials are not acceptable and considered rejected work by Engineer. Example: plumber's perforated strap, "caddy" clips, "push-in" conduit fittings, etc.

**END OF SECTION**

## **SECTION 16075 – ELECTRICAL IDENTIFICATION**

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### **PART 1 - GENERAL**

#### **1.01 REQUIREMENT SUMMARY**

- A. Contractor shall furnish and install but not limited to the following equipment and warning labels:
  - 1. Equipment nameplates
  - 2. Conduit/Raceway markers
  - 3. Wire markers and Color Coding
  - 4. Voltage markers
  - 5. Warning signs
  - 6. Arc-Flash and shock hazard warning labels
  - 7. Working space markers
  - 8. Duct-Bank Systems Warning Tape

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this section, the requirements of Division 16 and those Project Specification Sections referenced therein shall be applied.
- B. Related Specification Sections include but not limited to:
  - 1. Division 13 – INSTRUMENTATION AND CONTROLS

#### **1.03 REFERENCES**

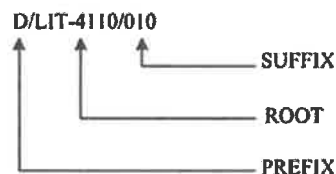
- A. Conform to requirements of the National Electrical Code (NEC), NFPA 70E, and OSHA.
- B. Codes and Standards
  - 1. Conform to applicable requirements of the following ANSI Standards:
    - a. Z535.1 Safety Color Code.
    - b. Z535.2 Environmental and Facility Safety Signs.
    - c. Z535.3 Criteria for Safety Symbols and Labels.
    - d. Z535.4 Product Safety Signs and Labels.
    - e. Z535.5 Safety Tags and Barricade Tapes (for Temporary Hazards).

#### **1.04 SUBMITTALS**

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:
  - 1. 01310 – ADMINISTRATIVE REQUIREMENTS
- B. Contractor shall submit the following:

1. Catalog Data: Submit manufacturer's catalog literature for each product.
2. Submit electrical identification schedule including list of wording, symbols, letter size, color coding, tag number, location, and function.
3. Samples:
  - a. Submit two (2) samples of each type of printed identification products applicable to the Project.
  - b. Submit two (2) nameplates illustrating materials and engraving quality.
4. Submit an Electrical Wire and Conductor Termination Schedule that aligns with the Raceway Identification Schedule as required in Section 16120 – CONDUCTORS AND CABLES for all power, control, signal, process, data and protective circuits. The schedule shall be submitted for Engineer review in an electronic spreadsheet type Excel compatible file format. The schedule shall include but not limited to the following data:
  - a. Raceway ID Tag
  - b. Cable/Conductor/Wire ID Tag
  - c. Cable/Conductor/Wire type, size and number
  - d. Terminations
    - 1) supply, origin, source, etc.
    - 2) intermediate terminations and/or splices, e.g. marshaling and termination cabinets
    - 3) utilization and/or field device, spares, etc.
    - 4) line, load, lug, terminal block or connection identification
  - e. Routing
    - 1) ductbank sections, pull-boxes, marshaling and termination cabinets, etc.
  - f. Contractor additional notes
5. Submit a Cable/Wire marker schedule for all power, control, signal, process and tele/comm/data circuits. The schedule shall be submitted for Engineer review in an electronic spreadsheet type Excel compatible file format. The marker schedule shall incorporate the following alpha-numeric scheme:
  - a. Prefix, first letter shall indicate the associated system

- |                                  |                                              |
|----------------------------------|----------------------------------------------|
| A – Analogue                     | (PLC/DCS variable signals <90V)              |
| C – Control                      | (Motor/Control signals >90V)                 |
| D – Discrete                     | (PLC/DCS step signals <90V)                  |
| E – Data Communications          | (Data Systems, EtherNet, WiFi, etc.)         |
| F – Fire Alarm/Annunciation      | (Fire Alarm Systems and Devices)             |
| H – PLC/DCS Communications       | (ModBus, Profibus, ControlNet, etc.)         |
| P – Power                        | (Power feeder, branch circuits >115V)        |
| T – Telephone/Voice<br>or fiber) | (Telephone/Voice Systems copper<br>or fiber) |
| V – Video                        | (CCTV/Video Monitoring Systems)              |
| Z – Security                     | (Security Systems)                           |
- b. Prefix, second letter (if applicable or used)
- |                                |                                          |
|--------------------------------|------------------------------------------|
| C – Copper Media               | (Copper signal conductors)               |
| F – Fiber Optic Media<br>etc.) | (Fiber single-mode, multi-mode,<br>etc.) |
| K – High Voltage<br>>600V)     | (Power feeder, branch circuits<br>>600V) |
- c. Prefix, third letter (if applicable or used)
- |                                           |                                              |
|-------------------------------------------|----------------------------------------------|
| N – Non-Secured/Un-Classified<br>systems) | (Open, non-secured/un-classified<br>systems) |
| F – Secured/Classified                    | (Closed, secured/classified systems)         |
- d. Root, alpha-numeric lettering as required and in accordance with the P&ID unique identifiers to reflect the equipment/device; examples:  
FIT-20, PLC-1, VFD-4500, FCV-5010
- e. Suffix, numeric indexed as required to coincide with the number of cables and/or conductors used; examples:  
0100, 0110, 0120...0900
6. Sample Cable/Wire marker format should resemble the following:



## 1.05 COORDINATION

- A. Coordinate identification names, abbreviations, colors, and other features with requirements in the Contract Documents, Shop Drawings, and manufacturer's wiring diagrams, with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.



- B. Verify electrical equipment designations and unique equipment identifiers with Engineer, Engineer's Representative and/or Owner.

## **PART 2 - PRODUCTS**

### **2.01 EQUIPMENT NAMEPLATES**

- A. Furnish equipment nameplates as specified and as shown on the Contract Drawings to indicate the unique equipment identifiers.
  - 1. UV stabilized phenolic material for outdoor applications and rated for 200F.
  - 2. White letters on Black background.
  - 3. 6IN by 1.5IN minimum.

### **2.02 CONDUIT/RACEWAY IDENTIFICATION**

- A. Furnish conduit and raceway identification markers for all conduit, raceway, wire-way, cable-tray and wire-through, etc.
- B. Provide and install flexible pressure sensitive vinyl markers with minimum 1IN by 4IN, minimum orange background and black letters that wrap around the circumference of the conduit.
- C. Provide and install typewritten vinyl raceway markers as follows but not limited to:
  - 1. Power Systems
  - 2. PLC/DCS Control Systems
  - 3. Telephone/Voice/Data Systems
  - 4. Fire Alarm and Security Systems
  - 5. Video/CCTV Systems
- D. Reference previous Section 1.4A 4.
- E. Manufacturer: LEM Products, Inc., Brady, Panduit or Approved.

### **2.03 WIRE MARKERS**

- A. Provide wire markers for but not limited to; power, control, instrumentation, fire alarm, tele/comm, video, security and video circuit wires.
- B. Furnish polyolefin whole and/or split sleeve, heat-shrinkable wire markers, size as required per wire, conductor, cable, etc.
- C. Locate a wire marker on each and every cable, conductor or wire at switchgear, MCC, panelboards, pull boxes, outlet and junction boxes, and at each landed termination.
- D. Provide and install typewritten black lettering on white label markers as follows but not limited to:
  - 1. Power and lighting circuits: as-built branch circuit or feeder circuit number.
  - 2. Motor control circuits: as-built control wire number or equipment manufacturer's wiring diagrams.
  - 3. PLC/DCS signals
  - 4. Telephone/Data Communications circuits

- 5. Fire Alarm and Security circuits
- 6. Video/CCTV circuits

E. Reference previous Section 1.4A 5.

F. Manufacturer: LEM Products, Inc., Brady, Panduit or Approved.

## 2.04 IRE/CABLE COLOR CODING

### A. Color Coding

- 1. Unless otherwise noted on the Contract Documents, conductor insulation shall be color coded as follows:

- a. 480V AC Power:

- Phase A - BROWN

- Phase B - ORANGE

- Phase C - YELLOW

- Neutral – GREY

- b. 120/208V or 120/240V AC Power:

- Phase A - BLACK

- Phase B – RED (ORANGE for Delta High-Leg)

- Phase C - BLUE

- Neutral – WHITE

- c. 120VAC Control:

- Ungrounded conductors – RED

- Ungrounded conductors, foreign source - YELLOW.

- d. 24VAC Control:

- All wiring – ORANGE

- e. 24VDC Power:

- Positive Lead – RED

- Negative Lead – BLACK

- f. 24VDC Control:

- Ungrounded conductors – BLUE

Grounded conductors – BLUE w/ WHITE stripe

g. Equipment Grounding Conductor:

All wiring – GREEN

2. Conductors #4AWG and smaller shall be factory color coded with a separate color for each phase and neutral, which shall be used consistently throughout the system. Larger cables shall be coded by the use of colored heat-shrinkable tubing.

2.05 VOLTAGE MARKERS

- A. Furnish voltage markers for transformers, switchgear, panelboards, starters, motor control centers, safety switches, pull boxes, cabinets, and conduits.
- B. Provide and install flexible pressure sensitive vinyl markers with minimum 1IN by 4IN orange background and black letters.
- C. Provide voltage markers with lettering indicating the highest voltage present:
  1. 120V system: 120 VOLTS
  2. 208/120V system: 208 VOLTS
  3. 120/240V and 240V systems: 240 VOLTS
  4. 480/277V and 480V systems: 480 VOLTS
- D. Manufacturer: LEM Products, Inc., Brady, Panduit or Approved.

2.06 WARNING SIGNS

- A. Furnish warning signs for low-voltage and medium-voltage transformers, switchgear, switchboards, panelboards, motor starters, motor control centers, safety switches, pull boxes, and cabinets.
- B. Use warning signs that conform to ANSI Z535.4 and OSHA Danger and Caution specifications.
- C. Provide minimum 2IN by 4IN warning signs.
- D. Provide warning signs with format and lettering as follows:
  1. Signal word: DANGER
  2. Signal word panel color: red with safety alert symbol.
  3. Word message: HAZARDOUS VOLTAGE SHOCK, BURN OR DEATH
  4. Safety symbol: ISO 3864 "lightning bolt" in yellow triangle.
- E. Materials:
  1. For indoor applications use flexible, pressure sensitive, polyester base with polyester overlamine.
  2. For outdoor applications use aluminum signs.
- F. Manufacturer: Seton Name Plate Co., Safety Label Solutions, Hazard Communication Systems, Electromark or Approved.

## 2.07 ARC FLASH AND SHOCK HAZARD WARNING LABELS

- A. Furnish arc flash and shock hazard warning labels for switchgear, transformers, panelboards, industrial control panels, motor controllers (including those furnished with mechanical equipment), motor control centers, safety switches, and other equipment as required by the NEC or NFPA 70E.
- B. Provide warning labels that comply with ANSI Z535.4. Color in top part of WARNING sign shall be ANSI "safety orange." Color in top part of DANGER sign shall be red. All lettering on labels shall be black.
- C. Provide either machine-produced custom labels or manually filled-in pre-printed labels similar in design to those below.
  - 1. Label dimensions shall be approximately 4IN height by 5IN width.
  - 2. Outdoor labels shall be suitable for a high-UV environment.
  - 3. Machine-produced custom labels:
    - a. Use polyester label stock that is NRTL-recognized to UL969, Marking and Labeling Systems, and has a high adhesion adhesive back.
    - b. Use printing ribbon recommended by the label stock manufacturer.
    - c. Use a suitable thermal transfer process label-printing machine to generate labels and enter the application-specific information indicated in the installation sub-paragraphs.
  - 4. Pre-printed labels:
    - a. Use labels printed on self-adhesive UV-resistant polyester with pressure-sensitive adhesive back. Provide labels with a clear polyester overlay film to protect manually-entered information.
    - b. Use a black, UV-resistant, industrial permanent marker pen to legibly hand letter the application-specific information indicated in the installation sub-paragraphs.
- D. Use the following warning label design for this scope of work:
  - 1. Sample label design

|  <b>WARNING</b> |                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Arc Flash and Shock Hazard.                                                                      |                                                                                                                                                                                           |
| Appropriate PPE Required.                                                                        |                                                                                                                                                                                           |
| ## inches                                                                                        | Arc-Flash Protection Boundary (from exposed live parts).                                                                                                                                  |
| ### cal/sq cm                                                                                    | Arc Flash incident energy at ## inches working distance; use approved PPE with Arc Thermal Performance Value $\geq$ incident energy; use additional PPE on body parts that may be closer. |
| #                                                                                                | NFPA 70E Hazard/Risk Category for operations with doors closed                                                                                                                            |
| ### Vac                                                                                          | Shock Hazard exists when <i>door is open or cover is off</i> _____                                                                                                                        |
| ## inches                                                                                        | Limited Approach Boundary                                                                                                                                                                 |
| ## inches                                                                                        | Restricted Approach Boundary                                                                                                                                                              |
| # inch                                                                                           | Prohibited Approach Boundary                                                                                                                                                              |
|                                                                                                  | Class ## Gloves,<br>} ##### V-Rated Tools                                                                                                                                                 |
| Equipment I.D.: #####-##-####-#      Date: MM/DD/YYYY .                                          |                                                                                                                                                                                           |
| Served From: #####-#    Location: ## ###    Ckt: ##    Volts/Ph/W: ####/## .                     |                                                                                                                                                                                           |
| Serves: #####-#    Location: ## ###    Ckt: ##    Volts/Ph/W: ####/## .                          |                                                                                                                                                                                           |

- E. Manufacturer: Summit Electric Supply, Seton Name Plate Co., Safety Label Solutions, Hazard Communication Systems, Electromark, Brady or Approved.

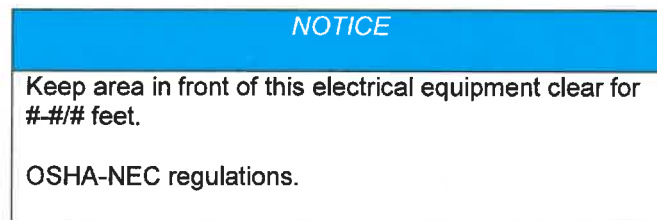
## 2.08 WORKING SPACE FLOOR MARKING

- A. Provide black paint and white paint to mark the NEC-required working space on the floor at electrical equipment that is likely to require examination, adjustment, servicing, or maintenance while energized.

## 2.09 WORKING SPACE LABELS

- A. Provide labels indicating required working clearance at electrical equipment that is likely to require examination, adjustment, servicing, or maintenance while energized and it is impractical mark the NEC-required working space on the floor.
- B. Material:

1. Use polyester label stock that is NRTL-recognized to UL969, Marking and Labeling Systems, and has a high adhesion adhesive back.
  2. Use printing ribbon recommended by the label stock manufacturer.
  3. Use a suitable thermal transfer process label-printing machine to generate labels and enter the application-specific information
  4. Outdoor labels shall be suitable for a high-UV environment.
- C. Minimum dimensions: 3.5IN by 1.25IN.
- D. Use the following label design:



1. Signal word: "NOTICE" in 24-point minimum white italic letters on safety blue panel.
  2. Word message: 16-point minimum black or safety blue letters on white background.
    - a. Word message for 120/240V and 208/120V equipment: "Keep area in front of this electrical equipment clear for 3FT. OSHA-NEC regulations."
    - b. Word message for 480V and 480/277V equipment with exposed live parts on one side of the working space and no live parts on the other side of the working space: "Keep area in front of this electrical equipment clear for 3.5FT OSHA-NEC regulations."
    - c. Word message for 480V and 480/277V equipment with exposed live parts on both sides of the working space: "Keep area in front of this electrical equipment clear for 4FT OSHA-NEC regulations."
- E. Manufacturer: Brother, Seton, Brady or Approved

## 2.10 DUCT-BANK SYSTEMS WARNING TAPE

- A. Provide detectable underground warning tape for underground electrical systems as required and in accordance with the NEC and the Contract Documents.
1. Reference Specification Section: 16115 – UNDERGROUND CONDUIT DUCTS, HANDHOLES AND PULL-BOXES
- B. Material:
1. 5-MIL tape thickness with aluminum backing and 2-MIL clear laminated finished over lettering
  2. Warning tape shall comply with APWA approved colors
- C. Dimensions: 6IN by 1000FT

- D. Manufacturer: Seton or Approved

### **PART 3 - EXECUTION**

#### **3.01 EXAMINATION**

- A. Examine surfaces to receive identification products for compliance with installation tolerances and other conditions affecting performance of the identification products. Do not proceed with installation until unsatisfactory conditions have been corrected.

#### **3.02 INSTALLATION - GENERAL**

- A. Where identification is to be applied to surfaces that require finish, install identification after completion of finish work.
- B. Install labels at locations for best convenience of viewing without interference with operation and maintenance of equipment.
  - 1. Coordinate installation of identifying devices with location of access panels and doors.
  - 2. Install identifying devices before installing acoustical ceilings and similar concealment.
- C. Install electrical identification products only when ambient temperature and humidity conditions for adhesive are within range recommended by manufacturer.
- D. Prepare, clean and/or de-grease surfaces where electrical identification product is to be placed.
- E. Place electrical identification products centered and parallel to equipment lines.

#### **3.03 EQUIPMENT NAMEPLATES**

- A. Install equipment nameplates on the front of each piece of new electrical equipment to include but not limited to switchgear, switchboards, motor control centers, control equipment, transformers, panelboards, lighting panelboards, safety switches, enclosed circuit breakers, etc.
- B. Position equipment nameplates so they can be read from the front of the enclosure, cabinet, etc.
- C. Use manufacturer's recommended adhesive for engraved tags and nameplates.
  - 1. Additionally, equipment nameplates shall be fastened with stainless-steel machine screws; self-tapping fasteners are not acceptable and will be rejected to include re-placement of enclosure.

#### **3.04 RACEWAY IDENTIFICATION**

- A. Install conduit and raceway identification in accordance with the approved Conduit/Raceway identification schedule on all but not limited to; power, control, data, fire, tele/comm, video and security systems.

- B. Position Conduit/Raceway identification so they can be read from finished floor/grade visible and easily read vertically or horizontally.
  - 1. Engineer reserves the right during project close-out procedures that Contractor re-position and/or supplement conduit and raceway identification as Engineer and/or Owner requires at no additional cost.
- C. Furnish Conduit/Raceway identification for all conduit, raceway, wire-way, cable-tray and wire-through, etc. at no less than 10FT intervals.

### 3.05 WIRE MARKERS

- A. Install wire markers on all but not limited to; power, control, data, fire, tele/comm, video and security system conductors within all termination, splicing, marshalling, junction-box, devices, cabinets and enclosures.
- B. Install wire markers within all switchgear, switchboards, motor control centers, panelboards, lighting panelboards, safety switches, etc.
  - 1. Wire markers shall be installed on all terminated/spliced wire, cable and conductor ends regardless of the number of enclosures that they are routed through.
  - 2. Contractor shall inspect and ensure that all wire markers match on all terminated/spliced ends and correspond with the approved Cable/Wire marker schedule.
  - 3. Engineer reserves the right during project close-out procedures that Contractor re-install wire markers as Engineer and/or Owner requires at no additional cost.
- C. Position wire markers so they can be read when opening the enclosure door and without rotating the wire/conductor when landed on terminal strips.
- D. Contractor shall re-install wire markers that are blurred, smudged, ill-legible, mis-printed, damaged or soiled at no additional cost.

### 3.06 VOLTAGE MARKERS

- A. Install voltage markers at the following locations and position markers so they can be read from floor or ground:
  - 1. Front and rear of each free-standing low- voltage switchgear or switchboard section.
  - 2. Front of each low-voltage transformer, panelboard, industrial control panel, motor control center, enclosed circuit breaker, safety switch, and motor controller enclosure, including those furnished with mechanical equipment.
  - 3. Cover of each pull box containing low-voltage or medium-voltage conductors.

### 3.07 WARNING SIGNS

- A. Install warning signs at the following locations and position signs so they can be read from floor or ground:
  - 1. Front and rear of each low-voltage switchgear or switchboard section.
  - 2. Front of each low-voltage transformer, switchboard, panelboard, industrial control panel, motor control center, enclosed circuit breaker, safety switch, and motor starter enclosure including those furnished with mechanical equipment.



### 3.08 ARC FLASH AND SHOCK HAZARD WARNING LABELS

- A. Install arc flash and shock hazard warning labels at the following locations and position signs so they can be read from floor or ground:
1. Front and rear of each freestanding low-voltage switchgear or switchboard section.
  2. Front of each low-voltage transformer, panelboard, industrial control panel, motor control center, enclosed circuit breaker, safety switch, and motor controller enclosure, including those furnished with mechanical equipment.
  3. Cover of each pull box containing exposed low conductors.
- B. Enter the following application-specific information in arc-flash and shock hazard warning labels as required under Specification Section 16010:
1. Arc-Flash Protection Boundary (inches) calculated in accordance with IEEE Std 1584 or NFPA 70E.
  2. Arc-flash incident energy (cal/cm<sup>2</sup>) calculated in accordance with IEEE Std 1584 or NFPA 70E.
  3. Working distance (inches) selected from IEEE Std 1584 or NFPA 70E (Annex D) based on equipment type.
  4. Hazard/risk category number from NFPA 70E Table 130.7(C)(9) for operations with doors closed and covers on.
  5. System phase-to-phase voltage.
  6. Condition that exposes worker to an electrical shock hazard.
  7. Limited Approach Boundary from NFPA 70E Table 130.2(C) based on nominal system phase-to-phase voltage.
  8. Restricted Approach Boundary from NFPA 70E Table 130.2(C) based on nominal system phase-to-phase voltage.
  9. Prohibited Approach Boundary from NFPA 70E Table 130.2(C) based on nominal system phase-to-phase voltage.
  10. Class for insulating gloves based on system voltage (e.g. Class 00 for up to 500 volts).
  11. Voltage rating for insulated or insulating tools based on system voltage (e.g. 1000 volts).
  12. Equipment ID code based on Drawings and including TA number, building number, and system identifier.
  13. Date that hazard analysis was performed.
  14. "Served from" circuit directory information including the serving equipment ID code, location (e.g. room number), circuit number, and circuit voltage/phases/wires.
  15. If applicable, "serves" circuit directory information including the served equipment ID code, location (e.g. room number), circuit number, and circuit voltage/phases/wires.

### 3.09 WORKING SPACE FLOOR MARKERS

- A. Install floor marking paint on the floor at the locations listed below to indicate the working space required by the NEC.
1. Front and rear of each free-standing low-voltage switchgear or switchboard section.
  2. Front of each low-voltage transformer, switchboard, panelboard, industrial control panel, motor control center, enclosed circuit breaker, safety switch, and motor controller enclosure including those furnished with mechanical equipment.
  3. Any other equipment likely to require examination, adjustment, servicing, or maintenance while energized.

B. Dimensions of working space area shall be as follows:

1. Width: the greater of the width of the equipment or 30IN.
2. Depth:
  - a. 120/240V and 208/120V equipment: 3FT
  - b. 480V and 480/277V equipment with exposed live parts on one side of the working space and no live parts on the other side of the working space: 3.5FT.
  - c. 480V and 480/277V equipment with exposed live parts on both sides of the working space: 4FT.

C. Thoroughly prepare floor surface to receive paint.

D. Paint the NEC-required working space area with alternating 3 to 6IN wide black and white diagonal stripes.

### 3.010 WORKING SPACE LABELS

A. Install working space labels at the following locations only in cases where it is impractical to mark the NEC-required working space on the floor (e.g. carpeted areas).

1. Front of each low-voltage switchgear or switchboard section and rear of each freestanding low-voltage switchgear or switchboard section.
2. Front of each meter enclosure, low-voltage transformer, panelboard, industrial control panel, motor control center, enclosed circuit breaker, safety switch, and motor controller enclosure, including those furnished with mechanical equipment.
3. Any other equipment likely to require examination, adjustment, servicing, or maintenance while energized.

B. Position labels so they can be read from floor or ground.

### 3.011 DUCT-BANK SYSTEMS WARNING TAPE

A. Provide warning tape(s) as follows:

1. Electrical duct-bank systems, trenches and raceways:
  - a. Legend: "CAUTION CAUTION CAUTION" (1st line), "BURIED ELECTRIC LINE" (2nd line).
  - b. Letters: 1 1/4IN minimum.
  - c. Interval: Continuous.
  - d. Color: BLACK lettering on RED background.
2. Tele-Communication duct-bank systems, trenches and raceways:
  - a. Legend: "CAUTION CAUTION CAUTION" (1st line), "BURIED TELEPHONE LINE" (2nd line).

- b. Letters: 1 1/4IN minimum.
  - c. Interval: Continuous.
  - d. Color: BLACK lettering on ORANGE background.
3. SCADA duct-bank systems, trenches and raceways:
- a. Legend: "CAUTION CAUTION CAUTION" (1st line), "BURIED COMPUTER LINE" (2nd line).
  - b. Letters: 1 1/4IN minimum.
  - c. Interval: Continuous.
  - d. Color: BLACK lettering on ORANGE background.

**END OF SECTION**

## **SECTION 16080 – ELECTRICAL TESTING**

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### **PART 1 - GENERAL**

#### **3.01 REQUIREMENT SUMMARY**

- A. Contractor shall furnish all labor, materials, equipment and incidentals required to providing standard electrical inspections, testing and commissioning services and required reports required under this Contract as hereinafter specified and/or in the Contract Documents.
- B. Specification Section Includes:
  - 1. Contractor responsibilities that are a part of, or are related to the testing and commissioning process for the all the electrical systems under this scope of work and as related in the Contract Documents.
  - 2. Engineer will review and approve, prior to use, all test procedures and forms used and will witness, at their discretion initial checks and testing performed by the Contractor. Engineer will review the completed check and test documentation of the Contractor.
  - 3. It is not the intent of the Specifications to duplicate Contractor efforts or to require the Contractor to perform any check or test more than twice. Electrical checks and testing by the Contractor are expected to occur once in the normal sequence of installation, testing and placing equipment into service, if appropriate coordination has occurred allowing the Engineer and/or Owner to witness Contractor efforts.
  - 4. The test requirements listed in this section do not release the Contractor from the obligation to perform all other appropriate, industry standard, manufacturer-recommended or code-required checks and tests.

#### **3.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this section, the requirements of Division 16 and those Project Specification Sections referenced therein shall be applied.
- B. Related Specification Sections include:

- 1. Division 2 – SITE CONSTRUCTION

#### **3.03 REFERENCES**

- A. Abbreviations and Acronyms:
  - 1. American Society for Testing & Materials (ASTM)
  - 2. American National Standards Institute (ANSI)
  - 3. Institute of Electrical and Electronic Engineers (IEEE)
  - 4. International Electrical Testing Association (NETA)
  - 5. National Electrical Manufacturers Association (NEMA)
  - 6. North American Electric Reliability Corporation (NERC)
  - 7. National Fire Protection Association (NFPA)
  - 8. Uninterruptible Power Supply (UPS)
  - 9. Variable Speed Drive/Controller (VFD)
- B. Codes and Standards:

1. ANSI/NETA ATS – Acceptance Testing Specifications for Electric Power Distribution Equipment and Systems
2. ANSI/NETA ETT – Standard for Certification of Electrical Testing Technicians
3. ANSI/NEMA AB4 – Guidelines for Inspection and Preventive Maintenance of Molded-Case Circuit Breakers Used in Commercial and Industrial Applications
4. IEEE C37.233 – Guide for Power System Protection Testing
5. IEEE C57.13.1 – Guide for Field Testing of Relaying Current Transformers
6. IEEE C57.13.3 – Guide for Grounding of Instrument Transformer Secondary Circuits and Cases
7. IEEE C57.104 – Guide for the Interpretation of Gases Generated in Oil-Immersed Transformers
8. IEEE 43 – Recommended Practice for Testing Insulation Resistance of Rotating Machinery
9. IEEE 450 – Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications
10. IEEE 519 – Recommended Practices and Requirements for Harmonics Control in Electrical Power Systems
11. NEMA MG1 – Motors and Generators
12. NERC PRC-005-2 – Protection System Maintenance
13. NFPA 70 – National Electrical Code
14. NFPA 72 – National Fire Alarm and Signaling Code
15. NFPA 110 – Emergency and Standby Power Systems

#### 3.04 SUBMITTALS

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:
  1. 01310 – ADMINISTRATIVE REQUIREMENTS
- B. Contractor shall submit written copies of all inspection and test reports to the Engineer for review and acceptance.
- C. Sixty (60) days before any testing is conducted, submit an overall testing plan and schedule for electrical systems that lists the equipment, modes to be tested, dates of testing and parties conducting the tests. Contractor shall place these tests into the master construction schedule and update as needed.

#### 3.05 QUALITY ASSURANCE

- A. Qualifications:
  1. Contractor shall provide a listing of testing personnel stating their experience in testing of low-voltage (600V) equipment for Engineer approval. All personnel involved in testing major electrical equipment, protective relays and meters shall be certified per ANSI/NETA ETT and have a minimum of five (5) years experience in testing of this type of equipment; each electrical testing crew leader shall have a current certification of Level III or higher.
  2. Contractor shall provide a listing of testing equipment that will be used and provide verification of calibration as applicable within the last year, prior to use and shall have dated calibration labels visible on all test equipment. Test equipment and calibration shall be in accordance with ANSI/NETA ATS Sections 5.2 and 5.3.
- B. Test Equipment:

1. Contractor shall provide all test equipment necessary to fulfill the checks and testing requirements. Test equipment shall have been calibrated within one (1) year of its use on the project.

## **PART 2 - PRODUCTS NOT USED**

## **PART 3 - EXECUTION**

### **3.01 EXAMINATION**

- A. Engineer reserves the right to inspect the Contractor's work at any time during the contract period. Contractor shall make all work available to the Owner and/or the Engineer, upon request.
- B. Contractor shall request Engineer review and approval at least twenty-four (24) hours prior to covering of any concealed work; pulling of wires and cables; or placing covers over outlets, cabinets, panel boards, switchboards, or switchgear.
- C. Perform additional tests required under other Specification Sections required under Division 16. Written reports of all test results shall be submitted to Engineer for review.
- D. Notify Engineer of any deficiencies that are found during the tests; after deficiencies are corrected, repeat tests until the system is approved. When applicable, electrical work shall not be covered or concealed until satisfactory tests are made and approved.
- E. Upon request from the Owner and/or Engineer, place the entire electrical installation or any portion thereof, in operation to demonstrate satisfactory operation.
- F. Contractor shall inspect and test all materials and equipment, including all furnished major equipment under this Contract, using the latest edition of the ANSI/NETA ATS – Acceptance Testing Specifications for Electric Power Distribution Equipment and Systems as a guide. The ANSI/NETA ATS specifications apply to testing of all electrical equipment and cabling installed and/or modified under this Project prior to placing into service.

### **3.02 INSPECTION AND TESTING**

- A. Cables, Low-Voltage 600V Maximum:
  1. In accordance with ANSI/NETA ATS Section 7.3.2
- B. Metal Enclosed Switchgear and Switchboards:
  1. In accordance with ANSI/NETA ATS Section 7.1
  2. Verify positive mechanical interlocking between normal and alternate sources to include back-up power modifications as required under this Contract.
- C. Low-Voltage Motor Control Centers:
  1. In accordance with ANSI/NETA ATS Section 7.16.1.1
  2. Verify positive mechanical interlocking between normal and alternate sources to include back-up power modifications as required under this Contract.
- D. Engine Driven Generator:

1. In accordance with ANSI/NETA ATS Section 7.22.

E. Test Reports: All testing results, evaluations and operational/functionality reports for all equipment and cabling installed and/or modified under this Contract shall be recorded in a formal report and submitted to the Engineer for review.

### 3.03 COMMISSIONING

A. The following are Contractor responsibilities applicable to all electrical systems being commissioned and/or placed into service.

1. Document all electrical testing and commissioning forms submitted to and approved by the Engineer prior to placing equipment into service.
2. Notify the Engineer immediately when commissioning activities not yet performed or not yet scheduled will delay construction.
3. Respond to deficiencies identified during the commissioning process, making required corrections or clarifications and returning prompt notification to the Engineer.
4. When completion of a task or other issue has been identified as holding up any commissioning process, particularly functional testing, the Contractor shall, within two (2) days notify the Engineer in writing providing an expected date of completion.
5. Develop check and testing procedures with start-up and/or commissioning plan for Engineer review.
6. Review design documents, shop drawings and O&M manuals along with manufacturer recommended installation and testing procedures.
7. Develop test procedures and forms and execute and document testing.
8. Tests of energized equipment shall be conducted when the equipment is operating at its normal capacity. This may require some tests to be conducted after occupancy.

### 3.04 TRAINING AND ORIENTATION

A. Contractor shall provide orientation and training to facility personnel as required in Division 16 and those Project Specification Sections.

### 3.05 PROJECT CLOSE-OUT

A. Contractor shall provide Operation and Maintenance (O&M) Manuals as required in Division 16 and those Project Specification Sections.

**END OF SECTION**

## **SECTION 16111 – CONDUIT AND RACEWAYS**

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### **PART 1 - GENERAL**

#### **1.01 REQUIREMENT SUMMARY**

- A. Contractor shall furnish all labor, materials, tools and equipment necessary for furnishing, installing, connecting, testing and placing into service all raceway systems to include all conduits, conduit fittings, wireway, supports, etc. as required for a complete electric installation as specified herein and indicated on the Contract Documents.
- B. Conduit home runs for lighting, receptacle and other misc. circuits are not necessarily depicted on the Contract Documents; however, the circuit numbers are shown. Conduit shall be furnished and installed for these circuits.
- C. Additional conduit and raceway from what is shown on the Contract Documents may be required. Contractor shall coordinate with the requirements of equipment provided under other Divisions.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this section, the requirements of Division 16 and those Project Documents referenced herein shall be applied.
- B. Related Specification Sections include but not limited to:
  - 1. Division 2 – SITE CONSTRUCTION
  - 2. 16120 – CONDUCTORS AND CABLES
  - 3. 16130 – ENCLOSURES

#### **1.03 REFERENCES**

- A. Raceways shall comply with the following applicable codes and standards as well as any others within the specifications and drawings. In the event of any conflict between these codes, regulations, standards, and Contract Documents, the most restrictive shall apply.
- B. Codes and Standards
  - 1. American National Standards Institute (ANSI)
    - a. C80.1, Rigid Steel Conduit Zinc Coated.
    - b. C80.3, Electrical Metallic Tubing Zinc Coated.
    - c. C80.4 Fittings for Rigid Metal Conduit and Electrical Metallic Tubing.
    - d. C80.5 Electrical Rigid Aluminum Conduit.
    - e. C80.6 Electrical Intermediate Metal Conduit.
  - 2. American Society for Testing and Materials (ASTM)
    - a. A36, Standard Specification for Structural Steel.



- b. A153, Zinc Coating (Hot Dip) on Iron and Steel Hardware.
  - c. A307, Carbon Steel Externally Threaded Standard Fasteners.
  - d. A563, Standard Specification for Carbon Steel Nuts.
  - e. A569, Steel Carbon, Hot Rolled Sheet and Strip, Commercial Quality.
  - f. A570, Hot Rolled Sheet and Strip, Structural Quality.
  - g. A575, Merchant Quality Hot Rolled Carbon Steel Bars.
  - h. A635, Standard Specification for Steel, Sheet and Strip, Heavy Thickness Coils, Carbon, Hot Rolled.
  - i. D1784, Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
  - j. D1788, Standard Specification for Rigid Acrylonitrile Butadiene Styrene (ABS) Plastics.
  - k. D2564, Solvent Cements for (PVC) Plastic Pipe, Tubing, and Fittings.
  - l. F512, Standard Specification for Smooth Wall Poly (Vinyl Chloride) (PVC) Conduit and Fittings for Underground Installation.
- 3. ETL Testing Laboratories, Inc (ETL)
  - 4. National Electric Manufacturers Association (NEMA)
    - a. RN 1, Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit.
    - b. TC 2, Electrical Plastic Tubing (EPT) and Conduit (EPC 40 and EPC 80).
    - c. TC 6, PVC and ABS Plastic Utilities Duct for Underground Installation.
  - 5. National Electric Contractors Association (NECA)
    - a. NECA 1: Standard Practices for Good Workmanship in Electrical Construction.
    - b. Project applicable standards and recommendations
  - 6. National Electric Installation Standards (NEIS)
    - a. Project applicable standards and recommendations
  - 7. National Fire Protection Association (NFPA)
    - a. 70, National Electric Code (NEC).
    - b. 79, Electrical Standard for Industrial Machinery

8. Underwriters Laboratories Inc (UL)
  - a. 1, Flexible Metal Conduit.
  - b. 6, Rigid Metal Conduit.
  - c. 6A, Electrical Rigid Metal Conduit – Aluminum.
  - d. 209, Cellular Metal Floor Raceways and Fittings.
  - e. 360, Liquid Tight Flexible Steel Conduit.
  - f. 467, Grounding and Bonding Equipment.
  - g. 514, Nonmetallic Outlet Boxes, Flush Device Boxes, and Covers.
  - h. 514B, Conduit, Tubing and Cable Fittings.
  - i. 651, Schedule 40 and 80 Rigid PVC Conduit.
  - j. 797, Electrical Metallic Tubing.
  - k. 870, Wireways, Auxiliary Gutters, and Associated Fittings.
  - l. 886, Outlet Boxes and Fittings for Use in Hazardous (Classified) Locations.
  - m. 1242, Intermediate Metal Conduit.
  - n. 1660, Liquid-Tight Flexible Non-Metallic Conduit.

#### 1.04 SUBMITTALS

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:
  1. 01310 – ADMINISTRATIVE REQUIREMENTS
- B. Shop Drawings
  1. Proposed routing of all site conduits including direct buried, concrete encased, and long run above ground conduits.
  2. Proposed routing of conduits buried under floor slabs.
  3. Proposed routing and details of construction, including conduit and rebar, of conduits embedded in floor slabs, columns, etc.

### PART 2 - PRODUCTS

#### 2.01 GENERAL

- A. Materials covered by under this Section is intended to be standard material of proven performance as manufactured by reputable firms. Raceways and appurtenances shall be designed, constructed and installed in accordance with the best practices of the trade, and shall operate satisfactorily when installed as shown on the Contract Documents.

- B. All equipment shall be UL listed and labeled for its intended service.
- C. Subject to compliance with the Contract Documents, the listed manufacturers are acceptable.

#### 2.02 RIGID ALUMINUM CONDUIT (RAC)

- A. Acceptable Manufacturers
  - 1. Allied Tube and Conduit Corporation
  - 2. Western Tube and Conduit Corporation
  - 3. Wheatland Tube Company
- B. RAC and associated fittings shall be manufactured from 6063 aluminum alloy in temper designation T-1.
- C. Standards
  - 1. ANSI C80.5

#### 2.03 PVC COATED RIGID ALUMINUM CONDUIT (PVC-RAC)

- A. Acceptable Manufacturers:
  - 1. Thomas & Betts
  - 2. Perma-Cote
  - 3. Rob Roy Ind.
- B. PVC-RAC shall have a minimum 40MIL polyvinyl chloride exterior coating. The coating shall be bonded to hot dipped galvanized rigid steel conduit conforming to ANSI C80.1. The bond between the polyvinyl chloride coating and the conduit surface shall be greater than the tensile strength of the coating. PVC-RAC shall have a nominal 2MIL, minimum, urethane interior coating and a urethane coating on threads. RAC conduit shall have an epoxy prime coating prior to application of polyvinyl chloride and urethane coatings.
- C. Female ends shall have a plastic sleeve extending a minimum of 1 pipe diameter or 2IN, whichever is less beyond the opening. The inside diameter of the sleeve shall be the same as the outside diameter of the conduit to be used with it.
- D. Standards:
  - 1. ANSI C80.1
  - 2. NEMA RN 1

#### 2.04 RIGID POLYVINYL CHLORIDE CONDUIT (PVC)

- A. Acceptable Manufacturers:
  - 1. Allied Tube and Conduit Corporation
  - 2. Carlon
  - 3. Cantex
- B. PVC shall be either Schedule-40 or Schedule-80. The polyvinyl chloride plastic compound shall meet, as a minimum, ASTM D1784 cell classification PVC 12233 A, B, or C. PVC

shall be rated for direct sunlight exposure, 90C wire, and fire retardant with low smoke emission.

C. Standards:

1. ANSI C33.91
2. NEMA TC 2
3. UL 651

2.05 LIQUID-TIGHT FLEXIBLE METAL CONDUIT (LFMC)

A. Acceptable Manufacturers:

1. Anamet, Inc.
2. Electri Flex Company
3. International Metal Hose Company

B. LFMC shall have a core formed of continuous, spiral wound, aluminum strip with successive convolutions securely interlocked, contain an interwoven copper strip suitable as a grounding means, and have an extruded vapor and liquid tight polyvinyl chloride outer jacket positively locked to the steel core.

C. Standard:

1. UL 360

2.06 WIREWAY

A. Acceptable Manufacturers:

1. E.M. Wiegmann and Company, Inc.
2. Hoffman Engineering Company
3. Stahlin
4. Square D

B. Wireway shall have a minimum wall thickness of 0.040IN, be furnished without knockouts, be designed for continuous grounding, and suitable for lay in conductors. Provide Solid and non-removable covers when passing through partitions and solid hinged covers with captive screw fasteners when accessible.

C. Wireway shall not be smaller than 4 x 4IN unless otherwise indicated on the Contract Documents.

D. Types

1. NEMA-3/3R/12: Wireway shall be steel, finished with rust inhibiting phosphatizing coating and gray baked enamel finish on interior and exterior surfaces. Cover shall be fully gasketed and provided with captive clamp type latches.
2. NEMA- 4/4X: Wireway shall be type 304 stainless steel for interior or exterior corrosive areas. Cover shall be fully gasketed and provided with captive external screw type clamps.

E. Standards

1. NFPA 79
2. UL 870

2.07 CONDUIT FITTINGS AND ACCESSORIES

A. Acceptable Manufacturers:

1. Appleton
2. Carlon
3. Crouse Hinds
4. Killark
5. OZ Gedney Company
6. Perma Cote
7. RACO
8. Rob Roy Ind.
9. Steel City
10. Thomas and Betts
11. Western Plastics Company

B. Fittings for Use with RAC

1. Materials: Following minimum requirements unless otherwise noted.
  - a. Body: Copper-free aluminum with aluminum lacquer or aluminum enamel finish
  - b. Covers: Copper-free aluminum and gasketed
  - c. Gaskets: Neoprene or PVC
  - d. Insulators phenolic, thermosetting: minimum 105C UL rating
  - e. Grounding saddles tin plated copper or bronze suitable for use with copper and aluminum conductors
  - f. Bonding jumpers: Tinned copper flexible braid
  - g. Locknuts: Malleable iron, zinc plated
2. All fittings: Threaded unless otherwise noted
3. Conduit Hubs shall be cast aluminum with insulated throat or grounding type with insulated throat
4. Straight couplings: Same material and finish as the conduit with which they are used
5. Mogul pulling elbows and tees:
  - a. Die cast copper free aluminum
  - b. Rain tight
6. Conduit seals

- a. Drain and breather: Stainless steel or brass
  - b. Fiber and sealing compound: UL listed for use with the sealing fitting
- 7. Standards
  - a. UL 467
  - b. UL 514B
- C. Fittings for Use with PVC-RAC
  - 1. The same material and construction as those fittings listed under paragraph "Fittings for Use with RAC"; and coated as defined under paragraph "PVC-RAC."
- D. Fittings for Use with PVC
  - 1. Fittings shall be of the same material, thickness, and construction as the conduits with which they are used.
    - a. Standards:
      - 1) UL 651
      - 2) NEMA TC 2 1978
  - 2. Solvent cement for welding fittings shall be supplied by the same manufacturer as the conduit and fittings.
    - a. Shall be heavy-body, grey
    - b. Shall not be more than one (1) year past date of manufacture.
    - c. Standard: ASTM D2564
- E. Conduit Bodies
  - 1. Conduit Bodies shall be of the same material as the conduits with which they are used and sized in accordance with the conductors installed and in compliance with applicable NEC Articles.
    - a. Standards:
      - 1) UL 514B
- F. Fittings for Use with LFMC
  - 1. Fittings shall meet the following minimum requirements unless otherwise noted:
    - a. Body: Copper-Free Aluminum
    - b. Ferrule: Aluminum
    - c. Locknuts and compression nuts: Malleable iron, zinc plated

- d. Sealing ring: Neoprene
- 2. Fittings shall be compression type
- 3. Standard: UL 514
- 4. Where LFMC is subject to vibration and/or tension, Contractor shall provide and install LFMC fittings strain-relief with stainless-steel wire mesh assembly as required.

## 2.08 HANGERS AND SUPPORTS

- A. See Specification Section 16070 – HANGERS AND SUPPORTS

## PART 3 - EXECUTION

### 3.01 DELIVERY, STORAGE, AND HANDLING

- A. All conduit, raceway, wireway and associated fittings shall be stored in accordance with the manufacturer recommendations and shall not be stored exposed to sunlight or other UV radiation.

### 3.02 INSTALLATION

- B. Contractor shall plan the layout of conduit and raceway systems so that when the work is complete it will exhibit good workmanship practices in accordance with NECA-1.
  - 1. Exposed raceway groupings three (3) or more shall use a common support/hanger systems with standard radius bends and be arranged such that no cross-overs and saddle bending is required.
  - 2. Exposed raceway groupings twenty (20) or more shall use a common support/hanger systems with concentric radii bends and be arranged such that no cross-overs and saddle bending is required.
  - 3. Exposed raceways and raceway systems that are not organized and grouped in a logical manner are consider rejected work by the Engineer.
- C. Exposed Work
  - 1. Wherever practical all conduit and raceway for power and control circuitry designated for process related equipment shall be installed exposed.
- D. Concealed Work
  - 1. All conduit and raceway for power and control circuitry designated for non-process related equipment shall be installed concealed within structures and/or buildings.
  - 2. All conduit and raceway for branch, receptacle, lighting and/or ancillary systems shall be installed concealed within structures and/or buildings.
- E. Installation of Conduit and Raceway
  - 1. Conduit and Raceway embedded in concrete slabs shall be installed in the middle third of the slab thickness with at least 2IN concrete cover. Raceways shall be secured to reinforcing steel to prevent sagging or shifting during concrete

placement. Raceways shall be spaced laterally to prevent voids in the concrete. Reference installation details as shown in the Contract Documents.

2. Conduit and Raceway runs, where shown in the Contract Documents, indicate the preferred location. Site conditions may affect actual routing. Contractor shall coordinate routing and measurement with other trades and with equipment suppliers.
3. Shall not interfere with, or prevent access to, piping, valves, ductwork, or other equipment for operation, maintenance and repair.
4. Wherever possible avoid routing conduits and raceways through areas of high ambient temperature or radiant heat.

**F. Size of Conduits and Raceways**

1. The size of conduit and raceway are normally shown on the Contract Documents. If a size is not shown on the Contract Documents, or if a minimum size is not stated in the Specifications, then the size of conduits and raceways shall be in accordance with the NEC.
2. Conduits shall not be smaller than 1IN for underground installations and 3/4IN elsewhere, unless otherwise shown on the Contract Documents.

**G. Types of Conduits and Raceways**

1. Shall be installed as defined in the Contract Documents.
2. As required by NFPA.
3. Flexible Conduit:
  - a. Install as the final conduit to motors, electrically operated valves, primary elements (instrumentation), and electrical equipment that is liable to vibrate.
  - b. Shall not be used as a conduit run:
  - c. Maximum length shall not exceed:
    - 1) 60IN to motors.
    - 2) 48IN to all other equipment.
4. PVC-RAC
  - a. Contractor shall use tools, clamps, dies, equipment, etc. designed specifically for the cutting, bending and threading of PVC-RAC.
  - b. Contractor shall follow the recommendations and methods of the manufacturer for installing PVC-RAC.
  - c. Contractor shall repair small (less than 1IN) nicks and cuts to the outer PVC coating per the manufacturer's instructions. If the damaged area is larger (greater than 1IN), the conduit section shall be replaced.

**H. Provide openings in walls, floors, and ceilings for all required raceway penetrations.**

1. Sleeves and block outs: Set in masonry walls during erection.
2. Sleeves and block outs: Set in concrete during forming.



- a. Material: Not harmful to the concrete.
- b. Not considered to replace structurally the displaced concrete.

I. Conduit Runs

- 1. All conduits within a structure shall be installed concealed unless otherwise noted on the Contract Documents.
- 2. Total of Bends in a Conduit Run:
  - a. Less than 270 degrees.
  - b. Provide pull boxes, conduit bodies, condulets, or pulling elbows or tees as needed.
- 3. Run in straight lines parallel to or at right angles to structural members or building lines.
- 4. Maintain minimum 2IN separation between all conduits.
- 5. Maintain minimum 6IN separation between instrumentation and power conduits.
- 6. Maintain minimum 12IN separation from process, gas, air and water pipes.
- 7. Conduits and accessories embedded in concrete:
  - a. Shall not be larger in outside diameter than one third the thickness of the slab, column or beam.
  - b. Place conduit and accessories after reinforcing steel has been laid.
  - c. Shall not displace the reinforcement steel.
  - d. Provide a minimum of 1 1/2IN of concrete cover around conduit.
  - e. Do not run against reinforcing steel.
  - f. Provide 2IN minimum of spacing between conduits.
  - g. Install expansion/deflection fittings wherever conduit spans structural or expansion joint.

J. Field Bending of Conduits

- 1. Utilize tools, equipment, methods and recommendations by the manufacturer to make all field bends.
- 2. The internal diameter of conduit shall not be reduced or distorted.

K. Field Cutting and Threading Conduits

- 1. Utilize tools, equipment, methods and recommendations by the manufacturer to field cut and thread conduit.
- 2. All field cut conduit shall be cut perpendicular, smooth and evenly chamfered on the inside.
- 3. All field threaded conduit shall be wire-brushed, cleaned and degreased before applying a zinc rich paint.

L. Terminating Conduits

1. NEMA 2/12/12K enclosures:
  - a. Top: Double sealing locknuts and insulated or grounding bushings.
  - b. Side: Double locknuts and insulated or grounding bushings.
  - c. Bottom: Double locknuts and insulated or grounding bushings.
2. NEMA 3/3R/3S/13 enclosures:
  - a. Top: Not allowable on new work and considered rejected work by Engineer.
  - b. Side: Threaded conduit hubs with insulated throats, threaded grounding conduit hubs with insulated throats or approved cable gland fittings Double sealing locknuts and insulated or grounding bushings.
  - c. Bottom: Double locknuts and insulated or grounding bushings.
3. NEMA 4/4X enclosures
  - a. Top: Not allowable on new work and considered rejected work by Engineer.
  - b. Side: Not allowable on new work and considered rejected work by Engineer.
  - c. Bottom: Threaded conduit hubs with insulated throats, threaded grounding conduit hubs with insulated throats or approved cable gland fittings.
4. NEMA 6/6P enclosures
  - a. Top: Threaded conduit hubs with insulated throats, threaded grounding conduit hubs with insulated throats or approved cable gland fittings.
  - b. Side: Threaded conduit hubs with insulated throats, threaded grounding conduit hubs with insulated throats or approved cable gland fittings.
  - c. Bottom: Threaded conduit hubs with insulated throats, threaded grounding conduit hubs with insulated throats or approved cable gland fittings.
5. NEMA 7/8/9 enclosures
  - a. Enclosures shall be provided with integral conduit hubs

**M. Conduit Bodies**

1. Conduit bodies shall be installed such that access to covers are maximized and exceed the intent of "Readily Accessible" as described in NEC Article 100. Contractor shall provide and install those conduit body types/models as required to facilitate this requirement in the installation of the completed raceway system(s).
2. Conduit bodies containing conductors #4/0AWG and larger shall be "Mogul" type with domed covers and integral rollers.

N. Conduit Seal Installation

1. In each conduit entering or leaving a Class I area.
2. In each conduit in a Class I Division 1 area entering or leaving an enclosure containing switches, circuit breakers, fuses, relays, resistors or other apparatus which may produce arcs, sparks or high temperature.
3. In each conduit 2IN or larger in a Class I Division 1 area entering or leaving an enclosure containing terminals, splices and taps.
4. In each conduit in a Class I Division 2 area entering or leaving an enclosure required to be approved for use in Class I environments.
5. In each conduit in a Class II location between an enclosure required to be dust ignition proof and an enclosure that is not required to be dust ignition proof.
6. In each conduit in a corrosive area entering or leaving that area and entering or leaving an electrical equipment enclosure in that area.
7. So that the filler plug and drain is accessible.
8. Complete with approved sealing fiber and compound.

O. Conduit Moisture Sealing

1. All exposed enclosures located outdoors with conduits routed underground or conduits routed from interior to exterior locations shall have:
  - a. Conduit sealing foam filled within each conduit opening.
    - 1) Polywater P/N FST-205KIT1 or approved equal

P. Conduit Coatings

1. The protective coating of metallic conduits, fittings, and accessories shall be maintained.
  - a. Repair PVC-RAC utilizing a patching compound, of the same material as the coating, provided by the manufacturer of the conduit.
    - 1) The total nominal thickness: 40MIL.
  - b. Repair surfaces that will be inaccessible after installation prior to installation.
2. All metallic raceways installed in direct contact with concrete, masonry or soils shall be:
  - a. PVC-RAC
  - b. Installed with heavy-wall heat-shrink polyolefin tubing.
  - c. Two (2) spiral half-lapped layers of 3M (or approved equal) Type-50 all-weather corrosion protection tape.
  - d. Installed with 40MIL minimum coating of cured coal-tar bitumastic paint.
3. All metallic raceway transitions through concrete, masonry or soils shall be:
  - a. PVC-RAC

- b. Installed with heavy-wall heat-shrink polyolefin tubing extending 6IN minimum on each side of transition.
- c. Two (2) spiral half-lapped layers of 3M (or approved equal) Type-50 all-weather corrosion protection tape extending 6IN above finished concrete and below.
- d. Installed with 40MIL minimum coating of cured coal-tar bitumastic paint.

Q. Power Feeder Cable Pulling Preparation

- 1. The following preparation procedures are required for but not limited to service-entrance, critical systems, emergency power, legally required and process critical equipment raceways larger than 3IN.
  - a. Pull conduit wire brush sized for raceway and draw within to remove larger debris.
  - b. Swab raceway by pulling a clean, tight fitting rag through the raceway as many times as required to remove smaller debris, dirt, sand, mud, etc.
  - c. Pull mandrel with diameter nominally 1/4IN smaller than the internal diameter of the raceway, to ensure circular cross-section and removal of any obstructions.
  - d. Remove water debris from raceway prior to installation of power cables.
  - e. Tightly plug ends of conduit with manufactured pipe plugs or plastic conduit inserts until power cables are pulled.
  - f. Only nylon or polyethylene rope shall be used to pull power cables in rigid nonmetallic conduit systems.

**END OF SECTION**

## **SECTION 16115 – UNDERGROUND CONDUIT DUCTS, MAN-HOLES, HAND-HOLES & PULL-BOXES**

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### **PART 1 - GENERAL**

#### **1.1 REQUIREMENT SUMMARY**

- A. Specification Section includes requirements for providing and installing underground raceways, raceway systems, duct-bank systems, manholes, handholes and pull-boxes for power, control, instrumentation, data and communications circuitries.

#### **1.2 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this Section, the requirements of Division 16 and those Project Specification Sections referenced therein shall be applied.
- B. Related Specification Sections include but not limited to:
  - 1. Division 2 – SITE CONSTRUCTION
  - 2. 03300 – CAST – IN – PLACE CONCRETE

#### **1.3 REFERENCES**

- A. Definitions:
  - 1. Direct buried conduit refers to an individual (single) underground conduits without concrete encasement.
  - 2. Direct buried duct-bank refers to multiple three (3) or more underground conduits, in a common trench, without concrete encasement.
  - 3. Concrete encased duct-bank refers to multiple three (3) or more underground conduits or combination of underground raceways encased in a common concrete envelope.
  - 4. Interpretations of duct-bank and/or duct-bank systems and what constitutes these definitions as they relate to the Project Scope Of Work are at the discretion of the Engineer.
- B. Codes and Standards:
  - 1. American Association of State Highway & Transportation Officials (AASHTO).
  - 2. American Society for Testing Materials (ASTM):
    - a. A536, Standard Specification for Ductile Iron Castings.
  - 3. National Fire Protection Association (NFPA):
    - a. NFPA 70, National Electrical Code (NEC), 2008 Edition.
- C. Additional:
  - 1. Contract Documents indicate the minimum size of manholes, hand-holes and pull-boxes. Field conditions and/or Contractor raceway groupings may affect NEC cable, conductor or wire minimum fill. Contractor shall notify Engineer of any condition that may require upsized or additional manholes, hand-holes and pull-boxes.

2. Contract Documents indicate the intended location of manholes, hand-holes and pull-boxes; and routing of duct-banks and direct buried conduit. Field conditions may affect actual routing.

#### 1.4 SUBMITTALS

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:

1. 01310 – ADMINISTRATIVE REQUIREMENTS

- B. Contractor shall provide duct-bank fabrication and layout drawings for Engineer review prior to commencing, pre-fabrication and/or placing work.

1. Cross sectioned sketch of each duct-bank.

- a. Dimension spacing between conduits
- b. Dimension concrete envelope and reinforcing, where applicable
- c. Identify all raceways with approved ID scheme and nomenclatures

2. Duct-bank and direct buried conduit profile.

- a. Dimension from grade to duct-bank and direct buried conduit
- b. Dimension from duct-bank and direct buried conduit to other utilities in the route

3. Raceways within duct-bank sections shall be arranged and grouped in a logical manner in accordance with voltage and/or signal type circuitries to minimize induced electro-motive force (EMF) from current-carrying conductors and to include the requirements as shown in the Contract Documents.

- a. 24V analogue, discrete and control circuits along with fiber optic cabling shall be located nearest the top of the duct-bank section and arranged in horizontal layers
- b. 90V and less limited-power signal and control circuits shall be located the top-middle of the duct-bank section and arranged in horizontal layers
- c. 120V up to 240V single and three-phase power circuits shall be located the lower-middle of the duct-bank section and arranged in horizontal layers
- d. 480V up to 600V single and three-phase power circuits shall be located the lower-bottom of the duct-bank section and arranged in horizontal layers.
- e. Spare and future raceways for all voltage and/or signal type circuitries all shall located towards the center of the duct-bank section

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
1. Precast manholes, handholes and pull-boxes:
    - a. Carolina Precast Concrete, Inc.
    - b. Oldcastle Precast
    - c. Utility Vault Co
  2. Manhole and handhole covers:
    - a. Neenah
    - b. Utility Vault Co.
  3. Cable racks:
    - a. Unistrut
    - b. B Line
    - c. Condux International, Inc.
    - d. Underground Devices, Inc.
  4. Cable pulling irons:
    - a. Condux International, Inc.
  5. Ground wire, rods and grounding equipment:
    - a. Reference Specification Section: 16060 – GROUNDING AND BONDING.
  6. Duct terminators:
    - a. Carlon
    - b. Condux International, Inc.
  7. Raceways:
    - a. Reference Specification Section: 16130 – ENCLOSURES
  8. Duct spacers:
    - a. Underground Devices, Inc.

- b. Condux International, Inc.
- 9. Precast cable trench:
  - a. Concast
  - b. Trenwa

## 2.2 MATERIALS

### A. Hand-holes and Pull-Boxes:

- 1. Fiberglass reinforced polymer concrete:
  - a. Boxes and covers are required to conform to all test provisions of ANSI/SCTE 77 "Specification For Underground Enclosure Integrity" for Tier 15 applications at a minimum unless otherwise noted in the Contract Documents.
  - b. In no assembly can the cover design load exceed the design load of the box.
  - c. All components in an assembly (box and cover) are manufactured using matched surface tooling.
  - d. All covers are required to have a minimum 0.50 coefficient of friction in accordance with ASTM C 1028.
- 2. Precast steel-reinforced concrete:
  - a. Boxes are required to meet ASTM C 858 with 4000PSI minimum compressive strength concrete and designed for AASHTO H-20 loading unless otherwise noted in the Contract Documents.
  - b. Tongue-and-groove double sealed joints on mating edges of pre-cast components. The joints shall firmly interlock adjoining components and provide waterproof junctions and adequate shear transfer. Joints shall be sealed with approved watertight joint sealant as prescribed in the manufacturer's installation specifications and conforming to AASHTO M198, Type B. Sealing material shall be installed in strict accordance with manufacturer's printed instructions.
  - c. Knockout panels or pre-cast individual conduit openings may be used. Block-out panels are not acceptable and considered rejected work by the Engineer.
  - d. Cover:
    - 1) Heavy-duty type frames and covers made of cast iron, suitable for AASHTO H-20 loading, and having machined bearing surfaces shall be used.
    - 2) Covers shall be of indented type with solid top design.



- 3) Upper side of each cover shall have the letters "Electrical", "Control", or "Communication" cast in integral letters no less than 2IN high as indicated in the Contract Documents.

3. Cast-In-Place concrete:

- a. Reference Specification Section: 03300 – CAST – IN – PLACE CONCRETE.
- b. Constructed as detailed on the Contract Documents.
- c. Cover:
  - 1) Heavy-duty type frames and covers made of cast iron, suitable for AASHTO H-20 loading, and having machined bearing surfaces shall be used.
  - 2) Covers shall be of indented type with solid top design.
  - 3) Upper side of each cover shall have the letters "Electrical", "Control", or "Communication" cast in integral letters no less than 2IN high as indicated in the Contract Documents.
- d. Shall have an AASHTO live load rating of H-20, unless otherwise noted in the Contract Documents.

B. Manholes:

1. Precast steel-reinforced concrete:

- a. Boxes are required to meet ASTM C 858 with 4000PSI minimum compressive strength concrete and designed for AASHTO H-20 loading unless otherwise noted in the Contract Documents.
- b. Tongue-and-groove double sealed joints on mating edges of pre-cast components. The joints shall firmly interlock adjoining components and provide waterproof junctions and adequate shear transfer. Joints shall be sealed with approved watertight joint sealant as prescribed in the manufacturer's installation specifications and conforming to AASHTO M198, Type B. Sealing material shall be installed in strict accordance with manufacturer's printed instructions.
- c. Knockout panels or pre-cast individual conduit openings may be used. Block-out panels are not acceptable and considered rejected work by the Engineer.
- d. Minimum interior dimensions shall be 6FT Wide x 6FT Long x 6FT Tall.
- e. Cover:
  - 1) Minimum access opening dimensions:
    - a) Rectangular – 48IN x 48IN minimum
    - b) Round – 36IN diameter minimum

- 2) Heavy-duty type frames and covers made of cast iron, suitable for AASHTO H-20 loading, and having machined bearing surfaces shall be used.
- 3) The covers shall be of indented type with solid top design.
- 4) The upper side of each cover shall have the letters "Electrical", "Control", or "Communication" cast in integral letters no less than 2IN high as indicated in the Contract Documents.

2. Cast-In-Place concrete:

- a. Reference Specification Section: 03300 – CAST – IN – PLACE CONCRETE
- b. Constructed as detailed in the Contract Documents
- c. Shall have an AASHTO live load rating of H-20, unless otherwise noted in the Contract Documents.
- d. Minimum interior dimensions shall be 6FT Wide x 6FT Long x 6FT Tall.
- e. Cover:
  - 1) Minimum access opening dimensions:
    - a) Rectangular – 48IN x 48IN minimum
    - b) Round – 36IN diameter minimum
  - 2) Heavy-duty type frames and covers made of cast iron, suitable for AASHTO H-20 loading, and having machined bearing surfaces shall be used.
  - 3) Covers shall be of indented type with solid top design.
  - 4) Upper side of each cover shall have the letters "Electrical", "Control", or "Communication" cast in integral letters no less than 2IN high as indicated in the Contract Documents.
- f. Cable Racks:
  - 1) ABS Plastic.
  - 2) 120LBS minimum loading capacity.
  - 3) Three-point locking to resist twisting.
- g. Cable Pulling Irons:
  - 1) Hot dipped galvanized steel.
  - 2) 6000LBS minimum pulling load.
- h. Ground wire, rods and Grounding Equipment:
  - 1) Reference Specification Section: 16060 – GROUNDING AND BONDING
- i. Duct Terminators:

- 1) Window type
  - 2) PVC or ABS plastic
  - 3) Provide for conduit entrance
  - 4) Designed for installation into manhole, handhole or pull-box walls for a watertight seal.
  - 5) Sufficient space between terminator walls to allow for placement of rebar and concrete.
- j. Raceways:
- 1) Reference Specification Section: 16111 – CONDUITS AND RACEWAYS
- k. Duct Spacers:
- 1) High density polyethylene or high impact polystyrene.
  - 2) Interlocking
  - 3) Provide 2IN minimum spacing between conduits.

### **PART 3 - EXECUTION**

#### **3.1 GENERAL**

- A. Installation shall comply with manufacturer's instructions and Contract Documents.
- B. Excavation, trenching, backfilling and compacting shall comply Specification Sections:
1. Division 2 – SITE CONSTRUCTION
  2. 16050 – ELECTRICAL MATERIALS AND METHODS

#### **3.2 INSTALLATION**

- A. General:
1. Underground ducts and raceway systems shall be applied in accordance with NFPA 70. Electrical raceways, ducts, components, manholes, handholes and pull boxes shall be installed in accordance with the manufacturer's instructions. Ducts and raceways shall be installed to prevent the accumulation of debris and moisture and shall provide the highest degree of reliability.
- B. Excavation:
1. Prior to excavation, Contractor shall verify the routing and termination locations of underground duct-bank systems, verify the intended locations of manholes and locate existing underground utilities.
    - a. Reference Specification Section: 16000 – ELECTRICAL, subsection 1.6,B,4,g, Wire/Cable Raceway Schedule.
  2. Installer shall exercise caution to prevent the interruption of existing services and utilities.
  3. Trenches shall be excavated to the appropriate depth, width and slope required for the installation of underground duct-bank systems, pull boxes and manholes as indicated in the Contract Documents.

4. Trench walls shall be less than 6IN from the edge of duct-bank systems. Trench walls shall be sloped, terraced, shored and/or braced in accordance with any applicable OSHA Standards and guidelines, Owner Safety Standards and Specification Sections:

- a. 16050 – ELECTRICAL MATERIALS AND METHODS

5. Trench bottoms shall be undisturbed earth, crushed rock or compacted sand. Trench bottoms shall be evenly graded, level and free of loose or sharp materials larger than 3/4IN. Trench bottoms shall have a minimum slope of 3IN per 100FT.

C. Reinforced Concrete Encased Underground Duct-Bank:

1. Reinforced, concrete encased, underground duct-bank assemblies shall be installed as indicated in the Contract Documents.
2. Unless indicated otherwise shown in the Contract Documents, the minimum depth of duct-banks shall not be less than 24IN as measured from the top of the concrete encasement to final grade.
3. Electrical Duct Spacers:

- a. Spacers shall be utilized in the fabrication of duct-bank systems.
  - b. Spacers shall be installed no more than 6FT intervals. Spacers may be staggered to accommodate sweeping bends with a large radius. Additional, non-metallic banding shall be utilized as required to prevent shifting or floating during concrete placement.
  - c. Spacers shall rest on concrete blocks or bricks to reduce sinking and allow for proper, bottom concrete coverage.
  - d. Duct-bank systems shall be securely anchored through reinforcing steel; to prevent floating during concrete placement.

4. Reinforcing Steel:

- a. Reinforcing steel shall be utilized as indicated in the Contract Documents.
  - b. Reinforcing steel of the duct-bank shall be securely bonded to the reinforcing steel of the attached manhole, building or equipment foundation to protect against vertical shearing. When terminating to an existing structure, dowel reinforcements shall be drilled into the existing wall and secured with epoxy adhesive, providing a permanent connection. Dowels shall then be tied into the reinforcing steel of the duct-bank.
  - c. When a continuous pour is impractical, additional #4 steel reinforcing bars shall be utilized at the corners of the duct-bank, extending at least 6FT through the first and second pour.

5. Concrete:

- a. Loose dirt and debris shall be completely removed from the trench and electrical ducts and raceways prior to the installation of concrete.

- b. In general, concrete placement shall utilize one monolithic pour. Sequential depth pours may be allowed to minimize hydraulic pressure on duct-banks of extreme depths or with a large number of rows.
- c. Raceways shall be protected against heavy masses of concrete by directing the concrete flow down the sides of the duct-bank assembly and through the tiers to the center of the assembly. Open spaces shall be filled uniformly. Concrete shall be thoroughly vibrated and spaded to ensure complete coverage and the absence of voids.
- d. Concrete coverage shall be a minimum of 3IN over the top and sides of the duct-bank.
- e. Top of the duct-bank shall be troweled to a slight crown to prevent the accumulation and pooling of water.
  - 1) Application of powered red dye shall be applied to the troweled finish, un-cured surface of the duct-bank concrete.

D. Concrete Encased Underground Duct-Bank:

- 1. Non-reinforced, concrete encased, underground duct-bank assemblies shall be installed as indicated in the Contract Documents.
- 2. Unless indicated otherwise shown in the Contract Documents, the minimum depth of duct-banks shall not be less than 24IN as measured from the top of the concrete encasement to final grade.
- 3. Electrical Duct Spacers:
  - a. Spacers shall be utilized in the fabrication of duct-bank systems.
  - b. Spacers shall be installed no more than 6FT apart. Spacers may be staggered to accommodate sweeping bends with a large radius. Additional, non-metallic banding shall be utilized as required to prevent shifting or floating during concrete placement.
  - c. Spacers shall rest on concrete blocks or bricks to reduce sinking and allow for proper, bottom concrete coverage.
  - d. Duct-bank systems shall be securely anchored to prevent floating during concrete placement.
- 4. Concrete:
  - a. Loose dirt and debris shall be completely removed from the trench and electrical ducts and raceways prior to the installation of concrete.
  - b. In general, concrete placement shall utilize one monolithic pour. Sequential depth pours may be allowed to minimize hydraulic pressure on duct-banks of extreme depths or with a large number of rows.
  - c. Raceways shall be protected against heavy masses of concrete by directing the concrete flow down the sides of the duct-bank assembly and through the tiers to the center of the assembly. Open spaces shall be filled

uniformly. Concrete shall be thoroughly vibrated and spaded to ensure complete coverage and the absence of voids.

- d. Concrete coverage shall be a minimum of 3IN over the top and sides of the duct-bank.
- e. Top of the duct-bank shall be troweled to a slight crown to prevent the accumulation and pooling of water.
  - 1) Application of powered red dye shall be applied to the troweled finish, un-cured surface of the duct-bank concrete.

E. Direct-Buried Underground Duct-Bank:

- 1. Direct-Buried, underground duct-bank assemblies shall be installed as indicated in the Contract Documents.
- 2. Install duct-bank system consisting of raceways directly buried in earth.
  - a. Lay conduits on minimum 2IN sand base completely encased by 2IN of selected backfill containing no stones or other hard material larger than 1/2IN diameter.
- 3. Circuits 600V and below, install so that the top selected backfill at any point, is not less than the minimum depths established by the NEC (Table 300 5 and exceptions).
  - a. PVC SCH-80 conduit: 24IN.
  - b. Under areas subject to vehicular traffic:
    - 1) All applications: 24IN.
    - 2) Unless a greater depth is detailed in the Contract Documents.
- 4. Unless indicated otherwise shown in the Contract Documents, the minimum depth of duct-banks shall not be less than 24IN as measured from the top of the concrete encasement to final grade.
- 5. Electrical Duct Spacers:
  - a. Spacers shall be utilized in the fabrication of duct-bank systems.
  - b. Spacers shall be installed no more than 6FT apart. Spacers may be staggered to accommodate sweeping bends with a large radius.

F. Precast Electrical Manholes:

- 1. Precast electrical manholes shall be installed in accordance with ASTM C891.
- 2. Precast electrical manholes shall be installed plumb and level on over a 12IN minimum layer of #57 stone. Concrete leveling pads may be required for large manholes.
- 3. Set frames and covers:
- 4. Manholes, handholes and pull-boxes located in roadways, paint with two coats asphaltic paint before setting and set top of covers flush with finished surface of paving.

- a. Manholes, handholes and pull-boxes not located in roadways, set top of covers 2IN above finished grade. Slope surrounding grade away from edge to insure water drains away from opening.
  - b. Install sufficient number of concrete extensions between top of manhole, handhole or pull-box frame as required to elevate cover to existing grade level.
5. Grout or seal all joints:
- a. For precast construction, comply with the manufacturer's instructions.
  - b. For cast in place construction, comply with Section 03300 – CAST – IN – PLACE CONCRETE.
6. Cable trays, support racks, cable insulators, saddles, strut and other accessories shall be installed as required and as indicated in the Contract Documents. Cable supports shall be installed no less than 3FT apart and within 2FT of each corner and cable entrance. Accessory attachments shall utilize stainless steel hardware.
7. Support cables on walls by cable racks:
- a. Install cable racks with adjustable arms/hooks:
    - 1) Quantity of arms/hooks as required by the number of conductors.
    - 2) Minimum of (2) cable arms/hooks per rack.
  - b. Install a minimum of (2) racks on each wall in each manhole, handhole and pull-box.
  - c. Space cable racks so that both ends of cable splices will be supported horizontally.
  - d. In manholes, install (1) spare arm/hook on each rack.
  - e. Install a cable pulling iron in each wall opposite each duct-bank entrance.
8. Grounding:
- a. In each manhole, drive copper ground rod into the earth and extend ground rod approximately 6IN above finished floor.
  - b. In precast structures, drill openings in floor to install ground rod.
  - c. Connect all metallic conduits, racks, and other metallic components to ground rod by means of 2AWG tinned copper wire and approved grounding clamps.
  - d. 4/0AWG grounding conductors shall terminate into the manhole on those walls that duct-bank is routed. The grounding ring shall be electrically bonded to the incoming duct-bank grounding conductor, insulated grounding bushings on metal conduits, steel cable racks, steel ladders and other exposed metal hardware. Bonding conductors shall be a minimum of 2AWG tinned copper.



G. Backfilling and Compacting:

1. Prior to backfilling, grounding conductors shall be installed as indicated on the Contract Documents.
2. Prior to backfilling, warning tape shall be installed as indicated in the Contract Documents and in accordance with Specification Sections:
  - a. 16075 – ELECTRICAL IDENTIFICATION
3. Excavated trenches shall be backfilled and compacted to 95% of the maximum density. Additional backfilling and compacting shall be performed as required to compensate for further settlement.

H. Raceways:

1. Preparation

- a. Raceways shall be cut-off square with a hacksaw or power saw designed for the purpose. All field cut ends shall be properly reamed and filed to remove sharp edges. Pipe cutters shall not be used for cutting raceways and considered rejected work by Engineer. All field threaded raceways shall have National Standard Pipe threads. Threads shall be clean cut and pipe ends shall butt inside couplings when turned up with a wrench, but shall not butt when turned hand tight. After cleaning all cutting oil and filings, threads shall be coated with a suitable thread compound before installing any couplings or fittings.

2. Materials

- a. Raceway materials shall be PVC or PVC-RAC. Bends, elbows and conduits rising above-ground shall be PVC-RAC.

3. Installation

- a. Raceways shall be installed in duct-bank section(s) in those arrangements as submitted by Contractor for Engineer review in accordance with Section 1.5B.
- b. Raceways shall be installed such that the curved portion of the bend is not visible above the finished slab or final grade. PVC threaded caps shall be installed prior to pouring concrete to prevent the entrance of concrete and other debris. Raceways stubbed up beneath motor control centers, switchgear, etc., shall extend above the finished concrete a minimum of 2IN; if PVC-RAC is used the installation of an insulated throat grounding bushings shall be installed and bonded as required by NFPA 70.
- c. Contractor shall route/locate new duct-bank systems to avoid underground utilities and piping to include structural features such as foundations, footings, piles, etc.
- d. Prior to installation of field-routed raceways and duct-bank systems that may contain numerous changes in direction, Contractor shall provide cable pulling and side-wall tension calculations for Engineer review to ensure that no damage will occur during the cable installation. Difficult



raceway and duct-bank routing shall be brought to the Engineer's attention.

- 1) Continuous raceways, ducts and/or conduit shall have no more than 270-degrees of bend
- e. Field bends and offsets shall be with equipment designed for such use such that the inside diameter of the raceway is not effectively reduced.
- f. Raceways shall be joined with fittings and couplings designed for the purpose. Suitable fittings shall be utilized to accommodate expansion and deflection. Couplings shall be staggered horizontally and vertically such that no two couplings are side by side. Joints and terminations shall be properly tightened.
  - 1) PVC raceways shall be joined using heavy-bodied grey cement
- g. PVC caps shall be installed on all exposed raceway ends to prevent the entry of debris.
- h. Electrical ducts and raceways shall enter manholes perpendicular.
- i. Furnish and install manufactured bends at end of runs.
  - 1) Minimum radius of 18IN for conduits less than 3IN trade size and 36IN for conduits 3IN trade size and larger.
- j. Transition from PVC to PVC-RAC conduit with a minimum of 3FT prior to entering a structure or going above ground.
  - 1) Unless otherwise indicated on the Contract Documents.
  - 2) PVC conduit may be extended directly to pull, junction and transformer boxes; manholes and hand-holes.
- k. Where conduits enter transformer boxes; manholes and hand-holes:
  - 1) Terminate PVC conduits in end bells.
  - 2) Terminate PVC-RAC conduits in insulated bushings.
- I. Wire/Cable Installation
  1. Preparation
    - a. Upon completion of installation, interiors of electrical ducts and raceways shall be inspected, all blockages cleared, and burrs, dirt and construction debris removed.
    - b. After raceways have been installed complete, pull a standard flexible mandrel having a length of not less than 12IN and a diameter approximately 1/4IN less than the inside diameter of the raceway through each. Afterward, pull a brush with stiff bristles through each raceway to remove any foreign material left in conduit.

- c. Pull-cords shall be installed in all raceways. Pull-cords for 6IN trade size raceway shall be NEPTCO P/N RP6000N or approved. Pull-cords for 4IN trade size raceway and smaller shall be NEPTCO P/N WP2500P or approved. Leave a minimum of 24IN of slack at each end of raceways.

- 1) Pneumatic rodding may be used to draw in pull-cords.

## 2. Installation

- a. Installation of drawing wiring, cabling and conductors into duct-bank systems shall be in accordance with manufacturer's installation instructions and recommendations, best industry practices using equipment designed for this purpose to include Engineer directives to ensure wiring, cabling and conductors are not damaged.
- b. Damaged wiring, cabling and conductors drawn into duct-bank systems shall be removed and placed with new without no additional cost to Owner.
- c. Reference Specification Sections:
  - 1) 16080 – ELECTRICAL TESTING
  - 2) 16111 – CONDUIT AND RACEWAYS

## 3. Training / Management

- a. Wiring, cabling and conductors shall be organized, arranged and grouped by voltage and/or signal type circuitries within manholes, handholes, pull-boxes etc. and as required in the Contract Documents.
- b. Groups shall be bundled and secured to rack arms/hooks within all manholes, handholes, pull-boxes, etc.
  - 1) Use heavy-duty, black, ultra violet-resistant cable ty-wraps
- c. Wiring, cabling and conductors shall be installed within manholes, handholes, pull-boxes, etc. with sufficient slack to prevent mechanical stress and facilitate removal or splicing.
- d. Straight-through, multiple cross-over, un-managed/un-trained and/or "birds nest" wire and cable training is considered rejected work by Engineer.

## J. Warning Tape:

- 1. Warning Tape(s) shall be installed for all duct-bank systems as indicated in the Contract Documents to include those critical underground utilities and in accordance with Specification Sections:
  - a. 16075 – ELECTRICAL IDENTIFICATION
- 2. Place warning tape(s) in trench directly over all duct-bank systems, direct buried raceways and direct buried wire and cable.

- a. 6IN below finished grade where conduit or duct-bank is 12IN or more below finished grade.
- b. 3IN below finished grade where conduit or duct-bank is less than 12IN below finished grade.

### 3.3 PROJECT CLOSE OUT

- A. All manholes, handholes, pull-boxes shall be pumped dry and all debris removed to include using vacuum equipment to provide clean interior surfaces. The use of compressed air systems are not acceptable.
- B. Provide Owner with (2) sets of manhole cover, underground pull-box cover or precast cable trench cover removal tools.

**END OF SECTION**

## **SECTION 16120 – CONDUCTORS AND CABLES**

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### **PART 1 - GENERAL**

#### **1.01 REQUIREMENT SUMMARY**

- A. Contractor shall furnish, install, connect, test, and place in satisfactory operating condition, ready for service, all cables and wires indicated on the Contract Drawings and as specified herein or required for proper operation of the installation, with the exception of internal wiring provided by electrical equipment manufacturers. The work of connecting cables to equipment, machinery, and devices shall be considered a part of this Section. All hardware, junction boxes, bolts, clamps, insulators, and fittings required for the installation of cable and wires system shall be furnished and installed by the Contractor
- B. The wire and cable to be furnished and installed for this Project shall be the product of manufacturers who have been in the business of manufacturing wire and cable for a minimum of ten (10) years.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this section, the requirements of Division 16 and those Project Specification Sections referenced therein shall be applied.
- B. Related Specification Sections include but not limited to:
  - 1. 16080 – ELECTRICAL TESTING
  - 2. 16111 – CONDUIT AND RACEWAYS
  - 3. 13100 – INSTRUMENTATION AND CONTROL, GENERAL REQUIREMENTS

#### **1.03 REFERENCES – NOT USED**

#### **1.04 SUBMITTALS**

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:
  - 1. 013100 – SUBMITTAL PROCEDURES
- B. Contractor shall obtain from the wire and cable manufacturer and submit the following:
  - 1. Shop Drawings
    - a. Drawings shall include, but not limited to, detailed specifications and product data sheets for all cabling required for this Project.
    - b. Material specifications and product data sheets identifying all materials used and methods of fabrication.
    - c. Cable and wire identification methods and materials.
    - d. Reports of Certified Shop and Field Tests
  - 2. Electrical Raceway and Cable Schedule

a. Reference Section 3.5 - ATTACHMENTS

1) Electrical Raceway and Cable Schedule

b. Submit an Electrical Raceway and Cable Schedule that aligns with the Raceway Identification Schedule as required in Section 16075 – ELECTRICAL IDENTIFICATION for all power, control, signal, process, data and protective circuits. The schedule shall be submitted for Engineer review in an electronic spreadsheet type Excel compatible file format. The schedule shall include but not limited to the following data:

- 1) Raceway ID Tag
- 2) From Description and ID Tag
- 3) To Description and ID Tag
- 4) Cable/Conductor/Wire type, size and number
- 5) Raceway type and size
- 6) Service, e.g. voltage, data, communications
- 7) Ductbank Call-Outs, if installed and/or routed
- 8) Contractor additional notes

C. Submittals shall be identified by the applicable Specification Section.

1.05 IDENTIFICATION

A. All cable, wires and conductors shall be identified as specified in Section PART 3, EXECUTION.

**PART 2 - PRODUCTS**

2.01 POWER WIRE

- A. All 600V rated power wire shall consist of stranded, copper conductor with insulation type XHHW-2, 90C
- B. Circuits within the interior spaces of buildings may utilize 600V rated insulation, type THHN/THWN, 75C.
- C. Conductors shall be stranded copper per ASTM-B8, B-33 and B-189, Class B or C stranding contingent on the size unless otherwise specified. Minimum size wire shall be 12AWG.
- D. 600V rated individual or multi-conductor power wire and cable shall be manufactured by the Okonite Company, BICC Industrial Cable Company or Approved.

2.02 CONTROL WIRE

- A. All 600V rated control wire shall consist of stranded, copper conductor with insulation type XHHW-2, 90C.
- B. Control circuits within the interior spaces of buildings may utilize 600V rated insulation, type THHN/THWN, 75C.

- C. Conductors shall be stranded copper per ASTM B-8, B 33 and B-189, Class B or C stranding contingent on the size unless otherwise specified. Minimum wire size shall be 14AWG.
- D. 600V rated individual or multi-conductor control wire shall be manufactured by the Okonite Company, BICC Industrial Cable Company or Approved.

#### 2.03 SHIELDED MOTOR FEEDER CABLE (SMFC) - VARIABLE FREQUENCY DRIVES

- A. Where indicated in the Contract Documents, the power connection between the variable frequency drive (VFD) and the associated motor shall utilize a shielded three-conductor plus ground conductor VFD output cable.
- B. SMFC cables with 2AWG and smaller conductors shall have an overall polyvinyl chloride jacket, utilize XLPE conductor insulation with 100 percent rated ground conductor, overall foil shield, 85% TC braid and drain wire.
- C. SMFC cables with 1AWG and larger conductors shall have an overall polyvinyl chloride jacket, utilize XLPE conductor insulation with three-symmetrical BC grounds, two spiral copper tape shields.
- D. SMFC cables shall meet the following requirements.
  - 1. Utilize high-strand tined copper conductors.
  - 2. Lower capacitance suitable for longer runs
  - 3. Sunlight and oil resistant.
  - 4. Suitable for Class I and II; Division 2 hazardous locations.
  - 5. Rated for 90C temperature for wet or dry locations.
  - 6. UL 1685 vertical tray flame test
- E. All SMFC cables shall be terminated with manufacturer approved cable connectors and/or termination kits.
- F. SMFC cable rated less than 1000V shall be:
  - 1. Belden: 29500 Series Cable
  - 2. General Cable: CVTC VFD Cable
  - 3. Service Wire Company: Service Drive ASD/VFD Cable
  - 4. Southwire Armor-X VFD Cable

#### 2.04 LIGHTING AND RECEPTACLE WIRE

- A. All exterior lighting and receptacle branch circuit wire shall consist of stranded, copper conductors with 600V rated insulation, type XHHW-2, 90C.
- B. Interior lighting and receptacle branch circuit wire may utilize stranded, copper conductors with 600V rated insulation, type THHN/THWN 75C.
- C. Conductors shall be stranded copper per ASTM-B8, B-33 and B-189, Class B or C stranding contingent on the size unless otherwise specified. Minimum size wire shall be 12AWG.
- D. Lighting and receptacle wire shall be manufactured by the General Cable Company, Southwire Cable Company or Approved.

## 2.05 CONTROL SIGNAL CABLE (F/UT)

- A. Control cable for discrete signals shall be unshielded twisted individual conductors (F/UT) or twisted multi-paired conductors with an overall foil shield (F/UTP), unless otherwise noted on the Contract Documents. Conductors shall be tin or alloy coated, soft, annealed stranded 14AWG copper with 600V rated insulation for 75C. All twisted pairs shall have an overall foil shield with a 18AWG tinned copper drain wire. Outer jackets shall be lead-free, cross-linked chlorinated polyethylene.
- B. Typical notation as shown on the Contract Documents:
  - 1. 1[9C#14F/UT] denotes one (1) cable of nine (9) twisted 14AWG conductors wrapped within an overall foil shielded outer jacket
- C. The individual conductors of the multi-conductor control cable shall be color coded for proper identification. Color coding shall be equal to ICEA S-68-514, Table K-1. Cables shall meet requirements of IEEE-383.
- D. Control cable shall be
  - 1. Southwire Product Series: 367120 or Approved.

## 2.06 INSTRUMENTATION SIGNAL CABLE (F/FTP)

- A. Instrumentation cable for analog signals shall be individually shielded twisted paired conductors (F/FTP) or individually shielded twisted multi-pair conductors within an overall foil shield (F/FTP), unless otherwise shown on the Contract Documents. Conductors shall be tin or alloy coated, soft, annealed stranded 16AWG copper with 600V rated insulation for 75C. All cable assemblies shall have a 18AWG tinned copper drain wire. Outer jackets shall be lead-free, cross-linked chlorinated polyethylene.
- B. Typical notation as shown on the Contract Documents:
  - 1. 2[2C#16F/FTP] denotes two (2) cables of two (2) twisted 16AWG paired conductors within individual foil shield and wrapped with an overall foil shielded outer jacket
- C. Instrumentation cable shall be
  - 1. Southwire Product Series: 337630 or Approved.

## 2.07 INDUSTRIAL ETHERNET TCP/IP CABLE (F/UTP)

- A. All industrial EtherNet data cables shall be TIA/EIA-568-B.2-1 Category 6 compliant, non-plenum rated with black PVC outer jacket rated for 600V. The industrial EtherNet data cable shall be eight (8) individually twisted, bonded paired conductors with splined center member and wrapped within an overall foil shield (F/UTP). Signal conductors shall be soft, annealed solid #23AWG copper with a 24AWG tinned copper drain wire.
- B. Typical notation as shown on the Contract Documents:
  - 1. 1[8C#23F/UTP] denotes one (1) cable of eight (8) twisted 23AWG paired conductors within a PVC inner jacket and wrapped within an overall foil shielded outer jacket.

- C. Industrial EtherNet cable shall be
  - 1. Belden Product Series 7953A or Approved.

## 2.08 FIBER OPTIC CABLE (FO)

- A. All fiber optic cables, cable assemblies, patch cables, jumpers, etc. shall be provided under the following Specification Sections:
  - 1. 13100 – I&C GENERAL REQUIREMENTS
  - 2. 13360 – ICS Fiber Optic Communication System
- B. Contractor shall provide labor and equipment as required to install all fiber optic cables as required in the above listed Section(s) under Division 16.
  - 1. Fiber optic cable testing and terminations shall be completed under Division 40 by the Control Systems Integrator (CSI).
  - 2. Ensure and follow all fiber optic manufacturer installation instructions are met to include but not limited to pulling tensions, side-wall pressures, etc.
  - 3. Protect fiber optic cable cut ends with water-tight, heat-shrinkable end-caps to protect interior cable assembly from damage and/or water/moisture ingress.
  - 4. Identify and label all fiber optic cable(s) in accordance with Specification Section(s): 16075 – ELECTRICAL IDENTIFICATION

## 2.09 CABLE FITTINGS AND CONNECTORS

- A. Where shown in the Contract Documents, Contractor shall provide and install all required cable glands, fittings and connectors with those manufacturer approvals, UL listing and/or NEMA rating to match enclosures and/or devices to which the cable is terminated.
- B. Where cables are subject to vibration and/or tension, Contractor shall provide and install cable glands, fittings and connectors with strain-relief assembly to include supplemental cable strain-reliefs were required.

# PART 3 - EXECUTION

## 3.01 GENERAL

- A. Power Feeder and Branch Circuitry
  - 1. All power feeder and branch circuit cables, wires and/or conductors shall be terminated in accordance with the applicable Specification Sections throughout all power distribution equipment to include all utilization equipment and/or devices.
    - a. Splices within pull-boxes and junction boxes are not acceptable unless approved by Engineer.
- B. Control, Signal and Data Circuitries
  - 1. All control, signal and data cables, wires and/or conductors shall be terminated in accordance with the applicable Project Specification Sections throughout all terminal, marshalling cabinets to include all control and/or utilization devices.



- a. Splices within pull-boxes and junction boxes are not acceptable unless approved by Engineer
- 2. All control and data cabling routed to Programmable Logic Controllers (PLC) and/or SCADA equipment shall be identified and neatly bound in coils, secured with white nylon cable ties
  - a. Sufficient cable and/or wire slack shall be provided such that no splicing is required within PLC and SCADA cabinets.
- C. Contractor shall ensure all power, control, signal and data cables, wires and/or conductors are terminated correctly throughout the entire circuit and shall provide labor and materials as required to make all corrections necessary without any additional cost to Owner.
- D. Engineer and/or Owner Representative reserves the right to witness and inspect all power, control, signal and data terminations.

### 3.02 600V CABLE INSTALLATION

- A. Cable and wires shall be installed as specified herein and shown on the Contract Drawings.
- B. Cables shall be terminated in accordance with the cable and/or termination product manufacturer's instructions for the particular type of cable.
- C. To minimize oxidation and corrosion, wire and cable shall be terminated using an oxide-inhibiting joint compound recommended for "copper-to-copper" connections. The compound shall be Penetrox-E as manufactured by Burndy Electrical, or approved equal.
- D. Splices are normally not permitted in the underground duct, manhole and handhole systems. If splices are required, Contractor shall obtain approval in writing from the Engineer prior to splicing.
  - 1. Splicing material shall be a two-part insulating and encapsulating resin.
- E. Sizing
  - 1. Sizes of cable and wire shall be as shown in the Contract Documents, or if not shown, as approved by the Engineer. If required due to field routing, the size of conductors and respective conduit shall be coordinated with and approved by the Engineer.
  - 2. Minimum wire size within control panels, motor control centers, switchboards and similar equipment shall be 12AWG for power and 14AWG for control.
- F. Quantity
  - 1. The number of wires indicated in the Contract Documents for the various control, indication, and metering circuits were determined for general schemes of control and for particular indication and metering systems.
  - 2. The actual number of wires installed for each circuit shall, in no case, be less than the number required; however, the Contractor shall add as many wires as may be required for control and indication of the actual equipment selected for installation at no additional cost to the Owner. The addition of conductors shall be coordinated with and approved by the Engineer.
- G. Identification

1. Provide and install cable, conductor and wiring identification in accordance with the procedures and requirements Specification Section(s):

- a. 16075 – ELECTRICAL IDENTIFICATION

H. Installation

1. All interior cable not protected by a compartment enclosure shall be run in conduit.

I. Training

1. Furnish all labor and material required to train wire, conductors and cables in all electrical and control enclosures to include but not limited to cable vaults within buildings, manholes, hand-holes and pull-boxes.
  - a. Sufficient length of cable shall be provided in each cable vault, manhole, handhole or underground pull-box such that the wire, conductors or cable can be trained and racked in an approved manner. In training or racking, the radius of bend of any wire, conductors or cable shall be not less than the manufacturer's recommendation. The training shall be done in such a manner as to minimize chaffing.
  - b. Slack coils of wire, conductors or cables shall be provided in all pull-boxes, junction boxes, etc. and secured with approved UV resistant cable ties.
  - c. Power and control wire, conductors or cables shall be neatly routed, trained and secured with approved UV resistant cable ties within all electrical enclosures to include but not limited to switchboards, transformers, transfer switches, power panels, lighting panels, disconnects, control cabinets such as PLCs.

J. Terminations and Connections

1. Where stranded wires are terminated at panels, and/or devices, connections shall be made by solderless lug, crimp type ferrule or solder dipped.
2. Where enclosure sizes and sizes of terminals at limit switches, solenoid valves, float switches, pressure switches, temperature switches, and other devices make seven-strand, 12AWG, wire terminations impractical, the Contractor shall terminate external circuits in an adjacent junction box of proper size and shall install 14AWG stranded wires from the device to the junction box in a conduit. The 12 AWG field wiring shall also be terminated in the same junction box to complete the circuit.

K. Temperature

1. Cable shall not be flexed or pulled when the temperature of the insulation or of the jacket is such that damage will occur due to low temperature embrittlement. When cable will be pulled with an ambient temperature within a three-day period prior to pulling of 40F or lower, cable reels shall be stored during the three-day period prior to pulling in a protected storage area with an ambient temperature not lower than 55F and pulling shall be completed during the work day for which the cable is removed from the protected storage.

L. Color Coding

1. Unless otherwise noted in the Contract Documents, conductor insulation shall be color coded as follows:
  - a. 480V AC Power:
    - 1) Phase A - BROWN
    - 2) Phase B - ORANGE
    - 3) Phase C - YELLOW
    - 4) Neutral – GREY
  - b. 120/208V or 120/240V AC Power:
    - 1) Phase A - BLACK
    - 2) Phase B - RED / (ORANGE for High Leg Delta)
    - 3) Phase C - BLUE
    - 4) Neutral – WHITE
  - c. 120VAC Control:
    - 1) Ungrounded conductors – RED
    - 2) Ungrounded conductors, foreign source - YELLOW.
  - d. 24VAC Control:
    - 1) All wiring – ORANGE
  - e. 24VDC Power:
    - 1) Positive Lead – RED
    - 2) Negative Lead – BLACK
  - f. 24VDC Control:
    - 1) Ungrounded conductors – BLUE
    - 2) Grounded conductors – BLUE w/ WHITE stripe
  - g. Equipment Grounding Conductor:
    - 1) All wiring – GREEN
2. Conductors 4AWG and smaller shall be factory color coded with a separate color for each phase and neutral, which shall be used consistently throughout the system. Larger cables shall be coded by the use of colored tape.

### 3.03 INSTRUMENTATION / TELEPHONE / DATA CABLE INSTALLATION

- A. Grounding of cable shield shall be accomplished at one end point only.
- B. Raceways exceeding 5FT and containing instrumentation / telephone / data cable shall be installed to provide the following clearances:
  1. Raceway installed parallel to raceway conductors energized at 480 through 208V shall be 18IN and 208/120V shall be 12IN.

2. Raceway installed at right angles to conductors energized at 480V or 120/208V shall be 6IN.
- C. Where practical, raceways containing instrumentation / telephone / data cable shall cross raceway containing conductors of other systems at right angles.
- D. Where instrumentation / telephone / data cables are installed in panels, etc., the Contractor shall arrange wiring to provide maximum clearance between cables and other conductors. Instrumentation / telephone / data cables shall not be installed in same bundle with conductors of other circuits.
- E. Additional pullboxes shall be furnished and installed for ease of cable pulling and the cable manufacturer's recommended conduit fill factor shall be followed.
- F. All cable, insulation and jacket shall have adequate strength to allow for it to be pulled through the conduit systems. Sufficient conductors shall be installed to provide space and serve future equipment where shown and specified. All conductors shall be color coded and all wires shall be suitably tagged with permanent markers at each end.

#### 3.04 TESTING

- A. All wire and cable testing shall be performed in accordance with the requirements of Specification Section(s):
  1. 16080 – ELECTRICAL TESTING
- B. If tests reveal defects or deficiencies, the Contractor shall make the necessary repairs or shall replace the cable as directed by the Engineer, without additional cost to the Owner.
- C. All tests shall be made by and at the expense of the Contractor who shall supply all testing equipment.

#### 3.05 ATTACHMENTS

- A. Electrical Raceway and Cable Schedule
  1. The information is intended as a basis of design to be utilized by the Contractor to facilitate installation requirements under the Project Scope of Work.
  2. The information and/or data may not be all-inclusive and subject to change in accordance with approved shop drawings, equipment supplier requirements, Engineer submittal responses and/or Contractor means and methods and as such should be considered a working document until Project close-out.

#### END OF SECTION

## **SECTION 16130 - ENCLOSURES**

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### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

##### **A. Section Includes:**

Section includes requirements for boxes, cabinets and enclosures used in electrical systems. Types of boxes, cabinets and enclosures specified in this section include the following:

1. Junction Boxes and Pull Boxes
2. Device Boxes
3. Flush Mounted Floor Boxes
4. Cabinets and Enclosures
5. Hazardous Locations

##### **B. Related Requirements:**

1. Section 01310 – ADMINISTRATIVE REQUIREMENTS
2. Section 16060 – GROUNDING & BONDING
3. Section 16070 – HANGERS AND SUPPORTS
4. Section 16075 – ELECTRICAL IDENTIFICATION
5. Section 16111 – CONDUITS AND RACEWAYS
6. Section 16120 – CONDUCTORS AND CABLES

#### **1.02 REFERENCES**

##### **A. Abbreviations and Acronyms:**

1. American Society of Testing and Materials (ASTM)
2. National Electrical Manufacturers Association (NEMA)
3. National Fire Protection Agency (NFPA)
4. Polyvinyl Chloride (PVC)
5. Underwriters Laboratories, Inc. (UL)

##### **B. Definitions:**

1. Cabinet – An enclosure designed for surface mounting or flush mounting with a frame, mat or trim in which a swinging door or doors may be hung.
2. Contractor – The Company that has a contract with the Owner to perform the work.
3. Device Box – A box designed to house a unit that carries or controls electric energy as its principal function; such as a receptacle or light switch.
4. Enclosure – A case or housing for electrical wiring and/or components which is utilized to either prevent personnel from accidentally contacting energized parts or to protect the equipment from physical damage.
5. Floor Box – A device box designed to be installed in a poured concrete floor.
6. Installer – The Contractor or Subcontractor physically installing the electrical equipment or system specified.
7. Junction Box – An enclosure with a screw-fastened cover utilized for splicing or terminating wires.

8. Pull Box – An enclosure with a screw-fastened cover utilized in facilitating the pulling of cable.
9. Subcontractor – The Company that has a contract with the Contractor to perform certain portions of the work.

C. Reference Standards:

1. ASTM A167 – Standard Specification for Stainless and Heat Resisting Chromium-Nickel Steel Plate, Sheet, and Strip
2. NEMA 250 – Enclosures for Electrical Equipment (1000 Volts Maximum)
3. NEMA ICS6 – Enclosures for Industrial Controls and Systems
4. NEMA OS 1 – Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports
5. NEMA OS 2 – Nonmetallic Outlet Boxes, Device Boxes, Covers, and Box Supports
6. NFPA 70 – National Electrical Code
7. UL 50 & 50E – Enclosures for Electrical Equipment
8. UL 508A – Industrial Control Panels
9. UL 514A – Metallic Outlet Boxes
10. UL 514B – Conduit, Tubing, and Cable Fittings
11. UL 514C – Nonmetallic Outlet Boxes, Flush Device Boxes and Covers
12. UL 886 – Outlet Boxes and Fittings for Use in Hazardous (Classified) Locations
13. UL 1203 – Explosion Proof and Dust Ignition Proof Electrical Equipment for Use in Hazardous (Classified) Locations
14. UL 1773 – Termination Boxes
15. NFPA 496 – Purged and Pressurized Enclosures for Electrical Equipment

### 1.03 SUBMITTALS

Product data shall be submitted in accordance with Section 01310 – ADMINISTRATIVE REQUIREMENTS for each type of box, cabinet or enclosure with a classification greater than NEMA 1. Shop drawings for NEMA 1 boxes, cabinets and enclosures that are non-stock items shall also be submitted.

### 1.04 QUALITY ASSURANCE

A. Qualifications:

1. Each box, cabinet and enclosure shall be listed and labeled by UL, ETL or other recognized testing agency that provides third-party certification follow-up services.
2. Each metallic box, cabinet and enclosure shall have a unique identifying number that traces the product back to material mill test reports. Stainless steel items shall have a part number that contains a material designator or a separate stamp that includes a reference to the type of material used.

## PART 2 - PRODUCTS

### 2.01 BOXES, CABINETS AND ENCLOSURES

Boxes, cabinets and enclosures shall be of the NEMA Class and of the types and sizes shown on the raceway plans, sections and details. Sizes not indicated in the project documents or electrical drawings shall be sized and applied in accordance with the requirements of NFPA 70 (National Electrical Code). Unless specified in the project documents or shown on the raceway plans, sections and details, minimum classifications shall be either NEMA 1 or NEMA 12 for

dry indoor applications and either NEMA 3R, NEMA 4 or NEMA 4X for outdoor locations, depending on the surrounding environment. Unless indicated otherwise, metallic boxes, cabinets and enclosures shall be 316 stainless steel. Corrosion-resistant screws and hardware, including cadmium and zinc plated items, shall be utilized for dry indoor locations. Stainless-steel screws and hardware shall be utilized for exterior or wet locations. Boxes, cabinets and enclosures shall be complete with covers, gaskets and any other accessories required for the intended use. Fittings for boxes, cabinets and enclosures shall conform to UL 514B. Malleable iron or zinc plated steel shall be used for conduit hubs, bushings and box connectors.

## 2.02 PRODUCT TYPES

### A. Performance Criteria:

1. **Junction Boxes and Pull Boxes:** Junction boxes and pull boxes shall be manufactured and applied in accordance with UL 50. Boxes shall have bolted-on, screwed or hinged covers manufactured from the same material as the boxes. Covers shall be of the size and shape to suit the application.
2. **Device Boxes:** Device Boxes shall be complete with features and accessories suitable for each location; including mounting brackets, cable clamps, closure plugs, exterior rings and threaded screw holes for devices and covers.
  - a. **Metallic:** Metallic device boxes shall be manufactured from sheet-steel in accordance with NEMA OS 1 and UL 514A. Metallic boxes shall be galvanized, enameled or otherwise corrosion resistant.
  - b. **Nonmetallic:** Nonmetallic device boxes shall be manufactured and applied in accordance with NEMA OS 2 and UL 514C.
3. **Flush Mounted Floor Boxes:** Flush mounted floor boxes shall be manufactured and applied in accordance with UL 514C. Boxes shall be concrete tight and fully adjustable vertically and angularly before and after concrete is poured. Metallic boxes utilized for power wiring shall have a grounding terminal consisting of a washer-in-head machine screw, not smaller than No. 10-32, screwed into a tapped hole in the box. Boxes requiring multiple sections shall have hinged section covers with provisions under a common floor plate for a duplex receptacle, telephone or data device as required. Floor boxes shall have a flange, cover, carpet trim plate, extension collar, gaskets, brass floor plates and other various service fittings as needed to form a complete unit for the required application.
4. **Cabinets and Enclosures:** Cabinets and enclosures shall be selected, manufactured and applied in accordance with UL 50. Cabinets and enclosures shall consist of a one-piece frame box and front with hinged door or doors. Cabinets and enclosures greater than 36 inches wide shall have double doors. Door(s) shall be constructed to close against a rabbet placed around the inside edge of the frame, with a uniformly close fit between door and frame. Solid neoprene gaskets shall be utilized if required for the application. Door hinges may be flush or concealed and shall be bolted and installed less than 24 inches apart and less than 6 inches from either the top or the bottom of the door.

Flush mounted cabinets and enclosures shall have a front that is 3/4-inch larger than the box all around. Surface mounted cabinets and enclosures shall have a front that is the same height and width as the box.

Cabinets and enclosures not installed in dedicated wiring closets or mechanical/electrical rooms shall have key locks. Cabinets and enclosures for

the same system shall be keyed alike and have spare keys. Locks shall allow doors to latch closed without locking.

If required, cabinets and enclosures shall have adequate ventilation, filtration, fans and ducting to compensate for internal heat generation. Cabinets and enclosures shall also have a mounting panel constructed of the same material.

5. Hazardous Locations: Boxes, cabinets and enclosures installed in hazardous locations shall be listed and labeled for use according to NFPA 70 (National Electrical Code) for the specific class and division of the location. Conduit entrances shall be threaded and suitable for the installation of conduit seals.

**B. Materials:**

1. Sheet Steel: Sheet steel boxes, cabinets and enclosures shall be constructed of flat-rolled, code-gauge, galvanized steel with stamped knockouts for raceway entries.
2. Hot-Dipped Galvanized Steel: Hot-dipped galvanized steel junction boxes and pull boxes shall be constructed of sheet steel with welded seams. Internal stiffeners shall be provided when necessary to ensure a rigid assembly. Boxes shall be hot-dip galvanized after fabrication.
3. Stainless-Steel: Stainless-steel junction boxes, pull boxes, cabinets and enclosures shall be fabricated of stainless steel conforming to Type 302 of ASTM A167. Internal stiffeners shall be provided when necessary to ensure a rigid and structurally sound assembly.
4. Cast-Aluminum: Cast-aluminum boxes, cabinets and enclosures shall be molded of copper-free aluminum with integral threaded raceway entries.
5. Cast-Iron: Cast-iron boxes shall be waterproof and molded of an iron alloy with integral threaded raceway entries.
6. Nonmetallic (PVC): Nonmetallic boxes, cabinets and enclosures shall be molded from gray, nonconductive, glass fiber-reinforced, ultra-violet stabilized, high impact-resistance strength polyvinyl chloride (PVC) with integral mounting flanges and raceway entries.

- C. Finishes: Metallic boxes, cabinets and enclosures shall have an exterior finish of gray baked enamel and an interior finish of white baked enamel. Mounting panels shall be primed and painted white.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION**

Installation of boxes, cabinets and enclosures shall be in accordance with the electrical plans and details and Article 314 of NFPA 70 (National Electrical Code). Boxes, cabinets and enclosures shall be installed such that the box is supported independently of raceways and cable trays and does not interfere with any other equipment or equipment access. Caps and plugs shall be installed in any raceway entry not utilized. Knockouts on boxes, cabinets and enclosures shall only be removed if required for raceway installation. All burs and sharp edges shall be removed from knockouts prior to the connection of raceways. Isolation barriers shall be installed between adjacent devices or cables of dissimilar voltage. Boxes, cabinets and enclosures installed in concrete walls shall be deep enough to avoid interference with reinforcing steel, with a maximum depth of six inches.

- A. Systems Integration:



1. Junction Boxes and Pull Boxes: Junction boxes shall be installed as required to terminate or tap multiple circuits. Pull boxes or conduit bodies shall be installed on any field routed conduit installation that exceeds 360 degrees of bending and as required to eliminate jamming, excessive sidewall pressures and excessive pulling tensions during cable installation.
2. Device Boxes: Unless shown otherwise on the lighting and power plans, device boxes shall be installed at the following heights (inches):

Outdoor Receptacle 24

Indoor Receptacle 18

Mechanical Room Receptacle 24

Light Switch 48

Outdoor Telephone Device 48

Indoor Telephone Device 18

Computer/Data Devices 18

Fire Alarm Pull Switches 48

Welding Receptacles 48

Device boxes for light switches and receptacles shall be installed with the long axis of the box in the vertical position. Device boxes for light switches shall be installed at doors on the side opposite the hinges.

Through wall boxes shall not be installed. Device boxes installed back-to-back on common walls shall be installed on opposite sides of a stud to minimize sound transmission. Device boxes installed on columns or pilasters shall be located such that the centers are clear for the future installation of partitions.

Device boxes installed in fire-rated walls or partitions shall have a maximum of 16 square inches of surface area exposed through the wall at one location, unless additional fireproofing material is added. Metallic device boxes installed in fire-rated walls or partitions shall have a minimum of 24 inches of separation.

Device boxes for fixtures installed in finished areas with concealed wiring shall be a minimum of 4 inches square by 1-1/2 inches deep.

Extension rings installed on existing device boxes shall have mounting holes drilled to align the extension ring with the existing device box.

3. Flush Mounted Floor Boxes: Floor boxes shall be installed in concrete slabs such that the box is completely flush with the concrete surface. Boxes installed prior to the placement of concrete shall be secured to prevent movement during the concrete pour. Floor boxes utilized for power receptacles shall be listed specifically for this application.
4. Cabinets and Enclosures: Unless otherwise shown on the electrical details, cabinets and enclosures shall be installed such that the tops of the boxes are 78 inches above the finished floor. Cabinets and enclosures installed in finished locations shall be plumb and flush with the finished wall. Pad mounted

cabinets and enclosures shall be mounted on concrete surfaces as indicated on either the electrical details or foundation plans. As a minimum, clearances around cabinets and enclosures shall be in accordance with Article 110 of NFPA 70 (National Electrical Code).

5. Hazardous Locations: Boxes, cabinets and enclosures located in hazardous locations shall utilize expanded fill sealed fittings as required and shall be installed in accordance with NFPA 70 (National Electrical Code). If the Installer encounters a box, cabinet or enclosure that is to be installed outside the limits of the area classification drawings, or if the Installer believes the location may be located within a hazardous area not shown on the area classifications drawings, then the Installer shall immediately stop work and advise the Contractor so that a check and/or inspection may be made. Conduits, fittings and couplings connecting to boxes, cabinets and enclosures shall have at least five full threads engaged.

### 3.02 GROUNDING AND BONDING

Metallic boxes, cabinets and enclosures shall be electrically grounded in accordance with Article 250 of NFPA 70 (National Electrical Code) and Section 16060 – GROUNDING & BONDING.

### 3.03 CLEANING

Upon completion of installation, interiors of boxes, cabinets and enclosures shall be inspected, all blockages cleared, and burrs, dirt and construction debris removed. Damaged finishes, including chips, scratches and abrasions, shall be repaired. Damaged galvanized finishes shall be repaired with zinc-rich paint recommended by the manufacturer. Precautions shall be taken to prevent the future entrance of plaster, dirt and debris.

### END OF SECTION

## **SECTION 16140 – WIRING DEVICES**

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### **PART 1 - GENERAL**

#### **1.01 REQUIREMENT SUMMARY**

- A. Contractor shall furnish and install all Wiring Devices as required, such as: light switches, motor-rated switches, receptacles, GFCI devices, device plates, covers, dimmers, plug-in strips with those voltage and current ratings as shown in the Contract Documents.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this Section, the requirements of Division 16 and those Project Specification Sections referenced therein shall be applied.
- B. Related Specification Sections include but not limited to:
  - 1. 16120 – CONDUCTORS AND CABLES
  - 2. 16111 – CONDUITS AND RACEWAYS

#### **1.03 REFERENCES**

- A. Wiring Devices shall conform to all applicable Federal, UL, and NEMA standards. Materials and components shall be new and conform to grades, qualities and standards as specified herein and shown in the Contract Documents.
- B. Codes and Standards:
  - 1. UL Listing/ Approval
  - 2. UL 20 – General-Use Snap Switches
  - 3. UL 943 – Ground-Fault Circuit-Interruptioners
  - 4. UL 1681 – Standard for Wiring Device Configurations
  - 5. NFPA 70 – National Electrical Code

#### **1.04 SUBMITTALS**

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:
  - 1. 01310 – ADMINISTRATIVE REQUIREMENTS
- B. Qualifications
  - 1. For approval, manufacturer shall have specialized in the manufacturing and assembly of Wiring Devices for at least twenty-five (25) years.
  - 2. Furnish products listed by Underwriters Laboratories Incorporated and in accordance with standards listed in Section 1.3.

#### **1.05 IDENTIFICATION**

- A. Wiring Devices shall be identified with the equipment tag number indicated on the Contract Documents and the accepted shop drawings. Nameplates shall be furnished and installed as required Specification Section(s):
  - 1. 16075 – ELECTRICAL IDENTIFICATION

## **PART 2 - PRODUCTS**

### **2.01 MANUFACTURERS**

- A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
1. Light switches (except explosionproof):
    - a. Hubbell
    - b. Pass & Seymour
    - c. Leviton
  2. Explosionproof light switches:
    - a. Appleton Electric Co
    - b. Crouse Hinds
    - c. Killark
  3. Door switches:
    - a. Arrow Hart
    - b. General Electric
    - c. Pass & Seymour
    - d. Slater
  4. Receptacles (except explosionproof):
    - a. Arrow Hart
    - b. Hubbell
    - c. General Electric
    - d. Pass & Seymour
    - e. Slater
    - f. Leviton
  5. Explosionproof receptacles:
    - a. Appleton Electric Co
    - b. Crouse Hinds
    - c. Killark

6. Dimmers:
  - a. General Electric
  - b. Lutron
  - c. Pass & Seymour
7. Plug in strip:
  - a. Walker
  - b. Wiremold

## 2.02 MATERIALS

### A. Light Switches for Indoor Unclassified Areas:

1. Toggle type, quiet action, and specification grade with grounding terminal
2. Back and side wired
3. Solid silver cadmium oxide contacts
4. One-piece switch arm rated 20A, 120/277VAC
5. UL listed
6. Color: GREY
7. Wall Plate: Type 304 stainless steel
8. LED Pilot Light as required in Contract Documents
9. Type: As indicated in Contract Documents

### B. Receptacles for Indoor Unclassified Areas:

1. Straight blade, grounding type, specification grade
2. Back and side wired with wrap around bridge
3. Rated 20A, 125 VAC
4. UL listed
5. Color:
  - a. For use on normal power: GREY
  - b. For use on UPS systems: RED
  - c. For use on isolated ground systems: ORANGE
6. Wall Plate: Type 304 stainless steel
7. Type: As indicated in Contract Documents

### C. Light Switches for Wet Areas:

1. Toggle type, quiet action, and specification grade with grounding terminal
2. Back and side wired
3. Solid silver cadmium oxide contacts
4. One-piece switch arm rated 20A, 120/277VAC
5. UL listed
6. Color: GREY
7. Wall Plate: Die-Cast AL weatherproof, lever-switch type
8. Type: As indicated in Contract Documents

D.     Receptacles for Wet Areas:

1.     Reference Section 2.2E

E.     Ground Fault Circuit Interrupter (GFCI) Receptacles:

1.     Straight blade, grounding type, Class-A GFCI specification grade
2.     Rated 20A, 125VAC
3.     TEST and RESET buttons
4.     Power On LED indicating light
5.     UL listed
6.     Color: GREY
7.     Wall Plate: Die-Cast AL weatherproof, "IN USE"
8.     Type: As indicated in Contract Documents

F.     Light Switches for Corrosive Areas:

1.     Corrosion resistant NEMA 4X enclosure with switch consisting of:
  - a.     Fiberglass Reinforced Polyester (FRP) enclosure.
  - b.     Toggle type, quiet action, and specification grade with grounding terminal
  - c.     Rated 20A, 125VAC with solid silver cadmium oxide contacts
  - d.     Grounding bushing
  - e.     UL listed
  - f.     Gasket: Butyl Rubber or chemical resistant
  - g.     Wall Plate/Cover: FRP gasketed wall plate with built in toggle lever-switch with stainless steel shaft
  - h.     Color: YELLOW
  - i.     Type: As indicated in Contract Documents
2.     Optional: Corrosion resistant enclosure and switch consisting of:
  - a.     Cast copper free aluminum "FS" or "FD" ridge type hub box
  - b.     Toggle type, quiet action, and specification grade with grounding terminal
  - c.     Rated 20A, 125VAC with solid silver cadmium oxide contacts
  - d.     UL listed
  - e.     Gaskets: Butyl Rubber or chemical resistant
  - f.     Wall Plate/Cover: Die-Cast AL lever-switch with stainless steel screws
  - g.     Color: YELLOW.
  - h.     Type: As indicated in Contract Documents

G.     Receptacles for Corrosive Areas:

1.     Box: "FS" or "FD" ridge type cast hub box of copper free aluminum
2.     Corrosion resistant straight blade, grounding type, specification grade
3.     Back and side wired with wrap around bridge
4.     Rated 20A, 125VAC
5.     Gaskets: Butyl Rubber or chemical resistant
6.     UL listed
7.     Color: YELLOW.
8.     Wall Plate/Cover: Die-Cast AL, weatherproof, UL listed "IN USE" cover.
9.     Type: As indicated in Contract Documents

H.     Explosion-Proof Light Switches for Use in Hazardous Areas:

1.     Explosionproof, UL listed for Class I, Division 1 and 2, Groups B, C, and D; and Class II, Division 1 and 2 areas, Groups E, F, and G
2.     EDS factory sealed
3.     Malleable iron body and cover
4.     Aluminum sealing chamber
5.     Front operated handle with stainless steel shaft
6.     Rated 20A, 125VAC
7.     With grounding screw
8.     Type: As indicated in Contract Documents

I.     Explosion-proof Receptacles for Use in Hazardous Areas:

1.     Explosion proof, UL listed for Class I, Division 1 and 2, Groups B, C, and D; and Class II, Division 1 and 2, Groups F and G
2.     Factory sealed malleable iron receptacle with spring loaded cover
3.     Malleable iron mounting box
4.     Rated 20A, 125VAC
5.     "Dead front" construction requiring plug to be inserted and rotated to activate receptacle
6.     Type: As indicated in Contract Documents

J.     Plug In Strip: Surface steel raceway plug in strip with single 15A, 125VAC, 3-wire grounding type receptacles spaced 18IN on center

1.     Pre-wired with two 12AWG and one 12AWG green insulated ground
2.     Minimum 1 1/4IN wide x 3/4IN deep
3.     Suitable fittings and snap in cover
4.     Finish:
  - a.     Stainless steel
5.     Receptacle color:
  - a.     For use on normal power: GREY
  - b.     For use on UPS systems: RED
  - c.     For use on isolated ground systems: ORANGE

K. Door Switches:

1. Rated 5A, 120VAC.
2. Mode of operation: Door open lights on.
3. UL listed.

L. Lighting Dimmers:

1. Electronic solid-state type, rated for load, 120VAC and 277VAC
2. Circuit design: Silicon symmetrical gate to provide full wave dimming and withstand current and inverse voltage surges
3. Controls: Linear slide with positive off
4. Provide built in filter to minimize noise interference in nearby audio lines
5. Rated 100F maximum, ambient
6. UL listed
7. Finish: GREY or WHITE

M. Pedestal Type Floor Mounted or Counter Mounted Duplex Receptacles:

1. Straight blade, grounding type, specification grade
2. Back and side wired with wrap around bridge
3. Rated 15A, 125VAC
4. Horizontal design housing with threaded conduit fittings in base with satin chromium finish
5. Install on adjustable 4IN flush floor box.
6. Color:
  - a. For use on normal power: GREY
  - b. For use on UPS systems: RED
  - c. For use on isolated ground systems: ORANGE

N. Thermostats:

1. Contacts close on falling temperature to cycle unit heater on rising temperature to cycle exhaust fan motor
2. Rated 20A, 120VAC.
3. Range: 46 – 84F scale.
4. Switch: AUTO/OFF/ON
5. Provide subbase and mounting plate
6. Provide standard outlet box for mounting thermostat

### **PART 3 - EXECUTION**

#### **3.01 INSTALLATION**

- A. Wirings Devices shall be installed in accordance with the best practices of the trade along with manufacturer's installation instructions and shall operate satisfactorily when installed as shown in the Contract Documents.
- B. Mount Wiring Devices where indicated in the Contract Documents.
- C. Surface mount receptacles and light switches in concrete or pre-cast concrete construction.



- D. In masonry and metal stud construction, recess mount receptacles and light switches unless device precludes recessed mounting or unless otherwise noted in the Contract Documents.
- E. Where more than one receptacle is installed in a room and/or space, receptacles shall be symmetrically arranged.
- F. Set all Wiring Devices including covers plumb and vertical to the floor.
- G. Set recess mounted switches and receptacles flush with face of walls.
- H. Do not connect dimmers to loads in excess of 80% of the rating of the dimmer.
- I. Provide blank plates for empty outlets.
- J. Securely attach top to ceiling grid and base to mating surface.

### 3.02 PROJECT CLOSE OUT

- A. All exterior surfaces of the Wiring Devices to include wall plates and covers and shall be cleaned thoroughly to remove all dust, dirt and debris as a result from installation and personnel use during Construction duration. All scratched wall plates and covers will be re-placed by Contractor at no additional cost to Owner.
- B. All painted or coated surfaces near and around Wiring Devices to include wall plates and covers and shall be cleaned thoroughly to remove all dust, dirt and debris as a result from installation and personnel use during Construction duration. Scratched and/or marred surfaces will be re-finished or recoated in accordance with the Project Specifications as required to restore surfaces by Contractor no additional cost to Owner.

### END OF SECTION

## **SECTION 16220 – MOTORS**

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### **PART 1 – GENERAL**

#### **1.01 REQUIREMENT SUMMARY**

- A. Contractor shall furnish all labor, materials, tools and equipment necessary for furnishing, installing, connecting, testing and placing into service all MOTORS as specified herein and indicated in the Contract Documents.
- B. MOTORS shall be sufficient size for the duty to be performed and shall not exceed their full rated load when the driven equipment is operating at specified capacity. Unless otherwise noted, MOTORS driving pumps shall not be overloaded at any head or discharge condition of the pump.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this Section, the requirements of Division 16 and those Project Specification Sections referenced therein shall be applied.
- B. Related Specification Sections include but not limited to:
  - 1. 11001 – EQUIPMENT
  - 2. 11215 – HORIZONTAL SPLIT CASE CENTRIFUGAL PUMPS
  - 3. 14630 – BRIDGE CRANE
  - 4. 15103 – BUTTERFLY VALVES
  - 5. 16260 – VARIABLE FREQUENCY CONTROLLERS
  - 6. 16291 – ENCLOSED CONTROLLERS

#### **1.03 REFERENCES**

- A. MOTORS shall comply with the following applicable codes and standards as well as any others within the Project Specifications and Contract Documents. In the event of any conflict between these codes, regulations, standards, and Contract Documents, the most restrictive shall apply.
- B. Codes and Standards:
  - 1. American National Standards Institute (ANSI/NEMA):
    - a. MG1-2006, REV 1 2007 – Motors and Generators
  - 2. National Fire Protection Association (NFPA):
    - a. 70, National Electric Code (NEC).
    - b. 79, Electrical Standard for Industrial Machinery

#### **1.04 SUBMITTALS**

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:
  - 1. 01310 – ADMINISTRATIVE REQUIREMENTS

**B. For Engineer Review**

1. The following information shall be submitted:
  - a. Master drawing index
  - b. Identification schedule(s)
  - c. Certified dimensional drawings
    - 1) Plan and Elevation view(s)
    - 2) Raceway termination locations
  - d. MOTORS data shall include but not limited to the following:
    - 1) Voltage
    - 2) Horsepower (hp) / Kilowatt (kW)
    - 3) Full-Load-Amperage (FLA)
    - 4) Frequency / Phase / Power Factor
    - 5) Full-Load Speed (RPM)
    - 6) Insulation Class and Ambient Temperature
    - 7) Duty and Time Ratings
    - 8) Service Factor
    - 9) Full-Load Efficiency
    - 10) Locked-Rotor Code Letter
    - 11) Frame Size / Design Letter
    - 12) Manufacturer Representative Contact Information
  - e. MOTORS accessories

**C. Qualifications**

1. For approval manufacturer shall have specialized in the manufacture and assembly of MOTORS for a minimum of twenty-five years (25YR).
2. Equipment specified herein, the manufacturer shall be ISO 9001 or 9002 certified.

**1.05 DELIVERY, STORAGE AND HANDLING**

- A. MOTORS and all components shipped loose shall be handled and stored in accordance with manufacturer's instructions and recommendations as outlined in applicable Installation and Maintenance Manuals. Three (3) copies of these instructions shall be included with the equipment at time of shipment.
- B. Inspect and report concealed damage to carrier within their required time period. Owner is not responsible for damages incurred during shipping, handling and storage.
- C. Store in a clean, dry space. Maintain factory protection and/or provide an additional heavy canvas or heavy plastic cover to protect structure from dirt, water, construction debris, and traffic. Where applicable, provide adequate heating within enclosures to prevent condensation.

**1.06 OPERATION AND MAINTENANCE MANUALS**

- A. MOTORS operation and maintenance manuals shall be provided with each assembly shipped, and shall include instruction leaflets and instruction bulletins for the complete assembly and each major component.

- 1. Operation and Maintenance manuals, drawings etc. to be provided within the assemblies shall be water-proof and fire-resistant utilizing tear-resistant paper.

#### 1.07 WARRANTY

- A. Manufacturer shall warrant MOTORS to be free from defects in materials and workmanship for the lesser of one year (1YR) from date of installation or eighteen months (18MTH) from date of purchase.

#### 1.08 IDENTIFICATION

- A. MOTORS shall be identified with the equipment tag number indicated on the Contract Documents and the accepted shop drawings. Nameplate(s) shall be securely affixed in a conspicuous place on MOTORS. Nameplates shall be furnished and installed as required Specification Section(s):

- 1. 16075 – ELECTRICAL IDENTIFICATION

### PART 2 – PRODUCTS

#### 2.01 MANUFACTURERS

- A. MOTORS less than 50HP in size shall be provided by one of the following manufacturers:

- 1. Baldor – Reliance Electric / ABB
  - 2. US Motors / NIDEC Motor Corp.
  - 3. WEG Electric Motors
  - 4. TECO Westinghouse
  - 5. Or Approved Equal

- B. MOTORS 50HP or greater in size shall be provided by one of the following manufacturers:

- 1. Baldor - Reliance Electric / ABB
  - 2. US Motors / NIDEC Motor Corp.
  - 3. Or Approved Equal

- C. Listing of specific manufacturers above does not imply acceptance of their products that do not meet the specified ratings, features and functions. Manufacturers listed above are not relieved from meeting the Specifications in their entirety.

- D. MOTORS shall be the same as the original manufacturer for model series still in production; otherwise, the original manufacturer or an above listed acceptable manufacturer may provide these modifications and assemblies with proof of prior experience furnishing these types of modifications.

#### 2.02 RATINGS

- A. All three-phase MOTORS shall be NEMA "premium efficiency" type.
- B. Unless otherwise noted in the Contract Documents, all MOTORS shall be of the low voltage type (600V or less).

1. MOTORS 2HP through 100HP shall be rated 230/460VAC, 3-PH, 60Hz
2. MOTORS less than 2HP shall be rated 115/230VAC, 1-PH, 60Hz
3. MOTORS 125HP through 500HP shall be rated 460VAC, 3-PH, 60Hz

C. MOTORS operated by a Variable Frequency Drives (VFD)s

1. Shall meet the requirements of ANSI/NEMA MG1 Class II Part 32 and indicate on the motor nameplate that it is suitable for the intended application "Inverter Duty Rating".
2. Shall be equipped with maintenance free, conductive micro-fiber, shaft grounding ring(s) with a minimum of two (2) rows of circumferential micro-fibers to allow discharge of damaging shaft voltages away from bearing to earth.
  - a. MOTORS 2HP through 100HP shall be provided with one (1) shaft grounding ring installed either on the drive end or non-drive end.
  - b. MOTORS greater than 100HP shall be provided with an insulated bearing on the non-drive end and a shaft grounding ring on the drive end.
  - c. Insulated bearings and shaft grounding rings shall be installed by the MOTORS manufacturer.
3. Shall be bonded from the MOTORS foot to the system ground with a high frequency ground strap of flat braided, tinned copper with approved terminations.
4. MOTORS shall be provided with integral temperature sensing device(s) utilized through the VFD control circuitry to shut-down upon an adjustable threshold temperature event/state.

## 2.02 CONSTRUCTION

A. General

1. MOTORS shall be totally enclosed fan cooled (TEFC) unless otherwise noted in the Contract Documents.
2. TEFC MOTORS shall be provided with condensate drain hole and epoxy coated motor windings to protect against moisture.
3. MOTORS shall have 1.15 service-factor (sf) unless otherwise noted in the Contract Documents.
4. MOTORS wiring termination boxes shall be gasketed and rated NEMA-4. All power and control wires between MOTORS frame and termination box shall be gasketed.

B. Three-Phase MOTORS

1. Space heaters shall be provided for moisture control for MOTORS equal to or greater than 50HP located within interior or exterior spaces. Space heaters shall operate at 120VAC, single-phase.
2. High quality resistance temperature detectors (RTD)s shall be provided for MOTORS equal to or greater than 250HP and/or as shown in the Contract Documents.
  - a. Wire-wound resistance temperature detectors RTDs shall be installed in the winding slots to continuously monitor winding temperature conditions and provide long term trending data to adjust operational parameters and insulation dielectric properties.

- b. Thin-film RTDs with dimensions to fit motor bearings shall be installed.
- c. RTD shall meet or exceed the following:
  - b. Temperature Limit: -50 to 180C (-58 to 356F) Class H
    - 1) Dielectric: 3.2kV RMS at 60Hz, 1mA current leakage
    - 2) (3) lead stranded copper #22AWG with TFE insulation
- 3. MOTORS shall be of the squirrel-cage induction type, NEMA Design B, horizontal, vertical solid shaft, vertical hollow shaft, normal thrust and high thrust types shall be furnished as specified herein. MOTORS shall be built in accordance with current NEMA, IEEE, ANSI and AFBMA standards where applicable. MOTORS shall be of the type and quality described by these Specifications, fully capable of performing in accordance with manufacturer nameplate rating, and free from defective material and workmanship.
- 4. Output shaft shall be suitable for mechanical connection as required.
- 5. MOTORS shall have normal or high starting torque as required, low starting current not to exceed 600% Full-Load-Amperage (FLA), and low slip.
- 6. MOTORS shall have a Class B non-hygroscopic, anti-fungus insulation system. Class F (80C) insulation may be used but shall be limited to Class B temperature rise.
- 7. All machine surfaces shall be coated with rust inhibitor for easy disassembly.
- 8. MOTORS shall have a final coating of chemical resistant corrosion and fungus protective epoxy fortified enamel finish sprayed over red primer over all interior and exterior surfaces. Stator bore and rotor of all MOTORS shall be epoxy coated.
- 9. MOTORS installed outdoors shall be mill and chemical duty suitable for operation in moist air with hydrogen sulfide gas present.
- 10. All fittings, bolts, nuts, and screws shall be 316 stainless-steel. Bolts and nuts shall have hex heads.
- 11. MOTORS nameplates and plaques shall be stainless-steel.
- 12. MOTORS shall be provided with a warning plaque, permanently fixed to the casing, with RED background and WHITE lettering which has the following legend:

**WARNING-ELECTRICAL SHOCK HAZARD**

**Motor Equipped With Strip-Heaters**

**Strip-Heaters Remain Energized When Local Disconnect Is OFF**

- 13. Lifting lugs or "O" type bolts shall be supplied on all frames 254T and larger; enclosures will have stainless steel screen and MOTORS shall be protected for corrosion, fungus and insects.

**C. Fractional Horsepower MOTORS**

- 1. Fractional Horsepower MOTORS shall be rigid, welded-steel, designed to maintain accurate alignment of MOTORS components and provide adequate protection. End shields shall be reinforced, lightweight die-cast aluminum. Windings shall be of varnish-insulated wire with slot insulation of polyester film, baked-on bonding treatment to make the stator winding strongly resistant to heat, aging, moisture, electrical stresses and other hazards.
- 2. MOTORS shaft shall be made from high-grade, cold-rolled shaft steel with drive-shaft extensions carefully machined to standard NEMA dimensions for the particular drive connection.

3. For light to moderate loading, bearings shall be quiet all-angle sleeve type with large oil reservoir that prevents leakage and permits MOTORS operation in any position.
4. For heavy loading, bearings shall be carefully selected precision ball bearings with extra quality, long-life grease, and large reservoir providing ten-years (10YR) normal operation without relubrication.

**D. Integral Horsepower MOTORS**

1. MOTORS frames and end shields shall be cast iron or heavy fabricated steel of such design and proportions as to hold all MOTORS components rigidly in proper position and provide adequate protection for the type of enclosure employed.
2. Windings shall be adequately insulated and securely braced to resist failure due to electrical stresses and vibrations.
3. Shafts shall be made of high-grade machine steel or steel forging of size and design adequate to withstand the load stresses normally encountered in MOTORS of the particular rating. Bearing journals shall be ground and polished.
4. Rotors shall be made from high-grade steel laminations adequately fastened together, and to the shaft. Rotor squirrel-cage windings may be copper or bar-type construction with brazed end rings.
5. MOTORS shall be equipped with vacuum-degassed anti-friction bearings made to AFBMA Standards, and be of ample capacity for the MOTORS rating. Bearing housing shall be large enough to hold sufficient lubricant to minimize the need for frequent lubrication, but facilities shall be provided for adding new lubricant and draining out old lubricant without MOTORS disassembly. Bearing housing shall have long, tight, running fits or rotating seals to protect against the entrance of foreign matter into the bearings, or leakage of lubricant out of the bearing cavity.
6. Bearings of high thrust MOTORS will be locked for momentary up-thrust of 30% down-thrust. All bearings shall have a minimum B10 life rating of 100k-hours in accordance with AFBMA life and thrust values.
7. Vertical hollow-shaft motors will have non-reverse ratchets to prevent backspin.

**E. Single-Phase MOTORS**

1. Single-Phase MOTORS shall be split-phase and capacitor-start induction types rated for continuous horsepower at the RPM as called for in the Contract Documents. MOTORS shall be rated 115/230VAC, 1-PH, 60Hz, TEFC with temperature rise in accordance with NEMA Standards for Class B insulation.
2. TEFC MOTORS shall be designed for severe-duty.
3. MOTORS shall have corrosion and fungus protective finish on internal and external surfaces. All fittings shall have a corrosion protective plating.
4. Mechanical characteristics shall be the same as specified for Fractional Horsepower MOTORS.

**PART 3 – EXECUTION**

**3.01 FACTORY ACCEPTANCE TESTING**

- A. MOTORS shall go through a non-witnessed, Factory Acceptance Test (FAT) prior to shipment. Manufacturer shall use integral quality control checks throughout the manufacturing process to ensure that MOTORS meet operating Specifications.
- B. A certified test report of all standard manufacturer FAT procedures, tests, results and corrective actions shall be shipped with MOTORS.

- C. Manufacturer shall notify Engineer two weeks (2WK) prior to the date the tests are to be performed

#### 3.02 EXAMINATION

- A. Contractor shall check MOTORS for correct clearances and alignment and for correct lubrication, and shall lubricate, if required, in accordance with manufacturer instructions.
- B. Contractor shall use a 1000V Meg-Ohmmeter to test MOTORS windings before energizing. If MOTORS insulation resistance is at or below the manufacturer allowable limit, Contractor shall notify the Engineer and shall not energize.

#### 3.03 INSTALLATION

- A. Contractor shall plan the layout of the raceway systems so that when the work is complete it will exhibit good workmanship practices.
- B. MOTORS and their peripheral devices shall be connected to the raceway system by means of a short section of flexible conduit, 18IN minimum and 72IN maximum, unless otherwise indicated in the Contract Documents.
- C. Connections to MOTORS leads shall be made with high-compression type lugs with heat-shrinkable insulating boots.

#### 3.04 ADJUSTMENTS

- A. Contractor shall check direction of rotation of MOTORS with a Phase Rotation Meter and reverse the connections, at MOTORS wiring termination box, if necessary.
- B. Phase Rotation corrections shall only be made at the MOTORS wiring termination box to ensure the entire MOTORS feeder circuitry remains A-B-C configuration through-out.

#### END OF SECTION



## **16260 – VARIABLE FREQUENCY CONTROLLERS**

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### **PART 1 - GENERAL**

#### **1.01 REQUIREMENT SUMMARY**

- A. Contractor shall provide and install Adjustable Frequency Drives, Variable Frequency Drives or herein identified as AC DRIVES for use with NEMA B design AC motors in accordance with the Contract Documents and specified herein.
- B. Contractor shall provide and install the AC DRIVES and all associated appurtenances for the equipment as referenced in the Contract Documents.
- C. AC DRIVES shall fit in those existing locations as shown in the Contract Drawings and not exceed the base dimensions for the equipment listed:
- D. All power and control wiring shall enter the bottom of the AC DRIVES.
  - 1. AC DRIVES shall operate with motor power conductors as shown on the Contract Documents.
- E. Any exceptions/deviations to this Specification Section shall be indicated in writing to the Engineer and submitted with the quotation.
- F. AC DRIVES shall operate auxiliary equipment such as seal water valves, motor space heaters, and include safety and equipment protection interlocks as shown in the Contract Documents.
- G. AC DRIVES manufacturer shall be responsible for providing all equipment specified under this section, and furnishing the equipment to the Contractor for installation.
- H. AC DRIVES manufacturer shall furnish, field test, adjust and certify all installed AC DRIVES for satisfactory operation.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this Section, the requirements of Division 16 and those Project Specification Sections referenced therein shall be applied.
- B. Related Specification Sections include but not limited to:
  - 1. 11215 – HORIZONTAL SPLIT CASE CENTRIFUGAL PUMPS
  - 2. 16220 – MOTORS AND GENERATORS

#### **1.03 REFERENCES**

- A. Codes and Standards:
  - 1. NFPA-70 National Electric Code (NEC®)
  - 2. ANSI C84.1 Electric Power Systems and Equipment - Voltage Ratings (60Hz)
  - 3. CSA® C22.2 No.14-95 Industrial Control Equipment
  - 4. UL508A Standard for Safety for Industrial Control Panels
  - 5. UL508C Standard for Safety for Power Conversion Equipment
  - 6. NFPA 79 Electrical Equipment of Industrial Machines/Industrial Machinery

7. NEMA ICS7 Industrial Control and Systems: Adjustable Speed Drives
8. NEMA ICS7.1 Safety Standards for Construction and Guide for Selection, Installation, and Operation of Adjustable Speed Drive Systems
9. NEMA 250 Enclosures for Electrical Equipment (1000V maximum)
10. IEC 61800-2 Adjustable speed electrical power drive systems - Part 2: General requirements - rating specifications for low voltage adjustable frequency AC power drive systems
11. IEC 61800-3 Adjustable speed electrical power drive systems - Part 3: EMC product standard including specific test methods
12. IEC 61800-5-1 Adjustable speed electrical power drive systems - Part 5-1: Safety requirements - Electrical, thermal and energy
13. IEC 61800-6 Adjustable speed electrical power drive systems - Part 6: Guide for determination of types of load duty and corresponding current ratings.
14. EGSA 101P Engine Driven Generator Sets - Performance Standard
15. IEEE 519 Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems

#### 1.04 SUBMITTALS

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:
  1. 01310 – ADMINISTRATIVE REQUIREMENTS
- B. Shop drawings shall be furnished for Engineer review prior to factory assembly of the AC DRIVES. These drawings shall consist of elementary power and control wiring diagrams and enclosure outline drawings. The enclosure drawings shall include front and side views of the enclosures with overall dimensions and weights shown, conduit entrance locations and nameplate legend details.
- C. Standard catalog sheets showing voltage, horsepower, maximum current ratings and recommended replacement parts with part numbers shall be furnished for each different horsepower rated AC DRIVES provided.
- D. Qualifications
  1. Manufacturer of the AC DRIVES shall be a certified ISO 9001 facility.
  2. AC DRIVES and all associated optional equipment shall be UL LISTED according to UL508C Power Conversion Equipment. A UL label shall be attached inside each enclosure as verification.
  3. AC DRIVES shall be designed constructed and tested in accordance with NEMA, NEC, VDE, IEC standards.
  4. All AC DRIVES shall be tested with an actual AC induction motor, 100% load and temperature cycled within an environmental chamber at 104F. Documentation shall be furnished to verify successful completion at the request of the Engineer.
  5. AC DRIVES door mounted pilot devices shall be tested to verify successful operation. Documentation shall be furnished upon written request of the Engineer.
  6. AC DRIVES shall undergo QA test procedures and be submitted to a hi-pot test with all enclosed devices mounted and wired, prior to shipment.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. AC DRIVES and all components shipped loose shall be handled and stored in accordance with manufacturer's instructions and recommendations as outlined in

applicable Installation and Maintenance Manuals. Three (3) copies of these instructions shall be included with the equipment at time of shipment.

- B. Inspect and report concealed damage to carrier within their required time period. Owner is not responsible for damages incurred during shipping, handling and storage.
- C. Store in a clean, dry space. Maintain factory protection and/or provide an additional heavy canvas or heavy plastic cover to protect structure from dirt, water, construction debris, and traffic. Where applicable, provide adequate heating within enclosures to prevent condensation.

#### 1.06 OPERATION AND MAINTENANCE MANUALS

- A. AC DRIVES operation and maintenance manuals shall be provided with each assembly shipped, and shall include instruction leaflets and instruction bulletins for the complete assembly and each major component.

#### 1.07 WARRANTY

- A. Manufacturer shall warrant AC DRIVES to be free from defects in materials and workmanship for the lesser of one (1) year from date of installation or eighteen (18) months from date of purchase.

#### 1.08 IDENTIFICATION

- A. AC DRIVES shall be identified with the equipment tag number indicated on the Contract Documents and the accepted shop drawings. Nameplates shall be furnished and installed as required Specification Section(s):

- 1. 16075 – ELECTRICAL IDENTIFICATION

### PART 2 - PRODUCTS

#### 2.01 MANUFACTURERS

- A. AC DRIVES shall be designed, constructed and installed in accordance with the best practices of the trade, and shall operate satisfactorily when installed as shown in the Contract Documents.
- B. Subject to compliance with the Contract Documents all AC DRIVES shall be of the same manufacturer and provided by:
  - 1. Square D / Schneider Electric USA
  - 2. No equivalent.
- C. Alternate control techniques other than Pulse Width Modulated (PWM) are not acceptable.

#### 2.02 FEATURES

- A. Certifications
  - 1. Listed to UL508C and CAN/CSA-C22.2 No. 14-05

2. In conformity with EMC Directive (2004/108/EC) and Low Voltage Directive (2006/95/EC). Standards applied; EN 61800-3:2004, EN 61800-5-1:2007
3. Electric Power Research Institute. Certified compliant with standards SEMI F47 and IEC 61000-4-34

**B. Hardware**

1. Utilize latest SCR or IGBT technology on the input rectifier.
2. Utilize switching logic power supply operating from the DC bus.
3. Incorporate phase-to-phase and phase-to-ground MOV protection on the AC input line.
4. Microprocessor based inverter logic shall be isolated from power circuits.
5. Utilize latest generation IGBT technology on the inverter section.
6. Battery receptacle for Lithium battery power to the Real Time Clock.
7. Additional DPI port for handheld and remote Human Interface Module (HIM) options.
8. Dedicated Digital Input for hardware enable.
9. Conformal coated printed circuit boards.
10. Optional onboard 24VDC Auxiliary Control Power Supply.

**C. Standard Control Functions**

1. Ability to operate with motor disconnected "No Load Test".
2. Provide a controlled shut down, when properly protected, with no component failure in the event of an output phase to phase or phase to ground short circuit. Provide annunciation of the fault condition.
3. Provide multiple programmable stop modes including Ramp, Coast, DC-Brake, Ramp-to-Hold, Fast Braking, and Current Limit Stop.
4. Provide multiple acceleration and deceleration rates.
5. Adjustable output frequency up to 65Hz.

**D. EtherNet/IP Control**

1. Ability to provide ON-OFF control of the AC DRIVE.
2. Ability to control outputs and manage status information locally within the AC DRIVES.
3. Ability to function stand-alone or complimentary to supervisory control.
4. Ability to speed reaction time by processing in the AC DRIVES.
5. Ability to provide scaling, selector switches, or other data manipulations not already built into the AC DRIVES.
6. Ability to read inputs/write outputs and exclusively control the AC DRIVES.
7. Ability to provide an option for decision making if communication is lost with main controller.
8. Ability to control other AC DRIVES via a peer-to-peer EtherNet/IP network.
9. Ability to write programs off-line.

**E. Motor Control**

1. Selectable Sensorless Vector, Flux Vector, V/Hz, and Adjustable Voltage Control modes selectable through programming.
2. AC DRIVES shall be supplied with a Start-Up and Auto-Tune mode.
3. The V/Hz mode shall be programmable for fan curve or full custom patterns.
4. Capable of Open Loop V/Hz.

F. Current Limit

1. Programmable current limit from 20-160% of rated output current.
2. Current limit shall be active for all drive states: accelerating, constant speed and decelerating.
3. AC DRIVES shall employ PI regulation with an adjustable gain for smooth transition in and out of current limit.

G. Acceleration / Deceleration

1. Accel/Decel settings shall provide separate adjustments to allow either setting to be adjusted from 0-3600SEC.
2. A second set of remotely selectable accel/decel settings shall be accessible through digital inputs.

H. Speed Profiles

1. Programming capability shall allow the user to produce speed profiles with linear acceleration/deceleration or "S-Curve" profiles that provide changing accel/decel rates.
2. S-Curve profiles shall be adjustable.

I. PID Control

1. AC DRIVES shall incorporate an internal process PI regulator with proportional and integral gain adjustments as well as error inversion and output clamping functions.
2. The feedback shall be configurable for normal or square root functions. If the feedback indicates that the process is moving away from the set-point, the regulator shall adjust the drive output until the feedback equals the reference.
3. Process control shall be capable of being enabled or disabled with a hardwire input. Transitioning in and out of process control shall be capable of being tuned for faster response by preloading the integrator.
4. Protection shall be provided for a loss of feedback or reference signal.

J. Skip Frequencies

1. Three adjustable set points that lock out continuous operation at frequencies which may produce mechanical resonance shall be provided.
2. The set points shall have a bandwidth adjustable from Maximum Reverse Speed to Maximum Forward Speed.

K. Fault Reset / Run

1. AC DRIVES provide up to nine (9) automatic fault reset and restarts following a fault condition before locking out and requiring manual restart.
2. The automatic mode shall not be applicable to a ground fault, shorted output faults and other internal microprocessor faults.
3. The time between restarts shall be adjustable from 0.5-30SEC.

L. Run on Power Up

1. A user programmable restart function shall be provided to allow restart of the equipment after restoration of power after long duration power outages. Restart time dependent on presence of incoming signal.

**M. Fault Memory**

1. The last thirty-two (32) fault codes shall be stored and time stamped in a fault buffer.
2. Information about the AC DRIVES condition at the time of the last fault such as operating frequency, output current, dc bus voltage and twenty-seven (27) other status conditions shall be stored.
3. A power-up marker shall be provided at each power-up time to aid in analyzing fault data.
4. The last thirty-two (32) alarm codes shall be stored and time stamped for additional troubleshooting reference.

**N. Overload Protection**

1. AC DRIVES shall provide internal overload protection.
2. Overload protection shall be speed sensitive and adjustable.
3. A viewable parameter shall store the overload usage.

**O. Flying Start**

1. AC DRIVES shall be capable of determining the speed and direction of a spinning motor and adjust its output to "pick-up" the motor at the rotating speed. This feature is disabled by default.

**P. Input and Output**

1. Input / Output modules shall consist of both analog and digital I/O.
  - a. No jumpers or switches shall be required to configure digital inputs and outputs.
  - b. All digital input and output functions shall be fully programmable.
  - c. The control terminal blocks shall be rated for 115VAC.
  - d. Inputs shall be optically isolated from the drive control logic.
  - e. The control interface card shall provide input terminals for access to fixed AC DRIVES functions that include start, stop, external fault, speed, and enable.
  - f. AC DRIVES shall be capable of supporting up to eight (8) analog inputs, eight (8) analog outputs, sixteen (16) digital inputs, eight (8) relay outputs, eight (8) transistor outputs, and three (3) Positive Temperature Coefficient (PTC) inputs.
2. Analog Inputs:
  - a. Minimum quantity of two (2) differentially isolated,  $\pm 10V$  (bi-polar) / 11 bit plus sign, 88kOHM input impedance, 4-20mA or 1-5V.
  - b. Analog inputs shall be user programmable for a variety of uses including frequency command and process loop input. Analog inputs shall be user

programmable for function scaling (including invert), offset, signal loss detect and square root.

3. Analog Outputs:

- a. Minimum quantity of two (2)  $\pm 10\text{V}$  (bi-polar) / 11 bit & sign, 2kOHM minimum load, 4-20mA, 11 bit plus sign, 400kOHM maximum load.
- b. The analog output shall be user programmable to be proportional to one of fourteen (14) process parameters including output frequency, output current, encoder feedback, output power.
- c. Programming shall be available to select either absolute or signed values of these parameters.

4. Digital Inputs:

- a. Minimum quantity of four (4) digital inputs rated 24VDC/115VAC.
- b. All inputs shall be individually programmable for multiple functions including: Start, Run, Stop, Auxiliary Fault, Speed Select, Jog and Process PI functions.

5. Digital Outputs:

- a. Minimum two (2) relay output (N.O. or N.C.).
- b. For 240VAC or 24VDC, N.O. contact output ratings shall be 2A max., general purpose (inductive)/resistive. N.C. contact output ratings shall be 2A max., resistive only.
- c. Relays shall be programmable to multiple conditions including: Fault, Alarm, At Speed, Drive Ready and PI Excess Error.
- d. Timers shall be available for each output to control the amount of time, after the occurring event, that the output relay actually changes state.
- e. Minimum one (1) transistor output.
- f. For 24VDC, transistor output rating shall be 1A max, Resistive.

6. Reference Signals:

- a. AC DRIVES shall be capable of using the following input reference signals:
  - 1) Analog inputs
  - 2) Preset speeds
  - 3) Remote potentiometer
  - 4) Digital MOP
  - 5) Human Interface Module
  - 6) Communication modules
- b. Loss of Reference

- 1) AC DRIVES shall be capable of sensing reference loss conditions.
- 2) In the event of loss of the reference signal, the AC DRIVE shall be user programmable to the following:
- 3) Fault AC DRIVES and coast to stop.
- 4) Issue a minor fault - allows the AC DRIVES to continue running while some types of faults are present.
- 5) Alarm and maintain last reference.
- 6) When using a communications network to control the AC DRIVES, the communications adapter shall have these configurable responses to network disruptions and controller idle (fault or program) conditions:
  - a) Fault
  - b) Stop
  - c) Zero Data
  - d) Hold Last State
  - e) Send Fault Configuration

**Q. Metering**

1. At a minimum, the following parameters shall be accessible through the Human Interface Module (HIM):
  - a. Output Current in Amps
  - b. Output Voltage in Volts
  - c. Output Power in kW
  - d. Elapsed MWh
  - e. DC Bus Voltage
  - f. Frequency
  - g. Heatsink Temperature
  - h. Last eight (32) faults
  - i. Elapsed Run Time
  - j. IGBT Temperature

**R. Faults**

1. At a minimum, the following faults shall be accessible through the HIM:
  - a. Power Loss



- b. Undervoltage
- c. Overvoltage
- d. Motor Overload
- e. Heat Sink Over-Temperature
- f. Maximum Retries
- g. Phase to Phase and Phase to Ground Faults

S. Predictive Diagnostics

- 1. At a minimum, the following predictive diagnostic features shall be provided:
  - a. Relay Output Life Cycles based on load type and amps.
  - b. Hours of Fan Life based on load and ambient temperature.
  - c. Motor Bearing life based on expected hours of use.
  - d. Motor Lubrication schedule based on hours of use.
  - e. Machine Bearing life based on expected hours of use.

T. Real-Time Clock

- 1. Shall be capable of providing time stamped events.
- 2. Shall have the ability to be set locally or via a remote controller.
- 3. Shall provide the ability to be programmable for date, MM:DD:YYYY and local time zones HH:MM:SS.

U. Terminal Blocks

- 1. Separate screw-cage terminal blocks shall be provided for control and power wiring.
- 2. I/O screw-cage terminal blocks shall be removable with wiring in place.

V. Adjustments

- 1. A digital interface can be used for all set-up, operation and adjustment settings.
- 2. All adjustments shall be stored in nonvolatile memory (EEPROM).
- 3. No potentiometer adjustments shall be required.
- 4. EEPROM memory for factory default values shall be provided.
- 5. Software must be available for trending and diagnostics, as well as online and offline programming functionality.

## 2.03 AC DRIVES SYSTEM

A. Voltage

- 1. Capable of accepting the nominal existing electrical power system of 480VAC 3PH @ 60Hz.

2. The supply input voltage tolerance shall be  $\pm 10\%$  of nominal line voltage.

**B. Displacement Power Factor**

1. AC DRIVES shall be capable of maintaining a minimum true Power Factor (Displacement P.F. X Distortion P.F.) of 0.97 lagging or better at rated load and nominal line voltage, over the entire speed range.
2. AC DRIVES shall operate with the existing electrical power system to include the facility back-up generator. AC DRIVE shall not produce a leading power factor during any point in operation.

**C. Efficiency**

1. A minimum of 96.5% (+/- 1%) at 100% speed and 100% motor load at nominal line voltage.
2. Control power supplies, control circuits, and cooling fans shall be included in all loss calculations.
3. Operating ambient temperature range without derating: 0°C-40°C (32°F-104°F)
4. Operating relative humidity range shall be 5-95% non-condensing.
5. Operating elevation shall be up to 1000M (3,300FT) without derating.

**D. Sizing**

1. AC DRIVES shall be rated based on continuous output amps, and matched to meet or exceed the nameplate-rated Motor Full Load Amps (FLA) of those motors as shown in the Contract Documents.
2. Overload current rating of each AC DRIVES System shall be rated appropriately for the application.

**E. Auto Reset/Run**

1. For faults other than those caused by a loss of power or any other non-critical fault, AC DRIVES shall provide a means to automatically clear the fault and resume operation.

**F. Ride-Through**

1. AC DRIVES System shall attempt to ride through power dips up to 20% of nominal. The duration of ride-through shall be inversely proportional to load. For outages greater than 20%, AC DRIVES shall stop the motor and issue a power loss alarm signal to a process controller, which may be forwarded to an external alarm signaling device.

**G. Run on Power Up**

1. AC DRIVES shall provide circuitry to allow for remote restart of equipment after a power outage. Unless indicated in the Contract Documents, faults due to power outages shall be remotely resettable. AC DRIVES shall indicate a loss of power to a process controller, which may be forwarded to an external alarm signaling device. Upon indication of power restoration, the process controller will attempt to clear any faults and issue a run command, if desired.

**H. Network Communications**

1. AC DRIVES shall provide at a minimum one (1) Modbus and one (1) Ethernet Modbus TCP communications ports. In addition, the following communications options shall be provided as necessary for communications. Reference network communication requirements as specified elsewhere in the Project Specification Sections.
  - a. Ethernet IP and/or Modbus TCP, RJ45 dual port for daisy chain
2. Ethernet ports shall be IPv6 compliant, allow for web server access and provide network management via SNMP and clock synchronization.
3. AC DRIVES shall provide an embedded web server for enhanced diagnostic, configuration, parameter access, and energy management. There shall be the capability to create a user-defined custom dashboard for viewing drive and process status through tables, charts, and graphical views. It shall be possible to export data in standard table format using the webserver, for information around energy consumption as well as error and warning history.
4. AC DRIVES communications modules shall be capable of being remotely powered by a separate external 24VDC to allow for continued communications when AC DRIVES power supply is off.
5. AC DRIVES shall provide integration connectivity via
  - a. DHCP protocol for Fast Device Replacement
  - b. DTM library in compliance with standard FDT technology
6. Diagnostics and Configuration
  - a. AC DRIVES shall allow Windows based PC software for configuring and diagnosing the AC DRIVES. It shall be possible to set and modify parameters, control the AC DRIVES, read actual values and make trend analysis using the software. The PC-tools may be connected to the AC DRIVES by wired or wireless connection.
  - b. AC DRIVES shall display all faults in plain text and help screens shall be available to guide the user in the troubleshooting. Codes are not acceptable.
  - c. AC DRIVES shall provide a Real Time Clock management for time stamping of detected errors.
  - d. AC DRIVES shall display detected errors with QR codes to guide the user in the troubleshooting.
  - e. AC DRIVES must have the ability to dynamically display I/O status.
7. Isolation / Bypass Starters / Controllers
  - a. Where required in the Project Specifications and/or as shown in the Contract Documents, provide and install a Full Voltage Non-Reversing Starter (FVNR) or Reduced-Voltage Solid-State (RVSS) motor controller sized as required to start and control the motor load instead of the AC DRIVE.

- b. FVNR or RVSS shall be UL listed and shall include, but shall not be limited to, a contactor capable of carrying the motor inrush and motor full load current.
- c. An overload provision independent of the AC DRIVE shall be provided to protect the motor in the BYPASS mode.
- d. FVNR or RVSS motor starter/controller components shall be integrated inside the AC DRIVE with steel barriered construction, segregating the BYPASS motor controller from the AC DRIVE and shall be fully tested by the manufacturer.

I. Human Interface Module (HIM)

- 1. AC DRIVES shall provide a HIM with integral LCD display, operating keys and programming keys.
- 2. An enclosure door-mounted HIM, rated NEMA/UL Type 4/12, shall be provided.
- 3. The HIM shall have the following features:
  - a. An eight (8) line by (240 x 160) pixel backlit LCD display with graphics capability.
  - b. Shall indicate AC DRIVES operating conditions, adjustments and fault indications.
  - c. Shall be configured to display in the following three (3) distinct zones:
    - 1) The top zone shall display the status of direction, AC DRIVES condition, fault / alarm conditions and Auto/Manual mode.
    - 2) The middle zone shall display AC DRIVES output frequency.
    - 3) The bottom zone shall be configurable as a display for either programming menus / information or as a two (2) line user display for two additional values utilizing scaled units.
  - d. Shall provide digital speed control.
  - e. The keypad shall include programming keys, AC DRIVES operating keys (Start, Stop, Direction, Jog and Speed Control), and numeric keys for direct entry.

J. AC DRIVES Enclosure Input Disconnect

- 1. Provide an enclosure door interlocked disconnect with power-rated fuses.
- 2. AC DRIVES shall match the Available Interrupting Current (AIC) and Short Circuit Current Rating (SCCR) of the existing equipment as referenced in the Contract Documents.
- 3. Operator Handles
  - a. Provide externally operated main disconnect handle.
  - b. Handles shall be lockable with up to three (3) lockout/tagout padlock positions.

- K. Control Power Transformer
1. Provide a control power transformer mounted and wired inside of the AC DRIVES enclosure.
  2. The control power transformer shall be rated for the all AC DRIVES power requirements and control circuitry to include ancillary devices.
- L. Harmonics
1. Mitigation
    - a. AC DRIVES shall be compliant with IEEE519-1992 standards at the input AC DRIVES terminals based upon the input power phase imbalance within 0.5% of nominal line voltage and under full AC DRIVES output current ratings.
  2. Equipment
    - a. AC DRIVES shall include 3% effective impedance. If integral to the AC DRIVE, a DC choke shall be used.
    - b. Passive Harmonic Filter with Capacitor Cutout Contactor:
      - 1) AC DRIVES shall utilize a Passive Harmonic Filter that is designed to limit harmonic distortion (current and voltage) to levels that allow the overall system to meet IEEE519-1992. The Passive Harmonic Filter shall include a capacitor cut-out contactor to disconnect the capacitor assembly under no-load, low-load and/or generator power conditions.
    - c. Load Filters:
      - 1) AC DRIVES shall include, but not be limited to, a motor protection filter unit designed to limit peak voltages and reduce electrical stress on the motor insulation. This option shall be required for motor lead lengths longer than 200FT.
- M. Auxiliary Relays
1. Provide relays for Drive Alarm, Drive Fault, Drive Run, and System Status Faults (as required).
  2. The relays shall be (2 N.O. & 2 N.C.). The relay contacts shall be rated for 115VAC/30VDC, 5A resistive, 2.5A inductive.
- N. Control Interface
1. The control terminals shall be rated for 115VAC.
  2. The control interface shall provide input terminals for access to AC DRIVES functions that include start, stop, external fault, speed-select, and enable, as required.

O. Motor Space Heater Control and auxiliary motor control loads

1. AC DRIVES shall provide the control circuitry to energize motor space heaters whenever the motor is not running via internal power.
2. The motor space heater control shall be interlocked with the AC DRIVES and shall be energized whenever the motor is not running
3. An LED pilot light with shall be mounted on the AC DRIVES enclosure door for indication of Motor Heater On.
  - a. Reference Section 2.3 P

P. Switch Operators and Pilot Lights

1. E-Stop / Disable Mushroom Push Button
  - a. Provide and install a maintained mushroom style push button, mounted on the enclosure door that when pushed, will disable the AC DRIVE and immediately stop operation.
2. Hand/Off/Auto Mode Selector Switch
  - a. Provide a HAND-OFF-AUTO selector switch, mounted on the enclosure door.
  - b. HAND-OFF-AUTO selector switch shall start the AC DRIVES in the HAND mode and stop the AC DRIVES in the OFF mode.
  - c. In the AUTO mode the AC DRIVES shall be started and stopped from a remote RUN contact.
  - d. In all modes, Auxiliary and Enable inputs to the AC DRIVES control interface board must be present before the AC DRIVES will start.
  - e. When a HIM is present, the stop function shall always be available to stop the AC DRIVES regardless of the selected mode (HAND or AUTO). The HIM will be non-functional (except for the display and programming) when the switch is in OFF mode. The HIM shall stop the AC DRIVES if the switch is in the AUTO mode with the remote start contact initiated.
  - f. AC DRIVES speed reference shall be controlled from the HIM, unless a separate door-mounted potentiometer is provided, when in HAND mode (factory default setting).
  - g. AC DRIVES speed reference shall be controlled by a remote 4-20mA input when in AUTO mode.
3. AFD/Off/Bypass Selector Switch
  - a. Where required in the Project Specifications and/or shown in the Contract Documents, provide and install an AFD-OFF-BYPASS selector switch, mounted on the enclosure door.
  - b. In the AFD mode, the AC DRIVE shall operate the AFD controller and stop the AC DRIVE in the OFF mode.

- c. In BYPASS mode, the AC DRIVE shall operate the Full-Voltage Non-Reserving Starter or the Reduced Voltage Solid-State Starter (as required) motor controller in the BYPASS mode and stop the AC DRIVE in the OFF mode.
- d. The operator shall have full control of the bypass starter by operation of the door-mounted selector switch.
- e. When the AC DRIVES are supplied with a HAND-OFF-AUTO selector switch, the auto mode shall also control the RUN / STOP of the bypass operation.

4. Pilot Lights

- a. Provide LED pilot lights, mounted on the enclosure door, for indication of the following status:
  - a. Power ON / Controller READY pilot light, LED, BLUE
  - b. RUNNING pilot light, LED, GREEN, push-to-test
  - c. STOPPED pilot light, LED, RED, push-to-test.
  - d. HAND / AUTO pilot lights, LED, AMBER, push-to-test
  - e. FAULT(S) pilot light, LED, AMBER, push-to-test
  - f. Additional pilot lights shall be installed as required in accordance with the Contract Documents.

- 5. All operators and pilot lights shall be (30mm), NEMA Type 4/13, mounted on the enclosure door.

Q. Motor Run Time Meter

- 1. Provide a digital, non-resettable, door-mounted elapsed time meter.
- 2. The meter shall be electrically interlocked with the Drive Run relay to indicate actual motor operating hours.

R. Motor Thermal Protection

- 1. Motors equal to and greater than 250hp nameplate and/or as shown on the Contract Documents
  - a. Provide a door-mounted RTD module/interface and panel-mounted scanner for over-temperature and under-temperature protection.
  - b. RTD module shall monitor at least eight (8) motor mounted RTDs minimum and shall have at least three (3) output relays for alarm, trip and fault.
  - c. Customer contacts shall be rated 5A 250VAC resistive.

## **PART 3 - EXECUTION**

### **3.01 FACTORY ACCEPTANCE TESTING**

- A. AC DRIVES shall go through a non-witnessed, Factory Acceptance Test (FAT) prior to shipment. FAT shall include, but not limited to, the following:
1. Physical Inspection of the following:
    - a. Structure
    - b. Electrical conductors, including, but not limited to, the following:
      - 1) Power and Control wiring
  2. Electrical Tests:
    - a. General electrical tests shall include, but shall not be limited to, the following:
      - 1) Power circuit phasing
      - 2) Control circuit wiring
      - 3) Device electrical operation
      - 4) No-load motor testing
      - 5) Forced faults
    - b. AC dielectric tests shall be performed on the power circuits.
  3. Markings/labels include, but shall not be limited to, the following:
    - a. Instructional type
    - b. UL/CSA
    - c. Inspector's stamps
  4. Each device shall be configured and addressed to correspond with software setting.
  5. A read/write test shall be performed prior to shipment on network devices.
  6. Testing shall be designed to verify system operation and shall include, but shall not be limited to, these verifications as a minimum:
    - a. Drawings and bill of materials
    - b. I/O addressing, hard-wired and digital
    - c. Correct device operation by I/O address
    - d. Host communications
    - e. Control network interface
- B. Manufacturer shall use integral quality control checks throughout the manufacturing process to ensure that AC DRIVES meet operating Specifications.



- C. A certified test report of all standard FAT procedures, tests, results and corrective actions shall be shipped with AC DRIVES.
- D. Manufacturer shall notify Engineer two (2) weeks prior to the date the tests are to be performed

### 3.02 EXAMINATION

- A. Examine concrete flooring and/or concrete equipment pad(s) to receive AC DRIVES for compliance with installation tolerances and other conditions affecting performance of the product as required by the manufacturers installation instructions and recommendations to include Engineer installation details. Do not proceed with installation until unsatisfactory conditions have been met or corrective action has been taken.

### 3.03 INSTALLATION

- A. Contractor shall install AC DRIVES per the manufacturer's recommendations and the Contract Documents.
- B. All necessary hardware to secure the assembly in place shall be provided by the Contractor.
- C. AC DRIVES shall be installed and checked in accordance with the manufacturer's recommendations. This shall include but not limited to:
  1. Checking to ensure that concrete flooring and/or concrete equipment pad(s) are level to within 0.125IN per 3FT feet of distance in any direction; reference Section 2.3B
  2. Checking to ensure that all bus bars are torqued to the manufacturer's recommendations
  3. Assembling all shipping sections, removing all shipping braces and connecting all shipping split mechanical and electrical connections
  4. Securing AC DRIVES to concrete flooring and/or concrete equipment pad(s).
  5. Inspecting and installing all circuit breakers in their proper compartments

### 3.04 FIELD QUALITY CONTROL

- A. Clean, inspect, test, and energize AC DRIVES in accordance with applicable NECA / NEIS standards and recommendations.
- B. Field testing shall be done in accordance with the requirements specified in Specification Sections:
  1. Division 2 – SITE CONSTRUCTION
  2. 16080 – ELECTRICAL TESTING
  3. Coordinate inspections and tests as required
- C. After completing installation, cleaning, and testing, touch up scratches and mars on finish to match original finish.
- D. Provide the services of a qualified factory-trained manufacturer's representative to provide start-up of the equipment specified under this Section for a period of one (1) working days.
- E. Contractor shall provide three (3) copies of the manufacturer's field startup report.

### 3.05 TRAINING

- A. Contractor shall provide a training session for up to five (5) Owner's representatives for one (1) normal workday at a job site location determined by the Owner.
- B. Training sessions shall be conducted by a manufacturer's qualified representative. The training program shall consist of the instruction on the operation of the assembly, circuit breakers, and major components within the assembly.

**END OF SECTION**

## **SECTION 16410 – ENCLOSED SWITCHES AND CIRCUIT BREAKERS**

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### **PART 1 - GENERAL**

#### **1.01 REQUIREMENT SUMMARY**

- A. Contractor shall provide and install all Disconnect Switches of voltage and current ratings as shown in the Contract Documents of the type approved and as indicated herein.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this Section, the requirements of Division 16 and those Project Specification Sections referenced therein shall be applied.
- B. Related Specification Sections include but not limited to:
  - 1. 16120 – CONDUCTORS AND CABLES
  - 2. 16111 – CONDUIT AND RACEWAYS

#### **1.03 REFERENCES**

- A. Disconnect Switches shall conform to all applicable Federal, UL, and NEMA standards. Materials and components shall be new and conform to grades, qualities and standards as specified herein and shown in the Contract Documents.
- B. Codes and Standards:
  - 1. UL Listing/ Approval
  - 2. UL 98 - Enclosed and Dead Front Switches
  - 3. NEMA KS 1 - Enclosed Switches
  - 4. NEMA 250 - Enclosures for Electrical Equipment

#### **1.04 SUBMITTALS**

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:
  - 1. 01310 – ADMINISTRATIVE REQUIREMENTS
- B. Shop Drawings
  - 1. Submittal shall be complete in all respects, incorporating all information and data listed herein and all additional information required for evaluation of the proposed equipment's compliance with the Contract Documents.
  - 2. Partial, incomplete or illegible submittals will be returned to the Contractor without review for resubmittal.
  - 3. Shop drawings shall include but not be limited to:
    - a. Equipment specifications and product data sheets identifying all materials used and methods of fabrication.
    - b. Complete layout drawing(s) with clearly marked dimensions for each type/size/rating of Disconnect Switch.

- c. Double-Throw Disconnect Switches identified for use as Service-Entrance (SE) equipment are to be labeled for this application.
  - d. Assembled weight of each unit.
- 4. Shop drawing information shall be complete and organized in such a way that Engineer can determine if the requirements of these Specifications are being met. Copies of technical bulletins, technical data sheets from "soft-cover" catalogs, and similar information which is "highlighted" or somehow identifies the specific equipment items that the Contractor intends to provide are acceptable and shall be submitted.
- C. Qualifications
  - 1. For approval, manufacturer shall have specialized in the manufacturing and assembly of Disconnect Switches for at least fifty (50) years.
  - 2. Furnish products listed by Underwriters Laboratories Incorporated and in accordance with standards listed in Section 1.3.
  - 3. Manufacturer of the assembly shall be the manufacturer of the major components within the assembly.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Disconnect Switches and all components shipped loose shall be handled and stored in accordance with manufacturer's instructions and recommendations.
- B. Inspect and report concealed damage to carrier within their required time period. Owner is not responsible for damages incurred during shipping, handling and storage.
- C. Store in a clean, dry space.

#### 1.06 OPERATION AND MAINTENANCE MANUALS

- A. Disconnect Switches operation and maintenance manuals shall be provided with each lot shipped, and shall include instruction leaflets and instruction bulletins for the assembly.

#### 1.07 WARRANTY

- A. Manufacturer shall warrant Disconnect Switches to be free from defects in materials and workmanship for the lesser of one (1) year from date of installation or eighteen (18) months from date of purchase.

#### 1.08 IDENTIFICATION

- A. Disconnect Switches shall be identified with the equipment tag number indicated on the Contract Documents and the accepted shop drawings. Nameplates shall be furnished and installed as required Specification Section(s):
  - 1. 16075 – ELECTRICAL IDENTIFICATION

## **PART 2 - PRODUCTS**

### **2.01 MANUFACTURERS**

- A. The equipment covered by this Section is intended to be standard equipment of proven performance as manufactured by reputable concerns. Equipment shall be designed, constructed and installed in accordance with the best practices of the trade, and shall operate satisfactorily when installed as shown in the Contract Documents.
- B. Subject to compliance with the Contract Documents all Disconnect Switches shall be of the same manufacturer and provided by:
  - 1. Square D / Schneider Electric USA
  - 2. Acceptable as Specified in the Owner's Approved Products List

### **2.02 GENERAL-DUTY SAFETY DISCONNECT SWITCHES**

- A. Provide Disconnect Switches as shown in the Contract Documents with the following ratings:
  - 1. 30A to 600A
  - 2. 240VAC maximum
  - 3. 2- and 3-pole plus Solid Neutral (S/N)
  - 4. Fusible and Non-Fusible
  - 5. Mechanical lugs suitable for aluminum or copper conductors
- B. Construction:
  - 1. Switch blades and jaws shall be visible and plated copper
  - 2. Disconnect Switches shall have a black handle through 100A (except on plug-fuse type) that is easily pad-lockable with two 3/8IN shank locks in the OFF position. Higher rating shall have a RED handle that is easily pad-lockable with three 3/8IN shank locks in the OFF position
  - 3. Disconnect Switches shall have non-defeatable door interlock that prevent the door from opening when the handle is in the ON position
    - a. Switch assembly and operating handle shall be an integral part of the enclosure
    - b. Disconnect Switches rated 200A to 600A shall have reinforced fuse clips
    - c. Switch blades shall be readily visible in the "ON" and "OFF" position
  - 4. Switch operating mechanism shall be non-teasable, positive quick-make/quick-break type (except 30A plug-fuse type and compact design general-duty double-throw)
  - 5. Fusible Disconnect Switches shall be suitable for service entrance equipment and be equipped with factory installed neutrals, as noted on drawings
  - 6. All Disconnect Switches (except 30A plug-fuse type) shall have hinged doors. Door padlocking capability shall be provided
  - 7. Disconnect Switches shall be suitable for systems capable of 100kA with Class R Fuses (except 30A plug-fuse type)
  - 8. Double-Make, Double-Break switch blade feature shall be provided (except 30A plug-fuse type and compact design general-duty double throw)

9. 30A to 100A shall have Class R fuse rejection capability (not applicable to plug-fuse type)
10. Viewing Window, lower contacts
11. Voltage Indicators, line-side and load-side

C. Enclosures

1. All enclosures shall be NEMA-1 general purpose unless otherwise noted.
2. Paint color shall be ANSI 61 gray
3. Other types, where noted in the Contract Documents shall be:
  - a. NEMA-1G plug fuse indoor:
    - 1) 30A to 60A NEMA 1 enclosures shall have tangential knockouts on the top, bottom and sides of the enclosure.
  - b. NEMA-3R rainproof:
    - 1) Enclosures shall have tangential knockouts on the bottom and sides. (Not applicable to NEMA-1 plug-fuse type).

2.03 HEAVY-DUTY SAFETY DISCONNECT SWITCHES

A. Provide Disconnect Switches as shown in the Contract Documents with the following ratings:

1. 30A to 1200A
2. 250VAC/DC, 600VAC (30A to 200A 600VDC)
3. 2, 3, 4 and 6 poles (2, 3 and 4 poles on 800A; 2 and 3 poles on 1200A)
4. Fusible and Non-Fusible
5. Mechanical lugs suitable for aluminum or copper conductors.

B. Construction:

1. Switch blades and jaws shall be visible and plated copper
2. Disconnect Switches shall have a RED handle that is easily pad-lockable with three 3/8IN shank locks in the OFF position
3. Disconnect Switches shall have non-defeatable door interlock that prevent the door from opening when the handle is in the ON position (except for double-throw switches). Defeater mechanism shall be front accessible.
4. Switches shall have deionizing arc chutes.
5. Disconnect Switch assembly and operating handle shall be an integral part of the enclosure base.
6. Disconnect Switches rated 30A to 600A shall have reinforced fuse clips
7. Switch blades shall be readily visible in the "ON" and "OFF" position
8. Switch operating mechanism shall be non-teasable, positive quick-make/quick-break type. Bail type mechanisms are not acceptable
9. Fusible Disconnect Switches shall be suitable for service entrance equipment (except for 4-pole switches and 1200A when used on 480/277 or 600/347 grounded WYE systems)
10. Switches shall have line terminal shields (except for non-fusible double throw switches)
11. Disconnect Switches shall be suitable for systems capable of 200kA at 480V with Class J, L, R, or T fusing as applicable for single-throw switches; 100kA at 600V for double- throw switches

12. Engraved ON-OFF indication label shall be provided
13. Double-Make, Double-Break switch blade feature shall be provided
14. Fuse pullers shall be provided on all NEMA-4X and NEMA-12 Disconnect Switches through 200A
15. Shunt-trippable mechanism for switches 30A thru 800A switches, NEMA-12/3R, 4, and 4X/SS
  - a. Coil voltage rating 24, 48, 120, 240, 480 VAC and 24, 48 and 125VDC
  - b. Minimum operating voltage 55% of nominal rating for AC coils rated for Class 1 ground fault interruption
  - c. 3-cycle maximum response time
16. Viewing Window, lower contacts
17. Voltage Indicators, line-side and load-side

C. Enclosures:

1. All enclosures shall be NEMA-12 general purpose unless otherwise shown in the Contract Documents.
2. Other types, where noted, shall be:
  - a. NEMA-3R rainproof
  - b. NEMA-4X watertight corrosion-resistant:
    - 1) 30A to 200A – 304 stainless steel
    - 2) 400A to 1200A – 304 stainless steel
  - c. NEMA-12 dust-tight and oil-tight special industry (dual NEMA-12/3R rating through 800A).
  - d. Paint color shall be ANSI 61 gray
3. 30A to 100A NEMA-4X and 12 enclosures shall be provided with draw-pull latches.

## 2.04 HEAVY-DUTY DOUBLE-THROW GENERATOR SAFETY DISCONNECT SWITCHES

- A. Provide Heavy-Duty Double-Throw Generator Disconnect Switches as shown in the Contract Documents, with the following ratings:
1. 100A – 800A
  2. 250VAC/DC; 600VAC (30A - 200A 600VDC)
  3. 2, 3 or 4 poles
  4. Upper utility switch shall be: Fusible
  5. Lower generator switch shall be: Fusible
  6. Mechanical lugs suitable for aluminum or copper conductors
- B. Construction:
1. Switch blades and jaws and bus bars shall be visible and plated copper

2. Disconnect Switches shall have a RED handle that is easily pad-lockable with three 3/8IN shank locks in the OFF position
3. Switch shall be of double throw design such that both switches may not be closed simultaneously. Handle operation shall have an "OFF" position between the two on positions.
4. Disconnect Switch shall be equipped with a separate interlocked receptacle compartment containing receptacles for quick-connection and disconnection of portable cord-connected equipment.
5. Interlock shall prevent the lower generator switch from being closed while cable compartment door is open, and shall prevent the door from being opened while the switch is closed.
6. Compartment shall be equipped with a spring-assisted door to allow portable cords to exit the compartment while in use, but shall close when not in use to effectively seal the compartment to prevent insects and small animals from entry.
7. Compartment shall be equipped with receptacles for sufficient cable connection for the ampacity of the switch.
8. Receptacles for switches 200A and greater shall be of the single cable per phase design – utilizing quarter turn cam type connections.
  - a. Receptacles shall be: Cam-Lok type.
  - b. 600A and 800A switches shall employ parallel receptacles.
9. Switch shall have deionizing arc chutes.
10. Disconnect Switches shall have factory-installed ground lug kit.
11. Switch assembly and operating handle shall be an integral part of the enclosure base
12. Switch blades shall be readily visible in the "ON" and "OFF" position.
13. Switch operating mechanism shall be non-teasable, positive quick-make/quick-break type. Bail type mechanisms are not acceptable.
14. Fusible Disconnect Switches shall be suitable for Service-Entrance equipment.
15. Disconnect Switches shall have a solid or switched neutral as shown in the Contract Documents.
16. Disconnect Switches shall have line terminal shields (except for non-fusible double throw switches).
17. Switch shall be suitable for systems capable of 100kA at 600V with embossed or engraved ON-OFF indication shall be provided
18. Double-make, double-break switch blade feature shall be provided.
19. Viewing Window, lower contacts
20. Voltage Indicators, line-side and load-side

C. Enclosures:

1. All enclosures shall be NEMA-3R heavy-duty unless otherwise shown in the Contract Documents.
2. Other types, where noted, shall be:
  - a. NEMA-4X watertight corrosion-resistant
    - 1) 100A to 800A – 304 stainless steel
  - b. NEMA-12 dust-tight and oil-tight special industry (dual NEMA-12/3R rating through 800A).
    - 1) Paint color shall be ANSI 61 gray



3. 600A and 800A Switches shall be equipped with lifting eyes.
4. The following factory modifications are to be included:
  - a. Factory installed UL listed switching neutral bonding kit for 3 or 4 pole double throw switches requiring a switching neutral

### **PART 3 - EXECUTION**

#### **3.01 INSTALLATION**

- A. Disconnect Switches to be mounted 60IN to top of enclosure above the finished floor, finished concrete or finished grade at the equipment height where appropriate, or as shown in the Contract Documents.
- B. Disconnect Switches shall not be mounted to any hand-rail, safety rail stair-well, ladder-well or like structure that is designed for life-safety use. A minimum of 4IN shall be maintained from all life-safety structures and any edge of Disconnect Switches.
- C. Contractor shall provide and install supports and/or support structures such as equipment racks to mount all Disconnect Switches.
- D. Contractor shall furnish and install fuses or circuit breakers as required or shown in the Contract Documents.

#### **3.02 PROJECT CLOSE OUT**

- A. All exterior and interior surfaces of the Disconnect Switches shall be cleaned thoroughly, and all scratches and abrasions shall be retouched with the same paint coating as approved by the manufacturer for touch-up work.
- B. Interiors of Disconnect Switches shall be free of debris to include cleaning of wire/cable pulling compounds. The use of compressed air systems is not acceptable.

### **END OF SECTION**

## **SECTION 16430 – SWITCHBOARDS**

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### **PART 1 - GENERAL**

#### **1.1 REQUIREMENT SUMMARY**

- A. Contractor shall furnish and install floor-mounted dead-front low-voltage Switchboards which consist of an enclosure, circuit breakers, instruments and metering equipment, monitoring equipment or control equipment, with associated interconnections and supporting structures connected solidly (bussed) to Metal-Enclosed Draw-Out Switchgear as indicated on the Contract Documents and as specified herein.
  - 1. Distribution Switchboard - Furnish and install the distribution switchboard(s) shown on the Contract Documents and specified in this Specification Section.
- B. Equipment supplier shall preform and provide all data and reports as required for the Switchboards and all associated connected loads as shown in the Contractor Documents in accordance with the Project Specification Sections.

#### **1.2 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this Section, the requirements of Division 16 and those Project Specification Sections referenced therein shall be applied.
- B. Related Specification Sections include but not limited to:
  - 1. 16010 – ELECTRICAL POWER STUDIES
  - 2. 16671 – TRANSIENT VOLTAGE SURGE SUPPRESSION

#### **1.3 REFERENCES**

- A. Switchboards and overcurrent protection devices referenced herein are designed and manufactured according to the following appropriate codes and regulations.
- B. Codes and Standards:
  - 1. ANSI/NFPA 70 - National Electric al Code (NEC).
  - 2. ANSI/IEEE C12.16 - Solid-State Electricity Metering.
  - 3. ANSI C57.13 - Instrument Transformers.
  - 4. NEMA AB 1 - Molded Case Circuit Breakers and Molded Case Switches.
  - 5. NEMA PB 2 - Deadfront Distribution Switchboards, File E8681
  - 6. NEMA PB 2.1 - Proper Handling, Installation, Operation and Maintenance of Deadfront Switchboards Rated 600 Volts or Less.
  - 7. NEMA PB 2.2 - Application Guide for Ground Fault Protective Devices for Equipment.
  - 8. UL 50 - Cabinets and Boxes.
  - 9. UL 98 - Enclosed and Dead Front Switches.
  - 10. UL 489 - Molded Case Circuit Breakers.
  - 11. UL 891 - Dead-Front Switchboards.
  - 12. UL 943 - Standard for Ground Fault Circuit Interrupters.
  - 13. Federal Specification W-C-375B/Gen - Circuit Breakers, Molded Case, Branch Circuit and Service.

#### 1.4 SUBMITTALS

A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:

1. 01310 – ADMINISTRATIVE REQUIREMENTS

B. For Engineer Review

1. The following information shall be submitted to the Engineer:

- a. Master drawing index
- b. Front view and plan view of the assembly
- c. Three-line diagrams
- d. Schematic diagrams
- e. Nameplate schedule
- f. Component list
- g. Conduit space locations within the assembly
- h. Assembly ratings include but not limited to:
  - 1) Short-circuit rating
  - 2) Voltage
  - 3) Continuous current rating
- i. Major component ratings include but not limited to:
  - 1) Voltage
  - 2) Continuous current rating
  - 3) Interrupting ratings
- j. Cable terminal sizes
- k. Product data sheets

2. Where applicable, the following additional information shall be submitted to the Engineer:

- a. Busway connection(s)
- b. Composite front view and plan view of close-coupled assemblies

C. For Construction

1. The following information shall be submitted for record purposes:

- a. Final as-built drawings and information for items listed in Section 1.4B, and shall incorporate all changes made during the manufacturing process

- b. Wiring diagram(s)
- c. Certified production test report(s)
- d. Installation information

D. Qualifications

- 1. For approval, manufacturer shall have specialized in the manufacturing and assembly of Switchboards for at least fifty (50) years.
- 2. Furnish products listed by Underwriters Laboratories Incorporated and in accordance with standards listed in Section 1.3.
- 3. Manufacturer of the assembly shall be the manufacturer of the major components within the assembly.
- 4. Equipment specified herein, the manufacturer shall be ISO 9001 or 9002 certified.
- 5. Switchboards shall bear a UL 891 label.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Switchboards and all components shipped loose shall be handled and stored in accordance with manufacturer's instructions and recommendations as outlined in applicable Installation and Maintenance Manuals. Three (3) copies of these instructions shall be included with the equipment at time of shipment.
- B. Switchboards section(s) shall be delivered in individual shipping splits for ease of handling. Sections shall be individually wrapped for protection and mounted on shipping skids as required to prevent tipping.
- C. Inspect and report concealed damage to carrier within their required time period. Owner is not responsible for damages incurred during shipping, handling and storage.
- D. Store in a clean, dry space. Maintain factory protection and/or provide an additional heavy canvas or heavy plastic cover to protect structure from dirt, water, construction debris, and traffic. Where applicable, provide adequate heating within enclosures to prevent condensation.

1.6 OPERATION AND MAINTENANCE MANUALS

- A. Switchboards operation and maintenance manuals shall be provided with each assembly shipped, and shall include instruction leaflets and instruction bulletins for the complete assembly and each major component.
  - 1. Operation and Maintenance manuals, drawings etc. to be provided within the assemblies shall be water-proof and fire-resistant utilizing tear-resistant paper.

1.7 WARRANTY

- A. Manufacturer shall warrant Switchboards to be free from defects in materials and workmanship for the lesser of one (1) year from date of installation or eighteen (18) months from date of purchase.

## 1.8 IDENTIFICATION

- A. Switchboards shall be identified with the equipment tag number indicated on the Contract Documents and the accepted shop drawings. Nameplate(s) shall be securely affixed in a conspicuous place on Metal-Enclosed Draw-Out Switchgear. Nameplates shall be furnished and installed as required Specification Section(s):

### 1. 16075 – ELECTRICAL IDENTIFICATION

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Switchboards shall be provided by one of the manufacturers listed:
  - 1. Square D / Schneider Electric USA
  - 2. Acceptable as Specified in the Owner's Approved Products List
- B. Manufacturer of Switchboards shall be the same as the manufacturer of the circuit breakers or the switches mounted within Switchboards.
- C. Switchboards shall be by the same manufacture as the Metal-Enclosed Draw-Out Switchgear for the purposes of stocking common breaker types, series ratings, etc.

### 2.2 SWITCHBOARD - GENERAL

- A. Short Circuit Current Rating: Switchboards shall be rated with a minimum short circuit current rating of 65kA RMS symmetrical at 600VAC maximum.
- B. Future Provisions: All unused spaces provided, unless otherwise specified, shall be fully equipped for future devices, including all appropriate connectors and mounting hardware.
  - 1. Enclosure: NEMA 1G/12
- C. Sections shall be aligned front and rear.
- D. Removable steel base channels 1.5IN shall be bolted to the frame to rigidly support the entire shipping section for moving on rollers and floor mounting.
- E. Switchboards enclosure shall be painted on all exterior surfaces. The paint finish shall be a medium gray, ANSI #49, applied by the electro-deposition process over an iron phosphate pre-treatment.
- F. All front covers shall be screw removable with a single tool and all doors shall be hinged with removable hinge pins.
- G. Top and bottom conduit termination areas shall be clearly indicated on shop drawings.

### 2.3 NAMEPLATES

- A. Engraved nameplates, mounted on the face of the Switchboards, shall be furnished for all main and feeder circuits as indicated in the Contract Documents; reference Section 1.8.

- B. Furnish master nameplate giving Switchboards designation, voltage ampere rating, short-circuit rating, and manufacturer's name.
- C. Control components mounted within the assembly, such as fuse blocks, relays, pushbuttons, switches, etc., shall be suitably marked for identification corresponding to appropriate designations on manufacturer's drawings.

#### 2.4 BUS

- A. All bus bar shall be tin-plated copper. Plating shall be applied continuously to all bus work. Switchboards bussing shall be of sufficient cross-sectional area to meet UL Standard 891 temperature rise requirements. The phase and neutral through-bus shall have an ampacity as shown in the Contract Documents. The neutral shall be of equivalent ampacity as the phase bus bar. Tapered bus is not acceptable.
- B. Full provisions for the addition of future sections shall be provided. Bussing shall include all necessary hardware to accommodate splicing for future additions.
- C. Connections shall be bolted with Grade 5 bolts and conical spring washers.
- D. Ground bus shall be sized per NFPA70 and UL 891 Tables 25.1 and 25.2 and shall extend the entire length of the Switchboard. Provisions for the addition of future sections shall be provided.

#### 2.5 WIRING / TERMINATIONS

- A. Small wiring, necessary fuse blocks and terminal blocks within the Switchboards shall be furnished as required. Control components mounted within the assembly, such as fuse blocks, relays, pushbuttons, switches, etc., shall be suitably marked for identification corresponding to appropriate designations on manufacturer's wiring diagrams.
- B. All control wire shall be type SIS and 14AWG for control circuits. Wire bundles shall be secured with nylon ties and anchored to the assembly with the use of pre-punched wire lances or nylon non-adhesive anchors. All groups of control wires leaving the Switchboards shall be provided with screw-cage terminal blocks with suitable numbering strips and provisions for 10AWG field connections. Provide printed heat-shrink sleeve wire markers at each end of all control wiring. Plug-in terminal blocks shall be provided for all shipping split control wires. Terminal connections to remote devices or sources shall be front accessible via doors above each circuit breaker.

#### 2.6 SWITCHBOARD – DISTRIBUTION SECTION

- A. General:
  - 1. Distribution section shall be of the configuration and ratings as shown on the Contract Documents. Distribution section shall be dead-front type with automatic trip-free, non-adjustable, thermal overload branch circuit breakers, unless otherwise shown in the Contract Documents. Distribution circuit breakers shall be bolt-on molded case type conforming to NEMA Standard AB1. Trip elements of the circuit breakers shall be rated shall be as shown in the Contract Documents.
  - 2. Distribution Section shall consist of those requirements listed in this Specification.

## 2.7 FINISH

- A. All exterior and interior steel surfaces of Switchboards shall be properly cleaned and provided with a rust-inhibiting phosphatized coating. Color and finish shall be ANSI 61.

## 2.8 SURGE PROTECTIVE DEVICES

- A. Provide surge protective devices as indicated in Contract Documents and as specified in Specification Section(s):

- 1. 16671 – TRANSIENT VOLTAGE SURGE SUPPRESSION

## 2.9 SPARE PARTS AND ACCESSORIES

- A. Provide spare parts for Switchboards as recommended by the manufacturer.

# PART 3 - EXECUTION

## 3.1 FACTORY ACCEPTANCE TESTING

- A. All Switchboards shall go through a standardized Factory Acceptance Test (FAT) prior to shipment. FAT shall include, but not limited to, the following:
  - 1. After assembly, the complete Switchboard shall be tested to ensure the accuracy of the wiring and the functioning of all equipment.
  - 2. Main bus system shall be given a dielectric test of 2.2kV for one minute (1MIN) between live parts and ground and between opposite polarities.
- B. A certified test report of all standard FAT procedures, tests, results and corrective actions shall be shipped with Switchboards.
- C. Manufacturer shall notify Engineer two (2) weeks prior to the date the tests are to be performed

## 3.2 EXAMINATION

- A. Examine concrete flooring and/or concrete equipment pad(s) to receive Switchboards for compliance with installation tolerances and other conditions affecting performance of the product as required by the manufacturers installation instructions and recommendations to include Engineer installation details. Do not proceed with installation until unsatisfactory conditions have been met or corrective action has been taken.

## 3.3 INSTALLATION

- A. Contractor shall install Switchboards per the manufacturer's recommendations and the Contract Documents.
- B. All necessary hardware to secure the assembly in place shall be provided by the Contractor.
- C. Switchboards shall be installed and checked in accordance with the manufacturer's recommendations. This shall include but not limited to:

1. Checking to ensure that concrete flooring and/or concrete equipment pad(s) are level to within 0.125IN per 3FT feet of distance in any direction; reference Section 2.3B.
2. Checking to ensure that all bus bars are torqued to the manufacturer's recommendations
3. Assembling all shipping sections, removing all shipping braces and connecting all shipping split mechanical and electrical connections
4. Securing Switchboards to concrete flooring and/or concrete equipment pad(s).
5. Inspecting and installing all circuit breakers in their proper compartments

#### 3.4 FIELD QUALITY CONTROL

- A. Clean, inspect, test, and energize Switchboards in accordance with applicable NECA / NEIS standards and recommendations.
- B. Verify circuit breakers are in the proper locations and that setting of trip units, devices and current sensor taps match values scheduled on the approved shop drawings.
- C. Exercise each circuit breaker three (3) times to verify smooth mechanical operation.
- D. Verify proper torque of accessible bus connections and mechanical fasteners after installing Switchboards.
- E. Field testing shall be done in accordance with the requirements specified in Specification Sections:
  1. Division 2 – SITE CONSTRUCTION
  2. 16080 – ELECTRICAL TESTING
  3. Coordinate inspections and tests as required
- F. After completing installation, cleaning, and testing, touch up scratches and mars on finish to match original finish.
- G. Provide the services of a qualified factory-trained manufacturer's representative to provide start-up of the equipment specified under this Section for a period of three (3) working days.
- H. The Contractor shall provide three (3) copies of the manufacturer's field startup report.

#### 3.5 TRAINING

- A. Contractor shall provide a training session for up to five (5) Owner's representatives for two (2) normal workdays at a job site location determined by the Owner.
- B. Training sessions shall be conducted by a manufacturer's qualified representative. The training program shall consist of the instruction on the operation of the assembly, circuit breakers, and major components within the assembly.

**END OF SECTION**



## **SECTION 16435 – PANELBOARDS**

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### **PART 1 - GENERAL**

#### **1.01 REQUIREMENT SUMMARY**

- A. Contractor shall furnish and install panelboards of voltage and current ratings as shown in the Contract Documents. Panelboards shall be furnished with circuit breaker ratings, number of breakers, number of poles and locations conforming to the panelboard schedules in the Contract Documents.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this Section, the requirements of Division 16 and those Project Specification Sections referenced therein shall be applied.
- B. Related Specification Sections include but not limited to:
  - 1. 16010 – ELECTRICAL POWER STUDIES
  - 2. 16671 – TRANSIENT VOLTAGE SURGE SUPPRESSION

#### **1.03 REFERENCES**

- A. Panelboards shall conform to all applicable Federal, UL, and NEMA standards. Materials and components shall be new and conform to grades, qualities and standards as specified herein and shown in the Contract Documents.
- B. Codes and Standards:
  - 1. UL Listing/ Approval
  - 2. UL 50 – Cabinets and Boxes
  - 3. UL 67 – Panelboards
  - 4. NEMA – PB1
  - 5. NFPA 70 – National Electrical Code

#### **1.04 SUBMITTALS**

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:
  - 1. 01310 – ADMINISTRATIVE REQUIREMENTS
- B. Qualifications
  - 1. For approval, manufacturer shall have specialized in the manufacturing and assembly of Panelboards for at least fifty (50) years.
  - 2. Furnish products listed by Underwriters Laboratories Incorporated and in accordance with standards listed in Section 1.3.
  - 3. Manufacturer of the assembly shall be the manufacturer of the major components within the assembly.
  - 4. Equipment specified herein, the manufacturer shall be ISO 9001 or 9002 certified.
  - 5. Switchboards shall bear a UL 891 label.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Panelboards and all components shipped loose shall be handled and stored in accordance with manufacturer's instructions and recommendations as outlined in applicable Installation and Maintenance Manuals. Three (3) copies of these instructions shall be included with the equipment at time of shipment.
- B. Inspect and report concealed damage to carrier within their required time period. Owner is not responsible for damages incurred during shipping, handling and storage.
- C. Store in a clean, dry space. Maintain factory protection and/or provide an additional heavy canvas or heavy plastic cover to protect structure from dirt, water, construction debris, and traffic. Where applicable, provide adequate heating within enclosures to prevent condensation.

#### 1.06 OPERATION AND MAINTENANCE MANUALS

- A. Panelboards operation and maintenance manuals shall be provided with each assembly shipped, and shall include instruction leaflets and instruction bulletins for the complete assembly and each major component.

#### 1.07 WARRANTY

- A. Manufacturer shall warrant Panelboards to be free from defects in materials and workmanship for the lesser of one (1) year from date of installation or eighteen (18) months from date of purchase.

#### 1.08 IDENTIFICATION

- A. Panelboards shall be identified with the equipment tag number indicated on the Contract Documents and the accepted shop drawings. Nameplates shall be furnished and installed as required Specification Section(s):

1. 16075 – ELECTRICAL IDENTIFICATION

### PART 2 - PRODUCTS

#### 2.01 MANUFACTURERS

- A. Panelboards shall be designed, constructed and installed in accordance with the best practices of the trade, and shall operate satisfactorily when installed as shown in the Contract Documents.
- B. Subject to compliance with the Contract Documents all Panelboards shall be of the same manufacturer and provided by:
  1. Square D / Schneider Electric USA
  2. Acceptable as Specified in the Owner's Approved Products List

#### 2.02 MAIN BUS AND BRANCH CONNECTORS

- A. All main bus shall be copper sized in accordance with UL standards to limit the temperature rise on any current carrying part to a maximum of 50C above a maximum ambient temperature of 40C.

## 2.03 PANELBOARDS – LIGHTING

### A. General:

1. Lighting Panelboards, as defined by NEC or noted in the Contract Documents, shall be dead-front type with automatic trip-free, non-adjustable, thermal-overload, branch circuit breakers. Panelboards shall be of the configuration and rating as specified herein and indicated in the Contract Documents. Panelboards shall be listed and labeled by Underwriter's Laboratories, Inc.
2. Lighting Panelboards shall be equipped with a main breaker or main lugs complete with branch circuit breakers, as shown in the Contract Documents. Panelboards shall be enclosed in a cabinet suitable for flush or surface mounting. Some panelboards shall be furnished and installed within motor control center structures as shown in the Contract Documents.
3. Lighting Panelboards shall be fully rated and shall have a short circuit rating of 22kA symmetrical, minimum. In the event the results of the Contractor's short circuit fault analysis, as accepted by the Engineer, indicate that a higher short circuit rating of the panelboards is required, furnish complete panelboards with that higher rating.
4. Lighting Panelboards shall be furnished with Surge Protective Device(s) (SPD) as shown in the Contract Documents and in accordance with Specification Sections:

#### a. 16671 – TRANSIENT VOLTAGE SURGE SUPPRESSION

### B. Enclosures

1. Except for lighting panelboards installed in motor control centers, the Panelboard enclosure rating shall be NEMA Type-12 or as indicated in the Contract Documents. The door shall be fastened to the enclosure with concealed brass hinges and shall be equipped with flush-type catches and locks; all locks shall be keyed alike. Enclosures shall have wiring gutters on sides and shall be at least 20IN wide and 5-3/4IN deep. Contractor shall provide an engraved nameplate for the panelboard in accordance with Section 1.9
2. All metal surfaces of the enclosures shall be thoroughly cleaned and given one prime of zinc chromate primer. All interior surfaces shall then be given one shop finishing coat of a lacquer of the nitro cellulose enamel variety. All exterior surfaces shall be given three coats of the same lacquer. The color of finishing coats shall be light gray ANSI #61.
3. An Underwriter's Laboratories, Inc. inspection label shall appear on the interior of the cabinet.

### C. Bus Work

1. Main bus bars shall be of ample size so that a current density of not more than 1000A per square inch of cross section will be attained. This current density shall be based on the application of the full load connected to the panel plus approximately 25% of the full load for spare capacity. The main bus shall be full capacity as based on the preceding for the entire length of the panel so as to provide full flexibility of circuit arrangement.
2. Solid neutral bus bars are required. Ratings shall be in accordance with applicable standards.
3. A separate ground bus shall be provided with lugs for termination of equipment grounding conductors.
4. Branch bus work shall be rated to match the maximum branch circuit breaker which may be installed in the standard space.
5. All bus shall be plated copper.

D. Circuit Breakers

1. Circuit breakers shall be bolt-on, molded-case type conforming to NEMA Standard AB 1. Trip elements of circuit breakers shall be 20A unless otherwise shown in the Contract Documents. Minimum branch circuit breaker shall be 100A frame for 60A and above except where shown otherwise in the Contract Documents or where a larger frame size is standard for the continuous current rating required. Breakers shall have an interrupting rating of 22kA symmetrical at 240VAC, minimum. All breakers shall have quick-make, quick-break, toggle mechanism for manual as well as automatic operation. Tandem or half-size breakers are not acceptable.
2. Where indicated in the Contract Documents or where required by NFPA, branch circuits requiring ground fault protection for personnel shall be supplied by Class-A ground fault circuit interrupter (GFCI) circuit breakers with TEST push button and fit standard Panelboard spaces.
3. Where indicated in the Contract Documents or where required by NFPA, branch circuits requiring ground fault protection for heat-trace or other identified equipment shall be supplied by Class-B GFCI circuit breakers with TEST push button and fit standard Panelboard spaces.
4. Instrument power panel branch circuit breakers set for control instrumentation, telephone, data, fire alarm or auxiliary equipment circuits requiring continuous operation shall be provided with a lock on device.
5. Where required by Article 440 of the NEC, circuit breakers installed for air conditioning units shall be HACR type.

E. Directories

1. Approved directories with glass or noncombustible plastic cover and with typewritten designations of each branch circuit, shall be furnished and installed in each panelboard. Contractor shall maintain in each panelboard, during the duration of the Contract, a handwritten directory clearly indicating the circuit breakers in service. This directory shall be updated as work progresses, and final, typewritten directories, as specified above, shall be installed at the end of the project and required for project close-out. Designations and circuit locations shall conform to the panelboard schedules in the Contract Documents, except as otherwise authorized by the Engineer.
2. Contractor shall provide directories identifying panelboards and indicating the size of the feeder (cable and conduit) serving the panel, circuit numbers, and a description of associated branch circuits including branch circuit trip and connected load for each circuit.

2.04 PANELBOARDS - POWER DISTRIBUTION

A. General

1. Power Distribution Panelboards, as defined by NEC or noted in Contract Documents, shall be of the configuration and rated as shown in the Contract Documents. Panelboards shall be dead front type with automatic trip-free, non-adjustable, thermal overload branch circuit breakers. Circuit breakers shall be bolt-on molded case type conforming to NEMA Standard AB1. Trip elements of the circuit breakers shall be rated 20A unless otherwise shown in the Contract Documents. Bus ratings shall be as shown in the Contract Documents. Panelboards shall be listed and labeled by Underwriter's Laboratories, Inc.
2. Power distribution panelboards shall be fully rated and shall have a short circuit rating of 25kA symmetrical, minimum. In the event the results of the Contractor's short circuit fault analysis, as accepted by the Engineer, indicate that a higher short

circuit rating of the panelboards is required, furnish complete panelboards with that higher rating.

3. Power Distribution Panelboards shall be furnished with Surge Protective Device(s) (SPD) as shown in the Contract Documents and in accordance with Specification Sections:

- a. 16671 – TRANSIENT VOLTAGE SURGE SUPPRESSION

#### B. Enclosures

1. Power Distribution Panelboard enclosure rating shall be NEMA Type-12 or as indicated in the Contract Documents. The door shall be fastened to the enclosure with concealed brass hinges and shall be equipped with flush-type catches and locks; all locks shall be keyed alike. Enclosures shall have wiring gutters on sides and shall be at least 20IN wide and 5-3/4IN deep. Contractor shall provide an engraved nameplate for the panelboard in accordance with Section 1.9
2. All metal surfaces of the enclosures shall be thoroughly cleaned and given one prime of zinc chromate primer. All interior surfaces shall then be given one shop finishing coat of a lacquer of the nitro cellulose enamel variety. All exterior surfaces shall be given three coats of the same lacquer. The color of finishing coats shall be light gray ANSI #61.
3. An Underwriter's Laboratories, Inc. inspection label shall appear on the interior of the cabinet.

#### C. Bus Work

1. Main bus bars shall be of ample size so that a current density of not more than 1kA per square inch of cross section will be attained. This current density shall be based on the application of the full load connected to the panel plus approximately 25% of the full load for spare capacity. The main bus shall be full capacity as based on the preceding for the entire length of the panel so as to provide full flexibility of circuit arrangement.
2. Solid neutral bus bars, where required, shall be provided. Ratings shall be in accordance with applicable standards.
3. A separate ground bus shall be provided with lugs for termination of equipment grounding conductors.
4. Branch bus work shall be rated to match the maximum branch circuit breaker which may be installed in the standard space.
5. All bus shall be plated copper.

#### D. Circuit Breakers

1. Circuit breakers shall be bolt-on, molded-case type conforming to NEMA Standard AB 1. Trip elements of circuit breakers shall be 20A unless otherwise shown in the Contract Documents. Minimum branch circuit breaker shall be 100A frame for 60A and above except where shown otherwise in the Contract Documents or where a larger frame size is standard for the continuous current rating required. Breakers shall have an interrupting rating of 25kA symmetrical at 480VAC, minimum. All breakers shall have quick-make, quick-break, toggle mechanism for manual as well as automatic operation. Tandem or half-size breakers are not acceptable.

#### E. Directories

1. Approved directories with glass or noncombustible plastic cover, and with typewritten designations of each branch circuit, shall be provided in each panel.

- Contractor shall maintain in each panel, during the duration of the Contract, a handwritten directory clearly indicating the circuit breakers in service. This directory shall be updated as work progresses, and final, typewritten directories, as specified above, shall be installed at the end of the project and required for project close-out. Designations and circuit locations shall conform to the Panelboard schedules in the Contract Documents, except as otherwise authorized by the Engineer.
2. The Contractor shall provide directories identifying Panelboards and indicating the size of the feeder (cable and conduit) serving the panel, circuit numbers, and a description of associated branch circuits including branch circuit trip and connected load for each circuit.

### **PART 3 - EXECUTION**

#### **3.01 INSTALLATION**

- A. Panelboards shall be furnished and installed as shown in the Contract Documents and as recommended by the equipment manufacturer.
- B. Panelboards shall be set true and plumb in all locations as shown in the Contract Documents. Top of Panelboard enclosure shall not exceed 6FT above finished floor elevation.
- C. Panelboards installed outdoors shall not be mounted to hand-rail or safety rail.
- D. Panelboard enclosures shall not be fastened to concrete or masonry surfaces with wooden plugs, conical plastic anchors. Appropriate cadmium plated or galvanized steel bolts shall be used with expansion shields or other metallic type concrete insert for mounting on concrete or solid masonry walls. Cadmium plated or galvanized steel toggle bolts shall be used for mounting on concrete block or other hollow masonry walls. Bolt diameter shall be as required considering the size and weight of the completed panelboard and enclosure to provide adequate structural support.
- E. Contractor shall not use factory furnished knockouts with surface back boxes. The Contractor shall punch or drill required openings during installation and shall equip flush back boxes with manufacturer's standard pattern of knockouts. The Contractor shall equip enclosure doors exceeding 40IN height with vertical bolt three-point locking mechanism.
- F. Contractor shall install cabinets (and other enclosure products) in plumb with the building construction. Flush enclosures shall be installed so that the trim will rest against the surrounding surface material and around the entire perimeter of the enclosure.

#### **3.02 PROJECT CLOSE OUT**

- A. All exterior and interior surfaces of the Panelboards shall be cleaned thoroughly, and all scratches and abrasions shall be retouched with the same paint coating as approved by the manufacturer for touch-up work.
- B. Interiors of Panelboards shall be free of debris to include cleaning of wire/cable pulling compounds. The use of compressed air systems is not acceptable.

#### **END OF SECTION**



## **SECTION 16500 – LIGHTING**

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### **PART 1 - GENERAL**

#### **1.1 REQUIREMENT SUMMARY**

- A. Contractor shall furnish all labor, materials, tools and equipment necessary for furnishing, installing, connecting, testing and placing into satisfactory operation all Lighting Systems to include but not limited to lighting fixtures, lamps, contactors, controllers, control panels, control devices, supports, etc. as required for complete and operational Lighting Systems as specified herein and indicated on the Contract Documents.
- B. Lighting Systems shall be in accordance with the latest requirements of the Illuminating Engineering Society, and all lighting fixtures shall have the Underwriters Laboratories, Inc. label of approval.
- C. All wiring shall be placed in conduit and shall comply with all the DIV-16 Specification Sections for conduit, outlet boxes, pull and junction boxes, wires and cables, grounding, etc. and other applicable Sections or as noted herein.

#### **1.2 RELATED WORK ELSEWHERE**

- A. In addition to the requirements specified in this Section, the requirements of Division 16 and those Project Specification Sections referenced therein shall be applied.
- B. Related Specification Sections include but not limited to:
  - 1. DIVISION 3 – CONCRETE

#### **1.3 REFERENCES**

- A. Lighting Systems and associated devices referenced herein shall be designed and manufactured according to the following appropriate codes and regulations.
- B. Codes and Standards:
  - 1. ANSI/NFPA 70 - National Electric al Code (NEC).
  - 2. Illuminating Engineering Society of North America (IESNA)
    - a. ANSI/IES RP-7-17 – Recommended Practice for Lighting Industrial Facilities
    - b. ANSI/IES RP-8-18 – Recommended Practice for Design and Maintenance of Roadway and Parking Facility Lighting
  - 3. International Building Code (IBC) – Latest Edition
  - 4. NECA/IESNA 500, Recommended Practice for Installing Indoor Commercial Lighting Systems
  - 5. NECA/IESNA 501, Recommended Practice for Installing Exterior Lighting Systems
  - 6. NECA/IESNA 502, Recommended Practice for Installing Industrial Lighting Systems
  - 7. UL 1598 - Luminaires
  - 8. U.S. Energy Policy Act and Energy Star requirements for lighting products

#### 1.4 SUBMITTALS

- A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:
  - 1. 01310 – ADMINISTRATIVE REQUIREMENTS
- B. Contractor shall provide submittals to include but not limited to the following:
  - 1. Equipment specifications and product data sheets identifying all materials used and methods of fabrication.
  - 2. Catalog cuts for each lighting controller, control panel, fixture type showing performance and construction details of standard lighting fixtures, and complete working drawings showing all proposed construction details of special or modified standard lighting fixtures.
  - 3. Photometric calculations and curves
  - 4. Photometric plans shall be provided if substitutions are made from the equipment shown or specified. Data shall be submitted electronically in an approved Engineer format.
  - 5. Data/Information:
    - a. Fixture Assemblies
    - b. Lamp/Tube LED data
    - c. LED Driver, Ballast Information.
  - 6. Catalog data including applicable coefficients of utilization tables, Isolux chart of illumination on a horizontal plane, beam efficiency, horizontal and vertical beam spread, and beam lumens.
  - 7. Wind-load calculations for light poles.
- B. Lighting submittal shall include all proposed fixtures, LED drivers, ballasts, and lamps.
- C. Lighting controllers, digital dimming and control systems
  - 1. Submit product datasheets for all devices provided to include but not be limited to relay panels, switches, DTC, photocells and other interfaces.
  - 2. Submittal drawings shall indicate exact location and programming of each device and indicate all time schedules and switch button engraving.
  - 3. Submit system riser diagrams detailing communication wiring and control wiring.
  - 4. Submit standard wiring diagrams for the typical lighting fixtures, wall switch and sensor interfaces.
  - 5. Submit a sequence of operation for each typical space type describing the typical control functions and occupant interactions with the lighting controls.
  - 6. Submit floor plans showing the type and location of each network device and each controlled light fixture zone. Submitted floor plan(s) shall include a bill of material listing all control devices, model numbers and quantities for each floor or location.
  - 7. Submit screens that are to be provided as part of the PC Ethernet connected system for control and monitoring.
- D. Incomplete submittals will be rejected by Engineer.



## 1.5 DELIVERY, STORAGE AND HANDLING

- A. Lighting Systems and all components shipped loose shall be handled and stored in accordance with manufacturer's instructions and recommendations to include NECA/IESNA recommendations.
- B. Inspect and report concealed damage to carrier within their required time period. Owner is not responsible for damages incurred during shipping, handling and storage.
- C. Store in a clean, dry space. Maintain factory protection and/or provide an additional heavy canvas or heavy plastic cover to protect structure from dirt, water, construction debris, and traffic. Where applicable, provide adequate heating within enclosures to prevent condensation.

## 1.6 OPERATION AND MAINTENANCE MANUALS

- A. Lighting Systems installation manuals shall be provided for each type of assembly shipped and shall include instruction leaflets and instruction bulletins.

## 1.7 WARRANTY

- A. Manufacturer shall warrant Lighting Systems to be free from defects in materials and workmanship for the lesser of one (1) year from date of installation or eighteen (18) months from date of purchase.

## 1.8 IDENTIFICATION

- A. Lighting Systems shall be identified with the equipment tag or type number indicated on the Contract Documents and the accepted shop drawings.

# PART 2 - PRODUCTS

## 2.1 MANUFACTURERS

- A. Subject to compliance with the Specifications, Contract Documents and Shop drawing approvals, the following manufacturers shall be provided for Lighting Systems:
  - 1. Site/Area Lights
    - a. Lithonia
    - b. AEL
    - c. Eaton
    - d. Holophane
    - e. KIM Lighting
  - 2. Interior /Exterior Lights
    - a. Holophane
    - b. Lithonia

- c. KIM Lighting
  - d. GE Lighting
3. Or as specified in contract drawings fixture schedule.

## 2.2 GENERAL REQUIREMENTS

- A. The Lighting Systems equipment under this Specification is intended to be standard equipment of proven performance as manufactured by reputable firms regularly engaged in the manufacturing of lighting equipment, of types and sizes required, whose products have been in satisfactory use in similar service for not less than three-years (3YR). Equipment shall be designed, constructed and installed in accordance with the best practices of the trade, and shall operate satisfactorily when installed as shown on the Contract Documents.
- B. Manufacturer's catalog number and description in the lighting fixture schedule on the Contract Documents establishes a level of quality, style, finish, etc. The use of a catalog number describing the various types of light fixtures shall be used as a guide only, and does not exclude all the required accessories or hardware that may be required for a complete installation.
- C. All products shall be UL listed and meet the requirements of the National Electrical Code (NEC). Electrical components shall be listed and labeled by U.L.

## 2.3 LIGHTING CONTROL SYSTEMS

- A. Switches
  - 1. Reference specification section 16140 – WIRING DEVICES.
- B. Photocells
  - 1. Hermetically sealed cadmium sulfide cell with single-throw contacts rated for 277V for 1800VA. Photocell shall be housed within a die-cast aluminum, vandal and impact resistant enclosure. Designed to turn ON at level below three foot-candles (3fc/32.3lux) and OFF at three to ten foot-candles (3-10fc/32.3-107.6lux). A fifteen second (15SEC) time delay to prevent switching from transient light sources. Directional lens, mounted in front of cell, to prevent fixed light sources from turning unit off. Temperature range -40F to +170F. Power consumption less than 1.4W average.

## 2.4 LED LUMINAIRES

- A. Electrical
  - 1. Operating voltage: 24VDC, 120VAC at 60Hz, 277VAC at 60Hz, or universal voltage (120, 208, 220/240, 277VAC at 50/60 Hz)
  - 2. Power factor:  $\geq 0.90$  (at full luminaire output and across specified voltage range)
  - 3. Total harmonic distortion:  $\leq 20\%$  (at full luminaire output and across specified voltage range)
  - 4. Transient and surge protection: ANSI C62.41-2002 Category A surge protection standards up to and including 2.5kV for interior fixtures.
  - 5. Sound: Class A not to exceed a measured value of 24dB
  - 6. Maximum standby power: 1W

7. Warranty: Ten-year (10YR) non-prorated on complete fixture including driver.
8. LED arrays in the product(s) will be considered defective in material or workmanship if a total of 10% or more of the individual light-emitting diodes
9. LED Power Supply/Driver
  - a. Driver efficiency (at full load):
    - 1)  $\geq 85\%$  for drivers capable of  $\geq 50W$
    - 2)  $\geq 80\%$  for drivers capable of  $< 50W$
  - b. Federal Communications Commission (FCC) compliance: FCC 47 Part 15 Non-Consumer limits for EMI/RFI emissions
  - c. Fixtures that are designated to be controlled by 0V – 10V dimming signals shall be fully compatible with the Light Dimming and Control System provided under this specification section.
10. Temperature Rating: Each luminaire shall be designed to operate at an average operating temperature of 25C. The operating temperature range shall be 0C to 25C.
11. Thermal management: The driver manufacturer's maximum case temperature shall not be exceeded at the maximum operating temperature. Thermal management shall be passive by design. The use of fans or other mechanical cooling devices shall not be allowed. The use of fans or other mechanical cooling devices shall not be allowed.
12. EMI/RFI: The luminaire and associated on-board circuitry must meet Class A emission limits referred in Federal Communications Commission (FCC) Title 47, Subpart B, Section 15 Non-Consumer requirements for EMI/RFI Emissions.

**B. Performance**

1. Photometric
  - a. Provide minimum initial delivered luminaire lumens in accordance with Contract Documents.
  - b. Provide minimum Luminaire Efficacy (LE) or Luminaire Efficacy Rating (LER) per Contract Documents
2. Colorimetric
  - a. Provide Correlated Color Temperature (CCT) as indicated on fixture schedule.
  - b. Acceptable tolerances as shall be per ANSI C78.377-2015 (LED)
  - c. Color Rendering Index (CRI) [Ra]  $\geq 80$  with a positive R9 value
  - d. Color shift shall be no less than  $\Delta u'v' < 0.007$  during the warranty period

**2.5 INDOOR LIGHTING**

- A. Indoor lighting is as specified on Contract Documents. Manufacturer listed in the Contract Drawings may be substituted for manufacturers listed hereinafter.

**LIGHTING**

**16500 - 5**

**WTP AERATOR STRUCTURE REHABILITATION**

- B. Construction/Finish: No visible, no plane-protruding screws, latches, springs, hooks, rivets or plastic supports viewed from the occupied (room) side are allowed.
- C. Maintenance: Power supplies, drivers, ballasts, LED arrays, boards and light engines shall be easily replaceable using common hand tools (e.g. screw drivers, pliers, etc.) and without uninstalling the luminaire.

## 2.6 EXIT SIGNS AND EMERGENCY LIGHTING

- A. Emergency lighting and exit signs are as specified and located on plans.
- B. The emergency power wiring shall be a complete system in itself and shall be kept entirely separate from any other wiring in the project unless indicated otherwise on Contract Documents
- C. Emergency lighting fixtures shall be provided so that failure of any one (1) element, such as lamp, will not result in loss of illumination in fixture used for emergency egress lighting.
- D. Contractor shall perform a test on each battery powered unit after it is permanently installed and charged for a minimum of twenty-four hours (24HR). The battery shall be tested for ninety-minutes (90MIN), in accordance with NEC 700. The battery test shall be done ten-days (10DY) prior to final inspection. Any unit which fails the test must be repaired or replaced, and tested again.

## 2.7 SITE LIGHTING

- A. A lighting fixture shall be provided for every pole indicated. Any omission shall be brought to the attention of the Engineer before submitting proposal; otherwise a unit selected by the Engineer shall be furnished and installed at no additional charge.
- B. Metal Lighting Poles and Standards: Provide metal, raceway-type, lighting poles and standards, of sizes and types indicated on the Contract Documents, comprised of shaft and bracket; equip with grounding connection readily accessible from handhole. Construct of Extruded Aluminum or steel. All poles shall meet the AASHTO wind loading for the area in which they are installed.
- C. Configuration: Anchor base-type with handhole and base cover. Contractor shall furnish and install concrete foundations for all light poles as required on Contract Documents. All anchor bolts and nuts shall be provided by the light pole manufacturer.
- D. Lighting Pole Accessories: Provide accessories for metal lighting poles and standards, including, luminaire mounting arms, cover plates, anchor base covers, mounting yokes, slip fitter tenon mounts as required for the type of required fixture mounts. Provide anchor bolts, as recommended by lighting standard manufacturer, of sizes and materials needed to meet erection and loading application requirements.
- G. Materials
  - 1. Catalog numbers are for general identification of fixtures only. All related parts, such as plaster rings, junction boxes, louvers, shields, mounting stems, canopies, connectors, straps, nipples, etc., to fit them properly to the construction, shall be furnished and installed.
  - 2. All fixtures and control system components shall be grounded per NFPA 70
  - 3. Fixtures connected with flex to the rigid raceway portion of the wiring system shall carry a green bonding jumper within the flex. The jumper shall be fastened to both

- the fixture and the raceway system with a listed grounding clip or approved equivalent. Phase and ground conductors run in a flex shall be #12AWG minimum.
4. Surface-mounted fixtures being installed on combustible material shall be mounted at least 1-1/2IN from the surface of the material; except units which are plainly marked on fixtures as U.L. approved for mounting directly to such surfaces.
  5. Mount all fixtures plumb and square. Keep rows in perfect line where applicable.

## 2.8 TOOLS, SUPPLIES AND SPARE PARTS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. Provide to the Owner within fourteen-days (14DY) of occupancy.
  1. Plastic Diffusers and Lenses: One (1) for every five (5) of each type and rating installed. Furnish at least one (1) of each type.
  2. LED Drivers: One (1) for every ten (10) of each type and rating installed. Furnish at least one (1) of each type.
  3. Globes and Guards: One (1) for every five (5) of each type and rating installed. Furnish at least one (1) of each type.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine all surfaces and structural elements and/or concrete bases to receive Lighting Systems for compliance with installation tolerances and other conditions affecting performance of the product as required by the manufacturers installation instructions and recommendations to include Engineer installation details. Do not proceed with installation until unsatisfactory conditions have been met or corrective action has been taken.

### 3.2 INSTALLATION

- A. Installation shall meet the requirements of all Project Specifications.
- B. Mount all poles, pole fixtures and lighting fixtures plumb and square; keep rows in alignment and symmetrical.
- C. Connect lighting fixtures to branch circuit panel via photocell or time clock-controlled contactor as shown on the Contract Documents.
- D. Install concrete bases for site lighting poles at locations as indicated on the Contract Documents and approved shop drawings.
- E. Install poles plumb. Install double nuts to adjust plumb. Grout around each base and provide weep hole in grout.
- F. Install lamps in each luminaire.
- G. Bond and ground luminaire metal accessories and metal poles in accordance with NFPA 70 and applicable Specification Sections. Install supplementary grounding electrode at each pole.
- H. Lighting fixtures shall be located symmetrically with architectural lines and landscape features as shown on the Contract Drawings. Contractor shall furnish and install the light fixtures to allow convenient access for maintenance such as cleaning, re-lamping, and

other activities. Where light fixtures are shown in locations on the Contract Drawings that inhibits maintenance operations, the Contractor shall notify the Engineer.

- I. Contractor shall provide and install all inserts, conduit, structural supports, lamps, LED drivers, ballasts, poles, wiring, and any other items as required for a complete Lighting System. Contractor shall properly adjust and test, to the satisfaction of the Engineer, the entire Lighting System.
- J. Contractor shall furnish and install all pendant trapezes and pendant stem hangers with durable swivel or equivalent trapeze hanger permitting normal light fixture motion and self-alignment. Light fixture pendants shall be type UNJ ball type flexible hanger at the light fixture and supports from a JBLX junction box with JBLX hub cover, or approved equal. Pendant lengths shall be adequate and adjusted to provide uniformity of installation heights above the reference datum. Stems shall be one piece, with matching canopies and fittings.
- K. Light fixtures located on the exterior of the building shall be provided with neoprene gasket and stainless-steel fasteners and hardware finished to match the light fixtures.
- L. The finish or exposed metal parts of light fixtures and finish trims of all recessed light fixtures shall be as directed by the Engineer.
- M. Contractor shall furnish and install recessed light fixtures with a separate junction box concealed and located as to be accessible when the light fixture is removed.
- N. Contractor shall furnish and install all boxes for light fixtures such that the box is not the sole support of the light fixture. The boxes shall be offset to allow maintenance such that access to wiring within the box can be attained without having to consider supporting the light fixture.
- O. All lighting units, when installed, shall be set true and be free of light leaks, warps, dents, and other irregularities. All hangers, cables, supports, channels, and brackets of all kinds for safely erecting this equipment in place, shall be furnished and erected in place by the Contractor.
- P. Contractor shall install light fixtures at mounting heights indicated on the Contract Documents or the Engineer. In areas with exposed ducts and/or piping, installation of light fixtures shall be adapted to field conditions as determined by the Engineer.
- Q. Contractor shall support each light fixture securely. All light fixtures shall be secured to the building structure. Contractor shall not secure light fixtures to the work of other trades, unless specified or noted otherwise, and shall not support light fixtures to plaster. Contractor shall furnish and install all steel members and supports as required to fasten and suspended light fixtures from the structure.
- R. In all mechanical equipment areas, Contractor shall install light fixtures on the ceiling after all piping and equipment therein has been installed. Exact locations for such light fixtures may be determined by the Engineer on the site during the course of the work.
- S. Re-lamping access shall require no special tools. All optical control surfaces such as lenses and reflectors shall be safely and securely attached to lighting fixtures and shall be easily and quickly removed and replaced for cleaning without the use of tools. No light fixture part that may be removed, for maintenance, shall be held in place by metal tabs that must be bent to remove said part.



1. All lighting fixture lamps that have been used during construction shall be replaced by the contractor prior to beneficial occupancy.
- T. Pole mounted light fixtures shall be mounted on poles as designated in the lighting fixture schedule or as indicated on the Contract Documents. All metal poles shall be bonded to the site grounding system. Poles shall have adequate handholes and weatherproof receptacles where indicated.
- U. Contractor shall furnish and install switches as indicated on the Contract Documents. Switches shall be installed in accordance Specification Section 16140.
- V. Contractor shall furnish and install time switches or photocells as specified herein or indicated on the Contract Documents.
- W. All exterior light fixtures mounted on concrete or masonry shall be caulked with approved color matching compounds.

### 3.3 FIELD QUALITY CONTROL

- A. Clean, inspect, test, and energize Lighting Systems in accordance with applicable NECA / NEIS standards and recommendations.
- B. Verify circuit breakers designated for Lighting Systems are the proper trip unit to match values indicated on the Contract Documents and/or approved shop drawings.

### 3.4 LIGHTING CONTROL SYSTEM START-UP AND PROGRAMMING

- A. Upon completion of the installation, the Lighting System shall be started up and programmed by an authorized representative of the manufacturer.
- B. System Start up shall include diagnostics and manufacturer confirmation of the operation of all system programming.
- C. A certified representative from the manufacturer shall demonstrate operation of all system components to the Engineer and/or Owner before final acceptance.
- D. A certified representative from the manufacturer shall provide one (1) eight-hour (8hr) of continuous training of the Lighting System operation and function of all system components including programming instructions to the Owner's designated representatives after Engineer's approval of the system. Included in the Owner training shall be instruction manuals, programming manuals and system diagrams in order to convey a complete understating of the operation, system components functions including programming.

### 3.5 PROJECT CLOSE-OUT

- A. Adjustment
  1. All light fixtures that require physical adjustment shall be so adjusted in accordance with the directions of the Engineer and/or Owner. Contractor shall also adjust angular direction of light fixtures and/or lamps, as directed.
- B. Cleaning
  1. Upon completion of work, and after indoor areas are cleaned, all lighting fixtures shall be made clean and free of dust and all other foreign matter both on visible

surfaces, and on surfaces that affect the lighting performance of the light fixture including diffusers, lenses, louvers, reflectors, and lamps.

- a. Clean all luminaires and light fixture surfaces as recommended by manufacturer.
- b. Clean photometric control surfaces as recommended by manufacturer.
2. Clean finishes and touch up damage with manufacturer's approved paint or coating materials.

C. Final Acceptance

1. Contractor shall protect all light fixtures and light poles at all times. Before final acceptance, by the Engineer, all light fixtures, light poles and associated devices shall be:
  - a. Fully Operational by Control System Functionality
  - b. Free of any scraps, dents or chips in the finish
  - c. Cleaned of all dust, dirt or other material
  - d. Fully Lamped

**END OF SECTION**



## **SECTION 16671 – TRANSIENT VOLTAGE SURGE SUPPRESSION**

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### **PART 1 – GENERAL**

#### **1.01 REQUIREMENT SUMMARY**

- A. Contractor shall furnish and install Surge Protective Device (SPD) equipment having the electrical characteristics, ratings and modifications as specified herein and as shown in the Contract Documents.
- B. SPD equipment shall provide effective high-energy protection against transient surges, temporary over voltages, voltage swells and high-frequency noise attenuation for power, control and telephone/data circuits 1kV or less and as shown in the Contract Documents.
- C. SPD units and all components shall be designed, manufactured and tested in accordance with the latest applicable UL standards.
- D. SPD equipment installation shall conform to local code requirements and the National Electric Code (NEC).

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. In addition to the requirements specified in this section, the requirements of Division 16 and those Project Specification Sections referenced therein shall be applied.
- B. Related Sections include but not limited to:
  - 1. 13130 – I&C CONTROL ENCLOSURES
  - 2. 16080 – ELECTRICAL TESTING
  - 3. 16060 – GROUNDING AND BONDING
  - 4. 16430 – SWITCHBOARDS
  - 5. 16435 – PANELBOARDS

#### **1.03 REFERENCES**

##### **A. Abbreviations and Acronyms:**

- 1. EMI: Electromagnetic Interference
- 2. NTRL: Nationally Recognized Testing Laboratory
- 3. SCCR: Short Circuit Current Rating
- 4. SPD: Surge Protection Device

- a. Type-I: Permanently connected between the secondary of the utility transformer and the line or load side of the service entrance overcurrent device and intended to be installed without an external overcurrent device.
- b. Type-II: Permanently connected to the load side of the service entrance overcurrent device including branch circuit panels.
- c. Type-III: Connected from the electrical service panel to the point of utilization with a minimum conductor length of 30 FT.
- d. Type-IV: Component and/or component assemblies.

5. SVR: Suppressed Voltage Rating
6. TOV: Temporary Over Voltage
7. TVSS: Transient Voltage Surge Suppressor

**B. Codes and Standards:**

1. Institute of Electrical and Electronics Engineers (IEEE):
  - a) C62.41, IEEE Guide for Surge Voltages in Low Voltage AC Power Circuits.
  - b) C62.43, IEEE Certified by NRTL as "Secondary Surge Arrestor"
  - c) C62.45, IEEE Guide for Surge Testing for Equipment Connected to Low-Voltage AC Power.
2. International Electrotechnical Commission (IEC):
  - a) 61024, Protection of Structures against Lightning.
3. National Electrical Manufacturers Association (NEMA):
  - a) LS-1 (1992), Low Voltage Surge Protection Devices
4. National Fire Protection Association (NFPA):
  - a) NFPA 70, National Electrical Code (NEC) Article 285.
5. Underwriters Laboratories, Inc (UL):
  - a) 1283, Electromagnetic Interference Filters
  - b) 1449, Transient Voltage Surge Suppressors

**1.04 SUBMITTALS**

**A. Contractor shall reference and provide all documentation for all Division 16 Sections as required per Specification Sections:**

1. 01310 – ADMINISTRATIVE REQUIREMENTS

**B. For Engineer Review**

1. Contractor shall submit written copies of all inspection and test reports.
2. Product Data: For each type of product indicated, include unit dimensions, weights, installation instructions, wiring details, rated capacities, operating characteristics, furnish specialties and accessories. Include the following data, information and/or documents:
  - a) Suppressed Voltage Rating
  - b) Symmetrical Fault Current Withstand Ratings

- c) Provide independent third-party testing lab report indicating device is capable of surviving the specified number of 8x20mSEC waveforms
  - d) Spectrum Analysis based on MIL-STD-220A test procedures between 50kHz and 200kHz verifying the device noise attenuation equals or exceeds 50dB at 100kHz
  - e) Survivability of multiple TOV events for Type-I and Type-II devices
3. Product Certificates: SPD devices, signed by third-party NRTL testing agencies certifying compliance with the following standards:
- a) ANSI / UL 1449 Third Edition 2007 Revision
  - b) IEEE C62.34 Secondary Surge Arrestor
  - c) NEMA LS-1 (1992) Low Voltage Surge Protective Devices
  - d) UL 1283 Standard for Electromagnetic Interference Filters

**C. Qualifications**

- 1. Third-Party testing lab or US Department of Labor/OSHA approved NRTL.
- 2. Field Quality-Control test reports, including but not limited to the following:
  - a) Test procedures used. Include single impulse testing data that matches label rating, including fuses or upstream breaker.
  - b) Test results that comply with requirements.
  - c) Failed test results and corrective actions taken to achieve requirements.

**1.05 OPERATION AND MAINTENANCE MANUALS**

- A. Contractor shall submit operation and maintenance manuals in accordance with the procedures and requirements set forth in the General Conditions and Division 01.
- B. Operation and Maintenance Data: For each type or series of SPD devices to include emergency, operation and maintenance manuals.

**1.06 WARRANTY**

- A. Manufacturer shall provide a full ten-year (10YR) warranty from the date of installation against any SPD device part failure when installed in compliance with manufacturer's written instructions and any applicable national or local codes.

**1.07 IDENTIFICATION**

- A. All SPD devices shall be identified as specified in Section PART 3, EXECUTION.

## PART 2 – PRODUCTS

### 2.01 MANUFACTURERS

- A. Subject to compliance with requirements, provide products by one of the following manufacturers:

1. Advanced Protection Technologies Inc.
2. Current Technology
3. Eaton/ Cutler Hammer
4. Innovative Technology
5. General Electric
6. Square-D

### 2.02 SERVICE ENTRANCE SPD (TYPE-I)

- A. Surge Protection Device Description: Modular design with field-replaceable module with EMI filtering and the following features:

1. The SPD unit tested at 200kA interrupting capacity (AIC).
2. The SPD unit shall provide overvoltage protection as follows:
  - a. >1800 cycles at 180% of rated voltage to 0.7 OHM load
  - b. Test Report included
3. Fabrication using bolted compression lugs for internal wiring.
4. Utilizing copper bus bars and bolted connections to phase buses, neutral bus and ground bus.
5. Utilizing wire connections to phase buses, neutral bus and ground bus.
6. Integral disconnect switch capable of passing full rated surge current.
7. Multiple suppression circuits with current sharing.
8. LED indicator lights for power and protection status.
9. Monitoring system capable of the following:
  - a. Number of transient surges, overvoltages and undervoltages.
  - b. Neutral-to-ground voltage and current.
  - c. EMI filter status.
  - d. Percentage of protection available.
10. Audible alarm with silencing switch to indicate when protection has failed.
11. Dual set of dry contacts rated at 5A and 250VAC for remote monitoring of protection status.
12. Field testable with test data from factory provided comparison.
13. Field replaceable surge protection modules.

- B. Peak Single-Impulse Surge Current Rating of 200kA per mode.

- C. Connection Means: Permanent

- D. Protection modes and UL 1449 SVR for voltages of 480/277V, 3-Phase, 4-Wire, grounded wye circuits shall be as follows:
1. Line to Neutral: 800V
  2. Line to Ground: 1000V
  3. Neutral to Ground: 900V
- E. EMI noise rejection or attenuation values shall comply with those test and evaluation procedures as outlined in NEMA LS-1 1992.

## 2.03 POWER DISTRIBUTION PANELBOARD/ MCC SPD (TYPE-II)

- A. Surge Protection Device Description: Modular design with field-replaceable module mounted externally to the panelboard or MCC with EMI filtering and the following features:
1. Supplied with fuses rated at 200kA interrupting capacity (AIC).
  2. Fabrication using bolted compression lugs for internal wiring.
  3. Utilizing copper bus bars and bolted connections to phase buses, neutral bus and ground bus.
  4. Utilizing wire connections to phase buses, neutral bus and ground bus.
  5. Integral disconnect switch capable of passing full rated surge current or dedicated fuse or breaker.
  6. Multiple suppression circuits with current sharing.
  7. LED indicator lights for power and protection status.
  8. Monitoring system capable of the following:
    - a. Number of transient surges, overvoltages and undervoltages.
    - b. Neutral-to-ground voltage and current.
    - c. Percentage of protection available.
  9. Audible alarm with silencing switch to indicate when protection has failed.
  10. Dual set of dry contacts rated at 5A and 250VAC for remote monitoring of protection status.
  11. Field testable with test data from factory provided comparison.
  12. Field replaceable surge protection modules.
- B. Peak Single-Impulse Surge Current Rating of 150kA per mode.
- C. Connection Means: Permanent
- D. Protection modes and UL 1449 SVR for voltages of 480/277V, 3-Phase, 4-Wire, grounded wye circuits shall be as follows:
1. Line to Neutral: 900V
  2. Line to Ground: 900V
  3. Neutral to Ground: 900V
- E. EMI noise rejection or attenuation values shall comply with those test and evaluation procedures as outlined in NEMA LS-1 1992.

## 2.04 LIGHTING PANELBOARD SPD (TYPE-II)

- A. Surge Protection Device Description: Modular design with field-replaceable module mounted externally to the panelboard with EMI filtering and the following features:
1. Supplied with fuses rated at 200kA interrupting capacity (AIC).
  2. Fabrication using bolted compression lugs for internal wiring.
  3. Utilizing copper bus bars and bolted connections to phase buses, neutral bus and ground bus.
  4. Utilizing wire connections to phase buses, neutral bus and ground bus.
  5. Integral disconnect switch capable of passing full rated surge current or dedicated fuse or breaker.
  6. Multiple suppression circuits with current sharing.
  7. LED indicator lights for power and protection status.
  8. Monitoring system capable of the following:
    - a. Number of transient surges, overvoltages and undervoltages.
    - b. Neutral-to-ground voltage and current.
    - c. Percentage of protection available.
  9. Audible alarm with silencing switch to indicate when protection has failed.
  10. Dual set of dry contacts rated at 5A and 250VAC for remote monitoring of protection status.
  11. Field testable with test data from factory provided comparison.
  12. Field replaceable surge protection modules.
- B. Peak Single-Impulse Surge Current Rating of 60kA per mode.
- C. Connection Means: Permanent
- D. Protection modes and UL 1449 SVR for voltages of 208/120V, 3-Phase, 4-Wire, grounded wye circuits shall be as follows:
1. Line to Neutral: 400V
  2. Line to Ground: 500V
  3. Neutral to Ground: 500V
- E. Protection modes and UL 1449 SVR for 240/120V, 1-Phase, 3-Wire circuits shall be as follows:
1. Line to Neutral: 400V
  2. Line to Ground: 500V
  3. Neutral to Ground: 500V
- F. EMI noise rejection or attenuation values shall comply with those test and evaluation procedures as outlined in NEMA LS-1 1992.

## PART 3 – EXECUTION

### 3.01 INSTALLATION OF SURGE PROTECTION DEVICE (SPD)

- A. For Dual Rated Surge Protection (listed as both Surge Arrestor and SPD) for service entrance, product can be placed on either Line or Load side of the Service Entrance Equipment.
  - 1. Provide and install circuit breakers or fuses as shown in the Contract Documents.
- B. For all remaining SPD devices:
  - 1. Provide and install circuit breakers or fuses as shown in the Contract Documents.
- C. Install SPD devices for panelboards and auxiliary panels with conductors or buses between suppressor and points of attachment as short and straight as possible. Do not exceed manufacturer's recommended lead length. Do not connect neutral and ground leads together.
- D. SPD devices shall not be integrated with Switchgear or Panelboards as recommended by IEEE-1100, Section 8.4.2.5.
- E. All SPD devices shall have the raceway between the SPD and the switchgear enclosure sealed with approved fire sealant. The sealant shall prevent vapors from entering the switchgear enclosure.

### 3.02 PLACING EQUIPMENT INTO SERVICE

- A. Do not energize or connect service entrance equipment, panelboards, control panels or telephone/data equipment to their sources until surge protection devices are installed and connected.

### 3.03 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Contractor shall engage a factory-authorized service representative to perform inspections, field tests and adjustments to the equipment including all connections. Service Representative shall report results in writing to the Engineer.
  - 1. Verify that the electrical wiring installation complies with manufacturer's written installation instructions and requirements.
  - 2. After installation of SPD devices but before circuitry has been energized, test for compliance with requirements.
  - 3. Complete installation checks according to manufacturer's written instructions.
  - 4. Remove and replace malfunctioning SPD devices and retest as specified as above.

**END OF SECTION**

# APPENDIX A

## PERMITS

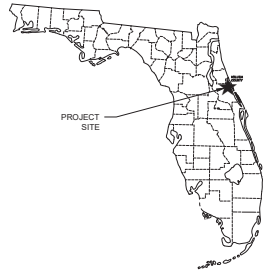


# WTP AERATOR STRUCTURE REHABILITATION

MCE PROJ. NO. 01026-0139

DEC, 2024

100% CLIENT SUBMITTAL - NOT FOR CONSTRUCTION



VICINITY MAP

NOT TO SCALE

PROJECT NAME: WTP AERATOR STRUCTURE REHABILITATION

OWNER:  
CITY OF ORMOND BEACH

PROJECT ADDRESS:  
298 TOMOKA AVENUE, ORMOND BEACH, FL



CITY COMMISSIONERS:  
LORI TOLLAND  
TRAVIS SARGENT  
KRISTIN DEATON  
HAROLD BRILEY

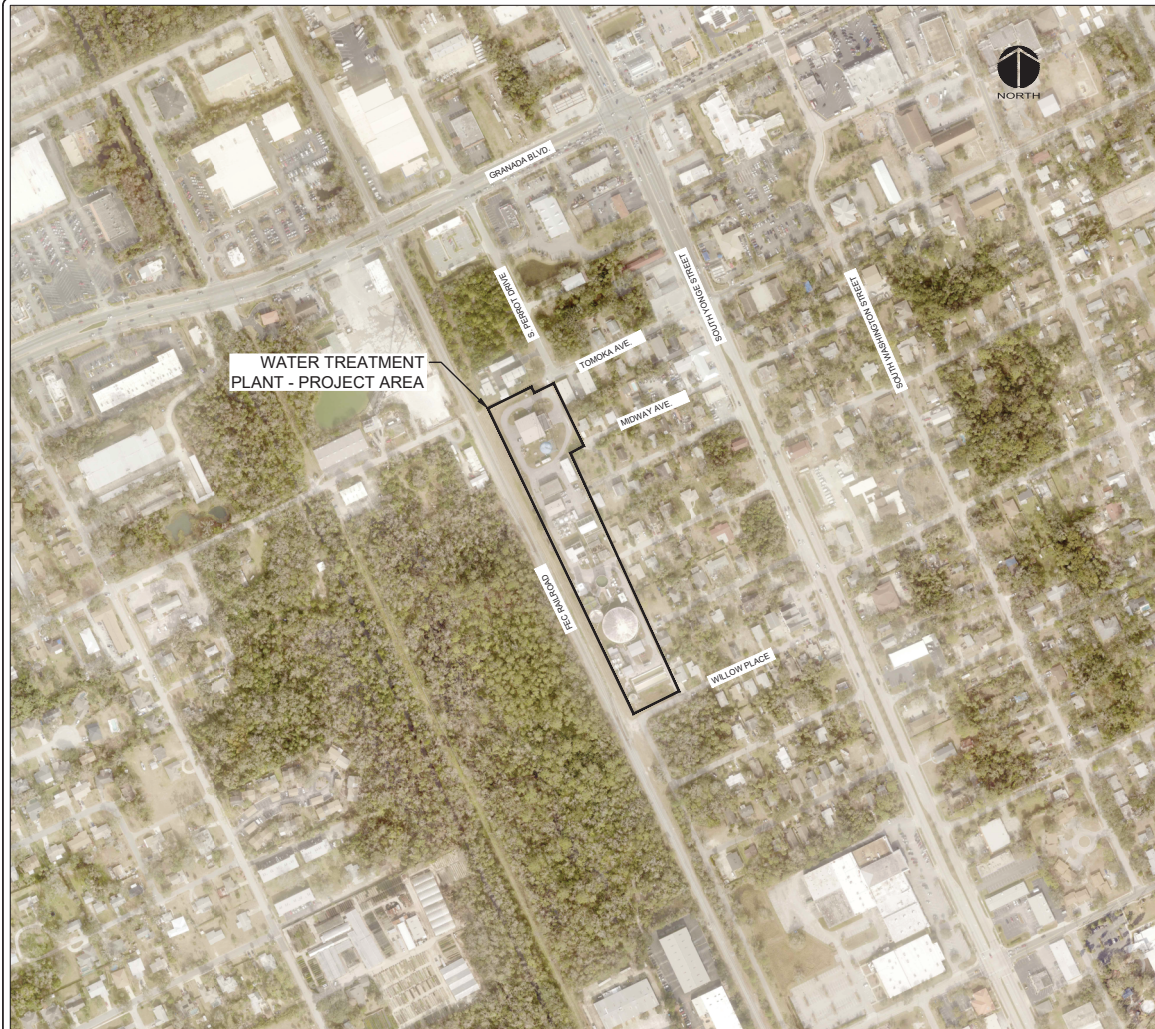
MAYOR:  
JASON LESLIE  
CITY MANAGER  
JOYCE SHANAHAN



139 Executive Circle, Suite 201  
Daytona Beach, FL 32114-7102  
Phone: (386) 274-2828, Fax: (386) 274-1393

CA Lic. No. 25588  
www.mckimcreed.com

PROJECT INFORMATION



SITE MAP

SCALE: 1" = 200'

## Sheet List Table

| Sheet Number    | Sheet Title                                                      |
|-----------------|------------------------------------------------------------------|
| GENERAL         |                                                                  |
| G001            | COVER SHEET                                                      |
| G002            | ENGINEERS SIGN AND SEAL SHEET                                    |
| G003            | SITE PLAN                                                        |
| CIVIL           |                                                                  |
| C01.1           | AERATOR BUILDING BYPASS PLAN                                     |
| C01.2           | AERATOR BYPASS WEST ELEVATION                                    |
| DEMO            |                                                                  |
| MD1.1           | AERATOR BUILDING DEMO PLAN                                       |
| MD1.2           | AERATOR BUILDING DEMO SECTIONS 1                                 |
| MD1.3           | AERATOR BUILDING DEMO SECTIONS 2                                 |
| MD1.4           | AERATOR BUILDING DEMO SECTIONS 3                                 |
| STRUCTURAL      |                                                                  |
| S00.1           | STRUCTURAL GENERAL NOTES, DESIGN LOADS, DESIGN CRITERIA & LEGEND |
| S01.1           | PARTIAL STRUCTURAL ROOF PLAN                                     |
| S01.2           | AERATOR STRUCTURE SECTIONS                                       |
| S02.1           | AERATOR TRANSFER PUMP ROOM PLAN                                  |
| S02.2           | AERATOR TRANSFER PUMP ROOM SECTION                               |
| S03.1           | AERATOR SECTIONS AND DETAILS-02                                  |
| MECHANICAL      |                                                                  |
| M01.1           | AERATOR BUILDING PLAN                                            |
| M01.2           | AERATOR BUILDING SECTIONS 1                                      |
| M01.3           | AERATOR BUILDING SECTIONS 2                                      |
| M01.4           | AERATOR BUILDING SECTIONS 3                                      |
| M01.5           | AERATOR TRANSFER PUMP ROOM REMOVAL PLAN                          |
| M01.6           | AERATOR TRANSFER PUMP ROOM REMOVAL SECTIONS                      |
| M01.7           | AERATOR TRANSFER PUMP ROOM PROPOSED IMPROVEMENTS PLAN            |
| M01.8           | AERATOR TRANSFER PUMP ROOM PROPOSED IMPROVEMENTS SECTIONS        |
| M03.1           | BELOW GRADE METER IMPROVEMENTS                                   |
| M04.1           | ABOVE GRADE METER IMPROVEMENTS                                   |
| DETAILS         |                                                                  |
| D00.1           | DETAILS                                                          |
| D00.2           | DETAILS                                                          |
| ELECTRICAL      |                                                                  |
| E00.1           | GENERAL NOTES & ABBREVIATIONS                                    |
| E00.2           | ELECTRICAL SYMBOLS I                                             |
| E00.3           | ELECTRICAL SYMBOLS II                                            |
| E01.1           | ELECTRICAL PROPOSED SITE PLAN                                    |
| E02.1           | EXISTING SINGLE LINE DIAGRAM                                     |
| E02.2           | PROPOSED SINGLE LINE DIAGRAM                                     |
| E02.3           | ELECTRICAL INTERCONNECT DIAGRAM                                  |
| E03.1           | ELECTRICAL TABLES AND SCHEDULES                                  |
| E04.1           | ELECTRICAL SCHEMATIC PUMP VFD                                    |
| E05.1           | ELECTRICAL DETAILS I                                             |
| E05.2           | ELECTRICAL DETAILS II                                            |
| E05.3           | ELECTRICAL DETAILS III                                           |
| E06.1           | AERATION AREA ELECTRICAL PLAN                                    |
| E06.2           | AERATION TRANSFER PUMP ROOM ELECTRICAL PLAN                      |
| E06.3           | FLOW METER ELECTRICAL PLAN                                       |
| INSTRUMENTATION |                                                                  |
| I00.1           | GENERAL NOTES & SYMBOLS                                          |
| I00.2           | ABBREVIATIONS AND DETAILS                                        |
| I01.1           | COMMUNICATION NETWORK DIAGRAM                                    |
| I02.1           | PAID TRANSFER TANK                                               |
| I02.2           | PAID TRANSFER PUMP                                               |
| I02.3           | PAID GLARICONE SOFTENER FLOW METERS                              |

THIS ITEM HAS BEEN  
DIGITALLY SIGNED AND SEALED  
BY CHARLES H. HALL, P.E., ON  
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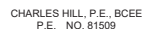
CHARLES HALL, P.E., BCCE  
No. 81559



Know what's below.  
Call before you dig.

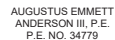
SHEET INDEX

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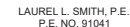
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(904) 587-0134  
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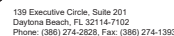
Sheet List TableSheet List Table

### Sheet List Table

REVISIONS

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No. 81509



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## GENERAL

### ENGINEERS SIGN AND SEAL SHEET

STATUS

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NOT FOR CONSTRUCTION**

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| SCALE      |
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AS SHOWN

VERTICAL

AS SHOWN

G002

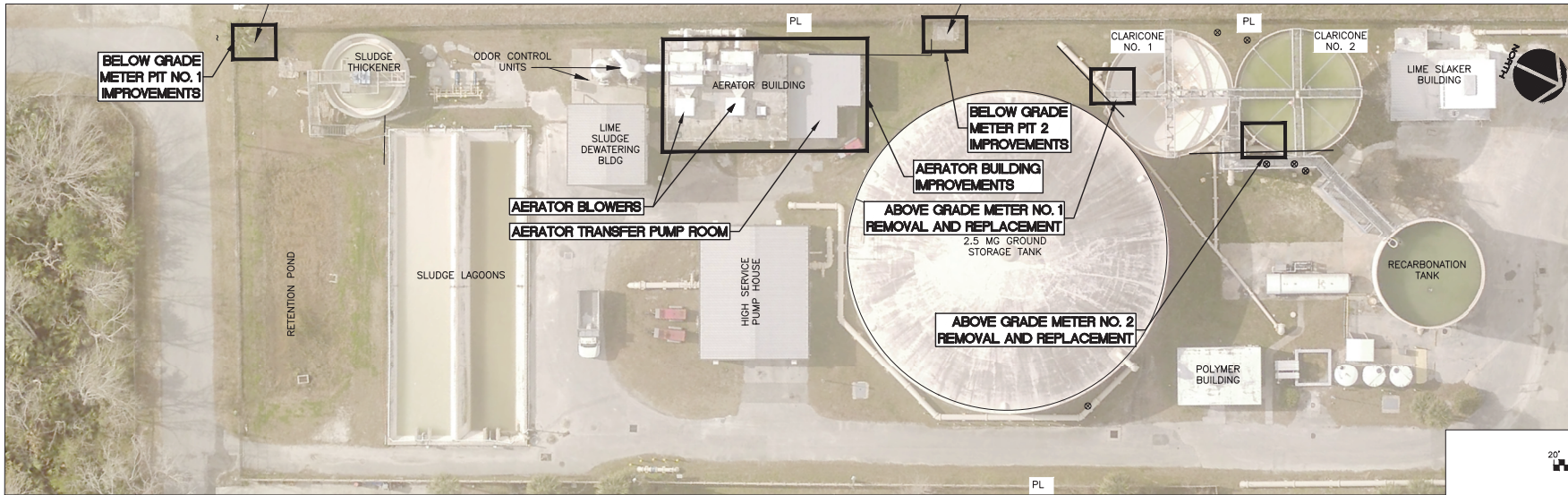
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REVISION



MATCH LINE A-A



MATCH LINE A-A

20' 0 20' 40'  
SCALE: 1"=20' (Horiz.)

| NO. | DESCRIPTION           | DATE      |
|-----|-----------------------|-----------|
| 1   | 100% CLIENT SUBMITTAL | 1/10/2024 |
| 2   | REVISIONS             |           |
| 3   |                       |           |
| 4   |                       |           |
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| 8   |                       |           |
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No. 81569

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**THE CITY OF ORMOND BEACH**

**WTP AERATOR STRUCTURE REHABILITATION**

GENERAL  
SITE PLAN

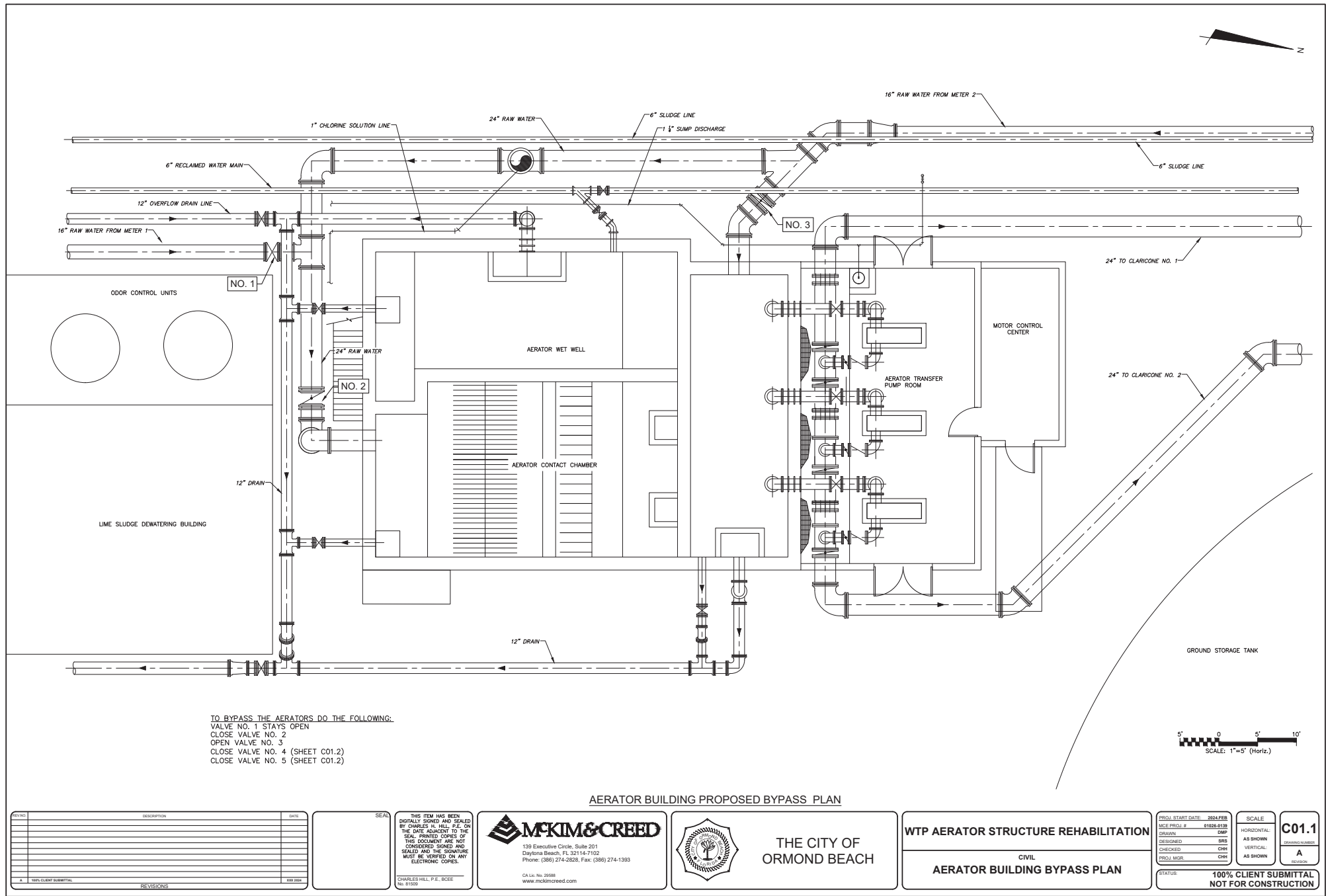
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MCE PROJ. #: 01028-0139  
DRAWN: DMP  
DESIGNED: SRS  
CHECKED: CHW  
PROJ. MGR: CHW

SCALE  
HORIZONTAL: AS SHOWN  
VERTICAL: AS SHOWN

**G003**  
A

STATUS: 100% CLIENT SUBMITTAL NOT FOR CONSTRUCTION

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| DESIGNED:         | SRG        | VERTICAL:   |                                                                            |
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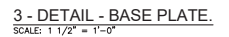


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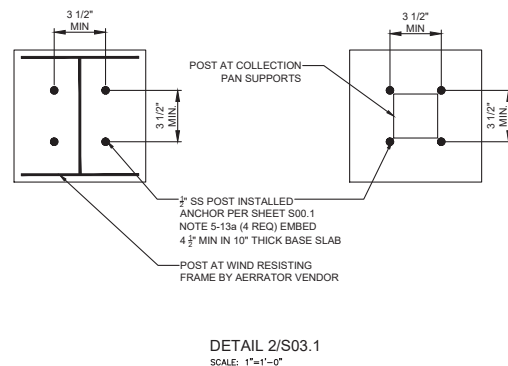
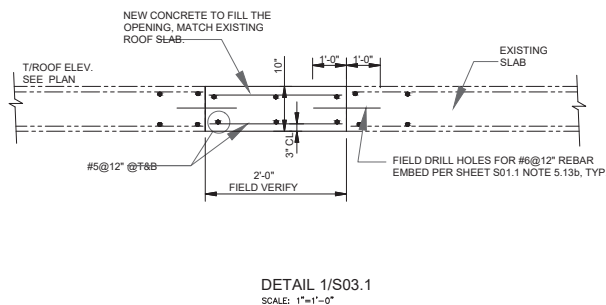
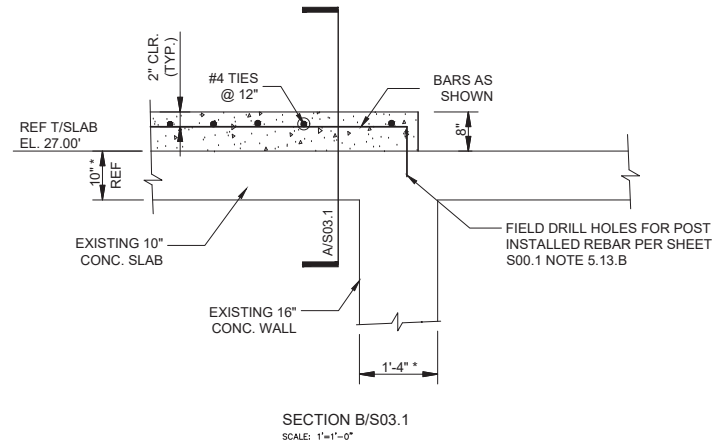
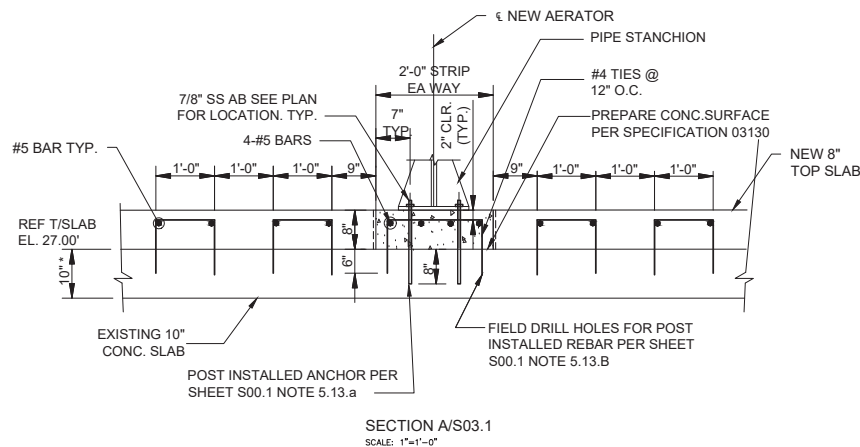








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| PROJ. START DATE: 2024.FEB<br>MCE PROJ. # 10126-0139<br>DRAWN MMP<br>DESIGNED MEA<br>CHECKED AEA<br>PROJ. MGR. CHI                                                                                               | SCALE<br><br>HORIZONTAL:<br>AS SHOWN<br><br>VERTICAL:<br>AS SHOWN | <div style="font-size: 2em; font-weight: bold;">S02.2</div> <div style="font-size: 0.8em; margin-top: 5px;">DRAWING NUMBER</div> <div style="font-size: 2em; font-weight: bold; margin-top: 10px;">A</div> <div style="font-size: 0.8em; margin-top: 5px;">REVISION</div> |
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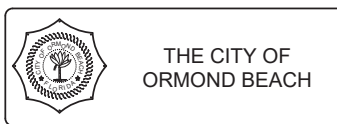


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No. 34779

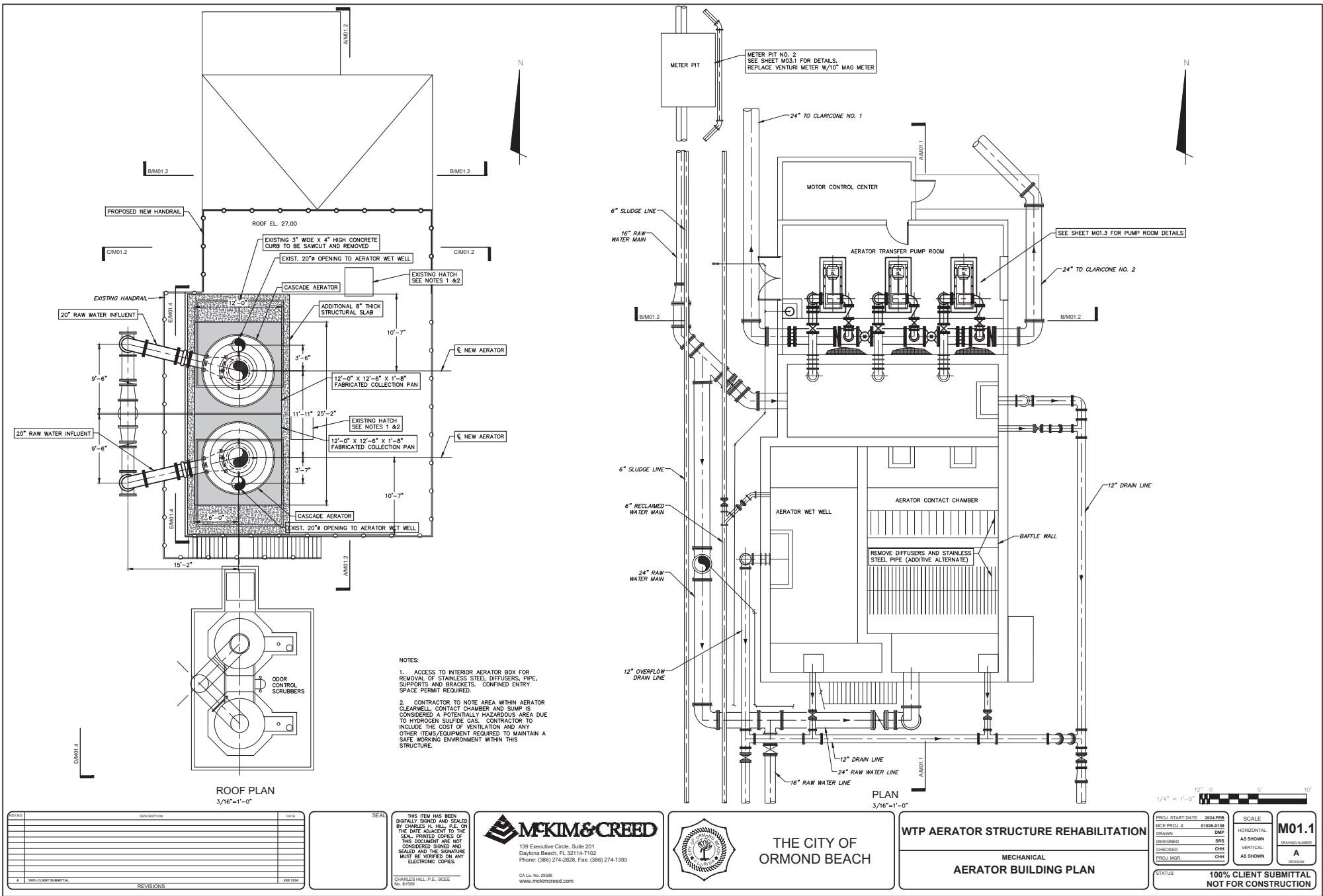


**WTP AERATOR STRUCTURE REHABILITATION**

**STRUCTURAL**

**AERATOR SECTIONS AND DETAILS-02**

|                              |                               |
|------------------------------|-------------------------------|
| PROJECT START DATE: 2024 FEB | SCALE: 1"=1'-0"               |
| MCE PROJ # 01026-0139        | HORIZONTAL: AS SHOWN          |
| DRAWN: #                     | VERTICAL: AS SHOWN            |
| CHECKED: AEA                 | STATUS: 100% CLIENT SUBMITTAL |
| PROJ MGR: CHH                | NOT FOR CONSTRUCTION          |









SEAL



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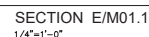


1/4" = 1'-0" 12" 0 5"

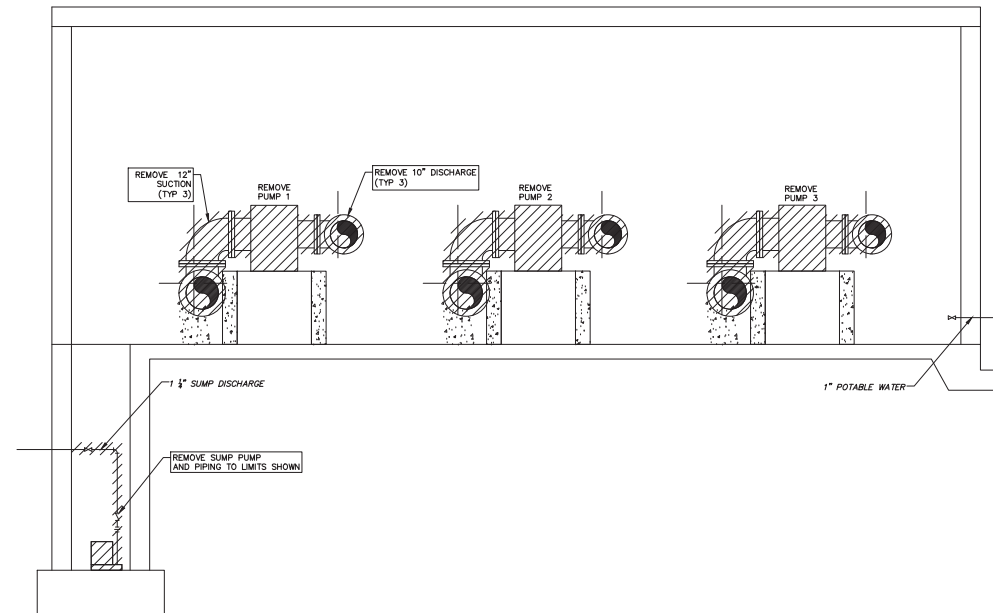
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| MICE PROJ. #      | 01026-019 |                                                                          |                                                                 |
| DRAWN             | DMP       |                                                                          |                                                                 |
| DESIGNED          | SRS       |                                                                          |                                                                 |
| CHECKED           | CHH       |                                                                          |                                                                 |
| PROJ. MGR.        | CHH       |                                                                          |                                                                 |

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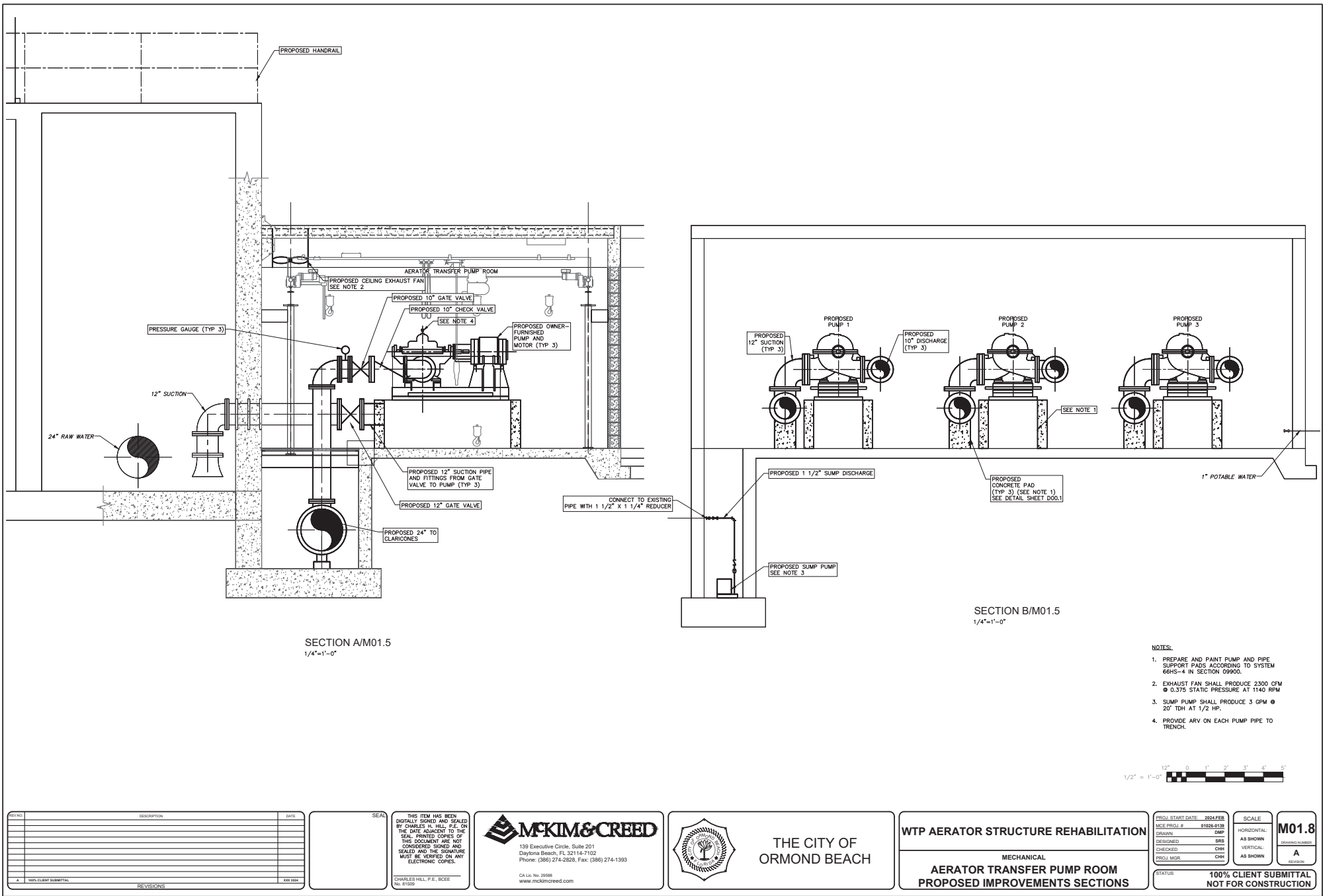
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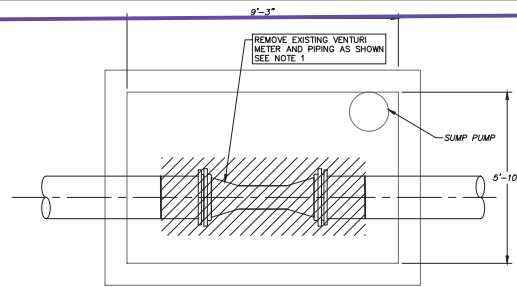
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|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------|

STATUS:
 

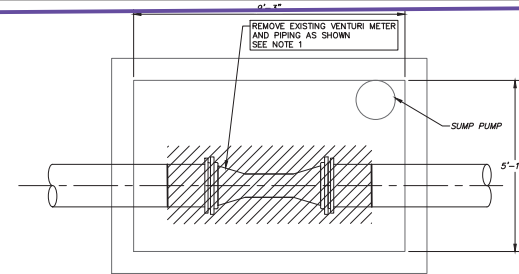
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 NOT FOR CONSTRUCTION



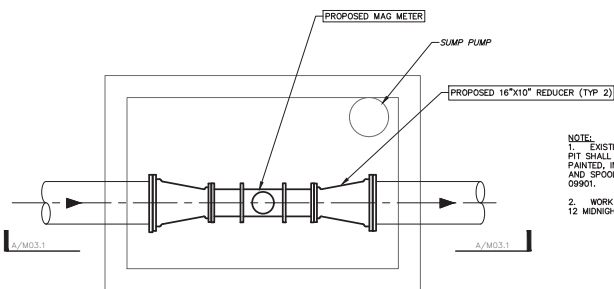




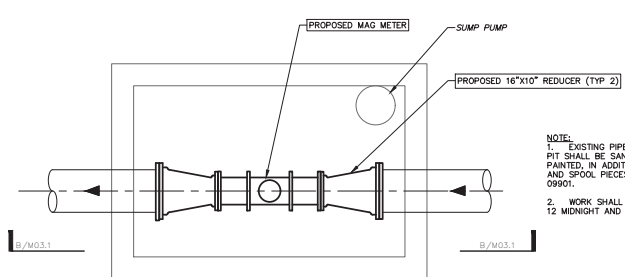
METER BOX 1 REMOVAL PLAN



METER BOX 2 REMOVAL PLAN

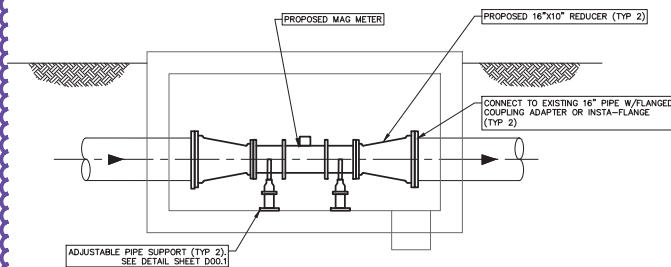


PLAN  
1/4"=1'-0"



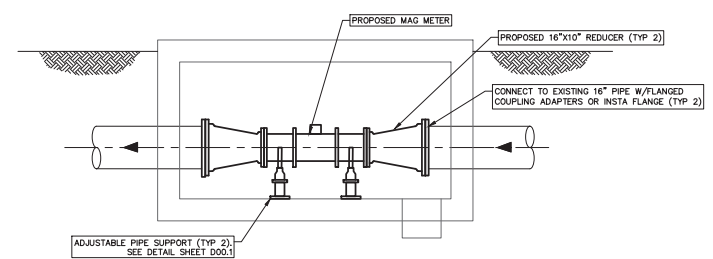
PLAN  
1/4"=1'-0"

Not in Contract. Completed by City Staff



SECTION A/M03.1  
1/4"=1'-0"

METER BOX 1 IMPROVEMENTS



SECTION B/M03.1  
1/4"=1'-0"

METER BOX 2 IMPROVEMENTS

| REV | DESCRIPTION           | DATE        |
|-----|-----------------------|-------------|
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**THE CITY OF ORMOND BEACH**

**WTP AERATOR STRUCTURE REHABILITATION**

MECHANICAL

**BELOW GRADE METER IMPROVEMENTS**

PROJECT START DATE: 2024 FEB  
MCE PROJ # 01026-0139  
DRAWN: DMP  
DESIGNED: SRS  
CHECKED: CHH  
PROJ MGR: CHH

SCALE: HORIZONTAL: AS SHOWN, VERTICAL: AS SHOWN

**M03.1**

100% CLIENT SUBMITTAL NOT FOR CONSTRUCTION







GENERAL NOTES  
WATER SYSTEM CONSTRUCTION

1. THE CITY'S PUBLIC UTILITIES DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY WATER SYSTEM CONSTRUCTION.

2. DOWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW WATER MAIN BEING Laid.

3. ALL WATER MAINS SHALL BE Laid ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.

4. TRENCHES SHALL BE BACKFILLED WITH CLEAN GRANULAR MATERIAL IN MAX. 1' LIFTS WITH A MINIMUM COMPACTION OF 98 PERCENT (AASHTO-T180) IN PAVED AREAS AND 90 PERCENT IN UNPAVED AREAS.

5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TESTS BE PROVIDED AT POINTS 1 FOOT ABOVE THE PIPE AND AT 1 FOOT VERTICAL INTERVALS TO FINISH GRADE, AT A MINIMUM SPACING OF EVERY 300 FEET, AND TO FURNISH COPIES OF TEST REPORTS PROMPTLY TO THE CITY INSPECTOR.

6. METALLIZED PIPE LOCATION TAPE SHALL BE LOCATED 18 INCHES ABOVE TOP OF PIPE OR AS SPECIFIED BY MANUFACTURER FOR ALL PVC LINES. MARKER TAPE SHALL BE USED ON ALL DUCTILE IRON PIPE.

7. WATER SERVICES (SINGLE 1") SHALL BE POLYETHYLENE TUBING (BLUE IN COLOR) - POLYETHYLENE SHALL NOT BE ALLOWED.

8. ALL WATER SERVICE ENDS SHALL BE MARKED WITH 4" X 4" LUMBER (PRESSURE TREATED) EXTENDING 4 FEET ABOVE GRADE, WITH WATER SERVICES SECURED 24" ABOVE THE GROUND. WIRE TIES SHALL BE USED TO SECURE THE CURB 5' UPS TO SUPPORT POSTS.

9. WATER VALVES SHALL BE PLACED AT ALL STREET INTERSECTIONS AND AT MAXIMUM SPACING OF 500 FEET.

10. AT ALL WATER MAIN TEES AND CROSSES, VALVES SHALL BE INSTALLED ON ALL LEGS EXCEPT ONE.

11. APPROVED WATER VALVE TYPES ARE THE FOLLOWING:

A. STANDARD GATE VALVES LESS THAN 48" DIAMETER RESILIENT SEAT GATE VALVES (AWWA C-509 OR C-515).

B. MECHANICAL TAPPING SLAVE SHALL BE STAINLESS STEEL (AWWA C-500).

C. 2" OR SMALLER VALVES SHALL BE BRASS BALL VALVES.



STANDARD CONSTRUCTION DETAIL  
GENERAL NOTES  
WATER SYSTEM CONSTRUCTION

INDEX  
W-1A  
JUNE 2023

GENERAL NOTES  
WATER SYSTEM CONSTRUCTION

12. ALL WATER VALVE BODIES SHALL BE ADJUSTED TO FINISH GRADE AND THE LIDS PAINTED BLUE TO MAKE THEM EASILY VISIBLE.

13. WATER VALVES SHALL BE COMPLETELY OWNED BY THE CONTRACTOR UPON FINAL ACCEPTANCE OF NEW WATER SYSTEMS IN THE PRESENCE OF UTILITY DEPARTMENT PERSONNEL.

14. HYDRANTS SHALL BE PLACED AT 500 FEET MAXIMUM SPACING IN RESIDENTIAL DEVELOPMENTS AND AT 300 FEET MAXIMUM SPACING IN BUSINESS AND INDUSTRIAL DEVELOPMENTS. ALL WATER MAINS TO WHICH HYDRANTS ARE CONNECTED SHALL BE 8 INCHES MINIMUM.

15. ALL FIRE HYDRANTS SHALL BE CONSTRUCTED TO MAKE THEM EASILY ACCESSIBLE TO FIRE PERSONNEL IN CASE OF FIRE. THE MAIN NOZZLE CONNECTION SHOULD ALWAYS FACE THE STREET AND BE 18-24" ABOVE GRADE.

16. AS STANDARD PRACTICE, WATER MAINS SHALL BE INSTALLED 4 FEET OFF THE BACK OF CURB OR AS APPROVED BY THE CITY.

17. ALL WATER MAINS SHALL BE NSF-APPROVED FOR POTABLE WATER USE, AND SHALL HAVE A MINIMUM COVER OF 36 INCHES. IN SPECIAL CASES WHERE IT IS IMPOSSIBLE OR INAPPROPRIATE TO PROVIDE ADEQUATE COVER, DUCTILE IRON CLASS 350 MAY BE USED AS APPROVED BY THE CITY.

18. ALL NEWLY CONSTRUCTED WATER MAINS SHALL BE FLUSHED, CLEANED WITH A POLY PIP. PRESSURE TESTED, DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS.

19. WATER MAINS SHALL BE AWWA C-300 CL 150, OR D.I.P. CLASS 350 STANDARD CEMENT LINED AWWA C-04.

20. UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT SHALL BE THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE HEALTH DEPARTMENT, AND THAT CERTIFIED AS-BUILT DRAWINGS (C47-151) ARE PROVIDED TO THE CITY PRIOR TO PAIDING AND ANY USE OF THE SYSTEM. SEE M-1A & M-1B FOR AS-BUILT REQUIREMENTS.

21. METALUG OR EQUIVALENT, RESTRAINT JOINT SYSTEM MAY BE USED ON ALL RESTRAINED FITTINGS, VALVES, ETC. AND INSTALLED BY BURIED ON PIPES NOT MEETING REQUIRED COVER REQUIREMENTS SHALL FOLLOW THE MOST RECENT DOWRA TRENCH RESTRAINT DESIGN GUIDELINES.

22. ALL D. BENDS, TEES, VALVES, WYE FITTINGS TO HAVE CEMENT INTERIOR LINING IN ACCORDANCE WITH AWWA C-500.



STANDARD CONSTRUCTION DETAIL  
GENERAL NOTES  
WATER SYSTEM CONSTRUCTION

INDEX  
W-1B  
JUNE 2023

GENERAL NOTES  
WATER SYSTEM CONSTRUCTION

23. WATER SYSTEMS SHALL BE PRESSURE TESTED AT 150 PSI STATIC PRESSURE FOR A PERIOD OF 2 HOURS PER AWWA STANDARDS. TESTS SHALL BE CONDUCTED BEFORE FINAL PAVING AND IN THE PRESENCE OF THE CITY'S INSPECTOR.

24. ALL WATER SERVICES SHALL BE MARKED WITH A " " SAW CUT INTO THE CURB OR BY METAL TABS SET INTO THE PAVEMENT.

25. ALL WATER VALVES AND BLOW-OFFS SHALL BE MARKED WITH AN "X" SAW CUT INTO THE CURB OR BY METAL TABS SET INTO THE PAVEMENT. LOCATION OF METAL TABS IN INCHES FROM EDGE OF PAVEMENT SHALL EQUAL DISTANCE IN FEET FROM EDGE OF PAVEMENT TO VALVE.

26. UNIFLANGE 1300 SERIES PIPE RESTRAINTS AS MANUFACTURED BY FORD OR APPROVED EQUAL MAY BE USED AS APPROPRIATE FOR RESTRAINING IN-LINE PRESSURE PIPE EACH SIDE OF PIPE JOINT, AS REQUIRED BY RESTRAINT TABLE.

27. TRACING WIRE SHALL BE INSTALLED IN ACCORDANCE WITH UTILITY PIPE LOCATION MATERIALS DETAIL.

28. NO GALVANIZED PIPE, FITTINGS, ETC. ARE ACCEPTED.

29. ALL WATER METERS SHALL BE INSTALLED AT THE RIGHT OF WAY LINE ONLY REGARDLESS OF SIZE.

30. SUBMIT ASSEMBLY CERTIFICATION FOR ALL BACKFLOW PREVENTERS TO THE CITY'S ENGINEERING & PLANNING DEPARTMENT BEFORE FINAL INSPECTION AT CONCESSION@ORMONDBEACH.ORG.

31. PIPING FOR RAW WATER SHALL BE WHITE FOR ABOVE GROUND PIPING, BURIED PVC PIPING SHALL BE WHITE WITH LOCATOR TAPE PLACED DIRECTLY ON TOP OF THE PIPE AND AT 12" TO 18" ABOVE THE PIPE, THE TAPE SHALL CONTINUOUSLY READ "CAUTION - RAW WATER MAIN BURIED BELOW" OR WHITE WITH LOCATOR TAPE PLACED 12" TO 18" ABOVE THE TOP OF THE PIPE.

32. SEE CHART BELOW FOR WATER MAIN SIZE AND MATERIALS.

| MATERIALS     |                       |            |  |
|---------------|-----------------------|------------|--|
| DIAMETER      | WATER MAIN            | STANDARD   |  |
| 4" - 12"      | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 12" - 18"     | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 18" - 24"     | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 24" - 30"     | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 30" - 36"     | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 36" - 42"     | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 42" - 48"     | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 48" - 54"     | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 54" - 60"     | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 60" - 66"     | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 66" - 72"     | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 72" - 78"     | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 78" - 84"     | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 84" - 90"     | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 90" - 96"     | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 96" - 102"    | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 102" - 108"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 108" - 114"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 114" - 120"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 120" - 126"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 126" - 132"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 132" - 138"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 138" - 144"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 144" - 150"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 150" - 156"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 156" - 162"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 162" - 168"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 168" - 174"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 174" - 180"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 180" - 186"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 186" - 192"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 192" - 198"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 198" - 204"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 204" - 210"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 210" - 216"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 216" - 222"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 222" - 228"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 228" - 234"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 234" - 240"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 240" - 246"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 246" - 252"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 252" - 258"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 258" - 264"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 264" - 270"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 270" - 276"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 276" - 282"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 282" - 288"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 288" - 294"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 294" - 300"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 300" - 306"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 306" - 312"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 312" - 318"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 318" - 324"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 324" - 330"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 330" - 336"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 336" - 342"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 342" - 348"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 348" - 354"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 354" - 360"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 360" - 366"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 366" - 372"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 372" - 378"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 378" - 384"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 384" - 390"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 390" - 396"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 396" - 402"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 402" - 408"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 408" - 414"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 414" - 420"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 420" - 426"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 426" - 432"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 432" - 438"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 438" - 444"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 444" - 450"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 450" - 456"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 456" - 462"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 462" - 468"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 468" - 474"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 474" - 480"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 480" - 486"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 486" - 492"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 492" - 498"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 498" - 504"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 504" - 510"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 510" - 516"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 516" - 522"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 522" - 528"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 528" - 534"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 534" - 540"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 540" - 546"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 546" - 552"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 552" - 558"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 558" - 564"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 564" - 570"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 570" - 576"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 576" - 582"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 582" - 588"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 588" - 594"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 594" - 600"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 600" - 606"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 606" - 612"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 612" - 618"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 618" - 624"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 624" - 630"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 630" - 636"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 636" - 642"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 642" - 648"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 648" - 654"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 654" - 660"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 660" - 666"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 666" - 672"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 672" - 678"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 678" - 684"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 684" - 690"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 690" - 696"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 696" - 702"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 702" - 708"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 708" - 714"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 714" - 720"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 720" - 726"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 726" - 732"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 732" - 738"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 738" - 744"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 744" - 750"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 750" - 756"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 756" - 762"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 762" - 768"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 768" - 774"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 774" - 780"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 780" - 786"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 786" - 792"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 792" - 798"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 798" - 804"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 804" - 810"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 810" - 816"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 816" - 822"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 822" - 828"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 828" - 834"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 834" - 840"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 840" - 846"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 846" - 852"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 852" - 858"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 858" - 864"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 864" - 870"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 870" - 876"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 876" - 882"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 882" - 888"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 888" - 894"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 894" - 900"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 900" - 906"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 906" - 912"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 912" - 918"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 918" - 924"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 924" - 930"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 930" - 936"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 936" - 942"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 942" - 948"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 948" - 954"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 954" - 960"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 960" - 966"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 966" - 972"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 972" - 978"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 978" - 984"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 984" - 990"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 990" - 996"   | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 996" - 1002"  | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1002" - 1008" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1008" - 1014" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1014" - 1020" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1020" - 1026" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1026" - 1032" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1032" - 1038" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1038" - 1044" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1044" - 1050" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1050" - 1056" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1056" - 1062" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1062" - 1068" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1068" - 1074" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1074" - 1080" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1080" - 1086" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1086" - 1092" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1092" - 1098" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1098" - 1104" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1104" - 1110" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1110" - 1116" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1116" - 1122" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1122" - 1128" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1128" - 1134" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1134" - 1140" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1140" - 1146" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1146" - 1152" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1152" - 1158" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1158" - 1164" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1164" - 1170" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1170" - 1176" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1176" - 1182" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1182" - 1188" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1188" - 1194" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1194" - 1200" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1200" - 1206" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1206" - 1212" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1212" - 1218" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1218" - 1224" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1224" - 1230" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1230" - 1236" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1236" - 1242" | DUCTILE IRON (CL 150) | AWWA C-300 |  |
| 1242" - 1248" | DUCTILE IRON (CL 150) | AWWA       |  |

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|                                                                                     |                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | LIGHTING, INSTRUMENT OR RECEPTACLE PANELBOARD                                                                                                                                        |
|    | POWER PANELBOARD                                                                                                                                                                     |
|    | CONTROL PANEL                                                                                                                                                                        |
|    | MOTOR CONTROL CENTER                                                                                                                                                                 |
|    | POWER MONITOR                                                                                                                                                                        |
|    | AMMETER                                                                                                                                                                              |
|    | AMMETER SWITCH                                                                                                                                                                       |
|    | VOLTMETER                                                                                                                                                                            |
|    | VOLTMETER SWITCH                                                                                                                                                                     |
|    | FLOAT/FLOW SWITCH                                                                                                                                                                    |
|    | LIMIT SWITCH                                                                                                                                                                         |
|    | PRESSURE SWITCH                                                                                                                                                                      |
|    | THERMOSTAT                                                                                                                                                                           |
|    | JUNCTION BOX, SIZE PER NEC                                                                                                                                                           |
|    | ELECTRICAL EQUIPMENT CONNECTION                                                                                                                                                      |
|    | ELECTRICAL MANHOLE / HANDLE AND THE LETTERS<br>INDICATE THE TYPE OF THE HOLE                                                                                                         |
|    | RAYCEWAY SYSTEM CALL-OUTS:<br>CT - CABLE TRAY<br>BD - BUS DUCT<br>DB - DUCT/BANK<br>EC - EXPOSED CONDUIT<br>WW - WIRE WAY/ROUGH                                                      |
|    | RAYCEWAY AND/OR CABLE ID NUMBER                                                                                                                                                      |
|    | RAYCEWAY HOMERUN/ TO EQUIPMENT IS TAG AS SHOWN. LINE<br>TYPE DESIGNATES CONCEALED, EXPOSED, ETC.<br>NUMBERS/TEXT DESIGNATE HOMERUN EQUIPMENT (I.E. PANEL<br>BOARD CIRCUIT NUMBER(S)) |
|    | CONDUCTOR/CABLE CALL-OUT WITHIN RAYCEWAY<br>TO PLC-1<br>Ø14 #120 0.77°C                                                                                                              |
|    | CONCEALED RAYCEWAY(S) IN FLOOR SLAB, UNDERGROUND, ETC.                                                                                                                               |
|  | EXISTING RAYCEWAY(S) AND/OR CABLES                                                                                                                                                   |
|  | RAYCEWAY TURNED DOWN                                                                                                                                                                 |
|  | RAYCEWAY TURNED UP                                                                                                                                                                   |
|  | RAYCEWAY TERMINATED / CAPPED OFF                                                                                                                                                     |
|  | RAYCEWAY REMOVED / ABANDONED                                                                                                                                                         |
|  | EXISTING EQUIPMENT REMOVED                                                                                                                                                           |
|  | NEW ELECTRICAL RAYCEWAY(S)                                                                                                                                                           |
|  | EXISTING ELECTRICAL RAYCEWAY(S)                                                                                                                                                      |
|  | NEW TELEPHONE LINE(S)                                                                                                                                                                |
|  | EXISTING TELEPHONE LINE(S)                                                                                                                                                           |
|  | OVERHEAD ELECTRICAL UTILITY                                                                                                                                                          |
|  | OVERHEAD TELEPHONE UTILITY                                                                                                                                                           |
|  | UNDERGROUND ELECTRICAL UTILITY                                                                                                                                                       |
|  | UNDERGROUND TELEPHONE UTILITY                                                                                                                                                        |
|  | NEW GROUNDING / BONDING                                                                                                                                                              |
|  | EXISTING GROUNDING / BONDING                                                                                                                                                         |
|  | NEW LIGHTNING PROTECTION CONDUIT                                                                                                                                                     |

|                                                                                                                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| CLASS 1/2 DIVISION III<br>CONDUIT SEAL-OFF FITTING                                                                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LOCAL CONTROL STATION<br>WITH THREE OR MORE SELECTOR/PUSH SWITCHES<br>LOWER-RIGHT SYMBOL INDICATES MOUNTING LOCATION |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LOCAL CONTROL STATION<br>WITH TWO SELECTOR/PUSH SWITCHES<br>LOWER-RIGHT SYMBOL INDICATES MOUNTING LOCATION           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LOCAL CONTROL STATION<br>WITH ONE SELECTOR/PUSH SWITCH<br>LOWER-RIGHT SYMBOL INDICATES MOUNTING LOCATION             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|                                                                                       |                                                                                               |                                                                                       |                                                                                                                                          |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
|    | MOMENTARY PUSH BUTTON<br>NORMALLY OPENED                                                      |    | CONTROL RELAY, GENERIC<br>DESIGNATIONS:<br>CR CONTROL RELAY<br>MX AUXILIARY RELAY<br>TR TIMING RELAY<br>AR ALARM RELAY<br>RR READY RELAY |
|    | MOMENTARY PUSH BUTTON<br>NORMALLY CLOSED                                                      |    | CONTROL RELAY, LATCHING                                                                                                                  |
|    | MUSHROOM PUSH BUTTON<br>NORMALLY OPENED                                                       |    | CONTACT, NORMALLY OPENED<br>TOP ID TAG DENOTES PARENT RELAY                                                                              |
|    | MUSHROOM PUSH BUTTON<br>NORMALLY CLOSED                                                       |    | CONTACT, NORMALLY CLOSED<br>TOP ID TAG DENOTES PARENT RELAY                                                                              |
|    | TOGGLE SWITCH<br>NORMALLY OPENED                                                              |    | SOLENOID, GENERIC                                                                                                                        |
|    | TOGGLE SWITCH<br>NORMALLY CLOSED                                                              |    | HEATING ELEMENT, GENERIC                                                                                                                 |
|    | TWO-POSITION SWITCH<br>NORMALLY OPENED                                                        |    | ELAPSED TIME METER, ELECTRONIC                                                                                                           |
|    | THREE-POSITION BUTTON                                                                         |    | HORN, ALARM                                                                                                                              |
|    | LIMIT SWITCH<br>NORMALLY OPENED                                                               |    | HORN, ALARM<br>AUDIO AND VISUAL ANNUNCIATION                                                                                             |
|    | LIMIT SWITCH<br>NORMALLY CLOSED                                                               |    | TRANSFORMER, CONTROL POWER<br>RATINGS AS NOTED ON THE DRAWINGS                                                                           |
|    | LIMIT SWITCH<br>HELD OPENED                                                                   |    | BATTERY OR DC POWER SOURCE                                                                                                               |
|    | LIMIT SWITCH<br>HELD CLOSED                                                                   |    | MOTOR ACTUATED VALVE<br>M MODULATING<br>O/C OPEN/CLOSE                                                                                   |
|    | TEMPERATURE SWITCH<br>NORMALLY OPENED                                                         |    | MOTOR ACTUATED VALVE<br>M MODULATING<br>O/C OPEN/CLOSE                                                                                   |
|    | TEMPERATURE SWITCH<br>NORMALLY CLOSED                                                         |  | GENERIC INSTRUMENT SYMBOL<br>FIT FLOW INDICATING TRANSMITTER<br>MOV MOTOR OPERATED VALVE                                                 |
|    | FLOAT SWITCH<br>NORMALLY OPENED                                                               |                                                                                       |                                                                                                                                          |
|    | FLOAT SWITCH<br>NORMALLY CLOSED                                                               |                                                                                       |                                                                                                                                          |
|    | FLOW SWITCH<br>NORMALLY OPENED                                                                |                                                                                       |                                                                                                                                          |
|    | FLOW SWITCH<br>NORMALLY CLOSED                                                                |                                                                                       |                                                                                                                                          |
|    | PRESSURE SWITCH<br>NORMALLY OPENED                                                            |                                                                                       |                                                                                                                                          |
|    | PRESSURE SWITCH<br>NORMALLY CLOSED                                                            |                                                                                       |                                                                                                                                          |
|    | ON DELAY TIME RELAY<br>NORMALLY OPENED TIMED CLOSED<br>NOTC                                   |                                                                                       |                                                                                                                                          |
|   | ON DELAY TIME RELAY<br>NORMALLY CLOSED TIMED OPENED<br>NCTO                                   |                                                                                       |                                                                                                                                          |
|  | OFF DELAY TIME RELAY<br>NORMALLY OPENED TIMED OPENED<br>NOTO                                  |                                                                                       |                                                                                                                                          |
|  | OFF DELAY TIME RELAY<br>NORMALLY CLOSED TIMED CLOSED<br>NCTC                                  |                                                                                       |                                                                                                                                          |
|  | INDICATION LIGHT<br>W - WHITE G - GREEN A - AMBER<br>R - RED B - BLUE C - CLEAR               |                                                                                       |                                                                                                                                          |
|  | INDICATION LIGHT, PUSH-TO-TEST<br>W - WHITE G - GREEN A - AMBER<br>R - RED B - BLUE C - CLEAR |                                                                                       |                                                                                                                                          |

|                                                                  |                                                                                                                                                                          |                                                                         |                                                                                                                                                                                        |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <h2 style="margin: 0;">WTP AERATOR STRUCTURE REHABILITATION</h2> | PROJECT START DATE: <b>2024/08/08</b><br>SHEET PROJ. #: <b>01820-0139</b><br>DRAWN: <b>CMP</b><br>DESIGNED: <b>LLS</b><br>CHECKED: <b>AAN</b><br>PROJECT MGR: <b>CWH</b> | SCALE: <b>HORIZONTAL:</b><br><b>NA</b><br><b>VERTICAL:</b><br><b>NA</b> | <div style="font-size: 1.5em; font-weight: bold;">E00.2</div> <div style="font-size: 0.7em;">DRAWING NUMBER</div> <div style="font-size: 0.7em; margin-top: 5px;">A<br/>REVISION</div> |
|                                                                  | <div style="margin-bottom: 5px;">ELECTRICAL</div> <div style="font-size: 1.2em; font-weight: bold;">ELECTRICAL SYMBOLS I</div>                                           |                                                                         |                                                                                                                                                                                        |

|                            |             |                                                                                                                                                                                                                                           |
|----------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROJ. START DATE: 2024.FEB | SCALE       | <div style="font-size: 2em; font-weight: bold;">E00.2</div> <div style="font-size: 0.8em;">DRAWING NUMBER</div> <div style="font-size: 1.5em; font-weight: bold; margin-top: 10px;">A</div> <div style="font-size: 0.8em;">REVISION</div> |
| MCE PROJ. # 01026-0139     | HORIZONTAL: |                                                                                                                                                                                                                                           |
| DRAWN DMP                  | NA          |                                                                                                                                                                                                                                           |
| DESIGNED LLS               | VERTICAL:   |                                                                                                                                                                                                                                           |
| CHECKED AAH                | NA          |                                                                                                                                                                                                                                           |
| PROJ. MGR. CHI             |             |                                                                                                                                                                                                                                           |

STATUS: 100% CLIENT SUBMITTAL  
NOT FOR CONSTRUCTION

4

LIGHTING AND RECEPTACLE SYMBOLS

A1

LP-1001TS

LIGHT FIXTURE, VARIOUS TYPES  
UPPERCASE CHARACTERS "A" DENOTES TYPE, REFER TO LIGHTING SCHEDULE OR DRAWING NOTES  
LOWER CASE LETTER "P" DENOTES CONTROL SWITCH  
DUAL SWITCHING INDICATED BY PAIRS OF LOWERCASE LETTERS "a,b"  
NUMBER "LP-1001P" DENOTES LIGHTING PANEL AND CIRCUIT NUMBER  
"N" DENOTES NIGHT LIGHT, CIRCUIT AHEAD OF CONTROL SWITCHES.

EM

LIGHT FIXTURE, VARIOUS TYPES  
EMERGENCY / EGRESS BATTERY BACK-UP POWER

10' 0" AFF

PENDANT OR CEILING MOUNTED LIGHTING FIXTURE

10' 0" AFF

WALL MOUNTED LIGHTING FIXTURE

10' 0" AFF

POLE OR STANCHION MOUNTED LIGHTING FIXTURE

10' 0" AFF

TWO (2) POLE OR STANCHION MOUNTED LIGHTING FIXTURE

10' 0" AFF

POLE OR STANCHION MOUNTED LIGHTING FIXTURE WITH RECEPTACLE

10' 0" AFF

TWO (2) LAMP EMERGENCY / EGRESS LIGHTING FIXTURE  
LETTERS DENOTE TYPE

10' 0" AFF

EXIT SIGN WALL MOUNTED (SINGLE FACE WITH INDICATING ARROWS)  
WITH BATTERY PACK ARROW INDICATES DIRECTION OF EXIT DOOR

10' 0" AFF

EXIT SIGN PENDANT MOUNTED (DOUBLE FACE WITH INDICATING ARROWS)  
WITH BATTERY PACK ARROWS INDICATE DIRECTION OF EXIT DOOR

10' 0" AFF

FIXTURE DESIGNATION SYMBOL. SEE LIGHTING FIXTURE SCHEDULE  
FOR DESCRIPTION AND TYPE. ALL FIXTURES SHOWN IN A ROOM WITH  
THIS SYMBOL SHALL BE OF TYPE INDICATED BY LETTER, NUMBER IN  
SYMBOL INDICATES LAMP WATTAGE AND NUMBER OF LAMPS WHERE  
MORE THAN ONE (UNLESS OTHERWISE NOTED). NUMBER BELOW  
SYMBOL INDICATES MOUNTING HEIGHT ABOVE FINISHED FLOOR OR  
AS NOTED.

10' 0" AFF

WIRING DEVICE, LIGHTING CONTROL SWITCHES.  
UPPER LEFT CHARACTER "A" DENOTES SWITCH DESIGNATION.  
LOWER RIGHT CHARACTER "4" DENOTES SWITCH CONTROL.  
TWO POLE  
THREE-WAY SWITCH CONTROL  
FOUR-WAY SWITCH CONTROL  
DIMMER CONTROL  
OCCUPANCY SENSOR  
MOTOR RATED SWITCH  
24V DC MOMENTARY CONTACT SWITCH  
VARIABLE SPEED FAN SWITCH

10' 0" AFF

SECTION OR DETAIL\* NUMBER

10' 0" AFF

SHEET ON WHICH SECTION OR DETAIL\* IS FIRST CUT

10' 0" AFF

SHEET ON WHICH SECTION OR DETAIL\* IS LOCATED

10' 0" AFF

\* WHEN PERTAINING TO DETAILS, CIRCLE IS REPLACED WITH A SQUARE

10' 0" AFF

SECTION AND DETAIL KEY

10' 0" AFF

SHEET IDENTIFICATION  
G - GENERAL  
A - ARCHITECTURAL  
S - STRUCTURAL  
C/S - CIVIL/SANITARY  
H - HVAC  
P - PLUMBING  
I - INSTRUMENTATION  
E - ELECTRICAL

5

FIRE ALARM SYSTEM

A/V

110

AUDIO / VISUAL ALARM INDICATOR  
HORN / STROBE NUMBER INDICATES STROBE CANDELA RATING  
OTHER THAN 15

H

110

HORN

F

110

PULL STATION

XXXX

110

CONTROL PANEL  
MIDDLE LETTERS DENOTE THE FOLLOWING:  
FACP FIRE ALARM CONTROL PANEL

B

110

BELL

FAAS

110

FIRE ALARM ANNUNCIATOR STATION

FS

110

FLOW SWITCH

TS

110

VALVE TAMPER SWITCH

110

END OF LINE RESISTOR

FD

110

FLAME DETECTOR

SD

110

SMOKE DETECTOR, MULTISENSOR  
D - DUCT MOUNTED  
H - HIGH TEMPERATURE / THERMAL  
I - IONIZATION  
P - PHOTOELECTRIC

CT

110

SIGNAL INPUT MODULE

CC1

110

SIGNAL MODULE

6

GROUNDING / BONDING SYMBOLS

110

GROUND ROD TEST WELL

110

GROUND ROD

110

GROUNDING / BONDING CONNECTION  
EXOTHERMIC WELD

110

GROUNDING / BONDING CONNECTION  
MECHANICAL

110

GROUND, EARTH

110

GROUNDING / BONDING CONDUCTOR  
(REFERENCE CONTRACT DOCUMENTS FOR REQUIREMENTS)

110

LIGHTNING PROTECTION CONDUCTOR  
(REFERENCE CONTRACT DOCUMENTS FOR REQUIREMENTS)

7

AUXILIARY SYSTEMS

XX

110

AUXILIARY DETECTOR  
DC DOOR CONTACT  
GD GLASS BREAK DETECTOR  
MS MOTION SENSOR  
CR CARD READER

XXXX

110

CONTROL PANEL  
MIDDLE LETTERS DENOTE THE FOLLOWING:  
IACP INTRUSION ALARM CONTROL PANEL  
ACP ALARM CONTROL PANEL  
FOPP FIBER OPTIC PATCH PANEL

R

110

ALARM BEACON  
LETTER INDICATORS COLOR

CC

110

CLOSED CIRCUIT CAMERA

PU

110

PAGING UNIT

LS

110

PAGING UNIT WITH LOUD SPEAKER

110

PAGING UNIT

110

SOUND POWERED TELEPHONE

110

FLAT CABLE TRANSITION BOX

110

TELEPHONE PUNCH DOWN BLOCK

PBX

110

PRIVATE BRANCH EXCHANGE

EPN

110

EXTERNAL PORT NODE

FC

110

FIBER OPTIC CONVERTER

LE

110

LINE EXTENDER

PCC

110

PAGING CONTROL CABINET

MUX

110

MULTIPLEXOR

XCR

110

TRANSCIVER

110

MONITOR

T

110

T1 DEMARCATION

UPS

110

UNINTERRUPTIBLE POWER SUPPLY

SPD

110

SURGE PROTECTION DEVICE

NOTES:  
ALL SYMBOLS MAY NOT BE UTILIZED FOR THIS PROJECT.  
ADDITIONAL SYMBOLS NOT SHOWN ON THIS DRAWING MAY BE SHOWN ELSEWHERE ON THE ELECTRICAL  
DRAWINGS. IF REQUIRED, IEC RATINGS WILL INCLUDE THE "IEC" AND "IP" PREFIX.

REVISION

DESCRIPTION

DATE

REVISIONS

100% CLIENT SUBMITTAL

XXX 2024

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No. 91041

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THE CITY OF  
ORMOND BEACH

WTP AERATOR STRUCTURE REHABILITATION

ELECTRICAL  
ELECTRICAL SYMBOLS II

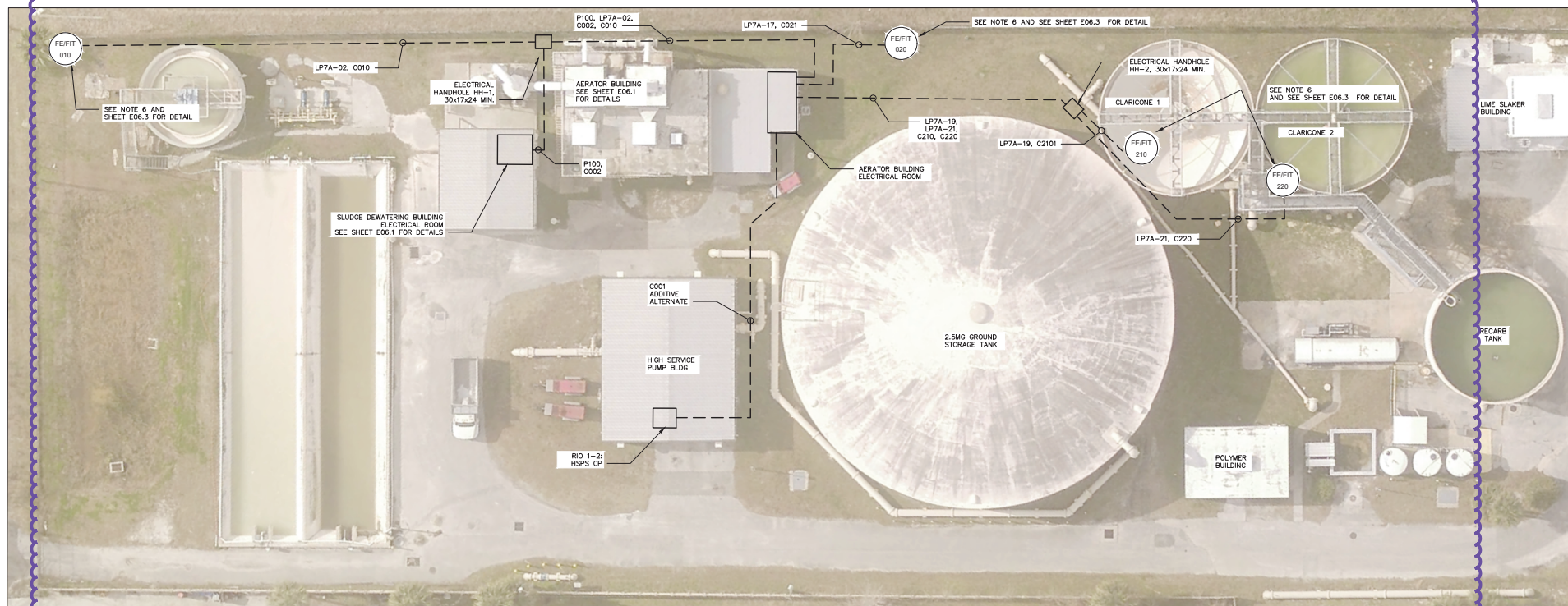
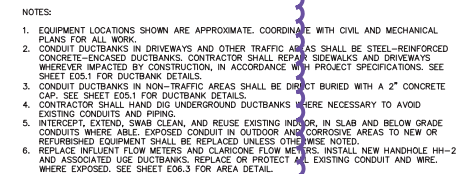
PROJECT START DATE: 2024 FEB  
MCE PROJ # 01026-0139  
DRAWN: DWP  
DESIGNED: LLE  
CHECKED: AAR  
PROJ MGR: CHH  
STATUS: 100% CLIENT SUBMITTAL  
NOT FOR CONSTRUCTION

SCALE  
HORIZONTAL: NA  
VERTICAL: NA  
A

E00.3

i:\01026\0139\END\80-DRAWINGS\ELECTRICAL\EA100-10260139\_SYMBOLS.DWG 12/19/2024 1:06:59 DOREEN PADGETT

Page 1032 of 1348



Not in Contract. Completed by City Staff

| REV NO. | DESCRIPTION                     | DATE     |
|---------|---------------------------------|----------|
|         |                                 |          |
|         |                                 |          |
|         |                                 |          |
|         |                                 |          |
|         |                                 |          |
|         |                                 |          |
|         |                                 |          |
|         |                                 |          |
|         |                                 |          |
| A       | DPS CLIENT SUBMITTAL REVIEWSORS | X06 2024 |

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THE CITY OF  
ORMOND BEACH

WTP AERATOR STRUCTURE REHABILITATION

ELECTRICAL  
ELECTRICAL PROPOSED SITE PLAN

|                   |            |
|-------------------|------------|
| PROJ. START DATE: | 2024.FEB   |
| MCE PROJ. #       | 01026-0139 |
| DRAWN             | DMP        |
| DESIGNED          | LLS        |
| CHECKED           | AAH        |
| PROJ. MGR.        | CHH        |

STATUS

|             |             |                |
|-------------|-------------|----------------|
| E: 2024.FEB | SCALE       | E01.1          |
| 01026-0139  | HORIZONTAL: | DRAWING NUMBER |
| DMP         | AS SHOWN    | A              |
| LLS         | VERTICAL:   |                |
| AAH         | NA          |                |
| CHH         |             |                |

**100% CLIENT SUBMITTAL  
NOT FOR CONSTRUCTION**









DUTY: 0.841092

VALUES SHOWN ABOVE ARE BASED ON ANTICIPATED WORST CASE UTILITY SCENARIO

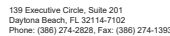
| SERVICE CHARACTERISTICS                |     |       |
|----------------------------------------|-----|-------|
| VOLTS: 480Y/277                        | 100 | A MLO |
| PHASE: 3                               |     | A MCB |
| WIRE: 4                                |     |       |
| 22k MIN AIC SYMM, FULLY RATED ASSEMBLY |     |       |

| SERVICE CHARACTERISTICS                |          |
|----------------------------------------|----------|
| VOLTS: 120/208                         | A MLO    |
| PHASE: 3                               | 80 A MCB |
| WIRE: 4                                |          |
| 22k MIN AIC SYMM, FULLY RATED ASSEMBLY |          |

## REVISIONS

SEAL

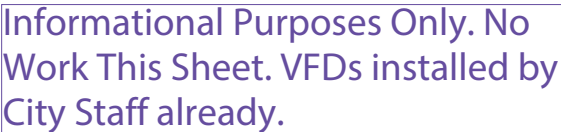
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ELECTRICAL  
ELECTRICAL TABLES AND SCHEDULES

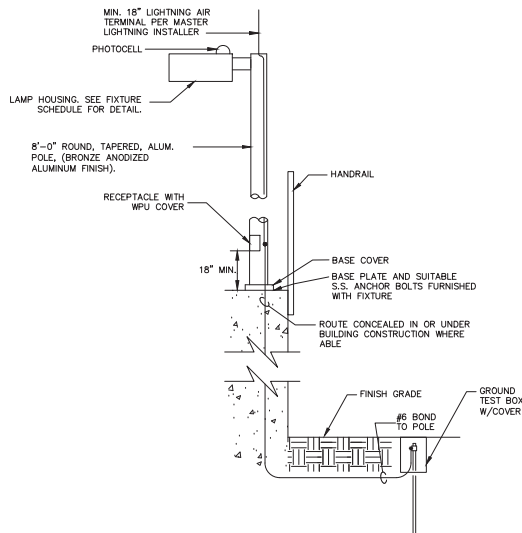
**100% CLIENT SUBMITTAL  
NOT FOR CONSTRUCTION**



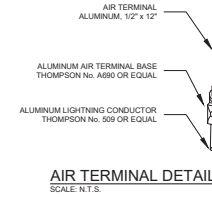
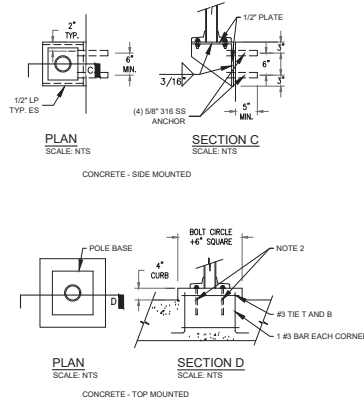
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|-------------------|------------|-------------|-------------------------------------------------------------------------------------|
| PROJ. START DATE: | 2024.FEB   | SCALE       | <b>E04.1</b><br><small>DRAWING NUMBER</small><br><b>A</b><br><small>SECTION</small> |
| MCE PROJ. #       | 01026-0130 | HORIZONTAL: |                                                                                     |
| DRAWN             | DMP        | NA          |                                                                                     |
| DESIGNED          | LLS        | VERTICAL:   |                                                                                     |
| CHECKED           | AAH        | NA          |                                                                                     |
| PROJ. MGR.        | CHH        |             |                                                                                     |

STATUS: **100% CLIENT SUBMITTAL NOT FOR CONSTRUCTION**



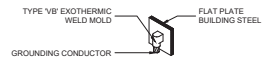
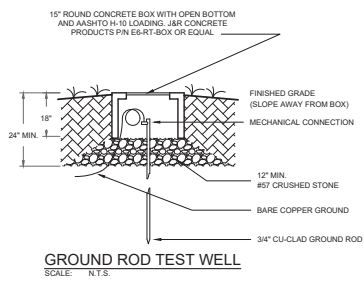


**LIGHTING POLE BASE DETAIL**  
SCALE: N.T.S.

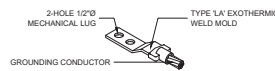


**DETAIL NOTES:**

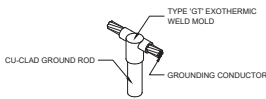
1. CONTRACTOR SHALL SUBMIT SIGNED AND SEALED DRAWINGS AND DESIGN CALCULATIONS FOR THE CONCRETE ANCHOR BASE IN ACCORDANCE WITH THE LATEST EDITION OF THE FLORIDA BUILDING CODE.
2. DESIGN SUBMITTAL SHALL BE FROM A CURRENTLY LICENSED STRUCTURAL ENGINEER BY THE STATE OF FLORIDA.
3. PROVIDE ANCHORS, HARDWARE, SUPPORTS, ETC., AS NEEDED TO SECURE LIGHT-POLE FIXTURE.



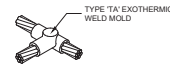
**EXOTHERMIC WELD 'VB' CONNECTION**  
SCALE: N.T.S.



**EXOTHERMIC WELD 'LA' CONNECTION**  
SCALE: N.T.S.



**EXOTHERMIC WELD 'GT' CONNECTION**  
SCALE: N.T.S.



**EXOTHERMIC WELD 'TA' CONNECTION**  
SCALE: N.T.S.

| LETTER | DESCRIPTION                                                                                                                                                                                 | LAMPS                                          | REMARKS                                            | SYMBOL |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|----------------------------------------------------|--------|
| A      | LED OUTDOOR POLE MOUNTED AREA LIGHT, EPA 1.2sqft, DK BRONZE FINISH, TYPE 3 DISTRIBUTION PHOTOCCELL CONTROL, PROVIDE POLE AND BASE PER DETAIL THIS SHEET, 150MPH ULTIMATE DESIGN WIND SPEED. | 60 LED L80 />80,000HRS, 137WATTS, 700mA, 4000K | LITHONIA LIGHTING MOD. KADT LED OR APPROVED EQUAL. |        |
| B      | 4' PENDANT SUSPENDED OR SURFACE MOUNTED LED LUMINAIRE, SUITABLE FOR WET, DAMP AND/OR COLD LOCATIONS, ONE-PIECE FIBERGLASS HOUSING, GASKETED, FROSTED SPREAD DISTRIBUTION LENS.              | LED L80 /60,000HRS, 6000LM, 39W, 5000K         | LITHONIA LIGHTING MOD. FEM LED OR APPROVED EQUAL.  |        |

| REV | DESCRIPTION           | DATE     |
|-----|-----------------------|----------|
| A   | 100% CLIENT SUBMITTAL | XXX 2024 |

SEAL

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**THE CITY OF ORMOND BEACH**

**WTP AERATOR STRUCTURE REHABILITATION**

**ELECTRICAL  
ELECTRICAL DETAILS II**

PROJ. START DATE: 2024 FEB  
MCE PROJ. # 01026-0139  
DRAWN: DWP  
DESIGNED: LLE  
CHECKED: AAR  
PROJ. MGR: CHH

SCALE: HORIZONTAL: AS SHOWN, VERTICAL: AS SHOWN

**E05.2**

100% CLIENT SUBMITTAL  
NOT FOR CONSTRUCTION



1. HAND-HOLE MATERIAL SHALL BE POLYMER CONCRETE OR PRECAST CONCRETE WITH A COMPRESSIVE STRENGTH OF NO LESS THAN 9,000psi.
2. HAND-HOLE AND COVER SHALL WITHSTAND A SERVICE LOAD OF NO LESS THAN 15,000-LBS OVER A 10"x10" AREA
3. PROVIDE STAINLESS STEEL BOLTS, WASHERS AND INSERTS.
4. PROVIDE COVER LOGO "ELECTRICAL" "CONTROLS" OR "COMMUNICATIONS" AS APPLICABLE OR INDICATED ON THE DRAWINGS.
5. MINIMUM BOX SIZE SHALL BE 30" LONG x 17" WIDE x 24" DEEP.

### TYPICAL ELECTRICAL HAND-HOLE INSTALLATION DETAIL

SCALE: N.T.S.



### AERATION ELECTRICAL ROOM EQUIPMENT MOUNTING DETAILS

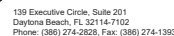
SCALE: 1"=1'-0"

City Staff have already installed new VFDS

| REV NO    | DESCRIPTION           | DATE     |
|-----------|-----------------------|----------|
|           |                       |          |
|           |                       |          |
|           |                       |          |
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|           |                       |          |
|           |                       |          |
|           |                       |          |
|           |                       |          |
| A         | 100% CLIENT SUBMITTAL | XXX XXXX |
| REVISIONS |                       |          |

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THE CITY OF  
ORMOND BEACH

WTP AERATOR STRUCTURE REHABILITATION

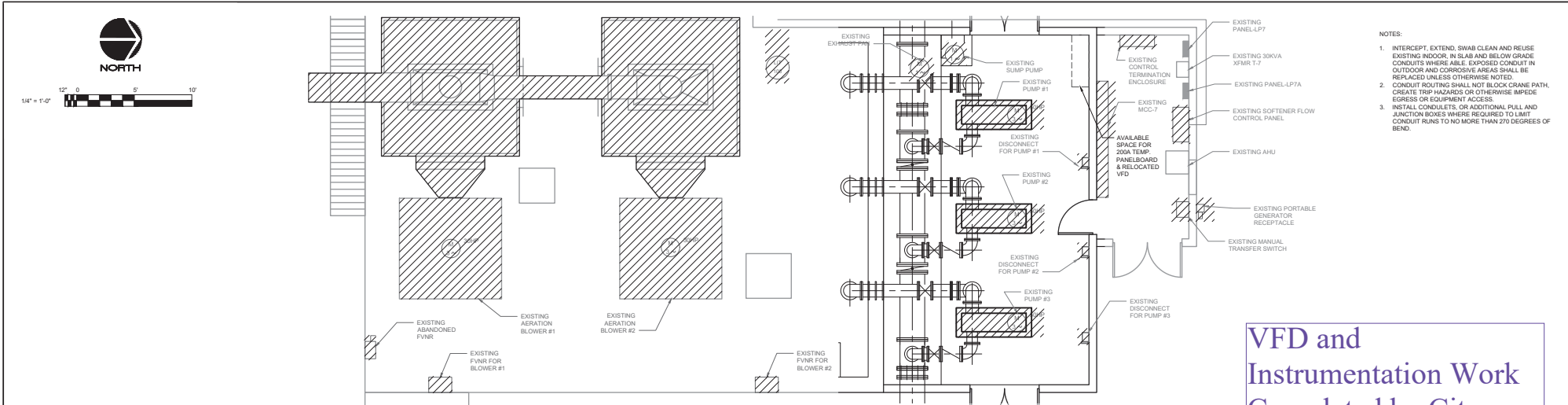
ELECTRICAL  
ELECTRICAL DETAILS III

|                   |            |
|-------------------|------------|
| PROJ. START DATE: | 2024 FEB   |
| MCE PROJ. #       | 01026-0139 |
| DRAWN             | DMP        |
| DESIGNED          | LLS        |
| CHECKED           | AAH        |
| PROJ. MGR.        | CHI        |

STATUS:

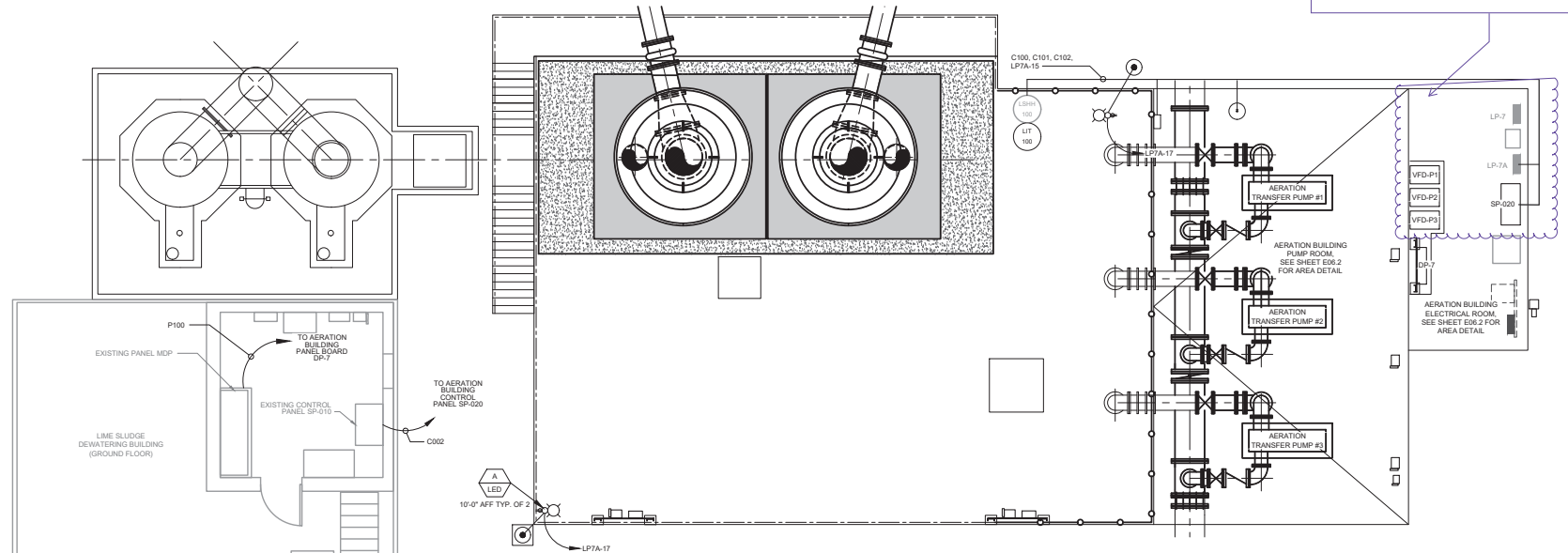
**100% CLIENT SUBMITTAL  
NOT FOR CONSTRUCTION**

|                                                                            |                                                           |
|----------------------------------------------------------------------------|-----------------------------------------------------------|
| <p>SCALE</p> <p>HORIZONTAL:<br/>AS SHOWN</p> <p>VERTICAL:<br/>AS SHOWN</p> | <p><b>E05.3</b></p> <p>DRAWING NUMBER</p> <p><b>A</b></p> |
|----------------------------------------------------------------------------|-----------------------------------------------------------|



EXISTING AERATION AREA ELECTRICAL DEMO PLAN

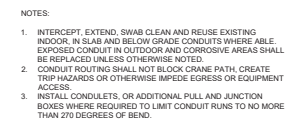
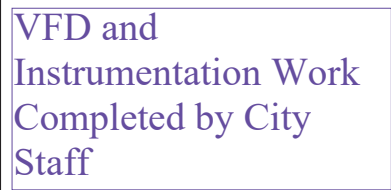
VFD and  
Instrumentation Work  
Completed by City  
Staff



PROPOSED AERATION AREA ELECTRIC PLAN

| <table border="1"> <thead> <tr> <th>REV</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>100% CLIENT SUBMITTAL</td> <td>XXX/XXX/XXX</td> </tr> </tbody> </table> | REV                   | DESCRIPTION | DATE | 1 | 100% CLIENT SUBMITTAL | XXX/XXX/XXX | <p>THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY LAUREL SMITH, P.E. ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.</p> <p>LAUREL SMITH, P.E.<br/>No. 91041</p> | <p><b>MCKIM &amp; CREED</b></p> <p>139 Executive Circle, Suite 201<br/>Daytona Beach, FL 32114-7102<br/>Phone: (386) 274-2828, Fax: (386) 274-1393</p> <p>CA Lic. No. 36988<br/>www.mckimcreed.com</p> | <p><b>THE CITY OF ORMOND BEACH</b></p> | <p><b>WTP AERATOR STRUCTURE REHABILITATION</b></p> <p><b>ELECTRICAL</b></p> <p><b>AERATION AREA ELECTRICAL PLAN</b></p> | <p>PROJECT START DATE: 2024 FEB<br/>MCE PROJ # 01026-0139<br/>DRAWN: DMP<br/>DESIGNED: LLE<br/>CHECKED: AAK<br/>PROJ MGR: CHH</p> <p>SCALE: HORIZONTAL: AS SHOWN<br/>VERTICAL: AS SHOWN</p> <p>STATUS: 100% CLIENT SUBMITTAL<br/>NOT FOR CONSTRUCTION</p> | <p><b>E06.1</b></p> <p><b>C</b></p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------|------|---|-----------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| REV                                                                                                                                                                                                | DESCRIPTION           | DATE        |      |   |                       |             |                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                        |                                        |                                                                                                                         |                                                                                                                                                                                                                                                           |                                     |
| 1                                                                                                                                                                                                  | 100% CLIENT SUBMITTAL | XXX/XXX/XXX |      |   |                       |             |                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                        |                                        |                                                                                                                         |                                                                                                                                                                                                                                                           |                                     |





| REV NO    | DESCRIPTION          | DATE     |
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| A         | 10% CLIENT SUBMITTAL | X01 2024 |
| REVISIONS |                      |          |



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|                   |            |
|-------------------|------------|
| PROJ. START DATE: | 2024 FEB   |
| MCE PROJ. #       | 01026-0139 |
| DRAWN             | DMP        |
| DESIGNED          | LLS        |
| CHECKED           | AAH        |
| PROJ. MGR.        | CHH        |

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| SCALE       |          |
| HORIZONTAL: | AS SHOWN |
| VERTICAL:   | AS SHOWN |

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| REVISION       |

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| STATUS: | 100% CLIENT SUBMITTAL<br>NOT FOR CONSTRUCTION |
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1

ALL SYMBOLS

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ANY FUNCTION

M

ANY FLOW

ANY LEVEL

ANY PRESSURE

ANY VALVE

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ANY ACTUATOR

ANY PUMP

ANY EQPT

PLC

ANY HARDWARE

ANY MISC

NOTES:

1. ALL SYMBOLS MAY NOT BE UTILIZED FOR THIS PROJECT. ADDITIONAL SYMBOLS NOT SHOWN ON THIS DRAWING MAY BE SHOWN ELSEWHERE ON THE ELECTRICAL DRAWINGS.

2. EXISTING CONTROL PANEL WILL BE RELOCATED. NEW CONDUCTORS SHALL BE ROUTED TO ALL EXISTING AND NEW I/O.

3. PROGRAMMING SERVICES FOR DFS EQUIPMENT SHALL BE REQUIRED FOR ANY ADDITIONAL I/O.

4. ALL I/O SHALL REQUIRE LOOP CHECKS/TESTING TO INSURE PROPER OPERATION OF ALL I/O. IT IS RECOMMENDED THAT THE CONTRACTOR VERIFY OPERATION OF ALL EXISTING I/O PRIOR TO COMMENCING WORK AND PROVIDE LIST OF ANY DEFICIENCIES FOUND.

3

INSTRUMENT/PLC BUBBLES

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CONVERT

I/A

E - VOLTAGE

I - CURRENT

P - PNEUMATIC

A - ANALOG

B - BINARY

H

H - HYDRAULIC

O - ELECTROMAGNETIC, SONIC

R - RESISTANCE (ELECT.)

D - DIGITAL

COMPUTE

Σ

SUMMING

Δ

DIFFERENCE

X

MULTIPLYING

÷

DIVIDING

√

ROOT EXTRACTION

K

PROPORTIONAL

DERIVATIVE

SELECTOR

AVERAGING

RATIO

EXPONENTIAL

HIGH SELECTING

LOW SELECTING

INTEGRAL

PID

5

INSTRUMENTATION FLOW

VENTURI

PADDLE WHEEL

ULTRASONIC

VORTEX

MAGNETIC

ROTAMETER

STRAIGHTENING VANES

ORIFICE PLATE

6

INSTRUMENT LEVEL

FLOAT

ULTRASONIC LEVEL

RADAR (UNGUIDED)

RADAR (GUIDED)

CAPACITANCE

SUBMERSIBLE

7

INSTRUMENT PRESSURE/TEMPERATURE

VALVED TAP

DIAPHRAGM SEAL

TAPPED ISOLATING RING SEAL

RING SEAL (FULL LINE SIZE)

RTD/ THERMOWELL

8

CONTROL SYSTEM HARDWARE

ROUTER

PLC

UPS

ANTENNA

KVM

ETHERNET SWITCH

CAMERA

RADIO

ETHERNET SWITCH

SERVER

11

LINEWORK

IF-PIPE

IF-EQPT

IF-STRUCT

IF-PIPE-AUX

IF-PIPE-PNEU

IF-PIPE-MAIN

IF-TEXT

IN-SYMB

IN-EQPT

IN-INST

IN-STRUCT

IN-EQPT

IN-INST

IN-STRUCT

IN-PIPE-MAIN

IN-PIPE-AUX

IN-PIPE-CAP

IN-PIPE-HYDR

IN-PIPE-PNEU

IN-PIPE

IX-PIPE

IX-PIPE-CAP

IX-PIPE-HYDR

IX-PIPE-PNEU

IN-WIRE

IN-CABLE-FIBER

IN-CABLE-COAX

IN-CABLE-TPS

IN-CABLE-CAT6

IN-SOFT-LINK

IX-WIRE

IX-CABLE-FIBER

IX-CABLE-COAX

IX-CABLE-TPS

IX-CABLE-CAT6

IX-SOFT-LINK

I-TEXT

I-SOFT-FINE

I-SOFT-MED

I-SOFT-BOLD

I-BAND

9

VALVES / GATES

GATE VALVE

PLUG VALVE

GLOBE VALVE

BALL VALVE

3 WAY VALVE (GENERAL)

COMBINATION VACUUM AND PRESSURE RELIEF VALVE

NEEDLE VALVE

BUTTERFLY VALVE

SWING CHECK VALVE

BALL CHECK VALVE

THROUGH PLUG VALVE

PRESSURE RELIEF VALVE

PRESSURE RELIEF/SAFETY VALVE

VACUUM RELIEF VALVE

PRESSURE-REDUCING REGULATOR

ANGLE VALVE

BACKFLOW PREVENTER

AIR RELEASE VALVE

STRAINER

SLUICE GATE

STOP/SLIDE GATE

HANDWHEEL

PINCH VALVE

DIAPHRAGM VALVE

ROTARY VALVE

BACKPRESSURE REGULATOR

CHECK VALVE (GENERIC)

10

MISCELLANEOUS

BLIND FLANGE

REDUCER

PIPE MAT'L CHANGE

PULSATION DAMPENER

SA

SURGE ARRESTOR

PIPE ARROW (MAIN)

PIPE ARROW (AUX)

I/O ARROW (AI)

I/O ARROW (AO)

I/O ARROW (DI)

I/O ARROW (DO)

RUPTURE DISK

REFERENCE DRAWING ARROW

VENT

DRAIN

GROUP LEADER

ACTUATOR

HORN

HORN/STROBE

QUICK CONNECT

INJECTOR

FILTER

AIR FILTER

REFERENCE ARROW

FCD NUMBER REFERENCE

TAG NUMBER REFERENCE

12

REVISIONS

REVISIONS

13

NOTES

NOTES

14

APPENDIX

APPENDIX

15

INDEX

INDEX

16

REVISIONS

REVISIONS

17

NOTES

NOTES

18

APPENDIX

APPENDIX

19

INDEX

INDEX

20

REVISIONS

REVISIONS

21

NOTES

NOTES

22

APPENDIX

APPENDIX

23

INDEX

INDEX

24

REVISIONS

REVISIONS

25

NOTES

NOTES

26

APPENDIX

APPENDIX

27

INDEX

INDEX

28

REVISIONS

REVISIONS

29

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APPENDIX

APPENDIX

31

INDEX

INDEX

32

REVISIONS

REVISIONS

33

NOTES

NOTES

34

APPENDIX

APPENDIX

35

INDEX

INDEX

36

REVISIONS

REVISIONS

37

NOTES

NOTES

38

APPENDIX

APPENDIX

39

INDEX

INDEX

40

REVISIONS

REVISIONS

41

NOTES

NOTES

42

APPENDIX

APPENDIX

43

INDEX

INDEX

44

REVISIONS

REVISIONS

45

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46

APPENDIX

APPENDIX

47

INDEX

INDEX

48

REVISIONS

REVISIONS

49

NOTES

NOTES

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APPENDIX

APPENDIX

51

INDEX

INDEX

52

REVISIONS

REVISIONS

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APPENDIX

APPENDIX

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INDEX

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56

REVISIONS

REVISIONS

57

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APPENDIX

APPENDIX

59

INDEX

INDEX

60

REVISIONS

REVISIONS

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APPENDIX

APPENDIX

63

INDEX

INDEX

64

REVISIONS

REVISIONS

65

NOTES

NOTES

66

APPENDIX

APPENDIX

67

INDEX

INDEX

68

REVISIONS

REVISIONS

69

NOTES

NOTES

70

APPENDIX

APPENDIX

71

INDEX

INDEX

72

REVISIONS

REVISIONS

73

NOTES

NOTES

74

APPENDIX

APPENDIX

75

INDEX

INDEX

76

REVISIONS

REVISIONS

77

NOTES

NOTES

78

APPENDIX

APPENDIX

79

INDEX

INDEX

80

REVISIONS

REVISIONS

81

NOTES

NOTES

82

APPENDIX

APPENDIX

83

INDEX

INDEX

84

REVISIONS

REVISIONS

85

NOTES

NOTES

86

APPENDIX

APPENDIX

87

INDEX

INDEX

88

REVISIONS

REVISIONS

89

NOTES

NOTES

90

APPENDIX

APPENDIX

91

INDEX

INDEX

92

REVISIONS

REVISIONS

93

NOTES

NOTES

94

APPENDIX

APPENDIX

95

INDEX

The diagram illustrates the wiring for a shielded cable connecting an instrument to a power source. The cable has an outer shield and four internal conductors. The connections are as follows:

- UNPROTECTED SIDE:** The left end of the cable. The shield is grounded to a ground rod. The four conductors are labeled: SIGNAL (positive), 120VAC (line), 0 (neutral), and 120VAC (ground).
- SHIELDED CABLE—GROUND SHIELD AT DESTINATION:** The right end of the cable. The shield is grounded to a ground rod. The four conductors are labeled: 4-WIRE INSTRUMENT (positive), 0 (neutral), 120VAC (line), and 120VAC (ground).
- PROTECTED SIDE TO 4-WIRE INSTRUMENT:** The right end of the cable. The shield is grounded to a ground rod. The four conductors are labeled: 4-WIRE INSTRUMENT (positive), 0 (neutral), 120VAC (line), and 120VAC (ground).
- GROUND USING #8 BARE GOLD COPPER CABLE CONNECTED TO GROUND GRID OR GROUND ROD 120VAC POWER:** The ground connection at the left end of the cable.
- MOUNT ARRESTOR ADJACENT TO INSTRUMENT AND UNDER SUNSHIELD WHERE PROVIDED:** The ground connection at the right end of the cable.
- WATERTIGHT CORD FITTING:** The connection point for the cable at the instrument end.
- # 8 BARE COPPER GROUND CONNECTED TO GROUND GRID:** The ground connection at the instrument end.
- WEATHERPROOF POWER TOGGLE SWITCH:** The switch used to control the power to the instrument.
- 24 INCH SEPARATION (MAX):** The distance between the ground connection at the instrument end and the power toggle switch.
- 4-20mA DC SIGNAL:** The signal output from the instrument.

SUN SHIELD (REQUIRED FOR OUTDOOR INSTALLATIONS)

INSTRUMENT STAND (REFER TO DETAIL DRAWINGS)

ES

4-20 MA CONVERTER (FIT)

PROVIDE SURGE RESISTOR FOR TRANSMITTER'S SIGNAL WIRING AND INPUT POWER.

PROVIDE PROPER LENGTH SIGNAL CABLE (SEE PLAN DWGS)

GROUNDING RING

FLOW ELEMENT (FE)

SUPPLY GROUND STRAPS AND EARTH GROUND PER DIV 16 INSTALL PER MANUFACTURERS' INSTRUCTIONS

GROUNDING ROD (SEE DIV 16)

The drawing consists of two parts. The top part is a 'SIDE VIEW' of the 'SUN/RAIN SHIELD'. It shows a rectangular shield with a 'FINISHED AL PLATE' on its face. A 'RUBBER FLAP' is indicated at the top left corner, with a note 'SEE NOTE 5'. Dimensions for the shield are: 24" MIN. height, 20" MIN. width, and 6" MIN. thickness. The bottom part is a cross-section of the 'FACE INSTRUMENT STAND'. It shows a vertical assembly mounted on a '6"Ø" STEEL REINFORCED CONCRETE POST'. The assembly includes an 'AL SUN/RAIN SHIELD' at the top, a 'SURGE SUPPRESSOR', and a '1/2" LFNC' (likely a fuse or cable). A '13/16" x 1-5/8" AL STRUT CHANNEL' is shown with 'CONDUITS AS REQUIRED' for wiring. The stand is shown extending from 'FINISHED GRADE' down into the ground. The ground is represented by a hatched pattern. A '3/4" CU-CLAD GROUND ROD' is shown at the bottom, connected to the stand. Dimensions for the stand are: 66" MAX. total height and 36" MIN. height from finished grade to the top of the shield.

RUBBER FLAP, SEE NOTE 5

20" MIN.

24" MIN.

FINISHED AL PLATE

1/4"

6" MIN.

SUN/RAIN SHIELD  
SIDE VIEW

1/2" LFNC

SURGE SUPPRESSOR

#2 TINNED CU WIRE

13/16" x 1-5/8"  
AL STRUT CHANNEL

CONDUITS AS REQUIRED

FINISHED GRADE

3/4" CU-CLAD  
GROUND ROD

AL SUN/RAIN  
SHIELD

6"Ø" STEEL  
REINFORCED  
CONCRETE POST

66" MAX.

36" MIN.

NOTES:

1. FILE AND ROUND ALL CORNERS SMOOTH, REAM ALL HOLES.
2. USE 316-SS FASTENERS, HARDWARE AND CONDUIT STRAPS.
3. FACE INSTRUMENT STAND NORTH WHEREVER POSSIBLE.
4. NYLON SPACERS SHALL BE USED ON ALL ALUMINUM MATERIALS IN CONTACT WITH CONCRETE OR COATED WITH BITUMASTIC PAINT.
5. RUBBER FLAP SHALL BE LONG ENOUGH TO COVER FACE OF INSTRUMENT. ATTACH TO THE TOP OF SUNSHIELD WITH AL OR SS PIANO HINGE. RUBBER THICKNESS SHALL BE .45 MIL MIN.

|                   |            |             |       |
|-------------------|------------|-------------|-------|
| PROJ. START DATE: | 2024 FEB   | SCALE       |       |
| MCE PROJ. #       | 01026-0139 | HORIZONTAL: | 100.2 |
| DRAIN             | DMP        | VERTICAL:   | A     |
| DESIGNED          | LLS        |             |       |
| CHECKED           | AAH        |             |       |
| PROJ. MGR.        | CHH        |             |       |

STATUS: 100% CLIENT SUBMITTAL  
NOT FOR CONSTRUCTION













**City of Ormond Beach**  
**City Commission Agenda**  
**Staff Report**

|                                 |                                                                                                                                                                                |                 |                      |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------|
| <b>Agenda Date</b>              | February 17, 2026                                                                                                                                                              | <b>Item No</b>  | 7.G.                 |
| <b>Section</b>                  | CONSENT AGENDA                                                                                                                                                                 | <b>Category</b> | Consent - Resolution |
| <b>Subject</b>                  | Amended Work Authorization - Riverside Drive Force Main Replacement                                                                                                            |                 |                      |
| <b>Recommended Action</b>       | Staff recommends approval of the Amended Work Authorization to J.D. Weber Construction Co. for CMAR services pertaining to the Riverside Drive Force Main Replacement project. |                 |                      |
| <b>Strategic Goal</b>           | Water Quality & The Environment - Other                                                                                                                                        |                 |                      |
| <b>Department Staff Contact</b> | Public Works - Utilities Management<br>Bob Preis, Public Works Operations Manager                                                                                              |                 |                      |

Summary

This is a request to approve an Amended Work Authorization with J.D. Weber Construction for services related to the Riverside Drive Force Main Replacement project.

In the aftermath of Hurricane Milton, a portion of the existing force main along Riverside Dr. ruptured in various locations, creating a difficult and hazardous situation. Based on the City's telemetry system readings, staff believes the extreme flows in the wastewater collection system caused by the hurricane were too much for the existing infrastructure to due to the age and size of the piping system. City utility crews were unable to correct the deficiencies despite multiple attempts, resulting in electing assistance from J.D. Weber through an emergency procurement.

After repair of the utility breaks, staff continued to discuss with J.D. Weber regarding the repair of some or all of the remaining force main along Riverside Dr. On Feb. 18, 2025, the Commission approved a work authorization with J.D. Weber for the replacement of approximately 3,200 lineal feet of the force main piping along Riverside Dr. (part of Res. 2025-54). This work authorization was aimed at installing a new force main pipe in proximity to the existing force main system. After mobilizing and having several on-site meetings, the project team began to document a variety of potential constraints that could impact the short and long-term success of the project. These challenges include, but are not limited to, traffic pattern constraints, City event function scheduling, long-term maintenance implications of the original design, and the potential impact on the existing trees in the region from the excavation activities.

Upon realizing the initial design did not fully account for the potential impacts to the existing trees,

staff reached out to a local arborist and one of the City's continuing contract engineering consultants, Zev Cohen, to obtain an evaluation of the tree canopy with regard to the potential project and what could be expected or mitigated.

On July 26, 2025, staff received an evaluation from Zev Cohen with findings and recommendations authored by Ray Jarrett, an ISA certified arborist. The findings suggest the existing trees in the region could be significantly impacted by the proposed construction. A few potential mitigation options were provided. One option involved the use of air spading, which would require a certified arborist to be on site and moving in front of the pipeline excavation team as the project proceeds. Estimated costs for the services of the arborists were estimated to be greater than \$260,000; the arborist would further rely on the project contractor to provide additional support including equipment and labor that would further elevate the cost of completing this project on Riverside Drive. Discussions between staff and the arborist team noted no guarantees for the longevity of the surrounding historical oak trees could be provided even if these services were completed.

Due to these factors, especially not being able to guarantee the long-term health of the existing historical and specimen trees, staff looked at project alternatives. One involved the installation of a force main along Halifax Drive. This path would require increasing the overall force main installation length from 3,200 to 4,500 linear feet. This would require additional temporary traffic control to execute a proper lane shift and allow both directions of traffic on Halifax Dr. maintaining traffic flow throughout the majority of the construction. No potential tree impacts are anticipated once the force main reaches south of the Ormond Parkway intersection.

The pricing for this revised proposal is \$1,598,166.16. If approved, an additional \$723,942.65 will need to be added to the remaining balance on the original purchase order to adjust for the additional scope of the project and installation of piping along the revised route of Halifax Drive. This sanitary sewer forcemain is critical element of the city's wastewater collection and conveyance system, relocating this pipe from Riverside Drive to Halifax Drive will allow for ease in future maintenance and a reduced incidence of impact to the Halifax River.

On Sept. 17, 2025, the Commission approved Res. 2025-147, authorizing the execution of continuing contracts with 6 underground utility contractors. J.D. Weber, one of those contractors, has done an extensive amount of work within/around the City's service area, and is well qualified and well-suited to provide economical construction management services for this project.

#### Financial Impact

The Amended Work Authorization was not included in the FY 2025-26 budget, Fund 435-Wastewater Impact Fees. A budget amendment will be needed. The remaining balance on the previous work auth is \$874,223.51. Prior to proceeding with the revised proposal, \$723,942.65 would need to be added to the original purchase order.

#### Citizen Impact

Scheduling high priority repairs to the utilities infrastructure provides for reliable sanitary sewer treatment systems for the City's utility customers. This Amended Work Authorization would change the installation alignment of the proposed force main from Riverside Dr. to Halifax Dr. Temporary traffic control measures will be installed along Halifax Dr., reducing the overall width of the roadway during the construction time. Halifax Dr. will remain open to travel in both directions throughout the majority of the project.

#### Attachments

1. 26-22 Riverside Dr forcemain amend WA-JD Weber (P24-0232G)
2. Work Authorization - Amended
3. Arbor Report - Tree Protection and Root Impacts Mitigation Plan
4. RIVERSIDE\_DR\_FM\_PLANSET-8x11

**RESOLUTION NO. 2026-22**

A RESOLUTION AUTHORIZING THE EXECUTION OF AN AMENDED WORK AUTHORIZATION WITH J.D. WEBER CONSTRUCTION CO. REGARDING THE RIVERSIDE DRIVE FORCE MAIN REPLACEMENT PROJECT; AUTHORIZING PAYMENT THEREFORE; AND SETTING FORTH AN EFFECTIVE DATE.

**WHEREAS**, by Resolution 2025-54 the City authorized a Work Authorization with J.D. Weber Construction Co. in the amount of \$987,167.51 for construction management services regarding the Riverside Drive force main replacement project (“the Project), and

**WHEREAS**, shortly after the Project began, it became apparent that unforeseen circumstances and constraints necessitated a revision to the Project scope, and

**WHEREAS**, J.D. Weber Construction Co. has submitted a revised proposal increasing the Contract Price by \$723,942.65 (from \$987,167.51 to \$1,598,166.16), a copy of said proposal being attached to the Amended Work Authorization which is attached hereto and incorporated herein by reference, and

**WHEREAS**, the City Manager has certified that the money for the payment of the Project has been deposited to the credit of the Water Impact Fee Fund (435) and is not appropriated for any other purpose, now therefore,

**BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:**

**SECTION ONE.** The Mayor and the City Manager are hereby authorized and directed to execute an Amended Work Authorization between the City and J.D. Weber

Construction Co. to provide construction management services for the Project at the said price, and to pay the cost therefor from the Water Impact Fee Fund.

**SECTION TWO.** This Resolution shall take effect immediately upon its adoption.

**APPROVED AND AUTHENTICATED this 17<sup>th</sup> day of February, 2026.**

---

**JASON LESLIE**  
Mayor

**ATTEST:**

---

**SUSAN CARROLL DAUDERIS**  
City Clerk

## AMENDED WORK AUTHORIZATION

In accordance with and incorporating the terms of the Contract for Underground Utility Construction Management Services dated September 17, 2025, between the City of Ormond Beach, Florida, and J.D. Weber Construction Co., the following Scope of Work and Schedule of Payments are agreed to by the parties to the Agreement:

Project Title: Riverside Drive Force Main Replacement

Project Description: This is a substantial change in scope due to unforeseen circumstances. On February 18<sup>th</sup>, 2025, the City Commission approved a work authorization with J.D. Weber for replacement of approximately 3,200 lineal feet of the force main piping along Riverside Drive (Res. No. 2025-54). This work authorization was aimed at installing a new force main pipe near the existing force main system. After mobilization, several challenges were identified, the most significant being the potential impact to historical trees in the area. The project was halted and, after working with an ISA certified arborist and other consultants, it was determined that the most economical solution was to redesign the project.

To preserve the long-term health of the existing historical and specimen trees, the project has been redesigned to include installation of a force main along Halifax Drive. Utilizing this alternative path requires increasing the overall force main installation length from 3,200 linear feet to a total of 4,500 linear feet. Additionally, it will require additional temporary traffic control (TTC) requirements to execute a proper lane shift and allow both directions of traffic on Halifax Drive to maintain traffic flow throughout much of the construction process. Utilizing this alternative route, no potential tree impacts are anticipated once the force main reaches south of the Ormond Parkway intersection.

The project includes all labor, equipment, and materials necessary to replace force main on Riverside Drive, as detailed in the attached proposal dated December 3, 2025.

### Schedule of Payments and Fee Basis

| Required Work Task                         | Fee Basis                   | Fee                   |
|--------------------------------------------|-----------------------------|-----------------------|
| Current Proposal for Redesigned Project    | Guaranteed<br>Maximum Price | \$1,598,166.16        |
| Original Work Not Completed                |                             | (\$874,223.51)        |
| <i>Original Work Authorization</i>         |                             | <i>\$987,167.51</i>   |
| <i>Amount Billed Prior to Halt</i>         |                             | <i>(\$112,944.00)</i> |
| <i>Balance of Original Funds</i>           |                             | <i>\$874,223.51</i>   |
| <b>Total Additional Amount Authorized:</b> | <b>Not to Exceed</b>        | <b>\$723,942.65</b>   |

Funding Source: Wastewater Impact Fee Fund (435)

Estimated Time for Completion: 12 Months from Authorization to Proceed

AUTHORIZED:  
CITY OF ORMOND BEACH

ACCEPTED:  
J.D. WEBER CONSTRUCTION CO.

By: \_\_\_\_\_  
Jason Leslie  
Mayor

By: \_\_\_\_\_  
Joseph D. Weber  
President

Date: \_\_\_\_\_

Date: \_\_\_\_\_

By: \_\_\_\_\_  
Joyce A. Shanahan  
City Manager

Date: \_\_\_\_\_

## **I. COMPLIANCE WITH FLORIDA PUBLIC RECORDS LAW**

Contractor expressly agrees that it shall comply with the public records law provided in Florida Statutes, Chapter 119, and specifically to:

- (a) Keep and maintain public records required by the City to perform the contracted service.
- (b) Upon request from the City Clerk, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law.
- (c) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to the City.
- (d) Upon completion of the contract transfer, at no cost to the City, all public records in possession of the contractor or keep and maintain public records required by the City to perform the service. If the contractor transfers all public records to the City upon completion of the contract, the contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon the completion of the contract, the contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City Clerk, in a format that is compatible with the information technology systems of the City.
- (e) Failure of the Contractor to comply with Public Records Law as provided by Florida Statutes, Chapter 119, shall subject the Contractor to penalties under Chapter 119.10 and subject this Agreement to termination for cause by the City.

**IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:**

**CITY CLERK  
22 SOUTH BEACH STREET  
ORMOND BEACH, FLORIDA 32174 (386) 610-0400  
[CITYCLERK@ORMONDBEACH.ORG](mailto:CITYCLERK@ORMONDBEACH.ORG)**

Ref: Fla. Stat. §119.0701(2016)

## **II. VERIFICATION OF EMPLOYMENT STATUS USING E-VERIFY SYSTEM**

1. Section 448.09, *Florida Statutes*, makes it unlawful for any person to knowingly employ, hire, recruit, or refer, either for herself or himself, or on behalf of another, for private or public employment within the state, an alien who is not duly authorized to work in the United States. Contractor warrants that it is registered with the U.S. Department of Homeland Security's E-Verify system, and is compliant with the requirements of Sections 448.09 and 448.095, *Florida Statutes*.
2. Contractor agrees that if the contractor enters into an agreement with a subcontractor, the subcontractor must provide the contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien, and contractor warrants it shall maintain any such affidavits for the duration of the contract. If the City has a good faith belief that a subcontractor knowingly violated Section 448.09 (1), the City shall promptly notify the contractor and order the contractor to immediately terminate the contract with the subcontractor.
3. In the event the City has a good faith belief that the contractor has knowingly violated Section 448.09 (1), *Florida Statutes*, the City shall terminate the contract, and as provided by statute, the contractor may not be awarded a public contract for at least one (1) year after the date of termination. The contractor may also be held liable for any additional costs incurred by the City as a result of the termination of the contract.



**JD WEBER CONSTRUCTION****TOTAL SITE DEVELOPMENT**

**Proposal**  
**Riverside Drive Force Main Replacement**  
**Ormond Beach, FL**

TO: City of Ormond Beach  
ATTN: Trevor Neal

DATE: 12/3/2025  
PAGE: 1 OF 1

| DESCRIPTION                                         | QTY    | UNIT | UNIT PRICE   | TOTAL                  |
|-----------------------------------------------------|--------|------|--------------|------------------------|
| <b>I. MISC BID ITEMS</b>                            |        |      |              |                        |
| A. MOBILIZATION                                     | 1      | LS   | \$ 18,740.00 | \$ 18,740.00           |
| B. SURVEY LAYOUT AND AS-BUILTS                      | 1      | LS   | \$ 12,960.00 | \$ 12,960.00           |
| C. MAINTENANCE OF TRAFFIC                           | 1      | LS   | \$ 21,760.00 | \$ 21,760.00           |
| D. TESTING AND FINALIZATION                         | 1      | LS   | \$ 3,200.00  | \$ 3,200.00            |
| E. PRECONSTRUCTION VIDEO                            | 1      | LS   | \$ 2,800.00  | \$ 2,800.00            |
| F. BARRIER WALL (TEMP)                              | 3,000  | LF   | \$ 13.70     | \$ 41,100.00           |
| <b>MISC BID ITEMS SUBTOTAL . . . . .</b>            |        |      |              | <b>\$ 100,560.00</b>   |
| <b>II. EROSION AND POLLUTION CONTROL</b>            |        |      |              |                        |
| A. SWPPP                                            | 1      | LS   | \$ 4,651.00  | \$ 4,651.00            |
| B. NOI                                              | 1      | EA   | \$ 551.25    | \$ 551.25              |
| <b>EROSION/POLLUTION CONTROL SUBTOTAL . . . . .</b> |        |      |              | <b>\$ 5,202.25</b>     |
| <b>III. EARTHWORK ON SITE</b>                       |        |      |              |                        |
| A. CLEAR, GRUBB, AND DEMO.                          | 1      | LS   | \$ 39,200.00 | \$ 39,200.00           |
| B. FINE GRADING & RESTORATION                       | 71,852 | SF   | \$ 0.24      | \$ 17,244.48           |
| <b>EARTHWORK ON SITE SUBTOTAL . . . . .</b>         |        |      |              | <b>\$ 56,444.48</b>    |
| <b>IV. PAVING BASE AND SUBBASE</b>                  |        |      |              |                        |
| A. ASPHALT 2" SP 9.5 - PATCH                        | 6,422  | SY   | \$ 18.52     | \$ 118,935.44          |
| B. 6" BASE                                          | 6,422  | SY   | \$ 28.10     | \$ 180,458.20          |
| C. 6" STABILIZED SUBBASE                            | 6,998  | SY   | \$ 11.31     | \$ 79,147.38           |
| D. 1" MILL & RESURFACE                              | 12,667 | SY   | \$ 21.43     | \$ 271,453.81          |
| <b>PAVING BASE AND SUBBASE SUBTOTAL . . . . .</b>   |        |      |              | <b>\$ 649,994.83</b>   |
| <b>V. CONCRETE ON SITE</b>                          |        |      |              |                        |
| A. R & R MIAMI CURB                                 | 3,000  | LF   | \$ 33.40     | \$ 100,200.00          |
| B. R & R CONCRETE DRIVEWAY                          | 2,988  | SF   | \$ 8.80      | \$ 26,294.40           |
| <b>CONCRETE ON SITE SUBTOTAL . . . . .</b>          |        |      |              | <b>\$ 126,494.40</b>   |
| <b>VI. TRAFFIC STRIPING AND SIGNAGE</b>             |        |      |              |                        |
| A. TRAFFIC STRIPING AND SIGNAGE                     | 1      | LS   | \$ 46,472.00 | \$ 46,472.00           |
| <b>STRIPING AND SIGNAGE SUBTOTAL . . . . .</b>      |        |      |              | <b>\$ 46,472.00</b>    |
| <b>VII. FORCE MAIN</b>                              |        |      |              |                        |
| A. 16" HDPE DR-11 DIPS                              | 3130   | LF   | \$ 85.20     | \$ 266,676.00          |
| B. 16" PVC DR - 18                                  | 220    | LF   | \$ 98.40     | \$ 21,648.00           |
| C. 12" PVC DR - 18                                  | 1400   | LF   | \$ 89.30     | \$ 125,020.00          |
| D. 6" PVC DR - 18                                   | 40     | LF   | \$ 61.80     | \$ 2,472.00            |
| E. GROUT FILL ABANDONED 12" FM                      | 3110   | LF   | \$ 17.82     | \$ 55,420.20           |
| F. GROUT FILL ABANDONED 6" FM                       | 500    | LF   | \$ 12.30     | \$ 6,150.00            |
| G. CONN. TO EXIST. 12" FM                           | 2      | EA   | \$ 6,380.00  | \$ 12,760.00           |
| H. CONNECTION AT ORMOND PKWY.                       | 1      | EA   | \$ 5,620.00  | \$ 5,620.00            |
| I. RESTRAINED JOINT FITTINGS                        | 6      | TN   | \$ 9,864.00  | \$ 59,184.00           |
| J. AIR RELEASE VALVE                                | 1      | EA   | \$ 6,400.00  | \$ 6,400.00            |
| K. 16" MJ GATE VALVE                                | 2      | EA   | \$ 9,640.00  | \$ 19,280.00           |
| L. 12" GATE VALVE                                   | 2      | EA   | \$ 6,980.00  | \$ 13,960.00           |
| M. 6" MJ GATE VALVE                                 | 1      | EA   | \$ 3,120.00  | \$ 3,120.00            |
| <b>SANITARY SEWER SYSTEM SUBTOTAL . . . . .</b>     |        |      |              | <b>\$ 597,710.20</b>   |
| <b>VIII. RESTORATION</b>                            |        |      |              |                        |
| A. SODDING                                          | 4,200  | SY   | \$ 3.64      | \$ 15,288.00           |
| <b>RESTORATION ITEMS SUBTOTAL . . . . .</b>         |        |      |              | <b>\$ 15,288.00</b>    |
| <b>GRAND TOTAL . . . . .</b>                        |        |      |              | <b>\$ 1,598,166.16</b> |



# **Tree Protection & Root Impacts Mitigation Plan**

## **Riverside Drive, Ormond Beach**

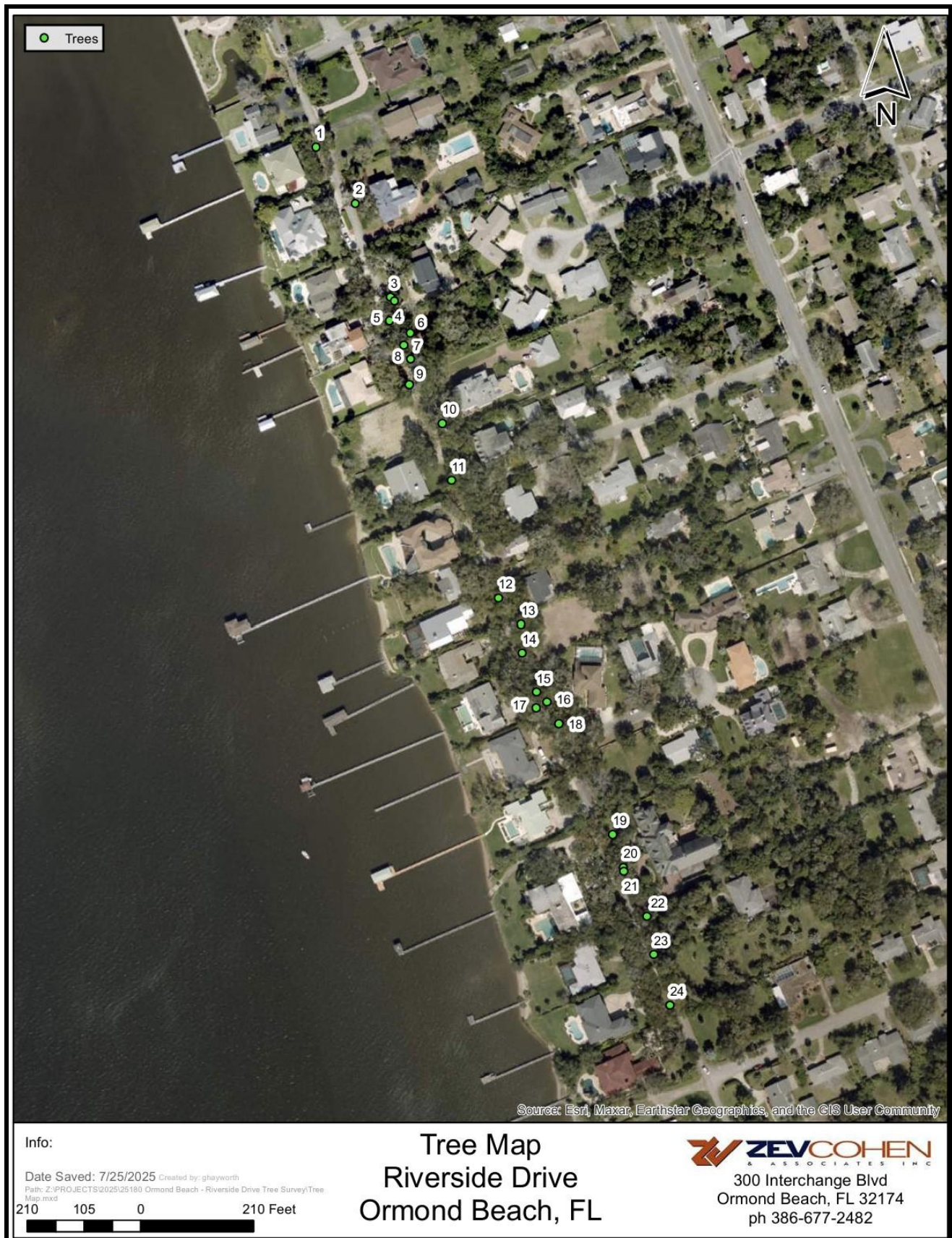


**Ray Jarrett | ISA Certified Arborist #FL-5343 | July 26, 2025**



## SCOPE:

Services were retained to prepare a **Tree Protection and Root Impacts Mitigation Plan** for the Riverside Drive project that will install a new force main pipe in the centerline of the road.



Aerial view of project site and tree locations.

## **BACKGROUND:**

The live oak trees along Riverside Drive in Ormond Beach and are very important to the City of Ormond Beach and the community. A new 16" force main pipe needs to be installed, centerline of Riverside Drive from Casements Drive, south to Fluhart Drive. This new pipe will be installed at a depth around 4 - 5' deep. The existing asphalt will be milled away, and the center of the road will need to be excavated to about 4 - 5' deep and 24" wide. This stretch of Riverside Drive is lined with Historic and Specimen live oak trees (*Quercus virginiana*).

**Live oak trees** are exceptionally durable trees that can live for hundreds of years and are resistant to most pests and diseases. Live oaks are tough trees and are ranked as one of the strongest trees with high wind resistance based on a study after the 2004 tropical storm season. <https://edis.ifas.ufl.edu/pdf/FR/FR17300.pdf>.

This section of Riverside Drive has been milled, asphalted and repaired several times over the last few decades. The trees identified in this report likely have had their roots previously impacted during these events and many of them possibly do not have any roots that have undermined and migrated to the road centerline. Twenty-four (24) trees have been identified, located within 8' from the edge of the pavement that could potentially have some roots impacted from this project. Sixteen (16) of these trees are Historic trees and eight (8) are Specimen trees as defined by the City of Ormond Beach code.

City of Ormond Beach code definitions:

**Tree, historic**, means a live oak, bald cypress or other indigenous tree with an estimated age of over one hundred (100) years and a diameter of thirty-six inches (36") or greater and/or trees designated as historic trees by the city commission.

**Tree, specimen**, means protected trees that are listed as follows, except exempt trees:

(1) Minimum DBH twelve inches (12"):

| <b><u>Common</u></b> | <b><u>Botanical Name</u></b> |
|----------------------|------------------------------|
| Cypress              | <i>Taxodium</i>              |
| Oak species          | <i>Quercus spp.</i>          |
| Magnolia             | <i>Magnolia grandiflora</i>  |
| Pecan                | <i>Carya illinoensis</i>     |
| Red bay              | <i>Persea borbonia</i>       |
| Red cedar            | <i>Juniperus silicicola</i>  |
| Scrub oak            | <i>Quercus geminata</i>      |
| Swamp bay            | <i>Persea palustris</i>      |
| Sweet bay            | <i>Magnolia virginiana</i>   |

(2) Minimum DBH eighteen inches (18"):

| <b><u>Common</u></b> | <b><u>Botanical Name</u></b>   |
|----------------------|--------------------------------|
| Elm                  | <i>Ulmus spp.</i>              |
| Hickory              | <i>Carya spp.</i>              |
| Maple species        | <i>Acer spp.</i>               |
| Sweet gum            | <i>Liquidambar styraciflua</i> |
| Sycamore             | <i>Plantanus occidentalis</i>  |
| Palm (except sables) | <i>Phoenix canariensis</i>     |



## **OBSERVATIONS / RECOMMENDATIONS:**

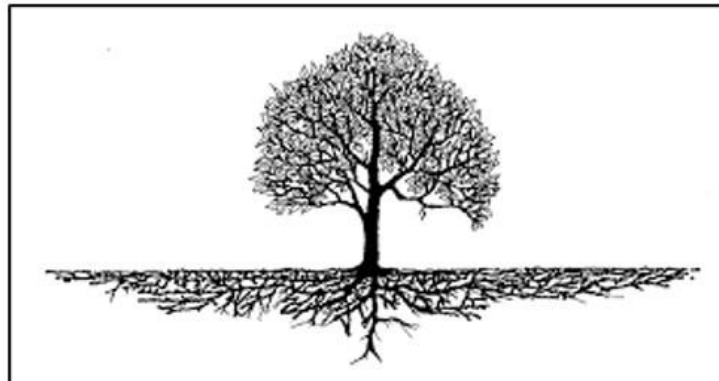
The overall goal of this Plan is to limit the impacts to each tree's root system and try to retain most of the structural roots or root mats that extend into the centerline of the road where the new pipe will be installed.

The following recommendations are standard tree care protection measures and follow methodologies of the International Society of Arboriculture (ISA) and Best Management Practices (BMPs) published in the *American National Standard for tree Care Operations – Tree, Shrub, and Woody Plant Management – Standard Practices (Management of Trees and Shrubs During Planning, Site Development, and Construction)* (ANSI A300, Part 5). These recommendations are to help reduce stress to the trees and help them recover from the impacts.

The (24) trees and site were reviewed on July 26<sup>th</sup>, 2025, to look for visual signs where root flares or structural roots have undermined the street causing the asphalt to lift, buckle or crack and to look at trees whose main stems are growing adjacent to the existing asphalt. All (24) trees are detailed below with photographs and a recommended course of action for each.

Before the project begins, it is recommended to set a **Tree Protection Zone (TPZ)** for each tree with fencing and signage so that heavy equipment and / or materials from the project are not allowed in proximity of each tree. This will allow for maximum tree root protection on all sides of each tree. The fencing should be set along the edge of the road and the sides and backsides of each tree. Each tree's TPZ fence should extend as far as possible along all sides to protect roots that can extend out well beyond the dripline. This will protect most of each tree's root system from heavy equipment and compaction. The TPZ fence for each tree will be determined and marked out by the project arborist and / or the **City of Ormond Beach, Urban Forester**. Install weatherproof signage to the TPZ fence to ensure all subcontractors, deliveries of construction materials, etc. are aware of the intent of the TPZ fencing. Typical language for a TPZ sign should say something like, **'Tree Protection Zone - No vehicles, equipment, soil or building material are to be stored within this boundary.'**

# **Tree Protection Zone**



**No vehicles, equipment, soil or building materials allowed within this boundary.**

**This fencing is to remain in place until it is authorized to be removed by the Project Manager.**

**Any questions, please contact the Project Manager, Trevor Neal, (386) 676-3584 or the Project Arborist, (XXX) XXX-XXXX**



Milling of the existing asphalt will need to be done cautiously around each identified tree to ensure that no structural roots are impacted. Several trees (#5, #9, #11) have root collars that currently touch or are very close to the existing asphalt causing some lifting and cracking. In these locations, the asphalt and road base should be cut away using concrete saws and hand tools, so the milling machine does not damage the root collars. When excavating the centerline of the road for the new pipe, there may be tree roots encountered that were not expected based on the above ground inspection. Any roots less than 2" in diameter should be clean cut using loppers or hand pruners. If any roots larger than 2" in diameter are encountered, the City of Ormond Beach, Urban Forester or project arborist should be contacted for guidance.

There is a total of nine (9) trees where large structural roots or root mats could be under the centerline of the roadway. The asphalt in these locations is buckled and cracked and appears to migrate directly from root flares of adjacent live oaks as shown below in the individual tree assessments. The asphalt and road base should be cut away carefully using concrete saws and hand tools to expose the roots. This will allow an air spade to be used to evacuate the soil without damaging the roots. Once the initial layer of soil is removed from the roots with the air spade, a small excavator and hand crews will be needed to remove the soil to 4 – 5' depth for the new pipe. The new pipe can be slid under these roots and backfilled using structural soil.

**Air Spading** using high pressure air, concentrated through a pipe with a trigger handle, to loosen compacted soil or to evacuate the soil completely away from roots so that utilities can be installed or repaired. This type of tool safely removes soil without damaging the tree roots as shown below. The images below show the **Urban Forestry Team** at the **University of Central Florida** using an air spade to repair a sidewalk lift and to install a 12" irrigation main pipe without cutting the root mats.

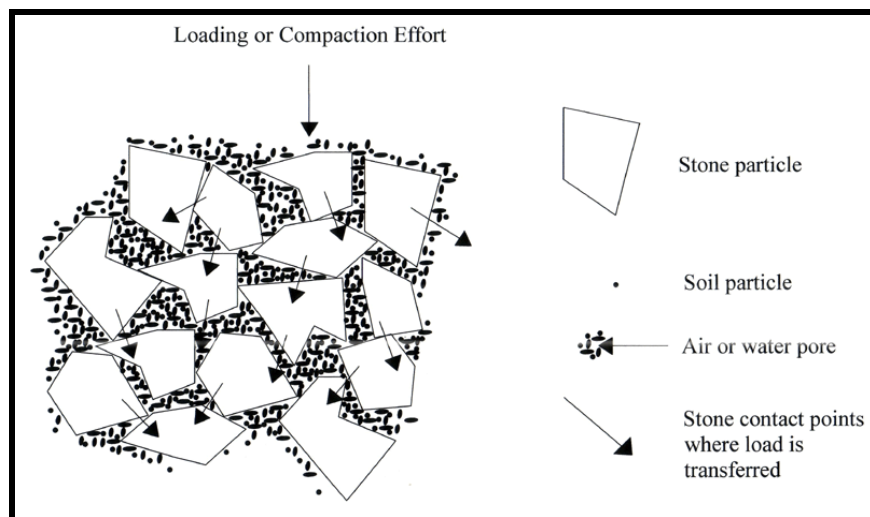






Once the pipe is installed, the area can be backfilled. Any areas that have large structural roots that are in the centerline, over the new pipe are recommended to be covered with structural soil, 6" below and 2-3" above the roots to support new road base and asphalt, conserving the roots and creating pore space for the continued growth.

**Structural Soil** is a soil mixture with stones or aggregate rock (3/4" -1" diameter) that can be compacted to support sidewalks, driveways and pavement while still allowing root growth. The mixture of aggregate rock or stone, soil consisting of sand and organics, creates pore space that is root penetrable and supports infrastructure. The structural soil mix consists approximately of 75% stone to 25% soil and hydrogel to help bind the mix together. This ratio allows the stones to touch and support each other, and the finer soil fills in the gaps, remaining not compacted. The aggregate rock and structural soil provide pore space for new roots to grow, limiting lifting impacts to the new asphalt.



After the project is complete, the TPZ fencing can be removed. The (9) trees that had root impacts will be treated with a growth regulator called Cambistat. This application will help recover and increase the tree's feeder root system that were impacted and / or root pruned. Cambistat growth regulator is used to help reduce stress, extend the life of trees, recover lost fibrous root mass and rejuvenate the tree's canopy. It is also used to slow the canopy growth and reduce the amount of pruning maintenance needed. Fibrous roots can decline from construction activities, soil compaction, flooding, lightning strikes, and mechanical damage. Cambistat reduces tree stress and limits primary growth in the canopy. The tree redirects its energy into fine root production.

### **WORKFLOW:**

1. Mark TPZ fencing areas for each tree using turf paint.
2. Install TPZ fencing and signage for each tree.
3. Mark asphalt with paint in areas close to root collars and structural roots to be cut away prior to milling.
4. Cut away asphalt in designated areas with a concrete saw and hand tools.
5. Mill the asphalt away down to the road base avoiding marked asphalt areas.
6. Air spade sections as needed, hand dig to required depth, backfill and use structural soil around any roots identified to be conserved.
7. Once the project is completed, remove TPZ Fencing.
8. Treat trees with growth regulator.

### **CONCLUSION:**

It is recommended that the City of Ormond Beach, Urban Forester and / or and independent certified arborist be readily available during the project to help solve any unforeseen issues. This review and recommendations are based on a visual inspection to look for obvious signs of roots affecting the roadway that could be impacted by the project. It is possible that more roots will be encountered as the project moves along and on-site adjustments will need to be made.

The air spade work should be done by a company that has an International Society of Arboriculture (ISA) Certified Arborist on staff that has done similar projects. **Advanced Tree Care, Inc.**, from St. Augustine, Florida is recommended. The principals of the company are both Board Certified Master Arborists and have done this type of work in the past. They can also make on-site decisions and amend the recommendations provided in this report as needed.

SINCERELY,



Ray Jarrett  
Biologist / Arborist  
ISA Certified Arborist FL-5343A (Nov 2004)  
ISA Tree Risk Assessment Qualified (TRAQ)



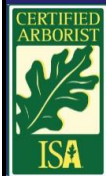
## Environmental and Urban Tree Consulting

**Ray Jarrett**

Biologist

ISA Certified Arborist #FL-5343

ISA Tree Risk Assessment Qualified



386-295-0481

rayjarrett1@gmail.com

- Fertilizing and disease management
- Tree surveys
- Tree health assessments / arbor reports
- Tree health recovery plans
- Tree protection plans for construction
- DEP Professional Mangrove Trimmer (PMT)
- Land Management- Defensible Space & Rx Fire

TNC, UF/IFAS Certified Land Manager

Prescribed Burn Manager #2019-4937

ISA Certified Arborist #FL-5343

ISA Tree Risk Assessment Qualified

Certified Landscape Inspector (LIAF)

Certified Stormwater Inspector #38419 (FDEP)

Limited Commercial Urban Fertilizer Applicator License

### Technical Literature References

American National Standard Institute (ANSI) A300 (Part 9) 2017. ***Tree Risk Assessment***, Tree Care Industry Association, Inc. (TCIA), Manchester, NH.

American National Standard Institute (ANSI) A300 (Part 8) 2020. ***Tree, Shrub, and Woody Plant Management – Standard Practices (Root Management)***, Tree Care Industry Association, Inc. (TCIA), Manchester, NH.

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Wunderlin, R. P., and B. F. Hansen. 2004. *Atlas of Florida Vascular Plants* (<http://www.plantatlas.usf.edu/>). [S. M. Landry and K. N. Campbell (application development), Florida Center for Community Design and Research.] Institute for Systematic Botany, University of South Florida, Tampa.

**INDIVIDUAL TREE ASSESSMENTS AND RECOMMENDATIONS:**

| <b><u>Tree #</u></b> | <b><u>Address</u></b> | <b><u>DBH (in)</u></b> | <b><u>Distance to Road (ft)</u></b> | <b><u>Notes</u></b>                                                                                         |
|----------------------|-----------------------|------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------|
| 1                    | 70 Riverside Dr.      | 23.5                   | 2                                   | Specimen. No major root impacts expected.                                                                   |
| 2                    | 87 Riverside Dr.      | 62                     | 7                                   | Historic. No major root impacts expected.                                                                   |
| 3                    | 105 Riverside Dr.     | 30.5                   | 2                                   | Specimen. No major root impacts expected.                                                                   |
| 4                    | 105 Riverside Dr.     | 32                     | 2                                   | Specimen. No major root impacts expected.                                                                   |
| 5                    | 110 Riverside Dr.     | 30.5                   | 1                                   | Specimen. Asphalt cracking from roots. Cut away asphalt prior to milling.                                   |
| 6                    | Empty Lot             | 44                     | 8                                   | Historic. No major root impacts expected.                                                                   |
| 7                    | Empty Lot             | 36                     | 2                                   | Historic. No major root impacts expected.                                                                   |
| 8                    | Empty Lot             | 37                     | 7                                   | Historic. No major root impacts expected.                                                                   |
| 9                    | 130 Riverside Dr.     | 38.5                   | 0                                   | Historic. Root Crown damaged and stem at road edge. Cut away asphalt prior to milling.                      |
| 10                   | 127 Riverside Dr.     | 56.5                   | 1                                   | Historic. Large root flare at road edge. Possible air spade needed.                                         |
| 11                   | 135 Riverside Dr.     | 52.5                   | 1                                   | Historic. Roots cracking asphalt edge. Cut away asphalt. Possible air spade needed.                         |
| 12                   | 166 Riverside Dr.     | 42.5                   | 4                                   | Historic. No major root impacts expected.                                                                   |
| 13                   | Empty Lot             | 46                     | 8                                   | Historic. No major root impacts expected.                                                                   |
| 14                   | 187 Riverside Dr.     | 41.5                   | 4                                   | Historic. No major root impacts expected.                                                                   |
| 15                   | 195 Riverside Dr.     | 40/28                  | 0                                   | Historic. Root Flares at road edge. Possible air spade needed.                                              |
| 16                   | 195 Riverside Dr.     | 35                     | 5                                   | Specimen. No major root impacts expected.                                                                   |
| 17                   | 182 Riverside Dr.     | 26                     | 2                                   | Specimen. No major root impacts expected.                                                                   |
| 18                   | 195 Riverside Dr.     | 39                     | 2                                   | Historic. Root Flares at road edge. Possible air spade needed.                                              |
| 19                   | 214 Riverside Dr.     | 34                     | 2                                   | Specimen. Root Flares at road edge. Possible air spade needed.                                              |
| 20                   | 213 Riverside Dr.     | 37                     | 2                                   | Historic. Asphalt lifted and cracked and suspected large structural roots under pavement. Air spade needed. |
| 21                   | 213 Riverside Dr.     | 42                     | 2                                   | Historic. Asphalt lifted and cracked and suspected large structural roots under pavement. Air spade needed. |
| 22                   | 235 Riverside Dr.     | 36                     | 8                                   | Historic. No major root impacts expected.                                                                   |
| 23                   | 228 Riverside Dr.     | 33.5                   | 2                                   | Specimen. No major root impacts expected.                                                                   |
| 24                   | 234 Riverside Dr.     | 38.5                   | 5                                   | Historic. Heaved over. Roots possible previously cut for new driveway?                                      |



Tree #1 – 70 Riverside Drive – No major root impacts expected.



Tree #2 - 87 Riverside Drive - No major root impacts expected.



Tree #3 & #4 - 105 Riverside Drive - No major root impacts expected.





Tree #5 – 110 Riverside Drive – Asphalt cracking. Cut away asphalt prior to milling.



Tree #6 – Empty Lot - Riverside Drive - No major root impacts expected.



Tree # 7 & #8 Empty Lot – Riverside Drive - No major root impacts expected.





Tree #9 – 130 Riverside Dr. – This root crown is damaged and at road edge. Cut away asphalt prior to milling.



Tree #10 – 127 Riverside Drive – Large root flare at road edge. May need air spade.



Tree #11 – 135 Riverside Drive - Large root flare at road edge. May need air spade.





Tree #12 – Empty Lot Riverside Drive - No major root impacts expected.



Tree #13 – 187 Riverside Drive - No major root impacts expected.



Tree #14 – Riverside Drive - No major root impacts expected.





Tree #15 - Riverside Drive - Large root flare at road edge. May need air spade.



Tree #16 – Riverside Drive - Large root flare at road edge. May need air spade.



Tree #17 – Riverside Drive - No major root impacts expected.





Tree #18 – Riverside Drive - Large root flare at road edge. May need air spade.



Tree #19 – Riverside Drive - Large root flare at road edge. May need air spade.



Trees #20 & #21– Riverside Dr – Asphalt is lifted, cracked and appears to be structural roots. Air Spade needed.





Tree #22 – Riverside Drive - No major root impacts expected.



Tree #23 – Riverside Drive - No major root impacts expected.



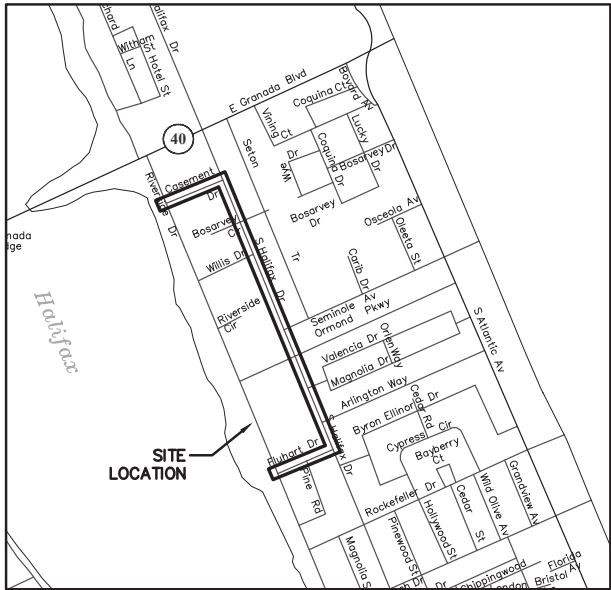
Tree #24 – Riverside Drive – Heaved and roots previously cut for driveway repair?



# CITY OF ORMOND BEACH

## RIVERSIDE DR FORCE MAIN PROJECT

 - SITE LOCATION



**SITE LOCATION MAP**



| SHEET | DESCRIPTION                        |
|-------|------------------------------------|
| 1     | COVER SHEET & PROJECT LOCATION MAP |
| 2     | KEY SHEET                          |
| 3     | GENERAL NOTES                      |
| 4     | SEWER NOTES                        |
| 5     | PLAN - RIVERSIDE DR / CASEMENTS DR |
| 6     | PLAN - CASEMENT DR / S HALIFAX DR  |
| 7     | PLAN - S HALIFAX DR                |
| 8     | PLAN - S HALIFAX DR                |
| 9     | PLAN - S HALIFAX DR                |
| 10    | PLAN - S HALIFAX DR                |
| 11    | PLAN - S HALIFAX DR                |
| 12    | PLAN - S HALIFAX DR                |
| 13    | PLAN - S HALIFAX DR / FLUHART DR   |
| 14    | PLAN - FLUHART DR                  |
| 15    | DETAILS                            |
| 16    | DETAILS                            |
| 17    | DETAILS                            |
| 18    | DETAILS                            |
| 19    | DETAILS                            |

**MAYOR**

**JASON LESLIE**

**COMMISSIONERS**

**LORI TOLLAND, ZONE 1  
TRAVIS SARGENT, ZONE 2**

**KRISTEN DEATON, ZONE 3  
HAROLD BRILEY, ZONE 4**

**CITY MANAGER**

**JOYCE SHANAHAN**





| NO. | DATE | REVISIONS | BY |
|-----|------|-----------|----|
|     |      |           |    |
|     |      |           |    |
|     |      |           |    |

**City of Ormond Beach**  
Engineering Division

JASON LESJIE, MAYOR  
JOYCE SHANAHAN, CITY MANAGER  
ALEX SCHUMANN, P.E., CITY ENGINEER

**RIVERSIDE DR  
FORCE MAIN PROJECT**

**KEY SHEET**

|           |         |              |         |
|-----------|---------|--------------|---------|
| DATE:     | 9/30/25 | PROJECT NO.: |         |
| SCALE:    | NTS     | FILE NAME:   |         |
| DRAWN BY: | MC      | SHEET:       | 2 of 19 |

| DRAWING STATUS |              |
|----------------|--------------|
|                | DRAFT        |
|                | PERMIT       |
|                | BID          |
|                | ADDENDA      |
|                | CONSTRUCTION |
|                | RECORD       |



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| <p><u>GENERAL NOTES:</u></p> <ol style="list-style-type: none"> <li>ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF ORMOND BEACH'S LAND DEVELOPMENT CODE REQUIREMENTS, AND THE STANDARD CONSTRUCTION DETAILS AND CONSTRUCTION SPECIFICATIONS (SODCS), AN ENGINEERING PERMIT AND TREE REMOVAL PERMIT IS REQUIRED PRIOR TO STARTING CONSTRUCTION.</li> <li>NO LAND SHALL BE CLEARED, EXCAVATED OR FILLED AND NO STRUCTURE SHALL BE ERECTED, REPAIRED OR DEMOLISHED WITHOUT PROPER PERMIT(S) AS REQUIRED BY THE CITY OF ORMOND BEACH.</li> <li>NOTIFY THE CITY OF ORMOND BEACH AT COMDEV@ORMONDBEACH.ORG 48 HOURS PRIOR TO THE START OF CONSTRUCTION.</li> <li>ANY CONSTRUCTION CHANGES TO APPROVED PLANS SHALL BE SUBMITTED TO THE CITY OF ORMOND BEACH FOR APPROVAL PRIOR TO PERFORMING THE WORK.</li> <li>ROAD CONSTRUCTION AND PIPE INSTALLATION COMPACTION AND DENSITY TESTING SHALL CONFORM TO THE CITY OF ORMOND BEACH'S MINIMUM REQUIREMENTS. CERTIFIED COPIES OF TEST REPORTS SHALL BE SUBMITTED TO THE CITY INSPECTOR AND THE CITY'S ENGINEERING DIVISION.</li> <li>A PRE-PAVING UTILITY INSPECTION MUST BE REQUESTED AND COMPLETED PRIOR TO THE PAVING OF ALL ROADS, STREETS, AND PARKING AREAS.</li> <li>A FINAL INSPECTION, TO BE CONDUCTED BY THE CITY OF ORMOND BEACH, SHALL BE PERFORMED ON ALL CONSTRUCTION. THE DESIGN ENGINEER SHALL NOTIFY THE CITY OF ORMOND BEACH AT COMDEV@ORMONDBEACH.ORG WHEN REQUESTING A FINAL INSPECTION.</li> <li>THREE COMPLETE SETS OF AS-BUILT DRAWINGS (5 FOR SUBDIVISIONS) ARE REQUIRED TO BE SUBMITTED TO THE CITY OF ORMOND BEACH PRIOR TO REQUESTING A FINAL INSPECTION. AS-BUILT DRAWINGS MAY BE SUBMITTED IN DIGITAL FORMAT WITH DIGITAL SIGNATURE OF SURVEYOR AND/OR ENGINEER OF RECORD.</li> <li>THE CITY HAS A CONTRACTOR FOR ROLL OFF SERVICE. NO OTHER CONTRACTOR SHALL BE PERMITTED TO PROVIDE THIS SERVICE. VERIFY COMPANY UNDER CONTRACT WITH THE CITY.</li> <li>CONSTRUCTION SITES THAT DISTURB ONE ACRE OR MORE WILL BE REQUIRED TO SEEK COVERAGE UNDER THE GENERIC PERMIT FOR STORM WATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES. IN ACCORDANCE WITH THIS REQUIREMENT, A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MUST BE SUBMITTED TO THE CITY OF ORMOND BEACH AT COMDEV@ORMONDBEACH.ORG PRIOR TO CONSTRUCTION TO BE IN COMPLIANCE WITH THE PERMIT.</li> <li>CONTRACTOR WILL FOLLOW REQUIRED WASTE MANAGEMENT PRACTICES</li> <li>SEEDING OR SODDING SHALL BE INITIATED FOR EROSION AND SEDIMENT CONTROL ON DISTURBED AREAS AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED.</li> <li>ANY FIELD MODIFICATIONS OR DEVIATIONS TO THIS CONSTRUCTION PLAN REQUIRES WRITTEN APPROVAL BY BOTH THE ENGINEER OF RECORD AND THE CITY OF ORMOND BEACH.</li> </ol> | <p>IN ORDER TO ENSURE THAT NEW DEVELOPMENTS WITHIN THE CITY ARE CONSTRUCTED SUBSTANTIALLY IN ACCORDANCE WITH CITY REGULATIONS AND THE APPROVED DRAWINGS "AS-BUILT" DRAWINGS ARE REQUIRED:</p> <p>THE FOLLOWING INFORMATION IS REQUIRED ON ALL PAVING AND DRAINAGE "AS-BUILT" DRAWINGS:</p> <ol style="list-style-type: none"> <li>PAVEMENT AND CURB WIDTHS SHALL BE VERIFIED AND DIMENSIONED FOR EACH STREET AT EACH BLOCK. ALL RADII AT INTERSECTIONS SHALL BE VERIFIED AND DIMENSIONED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.</li> <li>ROADWAY ELEVATIONS SHALL BE RECORDED AT ALL GRADE CHANGES OR OTHER INTERVALS AS NEEDED ALONG ALL STREETS. STREET CENTERLINE AND CURB INVERT ELEVATIONS SHALL BE RECORDED AS NOTED. THE "AS-BUILT" CENTERLINE PROFILE OF ALL STREETS SHALL ALSO BE SHOWN ON THE PLAN AND PROFILE SO IT MAY BE COMPARED TO THE EXISTING AND DESIGNED PROFILE GRADE LINES. ALL STREET CENTERLINES ON "AS-BUILTS" SHALL BE LABELED WITH STREET NAME AND RIGHT-OF-WAY WIDTH ON EVERY PAGE.</li> <li>STORM DRAINAGE STRUCTURES SHALL BE LOCATED AND/OR DIMENSIONED FROM CENTERLINES OR LOT LINES AS APPROPRIATE.</li> <li>STORM DRAINAGE PIPE INVERT AND STRUCTURE TOP AND BOTTOM ELEVATIONS SHALL BE RECORDED AND CLEARLY DENOTED AS "AS-BUILT" INFORMATION. DESIGN ELEVATIONS SHALL BE CROSSED OUT AND "AS-BUILT" INFORMATION WRITTEN NEXT TO IT.</li> <li>STORM DRAINAGE PIPE MATERIAL, LENGTH, AND SIZE SHALL BE MEASURED AND/OR VERIFIED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.</li> <li>ALL APPLICABLE TOPOGRAPHIC INFORMATION, PERTINENT TO THE ON SITE DRAINAGE SYSTEM SUCH AS DITCHES, LAKES, CANALS, ETC. THAT ARE DEEMED APPROPRIATE BY THE CITY SHALL BE NOTED. NORMALLY, RECORDING ELEVATIONS EVERY 100 FEET AT THE TOP OF BANK AND TOE OF SLOPE WILL BE REQUIRED. MEASUREMENTS SHALL BE TAKEN AND RECORDED IN ORDER TO ACCURATELY TIE DOWN THESE FEATURES TO THE ROADWAY CENTERLINES AND TO PLAT LINES. WHENEVER POSSIBLE, CONTOUR LINES SHALL BE UTILIZED TO GRAPHICALLY DESCRIBE THESE TOPOGRAPHIC FEATURES.</li> <li>RETENTION AREAS SHALL HAVE THEIR TOP-OF-BANK AND BOTTOM ELEVATIONS RECORDED. ACTUAL MEASUREMENTS SHALL BE TAKEN AND DIMENSIONS RECORDED OF THE SIZE OF ALL RETENTION AREAS. MEASUREMENTS SHALL BE DONE FROM TOP-OF-BANK TO TOP-OF-BANK WITH SIDE SLOPES INDICATED. SEPARATE CALCULATIONS SHALL BE SUBMITTED TO INDICATE REQUIRED AND PROVIDED RETENTION VOLUMES.</li> <li>STORM DRAINAGE SWALE CENTERLINES SHALL BE LOCATED AND ELEVATIONS OF FLOW LINE SHALL BE RECORDED EVERY 100 FEET.</li> <li>ANY SPECIAL FEATURES SUCH AS CONCRETE FLUMES, LAKE BANKS, WALLS, FENCING, ETC., WHICH WERE A PART OF THE APPROVED CONSTRUCTION DRAWINGS SHOULD ALSO BE LOCATED AND DIMENSIONED.</li> <li>ACTUAL MATERIALS USED AND ELEVATIONS AND DIMENSIONS OF OVERFLOW WEIR STRUCTURES AND SKIMMERS SHALL BE NOTED ON THE "AS-BUILT".</li> </ol> <p>THE FOLLOWING INFORMATION IS REQUIRED ON ALL WATER AND SEWER "AS-BUILT" DRAWINGS:</p> <ol style="list-style-type: none"> <li>SANITARY SEWER MANHOLES SHALL BE VERIFIED AND DIMENSIONED FROM STREET CENTERLINES OR LOT LINES AS APPROPRIATE. ALL RIM AND INVERT ELEVATIONS SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.</li> <li>SANITARY SEWER LINE LENGTHS, SIZES, MATERIAL, SLOPE, ETC., SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.</li> </ol> | <ol style="list-style-type: none"> <li>SEWER LATERALS SHALL BE VERIFIED AND RECORDED AT THEIR CLEAN-OUT LOCATIONS. STATIONING AND OFFSET DISTANCES SHALL BE MEASURED FROM DOWNSTREAM MANHOLES TOWARDS UPSTREAM MANHOLES.</li> <li>LIFT STATIONS AND FORCE MAINS SHALL BE VERIFIED AND DIMENSIONED FROM STREET CENTERLINES OR LOT LINES AS APPROPRIATE. FORCE MAIN DEPTH AND LOCATION INCLUDING VALVES WILL BE PROVIDED AND TIED TO PERMANENT ABOVE GRADE FEATURES EVERY 500 FEET. DIMENSIONAL AND ELEVATION INFORMATION INDICATED ON THE APPROVED PLAN SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION. BURIED ELECTRICAL SERVICE LINE SHALL BE CLEARLY DIMENSIONED, LOCATED AND LABELED.</li> <li>CURB CUTS OR METAL TABS, USED TO MARK SEWER LATERALS, WATER SERVICES AND WATER VALVES, SHALL BE VERIFIED FOR PRESENCE AND ACCURACY OF LOCATION.</li> <li>WATER MAIN LINES SHALL BE DIMENSIONED OFF THE BACK OF CURB OR EDGE OF PAVEMENT IF NO CURB IS PRESENT. WATER MAIN LINE MATERIAL, SIZE, LENGTH AND DEPTH PLACED SHALL ALSO BE NOTED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.</li> <li>WATER VALVES, TEES, ALL SERVICES, BLOW - OFFS AND FIRE HYDRANTS SHALL BE LOCATED BY TYING THEM TO SANITARY SEWER MANHOLES. STATIONING AND OFFSET DISTANCES SHALL BE MEASURED FROM DOWNSTREAM MANHOLES TO UPSTREAM MANHOLES.</li> </ol> <p>THE FOLLOWING INFORMATION IS GENERAL REQUIREMENTS OF ALL "AS-BUILT" DRAWINGS:</p> <ol style="list-style-type: none"> <li>FOR PERPENDICULAR CROSSINGS OF STORM WATER, SANITARY SEWER, POTABLE WATER, OR RECLAIMED WATER, THE "AS-BUILT" PLANS SHALL CLEARLY INDICATE WHICH UTILITIES ARE LOCATED OVER OR UNDER OTHER UTILITIES, AS NECESSARY.</li> <li>WHEN STORM WATER, POTABLE WATER, RECLAIMED WATER, OR SANITARY SEWER IMPROVEMENTS ARE LOCATED WITHIN AN EASEMENT, THE "AS-BUILT" SHALL ACCURATELY DEPICT THE LOCATION OF THE EASEMENT ITSELF AS WELL AS THE EXACT LOCATION OF THE IMPROVEMENTS WITHIN THE EASEMENT. THIS IS REQUIRED IN ORDER TO VERIFY THAT THE IMPROVEMENTS HAVE BEEN PROPERLY LOCATED AND TO ENSURE THAT FUTURE SUBSURFACE EXCAVATION TO PERFORM REMEDIAL REPAIR CAN BE ACCOMPLISHED WITHOUT DISTURBANCE BEYOND THE EASEMENT. SUCH DOCUMENTATION AND THE ASSOCIATED PROPOSED EASEMENT DOCUMENT WITH LEGAL DESCRIPTION SHALL BE SUBMITTED FOR CITY REVIEW AND APPROVAL PRIOR TO RECORDING OF SAID EASEMENT. UPON CITY APPROVAL, THE EASEMENT SHALL BE RECORDED VIA A SEPARATE LEGAL INSTRUMENT AND SHALL NOT BE INCLUDED AS PART OF HOMEOWNER COVENANTS AND RESTRICTIONS.</li> <li>SUBMIT CERTIFIED PAPER PRELIMINARY "AS-BUILT" (24"x36") WITH REQUEST FOR FINAL INSPECTION. SUBMIT 3 SETS SHOWING WATER FACILITIES, 3 SETS WITH SEWER FACILITIES, AND 3 SETS WITH PAVING AND DRAINAGE FACILITIES. PRELIMINARY "AS-BUILT" MAY BE SUBMITTED IN DIGITAL FORMAT. FOLLOWING FINAL INSPECTION AND COMMENTS, THE CONTRACTOR SHALL REVISE AS-BUILTS TO ADDRESS CITY COMMENTS AND SUBMIT 3 SETS CERTIFIED FINAL "AS-BUILTS" ALONG WITH 1 SET CERTIFIED MYLARS AND 1 CD-ROM CONTAINING AUTO-CAD FILES AND PDF VERSIONS SHOWING ALL "AS-BUILT" SHEETS. ALL "AS-BUILT" DRAWINGS SHALL BE CERTIFIED BY A REGISTERED LAND SURVEYOR AND ENGINEER OF RECORD. ALL DIGITAL FILES SHALL HAVE A DIGITAL SIGNATURE OF SURVEYOR AND/OR ENGINEER OF RECORD.</li> <li>INDICATE VERTICAL DATUM REFERENCE ON ALL SHEETS.</li> <li>CAD FILE OF "AS-BUILTS" SHALL BE IN STATE PLANE COORDINATES; FILE SHOULD INCLUDE REFERENCE TO PROJECTION. (FLORIDA EAST, NAD83)</li> <li>ALL "AS-BUILT" DRAWINGS SHALL BE PREPARED BY A FLORIDA REGISTERED LAND SURVEYOR USING THE FINAL APPROVED SITE DESIGN PREPARED BY THE ENGINEER OF RECORD. LINE WEIGHTS, LINETYPES, AND ANNOTATION SHALL BE MANAGED IN A MANNER THAT CLEARLY DISTINGUISHES DESIGN INFORMATION FROM "AS-BUILT" INFORMATION.</li> <li>ALL "AS-BUILT" SHEETS SHALL INCLUDE A TITLE BLOCK AND CLEARLY STATE PROJECT NAME, PROJECT SURVEYOR, DATE OF FIELD WORK, AS WELL AS PROJECT CERTIFICATION BLOCK FROM THE ENGINEER OF RECORD.</li> </ol> <p>NOTE: REFERENCES TO WATER SHALL MEAN BOTH POTABLE AND RECLAIMED WATER.</p> |
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|  | <p><b>STANDARD CONSTRUCTION DETAIL</b><br/><b>GENERAL CONSTRUCTION NOTES</b></p> | <p>INDEX<br/>M-2<br/>MAY 2020</p> |  | <p><b>STANDARD CONSTRUCTION DETAIL</b><br/><b>REQUIREMENTS FOR "AS-BUILT" DRAWINGS</b></p> | <p>INDEX<br/>M-1A<br/>MAY 2020</p> |  | <p><b>STANDARD CONSTRUCTION DETAIL</b><br/><b>REQUIREMENTS FOR AS BUILT DRAWINGS</b></p> | <p>INDEX<br/>M-1B<br/>MAY 2020</p> |
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|-----|--|------|-----------|----|-----------------------------------------------------|-----------------------------------------------------|------------------------------------|---------------|-----------|---------|--------------|---------|
| NO. |  | DATE | REVISIONS | BY | <i>City of Ormond Beach</i><br>Engineering Division | JASON LESLIE, MAYOR<br>JOYCE SHANAHAN, CITY MANAGER | RIVERSIDE DR<br>FORCE MAIN PROJECT | GENERAL NOTES | DATE:     | 9/30/25 | PROJECT NO.: |         |
|     |  |      |           |    |                                                     | ALEX SCHUMANN, P.E. CITY ENGINEER                   |                                    |               | SCALE:    | NTS     | FILE NAME:   |         |
|     |  |      |           |    |                                                     |                                                     |                                    |               | DRAWN BY: | MC      | SHEET:       | 3 of 19 |
|     |  |      |           |    |                                                     |                                                     |                                    |               |           |         |              |         |

| DRAWING STATUS           |              |
|--------------------------|--------------|
| <input type="checkbox"/> | DRAFT        |
| <input type="checkbox"/> | PERMIT       |
| <input type="checkbox"/> | BID          |
| <input type="checkbox"/> | ADDENDA      |
| <input type="checkbox"/> | CONSTRUCTION |
| <input type="checkbox"/> | RECORD       |

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#### SANITARY SEWER CONSTRUCTION GENERAL NOTES

1. THE CITY'S PUBLIC WORKS – UTILITY DIVISION DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY SEWER CONSTRUCTION.
2. ALL GRAVITY SANITARY SEWER LINES SHALL BE A MINIMUM OF 8" IN DIAMETER. SERVICE LATERALS SHALL BE A MINIMUM OF 4" DIAMETER (RESIDENTIAL) OR A MINIMUM OF 6" DIAMETER (COMMERCIAL).
3. ALL SANITARY SEWER MAINS SHALL BE PVC SDR 26. IN PLACES WHERE A MINIMUM COVER OF 4.0' CANNOT BE MAINTAINED, C-900 GREEN PVC DR-25, CLASS 100 OR CONCRETE ENCASEMENT SHALL BE USED.
4. MINIMUM ALLOWABLE SANITARY SEWER SLOPES ALLOWED ARE:  
8" PIPE 0.40%  
10" PIPE 0.30%  
12" PIPE 0.22%
5. SEWER LINE CONSTRUCTION SHALL BE ACCOMPLISHED BY THE USE OF A LASER INSTRUMENT.
6. THE CONTRACTOR SHALL AT ALL TIMES, DURING PIPE LAYING, DEWATER THE GROUND SUFFICIENTLY TO KEEP THE GROUNDWATER ELEVATION A MINIMUM OF 6" BELOW THE PIPE BEING LAID WITHIN THE AREA OF THE TRENCH.
7. ALL PIPES SHALL BE LAID ON A FIRM FOUNDATION. SOFT OR SPONGY BEDDING FOR PIPES WILL NOT BE ACCEPTED. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH A DRY, COMPACTED, GRANULAR MATERIAL SATISFACTORY TO THE CITY.
8. TRENCHES SHALL BE BACKFILLED WITH CLEAN GRANULAR MATERIAL IN MAX. 1' LIFTS WITH A MINIMUM COMPACTION OF 98 PERCENT (ASSHTO-T180) IN PAVED AREAS AND 95 PERCENT IN UNPAVED AREAS.
9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TEST BE PROVIDED AT POINTS 1 FOOT ABOVE THE PIPE AND AT 1 FOOT VERTICAL INTERVALS TO FINISH GRADE, AT A MINIMUM SPACING OF EVERY 300 FEET, AND TO FURNISH COPIES OF TEST REPORTS PROMPTLY TO THE CITY INSPECTOR.
10. EXCAVATION AND BACKFILL: THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING AND BRACING OF EXCAVATION WORK OR USE OF TRENCH BOX IN ORDER TO PROVIDE FOR THE SAFETY OF WORKMEN, AS WELL AS REPRESENTATIVES OF THE CITY, THE DESIGN ENGINEER, AND THE DEVELOPER.
11. THE CONTRACTOR SHALL INSTALL A METALLIZED FOIL LOCATOR TAPE, OR SIMILAR DEVICE AS MAY BE APPROVED BY THE CITY FOR THE FULL LENGTH OF ALL PVC WATER, RECLAIMED WATER AND SEWAGE FORCE MAINS. THIS PIPE LOCATOR AID SHALL BE INSTALLED 18 INCHES ABOVE TOP OF PIPE OR AS DIRECTED BY THE MANUFACTURER AND IS IN ADDITION TO THE LOCATOR WIRE REQUIRED IN THE UTILITY PIPE LOCATION MATERIALS DETAIL (MISCELLANEOUS DETAILS SECTION – M10).
12. MANHOLES SHALL BE LOCATED AT INTERVALS NOT EXCEEDING 400 FEET.
13. MANHOLE RIMS SHALL MATCH FLUSH WITH THE FINISH GRADE ELEVATION IN PAVED AREAS AND A MINIMUM OF 0.2 FEET ABOVE GRADE IN UNPAVED AREAS.

#### SANITARY SEWER CONSTRUCTION GENERAL NOTES

14. THE CONTRACTOR SHALL CONSTRUCT SANITARY SEWER MANHOLES IN SUCH A WAY THAT SEWER LINES DO NOT INTERSECT SEALED JOINTS BETWEEN SECTIONS OF THE MANHOLE.
15. RUBBER BOOTS AND STAINLESS STEEL BANDS SHALL BE UTILIZED IN THE CONNECTION OF THE SEWER MAIN TO THE MANHOLES (SEE RUBBER BOOT AND PRECAST JOINT CONNECTION DETAIL).
16. DOGHOUSE TYPE MANHOLES ARE NOT PERMITTED WITHIN THE CITY OF ORMOND BEACH
17. INDIVIDUAL SANITARY SERVICE CONNECTORS ON NEW CONSTRUCTION SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES, BUT TO SEWER MAIN LINES BY USE OF PVC WYE CONNECTIONS.
18. FOR SINGLE FAMILY HOMES, SINGLE FOUR INCH SEWER SERVICES SHALL BE CONSTRUCTED AT EACH LOT OR UNIT AND LOCATED ON THE DOWNSTREAM SIDE OF THE LOT CENTER LINE. THESE SERVICES SHALL BE EXTENDED 4 FEET ABOVE GROUND AT THE PROPERTY LINE WITH A PVC RISER AND PLUG BEING EASILY VISIBLE FROM THE ROAD. RUBBER SEAL FITTINGS TO BE USED ON ALL LINES, NO GLUED JOINTS.
19. FOR MULTI-FAMILY AND COMMERCIAL SITES, SIX INCH MINIMUM SEWER SERVICES AND CLEANOUTS SHALL BE PROVIDED AS APPROVED BY THE CITY.
20. SANITARY SEWER LATERALS LONGER THAN 70 FEET, MEASURED FROM THE SEWER MAIN TO THE RIGHT-OF-WAY LINE MAY BE APPROVED ON A CASE BY CASE BASIS. SUCH LATERALS SHALL BE D.I.P. EPOXY LINED OR C-900 PVC.
21. SANITARY SEWER MANHOLES WHICH HAVE SEWER FORCE MAINS DISCHARGING DIRECTLY INTO THEM, OR ANY MANHOLE WITHIN 200 FEET OF A LIFT STATION, SHALL BE FIBERGLASS OR PVC LINED. RETRO-FITTING OF MANHOLES WITH LINERS SHALL BE REQUIRED WHEN NEW CONNECTIONS SUCH AS THIS ARE MADE. LINING SHALL BE AGRU SURE-GRIP, RAVEN, SEWPERCOAT, GREEN MONSTER, OR PRE-APPROVED EQUAL.
22. SEE CHART ON DETAIL INDEX S-1C FOR FORCE MAIN AND REUSE PIPE SIZE AND MATERIALS.
23. THE CITY OF ORMOND BEACH REQUIRES THE DEVELOPER/CONTRACTOR TO TELEWISE ALL SANITARY SEWER MAINS AND LATERALS PRIOR TO ACCEPTANCE AND RESERVES THE RIGHT TO REQUEST WATER AND AIR TESTING. A REPUTABLE COMPANY THAT ENGAGES IN THIS TYPE OF WORK SHALL CONDUCT THE TELEVISING PROCESS. THE DVD AND/OR DIGITAL FILE SHALL BE NON STOP WITH AUDIO DESCRIBING WHAT IS BEING REVIEWED. WRITTEN DVD LOGS DESCRIBING THE CONDITION OF THE LINES SHALL ACCOMPANY THE DVD SUBMISSION TO THE CITY. THIS PROCESS SHALL BE WITNESSED BY A REPRESENTATIVE OF THE CITY OF ORMOND BEACH.
24. ALL DUCTILE IRON VALVES AND FITTINGS SHALL HAVE PROTECTO 401 LINER OR APPROVED EQUAL
25. ALL DIRECT BURY FORCE MAINS SHALL BE AWWA C-900 PVC.
26. ALL DIRECTIONAL DRILL FORCE MAINS SHALL BE AWWA C-900 FUSIBLE PVC. HDPE IS ONLY ALLOWED TO BE USED UNDER SPECIAL CIRCUMSTANCES APPROVED BY UTILITIES ENGINEER OR UTILITIES MANAGER.
27. FORCE MAINS SHALL HAVE VALVES EVERY 1,000 LF.

#### SANITARY SEWER CONSTRUCTION GENERAL NOTES

28. ALL MANHOLES CONSTRUCTED IN SIDE YARDS, BACKYARDS, AND EASEMENTS OFF THE RIGHT-OF-WAY SHALL BE OUTFITTED WITH FIBERGLASS LINERS OR OTHER TYPES OF LINERS OR COATINGS APPROVED BY THE CITY. IN ADDITION THE CITY MAY REQUIRE LINERS OR COATINGS TO BE INSTALLED IN OTHER AREAS WHERE THE PUBLIC UTILITY DEPARTMENTS BELIEVE THE NEED IS JUSTIFIED.
29. ALL SEWER LINES WHICH ARE CONSTRUCTED OFF PUBLIC RIGHTS-OF-WAY WITHIN SIDEYARDS, BACKYARDS, AND OTHER POORLY ACCESSIBLE AREAS SHALL BE CONSTRUCTED OF C-900 PVC. ABSOLUTELY NO USE OF PLASTIC STYRENE FITTINGS SHALL BE ALLOWED.
30. SEWER LATERAL LOCATIONS SHALL BE MARKED ALONG THE OUTSIDE OF THE CURB WITH A SAW CUT V, OR BY A METAL TAB SET INTO THE PAVEMENT.
31. EZ-WRAP PLASTIC, AS MANUFACTURED BY PRESS-SEAL GASKET CORPORATION OR APPROVED EQUAL, SHALL BE USED ON THE OUTSIDE OF ALL MANHOLE AND WET WELL JOINTS. APPLY ONE LAYER OF 9" WRAP CENTERED ON EACH JOINT. A CITY INSPECTOR SHALL PERSONALLY INSPECT ALL JOINT SEALS PRIOR TO BACKFILLING OPERATIONS.
32. ALL PROPOSED SEWER MAINS, 4" OR GREATER, SHALL BE FLUSHED AND CLEANED WITH A POLY PIG IN ACCORDANCE WITH LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS.
33. ALL SEWER MAINS SHALL HAVE A MINIMUM COVER OF 36 INCHES AND A MAXIMUM DEPTH OF 18' TO ANY MANHOLE OR 22' TO ANY WETWELL. IN SPECIAL CASES WHERE IT IS IMPOSSIBLE OR INAPPROPRIATE TO PROVIDE ADEQUATE COVER C900/C905 OR CONCRETE ENCASEMENT MAY BE USED AS APPROVED BY THE CITY.
34. FORCE MAIN SYSTEMS SHALL BE PRESSURE TESTED AT 100 PSI STATIC PRESSURE FOR A PERIOD OF 2 HOURS PER AWWA STANDARDS. TESTS SHALL BE CONDUCTED BEFORE FINAL PAVING AND IN THE PRESENCE OF THE CITY'S INSPECTOR. SUBMIT FOR FDEP CLEARANCE BEFORE PAVING.
35. DURING CONSTRUCTION, CONTRACTOR SHALL ISOLATE NEW SANITARY SEWER CONSTRUCTION FROM EXISTING SANITARY SEWER MAINS. THIS ISOLATION MAY BE BY INSTALLATION OF A BLADDER/PLUG PLACED AT POINT OF CONNECTION OR BY OTHER METHODS. THE PURPOSE OF THIS ISOLATION IS TO ENSURE SURFACE WATER IS NOT RELEASED TO THE TREATMENT PLANT. SURFACE WATER SHALL BE REMOVED PRIOR TO THE BLADDER BEING REMOVED.

#### FORCE MAIN & REUSE MAIN STANDARDS

| DIAMETER                                                      | MATERIAL             | STANDARD          |
|---------------------------------------------------------------|----------------------|-------------------|
| 2" – 4"                                                       | PVC 1120 / SDR 21    | ASTM D 2241       |
| > 4" – 12"                                                    | PVC 1120 / CLASS 100 | AWWA C 900        |
| 14" – 36"<br>( 16" – 24" → DR – 18)<br>( 30" – 36" → DR – 21) | PVC 1120             | AWWA C 905        |
| ALL SIZES                                                     | HDPE (DIPS) DR 13.5  | ASTM F 714        |
| ALL SIZES                                                     | FUSIBLE PVC          | AWWA C900 OR C905 |

NOTE: PVC PIPE COLOR SHALL BE GREEN FOR SEWER FORCE MAIN, AND PURPLE FOR REUSE MAIN.



#### STANDARD CONSTRUCTION DETAIL GENERAL NOTES SANITARY SEWER CONSTRUCTION

INDEX

S-1A

JUNE 2023



#### STANDARD CONSTRUCTION DETAIL GENERAL NOTES SANITARY SEWER CONSTRUCTION

INDEX

S-1B

JUNE 2023



#### STANDARD CONSTRUCTION DETAIL GENERAL NOTES SANITARY SEWER CONSTRUCTION

INDEX

S-1C

JUNE 2023

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**City of Ormond Beach**  
Engineering Division

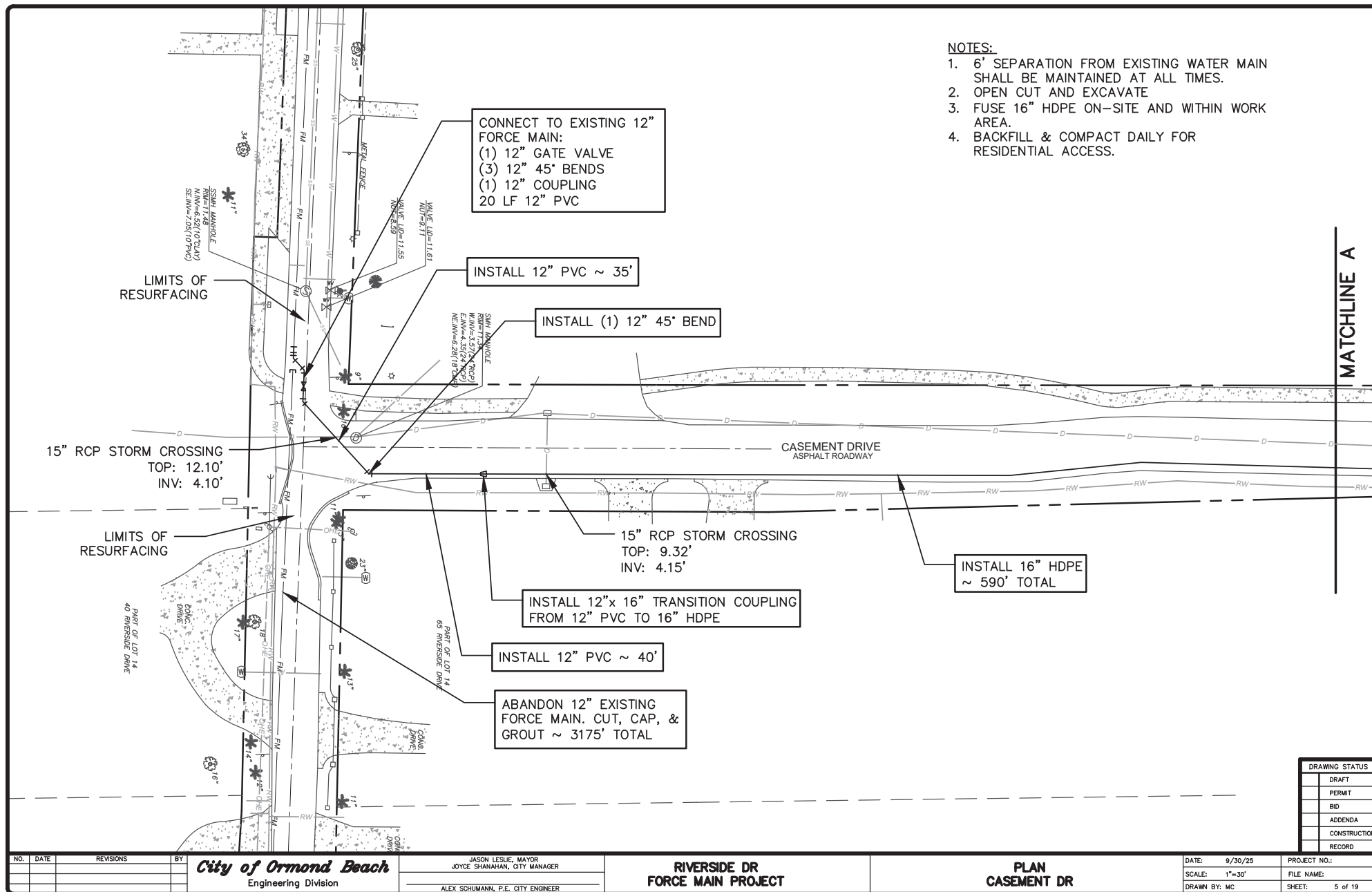
JASON LESJIE, MAYOR  
JOYCE SHANAHAN, CITY MANAGER  
ALEX SCHUMANN, P.E. CITY ENGINEER

#### RIVERSIDE DR FORCE MAIN PROJECT

#### SEWER NOTES

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SCALE: NTS  
DRAWN BY: MC

PROJECT NO.:  
FILE NAME:  
SHEET: 4 of 19



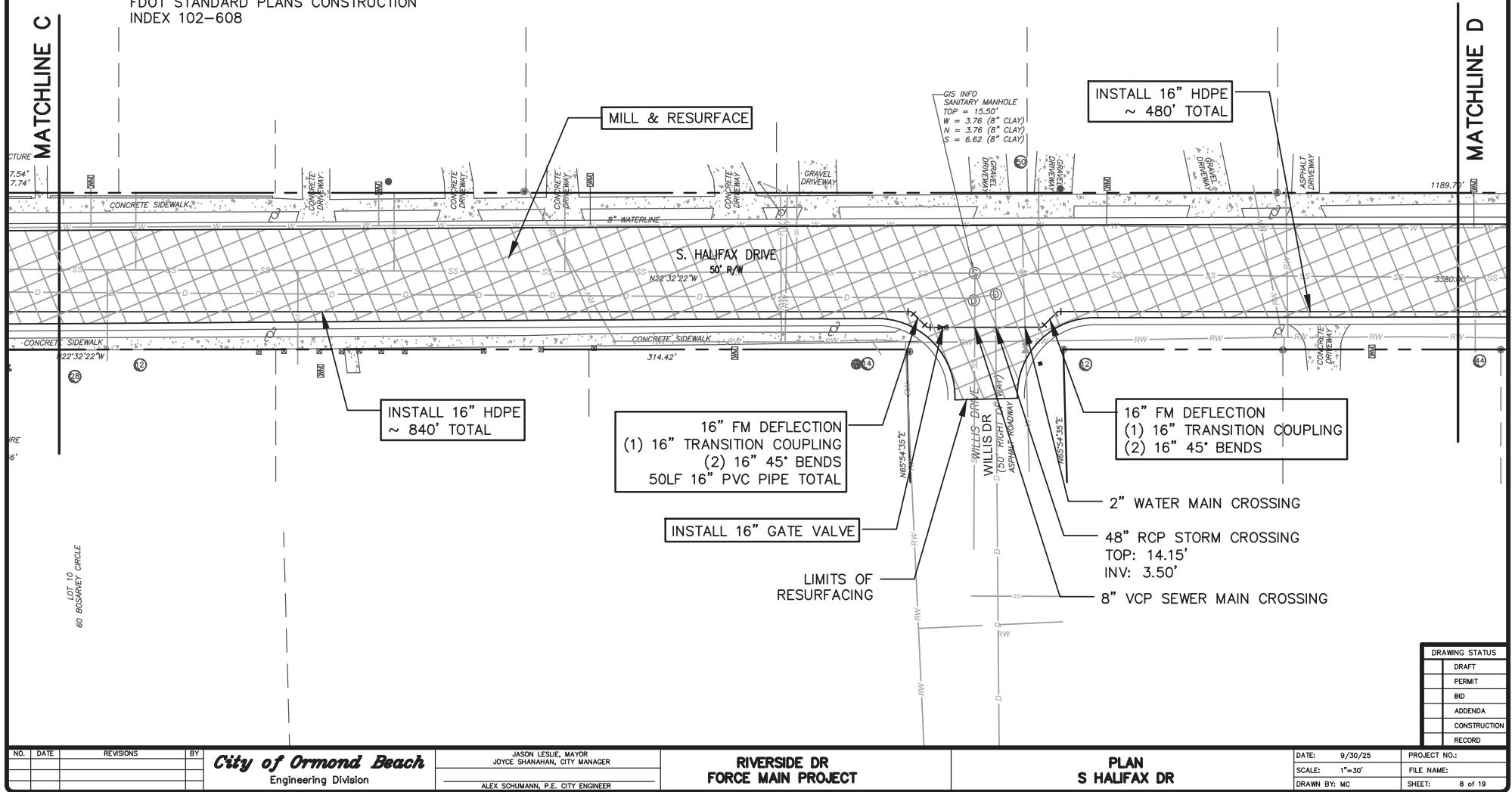






**NOTES:**

1. 6" SEPARATION FROM EXISTING WATER MAIN SHALL BE MAINTAINED AT ALL TIMES.
2. OPEN CUT AND EXCAVATE
3. FUSE 16" HDPE ON-SITE AND WITHIN WORK AREA.
4. BACKFILL & COMPACT DAILY FOR RESIDENTIAL ACCESS.
5. TEMPORARY TRAFFIC CONTROL: REFERENCE FDOT STANDARD PLANS CONSTRUCTION INDEX 102-608



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**City of Ormond Beach**  
Engineering Division

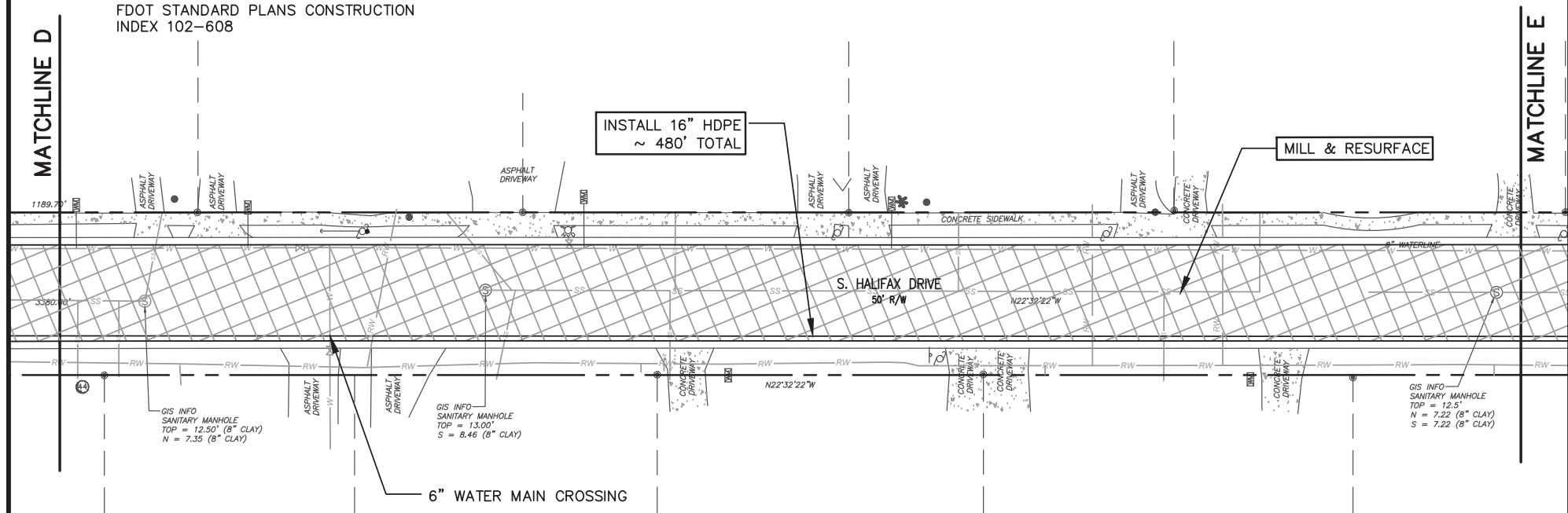
JASON LESLIE, MAYOR  
JOYCE SHANAHAN, CITY MANAGER  
ALEX SCHUMANN, P.E., CITY ENGINEER

**RIVERSIDE DR  
FORCE MAIN PROJECT**

**PLAN  
S HALIFAX DR**

DATE: 9/30/25  
SCALE: 1"=30'  
DRAWN BY: MC  
PROJECT NO.:  
FILE NAME:  
SHEET: 8 of 19

1. 6" SEPARATION FROM EXISTING WATER MAIN SHALL BE MAINTAINED AT ALL TIMES.
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***City of Ormond Beach***  
Engineering Division

JASON LESLIE, MAYOR  
JOYCE SHANAHAN, CITY MANAGER

ALEX SCHUMANN, P.E. CITY ENGINEER

**RIVERSIDE DR  
FORCE MAIN PROJECT**

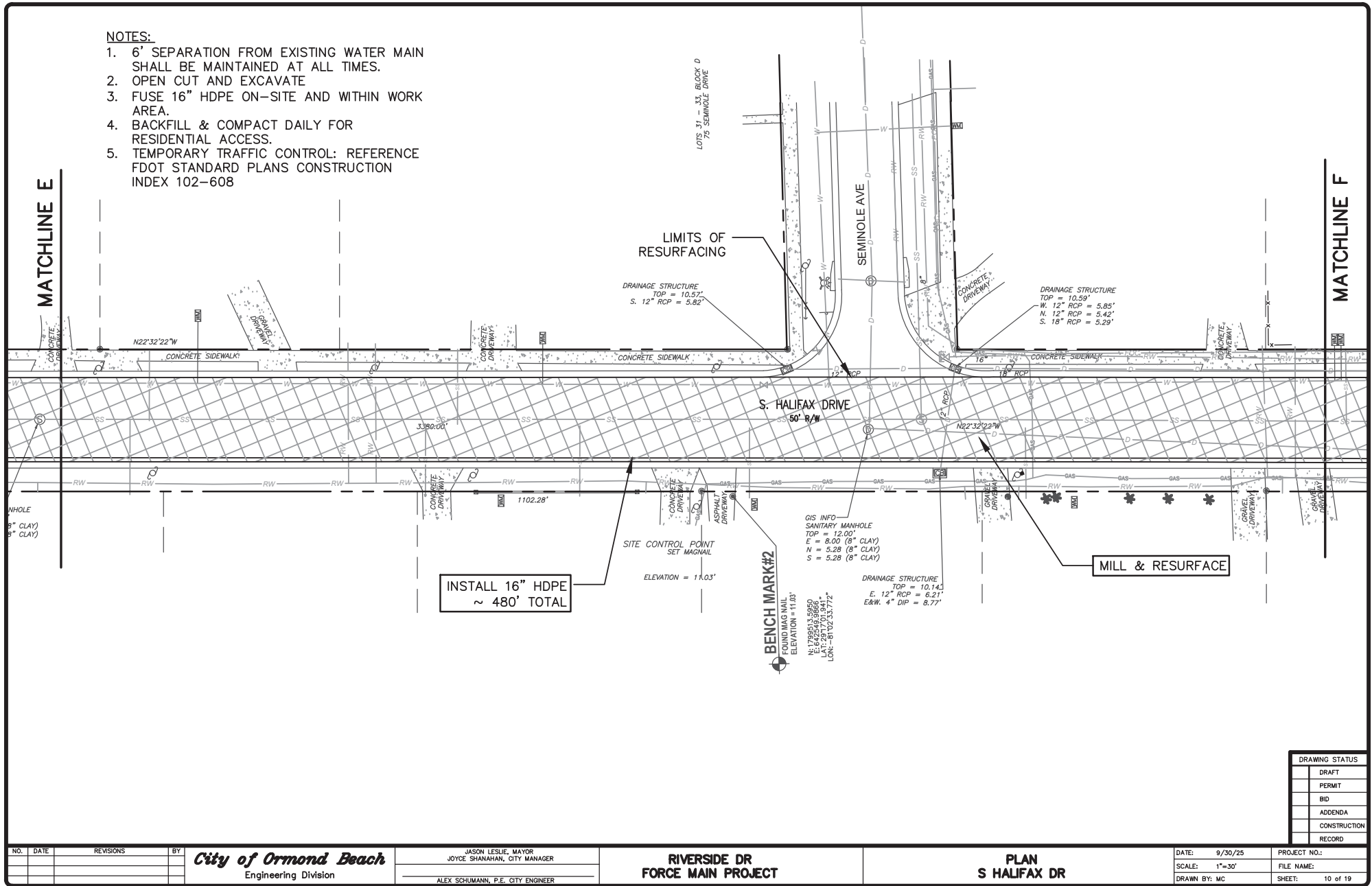
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S HALIFAX DR

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| FILE NAME:   |         |
| SHEET:       | 9 of 19 |

**NOTES:**

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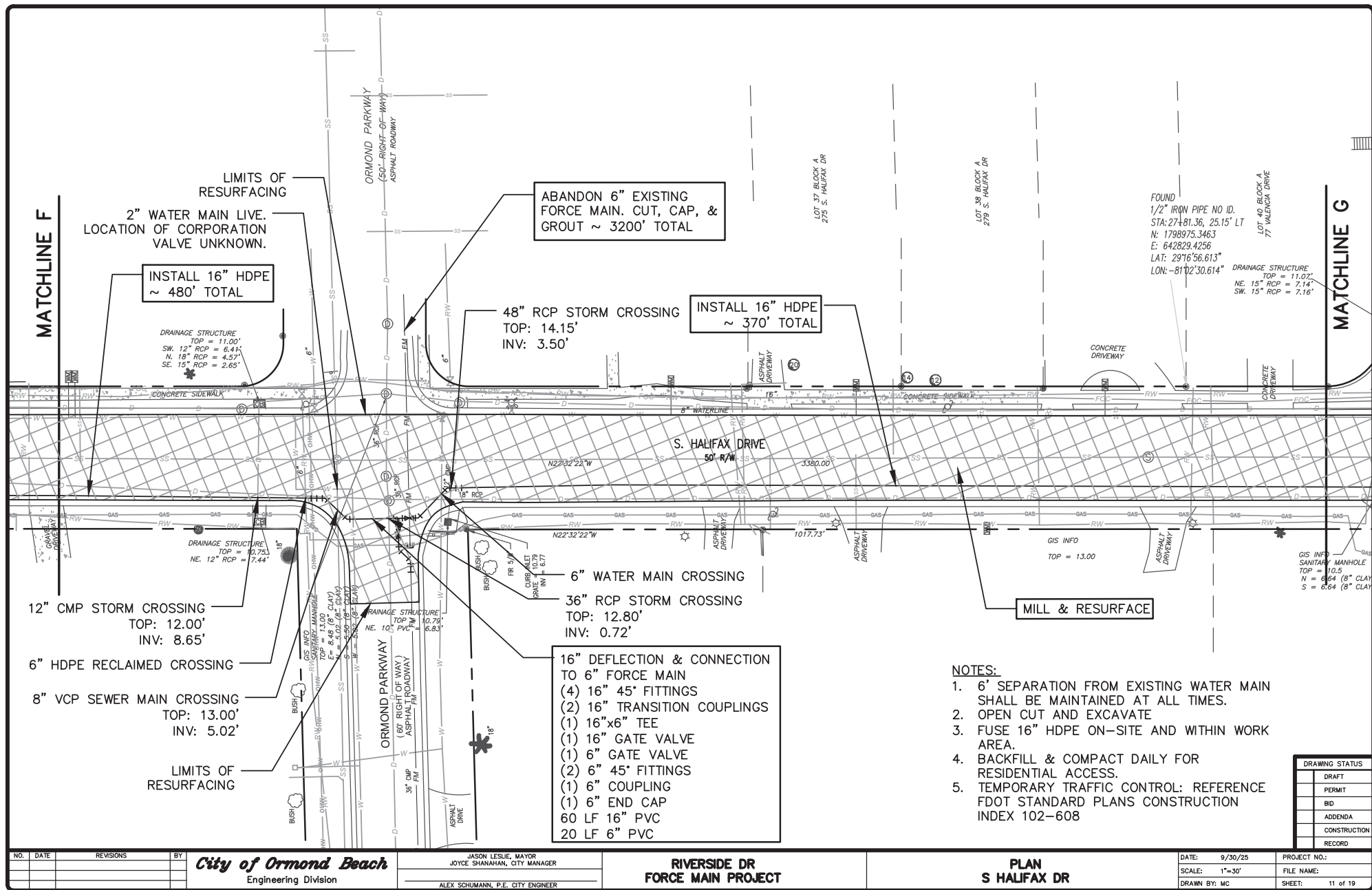
**City of Ormond Beach**  
Engineering Division

JASON LESJIE, MAYOR  
JOYCE SHANAHAN, CITY MANAGER  
ALEX SCHUMANN, P.E., CITY ENGINEER

**RIVERSIDE DR**  
**FORCE MAIN PROJECT**

**PLAN**  
**S HALIFAX DR**

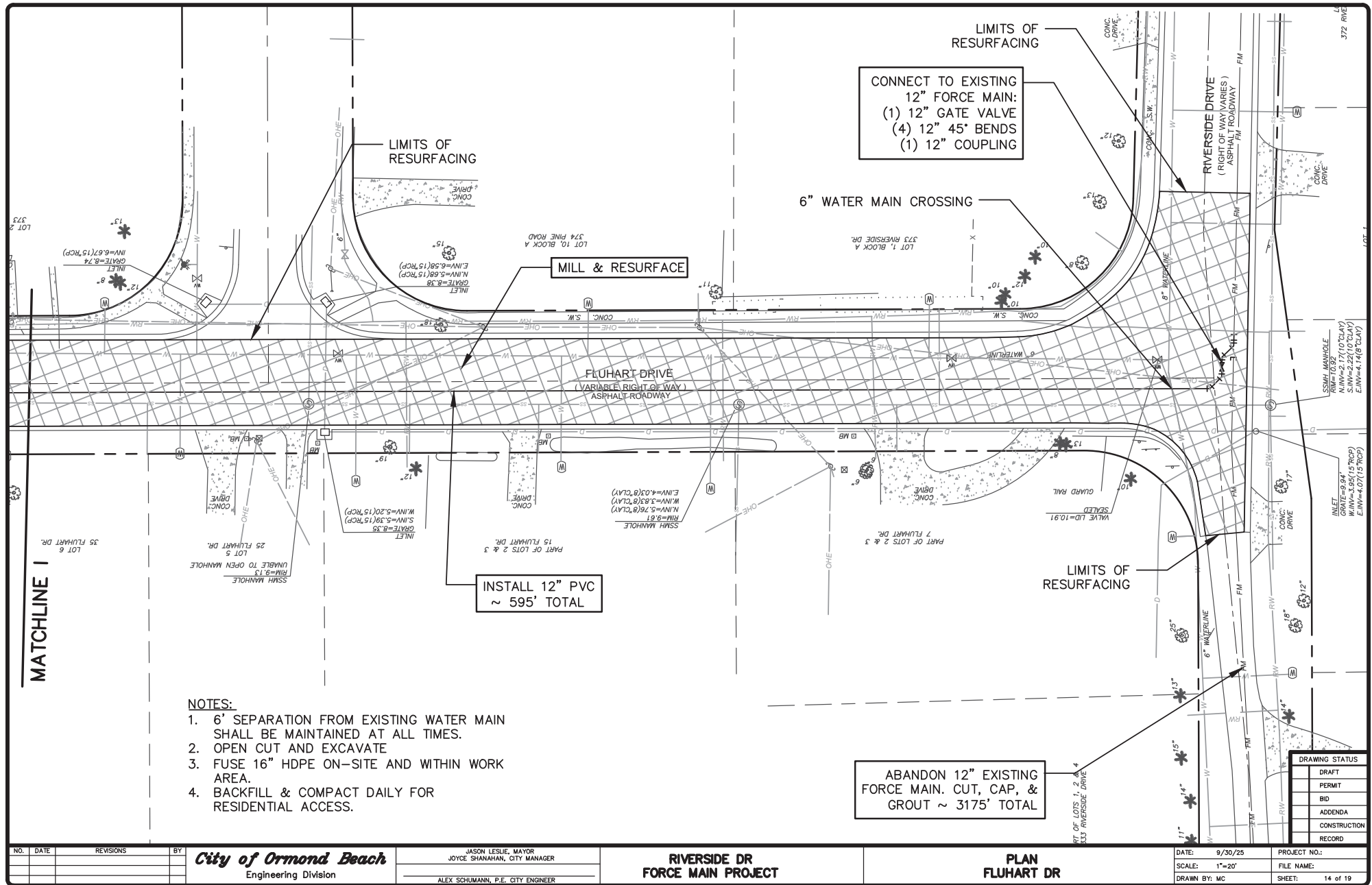
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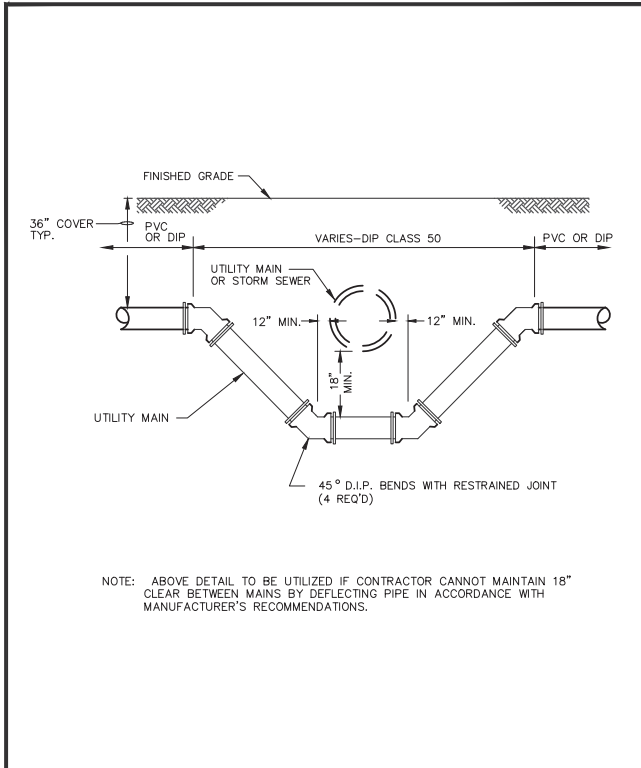








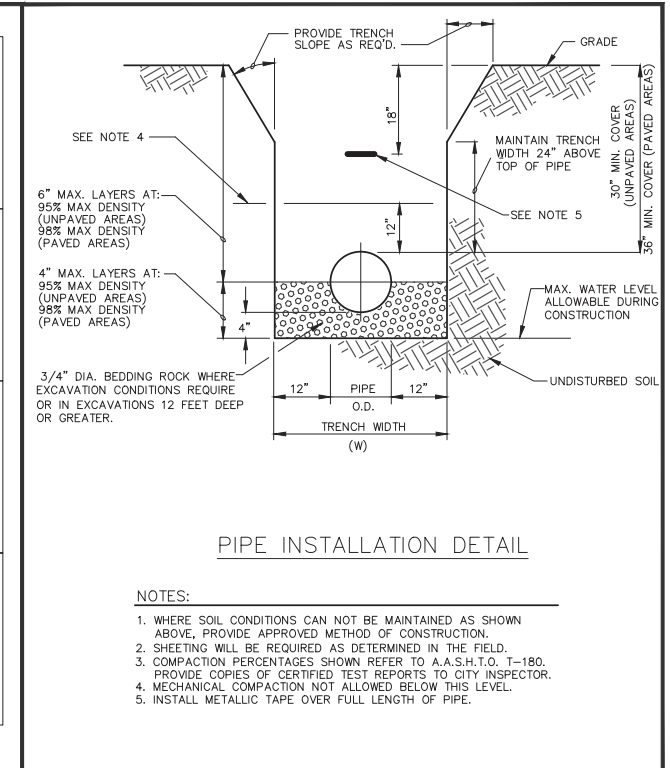




NOTE: ABOVE DETAIL TO BE UTILIZED IF CONTRACTOR CANNOT MAINTAIN 18" CLEAR BETWEEN MAINS BY DEFLECTING PIPE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

(1) WATER MAIN SHOULD CROSS ABOVE OTHER PIPE, WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 18 INCHES.  
(2) RECLAIMED WATER REGULATOR UNDER PART II OF CHAPTER 62-610, F.A.C.  
(3) RECLAIMED WATER REGULATOR UNDER PART III OF CHAPTER 62-610, F.A.C.  
(4) RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.  
DISCLAIMER - THIS DOCUMENT WAS PROVIDED FOR YOUR CONVENIENCE ONLY. PLEASE REFER TO F.A.C. RULE 62-555.014 FOR ADDITIONAL CONSTRUCTION REQUIREMENTS.

| OTHER PIPE                                                                 | HORIZONTAL SEPARATION | CROSSINGS (1)                                                                     | JOINT SPACING & CROSSINGS (FULL JOINT CENTERED) |
|----------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------|-------------------------------------------------|
| STORM SEWER, FORCE MAIN, RECLAIMED WATER (2)                               | 3 FT. MINIMUM         | 12 INCHES IS THE MINIMUM, EXCEPT FOR STORM SEWER, MINIMUM AND 12 INCHES PREFERRED | ALTERNATE 3 FT. MINIMUM                         |
| VACUUM SANITARY SEWER                                                      | 10 FT. MINIMUM        | 12 INCHES PREFERRED                                                               | ALTERNATE 3 FT. MINIMUM                         |
| GRAVITY OR PRESSURIZED SANITARY SEWER, SANITARY FORCE, RECLAIMED WATER (4) | 10 FT. MINIMUM        | 12 INCHES IS THE MINIMUM, EXCEPT FOR STORM SEWER, MINIMUM AND 12 INCHES PREFERRED | ALTERNATE 6 FT. MINIMUM                         |



#### NOTES:

- WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
- SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
- COMPACTION PERCENTAGES SHOWN REFER TO A.A.S.H.T.O. T-180. PROVIDE COPIES OF CERTIFIED TEST REPORTS TO CITY INSPECTOR.
- MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
- INSTALL METALLIC TAPE OVER FULL LENGTH OF PIPE.



**STANDARD CONSTRUCTION DETAIL**

**PIPE CROSSING**

NTS.

INDEX

W-9B

JUNE 2023



**STANDARD CONSTRUCTION DETAIL**

**WATER MAIN SEPARATION**

NTS.

INDEX

W-9A

JUNE 2023



**STANDARD CONSTRUCTION DETAIL**

**PIPE INSTALLATION**

NTS.

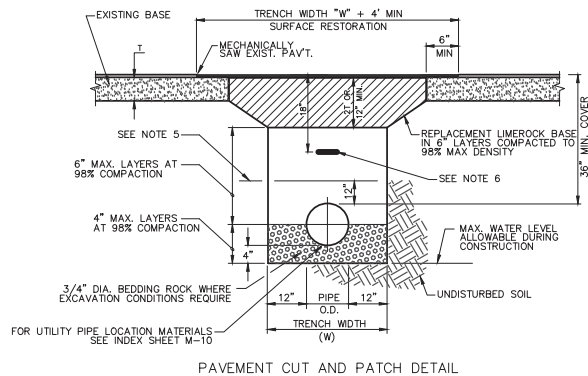
INDEX

M-9

MAY 2020

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| NO. | DATE | REVISIONS | BY | <b>City of Ormond Beach</b><br>Engineering Division | JASON LESJIE, MAYOR<br>JOYCE SHANAHAN, CITY MANAGER<br>ALEX SCHUMANN, P.E., CITY ENGINEER | <b>RIVERSIDE DR<br/>FORCE MAIN PROJECT</b> | <b>DETAILS</b> | DATE: 9/30/25<br>SCALE: NTS<br>DRAWN BY: MC | PROJECT NO.:<br>FILE NAME:<br>SHEET: 16 of 19 |
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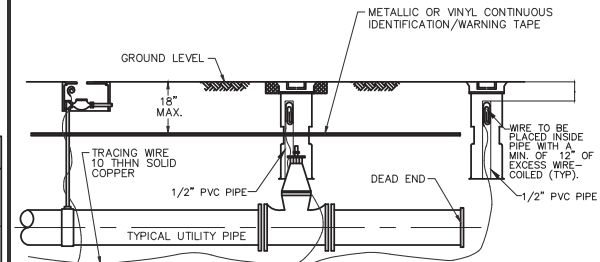


**NOTES:**

- WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
- SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
- NEW SURFACING MATERIALS SHALL BE CONSISTENT WITH EXISTING AND SHALL HAVE LAPPED & FEATHERED JOINTS (1 1/2" MIN. THK.)
- COMPACTION PERCENTAGES SHOWN REFER TO A.A.S.H.T.O. T-180. PROVIDE COMPACTION TEST REPORTS TO CITY INSPECTOR.
- MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
- INSTALL METALLIC TAPE OVER FULL LENGTH OF PIPE.
- EIGHT INCHES (8") OF HIGH EARLY-STRENGTH CONCRETE MAY BE SUBSTITUTED FOR LIMEROCK UPON APPROVAL BY CITY ENGINEER.

**PIPED UTILITY INSTALLATION REQUIREMENTS**

| ITEM                               | TEST             | FREQUENCY                                                  | STANDARD             | TEST METHOD                                                                                      |
|------------------------------------|------------------|------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------|
| PIPE TRENCH SUBBASE (IF SPECIFIED) | IN-PLACE DENSITY | ONE (1) TEST/300 LF                                        | 98% MODIFIED PROCTOR | ASTM D-2937<br>D-2922<br>D-1556                                                                  |
| PIPED BACKFILL IN PAVED AREAS      | IN-PLACE DENSITY | ONE (1) TEST/300 LF PER ONE (1) FOOT VERTICAL LIFT OF FILL | 98% MODIFIED PROCTOR | ASTM D-2937<br>D-2922<br>D-1556                                                                  |
| PIPED BACKFILL IN GREEN AREAS      | IN-PLACE DENSITY | ONE (1) TEST/300 LF PER ONE (1) FOOT VERTICAL LIFT OF FILL | 90% MODIFIED PROCTOR | ASTM D-2937<br>D-2922<br>D-1556                                                                  |
| SOIL OPTIMUM MOISTURE/DENSITY      | PROCTOR TEST     | ONE (1) PER SOIL OR BASE TYPE                              |                      | ASTM D-2937 (MODIFIED)<br>ASTM D-558 (STANDARD)<br>AASHTO T-180 (MODIFIED)<br>AASHTO T-99 (STD.) |



ALL PVC PIPE, OR OTHER CITY APPROVED NONMETALLIC PIPE INSTALLED WITHIN THE CITY'S WATER, SANITARY SEWER, OR RECLAIMED WATER SYSTEMS, SHALL BE INSTALLED WITH 10 THHN SOLID COPPER TRACING WIRE. IF PIPE IS INSTALLED BY DIRECTIONAL BORE, USE (2) 10 THHN SOLID COPPER TRACING WIRE.

THE TRACING WIRE MUST BE INSTALLED DIRECTLY BELOW THE PIPE AND BROUGHT TO THE SURFACE AT 500' MINIMUM INTERVALS. WIRE SHALL EXTEND A MINIMUM OF 12" ABOVE GRADE AT EACH INTERVAL AND BE COILED AND PLACED IN A VALVE BOX, METER BOX, MANHOLE, CLEANOUT OR OTHER APPLICABLE STRUCTURE.

TRACING WIRE BETWEEN INTERVALS SHALL BE INSTALLED SO AS TO PROVIDE CONTINUOUS CURRENT WHEN LINE LOCATION EQUIPMENT IS CONNECTED TO THE TRACING WIRE. WIRE BRANCHING FROM MAIN LINES SHALL BE LINKED BY A CITY APPROVED CONNECTOR SUCH AS KING # 2011 SAFETY SEALED CONNECTORS OR APPROVED EQUAL.

**COLOR CODING:**

POTABLE WATER SYSTEM: BLUE  
RECLAIMED WATER SYSTEM: LAVENDER  
SANITARY SEWER FORCE MAIN SYSTEM: GREEN  
RAW WATER MAIN SYSTEM: WHITE

- POTABLE WATER AND RECLAIMED WATER SYSTEMS: WIRE SHALL BE INSTALLED BELOW ALL MAINS AND SERVICE LINES AND ATTACHED TO VALVES, HYDRANTS AND FITTINGS. WIRE INSTALLED WITH SERVICE LINES SHALL CONNECT TO THE WIRE INSTALLED BELOW THE MAIN AND EXTEND TO THE CURB STOP.
- FIRE SPRINKLER LINES: WIRE SHALL CONNECT TO THE WIRE INSTALLED BELOW THE MAIN AND EXTEND TO THE RISER CONNECTION.
- SANITARY SEWER FORCE MAINS: WIRE SHALL BE INSTALLED BELOW THE FORCE MAIN AND ATTACHED TO ALL VALVES AND FITTINGS AND BROUGHT TO THE SURFACE AND PLACED IN A METAL, CITY APPROVED, VALVE BOX.
- DEAD END MAINS: WIRE SHALL BE PLACED IN A PROPERLY IDENTIFIED METAL VALVE BOX AT THE END OF THE RUN.
- WIRE SHALL NOT BE FASTENED OR COILED TO VALVE OPERATING NUT.



**STANDARD CONSTRUCTION DETAIL**  
**PAVEMENT CUT AND PATCH**  
NTS

INDEX

R-8

MAY 2020



**STANDARD CONSTRUCTION DETAIL**  
**TECHNICAL SPECIFICATIONS FOR TESTING REQUIREMENTS**

INDEX

R-6B

MAY 2020



**STANDARD CONSTRUCTION DETAIL**  
**UTILITY PIPE LOCATION MATERIALS**  
NTS

INDEX

M-10

MAY 2020

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**City of Ormond Beach**  
Engineering Division

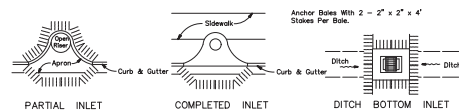
JASON LESJIE, MAYOR  
JOYCE SHANAHAN, CITY MANAGER  
ALEX SCHUMANN, P.E., CITY ENGINEER

**RIVERSIDE DR**  
**FORCE MAIN PROJECT**

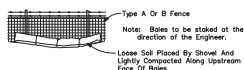
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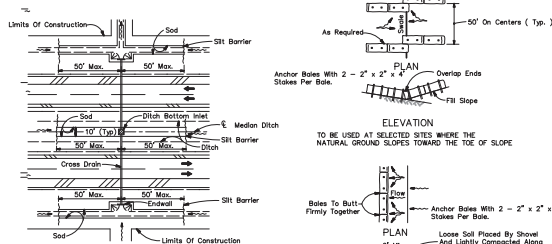
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SHEET: 17 of 19



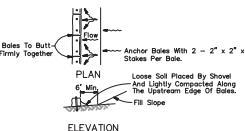
PROTECTION AROUND INLETS OR SIMILAR STRUCTURES  
NOTE: SUBSTITUTE ROCK BAGS AT PAVED SURFACES



BALES BACKED BY FENCE



DITCH INSTALLATIONS AT DRAINAGE STRUCTURES



BARRIERS FOR FILL SLOPES

### CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES

THE FOLLOWING MEASURES REPRESENT MINIMUM STANDARDS TO BE ADHERED TO BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION OF A PROJECT. THE CITY RESERVES THE RIGHT TO REQUIRE ADDITIONAL MEASURES TO BE EMPLOYED WHEN WARRANTED BY EXTREME CONDITIONS AND/OR THE FAILURE OF THE CONTRACTOR TO EMPLOY THE APPROPRIATE EROSION CONTROL BEST MANAGEMENT PRACTICES. FAILURE TO COMPLY WITH THESE PROVISIONS SHALL RESULT IN THE ISSUANCE OF A "STOP WORK ORDER".

- NO DISTURBANCE OF PROPOSED CONSERVATION EASEMENTS, NATURAL BUFFERS, OR WATER BODIES IS PERMITTED. THE CONTRACTOR SHALL LOCATE THESE AREAS ON SITE AND BARRICADE THEM TO AVOID ANY UNAUTHORIZED CLEARING. BARRICADES AND OTHER PROTECTIVE FENCING ARE TO BE LOCATED AT THE DRIP LINE OF EXISTING NATIVE TREES OR AT THE EDGE OF THE NATIVE UNDER-STORY HABITAT, WHICHEVER IS NEAREST TO THE CONSTRUCTION ACTIVITY.
- SPECIMEN AND HISTORIC TREES, CONSERVATION EASEMENTS, NATURAL VEGETATION BUFFERS, AND SIMILAR AREAS MUST BE PROTECTED BY BARRICADES OR FENCING PRIOR TO CLEARING. BARRICADES ARE TO BE SET AT THE DRIP LINE OF THE TREES AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. BARBED WIRE IS NOT PERMITTED AS A PROTECTIVE BARRIER.
- WHERE A CHANGE OF GRADE OCCURS AT THE DRIP LINE OF A SPECIMEN TREE, SILT FENCES WILL BE REQUIRED DURING CONSTRUCTION AND RETAINING WALLS MUST BE INSTALLED PRIOR TO FINAL ACCEPTANCE BY THE CITY.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL PROTECTIVE VEGETATION BARRICADES AND EROSION CONTROL STRUCTURES AND MEASURES IN PLACE PRIOR TO THE COMMENCEMENT OF ANY EARTHWORK, INCLUDING PRELIMINARY GRUBBING. THESE MEASURES INCLUDE, BUT ARE NOT LIMITED TO, TEMPORARY CONSTRUCTION FENCES, SYNTHETIC JUTE BALES, WATTLES, S/JO HAVE BEST MANAGEMENT PRACTICES (BMP) AS REQUIRED, SILT FENCES, AND FLOATING TURBIDITY BARRIERS. FURTHER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL EROSION CONTROL DEVICES THROUGHOUT THE DURATION OF THE ENTIRE PROJECT. MAINTENANCE SHALL INCLUDE PERIODIC INSPECTION AND REMOVAL OF DEBRIS ABUTTING EROSION CONTROL DEVICES.
- PRIOR TO THE INSTALLATION OF ANY FILL MATERIALS ON SUBJECT SITE, SILT FENCES SHALL BE INSTALLED (1) ALONG SUBJECT SITE BOUNDARY AND PROPERTY LINES, (2) AT THE EDGE OF CONSERVATION EASEMENTS AND WETLANDS, (3) ADJACENT TO NATURAL LANDSCAPE BUFFERS, (4) AROUND THE PERIMETER OF EXISTING STORM WATER TREATMENT FACILITIES, AND (5) AT ANY ADDITIONAL AREAS THAT THE CITY DEEMS NECESSARY TO BE PROTECTED FROM POTENTIAL EROSION IMPACTS DURING CONSTRUCTION. THESE CONDITIONS SHALL APPLY IN ALL INSTANCES WHERE FILL MATERIAL IS BEING INSTALLED WITHIN 25 FEET OF ANY OF THE AFOREMENTIONED LOCATIONS. WHILE THESE ITEMS REPRESENT THE MINIMUM REQUIREMENTS, THE CITY RESERVES THE RIGHT TO IMPOSE ADDITIONAL PROTECTIVE MEASURES, AS DETERMINED DURING ACTUAL SITE VISITS CONDUCTED AS PART OF THE STANDARD REVIEW OF THE SITE THROUGHOUT PROJECT CONSTRUCTION.
- AT A MINIMUM, THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS. SUFFICIENT GRASS COVERAGE IS TO BE ESTABLISHED WITHIN TWO WEEKS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR THROUGH SCHEDULING, TO MINIMIZE THE DISTURBANCE OF SITE AREAS THAT HAVE BEEN BROUGHT TO THEIR PROPOSED FINAL GRADE. WITHIN SEVEN (7) DAYS OF BRINGING A SUBJECT AREA TO ITS FINAL GRADE OR INACTIVITY IN CONSTRUCTION, THE CONTRACTOR SHALL INSTALL SEED AND MULCH OR SOD, AS REQUIRED. ANY PROJECT THAT IS INACTIVE FOR A PERIOD OF 30 DAYS OR MORE THE AREA SHALL BE STABILIZED TO THE SATISFACTION OF THE CITY OF ORMOND BEACH.
- ONCE AN AREA IS SEEDDED OR SODDED, IT MUST BE MAINTAINED BY THE CONTRACTOR TO ALLOW THE GRASS TO BECOME ESTABLISHED. IF THE GRASS IS NOT ESTABLISHED WITHIN TWO WEEKS THE CITY MAY REQUIRE THE CONTRACTOR TO RE-SEED OR A NON-VEGETATIVE OPTION MAY BE EMPLOYED.
- ABSOLUTELY NO BURYING OF CLEARED MATERIALS IS PERMITTED.

### CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES

- THE REMOVAL OF ALL VEGETATION AND TOPSOIL ON THE FUTURE ROADWAY, PARKING AND BUILDING LOT AREAS IS REQUIRED TO BE COMPLETED PRIOR TO THE PLACEMENT OF FILL ON THOSE AREAS. THE TOPSOIL MAY BE TEMPORARILY STOCKPILED AND USED AS TOPSOIL OVER PROPOSED GREEN AREAS SUCH AS PLANT BEDS, SODDED AREAS, AND WHERE TREES ARE TO BE INSTALLED OR RELOCATED.
- A SIGNED, DATED, AND SEALED LETTER FROM A SOILS ENGINEER OR THE ENGINEER OF RECORD CERTIFYING THAT THE AREAS TO BE FILLED HAVE BEEN STRIPPED OF ORGANIC MATERIALS, MUST BE SUBMITTED TO THE CITY PRIOR TO FILLING.
- FILL MATERIAL IS TO BE PLACED IN ONE FOOT LIFTS AND COMPACTED TO THE APPROPRIATE DENSITY (98% FOR PAVED AREAS AND 95% FOR BUILDING PADS AND ALL OTHER AREAS AS PER AASHTO T-180).
- DURING SUBDIVISION DEVELOPMENT WHEN FUTURE BUILDING LOTS ARE FILLED AS PART OF THE OVERALL SUBDIVISION IMPROVEMENTS, COMPACTION TEST REPORTS MUST BE PERFORMED ON THE BUILDING LOTS AT 300 FOOT INTERVALS. THESE TESTS ARE TO BE PERFORMED IN ONE-FOOT VERTICAL INCREMENTS. THE RESULTS OF THESE TESTS ARE TO BE SUBMITTED TO THE CITY UPON COMPLETION OF THE TESTS.
- IF ANY MUCK MATERIAL IS DISCOVERED, IT SHALL BE REQUIRED TO BE REMOVED AND REPLACED WITH A SUITABLE MATERIAL THAT IS PROPERLY BACKFILLED, COMPACTED AND TESTED USING AASHTO T-180 MODIFIED PROCTOR METHOD.
- STOCKPILING IS NOT GENERALLY PERMITTED BY THE CITY. WHEN ALLOWED, STOCKPILES SHALL NOT EXCEED SIX FEET IN HEIGHT MEASURED FROM THE ORIGINAL GRADE. AT A MINIMUM, STOCK PILES THAT WILL REMAIN IN PLACE IN EXCESS OF TWENTY DAYS SHOULD BE SEEDDED AND MULCHED IMMEDIATELY UPON PLACEMENT OF THE FINAL LIFT. STOCKPILE AREA IS TO BE SURROUNDED BY SILT FENCE FROM THE INITIAL LIFT.
- SOILS ARE TO BE STABILIZED BY WATER OR OTHER MEANS DURING CONSTRUCTION. THIS IS INTENDED TO REDUCE SOIL EROSION AND THE IMPACT TO NEIGHBORING COMMUNITIES. ADEQUATE WATERING METHODS SHOULD BE EMPLOYED TO ALLOW DAILY COVERAGE OF THE ENTIRE LIMITS OF ALL AREAS THAT DO NOT HAVE AN ESTABLISHED VEGETATIVE COVER. METHODS TO BE EMPLOYED INCLUDE, BUT ARE NOT LIMITED TO, WATER TRUCKS, PERMANENT IRRIGATION SYSTEMS, TEMPORARY SPRINKLER SYSTEMS OPERATED BY PUMPING UNITS CONNECTED TO WET RETENTION PONDS, WATER CANNONS, TEMPORARY IRRIGATION SYSTEMS MOUNTED ATOP STOCKPILE AREAS, AND OTHER METHODS AS DEEMED NECESSARY BY THE CITY.
- ALL FILL MATERIALS LOCATED BENEATH STRUCTURES AND PAVEMENT SHALL CONSIST OF CLEAN GRANULAR SAND FREE FROM ORGANICS AND SIMILAR MATERIAL THAT COULD DECOMPOSE.
- ALL FILL TO BE PLACED IN LANDSCAPED AREAS SHALL HAVE A PH RANGE BETWEEN 5.5 AND 7.5, BE ORGANIC IN NATURE, FREE OF ROCKS AND DEBRIS, OR MATCH NATIVE EXISTING SOILS.
- OWNER SHALL FILE A "NOTICE OF INTENT TO USE GENERIC PERMIT FOR STORM WATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES" WITH THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AS REQUIRED BY DEP. CONTRACTOR SHALL BE REQUIRED TO COMPLY WITH ALL PROVISIONS OF THE GENERIC PERMIT INCLUDING BUT NOT LIMITED TO:
  - PROVIDE SUCH EROSION AND SEDIMENT CONTROL MEASURES AS MAY BE NECESSARY TO PREVENT DISCHARGE OF POLLUTANTS FROM THE SITE FROM THE START OF CONSTRUCTION UNTIL THE FINAL GROUND COVER HAS BEEN ESTABLISHED.
  - EMPLOY A DEP CERTIFIED INSPECTOR TO MAKE WEEKLY INSPECTIONS / REPORTS OF THE CONDITION OF EROSION AND SEDIMENT CONTROL MEASURES.
  - EMPLOY A DEP CERTIFIED INSPECTOR TO MAKE INSPECTIONS / REPORTS OF THE CONDITION OF EROSION AND SEDIMENT CONTROL MEASURES WITHIN 24 HOURS OF EVERY RAINFALL EVENT EXCEEDING ONE-HALF INCH.
  - MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT CONSTRUCTION.
  - ADD EROSION AND SEDIMENT CONTROL MEASURES AS SITE CONDITIONS CHANGE.



### STANDARD CONSTRUCTION DETAIL EROSION CONTROL – SYNTHETIC BALES

NT

INDEX

M-14A

MAY 2020



### STANDARD CONSTRUCTION DETAIL CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES

NTS

INDEX

M-16A

MAY 2020



### STANDARD CONSTRUCTION DETAIL CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES

NTS

INDEX

M-16B

MAY 2020

| DRAWING STATUS           |              |
|--------------------------|--------------|
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| NO. | DATE | REVISIONS | BY |
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**City of Ormond Beach**  
Engineering Division

JASON LESJIE, MAYOR  
JOYCE SHANAHAN, CITY MANAGER  
ALEX SCHUMANN, P.E., CITY ENGINEER

**RIVERSIDE DR  
FORCE MAIN PROJECT**

**DETAILS**

|           |         |              |          |
|-----------|---------|--------------|----------|
| DATE:     | 9/30/25 | PROJECT NO.: |          |
| SCALE:    | NTS     | FILE NAME:   |          |
| DRAWN BY: | MC      | SHEET:       | 18 of 19 |

IN ORDER TO ENSURE THAT NEW DEVELOPMENTS WITHIN THE CITY ARE DESIGNED AND CONSTRUCTED SUBSTANTIALLY IN ACCORDANCE WITH CITY REGULATIONS THE FOLLOWING INFORMATION IS REQUIRED:

FOR THE PURPOSE OF DESIGN THE FOLLOWING INFORMATION IS REQUIRED ON PLAN SHEET FOR DIRECTIONAL DRILLING:

1. PLAN SHEET SHALL INCLUDE PLAN VIEW WITH THE FOLLOWING INFORMATION: RIGHT OF WAY, PAVEMENT, CURBS AND UTILITIES SHALL BE VERIFIED AND DIMENSIONED FOR EACH STREET CROSSING.
2. DESIGN PLAN FOR DIRECTIONAL DRILL SHALL INCLUDE THE FOLLOWING INFORMATION: NOMINAL PIPE DIAMETER, PIPE DR, PIPE SIZE FITTING TYPE AND PIPE MATERIAL LOCATION, PIPE MUST MEET THE DESIGN PRESSURE PIPE REQUIREMENTS EQUAL TO OR EXCEEDING DESIGN REQUIREMENTS OF CORRESPONDING UTILITIES. PROVIDE START AND ENDING LOCATIONS, ALIGNMENT, POINT OF SERVICE/LOCATION OF CITY MAINTENANCE.
3. PLAN SHEET SHOULD ALSO INCLUDE PROFILE OF PROPOSED DIRECTIONAL DRILL THAT DELINEATES DEPTH AND SEPARATION DISTANCES FROM EXISTING FACILITIES WITHIN THE BOUNDS OF THE STREET RIGHT OF WAY. MINIMUM PIPE DEPTH OF THE DIRECTIONAL BORE WHEN CROSSING BENEATH A ROADWAY, TYPICALLY 10 TIMES THE BACK REAM DIAMETER AS MEASURED FROM THE EDGE OF ASPHALT, BUT TO BE NO LESS THAN 36 INCHES, UNLESS CERTIFIED BY DESIGN OF ENGINEER OF RECORD AND APPROVED BY THE CITY ENGINEER.
4. PIPE MATERIAL IS PART OF THE DESIGN PROCESS FOR DIRECTIONAL DRILLING, AND SHOULD BE PART OF THE ENGINEERING DESIGN. HOWEVER, THE PIPE MATERIAL SHALL MEET THE FOLLOWING MINIMAL STANDARDS:

| MATERIAL TYPE                    | NON-PRESSURE                             | PRESSURE                                              |
|----------------------------------|------------------------------------------|-------------------------------------------------------|
| POLYETHYLENE (PE)                | ASTM D 2447                              | ASTM 2513<br>ASTM D 2447                              |
| HIGH DENSITY POLYETHYLENE (HDPE) | ASTM D 2447<br>ASTM D 3350<br>ASTM F 714 | ASTM D 2447<br>ASTM D 3350<br>ASTM F 714<br>ASTM 2513 |
| POLYVINYL-CHLORIDE (PVC)         | ASTM F 789                               | N/A                                                   |
| STEEL                            | ASTM A 139 GRADE B (1)                   | AWWA C200<br>API 2B (2)                               |

(1) NO HYDROSTATIC TEST REQUIRED  
(2) DIMENSIONAL TOLERANCES ONLY
5. PIPE SHALL BE COLOR CODED IN ACCORDANCE WITH OTHER STANDARD DETAILS FOR THE USE OF THE PIPE, WATER, WASTEWATER OR REUSE.
6. LOCATING WIRE, TWO LINES, SHALL BE ATTACHED TO THE PIPE. UPON COMPLETION OF DIRECTIONAL DRILL, TESTING OF THE CONTINUITY OF THE WIRE WILL BE PERFORMED. THIS TEST SHALL BE PERFORMED IN THE PRESENCE OF CITY INSPECTOR AND/OR CITY MAINTENANCE PERSONNEL FOR THE APPROPRIATE DIVISION.
7. UPON COMPLETION OF DIRECTIONAL DRILL, HYDROSTATIC TEST SHALL BE PERFORMED ON THE PIPE. THE TEST SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:

PRESSURE PIPE – PIPE SHALL BE TESTED IN ACCORDANCE WITH UTILITY CARRIED.  
NON-PRESSURE PIPE – PIPE SHALL BE TESTED IN ACCORDANCE WITH UTILITY CARRIED.
8. PRIOR TO BEGINNING DIRECTIONAL DRILL, CONTRACTOR IS TO COMPLETE THE HORIZONTAL DIRECTIONAL DRILL PRE-LOG FORM, HDD STANDARD FORM NO. 101. COPY OF THIS FORM IS STANDARD DD-1B.
9. IF CONDITIONS WARRANT REMOVAL OF ANY MATERIALS INSTALLED IN A FAILED BORE PATH, AS DETERMINED BY ENGINEER, IT WILL BE AT NO COST TO THE CITY. THE VOID SHOULD BE FILLED WITH EXCAVATABLE FLOWABLE FILL.
10. IF THE HORIZONTAL DIRECTIONAL DRILL PATH ENCOUNTERS AN OBSTRUCTION WHICH PREVENTS THE COMPLETION IN ACCORDANCE WITH THE DESIGN LOCATION AND SPECIFICATIONS, THE PIPE IS TO BE TAKEN OUT OF SERVICE AND LEFT IN PLACE AT THE DISCRETION OF THE CITY ENGINEER. A NEW INSTALLATION PROCEDURE AND REVISED PLANS ARE TO BE SUBMITTED TO THE CITY FOR REVIEW. IF DURING THE PROCESS OF DIRECTIONAL DRILLING, DAMAGE IS OBSERVED TO EXISTING IMPROVEMENTS WITHIN THE RIGHT OF WAY, ALL WORK IS TO CEASE UNTIL A RESOLUTION TO MINIMIZE FURTHER DAMAGE AND A PLAN OF ACTION FOR RESTORATION IS APPROVED BY THE CITY ENGINEER.

IN ORDER TO ENSURE THAT NEW DEVELOPMENTS WITHIN THE CITY ARE CONSTRUCTED SUBSTANTIALLY IN ACCORDANCE WITH CITY REGULATIONS AND THE APPROVED DRAWINGS "AS-BUILT" DRAWINGS ARE REQUIRED:

THE FOLLOWING INFORMATION IS REQUIRED ON ALL HORIZONTAL DIRECTIONAL DRILLING "AS-BUILT" DRAWINGS:

1. PROVIDE A BORE PATH REPORT TO THE CITY INSPECTOR. INCLUDE THE FOLLOWING IN THE REPORT:
  - A. LOCATION OF PROJECT- TO INCLUDE DETAIL REFERENCE TO A PERMANENT STRUCTURE WITHIN THE PROJECT BOUNDARIES FOR BOTH ENTRANCE AND EXIT.
  - B. IDENTIFICATION OF THE DETECTION METHOD USED.
  - C. NAME OF PERSON COLLECTING DATA, INCLUDING TITLE, POSITION AND COMPANY NAME.
  - D. ELEVATIONS AND OFFSET DIMENSIONS FROM BEGINING LOCATION AND ALIGNMENT SHOWN ON THE APPROVED PLANS.
2. PLAN SHEET SHALL INCLUDE PLAN VIEW WITH THE FOLLOWING INFORMATION: RIGHT OF WAY, VERTICAL AND HORIZONTAL LOCATION OF PAVEMENT, CURBS AND UTILITIES SHALL BE VERIFIED AND DIMENSIONED FOR EACH STREET CROSSING. THIS INFORMATION SHALL CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
3. PLAN SHEET SHALL INCLUDE PROFILE OF DIRECTIONAL DRILL ALIGNMENT. PROVIDE VERTICAL DATUM OF DRILL PATH, APPROXIMATE LOCATION OF VARIOUS UTILITY, STORMWATER AND OTHER UNDERGROUND SYSTEMS. THIS INFORMATION SHALL CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION. VERTICAL DATUM SHOULD BE SHOWN ON THE PROFILE.
4. SHOULD A DIRECTIONAL DRILL BE TERMINATED DUE TO AN OBSTRUCTION WHICH PREVENTS THE COMPLETION OF THE BORE, THE PIPE MAY BE TAKEN OUT OF SERVICE AND LEFT IN PLACE AT THE DISCRETION OF THE CITY ENGINEER. THE PIPE SHOULD BE FILLED WITH EXCAVATABLE FOLDABLE FILL. SHOW LOCATION OF FAILED BORE AND THIS INFORMATION SHALL CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.

CITY OF ORMOND BEACH- HDD Standard Form Num. 101

### HORIZONTAL DIRECTIONAL DRILL PRE-LOG

NOTE: This form must be completed by the Contractor intending to perform the actual construction operation for a Horizontal Directional Drill (HDD) on any City project or within City Right-of-Way, and submitted to the City Engineering Department or its Designated Representative no less than 48 hours prior to commencement of work. This form shall be completed for each HDD bore run from entrance to exit.

|                                                                                                            |                         |
|------------------------------------------------------------------------------------------------------------|-------------------------|
| NAME OF PROJECT:                                                                                           |                         |
| PROJECT NUMBER:                                                                                            |                         |
| NAME OF DRILLING CONTRACTOR:                                                                               |                         |
| NAME OF PRIME CONTRACTOR (IF APPLICABLE):                                                                  |                         |
| STARTING DATE OF INTENDED WORK:                                                                            | Month: Day: Year:       |
| NOMINAL PIPE DIAMETER (Inches):                                                                            |                         |
| PIPE MATERIAL:                                                                                             | PIPE D.R.: IPS or DIPS: |
| PROPOSED H.D.D. RUN                                                                                        |                         |
| PROJECT STATIONING: FROM + TO +                                                                            |                         |
| TYPICAL OFFSET AND DIRECTION FROM STATIONING CENTERLINE:                                                   |                         |
| TOTAL LINEAR LENGTH, STATION TO STATION (FEET):                                                            |                         |
| HAVE UTILITY LOCATES BEEN FIELD MARKED FOR THIS PROPOSED RUN?                                              |                         |
| HAVE SOFT DIGS FOR EXISTING UTILITIES BEEN PERFORMED ON THIS RUN?                                          |                         |
| HAS THE CITY UTILITY DEPARTMENT BEEN NOTIFIED OF THIS PROPOSED ACTIVITY?                                   |                         |
| HAVE REQUIRED ENVIRONMENTAL PROTECTION MEASURES BEEN IMPLEMENTED FOR THIS ACTIVITY? WHAT TYPE OF MEASURES? |                         |
| NAME OF AUTHORIZED H.D.D. CONTRACTOR EMPLOYEE COMPLETING THIS FORM:                                        |                         |
| PRINT: TITLE                                                                                               |                         |
| SIGN:                                                                                                      |                         |



### STANDARD CONSTRUCTION DETAIL DRAWING REQUIREMENTS FOR HORIZONTAL DIRECTIONAL DRILL

INDEX

DD-1A

MAY 2020



### STANDARD CONSTRUCTION DETAIL REQUIREMENTS FOR AS-BUILT DRAWINGS HORIZONTAL DIRECTIONAL DRILL

INDEX

DD-2

MAY 2020



### STANDARD CONSTRUCTION DETAIL HORIZONTAL DIRECTIONAL DRILL PRE-LOG FORM

INDEX

DD-1B

MAY 2020

| DRAWING STATUS |              |
|----------------|--------------|
|                | DRAFT        |
|                | PERMIT       |
|                | BID          |
|                | ADDENDA      |
|                | CONSTRUCTION |
|                | RECORD       |

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| NO. | DATE | REVISIONS | BY | <b>City of Ormond Beach</b><br>Engineering Division | JASON LESJIE, MAYOR<br>JOYCE SHANAHAN, CITY MANAGER<br>ALEX SCHUMANN, P.E. CITY ENGINEER | <b>RIVERSIDE DR<br/>FORCE MAIN PROJECT</b> | <b>DETAILS</b> | DATE: 9/30/25<br>SCALE: NTS<br>DRAWN BY: MC | PROJECT NO.:<br>FILE NAME:<br>SHEET: 19 of 19 |
|-----|------|-----------|----|-----------------------------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------|----------------|---------------------------------------------|-----------------------------------------------|



**City of Ormond Beach**  
**City Commission Agenda**  
**Staff Report**

|                                 |                                                                                                                                     |                 |                      |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------|
| <b>Agenda Date</b>              | February 17, 2026                                                                                                                   | <b>Item No</b>  | 7.H.                 |
| <b>Section</b>                  | CONSENT AGENDA                                                                                                                      | <b>Category</b> | Consent - Resolution |
| <b>Subject</b>                  | Request to Purchase - International CV Dump Truck                                                                                   |                 |                      |
| <b>Recommended Action</b>       | Staff recommends approval for the purchase of one 2025 International CV Dump Truck from Cumberland International Truck, Orlando FL. |                 |                      |
| <b>Strategic Goal</b>           | Governance - Other                                                                                                                  |                 |                      |
| <b>Department Staff Contact</b> | Public Works<br>Bob Preis, Public Works Operations Manager                                                                          |                 |                      |

Summary

This is a request to purchase a 2025 International CV dump truck with Class IV hitch and tarp under the Florida Sheriffs Contract FSA25-VEH.23.0 Spec. #28; the vendor for this vehicle through the sheriff's contract is Cumberland International Trucks, 2110 S Division Ave, Orlando, FL.

This vehicle will be primarily be utilized by the Public Works Department Streets Division and is a direct replacement for truck #259. Truck #259 is a 2005 International 4 Yard Dump Truck that has exceeded its useful life and will be sold at auction as surplus inventory.

The vehicle quoted by Cumberland International has is a new 2025 model truck being offered at a discount from the 2026 model contract price. Included in the price quote is a Duraclass dump bed manufactured by Stringfello, Inc. which will be installed by Cumberland prior to delivery to the city. Though this dum bed is not itemized on the Sheriff's Contract, Cumberland has provided a quote for this component at their cost (invoice provided) with no mark-up.

Financial Impact

The fiscal impact of this purchase is \$87,533 and is included in Fiscal Year 2025-26 budget within Fund 302 - General Vehicle and Equipment Replacement.

Citizen Impact

This truck is a necessary piece of equipment required to allow the streets department to efficiently make repairs and maintain rights of way throughout the city. As the streets department works

with multiple other departments, including utilities and parks and recreation, this truck will benefit the majority of city maintenance activities requiring the transportation of large volumes of dry material.

Attachments

1. 26-23 Fleet Maintenance - Purchase Dump Truck (P26-0012G)
2. CC 10-26 International Dump Truck 2025 International MV Dump truck
3. Quote 259 Repl
4. Dump Bed
5. Sheriff's Cont 259 Repl
6. 259 Evaluation



## **RESOLUTION NO. 2026-23**

A RESOLUTION AUTHORIZING THE APPROVAL AND EXECUTION OF A PURCHASE AUTHORIZATION FOR THE PURCHASE OF ONE 2025 INTERNATIONAL 11' DUMP TRUCK FROM CUMBERLAND INTERNATIONAL TRUCKS LLC, UNDER FLORIDA SHERIFFS ASSOCIATION BID NO. FSA 25-VEH23.0; DECLARING VEHICLE #259 TO BE SURPLUS PROPERTY AND AUTHORIZING THE DISPOSITION THEREOF; AND SETTING FORTH AN EFFECTIVE DATE.

**WHEREAS**, the City is seeking to replace vehicle #259, a 2005 International Dump Truck, which has been determined to have exceeded all criteria for replacement, and

**WHEREAS**, Section 2-300(a)(9), Code of Ordinances, allows the City to utilize a competitive bid solicited by any other municipal, county, state or federal governmental agency, or any combination of such agencies, in purchasing items requiring competitive sealed bids, and

**WHEREAS**, the City's staff has determined that it is in the best interest of the City of Ormond Beach and the general public to purchase one (1) 2025 International 11' Dump Truck with Class IV hitch in the amount of \$87,533.00, from Cumberland International Trucks LLC, under the Florida Sheriffs Association Bid FSA25-VEH23.0, and

**WHEREAS**, the City's staff is seeking approval of a Purchase Authorization (a copy of which is attached hereto and incorporated herein by reference) for the purchase of one (1) 2025 International 11' Dump Truck with Class IV hitch from Cumberland International Trucks LLC, in the amount of \$87,533.00, and

**WHEREAS**, the City Manager has certified that funds for the purchase of the vehicle will be derived from the General Vehicle and Equipment Replacement Fund (302) in the amount of \$87,533.00, and that said funds have not been appropriated for any other purpose; now therefore,



**BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF  
ORMOND BEACH, FLORIDA, THAT:**

**SECTION ONE.** The Mayor and City Manager are hereby authorized and directed to approve and execute a Purchase Authorization for the purchase of one (1) 2025 International 11' Dump Truck with Class IV hitch from Cumberland International Trucks LLC, in the amount of \$87,533.00, under the Florida Sheriffs Association Bid FSA23-VEH23.0, and to pay the costs therefore from the General Vehicle and Equipment Replacement Fund (302).

**SECTION TWO.** The City Commission hereby declares vehicle #259 to be surplus property, and the appropriate City staff members are hereby further authorized to dispose of said vehicles through competitive sealed process or public auction to be held in accordance with applicable law.

**SECTION THREE.** This Resolution shall take effect immediately upon its adoption.

**APPROVED AND AUTHENTICATED this 17<sup>th</sup> day of February, 2026.**

---

**JASON LESLIE**  
Mayor

**ATTEST:**

---

**SUSAN CARROLL DAUDERIS**  
City Clerk



PURCHASE AUTHORIZATION  
CITY OF ORMOND BEACH  
Purchase Requisition Nbr: 2600449  
Vendor: CUMBERLAND INTERNATIONAL TRUCKS OF FLORIDA LLC  
Resolution No. 2026-\_\_

Requisition By: Pries  
Date: 2/17/2026

Reason: Purchase of One (1) 2025 International 11' dump truck with Class IV hitch

Purchase of Purchase of One (1) 2025 International 11' dump truck with Class IV hitch replacing vehicle #259.  
Florida Sheriffs Contract FSA25-VEH23.0 Spec. #28  
Funding through Fund 302 – General Vehicle and Equipment Fund.

The attached terms and conditions of the City of Ormond Beach are incorporated herein by reference and are made a part hereof.

| PAY ITEM             | DESCRIPTION                                | UNIT | QNT | UNIT PRICE   | AMOUNT             |
|----------------------|--------------------------------------------|------|-----|--------------|--------------------|
| 1                    | International CV 515                       | EA   | 1   | \$68,900.00  | \$68,900.00        |
| 2                    | Tow Hooks                                  | EA   | 1   | \$84.00      | \$84.00            |
| 3                    | WB/AF Range                                | EA   | 1   | \$100.00     | \$100.00           |
| 4                    | Bumper Chrome                              | EA   | 1   | \$350.00     | \$350.00           |
| 5                    | Front Stabilizer Bar                       | EA   | 1   | \$360.00     | \$360.00           |
| 6                    | Brake Controller                           | EA   | 1   | \$275.00     | \$275.00           |
| 7                    | Body Builder Wiring                        | EA   | 1   | \$115.00     | \$115.00           |
| 8                    | Compact Disk Player                        | EA   | 1   | \$106.00     | \$106.00           |
| 9                    | Speakers                                   | EA   | 1   | \$37.00      | \$37.00            |
| 10                   | Radio AM/FM/Bluetooth                      | EA   | 1   | \$395.00     | \$395.00           |
| 11                   | Rear Camera                                | EA   | 1   | \$415.00     | \$415.00           |
| 12                   | Trailer Connection Socket                  | EA   | 1   | \$94.00      | \$94.00            |
| 13                   | Back up Alarm                              | EA   | 1   | \$120.00     | \$120.00           |
| 14                   | Grill Chrome                               | EA   | 1   | \$195.00     | \$195.00           |
| 15                   | Throttle Hand Control                      | EA   | 1   | \$250.00     | \$250.00           |
| 16                   | 1750 HS Transmission                       | EA   | 1   | \$533.00     | \$533.00           |
| 17                   | Axle Rear 13,500 lb                        | EA   | 1   | \$126.00     | \$126.00           |
| 18                   | Seat Driver 10 way Adjustable              | EA   | 1   | \$234.00     | \$234.00           |
| 19                   | Gauge Cluster Color 4.2"                   | EA   | 1   | \$488.00     | \$488.00           |
| 20                   | Heated and Power Mirrors                   | EA   | 1   | \$380.00     | \$380.00           |
| 21                   | Rear Shocks                                | EA   | 1   | \$171.00     | \$171.00           |
| 22                   | Power Windows                              | EA   | 1   | \$247.00     | \$247.00           |
| 23                   | Continental Front Tires                    | EA   | 2   | \$22.00      | \$44.00            |
| 24                   | Continental Rear Tires                     | EA   | 4   | \$22.00      | \$88.00            |
| 25                   | Saftey Kit                                 | EA   | 1   | \$250.00     | \$250.00           |
| 26                   | Duraclass 11' Dump Body w/ hitch and tarp* | EA   | 1   | \$19,576.00  | \$19,576.00        |
| 27                   | Tariff Deduct overaged unit*               | EA   | 1   | -\$1,400.00  | -\$1,400.00        |
| 28                   | Over Aged Unit Discount*                   | EA   | 1   | -\$5,000.00  | -\$5,000.00        |
| *NOT ON FSA CONTRACT |                                            |      |     | <b>Total</b> | <b>\$87,533.00</b> |

SIGNED BY (CITY):

SIGNED BY(VENDOR):

\_\_\_\_\_  
MAYOR

\_\_\_\_\_  
PRINCIPAL OF COMPANY

\_\_\_\_\_  
CITY MANAGER

\_\_\_\_\_  
WITNESS

DATED: \_\_\_\_\_

DATED: \_\_\_\_\_

## **City of Ormond Beach**

### **TERMS AND CONDITIONS - READ CAREFULLY**

#### **GENERAL CONDITIONS:**

Acceptance of an order includes all terms, quantities, prices, delivery instructions, specifications and conditions stated in the order. The terms and conditions of an order are not to be changed or modified by any verbal understanding. Any such changes must be made by written agreement. The quantity of materials ordered and the prices specified must not be exceeded without written authority being first obtained from the City. Failure of an awarded Vendor to deliver goods and/or services as specified in the order, or failure to comply with any of the terms and conditions therein, may disqualify Vendor from receiving future orders. In case of default by the Vendor, the City may procure the goods and/or services covered by the order from other sources and hold the Vendor responsible for any additional cost occasioned thereby. Purchases of \$500 or more require a signed Purchase Order. Invoices must show the Purchase Order number. The City endeavors to make payments within thirty (30) days of receipt of invoice in accordance with the Florida Prompt Payment Act, Florida Statutes, Chapter 218, Part VII.

#### **QUALITY:**

All goods and/or services furnished by an order must be as specified and subject to the City's inspection within a reasonable time after delivery at destination. Variations in goods and/or services from those specified in an order must not be made without written authority from the City. Items rejected by the City will be returned at the Vendor's risk and expense. Unless otherwise stated herein, all materials and equipment furnished by the Vendor shall be new and shall not have been in service at any other installation.

#### **PACKING & DELIVERY:**

Packages must be plainly marked with shipper's name and order number. Charges are not allowed for boxing or crating unless previously agreed upon in writing. All goods must be shipped F.O.B. Destination. The City will pay no freight or expense charges, except by previous agreement. The delivery must be effected within the time stated in the order. The City reserves the right to cancel this order and purchase elsewhere if the Vendor fails to meet the delivery date specified on Purchase Order. Deliveries shall be made between 8:00 a.m. and 5:00 p.m. on regular working days unless otherwise stated. Transport deliveries must be unloaded and ready for inspection prior to 3:00 p.m. The items will be promptly inspected for damage and defects and conformance with the specifications. Any material or equipment not meeting the specifications, or that has been damaged or injured in the process of transportation, unloading or handling will be rejected and shall be immediately returned to the Vendor at the Vendor's expense.

#### **COMPLIANCE TO LAWS, GUIDELINES, REGULATIONS ,ETC.:**

The Vendor must comply with all applicable state, federal, and local laws, guidelines and regulations. This includes, but is not limited to, DOT, OSHA, EPA, DEP and the City's Registration and Insurance requirements when applicable. Also, where applicable, the Vendor agrees to furnish the City with a current Material Safety Data Sheet (MSDS) on or before delivery of each and every hazardous chemical or substance purchased which is classified as toxic under Chapter 422, Florida Statutes. Appropriate labels and MSDS's shall be provided for all shipments. Send MSDS's and other pertinent data to the City at the "Ship to" address.

**PUBLIC ENTITY CRIMES:** A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a Bid on a contract to provide any goods or services to a public entity, may not submit a Bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit Bids on leases or real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

**DISCRIMINATION:** Pursuant to Section 287.134(2)(a), Florida Statutes, an entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid or proposal on a contract to provide any goods or services to a public entity, may not submit a bid or proposal on a contract with a public entity for the construction or repair of a public building or public work, may not submit bid or proposal on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity.

**TAXES:** The City of Ormond Beach is exempt from Federal Excise Taxes and all sales taxes.

**MEETS SPECIFICATIONS:** Unless otherwise specified, all equipment and accessories furnished under these specifications shall be new, the latest model in current production, and shall be of good quality, workmanship and material. The Vendor represents that all equipment offered under this specification shall meet or exceed the minimum requirements specified. Delivery specifications shall be strictly adhered to.

**SILENCE OF SPECIFICATIONS:** The apparent silence of any specification and any supplemental specifications as to any details or the omission from same of any detailed description concerning any point shall be regarded as meaning that only the best commercial practices are to prevail and that only materials of first quality and correct type, size, and design are to be used. All workmanship is to be first quality. All interpretations of the specifications shall be made upon the basis of this statement.

**ASSIGNMENT:** Any purchase order or contract issued pursuant to a Request for Quotations and the monies which may become due thereunder are not assignable except with the prior written approval of the City Manager or City Commissioner, whichever authorized the purchase.

**LIABILITY:** The Vendor shall hold and save the City of Ormond Beach, its officers, agents, and employees harmless against claims by third parties resulting from the vendor's or supplier's breach of contract or negligence, including all attorney's fees and costs, and shall pay any and all damages, fees, and costs assessed on behalf of the CITY. The CITY expressly reserves all rights, privileges and benefits of sovereign immunity.

**PATENTS AND ROYALTIES:** The Vendor, without exception, shall indemnify and save harmless the City of Ormond Beach and its employees from liability of any kind, including cost and expenses for or on account of any copyrighted, patented, or unpatented invention, process, or article manufactured or used in the performance of the contract, including its use by the City of Ormond Beach. If the Vendor uses any design, device, or materials covered by letters, patent or copyright, it is mutually agreed and understood without exception that the quotation prices shall include all royalties or cost arising from the use of such design, device, or materials in any way involved in the work.

**ACCEPTANCE:** Items may be tested for compliance with specifications. Items delivered not conforming to specifications may be rejected and returned at Vendor's expense.

**SAFETY WARRANTY:** The selling dealer, distributor, supplier, and manufacturer shall be responsible for compliance with all Federal, State and local laws, rules and regulations concerning the equipment and/or

service specified and the use thereof, applicable and effective on the date of manufacture including safety and environmental standards as apply to both private industry and governmental agencies.

**WARRANTY:** The Vendor agrees that, unless otherwise specified, the supplies and/or services furnished under the Request for Quotations shall be covered by the most favorable commercial warranty for comparable quantities of such supplies and/or services, and that the rights and remedies provided herein are in addition to and do not limit any rights afforded to the City of Ormond Beach by other provision of the Request for Quotations.

11/4/2025



TRUCK / IDEALLEASE / BUS / FIRE / SPOTTER

CUMBERLAND COMPANIES.COM

2017 AND 2018 DEALER OF THE YEAR

## Florida Sheriff's Association Contract-Bid FSA25-VEH23

Customer: City of Ormond beach

Date of Quote: 11/3/2025

Specification: 28 Region: Central

Base Price: 2025 INTERNATIONAL CV

Contract Options:

| Quantity | Unit Cost    | extended     |
|----------|--------------|--------------|
| 1        | \$ 68,900.00 | \$ 68,900.00 |

|            |                                                               |   |    |        |    |        |   |
|------------|---------------------------------------------------------------|---|----|--------|----|--------|---|
| 1570       | Tow hooks                                                     | 1 | \$ | 84.00  | \$ | 84.00  | ✓ |
| 1WND       | WB/AF range                                                   | 1 | \$ | 100.00 | \$ | 100.00 | ✓ |
| 1LNZ       | Bumper Chrome                                                 | 1 | \$ | 350.00 | \$ | 350.00 | ✓ |
| 3WAP       | Front stabilizer bar                                          | 1 | \$ | 360.00 | \$ | 360.00 | ✓ |
| 8HBW       | Brake Controller                                              | 1 | \$ | 275.00 | \$ | 275.00 | ✓ |
| 8HXV       | Body builder wiring                                           | 1 | \$ | 115.00 | \$ | 115.00 | ✓ |
| 8RNS       | Compact Disc Player                                           | 1 | \$ | 106.00 | \$ | 106.00 | ✓ |
| 8RNU       | (6) Speakers                                                  | 1 | \$ | 37.00  | \$ | 37.00  | ✓ |
| 8RNW       | RADIO AM/FM/Bluetooth/USB Input/Auxiliary Input with 8" Color | 1 | \$ | 395.00 | \$ | 395.00 | ✓ |
| 8RNY       | Rear Camera                                                   | 1 | \$ | 415.00 | \$ | 415.00 | ✓ |
| 8TRA       | Trailer connection Socket                                     | 1 | \$ | 94.00  | \$ | 94.00  | ✓ |
| 8THB       | Back up alarm                                                 | 1 | \$ | 120.00 | \$ | 120.00 | ✓ |
| 9HCG       | Grill Chrome                                                  | 1 | \$ | 195.00 | \$ | 195.00 | ✓ |
| 12WGG      | Throttle hand control                                         | 1 | \$ | 250.00 | \$ | 250.00 | ✓ |
| 13BAP      | 1750 HS transmission                                          | 1 | \$ | 533.00 | \$ | 533.00 | ✓ |
| 14ACW      | Axle rear 13,500-lb                                           | 1 | \$ | 126.00 | \$ | 126.00 | ✓ |
| 16KZL      | Seat Driver 10 way Adjustable                                 | 1 | \$ | 234.00 | \$ | 234.00 | ✓ |
| 16HLY      | Gauge Cluster Color 4.2"                                      | 1 | \$ | 488.00 | \$ | 488.00 | ✓ |
| 16SPS      | Heated and power mirrors                                      | 1 | \$ | 380.00 | \$ | 380.00 | ✓ |
| 14WAP      | Rear shocks                                                   | 1 | \$ | 171.00 | \$ | 171.00 | ✓ |
| 16WAK      | Power windows                                                 | 1 | \$ | 247.00 | \$ | 247.00 | ✓ |
| 7779445452 | Continental front tires                                       | 2 | \$ | 22.00  | \$ | 44.00  | ✓ |
| 7779445452 | Continental rear tires                                        | 4 | \$ | 22.00  | \$ | 88.00  | ✓ |
|            |                                                               |   |    |        | \$ | -      |   |
| Safety     | Saftey Kit                                                    | 1 | \$ | 250.00 | \$ | 250.00 | ✓ |
|            |                                                               |   |    |        | \$ | -      |   |

### Non-Contract Options:

|        |                                                      |   |    |           |    |           |
|--------|------------------------------------------------------|---|----|-----------|----|-----------|
| Dura11 | Duraclass 11' dump body with Class IV hitch and tarp | 1 | \$ | 19,576.00 | \$ | 19,576.00 |
|--------|------------------------------------------------------|---|----|-----------|----|-----------|

### Total:

|  |                             |   |    |            |    |            |
|--|-----------------------------|---|----|------------|----|------------|
|  |                             |   | \$ | 93,845.00  | \$ | 93,933.00  |
|  | Tariff Deduct overaged unit | 1 | \$ | (1,400.00) | \$ | (1,400.00) |
|  | Over Aged unit Discount     | 1 | \$ | (5,000.00) | \$ | (5,000.00) |

Total Purchase Order Amount for 1 vehicles:

11/4/2025

**Cumberland**

**Cab Color:**

White

\*\*included in base price

**Body Color:**

White

**Prepared By:**

Erick Creasey

Cumberland International Trucks LLC

2110 S Division AVE Orlando FL

CELL-615.767.8681 / fax - 407.295.9727 / email - ecreasey@cltte.com

**STRINGFELLOW**

Stringfellow, Inc.  
2710 Locust St  
Nashville TN 37207  
United States  
(615) 226-4900

# Sales Order

#SO8341

4/8/2025

Dump BED AT COST

**Bill To**

CUMBERLAND INT.TRUCKS,INC  
P.O. Box 100266  
Nashville TN 37224-0266  
United States

**Ship To**

CUMBERLAND INT.TRUCKS,INC  
640 MASSMAN DR  
NASHVILLE TN 37210  
United States

| Terms | Customer PO# | Sales Rep  | Ship Via | Ship Date | Memo | VIN # |
|-------|--------------|------------|----------|-----------|------|-------|
| N30   |              | SAM MILLER |          | 4/8/2025  |      |       |

| Quantity | Item                                                                             | Rate        | Unit | Amount      |
|----------|----------------------------------------------------------------------------------|-------------|------|-------------|
| 1        | <b>DTMD-84-132-36/20/26 DURACCLASS<br/>DUMP BODY</b><br>DURACCLASS DUMP BODY     | \$19,576.00 | Each | \$19,576.00 |
| 1        | <b>1801060L CLASS V HITCH: 2.5" TUBE<br/>62"</b><br>CLASS V HITCH: 2.5" TUBE 62" | \$0.00      | Each | \$0.00      |
| 1        | <b>405BC BRACKET, MUD FLAP</b><br>BRACKET, MUD FLAP                              | \$0.00      | Pr   | \$0.00      |
| 1        | <b>40955 PLUG, MULTI TOW 7 TO 4</b><br>PLUG, MULTI TOW 7 TO 4                    | \$0.00      | Each | \$0.00      |
| 1        | <b>5544000 TARP KIT, 12V, ALUMINUM</b><br>TARP KIT, 12V, ALUMINUM                | \$0.00      | Each | \$0.00      |
| 1        | <b>A1A14 TARP, VINYL, 7' X 14'</b><br>TARP, VINYL, 7' X 14'                      | \$0.00      | Each | \$0.00      |

|                      |             |
|----------------------|-------------|
| <b>Subtotal</b>      | \$19,576.00 |
| <b>Shipping Cost</b> |             |
| <b>Tax (%)</b>       | \$0.00      |
| <b>Total</b>         | \$19,576.00 |

## Work Order Notes

Returns by prior authorization only. 20% Restocking Fee on returned items.  
No Returns accepted after 10 days. No Refunds on Electrical Parts.  
Your Business is Greatly Appreciated !  
Remit to Address: 2710 Locust Street Nashville, TN 37207



SO8341

1 of 1



# FSA Cooperative Purchasing Program



## SA25-VEH23.0: Heavy Trucks and Buses Contract Packet



PROTECTING, LEADING & UNITING SINCE 1893

# FLORIDA SHERIFFS ASSOCIATION

2617 Mahan Drive  
Tallahassee, Florida 32308

p: (850) 877-2165 f: (850) 878-8665  
[flsheriffs.org](http://flsheriffs.org)    

## NOTICE OF FINAL AWARD CONTRACT FSA25-VEH23.0: Heavy Trucks

Date: October 1, 2025

To: All Prospective Bidders and Purchasers

From: Matt Dunagan, Executive Director  
Sarrah Glassner, Deputy Executive Director of Administration  
Megan Taber, Cooperative Purchasing Program Director

Re: Contract Number FSA25-VEH23.0 Heavy Trucks: Contract Awards

We are pleased to announce that the Florida Sheriffs Association (FSA) has successfully completed its latest nationwide cooperative bid for Heavy Trucks. This contract is in effect beginning October 1, 2025, through September 30, 2027.

This notification is for the Florida Sheriffs Association (FSA), Cooperative Purchasing Program (CPP) Intent to Award for contract FSA25-VEH23.0 : Heavy Trucks. All bids were received in a timely manner, reviewed, and evaluated by the FSA and its Fleet Advisory Committee.

The contract specifications include:

- Buses Electric: 19 to 20 Passenger Capacity Range, Van-Type Cutaway Chassis
- Buses Electric: 20 to 52 Passenger Capacity Range, Conventional-Type Chassis
- Buses Electric: 44 To 80 Passenger Capacity Range, Commercial-Type Chassis
- Buses: 14 to 25 Passenger Capacity Range, Van-Type Cutaway Chassis
- Buses: 20 to 52 Passenger Capacity Range, Conventional Truck-Type Cutaway Chassis
- Buses: 33 to 54 Passenger Capacity Range, Commercial-Type, Rear Engine Chassis
- Buses: 36 to 52 Passenger Capacity Range, Commercial-Type, Front Engine Chassis
- Cab and Chassis Trucks Electric: 54,000 lbs. GVWR 4x6 Semi Tractor
- Cab and Chassis Trucks Electric: Conventional Cab 33,000 lbs. GVWR (DRW) 4x2
- Cab and Chassis Trucks Electric: Tilt Cab 26,000 lbs. GVWR (DRW) 4x2
- Cab and Chassis Trucks: 17,500 lbs. GVWR (DRW) 4x2
- Cab and Chassis Trucks: 17,500 lbs. GVWR (DRW) 4x4
- Cab and Chassis Trucks: 25,500 lbs. GVWR (DRW) 4x2

- Cab and Chassis Trucks: 30,000 lbs. GVWR (DRW) 4x2
- Cab and Chassis Trucks: 52,000 lbs. GVWR Semi Tractor 4x6
- Cab and Chassis Trucks: 52,000 lbs. GVWR Truck 4x6
- Cab and Chassis Trucks: 12,000 lbs. GVWR (DRW) 4x2 Tilt Cab
- Cab and Chassis Trucks: 25,000 lbs. GVWR (DRW) 4x2 Tilt Cab
- Refuse Truck Electric: 60,000 lbs. GVWR 4x6 (cab and chassis only)
- Refuse Truck: 60,000 lbs. GVWR 4x6 (cab and chassis only)
- Refuse Truck: Compact 9.5 Cubic Yds. Self-Loading Refuse Truck
- Tactical Armored Vehicles
- Terminal Tractor
- Spray Truck: 19,500 lbs. GVWR 4x2, Mounted 1,000 gal ROW Spray Unit
- Utility Truck: 33,000 lbs. GVWR 4x4, Digger Derrick
- Utility Truck: 33,000 lbs. GVWR 4x4, Mounted Aerial Device

The competitive process for this award began in March of 2025, when FSA Fleet Advisory Committee, bidders, and stakeholders provided input regarding heavy truck and equipment procurement needs. Specifications were developed based on prior years activity, and new additions were included based on feedback from the FSA Committee, bidders, and stakeholders.

Advertisements of the Invitation to Bid (ITB) were placed on the FSA website on March 28, 2025, and within the Florida Administrative Register on March 28, 2025, and May 1, 2025.

From the ITB, 40 bidders completed the pre-bid process. Of these respondents, 34 submitted bids. 28 responsive bidders were awarded after bids were evaluated by the FSA Fleet Advisory Committee and FSA staff.

The Florida Sheriffs Association Cooperative Purchasing Program has followed the Contract Terms and Conditions to procure this contract.

Contract prices are extended and guaranteed to any local government or political subdivision of the state, public educational institutions, other public agencies or authorities with the State of Florida, and other entities approved by the manufacturer to participate in this contract.

Out-of-state sales are permitted under this contract. All purchasers are bound by their local governing purchasing ordinances, rules and regulations.

All awarded vendors are governed by their manufacturer agreements and the Contract Terms and Conditions.

List of Intended Awards in Alphabetical Order:

- All Roads Kenworth, LLC.
- Altec Industries, Inc.
- Bachrodt FT, LLC. Dba Palmetto Ford of Miami
- Beck Chrysler Dodge Jeep

- Bozard Ford
- Broyhill Equipment, LLC.
- Container Systems & Equipment Co., Inc.
- Cumberland International Trucks of Florida
- DeLand Truck Center, Inc.
- Duval Ford, LLC.
- Florida Kenworth, LLC.
- Florida Transportation Systems, Inc.
- Kenworth of Jacksonville
- Matthews Bus Alliance, Inc.
- Model 1 Commercial Vehicles, Inc.
- Nextran Truck Centers
- Orlando Freightliner
- Ottawa Trucks Center, Inc.
- RDK Assets, Inc.
- Rechten International Trucks
- Ring Power Corporation
- Rush Truck Centers of Florida, Inc.
- SBL Freightliner, LLC.
- Sun State International Trucks
- Tampa Truck Center
- Terradyne Armored Vehicles, Inc.
- The Peterbilt Store South Florida, LLC.
- Truckmax, Inc.

The final award page document for all awarded bid items is attached.

**Bid Award****Contract:** FSA25-VEH23.0, Heavy Trucks and Buses**Group:** Cab and Chassis Trucks: 17,500 lbs. GVWR (DRW) 4x2**Item:** 28, International, CV, 515#259  
REPLACEMENT

| Zone     | Rank      | Vendor                                     | Price         | Build File | Options File |
|----------|-----------|--------------------------------------------|---------------|------------|--------------|
| Western  | Primary   | Cumberland International Trucks of Florida | ✓ \$71,050.00 | Build      | Options      |
| Northern | Primary   | Cumberland International Trucks of Florida | \$70,300.00   | Build      | Options      |
| Central  | Primary   | Sun State International Trucks             | \$68,825.00   | Build      | Options      |
|          | Alternate | Cumberland International Trucks of Florida | \$70,300.00   | Build      | Options      |
| Southern | Primary   | Cumberland International Trucks of Florida | \$0.00        | Build      | Options      |
|          | Alternate | Rechtien International Trucks              | \$69,660.00   | Build      | Options      |

| Manufacturer Order Code | Price    | Description                                                                                           | Factory Installed or Vendor Installed? | MSRP Discount % (factory-installed) | Cost-Plus Markup % (vendor-installed) |
|-------------------------|----------|-------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------|---------------------------------------|
| 0001LEG                 | \$ 29    | LICENSE PLATE HOLDER                                                                                  | Factory                                | 2%                                  |                                       |
| 0001LNZ                 | \$ 350 ✓ | BUMPER, FRONT Contoured, Steel, Chrome Plated, for CV and RE Bus                                      | Factory                                | 2%                                  |                                       |
| 0001WAC                 | \$ 50    | BUMPER EXTENSION, FRONT                                                                               | Factory                                | 2%                                  |                                       |
| 0001WND                 | \$ 100 ✓ | AF RANGE 50" (128cm) Through and Including 75" (190cm)                                                | Factory                                | 2%                                  |                                       |
| 0001WNE                 | \$ 150 ✓ | AF RANGE 76" (193cm) Through and Including 91" (230cm)                                                | Factory                                | 2%                                  |                                       |
| 0001570                 | \$ 84 ✓  | TOW HOOK, FRONT (2) Frame Mounted                                                                     | Factory                                | 2%                                  |                                       |
| 0002AIL                 | \$ 39    | AXLE, FRONT NON-DRIVING 8000 LBS                                                                      | Factory                                | 2%                                  |                                       |
| 0003ADA                 | \$ 73    | SUSPENSION, FRONT, SPRING Parabolic Taper Leaf, Shackle Type, 8,000-lb Capacity, with Shock Absorbers | Factory                                | 2%                                  |                                       |
| 0003AJN                 | \$ 9     | SUSPENSION, FRONT, SPRING 7500 LBS                                                                    | Factory                                | 2%                                  |                                       |
| 0003WAP                 | \$ 360 ✓ | STABILIZER BAR, FRONT                                                                                 | Factory                                | 2%                                  |                                       |
| 0004EBD                 | \$ 497   | AIR DRYER                                                                                             | Factory                                | 2%                                  |                                       |
| 0004SBX                 | \$ 350   | AIR COMPRESSOR                                                                                        | Factory                                | 2%                                  |                                       |
| 4VGA                    | \$ 50    | Air Dryer location forward                                                                            | Factory                                | 2%                                  |                                       |
| 0004VKM                 | \$ 232   | AIR TANK LOCATION                                                                                     | Factory                                | 2%                                  |                                       |
| 0005CBH                 | \$ 236   | STEERING WHEEL BLACK LEATHER                                                                          | Factory                                | 2%                                  |                                       |
| 6901                    | \$ 80    | PROPSHAFT GUARD                                                                                       | Factory                                | 2%                                  |                                       |
| 0008AAB                 | \$ 175   | DEFROSTER, REAR WINDOW                                                                                | Factory                                | 2%                                  |                                       |
| 0008GJB                 | \$ 150   | {Denso SC6} Brush Type, 12 Volt, 220 Amp Capacity                                                     | Factory                                | 2%                                  |                                       |
| 0008GJC                 | \$ 380   | {Denso SC2/SC6} Dual, Brush Type, 12 Volt, 150 and 220 Amp Capacity                                   | Factory                                | 2%                                  |                                       |
| 0008HBW                 | \$ 275 ✓ | TRAILER BRAKE CONTROL                                                                                 | Factory                                | 2%                                  |                                       |
| 0008HXU                 | \$ 230   | BODY BUILDER WIRING REAR OF FRAME                                                                     | Factory                                | 2%                                  |                                       |
| 0008HXV                 | \$ 115 ✓ | BODY BUILDER WIRING BACK OF CAB                                                                       | Factory                                | 2%                                  |                                       |
| 0008MSD                 | \$ 229   | BATTERY SYSTEM (VARTA) Maintenance-Free, (3) 12-Volt 2250CCA Total, Top Threaded Stud                 | Factory                                | 2%                                  |                                       |
| 0008NAA                 | \$ 74    | TAIL LIGHT WIRING MODIFIED                                                                            | Factory                                | 2%                                  |                                       |
| 0008RNR                 | \$ 415   | RADIO AM/FM BLUETOOTH USB INPUT SD CARD SLOT WITH NAVIGATION (SAT)                                    | Factory                                | 2%                                  |                                       |
| 8RNV                    | \$ 395 ✓ | RADIO AM/FM BLUETOOTH USB INPUT SD CARD SLOT WITH NAVIGATION                                          | Factory                                | 2%                                  |                                       |
| 0008RNS                 | \$ 106 ✓ | COMPACT DISC PLAYER                                                                                   | Factory                                | 2%                                  |                                       |
| 0008RNU                 | \$ 37 ✓  | SPEAKERS (6)                                                                                          | Factory                                | 2%                                  |                                       |
| 0008RNY                 | \$ 415 ✓ | CAMERA SYSTEM, REAR VIEW                                                                              | Factory                                | 2%                                  |                                       |



| Manufacturer Order Code | Price    | Description                                                                               | Factory Installed or Vendor Installed? | MSRP Discount % (factory-installed) | Cost-Plus Markup % (vendor-installed) |
|-------------------------|----------|-------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------|---------------------------------------|
| 0008THB                 | \$ 120 ✓ | BACK-UP ALARM                                                                             | Factory                                | 2%                                  |                                       |
| 0008TRA                 | \$ 94 ✓  | TRAILER CONNECTION SOCKET                                                                 | Factory                                | 2%                                  |                                       |
| 0008TUK                 | \$ 240   | STOP, TURN, TAIL & B/U LIGHTS                                                             | Factory                                | 2%                                  |                                       |
| 0008TUM                 | \$ 160   | AUXILIARY HARNESS                                                                         | Factory                                | 2%                                  |                                       |
| 0008TVV                 | \$ 60    | Wiring harness                                                                            | Factory                                | 2%                                  |                                       |
| 0008WBW                 | \$ 168   | JUMP START STUD                                                                           | Factory                                | 2%                                  |                                       |
| 0008WTT                 | \$ 66    | SWITCH, TOGGLE, FOR WORK LIGHT                                                            | Factory                                | 2%                                  |                                       |
| 8XAH                    | \$ 297   | Spot light accommodation package                                                          | Factory                                | 2%                                  |                                       |
| 0008XJG                 | \$ 185   | FOG LIGHTS                                                                                | Factory                                | 2%                                  |                                       |
| 0008XJM                 | \$ 78    | HEADLIGHTS Halogen, Composite Aero Design, Chrome Trim Bezel, with Daytime Running Lights | Factory                                | 2%                                  |                                       |
| 0008XJX                 | \$ 125   | POWER INVERTER                                                                            | Factory                                | 2%                                  |                                       |
| 8XKS                    | \$ 30    | Wiring in header for roof light                                                           | Factory                                | 2%                                  |                                       |
| 8XLS                    | \$ 826   | Toggle switch (6) with 20-Amp Fuses, Accessory Controlled, Switches in Headliner          | Factory                                | 2%                                  |                                       |
| 8540                    | \$ 15    | 2 disc horn                                                                               | Factory                                | 2%                                  |                                       |
| 0009HCG                 | \$ 195 ✓ | GRILLE Chrome, with Chrome Headlight Bezels                                               | Factory                                | 2%                                  |                                       |
| 0009HCU                 | \$ 50    | RADIATOR STONE GUARD                                                                      | Factory                                | 2%                                  |                                       |
| 0010XAX                 | \$ 2,942 | GVWR WEIGHT CLASSIFICATION Class 6 (19,500-23,000 lbs)                                    | Factory                                | 2%                                  |                                       |
| 10212                   | \$ 900   | Two tone paint                                                                            | Factory                                | 2%                                  |                                       |
| 10636                   | \$ 600   | PAINT IDENTITY, PT-2 Frame                                                                | Factory                                | 2%                                  |                                       |
| 10771                   | \$ 450   | PAINT CLASS PREMIUM COLOR                                                                 | Factory                                | 2%                                  |                                       |
| 10AER                   | \$ 48    | PM plan for 24 months                                                                     | Factory                                | 2%                                  |                                       |
| 10AET                   | \$ 105   | PM plan for 60 months                                                                     | Factory                                | 2%                                  |                                       |
| 10AEU                   | \$ 36    | Health Monitoring and reporting 24 months                                                 | Factory                                | 2%                                  |                                       |
| 10AEP                   | \$ 75    | Health Monitoring and reporting 60 months                                                 | Factory                                | 2%                                  |                                       |
| 10WBS                   | \$ 48    | Two Keys                                                                                  | Factory                                | 2%                                  |                                       |
| 10WUE                   | \$ 76    | Front mud flaps                                                                           | Factory                                | 2%                                  |                                       |
| 0012VEG                 | \$ 250   | REMOTE START                                                                              | Factory                                | 2%                                  |                                       |
| 0012WGG                 | \$ 250 ✓ | THROTTLE, HAND CONTROL                                                                    | Factory                                | 2%                                  |                                       |
| 0012XBL                 | \$ 100   | BLOCK HEATER, ENGINE                                                                      | Factory                                | 2%                                  |                                       |

| Manufacturer Order Code | Price    | Description                                                                               | Factory Installed or Vendor Installed? | MSRP Discount % (factory-installed) | Cost-Plus Markup % (vendor-installed) |
|-------------------------|----------|-------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------|---------------------------------------|
| 13BAP                   | \$ 533 ✓ | 1750HS transmission                                                                       | Factory                                | 2%                                  |                                       |
| 0013BAR                 | \$ 882   | TRANSMISSION, AUTOMATIC ALLISON 1750 RDS WITH PTO PROVISION 19500 GVW 37500 GCW MAX       | Factory                                | 2%                                  |                                       |
| 0013BAS                 | \$ 1,265 | TRANSMISSION, AUTOMATIC ALLISON 1750 EVS WITH PTO PROVISION 19500 GVW 37500 GCW MAX       | Factory                                | 2%                                  |                                       |
| 0013BCA                 | \$ 2,022 | TRANSMISSION, AUTOMATIC ALLISON 2700 RDS WITH PTO PROVISION 23500 GVW 26000 GCW MAX       | Factory                                | 2%                                  |                                       |
| 0013BBV                 | \$ 1,673 | TRANSMISSION, AUTOMATIC ALLISON 2700 HS WITH PTO PROVISION 23500 GVW 26000 GCW MAX        | Factory                                | 2%                                  |                                       |
| 0013BCB                 | \$ 2,405 | TRANSMISSION, AUTOMATIC ALLISON 2700 EVS WITH PTO PROVISION 23500 GVW 26000 GCW MAX       | Factory                                | 2%                                  |                                       |
| 0013BCH                 | \$ 2,555 | TRANSMISSION, AUTOMATIC ALLISON 2750 RDS WITH PTO PROVISION 23500 GVW 37500 GCW MAX       | Factory                                | 2%                                  |                                       |
| 0013BCJ                 | \$ 2,938 | TRANSMISSION, AUTOMATIC ALLISON 2750 EVS WITH PTO PROVISION 23500 GVW 37500 GCW MAX       | Factory                                | 2%                                  |                                       |
| 13T15                   | \$ 30    | Flex oil cooler line                                                                      | Factory                                | 2%                                  |                                       |
| 0014ACW                 | \$ 126 ✓ | AXLE, REAR, SINGLE 13500                                                                  | Factory                                | 2%                                  |                                       |
| 14AWR                   | \$ 375   | AXLE, REAR SINGLE 15500                                                                   | Factory                                | 2%                                  |                                       |
| 0014AWG                 | \$ 207   | AXLE, REAR, SINGLE 15000                                                                  | Factory                                | 2%                                  |                                       |
| 0014SAC                 | \$ 16    | SUSPENSION, REAR, SINGLE 13500                                                            | Factory                                | 2%                                  |                                       |
| 0014SAE                 | \$ 16    | SUSPENSION, REAR, SINGLE 15500                                                            | Factory                                | 2%                                  |                                       |
| 0014TBL                 | \$ 1,254 | SUSPENSION, REAR, AIR, SINGLE 12000                                                       | Factory                                | 2%                                  |                                       |
| 0014TBM                 | \$ 1,340 | SUSPENSION, REAR, AIR, SINGLE 15500                                                       | Factory                                | 2%                                  |                                       |
| 0014TDG                 | \$ 1,297 | SUSPENSION, REAR, AIR, SINGLE 13500                                                       | Factory                                | 2%                                  |                                       |
| 0014WAP                 | \$ 171 ✓ | SHOCK ABSORBERS, REAR                                                                     | Factory                                | 2%                                  |                                       |
| 0014WMN                 | \$ 92    | AXLE, REAR, LUBE                                                                          | Factory                                | 2%                                  |                                       |
| 14877                   | \$ 1,689 | Detroit Locking differential.                                                             | Factory                                | 2%                                  |                                       |
| 14897                   | \$ 1,124 | DIFFERENTIAL, LOCKING                                                                     | Factory                                | 2%                                  |                                       |
| 14899                   | \$ 163   | SUSPENSION AIR CONTROL VALVE                                                              | Factory                                | 2%                                  |                                       |
| 0015DSZ                 | \$ 859 ✓ | DUAL FUEL TANKS 40 GAL BETWEEN REAR FRAME RAILS 25 GALLON MOUNTED LEFT SIDE BACK OF CAB   | Factory                                | 2%                                  |                                       |
| 0016ACC                 | \$ 56    | MIRROR, INSIDE REAR VIEW                                                                  | Factory                                | 2%                                  |                                       |
| 16BBB                   | \$ 100   | Deep tinted rear glass                                                                    | Factory                                | 2%                                  |                                       |
| 16BAN                   | \$ 50    | Bright door handle                                                                        | Factory                                | 2%                                  |                                       |
| 0016HLY                 | \$ 488 ✓ | GAUGE CLUSTER                                                                             | Factory                                | 2%                                  |                                       |
| 16KVU                   | \$ 234   | Power seat High Back with Integral Headrest, 10-Way Power Adjustable, Cloth, Power Lumbar | Factory                                | 2%                                  |                                       |
| 0016KVR                 | \$ 22    | SEAT, DRIVER HIGH BACK CLOTH                                                              | Factory                                | 2%                                  |                                       |



| Manufacturer Order Code | Price    | Description                                                                                                                                                                                               | Factory Installed or Vendor Installed? | MSRP Discount % (factory-installed) | Cost-Plus Markup % (vendor-installed) |
|-------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------|---------------------------------------|
| 0016KZC                 | \$ 795   | SEAT, REAR BENCH VINYL                                                                                                                                                                                    | Factory                                | 2%                                  |                                       |
| 0016KZL                 | \$ 234   | Seat Driver 10-way adjustable                                                                                                                                                                             | Factory                                | 2%                                  |                                       |
| 0016LVU                 | \$ 307   | SEAT, PASSENGER HIGH BACK VINYL WITH RECLINE BETWEEN SEATS WILL BE UNTRIMMED.                                                                                                                             | Factory                                | 2%                                  |                                       |
| 16LVP                   | \$ 100   | TWO man passengers seat cloth                                                                                                                                                                             | Factory                                | 2%                                  |                                       |
| 0016SPS                 | \$ 380   | MIRRORS POWER ADJUST BLACK                                                                                                                                                                                | Factory                                | 2%                                  |                                       |
| 0016SPT                 | \$ 458   | MIRRORS POWER ADJUST BRIGHT FINISH                                                                                                                                                                        | Factory                                | 2%                                  |                                       |
| 16STB                   | \$ 795   | 102 wide power adjust mirrors                                                                                                                                                                             | Factory                                | 2%                                  |                                       |
| 16SSX                   | \$ 645   | 102 wide mirrors                                                                                                                                                                                          | Factory                                | 2%                                  |                                       |
| 0016VCA                 | \$ 50    | SEAT BELT ALL RED 4 TO 6                                                                                                                                                                                  | Factory                                | 2%                                  |                                       |
| 0016VCB                 | \$ 50    | SEAT BELT ORANGE 4 TO 6                                                                                                                                                                                   | Factory                                | 2%                                  |                                       |
| 0016VKK                 | \$ 548   | CAB INTERIOR TRIM DIAMOND                                                                                                                                                                                 | Factory                                | 2%                                  |                                       |
| 0016VKM                 | \$ 749   | CAB INTERIOR TRIM DIAMOND FOR CREW CAB                                                                                                                                                                    | Factory                                | 2%                                  |                                       |
| 0016WAK                 | \$ 247   | WINDOW, POWER                                                                                                                                                                                             | Factory                                | 2%                                  |                                       |
| 16XCT                   | \$ 496   | (4) in Left and Right Doors, Front and Rear                                                                                                                                                               | Factory                                | 2%                                  |                                       |
| 16WHJ                   | \$ 25    | Belleville clamps                                                                                                                                                                                         | Factory                                | 2%                                  |                                       |
| 0016XAL                 | \$ 175   | KEYLESS ENTRY SYSTEM REMOTE                                                                                                                                                                               | Factory                                | 2%                                  |                                       |
| 0016XCN                 | \$ 355   | CONSOLE, BETWEEN SEATS                                                                                                                                                                                    | Factory                                | 2%                                  |                                       |
| 0016XC5                 | \$ 25    | SUN VISOR, INTERIOR                                                                                                                                                                                       | Factory                                | 2%                                  |                                       |
| 0016XCT                 | \$ 496   | WINDOW, POWER                                                                                                                                                                                             | Factory                                | 2%                                  |                                       |
| 0016XJR                 | \$ 168   | SEAT HEATER, FRONT                                                                                                                                                                                        | Factory                                | 2%                                  |                                       |
| 0016XUC                 | \$ 200   | ACCESS, CAB BRIGHT                                                                                                                                                                                        | Factory                                | 2%                                  |                                       |
| 16136                   | \$ 836   | AIR CONDITIONER, PROVISION FOR Accommodation Package, for Air Conditioning, Includes Auxiliary Compressor in Secondary Position and Compressor Drive Effects for Vehicle with Primary Compressor Mounting | Factory                                | 2%                                  |                                       |
| 0016XUD                 | \$ 300   | ACCESS, CAB BRIGHT FOR CREW CAB                                                                                                                                                                           | Factory                                | 2%                                  |                                       |
| 16196                   | \$ 1,809 | CREW CAB 4 door                                                                                                                                                                                           | Factory                                | 2%                                  |                                       |
| 16975                   | \$ 78    | HEATER HOSES SILICONE                                                                                                                                                                                     | Factory                                | 2%                                  |                                       |
| 0026DTX                 | \$ 237   | WHEEL, SPARE, DISC POWDER COAT                                                                                                                                                                            | Factory                                | 2%                                  |                                       |
| 0026DUT                 | \$ 603   | WHEEL, SPARE, DISC REAR ALUMINUM                                                                                                                                                                          | Factory                                | 2%                                  |                                       |
| 0026DVT                 | \$ 603   | WHEEL, SPARE, DISC FRONT ALUMINUM                                                                                                                                                                         | Factory                                | 2%                                  |                                       |
| 0027DVT                 | \$ 758   | WHEELS, FRONT ALUMINUM                                                                                                                                                                                    | Factory                                | 2%                                  |                                       |

| Manufacturer Order Code | Price     | Description                                                                                                                                                                                                                                                                           | Factory Installed or Vendor Installed? | MSRP Discount % (factory-installed) | Cost-Plus Markup % (vendor-installed) |
|-------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------|---------------------------------------|
| 0028DVT                 | \$ 748    | WHEELS, REAR ALUMINUM outside                                                                                                                                                                                                                                                         | Factory                                | 2%                                  |                                       |
| 0028DWV                 | \$ 1,375  | WHEELS, REAR ALUMINUM inside and outside                                                                                                                                                                                                                                              | Factory                                | 2%                                  |                                       |
| 0029SAE                 | \$ 31     | WHEEL SEALS, FRONT                                                                                                                                                                                                                                                                    | Factory                                | 2%                                  |                                       |
| 0029VLK                 | \$ 59     | WHEEL BEARING, FRONT, LUBE                                                                                                                                                                                                                                                            | Factory                                | 2%                                  |                                       |
| 29007                   | \$ 463    | TIRE, SPARE                                                                                                                                                                                                                                                                           | Factory                                | 2%                                  |                                       |
| 40YDS                   | \$ 4,300  | Warranty To 60-Month/100,000 Miles (160,000 km), Engine and Chassis Coverage for International 6.6                                                                                                                                                                                    | Factory                                | 2%                                  |                                       |
| 7789445452              | \$ 72     | 225/70R19.5 Load Range H HSR 5 (CONTINENTAL), 647 rev/mile, 87 MPH, All-Position                                                                                                                                                                                                      | Factory                                | 2%                                  |                                       |
| 7789445453              | \$ 128    | 225/70R19.5 Load Range H HDR 5 (CONTINENTAL), 647 rev/mile, 87 MPH, Drive                                                                                                                                                                                                             | Factory                                | 2%                                  |                                       |
| 7779445452 00           | \$ 22     | Continental tires 225/70R19.5 All-Position                                                                                                                                                                                                                                            | Factory                                | 2%                                  |                                       |
| Rescue                  | \$ 4,995  | Ambulance matrix                                                                                                                                                                                                                                                                      | Factory                                | 2%                                  |                                       |
| Lqspring                | \$ 15,000 | Liquid spring rear suspension                                                                                                                                                                                                                                                         | Factory                                | 2%                                  |                                       |
| TB36                    | \$ 690    | 36 inch tool box                                                                                                                                                                                                                                                                      | Vendor                                 |                                     | 5%                                    |
| WARN                    | \$ 4,814  | 12000lbs Electric winch with remote                                                                                                                                                                                                                                                   | Vendor                                 |                                     | 4%                                    |
| K ALPB-163              | \$ 7,541  | Theiman 2000 lb capacity dry freight tuckaway                                                                                                                                                                                                                                         | Vendor                                 |                                     | 2%                                    |
| K EC3200-CC             | \$ 19,614 | Stellar 3200lb EH 11,500 ft. lb. crane with hydraulic extension 7 - 11ft, manual extension 11 - 15 ft, adj boom rest 18 - 26" 150 amp circuit breaker.                                                                                                                                | Vendor                                 |                                     | 2%                                    |
| K EC4000-CC             | \$ 26,663 | Stellar 4000lb EH 16,000 ft. lb. crane with hydraulic extension 8 - 12ft, manual extension 12 - 16 ft, adj boom rest 18 - 26" 150 amp circuit breaker,                                                                                                                                | Vendor                                 |                                     | 2%                                    |
| K EC5000-CC             | \$ 29,390 | Stellar 5000lb EH 25,000 ft. lb. crane with hydraulic extension 10 - 15 ft, manual extension 15 - 20 ft, adj boom rest 18-26"                                                                                                                                                         | Vendor                                 |                                     | 2%                                    |
| K EC6000-CC             | \$ 32,696 | Stellar 6000lb EH 36,000 ft. lb. crane with hydraulic extension 11 - 16 ft, manual extension 16 - 21 ft, adj boom rest 18-26"                                                                                                                                                         | Vendor                                 |                                     | 2%                                    |
| K 6108DL-30J            | \$ 34,860 | Knapheide 9' DRW crane body for 30,000 ft. lb. cranes. Includes standard shelving, crane bumper with integrated reciever hitch. (Includes 2nd Stage MSO, Weight Slip, & Completed Vehicle Certification.) req's 60" CA                                                                | Vendor                                 |                                     | 3%                                    |
| K 6132DLR-30J           | \$ 37,919 | Knapheide 11' DRW crane body for 30,000 ft. lb. cranes with raised curbside front compartment. Includes standard shelving, crane bumper with integrated reciever hitch, and standard shelving. (Includes 2nd Stage MSO, Weight Slip, & Completed Vehicle Certification.) req's 84" CA | Vendor                                 |                                     | 3%                                    |
| K 6132DL-30J            | \$ 36,884 | Knapheide 11' DRW crane body for 30,000 ft. lb. cranes. Includes standard shelving, crane bumper with integrated reciever hitch. (Includes 2nd Stage MSO, Weight Slip, & Completed Vehicle Certification.) req's 84" CA                                                               | Vendor                                 |                                     | 3%                                    |
| K 6132D54J              | \$ 18,954 | Knapheide 11' utility body DRW for 84 CA                                                                                                                                                                                                                                              | Vendor                                 |                                     | 3%                                    |
| K 6108D54J              | \$ 17,543 | Knapheide 9' utility body DRW for 60                                                                                                                                                                                                                                                  | Vendor                                 |                                     | 3%                                    |
| K 6108D54FJ             | \$ 19,039 | Knapheide 9' Flip Top utility body DRW for 60 CA                                                                                                                                                                                                                                      | Vendor                                 |                                     | 3%                                    |
| K 6132D54FJ             | \$ 20,413 | Knapheide 11' utility body DRW for 84 CA                                                                                                                                                                                                                                              | Vendor                                 |                                     | 3%                                    |
| Gen/Com                 | \$ 9,064  | VANAIR 14HP KOHLER SKW PEAK AC GENERATOR 4.2KW CONTINUOUS 20 CFM RECIPROCATING COMPRESSOR 30 GAL. AIR STORAGE 1.9 GAL. FUEL STORAGE BATTERY INCLUDED                                                                                                                                  | Vendor                                 |                                     | 3%                                    |
| Liner                   | \$ 2,396  | Spray on bed liner on top of all bed surfaces                                                                                                                                                                                                                                         | Vendor                                 |                                     | 3%                                    |
| K G2-60-1542 TP27       | \$ 4,975  | Tommy Gate 1500 lb capacity pick up truck liftgate 55" x 27" + 4" No light kit included.                                                                                                                                                                                              | Vendor                                 |                                     | 4%                                    |
| K TGT-58L               | \$ 764    | Tommy Gate Stop/turn/tail LED light                                                                                                                                                                                                                                                   | Vendor                                 |                                     | 5%                                    |

| Manufacturer Order Code | Price     | Description                                                                                                                                                                    | Factory Installed or Vendor Installed? | MSRP Discount % (factory-installed) | Cost-Plus Markup % (vendor-installed) |
|-------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------|---------------------------------------|
| Class4Hitch             | \$ 1,204  | Class V Hitch                                                                                                                                                                  | Vendor                                 |                                     | 5%                                    |
| CVXKEY                  | \$ 161    | Spare Key for CV 515 w/embedded chip                                                                                                                                           | Dealer                                 |                                     | 0%                                    |
| GODWIN184U-9            | \$ 23,875 | 9' Long 2 yard dump, manual tarp, 60" CA, 18" Fixed Sides, Elec Hoist                                                                                                          | Vendor                                 |                                     | 3%                                    |
| GODWIN184U-11           | \$ 24,499 | 11' Long 3 yard dump, manual tarp, 84" CA, 18" Fixed Sides, Elec Hoist                                                                                                         | Vendor                                 |                                     | 3%                                    |
| K PVMXT-95              | \$ 10,910 | 9' Flat Stake Body, 40" removable sides, 60" CA                                                                                                                                | Vendor                                 |                                     | 4%                                    |
| K PVMXT-125             | \$ 11,620 | 12' Flat Stake Body, 40" removable sides, 84" CA                                                                                                                               | Vendor                                 |                                     | 4%                                    |
| K PVMXT-165             | \$ 14,706 | 16' Flat Stake Body, 40" removable sides, 120" CA                                                                                                                              | Vendor                                 |                                     | 4%                                    |
| K KDBF912B              | \$ 20,704 | Knapheide 9' 2-3 YD 12" side dump with 6" cheater boards. Includes ICC bumper. (Includes 2nd Stage MSO, Weight Slip, & Completed Vehicle Certification ) req's 60" CA. No tarp | Vendor                                 |                                     | 2%                                    |
| K PVMXS-123C            | \$ 19,304 | 12' electric Contractor Dump, manual tarp, 14" sides                                                                                                                           | Vendor                                 |                                     | 2%                                    |
| G113VD                  | \$ 24,294 | 11 food 3 yd dump body 17 includes electric hoist and manual tarp                                                                                                              | Vendor                                 |                                     | 2%                                    |
| 14DRYVAN                | \$ 13,784 | 14'x96"x84" Dry Freight Body, 112" CA, Roll up Door, Alum Skin                                                                                                                 | Vendor                                 |                                     | 2%                                    |
| 16DRYVAN                | \$ 14,449 | 16'x96"x84" Dry Freight Body, 129" CA, Roll up Door, Alum Skin                                                                                                                 | Vendor                                 |                                     | 2%                                    |
| 20DRYVAN                | \$ 15,767 | 20'x96"x84" Dry Freight Body, 162" CA, Roll up Door, Alum Skin                                                                                                                 | Vendor                                 |                                     | 2%                                    |
| SAFETY                  | \$ 250    | Triangles and 5 pound Fire Ext                                                                                                                                                 | Dealer                                 |                                     | 0%                                    |
| MUDFLAPS                | \$ 100    | Mudflaps                                                                                                                                                                       | Dealer                                 |                                     | 0%                                    |
| TEMPTAG                 | \$ 75     | Temp Tag                                                                                                                                                                       | Dealer                                 |                                     | 0%                                    |
| TRANSFERTAG             | \$ 150    | Transfer Tag                                                                                                                                                                   | Dealer                                 |                                     | 0%                                    |
| NEWTAG                  | \$ 300    | New Tag                                                                                                                                                                        | Dealer                                 |                                     | 0%                                    |
| STROBE                  | \$ 1,575  | 4 Corner LED Strobe Lights includes switch                                                                                                                                     | Vendor                                 |                                     | 5%                                    |
| BUC360                  | \$ 2,020  | Dealer Installed Back up camera                                                                                                                                                | Dealer                                 |                                     | 1%                                    |
| ELECTARP                | \$ 4,164  | Electric Tarp Option for Dump Bodies                                                                                                                                           | Vendor                                 |                                     | 2%                                    |
| HDHOLDER                | \$ 1,359  | Bumper Mounted Safety Cone & Water Cooler Holder Combo                                                                                                                         | Vendor                                 |                                     | 5%                                    |
| TEL-29-EIH              | \$143,016 | Versalift VST40 insulated telescoping aerial devise                                                                                                                            | Vendor                                 |                                     | 1%                                    |
| VST47                   | \$159,893 | Versalift VST47 insulated telescoping aerial devise                                                                                                                            | Vendor                                 |                                     | 1%                                    |
| CURBQUAN6               | \$ 82,926 | Curbtender Quantum 6yd Refuse body                                                                                                                                             | Vendor                                 |                                     | 2%                                    |
| CURBQUAN8               | \$ 83,826 | 8yd body option                                                                                                                                                                | Vendor                                 |                                     | 2%                                    |
|                         |           |                                                                                                                                                                                |                                        |                                     |                                       |
|                         |           |                                                                                                                                                                                |                                        |                                     |                                       |
|                         |           |                                                                                                                                                                                |                                        |                                     |                                       |



## REFERENCE

| Manufacturer Order Code | Price       | Description                                                                                                                                                                   | Factory Installed or Vendor Installed? | MSRP Discount % (factory-installed) | Cost-Plus Markup % (vendor-installed) |
|-------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------|---------------------------------------|
| Class4Hitch             | \$ 1,204    | Class V Hitch                                                                                                                                                                 | Vendor                                 |                                     | 5%                                    |
| CVEXKEY                 | \$ 161      | Spare Key for CV 515 w/embedded chip                                                                                                                                          | Dealer                                 |                                     | 0%                                    |
| GODWIN184U-9            | \$ 23,875   | 9' Long 2 yard dump, manual tarp, 60" CA, 18" Fixed Sides, Elec Hoist                                                                                                         | Vendor                                 |                                     | 3%                                    |
| GODWIN184U-11           | \$ 24,499 * | 11' Long 3 yard dump, manual tarp, 84" CA, 18" Fixed Sides, Elec Hoist                                                                                                        | Vendor                                 |                                     | 3%                                    |
| K PVMXT-95              | \$ 10,910   | 9' Flat Stake Body, 40" removable sides, 60" CA                                                                                                                               | Vendor                                 |                                     | 4%                                    |
| K PVMXT-125             | \$ 11,620   | 12' Flat Stake Body, 40" removable sides, 84" CA                                                                                                                              | Vendor                                 |                                     | 4%                                    |
| K PVMXT-165             | \$ 14,706   | 16' Flat Stake Body, 40" removable sides, 120" CA                                                                                                                             | Vendor                                 |                                     | 4%                                    |
| K KDBF912B              | \$ 20,704   | Knapheide 9' 2-3 YD 12" side dump with 6" cheater boards. Includes ICC bumper. (Includes 2nd Stage MSO, Weight Slip, & Completed Vehicle Certification.) req's 60" CA No tarp | Vendor                                 |                                     | 2%                                    |
| K PVMXS-123C            | \$ 19,304   | 12' electric Contractor Dump, manual tarp, 14" sides                                                                                                                          | Vendor                                 |                                     | 2%                                    |
| G113YD                  | \$ 24,294 * | 11 food 3 yd dump body 17 includes electric hoist and manual tarp                                                                                                             | Vendor                                 |                                     | 2%                                    |
| 14DRYVAN                | \$ 13,784   | 14'x96"x84" Dry Freight Body, 112" CA, Roll up Door, Alum Skin                                                                                                                | Vendor                                 |                                     | 2%                                    |
| 16DRYVAN                | \$ 14,449   | 16'x96"x84" Dry Freight Body, 129" CA, Roll up Door, Alum Skin                                                                                                                | Vendor                                 |                                     | 2%                                    |
| 20DRYVAN                | \$ 15,767   | 20'x96"x84" Dry Freight Body, 162" CA, Roll up Door, Alum Skin                                                                                                                | Vendor                                 |                                     | 2%                                    |
| SAFETY                  | \$ 250      | Triangles and 5 pound Fire Ext                                                                                                                                                | Dealer                                 |                                     | 0%                                    |
| MUDFLAPS                | \$ 100      | Mudflaps                                                                                                                                                                      | Dealer                                 |                                     | 0%                                    |
| TEMPTAG                 | \$ 75       | Temp Tag                                                                                                                                                                      | Dealer                                 |                                     | 0%                                    |
| TRANSFERTAG             | \$ 150      | Transfer Tag                                                                                                                                                                  | Dealer                                 |                                     | 0%                                    |
| NEWTAG                  | \$ 300      | New Tag                                                                                                                                                                       | Dealer                                 |                                     | 0%                                    |
| STROBE                  | \$ 1,575    | 4 Corner LED Strobe Lights includes switch                                                                                                                                    | Vendor                                 |                                     | 5%                                    |
| BUC360                  | \$ 2,020    | Dealer Installed Back up camera                                                                                                                                               | Dealer                                 |                                     | 1%                                    |
| ELECTARP                | \$ 4,164    | Electric Tarp Option for Dump Bodies                                                                                                                                          | Vendor                                 |                                     | 2%                                    |
| HDHOLDER                | \$ 1,359    | Bumper Mounted Safety Cone & Water Cooler Holder Combo                                                                                                                        | Vendor                                 |                                     | 5%                                    |
| TEL-29-EIH              | \$143,016   | Versalift VST40 insulated telescoping aerial devise                                                                                                                           | Vendor                                 |                                     | 1%                                    |
| VST47                   | \$159,893   | Versalift VST47 insulated telescoping aerial devise                                                                                                                           | Vendor                                 |                                     | 1%                                    |
| CURBQUAN6               | \$ 82,926   | Curbtender Quantum 6yd Refuse body                                                                                                                                            | Vendor                                 |                                     | 2%                                    |
| CURBQUAN8               | \$ 83,826   | 8yd body option                                                                                                                                                               | Vendor                                 |                                     | 2%                                    |
|                         |             |                                                                                                                                                                               |                                        |                                     |                                       |
|                         |             |                                                                                                                                                                               |                                        |                                     |                                       |

| Vehicle and Equipment Repair/Replacement Evaluation                                                                                                                                                                                                                                         |                                                              |                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Vehicle: 259</b>                                                                                                                                                                                                                                                                         | <b>Evaluated by: Christine Jarrell, Fleet Ops Supervisor</b> |                                                                                                           |
| <b>Dept.: 3003 Streets</b>                                                                                                                                                                                                                                                                  | <b>Supervisor: Kevin M Gray, Deputy PW Director</b>          |                                                                                                           |
|                                                                                                                                                                                                                                                                                             | <b>Points Assigned</b>                                       | <b>Comments</b>                                                                                           |
| <b>Year of vehicle.</b> One point assigned per year. Example: A 2000 vehicle would be assigned 24 points because it is 24 years old.                                                                                                                                                        | 20                                                           | 2005 International 4 Yard Dump Truck                                                                      |
| <b>Mileage or hours of use.</b> One point is assigned for each 10,000 miles or 1,500 hours of operation. Example: A vehicle with 87,000 miles would receive 9 points as it is rounded up.                                                                                                   | 16                                                           | 165,488                                                                                                   |
| <b>General overall condition.</b> This category takes into consideration body condition, rust, interior condition, anticipated repairs, etc. A scale from 1-5 is used, with 5 being an extremely poor...possibly unsafe condition.                                                          | 4                                                            | Dump Truck showing wear with faded paint, scratches, rust on bumpers/ bed.                                |
| <b>Type of service.</b> Points are assigned as either 1,3,or 5 depending on the type of use the vehicle had during most of its life. Example: A '5' would be assigned to vehicles that were utilized as patrol cars as that is considered severe service, while a staff car would be a '1'. | 4                                                            | Used frequently by Streets department.                                                                    |
| <b>Reliability of vehicle.</b> Points are assigned as 1-5 depending on the frequency that the vehicle is in the shop for repairs. A '5' should be assigned to a vehicle that is in the shop 3 or more times a month on average. A '1' would be used for once every 3 months or less.        | 2                                                            | Dump truck as been reliable, last major repair was in 2021. More extensive repairs are likely due to age. |
| <b>Total operating cost.</b> Points are assigned as 1,3,or 5 depending on the total cost per mile factor. This figure includes maintenance and operational costs in relation to other vehicles utilized for the same purpose.                                                               | 5                                                            | Purchase Price \$50,642.00 total<br>\$59,453.95.00 LTD M&R<br>117% of Purchase Price                      |
| <b>Have warranties expired?</b>                                                                                                                                                                                                                                                             | Y                                                            | <input type="checkbox"/> Check if general overall condition can defer vehicle                             |
| <b>Total Points</b>                                                                                                                                                                                                                                                                         | <b>51</b>                                                    | <b>(Shop Supervisor approval required)</b>                                                                |
|                                                                                                                                                                                                                                                                                             |                                                              |                                                                                                           |
|                                                                                                                                                                                                                                                                                             |                                                              |                                                                                                           |
| 28 + points                                                                                                                                                                                                                                                                                 | X                                                            | Needs immediate replacement                                                                               |
| 23-27 points                                                                                                                                                                                                                                                                                |                                                              | Condition is borderline                                                                                   |
| 18-22 points                                                                                                                                                                                                                                                                                |                                                              | Condition is fair/good                                                                                    |
| Under 18 points                                                                                                                                                                                                                                                                             |                                                              | Condition is good/excellent                                                                               |



**City of Ormond Beach**  
**City Commission Agenda**  
**Staff Report**

|                                 |                                                                                                 |                 |                            |
|---------------------------------|-------------------------------------------------------------------------------------------------|-----------------|----------------------------|
| <b>Agenda Date</b>              | February 17, 2026                                                                               | <b>Item No</b>  | 7.I.                       |
| <b>Section</b>                  | CONSENT AGENDA                                                                                  | <b>Category</b> | Consent - Disposition Item |
| <b>Subject</b>                  | Auto Renew - Radio Control Club                                                                 |                 |                            |
| <b>Recommended Action</b>       | Staff intend to allow the contract to auto-renew an additional year, unless otherwise directed. |                 |                            |
| <b>Strategic Goal</b>           | Quality of Life - Other                                                                         |                 |                            |
| <b>Department Staff Contact</b> | Parks and Recreation<br>Robert Carolin, Parks and Recreation Director                           |                 |                            |

Summary

Staff intends to allow the auto-renewal of the Ormond Beach Radio Control Club (Club) agreement for an additional year.

The lease agreement allows the Club to operate electric-powered model airplanes in the upper landfill area in Nova Community Park. The Club must follow strict conditions which do not impact the neighboring residential area. The Club has continuously met those conditions.

The Club would like to continue this agreement, which has been allowed to automatically renew annually since 2008 (the end of the initial term).

Financial Impact

None

Citizen Impact

This lease provides the Club with an ability to enjoy their hobby at a designated location and in a professional manner, which causes the least disturbance to surrounding neighbors.

Attachments

1. Contract Renewal Confirmation Letter
2. Agreement
3. Insurance Certificate



## CITY OF ORMOND BEACH

Leisure Services Department • 399 North U.S. 1 • Ormond Beach, FL 32174 • (386) 676-3250 • Fax (386) 676-3367

January 14, 2026

**To: Academy of Model Aeronautics, Inc.**

**Subject: Contract Renewal Confirmation**

Dear Academy of Model Aeronautics, Inc. Representative,

By signing this letter, you acknowledge that your organization has reviewed and understood the terms of its existing agreement with the City of Ormond Beach. Furthermore, you confirm your intent to renew your contract under the same terms and conditions as previously agreed upon.

|                                     |                               |
|-------------------------------------|-------------------------------|
| Association Name                    | Ormond Beach R/C Club         |
| Sport(s)                            | Radio Control Model Airplanes |
| Authorized Representative Signature | Terry Marcum                  |
| Printed Name                        | Terry Marcum                  |
| Title                               | President                     |
| Date                                | 1/14/26                       |

Sincerely,

Robert Carolin

Parks & Recreation Director  
City of Ormond Beach

**RESOLUTION NO. 2007-56**

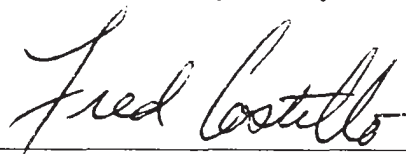
A RESOLUTION AUTHORIZING THE EXECUTION OF A FIRST AMENDED MODEL AIRPLANE LEASE AGREEMENT AND A FIRST AMENDED ACCESS AGREEMENT BETWEEN THE CITY AND ORMOND BEACH RADIO CONTROL CLUB, INC.; AND SETTING FORTH AN EFFECTIVE DATE.

**BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:**

**SECTION ONE.** The Mayor and City Manager are hereby authorized and directed to execute a First Amended Model Airplane Lease Agreement and a First Amended Access Agreement between the City and Ormond Beach Radio Control Club, Inc., for the purposes stated therein; copies of said agreements being attached hereto and incorporated herein by reference.

**SECTION TWO.** This Resolution shall take effect immediately upon its adoption.

**APPROVED AND AUTHENTICATED this 1st day of May, 2007.**



**FRED COSTELLO**  
Mayor

**ATTEST:**



**VERONICA PATTERSON**  
City Clerk



## **FIRST AMENDED MODEL AIRPLANE LEASE AGREEMENT**

**THIS FIRST AMENDED AGREEMENT**, is made and entered into by and between the **CITY OF ORMOND BEACH**, a Florida municipal corporation ("LESSOR") and **ORMOND BEACH RADIO CONTROL CLUB, INC.**, a non-profit corporation duly formed and existing under the laws of the State of Florida, ("LESSEE"), on the terms and conditions described herein, which terms and conditions constitute good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, as follows:

### **WITNESSETH:**

**WHEREAS**, the LESSOR recognizes the important services that are provided by non-profit volunteer recreation groups; and

**WHEREAS**, the LESSOR owns certain real and personal property more particularly described and designated hereinbelow for use by LESSEE; and

**WHEREAS**, the LESSOR and LESSEE desire to enter into a lease for the use of certain premises as described in Exhibit "A" attached hereto solely for the operation of electric-powered model airplanes, both on the ground and in the airspace above the lease premises;

**NOW THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, it is mutually agreed between the parties as follows:

1. **RECITALS.** The foregoing recitals are true and correct, and are incorporated herein by reference and are hereby made part of this Agreement.

2. **GENERAL COVENANTS.**

a) LESSEE is a non-profit corporation and no officer, director, board member, or volunteer thereof shall receive any compensation for their services.

b) LESSEE shall have the exclusive privilege of using the premises, as described and depicted in Exhibit "A" attached hereto and incorporated herein by reference,

solely for the operation of electric-powered model airplanes, both on the ground and in the airspace above the premises, subject to the following conditions:

- i) Designated times for the use of the premises shall be: Monday through Saturday (8:00 a.m. to 8:00 p.m.); and Sunday (9:00 a.m. to 6:00 p.m.).
- ii) Only electric-powered model airplanes shall be operated (fuel-powered model airplanes are prohibited). No more than two (2) electric-powered airplanes shall be operated at the same time.
- iii) Electric-powered model airplanes shall only be operated on and in the airspace above the premises depicted in Exhibit "A". Flags shall be posted around the perimeter of the premises to delineate the boundary of the fly-zone.

c) Contemporaneously with the execution of this Agreement the parties hereto shall enter into an access easement for the ingress and egress by LESSEE to the premises depicted on Exhibit "A". By providing access to the premises LESSOR is not expressly or implicitly agreeing to give LESSEE additional access to any other portion of LESSOR'S property located at 440 N. Nova Road, Ormond Beach, Volusia County, Florida.

d) Vehicular access to the premises depicted on Exhibit "A" shall only be gained over the access easement and shall be strictly restricted to vehicles with the appropriate disabled parking permit issued under Sections 316.1958 or 320.0848, *Florida Statutes*, or a license plate issued under Sections 320.084, 320.0842, 320.0843 or 320.0845, *Florida Statutes*, and such access will be permitted only when the vehicle is transporting the person to whom the displayed permit is issued. Otherwise, all access to the premises depicted on Exhibit "A" shall be strictly pedestrian access only. Violation of this provision may result in the City's termination of this lease agreement without benefit of the notice provisions set forth in Paragraph 5, TERM AND TERMINATION.

3. **MAINTENANCE.** LESSOR shall maintain and repair the premises at its own expense, and shall have the right to close the premises and/or surrounding facilities to

protect the health, safety, or welfare of the public. The LESSEE shall not perform any maintenance or repair of the premises without the prior written consent of the LESSOR.

4. **IMPROVEMENTS.** The LESSEE shall not make any alterations or improvements to the leased premises without the complying with any required conditions of the City's Land Development Code. Any alterations or improvements to the leased premises by LESSEE shall not involve vehicular access of any type with the exception of a riding lawnmower as provided in Paragraph 3 above as to the area depicted in Exhibit "A." Any alterations or improvements to the leased premises by LESSEE shall not involve any compaction of the area depicted in Exhibit "A." LESSEE assumes all risk with respect to the construction of the improvements to the property and agrees that all improvements shall comply with all building code requirements, including all matters pertaining to zoning of the property. All improvements to the property made by LESSEE shall become the property of LESSOR upon termination of this agreement. The LESSEE shall be responsible for paying any and all costs and expenses associated with any improvement it makes to the leased premises.

5. **TERM AND TERMINATION.** This Agreement shall begin on the date it is last signed by the respective parties. Thereafter, this Agreement shall be automatically renewed for additional one (1) year periods unless either party provides prior notice to the other party of their intent not to renew the Agreement. Either party may terminate this agreement without cause upon providing the other party with at least sixty (60) days prior written notice. The city commission may terminate this Agreement for cause for a violation of any of the General Covenants described in paragraph 2 above upon providing the other party with at least thirty (30) days prior written notice of the intention to terminate the Agreement for cause.

6. **CONSIDERATION.** LESSEE shall pay in advance to the LESSOR the sum of ONE DOLLAR (\$1.00) per year for use of the facilities.

7. **LIABILITY AND INDEMNIFICATION.**

a) **Hold Harmless & Indemnification.** The LESSEE shall hold harmless and indemnify the LESSOR (including its appointed and elected officers, employees, agents, and

other representatives) from and against all claims for bodily injury, sickness, disease, death or personal injury, or damage to property or loss of use resulting therefrom, arising from the acts or omissions caused in whole or in part by LESSEE (including its directors, officers, employees, volunteers, agents, and other representatives) committed in furtherance of this Agreement or use of the recreational facilities. Indemnification and payment thereof shall include all attorneys' fees and taxable court costs, through and including any and all appeals.

b) **Loss Control & Safety.** Precaution shall be exercised at all times by the LESSEE for the protection of all persons and property. The LESSEE shall comply with all laws, regulations or ordinances related to safety and health, shall make special efforts to detect hazardous conditions and shall take prompt action where loss control and safety measures are reasonably expected.

8. **ADVERTISEMENT.** No one shall be permitted to display any advertisement at the facilities without the prior written approval of the City Leisure Services Director. The LESSEE shall be responsible for administering the display of any approved advertisement consistent with all rules, regulations, policies, and ordinances of the LESSOR.

9. **SOVEREIGN IMMUNITY.** The CITY retains and reserves all rights, privileges, immunities, and benefits of sovereign immunity.

10. **ASSIGNMENT.** This Agreement shall not be assigned, transferred, or otherwise conveyed in whole or in part, including all or any part of any privileges thereunder by either party.

11. **INSURANCE.** The LESSEE shall, at its own expense, purchase and maintain applicable insurance in accordance with the City's applicable insurance requirements.

12. **COMPLETE AGREEMENT.** This Agreement constitutes the entire and complete agreement between the parties, and the promises and covenants herein contained shall survive the life of this Agreement.

13. **SEVERABILITY.** In the event any provision of this Agreement is declared to be null and void and unenforceable by a court of competent jurisdiction, then in that event, the remaining part of the Agreement shall remain in full force and effect.

14. **NOTICES.** Any notice that is required to be given by this Agreement shall be directed to the following:

CITY OF ORMOND BEACH  
Office of the City Manager  
22 South Beach Street  
Ormond Beach, FL 32174

ORMOND BEACH RADIO  
CONTROL CLUB, INC.  
4 Katrinas Drive  
Ormond Beach, FL 32174

**IN WITNESS WHEREOF,** the undersigned parties have caused this Agreement to be signed on the dates indicated hereinbelow.

**DATED** this 1st day of May, 2007

**Witnesses:**

**CITY OF ORMOND BEACH**

Lisa Toney  
Print Name: Lisa Toney

By: Fred Costello  
**FRED COSTELLO**  
Mayor

Sha Ross  
Print Name: Sha Ross

Attest: Isaac Turner  
**ISAAC TURNER**  
City Manager

DATED this 10<sup>th</sup> day of May, 2007.

Witnesses:

ORMOND BEACH RADIO  
CONTROL CLUB, INC.

Dawn Cooklin  
Print Name: Dawn Cooklin

By: Clifford Norris  
CLIFFORD NORRIS  
President

Lois Toway  
Print Name: Lois Toway

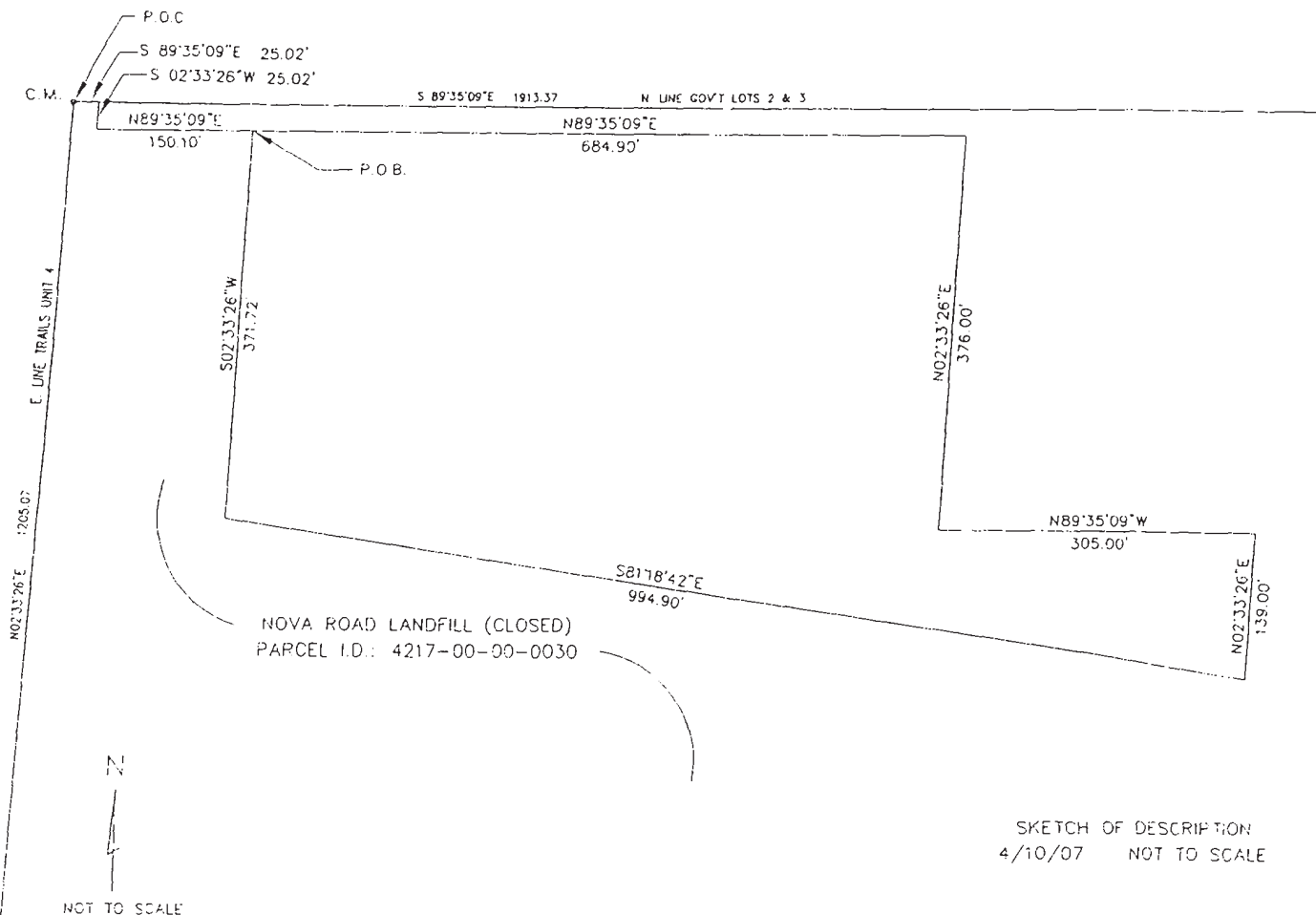
Attest: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Title: \_\_\_\_\_

## NOVA LANDFILL LEASE AREA

## LEGAL DESCRIPTION

A PORTION OF GOVERNMENT LOT 3, SECTION 17, TOWNSHIP 14 SOUTH, RANGE 32 EAST AS LIES WEST OF NOVA ROAD, ALSO KNOWN AS STATE ROAD 5A, A 100-FOOT PUBLIC RIGHT OF WAY, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: FROM A POINT OF COMMENCEMENT, SAID POINT BEING A CONCRETE MONUMENT AT THE NORTHWEST CORNER OF SAID GOVERNMENT LOT 3, SAID POINT BEING ALSO THE NORTHEAST CORNER OF LOT 187, THE TRAILS SUBDIVISION, UNIT 4, AS RECORDED IN MAP BOOK 34, PAGES 140 AND 141, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE SOUTH  $89^{\circ} 35' 09''$  EAST ALONG THE NORTH LINE OF SAID GOVERNMENT LOT 3 A DISTANCE OF 25.02 FEET; THENCE DEPARTING SAID NORTH LINE SOUTH  $2^{\circ} 33' 26''$  WEST AND PARALLEL TO THE EAST LINE OF SAID TRAILS SUBDIVISION UNIT 4 A DISTANCE OF 25.02 FEET, THENCE NORTH  $89^{\circ} 35' 09''$  EAST A DISTANCE OF 150.10 FEET TO THE POINT OF BEGINNING; THENCE SOUTH  $2^{\circ} 33' 26''$  WEST A DISTANCE OF 371.72 FEET; THENCE SOUTH  $81^{\circ} 18' 42''$  EAST A DISTANCE OF 994.90 FEET; THENCE NORTH  $2^{\circ} 33' 26''$  EAST A DISTANCE OF 139.00 FEET; THENCE NORTH  $89^{\circ} 35' 09''$  WEST A DISTANCE OF 305.00 FEET; THENCE NORTH  $2^{\circ} 33' 26''$  EAST A DISTANCE OF 376.00 FEET; THENCE NORTH  $89^{\circ} 35' 09''$  WEST A DISTANCE OF 684.90 FEET TO THE POINT OF BEGINNING.

CONTAINING 323,976.78 SQUARE FEET or 7.437  
ACRES, MORE OR LESS



### FIRST AMENDED ACCESS AGREEMENT

*May* **THIS AMENDED AGREEMENT** is entered into on the 10<sup>th</sup> day of May, 2007, between and among the **CITY OF ORMOND BEACH**, a Florida municipal corporation (hereinafter referred to as the "Grantor") and **ORMOND BEACH RADIO CONTROL CLUB, INC.**, a Florida non-profit corporation, whose post office address is 4 Katrinas Drive, Ormond Beach, Volusia County, Florida 32174 (hereinafter referred to as "Club"), on the terms and conditions set forth below.

**WHEREAS**, Grantor is the owner of certain property located at 440 Nova Road, Ormond Beach, Volusia County, Florida; and

**WHEREAS**, the Club wishes to obtain access to a portion of this property as described and depicted on Exhibit "A" attached hereto and incorporated herein by reference, for the purpose of flying electric-powered model airplanes (this specific portion of the property is hereinafter referred to as the "Premises"); and

**WHEREAS**, Grantor has determined that it is in the best interests of the Grantor and Club to grant unto the Club limited access to the Premises pursuant to the terms of this Agreement;

**NOW, THEREFORE**, for good and valuable consideration, the parties hereby agree as follows:

1. Grantor hereby grants and conveys unto the Club limited access to the Premises for the sole purpose of allowing the Club to utilize the Premises for the operation of electric-powered model airplanes in accordance with that certain First Amended Model Airplane Lease Agreement. Ingress and egress to the Premises shall be gained over an access easement as described and depicted on Exhibit "B" attached hereto and incorporated herein by reference. Ingress and egress shall be for pedestrian use only except for limited vehicular access as outlined in Paragraph 2(d) of the Model Airplane Lease Agreement executed by the parties hereto. By providing access to the Premises, Grantor is not expressly or implicitly agreeing to give the Club additional access to any other portion of Grantor's property located at 440 Nova Road, Ormond Beach, Volusia County, Florida.

2. The Club shall hold harmless and indemnify the Grantor (including its appointed and elected officers, employees, agents, and other representatives) from and against all claims for bodily injury, sickness, disease, death or personal injury, or damage to property or loss of use resulting therefrom, arising from the acts or omissions caused in whole or in part by Club (including its directors, officers, employees, volunteers, agents, and other representatives) committed in furtherance of this Agreement or use of the access easement or recreational facilities. Indemnification and payment thereof shall include all attorneys' fees and taxable court costs, through and including any and all appeals.



3. Any notice required to be given in connection with this Agreement shall be in writing and deemed received 72 hours after its deposit in the United States Mail, Certified Mail Return Receipt, postage pre-paid, or if given by other means, upon actual receipt. Notices shall be delivered to the appropriate party at the following addresses:

If to Grantor:

City Manager  
City of Ormond Beach  
Post Office Box 277  
Ormond Beach, FL 32175-0277

If to Club:

President  
Ormond Beach Radio Control Club, Inc.  
4 Katrinas Drive  
Ormond Beach, FL 32174

4. The Grantor and the Club agree that this Agreement constitutes the entire agreement between the parties and shall supersede and replace all prior agreements or understandings, written or oral relating to the matters set forth herein. None of the provisions, terms and conditions contained in this Agreement may be added to, modified, superseded or otherwise altered, except by written instrument executed by the parties hereto. The covenants, promises, and representations herein contained shall survive any termination of this Agreement.

5. The Grantor retains and reserves all rights, privileges, immunities, and benefits of sovereign immunity.

6. Venue for any dispute, action, or proceeding involving this Agreement, whether at law or in equity, shall be in the county or circuit courts for the Seventh Judicial Circuit, Volusia County, Fla. The parties expressly waive venue in any other state or federal forum.

7. This Agreement may be terminated by either party upon sixty (60) days' written notice to the other of such termination.

8. This Agreement shall be recorded in the Public Records of Volusia County, at the expense of the Club.

9. Each party, and each person signing on behalf of a party, represents and warrants that it has the full legal capacity and authority to enter into and perform the obligations of this Agreement without the approval of any other person.

**IN WITNESS WHEREOF**, the parties have caused this Access Agreement to be executed on the day and year first above written.

WITNESSES:

CITY OF ORMOND BEACH, FLORIDA

Lisa Towey  
Print Name: Lisa Towey

BY: Fred Costello  
**FRED COSTELLO**  
Mayor

Shirley Moss  
Print Name: Shirley Moss

ATTEST: Isaac D. Turner  
**ISAAC D. TURNER**  
City Manager

STATE OF FLORIDA  
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this 1st day of May, 2007, by FRED COSTELLO and ISAAC D. TURNER, the Mayor and City Manager of the City of Ormond Beach respectively, on behalf of the City of Ormond Beach. They are personally known to me.

NOTARY SEAL

NOTARY PUBLIC-STATE OF FLORIDA  
 **Veronica Patterson**  
Commission #DD413444  
Expires: MAY 12, 2009  
Bonded Thru Atlantic Bonding Co., Inc.

Veronica Patterson

WITNESSES:

ORMOND BEACH RADIO CONTROL  
CLUB, INC., a Florida non-profit corporation

Dawn Conklin  
Print Name: Dawn Conklin

BY: Clifford Norris  
Print Name: Clifford Norris  
Title: President

Lisa Towey  
Print Name: Lisa Towey

ATTEST: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Title: \_\_\_\_\_

STATE OF FLORIDA  
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this 10th day of May, 2007, by  
Clifford Norris, the President of the Ormond Beach  
Radio Control Club, Inc. He is personally known to me or has produced  
\_\_\_\_\_ as identification.

NOTARY SEAL

Veronica Patterson  
Notary Public

NOTARY PUBLIC-STATE OF FLORIDA  
 **Veronica Patterson**  
Commission #DD413444  
Expires: MAY 12, 2009  
Bonded Thru Atlantic Bonding Co., Inc.

STATE OF FLORIDA  
COUNTY OF VOLUSIA

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 2007, by  
\_\_\_\_\_, the \_\_\_\_\_ of the Ormond  
Beach Radio Control Club, Inc. He is personally known to me or has produced  
\_\_\_\_\_ as identification.

NOTARY SEAL

\_\_\_\_\_  
Notary Public

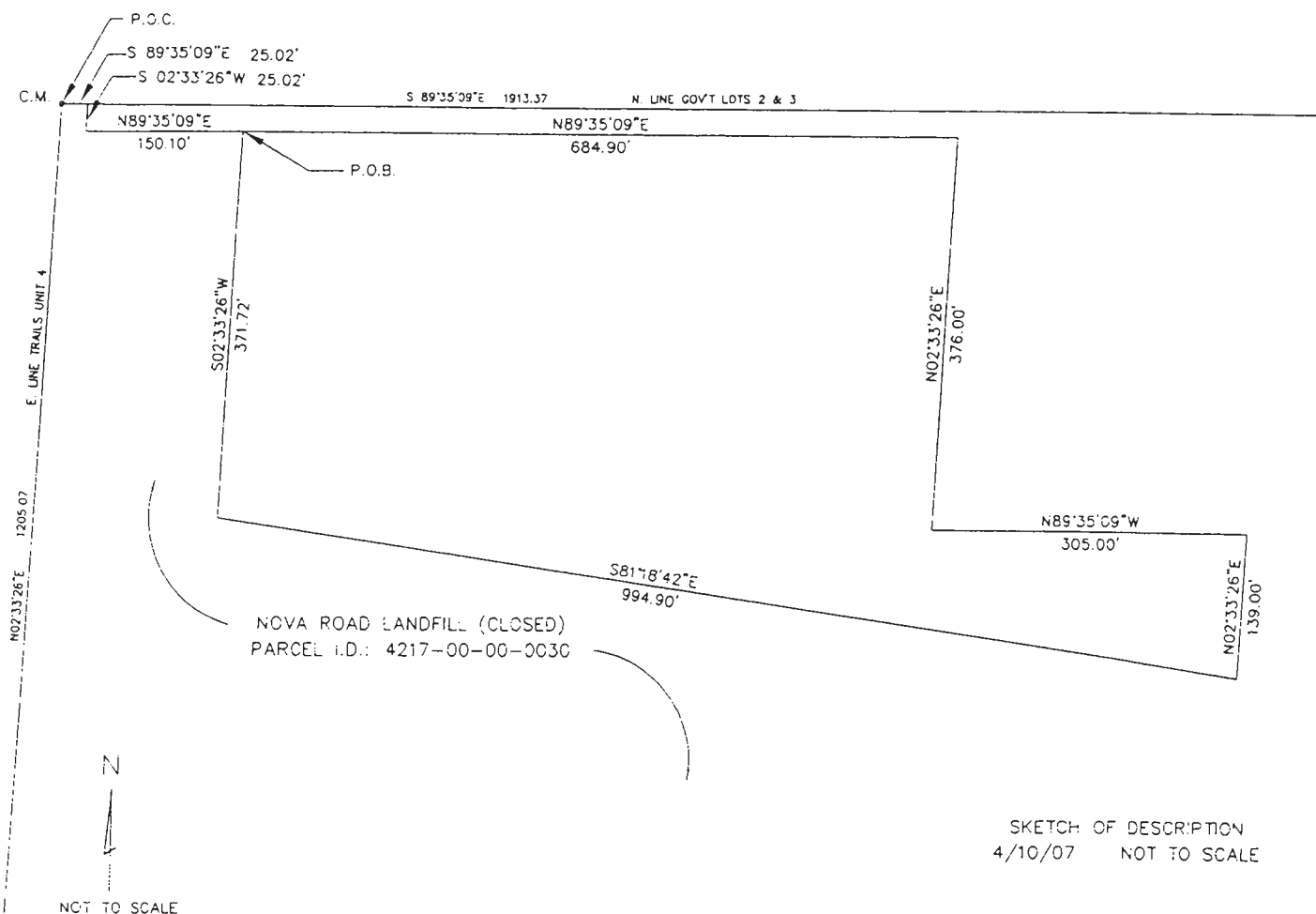
EXHIBIT "A" to Access Agreement

## NOVA LANDFILL LEASE AREA

## LEGAL DESCRIPTION

A PORTION OF GOVERNMENT LOT 3, SECTION 17, TOWNSHIP 14 SOUTH, RANGE 32 EAST AS LIES WEST OF NOVA ROAD, ALSO KNOWN AS STATE ROAD 5A, A 100-FOOT PUBLIC RIGHT OF WAY, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: FROM A POINT OF COMMENCEMENT, SAID POINT BEING A CONCRETE MONUMENT AT THE NORTHWEST CORNER OF SAID GOVERNMENT LOT 3, SAID POINT BEING ALSO THE NORTHEAST CORNER OF LOT 187, THE TRAILS SUBDIVISION, UNIT 4, AS RECORDED IN MAP BOOK 34, PAGES 140 AND 141, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE SOUTH 89° 35' 09" EAST ALONG THE NORTH LINE OF SAID GOVERNMENT LOT 3 A DISTANCE OF 25.02 FEET; THENCE DEPARTING SAID NORTH LINE SOUTH 2° 33' 26" WEST AND PARALLEL TO THE EAST LINE OF SAID TRAILS SUBDIVISION UNIT 4 A DISTANCE OF 25.02 FEET; THENCE NORTH 89° 35' 09" EAST A DISTANCE OF 150.10 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 2° 33' 26" WEST A DISTANCE OF 371.72 FEET; THENCE SOUTH 81° 18' 42" EAST A DISTANCE OF 994.90 FEET; THENCE NORTH 2° 33' 26" EAST A DISTANCE OF 139.00 FEET; THENCE NORTH 89° 35' 09" WEST A DISTANCE OF 305.00 FEET; THENCE NORTH 2° 33' 26" EAST A DISTANCE OF 376.00 FEET; THENCE NORTH 89° 35' 09" WEST A DISTANCE OF 684.90 FEET TO THE POINT OF BEGINNING.

CONTAINING 323,976.78 SQUARE FEET or 7.437  
ACRES, MORE OR LESS



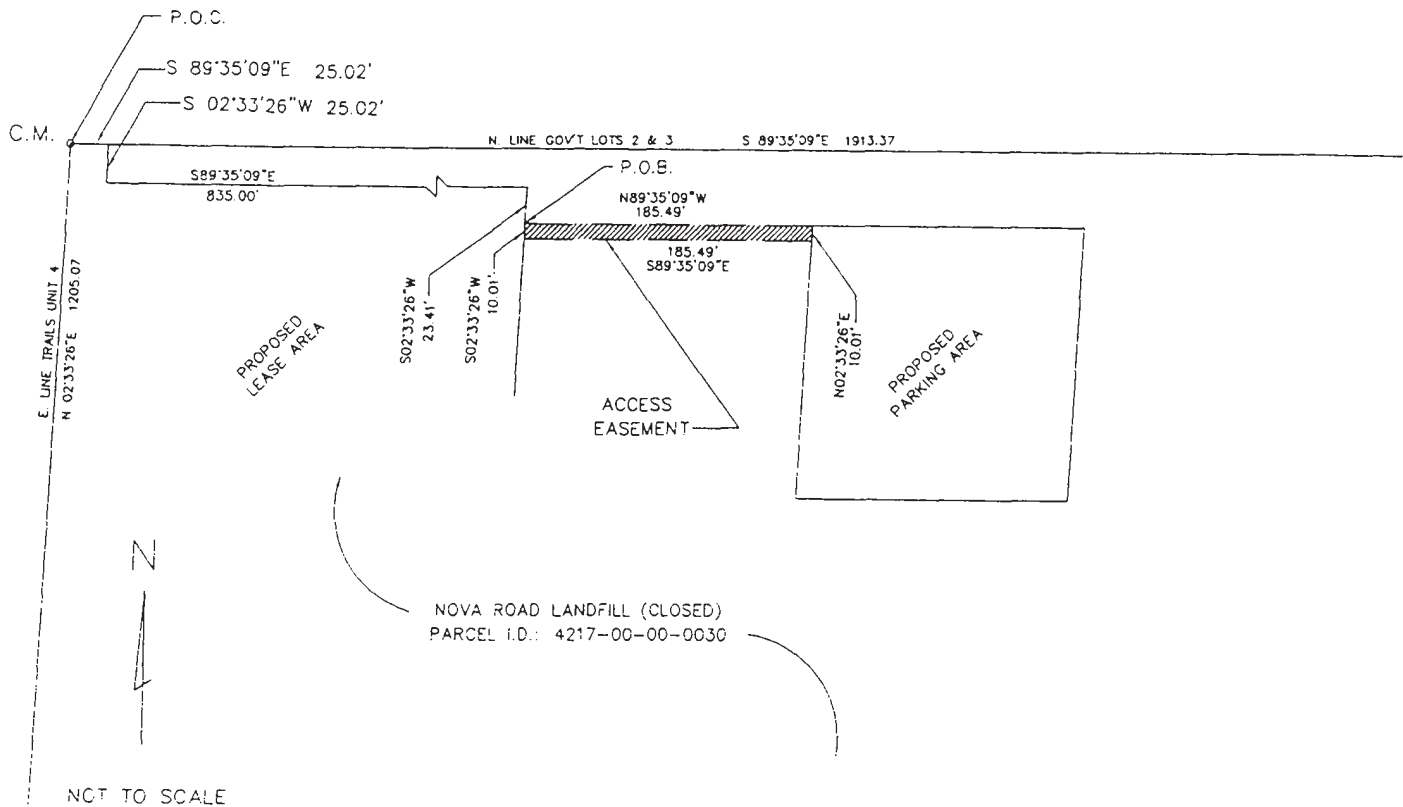
SKETCH OF DESCRIPTION  
4/10/07 NOT TO SCALE

EXHIBIT "B" to Access Agreement

ORMOND BEACH RADIO CONTROL CLUB  
NOVA LANDFILL LEASE AREA ACCESS EASEMENT  
LEGAL DESCRIPTION

A PORTION OF GOVERNMENT LOT 3, SECTION 17, TOWNSHIP 14 SOUTH, RANGE 32 EAST AS LIES WEST OF NOVA ROAD, ALSO KNOWN AS STATE ROAD 5A, A 100-FOOT PUBLIC RIGHT OF WAY, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: FROM A POINT OF COMMENCEMENT, SAID POINT BEING A CONCRETE MONUMENT AT THE NORTHWEST CORNER OF SAID GOVERNMENT LOT 3, SAID POINT BEING ALSO THE NORTHEAST CORNER OF LOT 187, THE TRAILS SUBDIVISION, UNIT 4, AS RECORDED IN MAP BOOK 34, PAGES 140 AND 141, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE SOUTH 89° 35' 09" EAST ALONG THE NORTH LINE OF SAID GOVERNMENT LOT 3 A DISTANCE OF 25.02 FEET; THENCE DEPARTING SAID NORTH LINE SOUTH 2° 33' 26" WEST AND PARALLEL TO THE EAST LINE OF SAID TRAILS SUBDIVISION UNIT 4 A DISTANCE OF 25.02 FEET; THENCE SOUTH 89° 35' 09" EAST A DISTANCE OF 835.00 FEET; THENCE SOUTH 2° 33' 26" WEST A DISTANCE OF 23.41 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING SOUTH 2° 33' 26" WEST A DISTANCE OF 10.01 FEET; THENCE SOUTH 89° 35' 09" EAST A DISTANCE OF 185.49 FEET; THENCE NORTH 2° 33' 26" EAST A DISTANCE OF 10.01 FEET; THENCE NORTH 89° 35' 09" WEST A DISTANCE OF 185.49 FEET TO THE POINT OF BEGINNING.

CONTAINING 1,854.86 SQUARE FEET or 0.043 ACRES, MORE OR LESS



SKETCH OF DESCRIPTION

4/10/07

NOT TO SCALE



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

3/25/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

|                                                                                                                                                                                  |                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PRODUCER</b><br>FNIC<br>P.O. Box 45279<br>Omaha NE 68145                                                                                                                      | <b>CONTACT NAME:</b> Patt Pierce<br><b>PHONE (A/C, No, Ext):</b> 402-861-7000<br><b>E-MAIL ADDRESS:</b> patt.pierce@fnicgroup.com<br><b>FAX (A/C, No):</b>                                          |
| <b>INSURED</b><br>Academy of Model Aeronautics, Inc.<br>&/or Affiliated &/or Associated Chartered Clubs, Chapters & Members Thereof<br>5161 E. Memorial Drive<br>Muncie IN 47302 | <b>INSURER(S) AFFORDING COVERAGE</b><br><b>INSURER A:</b> Illinois Union Insurance Company<br><b>INSURER B:</b><br><b>INSURER C:</b><br><b>INSURER D:</b><br><b>INSURER E:</b><br><b>INSURER F:</b> |
|                                                                                                                                                                                  | <b>NAIC #</b><br>27960                                                                                                                                                                              |

**COVERAGES****CERTIFICATE NUMBER:** 47636866**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE                                                                                                                                                                                                                                                                                                         | ADDL SUBR INSD WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS                                                                                                                                                                                                                                     |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------|-------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A        | <input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b><br><input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR<br><br>GEN'L AGGREGATE LIMIT APPLIES PER:<br><input type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input checked="" type="checkbox"/> LOC<br>OTHER: |                    | G22011534020  | 3/31/2025               | 3/31/2026               | EACH OCCURRENCE \$ 1,000,000<br>DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000<br>MED EXP (Any one person) \$ 0<br>PERSONAL & ADV INJURY \$ 1,000,000<br>GENERAL AGGREGATE \$ 1,000,000<br>PRODUCTS - COMP/OP AGG \$ 1,000,000<br>\$ |
|          | <b>AUTOMOBILE LIABILITY</b><br><input type="checkbox"/> ANY AUTO<br><input type="checkbox"/> OWNED AUTOS ONLY<br><input type="checkbox"/> HIRED AUTOS ONLY<br><input type="checkbox"/> SCHEDULED AUTOS<br><input type="checkbox"/> NON-OWNED AUTOS ONLY                                                                   |                    |               |                         |                         | COMBINED SINGLE LIMIT (Ea accident) \$<br>BODILY INJURY (Per person) \$<br>BODILY INJURY (Per accident) \$<br>PROPERTY DAMAGE (Per accident) \$<br>\$                                                                                      |
|          | <input type="checkbox"/> <b>UMBRELLA LIAB</b> <input type="checkbox"/> OCCUR<br><input type="checkbox"/> <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE<br>DED <input type="checkbox"/> RETENTION \$                                                                                                             |                    |               |                         |                         | EACH OCCURRENCE \$<br>AGGREGATE \$<br>\$                                                                                                                                                                                                   |
|          | <b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b><br>ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)<br>If yes, describe under DESCRIPTION OF OPERATIONS below<br>Y / N <input type="checkbox"/> N / A                                                                                     |                    |               |                         |                         | PER STATUTE <input type="checkbox"/> OTH-ER <input type="checkbox"/><br>E.L. EACH ACCIDENT \$<br>E.L. DISEASE - EA EMPLOYEE \$<br>E.L. DISEASE - POLICY LIMIT \$                                                                           |
| A        | Excess Liability                                                                                                                                                                                                                                                                                                          |                    | G22011546020  | 3/31/2025               | 3/31/2026               | Limits per Occ General Aggregate \$1,500,000 \$4,000,000                                                                                                                                                                                   |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

City of Ormond Beach is an additional insured, primary and non-contributing as respects to any additional insured site owner. Location: 300 N. Nova Rd. Ormond Beach FL. Club: 4549 Ormond Beach R/C Club.

**CERTIFICATE HOLDER****CANCELLATION**

City of Ormond Beach  
PO Box 277  
Ormond Beach FL 32175-0277

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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**City of Ormond Beach**  
**City Commission Agenda**  
**Staff Report**

|                                 |                                                                                                                |                 |                            |
|---------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------|----------------------------|
| <b>Agenda Date</b>              | February 17, 2026                                                                                              | <b>Item No</b>  | 7.J.                       |
| <b>Section</b>                  | CONSENT AGENDA                                                                                                 | <b>Category</b> | Consent - Disposition Item |
| <b>Subject</b>                  | Intent to Bid - Fire Station 93 Generator Wind Wall and Pad Construction                                       |                 |                            |
| <b>Recommended Action</b>       | The City intends to publicly advertise this project for bid, unless otherwise directed by the City Commission. |                 |                            |
| <b>Strategic Goal</b>           | Public Safety - Ensure the physical security of City assets and operations.                                    |                 |                            |
| <b>Department Staff Contact</b> | Public Works - Engineering<br>Shawn Finley, Assistant City Manager                                             |                 |                            |

Summary

This is a request to advertise the attached construction plans and specifications in order to comply with the FEMA grant used to source the generator for Fire Station 93. FEMA requires a wind wall and appropriately sized pad be constructed prior to the generator installation and fund reimbursement. The Engineering department has sourced a structural design which complies with FEMA's requirements and intends to bid the associated work.

The generator at Fire Station 93, in service since 2000, has experienced major failures in recent years, does not have the capacity to power the entire facility, and is in need of replacement.

Reliable and consistent power preserves response capabilities, operable communications/dispatching, appropriate response times, logistical support, and city-wide command/control of large-scale events.

The City Commission approved submittal and acceptance of the grant in Resolution 2023-124, and subsequently received an award for the generator purchase and required site improvements.

Financial Impact

The wind wall and pad construction, as well as the transfer switch hookup, are estimated to cost approximately \$135,000. The remaining grant funds available for this project are \$40,000. The remaining share will need to be funded by the reserves of Fund 301- General Capital Improvement Fund through a budget amendment.

Citizen Impact

This project will ensure and enhance the City's ability to provide continuity of emergency response operations before, during, and after disaster-type events. Strategically located for quick and efficient response to emergency incidents, these facilities are critical to public safety, and provide a tangible benefit to the residents.

Attachments

1. Fire Station 93 Wind Wall and Pad Construction Bid Manual
2. 2025.12.24 - 100% Submittal - Generator Pad and Wind Wall - Drawings

**Fire Station 93 Wind Wall and Pad  
Construction  
Bid No. 2026-19**



**City of Ormond Beach  
Project Manual**

**PREPARED BY:**  
**ENGINEERING DIVISION OF PUBLIC WORKS**  
22 South Beach Street  
Ormond Beach, Florida 32174

**Fire Station 93 Wind Wall and Pad Construction**  
Ormond Beach, Florida

**TABLE OF CONTENTS**

| <b><u>Section No.</u></b>                | <b><u>Title</u></b>                  | <b><u>Pages</u></b> |
|------------------------------------------|--------------------------------------|---------------------|
| <b>BIDDING REQUIREMENTS</b>              |                                      |                     |
| 00030                                    | Advertisement for Bid                | 1 - 1               |
| 00100                                    | Instructions to Bidders              | 1 - 9               |
| 00300                                    | Bid                                  | 1 - 17              |
| 00410                                    | Bid Bond                             | 1 - 1               |
| <b>CONTRACT FORMS</b>                    |                                      |                     |
| 00500                                    | Form of Agreement                    | 1 - 5               |
| 00610                                    | Performance Bond                     | 1 - 2               |
| 00615                                    | Payment Bond                         | 1 - 2               |
| 00670                                    | Opinion of Attorney                  | 1 - 1               |
| <b>CONDITIONS OF CONTRACT</b>            |                                      |                     |
| 00700                                    | General Conditions                   | 1 - 35              |
| 00800                                    | Supplementary Conditions             | 1 - 7               |
| L.W.                                     | Lien Waiver                          | 1 - 1               |
|                                          | Federal Requirements for HMGP Grants | 1 - 7               |
| <b>TECHNICAL SPECIFICATIONS</b>          |                                      |                     |
| <b>DIVISION 1 - GENERAL REQUIREMENTS</b> |                                      |                     |
| 01010                                    | Summary of Work                      | 1 - 5               |
| 01025                                    | Measurement and Payment              | 1 - 4               |
| 01027                                    | Applications for Payment             | 1 - 4               |
| 01040                                    | Coordination                         | 1 - 1               |
| 01065                                    | Permits and Fees                     | 1 - 1               |
| 01200                                    | Project Meetings                     | 1 - 1               |
| 01300                                    | Submittals                           | 1 - 4               |
| 01380                                    | Construction Graphic Record          | 1 - 5               |
| 01400                                    | Quality Control                      | 1 - 1               |
| 01500                                    | Temporary Facilities and Controls    | 1 - 5               |
| 01600                                    | Materials and Equipment              | 1 - 3               |
| 01700                                    | Contract Closeout                    | 1 - 4               |

**Fire Station 93 Wind Wall and Pad Construction**  
Ormond Beach, Florida

**TABLE OF CONTENTS (Continued)**

| <b><u>Section No.</u></b>    | <b><u>Title</u></b>                    | <b><u>Pages</u></b> |
|------------------------------|----------------------------------------|---------------------|
| <b>DIVISION 2 - SITEWORK</b> |                                        |                     |
| 02050                        | Demolition                             | 1 – 3               |
| 02100                        | Clearing and Grubbing                  | 1 – 4               |
| 02200                        | Earthwork                              | 1 – 6               |
| 02222                        | Trenching, Backfilling, and Compacting | 1 – 5               |
| 02801                        | Restoration of Surface Improvements    | 1 – 5               |
| 02930                        | Grassing                               | 1 – 7               |
| <b>PROJECT DRAWINGS</b>      |                                        |                     |
|                              | Generator Pad and Wind Wall            | 1 - 6               |

**END**  
**TABLE OF CONTENTS**

**SECTION 00030**  
**ADVERTISEMENT FOR BIDS**

Sealed bids for furnishing all labor, materials and equipment necessary for constructing the **Fire Station 93 Wind Wall and Pad Construction, Bid No. 2026-19** for the City of Ormond Beach, Florida, will be received at the Office of the Purchasing Coordinator, City Hall, Ormond Beach, Florida, until **March 27, 2026 at 2:00 PM**, at which time bids will be opened and publicly read aloud in the Training Room located in the breezeway between City Hall and the Public Library. Bids received after the above time and date will be returned unopened.

The work consists of: Construct wind wall and generator mounting pad. The work is shown on the Drawings and specified in the Project Manual. The project Drawings, Specifications and related Bidding documents are available on-line at **www.demandstar.com**, or by calling DemandStar at (206) 940-0305. If you have difficulty obtaining these documents, please contact the City's purchasing office at (386) 610-0470.

A **pre-bid conference** to discuss the details and requirements of the contract will be held on **March 13, 2026 at 2:00 PM**, in the Training Room at City Hall. **A site visit will be held following the pre-bid conference.** All prospective bidders are strongly encouraged to attend. The deadline for submitting questions is **March 20, 2026 at 5:00pm**.

**END OF SECTION**

## **SECTION 00100 INSTRUCTION TO BIDDERS**

### **00101. Defined Terms**

Terms used in these Instructions to Bidders are defined in the General Conditions of the Construction Contract and have the meanings assigned to them in the General Conditions. The term "Successful Bidder" means the lowest, qualified, responsible Bidder to whom OWNER (on the basis of OWNER's evaluation as hereinafter provided) makes an award.

The OWNER for this project is:

The City of Ormond Beach  
22 South Beach Street  
Ormond Beach, Florida 32174

The ENGINEER for this project is:

The City of Ormond Beach  
22 South Beach Street  
Ormond Beach, Florida 32174

### **00102. Copies of Bidding Documents**

2.1 The City uses the services of DemandStar ([www.demandstar.com](http://www.demandstar.com)) to advertise/distribute its bids and RFP's via the internet.

2.2 Complete sets of the Bidding Documents may be obtained from the issuing office designated in the Advertisement for Bids.

2.3 Complete sets of Bidding Documents shall be used in preparing Bids; neither OWNER nor ENGINEER assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.4 OWNER and ENGINEER in making copies of Bidding Documents available, on the above terms, do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

#### **00102.1 COMPLIANCE WITH FLORIDA PUBLIC RECORDS LAW**

Contractor expressly agrees that it shall comply with the public records law provided in Florida Statutes, Chapter 119, and specifically to:

(a) Keep and maintain public records required by the City to perform the contracted service.

(b) Upon request from the City Clerk, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law.

(c) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to the City.

(d) Upon completion of the contract, transfer at no cost, to the City all public records in possession of the contractor or keep and maintain public records required by the City to perform the service. If the contractor transfers all public records to the City upon completion of the contract, the contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon the completion of the contract, the contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City Clerk, in a format that is compatible with the information technology systems of the City.

(e) Failure of the Contractor to comply with Public Records Law as provided by Florida Statutes, Chapter 119, shall subject the Contractor to penalties under Chapter 119.10 and subject this Agreement to termination for cause by the City.

**IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:**

**CITY CLERK  
22 SOUTH BEACH STREET  
ORMOND BEACH, FLORIDA 32174 (386) 610-0400  
[CITYCLERK@ORMONDBEACH.ORG](mailto:CITYCLERK@ORMONDBEACH.ORG)**

Ref: Fla. Stat. §119.0701(2016)

**00102.2 Public Records/Non-Confidentiality of Bids**

The City of Ormond Beach cannot and does not warrant the confidentiality of any information submitted in response to this bid solicitation. Florida law provides that municipal records shall at all times be open for personal inspection by any person, Section 119, F.S., the Public Records Act. Information and materials received by the City of Ormond Beach in connection with responsive bids shall be deemed to be public records subject to public inspection upon award, recommendation of award, or 30 days after bid opening, whichever occurs first.



### **00103. Qualifications of Bidders**

To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit, within seven days after the OWNER's request, written evidence of his ability to perform the work, such as financial data, previous experience, and evidence of authority to conduct business in the jurisdiction where the Project is located. Each Bid must contain evidence of Bidder's qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the contract.

### **00104. Public Entity Crimes:**

A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a Proposal on a contract to provide any goods or services to a public entity, may not submit a Proposal on a contract with a public entity for the construction or repair of a public building or public work, may not submit Proposals on leases or real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

4.1 Discrimination Pursuant to Section 287.134(2)(a), Florida Statutes, an entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity.

### **00105. Examination of Contract Documents and Site**

5.1 Before submitting a Bid, each Bidder must (a) examine the Contract Documents thoroughly, (b) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress or performance of the Work, (c) familiarize himself with federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work; and (d) study and carefully correlate Bidder's observations with the Contract Documents.

5.2 Reference is made to the Supplementary Conditions for the identification of those reports of investigations and tests for subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which have been relied upon by ENGINEER in preparing the Drawings and Specifications. OWNER will make such reports available for inspection to any Bidder or copies may be obtained from the ENGINEER by the Bidder at reproduction cost. These reports are not guaranteed as to accuracy or completeness, nor are they part of the Contract Documents. Before submitting his Bid each Bidder will, at his own expense, make such additional investigations and tests as the Bidder may deem necessary to determine his Bid for performance of

the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

5.3 On request OWNER will provide each Bidder access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of his Bid. Bidders making such investigations shall return site to original condition and shall pay for any damages resulting therefrom.

5.4 The lands upon which the Work is to be performed, rights-of-way for access thereto and other lands designated for use by CONTRACTOR in performing the Work are identified in the Supplementary Conditions, General Requirements, or Drawings.

5.5 The submission of a Bid will constitute an incontrovertible representation by the Bidder that he has complied with every requirement of this Article 4 and that the Contract Documents are sufficient in Scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

#### **00106. Clarification/Correction of Proposal**

The City of Ormond Beach reserves the right to allow for the clarification of questionable entries and for the correction of obvious mistakes.

#### **00107. Interpretations**

7.1 All questions about the meaning or intent of the Contract Documents shall be submitted in writing to the Purchasing Coordinator via email to [procurement@ormondbeach.org](mailto:procurement@ormondbeach.org). Replies will be issued by Addenda mailed or delivered to all parties recorded by ENGINEER as having received the Bidding Documents. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.2 To protect the integrity of the procurement process, respondents, suppliers, contractors, sub-contractors or persons acting on behalf of any of the above, are prohibited from all communications regarding the solicitation with City staff, City consultants, City legal counsel, City agents, or elected officials, unless such communication is specifically authorized in the City's solicitation or addenda. Violation of this provision may be grounds for rejecting a response.

#### **00108. Minority Policies**

The City of Ormond Beach, Florida, encourages the full participation of Disadvantaged and Women Business Enterprises (D&WBE) in the provision of goods and services.

#### **00109. Bid Security**

9.1 Bids shall be accompanied by a Bid Security. The Security shall be made payable to OWNER, in the amount of five percent (5%) of the total bid, and in the form of a certified or cashier's check or a Bid Bond issued by a Surety meeting the requirements of paragraph 5.1 of the General

Conditions. The Bid Security shall be irrevocable after the time and date set for the opening of bids, and for a period of ninety (90) days thereafter.

9.2 The Bid Security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required Contract Security, whereupon it will be returned; if the successful Bidder fails to execute and deliver the Agreement and furnish the required Contract Security within fifteen (15) days of the Notice of Award, OWNER may annul the Notice of Award and the Bid Security of that Bidder will be forfeited. The Bid Security of any Bidder whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the seventh day after the "effective date of the Agreement" or the first day after the expiration of the period that Bids are specified to remain open in the Advertisement for Bids. Bid Security of other Bidders will be returned within seven (7) days of the Bid opening.

**00110. Contract Time**

The number of days within which, or the date by which, the Work is to be completed (the Contract Time) is set forth in the Bid Form and will be included in the Agreement.

**00111. Liquidated Damages**

Provisions for liquidated damages, if any, are set forth in the Bid Form and Agreement.

**00112. Subcontractors**

12.1 If the Supplementary Conditions, Bid Form and/or Specifications require the identity of certain subcontractors to be submitted to the OWNER with the bid, the bidder will list in his bid all subcontractors proposed for those portions of the work for which such identification is so required. When requested, an experience statement, pertinent information as to similar projects satisfactorily completed and other evidence of qualifications for each listed subcontractor shall be submitted within seven (7) days after the bid. If the OWNER after due investigation has reasonable objection to any proposed subcontractor, OWNER may before giving the Notice of Award request the apparent low bidder to submit an acceptable substitute without an increase in his bid price. If the apparent Successful Bidder declines to make any such substitution, the contract shall not be awarded to such Bidder, but his declining to make any such substitution will not constitute grounds for sacrificing his Bid Security. Any Subcontractor so listed and to whom OWNER does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER.

12.2 In contracts where the Contract Price is on the basis of Cost-of-the-Work Plus a Fee, the apparent Successful Bidder, prior to the Notice of Award, shall identify in writing to OWNER those portions of the Work that such Bidder proposes to subcontract and after the Notice of Award may only subcontract other portions of the Work with OWNER's written consent.

**00113. Material and Equipment List (Manufacturers)**

If the Supplementary Conditions, Bid Form and/or Specifications require the identity of certain material and equipment manufacturers be submitted to the OWNER with the bid, the bidder will list

in his bid all material and equipment manufacturers proposed for those portions of the work for which such identification is so required. Such list shall be supplemented by product descriptions for each listed material and equipment item. Supplemental information will be submitted with the bid unless it has been prefiled with the ENGINEER. In this latter case, the bid shall state that the information has been prefiled. Equipment manufacturers/suppliers must agree to OWNER'S terms of purchase. In no event will OWNER accept terms of sale that limit OWNER'S ability to reasonably recover in the event of equipment failure/defect such as, but not limited to; mandatory arbitration clauses, venue of court proceedings and applicable law outside of Volusia County, Florida, or damage limitations that preclude recovery for failed or defective equipment that would be less than full compensation for OWNER's loss. If the OWNER after due investigation has reasonable objection to any proposed material or equipment item, OWNER may before giving the Notice of Award request the apparent low bidder to submit an acceptable substitute without an increase in his bid price. If the apparent Successful Bidder declines to make any such substitution, the contract may not be awarded to such Bidder, but his declining to make any such substitution will not constitute grounds for sacrificing his Bid Security. Any material or equipment manufacturer so listed and to whom OWNER does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER. This acceptance of a material or equipment manufacturer does not relieve the CONTRACTOR from the responsibility of submitting shop drawings in accordance with Section 01300 before incorporating said material and/or equipment into the Work.

#### **00114. Material and Equipment Substitutions**

Excluding items called for in the bidders Equipment and Subcontractors List in the Bid, Section 00300, whenever it is indicated on the Drawings or specified in the Specifications that a substitute or "or equivalent" item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the "effective date of the Agreement". The procedure for submittal of any such application by CONTRACTOR and consideration by ENGINEER is set forth in Section 01630 - Substitutions and Product Options.

#### **00115. Bid Form**

15.1 Bids shall be submitted on standard forms which are furnished in this Project Manual.

15.2 Bid Forms must be completed in ink or by typewriter. All blank spaces must be filled. Where indicated on the Bid Form, the Bid price of each item on the form must be stated in words and numerals; in case of a conflict, words will take precedence.

15.3 The estimate of the various quantities of work applicable to unit price items as shown on the Bid Form is approximate and is intended solely to provide the basis of comparison upon which the award of contract is made. Final payment will be made on the basis of the actual completed quantities of each item.

15.4 Bids by corporations must be executed in the corporate name by the president or a vice president (or other corporate officer accompanied by evidence of authority to sign) and the corporate

seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

15.5 Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.

15.6 Bids by a Joint Venture must be executed by all individuals, Partners, or Corporations interested in the Joint Venture in the same manner that bids by these separate entities are required to be executed.

15.7 All names must be typed or printed below the signature.

15.8 The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).

15.9 The address to which communications regarding the Bid are to be directed must be shown.

15.10 Only one bid from any individual, firm, partnership or corporation under the same or different names, will be considered. Should it appear to the OWNER that any Bidder is interested in more than one bid, all bids in which such Bidder is interested will be rejected.

#### **00116. Submission of Bids**

Bids shall be submitted at the time and place indicated in the Advertisement for Bids and shall be included in an opaque sealed envelope, marked with the Bid Number, Project Title, and Bidder's Name and Address, accompanied by the Bid Security and other required documents. Include one (1) original bid form and (1) electronic file (thumb/flash drive or CD). If the Bid is sent through the mail or other delivery system, the sealed Bid shall be sent in a separate envelope with the notation "BID ENCLOSED" as well as the Bid Number, Project Title, and Bid Opening Date clearly displayed on the shipping envelope/package.

#### **Submit bids to:**

City of Ormond Beach  
Purchasing Coordinator  
22 South Beach Street, Room 102  
Ormond Beach, FL 32174

#### **00117. Modification and Withdrawal of Bids**

Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

**00118. Opening of Bids**

Bids will be opened publicly and read aloud and an abstract of the amounts of the base Bids and major alternates (if any) will be made available after the opening of Bids.

**00119. Bids to Remain Open**

All Bids shall remain open for ninety (90) days after the day of the Bid opening, but OWNER may, in his sole discretion, release any Bid and return the Bid Security prior to that date.

**00120. Award of Contract**

20.1 OWNER reserves the right to reject any and all Bids, to waive any and all informalities and to negotiate contract terms with the Successful Bidder, and the right to disregard all nonconforming, nonresponsive or conditional Bids. Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the indicated product of quantities and unit prices and the correct product thereof will be resolved in favor of the correct product. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

20.2 In evaluating Bids, OWNER shall consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, and alternates and unit prices if requested in the Bid forms. It is OWNER's intent to accept alternates (if any are accepted) in the order in which they are listed in the Bid form but OWNER may accept them in any order or combination.

20.3 OWNER may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items or material or equipment) proposed for those portions of the Work as to which the identity of Subcontractors and other persons and organizations must be submitted as provided in the Supplementary Conditions. Operating costs, maintenance considerations, performance data and guarantees of materials and equipment may also be considered by OWNER.

20.4 Irregular bids may be rejected. Irregular bids are defined as those containing serious omissions, unauthorized alternative bids, incomplete bids or unbalanced bids. Failure to provide all of the information required to accompany the bid will be considered to be a serious omission.

20.5 OWNER may conduct such investigations as he deems necessary to assist in the evaluation of any Bid.

20.6 OWNER reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to OWNER's satisfaction.

20.7 If the contract is to be awarded it will be awarded to the lowest responsible Bidder whose evaluation by OWNER indicates that the award will be in the best interests of the Project. Pursuant to the provisions of Florida Statutes Chapter 287.05701, the City does not request, or consider, a Vendor's social, political, or ideological interests in making a responsibility determination. The low

bid will be based on the total cost of the Base Bid and, when applicable, any Additive or Deductive Alternates that are to be included in the Contract, as decided by the OWNER.

20.8 If the contract is to be awarded, OWNER will give the Successful Bidder a Notice of Award within the number of days after the day of the Bid opening specified in the Advertisement for Bids to remain open.

#### **00121. Performance and Other Bonds**

Paragraph 5.1 of the General Conditions and the Supplementary Conditions set forth OWNER's requirements as to performance and other Bonds. When the Successful Bidder delivers the executed Agreement to OWNER it shall be accompanied by the required Contract Security.

#### **00122. Signing of Agreement**

When OWNER gives a Notice of Award to the Successful Bidder, it will be accompanied by at least two (2) unsigned counterparts of the Agreement and all other Contract Documents. Within fifteen (15) days thereafter CONTRACTOR shall sign all and deliver at least two (2) counterparts of the Agreement to OWNER with other Contract Documents attached. Within fifteen (15) days thereafter OWNER will deliver fully signed counterparts to CONTRACTOR.

#### **00123. Special Requirements**

23.1 Financing. Funds will be available for payment of estimate draws as they become due.

23.2 Prohibited Interests. No official of the OWNER who is authorized in such capacity, and on behalf of the OWNER to negotiate, make, accept or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the project shall become directly or indirectly interested, personally, in this Contract or in any part thereof. No officer, employee, architect, attorney, engineer, or inspector of or for the OWNER who is authorized in such capacity and on behalf of the OWNER to exercise legislative, executive, supervisory, or other similar functions in connection with the construction of the project, shall become directly or indirectly interested personally, in this Contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

23.3 Performance of Work by CONTRACTOR:

Contract Assignment. The successful Bidder (or Bidders) will be required to perform the work as a prime contractor.

The CONTRACTOR shall not sublet, sell, transfer, assign or otherwise dispose of the contract or any portion thereof, or of his right, title or interest therein, without written consent of the OWNER.

**END OF INSTRUCTION TO BIDDERS**

**SECTION 00300**  
**BID**

CONTRACTORS NAME \_\_\_\_\_ LICENSE NO. \_\_\_\_\_

PROJECT IDENTIFICATION: **Fire Station 93 Wind Wall and Pad Construction**

CONTRACT IDENTIFICATION AND NUMBER: Bid No. 2026-19

THIS BID IS SUBMITTED TO:

(Name and Address of Owner)

City of Ormond Beach  
22 South Beach Street  
Ormond Beach, Florida 32174

1. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Contract Documents to complete all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the Contract Documents.

2. BIDDER certifies that he has investigated the requirements to do business in the jurisdiction where the project is located, and that he is either qualified to do business or will obtain such prequalification prior to award of the contract.

3. BIDDER accepts all of the terms and conditions of the Instructions to Bidders (Section 00100) including, without limitation, those dealing with the disposition of Bid Security, Public Entity Crimes, and Minority Policies. This Bid will remain open for 90 days after the day of Bid opening. BIDDER will sign the Agreement and submit the Contract security and other documents required by the Contract Documents within ten (10) days after the date of OWNER'S Notice of Award.

4. In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:

(a) BIDDER has examined copies of all the Contract Documents and of the following addenda:

| <u>Date</u> | <u>Number</u> |
|-------------|---------------|
| _____       | _____         |
| _____       | _____         |
| _____       | _____         |
| _____       | _____         |

(receipt of all of which is hereby acknowledged) and also copies of the Advertisement to Bid and the Instructions to Bidders;



**BID (Cont'd.)**  
**Fire Station 93 Wind Wall and Pad Construction**  
**ORMOND BEACH, FLORIDA**

(b) BIDDER has examined the site and locality where the Work is to be performed, the legal requirements (federal, state and local laws, ordinances, rules and regulations) and the conditions affecting cost, progress or performance of the Work and has made such independent investigations as BIDDER deems necessary.

(c) This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; BIDDER has not solicited or induced any person, firm or a corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for himself any advantage over any other Bidder or over OWNER; and

5. BIDDER will complete the Work for the following price(s):

**BID SCHEDULE**

| Item No. | Description                 | Estimated Qty | Unit | Unit Price | Total Price |
|----------|-----------------------------|---------------|------|------------|-------------|
| 1        | Mobilization/Demobilization | 1             | LS   |            |             |
| 2        | Construct Wind Wall and Pad | 1             | LS   |            |             |
| 3        | Certified As-Built Drawings | 1             | LS   |            |             |
| 4        | Allowance                   | 1             | LS   | \$10,000   | \$10,000    |

TOTAL BID \$ \_\_\_\_\_  
(Figures)

\_\_\_\_\_  
(Words)

**BID (Cont'd.)**  
**Fire Station 93 Wind Wall and Pad Construction**  
**ORMOND BEACH, FLORIDA**

BIDDER acknowledges that the quantities are not guaranteed and final payment will be based on actual quantities determined as provided in the Contract Documents.

BIDDER agrees that the Work will be substantially completed within 60 calendar days after the date when the Contract Time commences to run, and completed within 90 calendar days after the date when the Contract Time commences to run.

BIDDER recognizes that time is of the essence to complete this Project and that OWNER will suffer financial loss if the Work is not substantially complete within the time specified above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The BIDDER also recognize the delays, expense and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by OWNER if the Work is not substantially complete on time. Accordingly, instead of requiring any such proof, OWNER has determined and BIDDER agrees to accept that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER Four Hundred Dollars (\$ 400 ) for each calendar day that expires after the time specified above for substantial completion until the Work is substantially complete. After substantial completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the time specified above for completion and readiness for final payment or any proper extension thereof granted by OWNER, CONTRACTOR shall pay the OWNER an amount equal to all actual expenses incurred by the OWNER as a direct result of the CONTRACTOR'S negligence, refusal, or failure to so complete the remaining work. In the event the CONTRACTOR is terminated or abandons the work prior to the scheduled date for final completion, the CONTRACTOR may be liable for both liquidated damages attributable to delay and for excess completion costs.

6. The following documents are attached to and made a condition of this Bid:

- (a) Required Bid Security in the form of
  - (1) a certified check drawn in favor of the City of Ormond Beach in the amount of 5 percent of the total bid; or
  - (2) a Bid Bond in the amount of 5 percent of the total bid.
- (b) Equipment, Material, and Subcontractors List
- (c) All information required by the Trench Safety Act (Part VI, Chapter 553, Florida Statutes).
- (d) Drug Free Workplace Certificate
- (e) Conflict, Non-Conflict of Interest, Litigation Statement
- (f) Local Vendor Preference
- (g) Verification of Employment Status Using E-Verify System
- (h) Affidavit of Compliance F.S. 287.138 Contracting With Foreign Entities of Concern

**BID (Cont'd.)**  
**Fire Station 93 Wind Wall and Pad Construction**  
**ORMOND BEACH, FLORIDA**

- (i) Human Trafficking Affidavit, Section 787.06, Florida Statutes
- (j) Sworn Statement Pursuant to Section 287.133(3)(A), Florida Statutes on Public Entity Crime

7. Communications to the BIDDER concerning this Bid shall be addressed to:

Mailing Address: \_\_\_\_\_  
Street Address: \_\_\_\_\_  
City, State, Zip Code: \_\_\_\_\_  
Email: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

8. The terms used in this Bid which are defined in the General Conditions of the Construction Contract included as part of the Contract DOCUMENTS have the meanings assigned to them in the General Conditions.

SUBMITTED on \_\_\_\_\_, 20\_\_.

If BIDDER is:

An Individual

By \_\_\_\_\_  
(Individual's Name - Signature)

\_\_\_\_\_  
(Individual's Name - Typed or Printed) (SEAL)

doing business as \_\_\_\_\_

Business address: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

**BID (Cont'd.)**  
**Fire Station 93 Wind Wall and Pad Construction**  
**ORMOND BEACH, FLORIDA**

If BIDDER is:

A Partnership

By \_\_\_\_\_ (SEAL)  
(Firm Name)

\_\_\_\_\_  
(General Partner - Signature)

\_\_\_\_\_  
(General Partner - Typed or Printed)

Business Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

**BID (Cont'd.)**  
**Fire Station 93 Wind Wall and Pad Construction**  
**ORMOND BEACH, FLORIDA**

If BIDDER is:

A Corporation

By \_\_\_\_\_  
(Corporation Name)

\_\_\_\_\_  
(State of Incorporation)

By \_\_\_\_\_  
(Name of Person Authorized to Sign - Signature)

\_\_\_\_\_  
(Name of Person Authorized to Sign - Typed or Printed)

\_\_\_\_\_  
(Title)

(Corporate Seal)

Attest \_\_\_\_\_

Business address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

**BID (Cont'd.)**  
**Fire Station 93 Wind Wall and Pad Construction**  
**ORMOND BEACH, FLORIDA**

If BIDDER is:

A Joint Venture

By \_\_\_\_\_  
(Name - Signature)

\_\_\_\_\_  
(Name - Typed or Printed)

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

By \_\_\_\_\_  
(Name - Signature)

\_\_\_\_\_  
(Name - Typed or Printed)

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

(Each joint venturer must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above.)

**BID (Cont'd.)**  
**Fire Station 93 Wind Wall and Pad Construction**  
**ORMOND BEACH, FLORIDA**

**EQUIPMENT AND SUBCONTRACTORS LIST**

List the names of the manufacturers whose product is proposed for use. No more than one manufacturer's name shall be inserted for each item of material and/or equipment listed. Failure to list materials and equipment supplier may result in the Bid being rejected as incomplete and nonresponsive. If any Subcontractors are proposed to be used for any portions of the Work, the names, addresses, phone numbers and work classifications of each such Subcontractor must be listed. The failure to list all Subcontractors proposed for the work may result in the Bid being rejected as incomplete and nonresponsive. If more than one manufacturer or subcontractor is listed, selection will be made by the OWNER. If none is listed, those listed as the "Basis for Design" will be used.

**Materials and Equipment:**

| <u>Item</u> | <u>Supplier</u> |
|-------------|-----------------|
| <hr/>       | <hr/>           |
| <hr/>       | <hr/>           |
| <hr/>       | <hr/>           |
| <hr/>       | <hr/>           |
| <hr/>       | <hr/>           |
| <hr/>       | <hr/>           |
| <hr/>       | <hr/>           |
| <hr/>       | <hr/>           |

**Subcontractors:**

Work Classification: 

---

Name: 

---

Address: 

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Phone Number: 

---

Fax Number: 

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**BID (Cont'd.)**  
**Fire Station 93 Wind Wall and Pad Construction**  
**ORMOND BEACH, FLORIDA**

Subcontractors:

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Work Classification: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_



**BID (Cont'd.)**  
**Fire Station 93 Wind Wall and Pad Construction**  
**ORMOND BEACH, FLORIDA**

**TRENCH SAFETY STANDARDS**

If this project includes trench excavation in excess of five (5) feet in depth, the following trench safety standards will be in effect during the period of construction of the project:

The Occupational Safety and Health Administration's excavation safety standards, 29 C.F.R.s. 1926.650 Subpart P, and any regulation promulgated there under are hereby incorporated as the standard for this project.

The Bidder hereby certifies that the Contractor performing the trench excavation will comply with the applicable trench safety standards.

The Bidder further certifies that the cost (which is included in his unit cost) of compliance with applicable trench safety standards is:

|                      | <u>Estimated<br/>Quantity</u> | <u>Units</u> | <u>Unit<br/>Price</u> | <u>Total<br/>Estimated<br/>Price</u> |
|----------------------|-------------------------------|--------------|-----------------------|--------------------------------------|
| <u>ITEM</u>          |                               |              |                       |                                      |
| 1. Trench Excavation | _____                         | L.F.         | _____                 | _____                                |
| 2. Sheeting/Shoring  | _____                         | S.F.         | _____                 | _____                                |

\_\_\_\_\_  
Name (signature) Date

\_\_\_\_\_  
Name (typed or printed)

\_\_\_\_\_  
Title

**BID (Cont'd.)**  
**Fire Station 93 Wind Wall and Pad Construction**  
**ORMOND BEACH, FLORIDA**

**DRUG-FREE WORKPLACE CERTIFICATION**

**Identical Or “Tie” Bids:** Preference shall be given to businesses with drug-free workplace programs. Whenever two or more proposals which are equal in respect to price, quality, and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

- 1) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- 2) Inform employees about the dangers of drug abuse in the workplace, the business’s policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violation.
- 3) Give each employee that engages in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
- 4) In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5 ) calendar days after such conviction.
- 5) Impose sanctions on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee’s community, by any employee who is so convicted.
- 6) Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

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Name (signature)

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Date

---

Name (typed or printed)

---

Title

**BID (Cont'd.)**  
**Fire Station 93 Wind Wall and Pad Construction**  
**ORMOND BEACH, FLORIDA**

**CONFLICT, NON-CONFLICT OF INTEREST STATEMENT**  
**LITIGATION STATEMENT**

**1.**

- [ ] To the best of our knowledge, the undersigned firm has no potential conflicts of interest due to any other clients or contracts for this project.
- [ ] The undersigned firm, by attachment to this form, submits information which may be a potential conflict of interest due to other clients or contracts for this project.

**2.**

- [ ] The undersigned firm has had no litigation on any project in the last five (5) years.
- [ ] The undersigned firm, by attachment to this form, submits a summary and disposition of individual cases of litigation during the past five (5) years.

\_\_\_\_\_  
COMPANY NAME

\_\_\_\_\_  
AUTHORIZED SIGNATURE

\_\_\_\_\_  
NAME (PRINT OR TYPE)

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
DATE

**BID (Cont'd.)**  
**Fire Station 93 Wind Wall and Pad Construction**  
**ORMOND BEACH, FLORIDA**

**VERIFICATION OF EMPLOYMENT STATUS USING E-VERIFY SYSTEM**

1. Undersigned firm warrants it **IS** currently registered with the U.S. Department of Homeland Security's E-Verify system, **and** is compliant with the requirements of Sections 448.09 and 448.095, *Florida Statutes*.
2. Undersigned firm warrants it **has not** had any contracts terminated as a result of violations of Sections 448.09 or 448.095, *Florida Statutes*, that prohibit it from contracting with a public agency.
3. Undersigned firm warrants that if it enters into an agreement with a subcontractor, an express provision shall be included in all of its subcontracts requiring subcontractors, who perform work or provide services pursuant to the contract, to use the E-Verify system to verify employment eligibility of all new employees hired by the subcontractor during the contract term.
4. Undersigned firm understands that any subcontractor must provide the contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien, and the contractor understands it shall maintain any such affidavits for the duration of the contract, and the contract with the subcontractor must be immediately terminated if the City has a good faith belief that the subcontractor knowingly violated Section 448.09 (1), *Florida Statutes*.
5. Undersigned firm understands that in the event the City has a good faith belief that the contractor has knowingly violated Section 448.09 (1), *Florida Statutes*, the City shall terminate the contract, and the contractor may not be awarded a public contract for a period of at least one (1) year after the date of termination. The contractor may be held liable for any additional costs incurred by the City as a result of termination of the contract.

\_\_\_\_\_  
COMPANY NAME

\_\_\_\_\_  
AUTHORIZED SIGNATURE

\_\_\_\_\_  
NAME (PRINT OR TYPE)

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
DATE

**BID (Cont'd.)**  
**Fire Station 93 Wind Wall and Pad Construction**  
**ORMOND BEACH, FLORIDA**

**AFFIDAVIT OF COMPLIANCE WITH SECTION 287.138, FLORIDA STATUTES  
CONTRACTING WITH FOREIGN ENTITIES OF CONCERN**

The undersigned ("Affiant"), on behalf of the entity listed below ("Entity"), hereby attests under penalty of perjury as follows:

1. Affiant is the \_\_\_\_\_ of \_\_\_\_\_  
(Title) (Business Name)  
which does business in the State of Florida, hereinafter called the "Entity".
2. Entity is not owned by the government of a foreign country of concern, as defined in Section 287.138 (1) (c), Florida Statutes.
3. The government of a foreign country of concern does not have a controlling interest in Entity, as defined in Section 287.138 (1)(a), Florida Statutes.
4. Entity is not organized under the laws of, and does not have a principal place of business in, a foreign country of concern.
5. Entity is not owned or controlled by the government of a foreign country of concern.
6. For purposes of this affidavit, a foreign country of concern means the People's Republic of China, the Russian Federation, the Islamic Republic of Iran, the Democratic People's Republic of Korea, the Republic of Cuba, the Venezuelan regime of Nicolas Maduro, or the Syrian Arab Republic, including any agency of or any other entity of significant control of such foreign country of concern, as defined in Section 287.138(1)(c), Florida Statutes.

The undersigned is authorized to execute this affidavit on behalf of the Entity.

Date: \_\_\_\_\_, 20\_\_\_\_ Signed: \_\_\_\_\_

Title: \_\_\_\_\_ Print Name: \_\_\_\_\_

Entity: \_\_\_\_\_

STATE OF: \_\_\_\_\_ COUNTY OF: \_\_\_\_\_

The foregoing instrument was acknowledged before me by means of ☐physical presence or

☐online notarization, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_,

by \_\_\_\_\_ and who:

☐Is personally known to me; or ☐has produced \_\_\_\_\_  
as identification.

\_\_\_\_\_  
Notary Public, State of Florida at Large:

*Printed Name/Seal of Notary, Commission*

(seal)

My commission expires: \_\_\_\_\_

**This page must be completed & notarized.**

## **HUMAN TRAFFICKING AFFIDAVIT** **(SECTION 787.06, FLORIDA STATUTES)**

**BID (Cont'd.)**  
**Fire Station 93 Wind Wall and Pad Construction**  
**ORMOND BEACH, FLORIDA**

**SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(A).**  
**FLORIDA STATUTES ON PUBLIC ENTITY CRIME**

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to \_\_\_\_\_

By \_\_\_\_\_

(print this individual's name and title)

for \_\_\_\_\_

(print name of entity submitting statements)

whose business address is \_\_\_\_\_

and if applicable whose Federal Employer Identification Number (FEIN) is \_\_\_\_\_

If the entity has no FEIN, include the Social Security Number of the individual signing this sworn Statement:

\_\_\_\_\_

2. I understand that a "public entity crime" as defined in paragraph 287.133(1)(a), Florida Statutes, mean a violation of any state or federal law by a person with respect to and directly related to the transactions of business with any public entity or with an agency or political subdivision of any other state or with the United States including, but not limited to any bid or contract for goods or services to be provided to any public entity or any agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.
3. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes means a finding of guilt or a conviction of a public entity crime, with or without adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a Jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.
4. I understand that an "affiliate" as defined in paragraph 287.133(1)(a), Florida Statutes, means:
1. A predecessor or successor of a person convicted of public entity crime; or
  2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.
5. I understand that a "person" as defined in Paragraph 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.
6. Based on information and belief, the statement which I have marked below is true in a relation to the entity submitting this sworn statement. (Please indicate which statement applies).

**BID (Cont'd.)**  
**Fire Station 93 Wind Wall and Pad Construction**  
**ORMOND BEACH, FLORIDA**

\_\_\_\_ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or any affiliate of the entity has been charged with and convicted of a public entity crime within the past 36 months.

\_\_\_\_ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime within the past 36 months. AND (Please indicate which additional statement applies).

\_\_\_\_ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime within the past 36 months. However, there has been a subsequent proceeding before a Hearing Officers of the State of Florida, Division of Administrative Hearings and the Final Order by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. (Attached is a copy of the final order).

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THE PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED AND FOR THE PERIOD OF THE CONTRACT ENTERED INTO, WHICHEVER PERIOD IS LONGER. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

\_\_\_\_\_  
(Signature)

The foregoing instrument was acknowledged before me by means of ☐ physical presence or

☐ online notarization, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_,

by \_\_\_\_\_ and who:

☐ Is personally known to me; or ☐ has produced \_\_\_\_\_  
as identification.

\_\_\_\_\_  
Notary Public, State of Florida at Large:  
*Printed Name/Seal of Notary, Commission*

(seal)

My commission expires: \_\_\_\_\_

**This page must be completed & notarized.**

**END OF BID**  
**00300-17**



**SECTION 00410  
BID BOND**

**KNOW ALL MEN BY THESE PRESENTS**, that we

\_\_\_\_\_  
(hereinafter called *Principal*) and

\_\_\_\_\_  
(hereinafter called the *Surety*) a corporation chartered and existing under the Laws of the State of \_\_\_\_\_ with its principal offices in the County of \_\_\_\_\_, and authorized to do business in the State of Florida, in the full and just sum of \_\_\_\_\_ Dollars (\$\_\_\_\_\_) good and lawful money of the United States of America, to be paid upon demand of the City of Ormond Beach, Florida, to which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, and assigns, jointly and severally and firmly by these presents,

**WHEREAS**, the Principal is about to submit, or has submitted to the City of Ormond Beach, Florida, a bid for work to be done on the **Fire Station 93 Wind Wall and Pad Construction (Bid No. 2026-19 )** in, and for the City and,

**WHEREAS**, the Principal desires to file this bond in accordance with law, in lieu of a certified or cashier's check otherwise required to accompany this Bid.

**NOW, THEREFORE:** the conditions of this obligation are such that if the Bid be accepted the Principal shall within ten (10) days after the receipt of notification of the acceptance thereof execute a contract in accordance with the Bid and upon the terms, conditions and unit or lump sum prices set forth therein, in the form and manner required by the Owner, and execute a sufficient and satisfactory Contract Bond payable to the Owner, in an amount not less than the total contract price, as indicated by the approximate quantities shown in the Bid, in form and with security satisfactory to the said City, then this obligation to be void; otherwise to be and remain in full force and virtue in law; and the Surety shall upon the failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to the aforesaid City upon demand the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

**IN TESTIMONY WHEREOF**, the Principal and Surety have caused these presents to be duly signed and sealed this \_\_\_\_\_ day \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
(Principal)

By: \_\_\_\_\_

**ATTEST:**

\_\_\_\_\_  
(Surety)

By: \_\_\_\_\_

\_\_\_\_\_  
(SEAL)

**END OF SECTION  
00410 - 1**

**SECTION 00500**  
**FORM OF AGREEMENT**

THIS AGREEMENT is by and between City of Ormond Beach, a Municipal Corporation in the State of Florida (hereinafter called OWNER) and

\_\_\_\_\_  
(hereinafter called CONTRACTOR)

The bid for this contract was approved by the City Commission on \_\_\_\_\_, 2026.

**Article 1. WORK**

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

Construct wind wall and generator mounting pad.

The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

**Fire Station 93 Wind Wall and Pad Construction**  
Bid No. 2026-19

**Article 2. ENGINEER**

The Project has been designed by City Engineer, 22 South Beach Street, Ormond Beach, FL 32174, who is hereinafter called ENGINEER and who will assume all duties and responsibilities and will have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

**Article 3. CONTRACT TIME**

3.1 The Work will be substantially completed within **60** calendar days after the date when the Contract Time commences to run as provided in paragraph 2.3 of the General Conditions, and completed and ready for final payment in accordance with paragraph 14.10 of the General Conditions within **90** calendar days after the date when the Contract Time commences to run.

3.2 Liquidated Damages. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not substantially complete within the time specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not substantially complete on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER Four Hundred Dollars (\$ 400) for each calendar day that expires after the time specified in paragraph 3.1 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the time

specified in paragraph 3.1 for completion and readiness for final payment or any proper extension thereof granted by OWNER, CONTRACTOR shall pay the OWNER an amount equal to all actual expenses incurred by the OWNER as a direct result of the CONTRACTOR'S negligence, refusal, or failure to so complete the remaining work. In the event the Contractor is terminated or abandons the Work prior to the scheduled date for final completion, the Contractor may be liable for both liquidated damages attributable to delay and for excess completion costs.

#### **Article 4. CONTRACT PRICE**

OWNER shall pay CONTRACTOR for completion of the Work, in accordance with the Contract Documents, an amount in current funds equal to the lump sum TOTAL BID of \$\_\_\_\_\_, as listed in the Bid Form. Payment shall be for the actual completed work, as specified in the Measurement and Payment section of the project Manual and in accordance with Article 14 of the General Conditions.

#### **Article 5. PAYMENT PROCEDURES**

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

5.1 Progress Payments. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment as recommended by ENGINEER, on or about the 15<sup>th</sup> day of each month during construction as provided below, provided Applications for Payment are timely delivered pursuant to Article 14.1 of the General Conditions. All progress payments will be on the basis of the progress of the Work measured by the schedule of values provided for in paragraph 14.1 of the General Conditions.

5.1.1 When applicable, all progress payments shall be in an amount equal to:

Ninety-Five percent (95%) of the Work completed.

Ninety-Five percent (95%) of materials and equipment not incorporated in the Work but delivered and suitably stored, less in each case the aggregate of payments previously made and less such amounts as ENGINEER shall determine in accordance with paragraph 14.4 of the General Conditions.

5.2 Final Payment. Upon final completion and acceptance of the Work in accordance with paragraph 14.10 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraph 14.10.

## **Article 6. CONTRACTOR'S REPRESENTATIONS**

In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

- 6.1 CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the Work.
- 6.2 CONTRACTOR has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which were relied upon by ENGINEER in the preparation of the Drawings and Specifications and which have been identified in the Supplementary Conditions.
- 6.3 CONTRACTOR has made or caused to be made examinations, investigations and tests and studies of such reports and related data in addition to those referred to in paragraph 6.2 as he deems necessary for the performance of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, and no additional examinations, investigations, tests, reports or similar data are or will be required by CONTRACTOR for such purposes.
- 6.4 CONTRACTOR has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.
- 6.5 CONTRACTOR has given ENGINEER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

## **Article 7. CONTRACT DOCUMENTS**

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR are attached to this Agreement, made a part hereof and consists of the following:

- 7.1 This Agreement (pages 1 to 5 , inclusive).
- 7.2 Exhibits to this Agreement (pages \_\_\_\_ to \_\_\_\_ , inclusive).
- 7.3 Performance and other Bonds, identified as exhibits 00610 AND 00615 and consisting of 4 pages.
- 7.4 Notice of Award.
- 7.5 General Conditions (pages 1 to 35 , inclusive).
- 7.6 Supplementary Conditions (pages 1 to 7 , inclusive).

7.7 Specifications bearing the title:

**Fire Station 93 Wind Wall and Pad Construction**

and consisting of 16 divisions, as listed in table of contents thereof.

7.8 Drawings, consisting of 6 sheets numbered 1 through 6 inclusive and bearing the following general title:

**Generator Pad and Wind Wall**

7.9 Addenda numbers \_\_\_ to \_\_\_, inclusive.

7.10 CONTRACTOR'S Bid (pages 1 to 17, inclusive) marked exhibit \_\_\_\_\_ (Attach Bid Form only in special circumstances).

7.11 Documentation submitted by CONTRACTOR prior to Notice of Award (pages \_\_\_ to \_\_\_, inclusive).

7.12 Any Modification, including Change Orders, duly delivered after execution of Agreement.

There are no Contract Documents other than those listed above in this Article 7. The Contract Documents may only be altered, amended or repealed by a Modification (as defined in Section 1 of the General Conditions).

**Article 8. MISCELLANEOUS**

8.1 Terms used in this Agreement which are defined in Article 1 of the General Conditions shall have the meanings indicated in the General Conditions.

8.2 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

8.3 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives to the other party hereto, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement. One counterpart each has been delivered to OWNER and CONTRACTOR, and to ENGINEER as applicable. All portions of the Contract Documents have been signed by OWNER and CONTRACTOR or identified by ENGINEER on their behalf.

This Agreement will be effective on \_\_\_\_\_, 2026.

OWNER City of Ormond Beach

CONTRACTOR \_\_\_\_\_

By \_\_\_\_\_

Jason Leslie  
Mayor

By \_\_\_\_\_

\_\_\_\_\_  
(Title)

[CITY SEAL]

[SEAL]

Attest \_\_\_\_\_

Joyce A. Shanahan  
City Manager

Attest \_\_\_\_\_

\_\_\_\_\_  
(Title)

Address for giving notices:

City of Ormond Beach

PO Box 277

Ormond Beach, FL 32175-0277

Address for giving notices:

License No. \_\_\_\_\_

Registered Agent for service process:

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Title)

**END OF AGREEMENT**

**SECTION 00610  
PERFORMANCE BOND**

**KNOW ALL MEN BY THESE PRESENTS:** that

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

a(n) \_\_\_\_\_, hereinafter called Principal, and  
(Corporation, Partnership or Individual)

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

\_\_\_\_\_  
(Name of Owner)

\_\_\_\_\_  
(Address of Owner)

hereinafter called OWNER, in the penal sum of \_\_\_\_\_

\_\_\_\_\_ Dollars, (\$ \_\_\_\_\_ ) in lawful money of the United States, for the payment of which sum will and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with OWNER, dated \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, for the construction of:

**Fire Station 93 Wind Wall and Pad Construction  
Bid No. 2026-19**

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one-year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS The Surety agrees that modifications and changes to the terms and conditions of the Contract that increase the total amount to be paid the Principal shall automatically increase the obligation of the Surety on this bond and notice to Surety is not required for such increased obligation.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ counterparts, each one of which shall be  
(number)  
deemed an original, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

ATTEST:

\_\_\_\_\_  
*Principal*

\_\_\_\_\_  
*(Principal) Secretary*

By \_\_\_\_\_ (s)

(SEAL)

\_\_\_\_\_  
*(Witness to Principal)*

\_\_\_\_\_  
*(Address)*

\_\_\_\_\_  
*(Address)*

\_\_\_\_\_  
*(Surety)*

ATTEST:

\_\_\_\_\_  
*(Surety) Secretary*

(SEAL)

\_\_\_\_\_  
*Witness to Surety*

\_\_\_\_\_  
*Attorney-In-Fact*

\_\_\_\_\_  
*(Address)*

\_\_\_\_\_  
*(Address)*

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND. All BONDS signed by an agent must be accompanied by a certified copy of the authority to act.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

**END OF SECTION**



**SECTION 00615  
PAYMENT BOND**

**KNOW ALL MEN BY THESE PRESENTS:** that

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

a(n) \_\_\_\_\_, hereinafter called Principal, and  
(Corporation, Partnership or Individual)

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

\_\_\_\_\_  
(Name of Owner)

\_\_\_\_\_  
(Address of Owner)

hereinafter called OWNER, in the penal sum of \_\_\_\_\_

\_\_\_\_\_ Dollars, (\$ \_\_\_\_\_) in lawful money of the United States, for the payment of which sum will and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with OWNER, dated \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, for the construction of:

**Fire Station 93 Wind Wall and Pad Construction  
Bid No. 2026-19**

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS. The Surety agrees that modifications and changes to the terms and conditions of the Contract that increase the total amount to be paid the Principal shall automatically increase the obligation of the Surety on this bond and notice to Surety is not required for such increased obligation.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ counterparts, each one of which shall be  
(number)  
deemed an original, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

ATTEST:

\_\_\_\_\_  
*Principal*

By \_\_\_\_\_ (s)

\_\_\_\_\_  
*(Principal) Secretary*

(SEAL)

\_\_\_\_\_  
*(Witness to Principal)*

\_\_\_\_\_  
*(Address)*

\_\_\_\_\_  
*(Address)*

\_\_\_\_\_  
*(Surety)*

ATTEST:

\_\_\_\_\_  
*(Surety) Secretary*

(SEAL)

\_\_\_\_\_  
*Witness to Surety*

\_\_\_\_\_  
*Attorney-In-Fact*

\_\_\_\_\_  
*(Address)*

\_\_\_\_\_  
*(Address)*

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND. All BONDS signed by an agent must be accompanied by a certified copy of the authority to act.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

**END OF SECTION**

## OPINION OF ATTORNEY

This is to certify that I have examined the attached Contract Documents, and that I am of the opinion that such documents conform to the Laws of the State of Florida, and that the execution of the Contract is in due and proper form, and that the foregoing agreements constitute valid and binding obligations on such parties.

---

*Attorney for Owner*

This the \_\_\_\_\_ day of \_\_\_\_\_, 2026.

**END OF SECTION**

**SECTION 00700**  
**GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT**

**ARTICLE 1 - DEFINITIONS**

Whenever used in these General Conditions or in the other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural thereof.

1.01. Addenda - Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the bidding documents of the Contract Documents.

1.02. Agreement - The written agreement between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

1.03. Application for Payment - The form accepted by ENGINEER which is to be used by CONTRACTOR in requesting progress or final payment and which is to include such supporting documentation as required by the Contract Documents.

1.04. Approve - The word approve is defined to mean review of the material, equipment or methods for general compliance with the design concepts and with the information given in the Contract Documents. It does not imply a responsibility on the part of the ENGINEER to verify in every detail conformance with the Drawings and Specifications.

1.05. Bid - The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.06. Bonds - Bid, Performance and Payment Bonds and other instruments of security.

1.07. Change Order - A written order to CONTRACTOR signed by OWNER authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time issued after the effective date of the Agreement.

1.08. Contract - The Agreement.

1.09. Contract Documents - The Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the bid and any post-Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, Notice of Award, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, any other exhibits identified in the Agreement, together with all Modifications issued after the execution of the Agreement.

1.10. Contract Price - The Contract Price constitutes the total compensation (subject to authorized adjustments) payable by OWNER to CONTRACTOR for performing the Work.

1.11. Contract Time - The number of days (computed as provided in paragraph 16.2) or the

date stated in the Agreement for the completion of the Work.

1.12. CONTRACTOR - The person, firm or corporation with whom OWNER has entered into the Agreement.

1.13. Day - A calendar day of twenty-four hours measured from midnight to the next midnight.

1.14. Defective - Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents or does not meet the requirements of any inspection, test or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment.

1.15. Drawings - The drawings, which will be identified in the Agreement, which show the character and scope of the Work to be performed and which have been prepared or approved by ENGINEER and are referred to in the Contract Documents.

1.16. Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

1.17. ENGINEER - The City Engineer of the City of Ormond Beach, Florida, or the designee of such Engineer.

1.18. Engineering Order - A written request issued by ENGINEER to CONTRACTOR requesting a cost for certain modifications to the Work. An Engineering Order is not an authorization to perform the modifications.

1.19. Field Order - A written order issued by ENGINEER which clarifies or interprets the Contract Documents or orders minor changes in the Work in accordance with paragraph 10.2, but which does not involve a change in the Contract Price or the Contract Time.

1.20. Furnish - The words "furnish", "furnish and install", "install", and "provide" or words with similar meaning shall be interpreted, unless otherwise specifically stated, to mean "furnish and install complete in place and ready for service".

1.21. General Requirements - Sections of Division 1 of the Specifications.

1.22. Inspection - The term "Inspection" and the act of inspecting as used in these Contract Documents is defined to mean examination of construction to ensure that it conforms to the design concept expressed in the Drawings and Specifications. These terms shall not be construed to mean supervision, superintending and/or overseeing.

1.23. Modification - (a) A written amendment of the Contract Documents signed by both parties, (b) a Change Order, or (c) a Field Order. A modification may only be issued after the effective date of the Agreement and must be in writing to be effective.

- 1.24. Notice of Award - The written notice by OWNER to the apparent successful Bidder stating that upon compliance by the apparent successful Bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.
- 1.25. Notice to Proceed - A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform his obligation under the Contract Documents.
- 1.26. OWNER - The City of Ormond Beach, Florida.
- 1.27. Product - Materials, systems, and equipment provided by the CONTRACTOR.
- 1.28. Project - The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.
- 1.29. Project Manual - The term "Project Manual" includes Bidding Requirements, Conditions of the Contract, Specifications, and Drawings.
- 1.30. Project Representative - The authorized representative of ENGINEER who is assigned to the site or any part thereof.
- 1.31. Shop Drawings - All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by CONTRACTOR, a Subcontractor, manufacturer, fabricator, supplier or distributor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a manufacturer, fabricator, supplier or distributor and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.
- 1.32. Specifications - Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.
- 1.33. Subcontractor - An individual, firm or corporation having a contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.
- 1.34. Substantial Completion - The point reached when the Work (or a specified part thereof), in the opinion of ENGINEER as evidenced by his final certificate of Substantial Completion, is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it was intended; or if there be no such certificate issued, when final payment is due in accordance with paragraph 14.10. The terms "substantially complete" and "substantially completed" as applied to any Work refer to Substantial Completion thereof.
- 1.35. Surety - Any person, firm or corporation which is bound with CONTRACTOR and which engages to be responsible for CONTRACTOR and his acceptable performance of the Work by a Performance or Payment Bond, or by a Public Construction Bond.

1.36. Work - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

## **ARTICLE 2 - PRELIMINARY MATTERS**

### **Delivery of Bonds:**

2.1. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish in accordance with paragraph 5.1.

### **Copies of Documents:**

2.2. OWNER shall furnish to CONTRACTOR, at OWNER's expense, up to three copies of the Contract Documents. Additional copies will be furnished, upon request, at the cost of reproduction.

### **Commencement of Contract Time; Notice to Proceed:**

2.3. The Contract Time will commence on the day indicated in the Notice to Proceed.

### **Starting the Project:**

2.4. CONTRACTOR shall start to perform the work on the date when the Contract Time commences to run, but no work shall be done at the site prior to the date on which the Contract Time commences to run, and no work shall be done at the site before the Payment and Performance Bond is executed, delivered to the OWNER, and recorded in the public records of Volusia County, Florida.

### **Before Starting Construction:**

2.5. Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error or discrepancy which CONTRACTOR may discover; however, CONTRACTOR shall not be liable to OWNER for failure to report any conflict, error or discrepancy in the Drawings or Specifications, unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof. No verbal agreement or conversation with any officer, agent or employee of OWNER, either before or after the execution of this Contract, shall affect or modify any of the terms or obligations herein contained.

2.6. Before any Work at the site is started, CONTRACTOR shall deliver to OWNER certificates (and other evidence of insurance requested by OWNER) which CONTRACTOR is

required to purchase and maintain in accordance with paragraphs 5.3, 5.4, 5.6 and 5.7.

2.7. CONTRACTOR shall not allow any on-site Subcontractor to commence work on his subcontract until insurance required of the Subcontractor has been obtained and approved by the CONTRACTOR. Failure to obtain this insurance will be the sole responsibility of the CONTRACTOR.

### **ARTICLE 3 - CONTRACT DOCUMENTS; INTENT AND REUSE**

3.1. The Contract Documents comprise the entire Agreement between OWNER and CONTRACTOR concerning the Work. They may be altered only by a Modification.

3.2. The Contract Documents are complementary; a requirement contained in one is applicable to all. If, during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, he shall report it to ENGINEER in writing at once and before proceeding with the Work affected thereby; however, CONTRACTOR shall not be liable to OWNER for failure to report any conflict, error or discrepancy in the Specifications or Drawings unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof. The various Contract Documents shall be given precedence, in case of conflict, error or discrepancy, as follows: Modifications, Agreement, Addenda, Supplementary Conditions, General Conditions, Drawings and Specifications. In a series of Modifications or Addenda the latest will govern.

3.3. It is the intent of the Specifications and Drawings to describe a complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work that may reasonably be inferred from the Specifications or Drawings as being required to produce the intended results shall be supplied whether or not it is specifically called for. When words which have well-known technical or trade meaning are used to describe Work, materials or equipment such words shall be interpreted in accordance with such meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the code of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual or code in effect at the time of opening of Bids (or, on the effective date of the Agreement if there were no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their agents or employees from those set forth in the Contract Documents. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided for in paragraph 9.2.

3.4. The Contract Documents will be governed by the law of the State of Florida, and venue for any action brought thereunder shall lie solely and exclusively in the Circuit Court in and for Volusia County, Florida.

#### **Reuse of Documents:**



3.5. Neither CONTRACTOR nor any Subcontractor, manufacturer, fabricator, supplier or distributor shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER; and they shall not reuse any of them on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaptation by ENGINEER.

#### **ARTICLE 4 - AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS**

4.1. OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way for access thereto, and such other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR believes that any delay in OWNER's furnishing these lands or easements entitles him to an extension of the Contract Time, CONTRACTOR may make a claim therefor as provided in Article 12. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

##### **Physical Conditions - Investigations and Reports:**

4.2. Reference is made to the Supplementary Conditions for identification of those reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which have been relied upon by ENGINEER in preparation of the Drawings and Specifications. Such reports are not guaranteed as to accuracy or completeness and are not part of the Contract Documents.

##### **Unforeseen Physical Conditions:**

4.3. CONTRACTOR shall promptly, after becoming aware of and before further disturbing conditions affected thereby or performing any work in connection therewith, notify ENGINEER in writing of any subsurface or latent physical conditions at the site or in an existing structure differing materially from those indicated or referred to in the Contract Documents. CONTRACTOR, upon discovering and notifying OWNER of such subsurface or latent conditions, shall not perform work in the affected area until authorized to do so by OWNER. ENGINEER will promptly review those conditions and determine if further investigation or tests are necessary. If so determined by the ENGINEER, OWNER shall promptly obtain the necessary additional investigations and tests and furnish copies to CONTRACTOR. If ENGINEER finds that the results of such investigations or tests indicate that there are subsurface or latent physical conditions which differ materially from those intended in the Contract Documents, and which could not reasonably have been anticipated by CONTRACTOR, a Change Order authorizing CONTRACTOR to perform the additional work may be issued incorporating the necessary revisions.

##### **Reference Points:**

4.4. OWNER shall provide engineering surveys for construction to establish reference points which in his judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work (unless otherwise specified in the General Requirements), shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for replacement or relocation of such reference points by professionally qualified personnel.

## **ARTICLE 5 - BONDS AND INSURANCE**

### **Performance and Other Bonds:**

5.1. CONTRACTOR shall furnish Performance and Payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. The City will record the bonds in the public records at the CONTRACTOR's expense. These Bonds shall remain in effect at least until one (1) year after the date of final payment, except as otherwise provided by law. All bonds shall be deemed to contain all of the Conditions of Section 255.05, Florida Statutes, even if such language is not directly contained within the bond. CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall be in the forms prescribed by the bidding documents or Supplementary Conditions and be executed by such Sureties as (i) are licensed to conduct business in the State of Florida, and (ii) are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

5.2. If the Surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in the State of Florida or it ceases to meet the requirements of clauses (i) and (ii) of paragraph 5.1, CONTRACTOR shall within five (5) days after notice thereof, substitute another Bond and Surety, both of which shall meet the requirements of clauses (i) and (ii) of paragraph 5.1.

### **CONTRACTOR's Liability Insurance:**

5.3. CONTRACTOR and on-site Subcontractors shall purchase and maintain such Commercial General Liability and other insurance as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR's performance of the Work and CONTRACTOR's other obligations under the Contract Documents, whether such performance is by CONTRACTOR, by any Subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable;

5.3.1. Claims under workers' compensation, disability benefits and other similar employee benefit acts;

5.3.2. Claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;

5.3.3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees.

5.3.4. Claims for damages insured by personal injury liability coverage which are sustained (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason.

5.3.5. Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; and

5.3.6. Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

The insurance required by this paragraph 5.3 shall include the specific coverages and be written for not less than the limits of liability and coverages provided in the **Supplementary Conditions**, or required by law, whichever is greater. The Commercial General Liability insurance shall include completed operations insurance. All such insurance shall contain a provision that the coverage afforded will not be canceled, materially changed or renewal refused until at least **sixty** (60) days prior written notice of such cancellation, non-renewal or change (except for nonpayment of premium, which shall be fifteen (15) days) has been given to OWNER. All such insurance shall remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing defective Work in accordance with paragraph 13.12. In addition, CONTRACTOR shall maintain such completed operations insurance for at least two years after final payment and furnish OWNER with evidence of continuation of such insurance at final payment and one year thereafter.

#### **Contractual Liability Insurance:**

5.4. The Commercial General Liability insurance required by paragraph 5.3 will include contractual liability insurance applicable to CONTRACTOR's obligations under paragraphs 6.15 and 6.16. The OWNER shall be named as "Additionally Insured" under the CONTRACTOR's Commercial General Liability insurance policy.

#### **Owner's Liability Insurance:**

5.5. OWNER may, at its option, purchase and maintain its own liability insurance and, at its option, may purchase and maintain such insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.

#### **Property Insurance:**

5.6. CONTRACTOR shall purchase and maintain property insurance upon the Work at the site to the full insurable value thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by law). This insurance shall include the interests of

OWNER, CONTRACTOR, and Subcontractors in the Work, shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage, and such other perils as may be provided in the Supplementary Conditions, and shall include damages, losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including fees and charges of engineers, architects, attorneys and other professionals). If not covered under the "all risk" insurance or otherwise provided in the Supplementary Conditions, CONTRACTOR shall purchase and maintain similar property insurance on portions of the Work stored on and off the site or in transit when such portions of the Work are to be included in the Application for Payment. The policies of insurance required to be purchased and maintained by CONTRACTOR in accordance with paragraphs 5.6 and 5.7 shall contain provisions that the coverage afforded will not be canceled or materially changed until at least **sixty** (60) days prior written notice has been given to OWNER.

5.7. CONTRACTOR shall purchase and maintain such boiler and machinery insurance as may be required by the Supplementary Conditions or by law. This insurance shall include the interests of OWNER, CONTRACTOR and Subcontractors in the Work.

5.8. OWNER shall not be responsible for purchasing and maintaining any property insurance to protect the interests of CONTRACTOR or Subcontractors in the Work to the extent of any deductible amounts that are provided in the Supplementary Conditions. If CONTRACTOR wishes property insurance coverage within the limits of such amounts, CONTRACTOR may purchase and maintain it at his own expense.

5.9. If CONTRACTOR requests in writing that other special insurance be included in the property insurance policy, OWNER shall, if possible, include such insurance, and the cost thereof shall be charged to CONTRACTOR by appropriate Change Order. Prior to commencement of the Work at the site, OWNER shall in writing advise CONTRACTOR whether or not such other insurance has been procured by OWNER.

#### **Waiver of Rights:**

5.10. OWNER and CONTRACTOR waive all rights against each other and the Subcontractors and their agents and employees and separate contractors (if any) and their subcontractors' agents and employees, for damages caused by fire or other perils to the extent covered by insurance provided under paragraphs 5.6 and 5.7, inclusive, or any other property insurance applicable to the Work, except such rights as they may have to the proceeds of such insurance held by OWNER as trustee. OWNER shall require similar written waivers from each separate contractor, and CONTRACTOR shall require similar written waivers from each Subcontractor (in accordance with paragraph 6.8 as applicable); each such waiver will be in favor of all other parties enumerated in this paragraph 5.10.

#### **Receipt and Application of Proceeds:**

5.11. Any insured loss under the policies of insurance required by paragraphs 5.6 and 5.7 shall be adjusted with CONTRACTOR and made payable to CONTRACTOR as trustee for the insured, as their interests may appear, subject to the requirements of paragraph 5.12. CONTRACTOR shall

deposit in a separate account any money so received, and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof and the Work and the cost thereof covered by an appropriate Change Order.

5.12. CONTRACTOR as trustee shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within fifteen days after the occurrence of loss to CONTRACTOR's exercise of this power. If such objection be made, CONTRACTOR as trustee shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If required in writing by any party in interest, CONTRACTOR as trustee shall upon the occurrence of an insured loss, give bond for the proper performance of his duties.

#### **Acceptance of Bonds and Insurance:**

5.13. If OWNER has any objection to the coverage afforded by or other provisions of the Bonds or Insurance required to be purchased and maintained by CONTRACTOR in accordance with Article 5 on the basis of non-conformance with the Contract Documents, OWNER shall so notify CONTRACTOR in writing within ten days after receipt of the certificates (or other evidence requested) required by paragraph 2.6. CONTRACTOR shall provide to OWNER such additional information in respect of insurance provided as OWNER may reasonably request. If CONTRACTOR does not purchase or maintain all of the Bonds and Insurance required of CONTRACTOR by the Contract Documents, CONTRACTOR shall notify OWNER in writing of such failure to purchase prior to the start of the Work, or such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, OWNER may elect to obtain equivalent Bonds or Insurance to protect OWNER's interests at the expense of CONTRACTOR, and a Change Order shall be issued to adjust the Contract Price accordingly.

#### **Partial Utilization - Property Insurance:**

5.14. If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 14.7; provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing effected the changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies that the property insurance shall not be canceled or lapse on account of any such partial use of occupancy.

### **ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES**

#### **Supervision and Superintendence:**

6.1. CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction.

CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.

6.2. CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.

**Materials and Equipment:**

6.3. All materials and equipment installed in the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment.

Equipment manufacturers/suppliers must agree to OWNER'S terms of purchase. In no event will OWNER accept terms of sale that limit OWNER'S ability to reasonably recover in the event of equipment failure/defect such as, but not limited to; mandatory arbitration clauses, venue of court proceedings and applicable law outside of Volusia County, Florida, or damage limitations that preclude recovery for failed or defective equipment that would be less than full compensation for OWNER's loss.

6.4. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator, supplier or distributor, except as otherwise provided in the Contract Documents.

**Concerning Subcontractors:**

6.5. CONTRACTOR shall not employ any Subcontractor or other person or organization (including those who are to furnish the principal items of materials or equipment), whether initially or as a substitute, to which OWNER may have any reasonable objection. CONTRACTOR shall submit with his Bid in writing the names, mailing addresses, and work classifications of all Subcontractors proposed for the Work. The failure to list all Subcontractors proposed for the Work may result in the Bid being rejected as incomplete and nonresponsive. A Subcontractor or other person or organization identified in writing to OWNER by CONTRACTOR prior to the Notice of Award and not objected to in writing by OWNER prior to the Notice of Award will be deemed acceptable to OWNER. Acceptance of any Subcontractor, other person or organization of OWNER shall not constitute a waiver of any right of OWNER to reject defective Work. If OWNER after due investigation has reasonable objection to any Subcontractor, other person or organization proposed by CONTRACTOR after the Notice of Award because the qualifications and experience of the Subcontractor, other person or organization indicate that he cannot perform or provide work, materials or equipment which will perform the specified functions, CONTRACTOR shall submit an acceptable substitute and the Contract Price shall be increased or decreased by the difference in cost occasioned by such substitution, and an appropriate Change Order may be issued. CONTRACTOR shall not be required to employ any Subcontractor, other person or organization to which CONTRACTOR has any reasonable objection. Whether

objections are reasonable shall be determined as specified in paragraph 9.8.

6.6. CONTRACTOR shall be fully responsible for all acts and omissions of his Subcontractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that CONTRACTOR is responsible for the acts and omissions of persons directly employed by CONTRACTOR. Nothing in the Contract Documents shall create any contractual relationship between OWNER and any Subcontractor or other person or organization having a direct contact with CONTRACTOR, nor shall it create any obligation on the part of OWNER to pay or to see to the payment of any moneys due any Subcontractor or other person or organization, except as may otherwise be required by law. OWNER may furnish to any Subcontractor or other person or organization, to the extent practicable, evidence of amounts paid to CONTRACTOR on account of specific Work done.

6.7. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or delineating the Work to be performed by any specific trade.

6.8. All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and contains waiver provisions as required by paragraph 5.10. CONTRACTOR shall pay each Subcontractor an appropriate share of any insurance proceeds received by CONTRACTOR on account of losses under policies issued pursuant to paragraphs 5.6 through 5.8.

6.9. Neither the OWNER nor the ENGINEER will undertake to settle any differences between CONTRACTOR and his Subcontractors or between Subcontractors.

#### **Patent Fees and Royalties:**

6.10. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. CONTRACTOR shall **indemnify** and **hold harmless** OWNER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorneys' fees) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Documents, and shall defend all such claims in connection with any alleged infringement of such rights. OWNER will promptly notify CONTRACTOR of any such allegation of infringement of such rights.

#### **Safety and Protection:**

6.11. Precaution shall be exercised at all times by the CONTRACTOR for the protection of all persons, including employees, and property. The CONTRACTOR shall comply with all laws, regulations or ordinances related to safety and health, shall make special effort to detect hazardous conditions, and shall take prompt action where loss control/safety measures are reasonably expected. The OWNER may order work to be stopped if conditions exist that present on immediate danger to persons or property. The CONTRACTOR acknowledges that such stoppage will not shift responsibility for any damages from the CONTRACTOR to the OWNER.

6.12. CONTRACTOR be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.12.1. All employees on the Work and other persons who may be affected thereby.

6.12.2. All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and

6.12.3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

CONTRACTOR shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and utilities when prosecution of the Work may affect them. All damage, injury or loss to any property referred to in paragraph 6.12.2 or 6.12.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR. CONTRACTOR's duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.12 that the Work is acceptable.

6.13. CONTRACTOR shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be CONTRACTOR's superintendent unless otherwise designated in writing by CONTRACTOR to OWNER.

#### **Emergencies:**

6.14. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from OWNER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give OWNER prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby.



### **Indemnification/Hold Harmless:**

6.15 The parties recognize that the CONTRACTOR is an independent contractor. The CONTRACTOR agrees to assume liability for and indemnify, hold harmless, and defend the CITY, its commissioners, mayor, officers, employees, agents, and attorneys of, from, and against all liability and expense, including reasonable attorney's fees, in connection with any and all claims, demands, damages, actions, causes of action, and suits in equity of whatever kind or nature, including claims for personal injury, property damage, equitable relief, or loss of use, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the CONTRACTOR, its agents, officers, contractors, subcontractors, employees, or anyone else utilized by the CONTRACTOR in the performance of this Agreement. The CONTRACTOR's liability hereunder shall include all attorney's fees and costs incurred by the CITY in the enforcement of this indemnification provision. This includes claims made by the employees of the CONTRACTOR against the CITY and the CONTRACTOR hereby waives its entitlement, if any, to immunity under Section 440.11, Florida Statutes. Such obligations contained in this provision shall survive termination of this Agreement and shall not be limited by the amount of any insurance required to be obtained or maintained under this Agreement.

In the event of any claim arising out of the paragraph above, the CITY will elect, in its sole discretion, that either:

- 1) The CONTRACTOR assume control of the defense of any claim asserted by a third party against the CITY and, in connection with such defense, shall appoint lead counsel, in each case at the CONTRACTOR's expense. The CITY shall have the right, at its option, to participate in the defense of any third party claim, without relieving CONTRACTOR of any of its obligations hereunder. If the CONTRACTOR assumes control of the defense of any third party claim in accordance with this paragraph, the CONTRACTOR shall obtain the prior written consent of the CITY before entering into any settlement of such claim. If the CONTRACTOR assumes control of the defense and the CONTRACTOR has failed or is failing to prosecute or defend vigorously the third party claim, the CITY may assume the control of the defense as provided by sub (2); or
- 2) The CITY will assume control of the defense of any third party claim, but CONTRACTOR shall pay the fees of counsel retained by the CITY and all expenses, including experts' fees.

Each party shall cooperate, and cause its agents to cooperate, in the defense or prosecution of any third party claim and shall furnish or cause to be furnished such records and information, and attend such conferences, discovery proceedings, hearings, trials, or appeals, as may be reasonably requested in connection therewith. It is further the specific intent and agreement of said parties that all the Contract Documents on this Project are hereby amended to include the foregoing indemnification. CONTRACTOR expressly agrees that it will not claim, and waives any claim, that this indemnification violates Section 725.06, Florida Statutes or is unenforceable pursuant to Section 725.06, Florida Statutes.

Nothing contained in the foregoing indemnification shall be construed as a waiver of any immunity or limitation of liability the CITY may have under the doctrine of sovereign immunity or Section 768.28, Florida Statutes.

Precaution shall be exercised at all times by the CONTRACTOR for the protection of all persons, including employees and property. The CONTRACTOR shall comply with all applicable laws, regulation and ordinances related to safety and health, shall make special efforts to detect hazardous conditions, and shall take prompt action with loss control/safety measures as are reasonably necessary. The CITY may order work to be stopped if conditions exist that present an immediate danger to persons or property. The CONTRACTOR acknowledges that such work stoppage will not shift responsibility for any damages from the CONTRACTOR to the CITY.

**Payment on Behalf of OWNER:**

6.16. The CONTRACTOR agrees to pay on behalf of the OWNER, and to pay the cost of the OWNER's legal defense, as may be selected by the OWNER, for all claims described in 6.15 Indemnification/Hold Harmless. Such payment on behalf of the OWNER shall be in addition to any and all other legal remedies available to the OWNER and shall not be considered to be the OWNER's exclusive remedy.

**ARTICLE 7 - WORK BY OTHERS**

7.1. OWNER may perform additional work related to the Project by itself, or have additional work performed by utility service companies, or let other direct contracts therefor which shall contain General Conditions similar to these. CONTRACTOR shall afford the utility service companies and the other contractors who are parties to such direct contracts (or OWNER, if OWNER is performing the additional work with OWNER's employees) reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate his Work with theirs.

7.2. If any part of CONTRACTOR's Work depends for proper execution or results upon the work of any such other contractor or utility service company (or OWNER), CONTRACTOR shall inspect and promptly report to ENGINEER in writing any patent or apparent defects or deficiencies in such work that render it unsuitable for such proper execution and results. CONTRACTOR's failure so to report shall constitute an acceptance of the work as fit and proper for integration with CONTRACTOR's Work except for latent or non-apparent defects and deficiencies in the other work.

7.3. If the performance of additional work by other contractors or utility service companies or OWNER was not noted in the Contract Documents, written notice thereof shall be given to CONTRACTOR prior to starting any such additional work. If CONTRACTOR believes that the performance of such additional work by OWNER or others involves additional expense to CONTRACTOR or requires an extension of the Contract Time, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12.

7.4. Should any other contractor having, or who shall hereafter have, a contract with

OWNER for the performance of work upon the site of the Work to be performed hereunder sustain any damage through any act or omission of CONTRACTOR hereunder or through any act or omission of any Sub-contractor of CONTRACTOR, CONTRACTOR agrees to reimburse such other contractor for all such damages and to indemnify, defend and hold OWNER harmless from all such claims.

## **ARTICLE 8 - OWNER'S RESPONSIBILITIES**

8.1. OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.2. OWNER shall furnish the data required of OWNER under the Contract Documents promptly and shall make payments to CONTRACTOR promptly after they are due as provided in paragraphs 14.3 and 14.10.

8.3. OWNER's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting performance of the Work which have been relied upon by ENGINEER in preparing the Drawings and Specifications.

8.4. OWNER's responsibilities with respect to the purchase and maintenance of liability insurance are set forth in paragraph 5.5.

8.5. In connection with OWNER's rights to request changes in the Work in accordance with Article 10, OWNER (especially in certain instances as provided in paragraph 10.4) may execute Change Orders.

8.6. OWNER's responsibility with respect to certain inspections, tests and approvals is set forth in paragraph 13.4.

8.7. The provisions relative to the OWNER's right to stop Work or suspend Work are set forth in paragraphs 6.11, 13.10 and 15.1.

## **ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION**

9.1. ENGINEER will be OWNER's representative during the construction period. The authority of ENGINEER shall, under no circumstances, relieve CONTRACTOR from CONTRACTOR's responsibilities to perform the Work in accordance with this Contract.

### **Clarifications and Interpretations:**

9.2. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the Contract Documents (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall

intent of the Contract Documents. If CONTRACTOR believes that a written clarification or interpretation justifies an increase in the Contract Price or Contract Time, CONTRACTOR may make a claim therefor as provided in Article 11 or Article 12.

**Rejecting Defective Work:**

9.3. ENGINEER will have authority to disapprove or reject WORK which is defective, and will also have authority to require special inspection or testing of the Work as provided in paragraph 13.9, whether or not the Work is fabricated, installed or completed.

**Change Orders and Payments:**

9.4. In connection with ENGINEER's responsibilities as to Change Orders, see Articles 10, 11 and 12.

9.5. In connection with ENGINEER's responsibilities as to Applications for Payment, etc., see Article 14.

**Project Representation:**

9.6. ENGINEER may designate a Project Representative to assist ENGINEER in inspecting the performance of the Work. The duties, responsibilities and limitations of authority of any such Project Representative and assistants will be as provided in paragraphs 9.6.1 through 9.6.3.

9.6.1. General: Project Representative is ENGINEER's Agent. He shall have the authority to do anything which the ENGINEER could do. His dealings in matters pertaining to the on-site work will in general be only with OWNER, ENGINEER and CONTRACTOR. His dealings with subcontractors will only be through or with the full knowledge of CONTRACTOR or his superintendent.

9.6.2. Duties and Responsibilities: Project Representative shall:

9.6.2.1. Schedules: Review the progress schedule, schedule of Shop Drawing submissions, schedule of values and other schedules prepared by CONTRACTOR and consult with ENGINEER concerning their acceptability.

9.6.2.2. Conferences: Attend preconstruction conferences.

9.6.2.3. Liaison: Serve as ENGINEER's liaison with CONTRACTOR, working principally through CONTRACTOR's superintendent, and assist him in understanding the intent of the Contract Documents. Assist in obtaining from OWNER additional details or information, when required at the job site for proper execution of the Work.

9.6.2.4. Shop Drawings and Samples: Receive and record date of receipt of Shop Drawings and samples which have been furnished by CONTRACTOR. Review the Shop Drawings for conformance with the information given in the Contract Documents. Provide office review and approval of Shop Drawings (as that term is defined in Article 1) and samples, the results of tests

and inspections and other data which any contractor is required to submit, but only for conformance with the design concept of the project and compliance with the information given in the Contract Documents; determine the acceptability of substitute materials and equipment proposed by CONTRACTOR(S); and receive and review (for general content as required by the Specifications) maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection which are to be assembled by CONTRACTOR(S) in accordance with the Contract Documents.

9.6.2.5. Review of Work, Rejection of Defective Work, Inspections and Tests: Conduct on-site inspections of the Work in progress to assist ENGINEER in determining that the Project is proceeding in accordance with the Contract Documents and that completed Work will conform to the Contract Documents. Report to ENGINEER whenever he believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspections, tests or approvals required to be made; and advise ENGINEER when he believes Work should be corrected or rejected or should be uncovered for observation, or requires special testing or inspection. Verify that tests, equipment and systems start-ups and operating and maintenance instructions are conducted as required by the Contract Documents and in the presence of the required personnel, and that CONTRACTOR maintains adequate records thereof; observe, record and report appropriate details relative to the test procedures and start-ups.

9.6.2.6. Modifications: Consider and evaluate CONTRACTOR's suggestions for modifications in Drawings or Specifications and report them to ENGINEER with recommendations. Prepare change orders as required; he may, as OWNER's representative, require special inspection or testing of the work; he shall act as interpreter of the requirements of the Contract Documents, judge of the performance thereunder by the parties thereto, and transmitter of clarification and interpretation of the Contract Documents. Process contract change orders to reflect final measured contract quantities and to reflect changes in the contract Drawings and Specifications.

9.6.2.7. Payment Requisitions: Based on his on-site observations and on his review of CONTRACTOR(S) applications for payment and the accompanying data and schedules, determine the amounts owed the CONTRACTOR(S). The ENGINEER will then approve in writing payments to CONTRACTOR(S) in such amounts; such approvals of payment will constitute a presentation to OWNER, based on such observations and review, that the Work has progressed to the point indicated and that, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning Project upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, and to any qualifications stated in his approval).

9.6.2.8. Guarantees, Certificates, Maintenance and Operation Manuals: During the course of the Work verify that guarantees, certificates, maintenance and operation manuals and other data required to be assembled and furnished by CONTRACTOR are applicable to the items actually installed; and deliver this data to ENGINEER for his review prior to final acceptance of the Project.

9.6.2.9. Completion: Before ENGINEER issues a Certificate of Substantial Completion, submit to CONTRACTOR a list of observed items requiring correction. Conduct final inspection in the company of CONTRACTOR and prepare a final list of items to be corrected. Verify that all items

on final list have been corrected and make recommendations to ENGINEER concerning acceptance.

9.6.3. Limitations of Authority: The Project Representative; shall not undertake any of the responsibilities of CONTRACTOR, subcontractors or CONTRACTOR's superintendent; shall not expedite Work for CONTRACTOR; shall not advise on or issue directions as to safety precautions and programs in connection with the Work; and shall not assist CONTRACTOR in maintaining up-to-date copies of Record Drawings.

#### **Decisions on Disagreements:**

9.7. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the execution and progress of the Work shall be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph, which ENGINEER will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter shall be delivered by the claimant to ENGINEER and the other party to the Agreement within fifteen days of the occurrence of the event giving rise thereto, and written supporting data will be submitted to ENGINEER and the other party within forty-five days of such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data. Failure to give the required notice constitutes a waiver of the claim.

9.8. The rendering of a decision by ENGINEER pursuant to paragraph 9.7 with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.13) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or at law in respect of any such claim, dispute or other matter. If the Owner agrees to pay all or part of a claim for which notice was not timely made, such agreement shall not be deemed a waiver of the right to enforce notice requirements in connection with any other claim.

#### **Limitations on ENGINEER's Responsibilities:**

9.9. Neither ENGINEER's authority to act under this Article 9 or elsewhere in the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of ENGINEER to CONTRACTOR, any Subcontractor, any manufacturer, fabricator, supplier or distributor, or any of their agents or employees or any other person performing any of the Work.

9.10. Whenever in the Contract Documents the terms "as ordered", "as directed", "as required", "as allowed" or terms of like effect or import are used, or the adjective "reasonable", "suitable", "acceptable", "proper" or "satisfactory" or adjectives of like effect or import are used, to describe requirements, decision, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective never indicates that ENGINEER shall have

authority to supervise or direct performance of the Work or authority to undertake responsibility contrary to the provisions of paragraphs 9.11 or 9.12.

9.11. ENGINEER will not be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and ENGINEER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

9.12. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractors, or of the agents or employees of any CONTRACTOR or Subcontractor, or of any other persons at the site or otherwise performing any of the Work.

## **ARTICLE 10 - CHANGES IN THE WORK**

10.1. Without invalidating the Agreement, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by Change Orders. Upon receipt of a Change Order, CONTRACTOR shall proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 11 or Article 12 on the basis of a claim made by either party.

10.2. ENGINEER may authorize minor changes in the Work not involving an adjustment in the Contract Price or the Contract Time, which are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order and shall be binding on OWNER, and also on CONTRACTOR who shall perform the change promptly. If CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or Contract Time, CONTRACTOR may make a claim therefor as provided in Article 11 or Article 12.

10.3. Additional Work performed without authorization of a Change Order will not entitle CONTRACTOR to an increase in the Contract Price or an extension of the Contract Time, except in the case of an emergency as provided in paragraph 6.14 and except as provided in paragraphs 10.2 and 13.9.

10.4. OWNER may execute appropriate Change Orders covering changes in the Work which are required by OWNER, or required because of unforeseen physical conditions or emergencies, or because of uncovering Work found not to be defective or as provided in paragraph 11.9, or because of any other claim of CONTRACTOR for a change in the Contract Time or the Contract Price which is recommended by ENGINEER.

10.5. If notice of any change affecting the general scope of the Work or change in the Contract Price is required by the provisions of any Bond to be given to the Surety, it will be CONTRACTOR's responsibility to so notify the Surety, and the amount of each applicable Bond shall be adjusted accordingly. CONTRACTOR shall furnish proof of such adjustment to OWNER.

## **ARTICLE 11 - CHANGE OF CONTRACT PRICE**

11.1. The Contract Price constitutes the total compensation (subject to authorized adjustments) payable by OWNER to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

11.2. The Contract Price may only be changed by a Change Order. Any claim for an increase in the Contract Price shall be based on written notice delivered to ENGINEER within fifteen days of the occurrence of the event giving rise to the claim. Notice of the amount of the claim with supporting data shall be delivered within forty-five days of such occurrence unless ENGINEER allows an additional period of time to ascertain accurate cost data.

11.3. The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

11.3.1. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved (subject to the provisions of paragraph 11.9).

11.3.2. By mutual acceptance of a lump sum.

11.3.3. On the basis of the Cost of the Work (determined as provided in paragraphs 11.4 and 11.5) plus a Contractor's Fee for overhead and profit (determined as provided in paragraph 11.6).

### **Cost of the Work:**

11.4. The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5:

11.4.1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon in advance by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis for their time spent on the Work. Payroll cost shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' compensation, health and retirement benefits, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site.

11.4.2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and manufacturers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds, and all returns from sale of surplus materials



and equipment shall accrue to OWNER and CONTRACTOR shall make provisions so that they may be obtained.

11.4.3. Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to CONTRACTOR and shall deliver such bids to OWNER who will then determine which bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a Fee, the Subcontractor's Cost of the Work shall be determined in the same manner as CONTRACTOR's Cost of the Work. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

11.4.4. Costs of special consultants (including, but not limited to, engineers, architects, testing laboratories, surveyors, lawyers and accountants) employed for services specifically related to the Work. Any such special consultants covered by the Consultants' Competitive Negotiations Act (Section 287.055, Florida Statutes), shall be selected in accordance with such Act.

11.4.5. Supplemental costs including the following:

11.4.5.1. The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

11.4.5.2. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workmen, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

11.4.5.3. Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof - all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

11.4.5.4. Sales, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by any government authority.

11.4.5.5. Deposits lost for causes other than CONTRACTOR's negligence, royalty payments and fees for permits and licenses.

11.4.5.6. Losses and damages (and related expenses), not compensated by insurance or otherwise, to the Work or otherwise sustained by CONTRACTOR in connection with the execution of the Work, provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's Fee. If, however, any such loss or damage requires construction and CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7. The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8. Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.4.5.9. Cost of premiums for additional Bonds and insurance required because of changes in the Work.

11.5. The term Cost of the Work shall not include any of the following:

11.5.1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and estimators, lawyers, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in his principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in subparagraph 11.4.1. - all of which are to be considered administrative costs covered by the Contractor's Fee.

11.5.2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.

11.5.3. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

11.5.4. Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for additional Bonds and insurance required because of changes in the Work).

11.5.5. Costs, including damages, due to the negligence of intentional acts of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

11.5.6. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

**Contractor's Fee:**

11.6. The Contractor's Fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

11.6.1. A mutually acceptable fixed fee; or if none can be agreed upon,

11.6.2. A fee based on the following percentages of the various portions of the Cost of the Work;

11.6.2.1. For costs incurred under paragraphs 11.4.1. and 11.4.2., the Contractor's Fee shall be ten percent,

11.6.2.2. For costs incurred under paragraph 11.4.3., the Contractor's Fee shall be five percent; and if a subcontract is on the basis of Cost of the Work Plus a Fee, the maximum allowable to the Subcontractor as a fee for overhead and profit shall be ten percent, and

11.6.2.3. No fee shall be payable on the basis of costs itemized under paragraphs 11.4.4., 11.4.5. and 11.5.

11.7. The amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in costs, will be the amount of the actual net decrease. When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any.

#### **Adjustment of Unit Prices:**

11.8. Whenever the cost of any Work is to be determined pursuant to paragraphs 11.4. and 11.5., CONTRACTOR will submit in form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

11.9. Where the quantity of Work with respect to any item that is covered by a unit price differs materially and significantly from the quantity of such Work indicated in the Contract Documents, an appropriate Change Order may be issued on recommendation of ENGINEER to adjust the unit price.

### **ARTICLE 12 - CHANGE OF THE CONTRACT TIME**

12.1. The Contract Time may only be changed by a written Change Order. Any claim for an extension in the Contract Time shall be based on written notice delivered to ENGINEER within fifteen days of the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within forty-five days of such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data. All claims for adjustment in the Contract Time shall be determined by ENGINEER if OWNER and CONTRACTOR cannot otherwise agree. Any change in the Contract Time resulting from any such claim shall be incorporated in a written Change Order.

12.2. The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if a claim is made therefor as provided in paragraph 12.1. Such delays shall include, but not be limited to, acts or neglect by OWNER or others performing additional Work as contemplated by Article 7, or fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.

12.3. All time limits stated in the Contract Documents are of the essence of the Agreement. The CONTRACTOR shall not be entitled to any claim for damages on account of hindrances or delays from any cause whatsoever, but if occasioned by an act of God, or by any act or omission

on the part of the Owner, such act, hindrance or delay may entitle the CONTRACTOR to an extension of time in which to complete the work which shall be determined by the ENGINEER, provided that the CONTRACTOR will give notice in writing of the cause of such act, hindrance or delay within ten (10) days after its occurrence.

## **ARTICLE 13 - WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK**

### **Warranty and Guarantee:**

13.1. CONTRACTOR warrants and guarantees to OWNER that all Work will be in accordance with the Contract Documents and will not be defective. Prompt notice of all defects shall be given to CONTRACTOR. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 13.

### **Access to Work:**

13.2. ENGINEER and ENGINEER's representatives, other representatives of OWNER, testing agencies and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspection and testing. CONTRACTOR shall provide proper and safe conditions for such access.

### **Tests and Inspections:**

13.3. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests or approvals.

13.4. If any law, ordinance, rule, regulation, code, or order of any public body having jurisdiction requires any Work (or part thereof) to specifically be inspected, tested or approved, CONTRACTOR shall assume full responsibility therefor, pay all costs in connection therewith and furnish ENGINEER the required certificates of inspection, testing or approval. CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with OWNER's acceptance of a manufacturer, fabricator, supplier, or distributor of materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work. The cost of all other inspections, tests and approvals required by the Contract Documents shall be paid by OWNER (unless otherwise specified).

13.5. All inspections, tests or approvals other than those required by law, ordinance, rule, regulation, code or order of any public body having jurisdiction shall be performed by organizations acceptable to OWNER and CONTRACTOR.

13.6. If any Work that is to be inspected, tested or approved is covered without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation. Such uncovering shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover such Work and ENGINEER

has not acted with reasonable promptness in response to such notice.

13.7. Neither observations by ENGINEER, nor inspections, tests or approvals by others shall relieve CONTRACTOR from his obligations to perform the Work in accordance with the Contract Documents, and in all events in no less than a workmanlike manner.

**Uncovering Work:**

13.8. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER's observation and replaced at CONTRACTOR's expense.

13.9. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose or otherwise make available for observation, inspection or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, CONTRACTOR shall bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate deductive Change Order shall be issued. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction if he makes a claim therefor as provided in Articles 11 and 12.

**Owner May Stop the Work:**

13.10. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workmen or suitable materials or equipment, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause of such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any other party.

**Correction or Removal of Defective Work:**

13.11. If required by ENGINEER, CONTRACTOR shall promptly, without cost to OWNER and as specified by ENGINEER, either correct any defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by ENGINEER, remove it from the site and replace it with nondefective Work.

**One Year Correction Period:**

13.12. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any Work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions, either correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with nondefective Work. If CONTRACTOR does not promptly comply with the terms of such

instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs of such removal and replacement, including compensation for additional professional services, shall be paid by CONTRACTOR.

**Acceptance of Defective Work:**

13.13. If, instead of requiring correction or removal and replacement of defective Work, OWNER prefers to accept it, OWNER may do so. In such case, if acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order shall be issued incorporating the necessary revisions in the Contract Documents, including appropriate reduction in the Contract Price; or, if the acceptance occurs after such recommendation, an appropriate amount shall be paid by CONTRACTOR to OWNER.

**OWNER May Correct Defective Work:**

13.14. If CONTRACTOR fails, within a reasonable time after written notice of ENGINEER to proceed, to correct and to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.11., or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents (including any requirements of the progress schedule), OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising his rights under this paragraph OWNER shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees such access to the site as may be necessary to enable OWNER to exercise his rights under this paragraph. All direct and indirect costs of OWNER in exercising such rights shall be charged against CONTRACTOR in an amount verified by ENGINEER, and a Change Order shall be issued incorporating the necessary revisions in the Contract Documents and a reduction in the Contract Price. Such direct and indirect costs shall include, in particular but without limitation, compensation for additional professional services required and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR's defective Work. CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by OWNER of OWNER's rights hereunder.

**ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION**

**Application for Progress Payment:**

14.1. At least ten days before each progress payment falls due (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the

Application and accompanied by such supporting documentation as is required by the Contract Documents and also as ENGINEER may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by such data, satisfactory to OWNER, as will establish OWNER's title to the material and equipment and protect OWNER's interest therein, including applicable insurance. Each subsequent Application for Payment shall include an affidavit of CONTRACTOR stating that all previous progress payments received on account of the Work have been applied to discharge in full all of CONTRACTOR's obligations reflected in prior Applications for Payment. The amount of retainage with respect to progress payments will be as stipulated in the Form of Agreement, Article 5.

#### **CONTRACTOR's Warranty of Title:**

14.2. CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by an Application for Payment, whether incorporated in the project or not, will pass to OWNER at the time of payment free and clear of all liens, claims, security interests and encumbrances (hereafter in these General Conditions referred to as "Liens").

#### **Review of Applications for Progress Payment:**

14.3. ENGINEER will, within ten days after receipt of each Application for Payment, either indicate in writing a recommendation of payment, or return the Application to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application. OWNER shall, within ten days of presentation to him of the ENGINEER's recommendation of payment, pay CONTRACTOR the amount recommended.

14.4. ENGINEER may refuse to recommend the whole or any part of any payment if, in his opinion, it would be incorrect to make such representations to OWNER. He may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

14.4.1. The Work is defective, or completed Work has been damaged requiring correction or replacement;

14.4.2. Written claims have been made against OWNER or Liens have been filed in connection with the Work;

14.4.3. The Contract Price has been reduced because of Modifications;

14.4.4. OWNER has been required to correct defective Work or complete the Work in accordance with paragraph 13.14;

14.4.5. Of CONTRACTOR's unsatisfactory prosecution of the Work in accordance with the Contract Documents, including failure to clean up;

14.4.6. Of liquidated damages payable by CONTRACTOR; or

14.4.7. CONTRACTOR's failure to make payment to Subcontractors, or for labor, materials or equipment.

**Substantial Completion:**

14.5. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall, in writing to ENGINEER, certify that the entire Work is substantially complete and request that ENGINEER issue a certificate of Substantial Completion. Within a reasonable time thereafter, CONTRACTOR and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving his reasons therefor. If ENGINEER considers the Work substantially complete, ENGINEER will prepare a certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a list of items to be completed or corrected before final payment.

14.6. OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the list.

**Partial Utilization:**

14.7. Use by OWNER of completed portions of the Work may be accomplished prior to Substantial Completion of all the Work subject to the following:

14.7.1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any part of the Work which OWNER believes to be substantially complete and which may be so used without significant interference with construction of the other parts of the Work. If CONTRACTOR agrees, CONTRACTOR will certify to ENGINEER that said part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time thereafter CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify CONTRACTOR in writing giving his reasons therefor. If ENGINEER considers that part of the Work to be substantially complete, ENGINEER will execute and deliver to CONTRACTOR a certificate to that effect, fixing the date of Substantial Completion as to that part of the Work, attaching thereto a list of items to be completed or corrected before final payment. OWNER shall have the right to exclude CONTRACTOR from any part of the Work which ENGINEER has so certified to be substantially complete, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the list.

14.7.2. In lieu of the issuance of a certificate of Substantial Completion as to part of the Work, OWNER may take over operation of a facility constituting part of the Work whether or not it is substantially complete if such facility is functionally and separately usable; provided that prior to any such takeover, OWNER and CONTRACTOR have agreed as to the division of responsibilities



between OWNER and CONTRACTOR for security, operation, safety, maintenance, correction period, heat, utilities and insurance with respect to such facility.

14.7.3. No occupancy of part of the Work or taking over of operations of a facility will be accomplished prior to compliance with the requirements of paragraph 5.14 with regard to property insurance.

**Final Inspection:**

14.8. Upon written notice from CONTRACTOR that the work is complete, ENGINEER will make a final inspection with CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.

**Final Application for Payment:**

14.9. After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents and other documents - all as required by the Contract Documents, and after ENGINEER has indicated that the Work is acceptable (subject to the provisions of paragraph 14.13), CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents and such other data and schedules as ENGINEER may reasonably require, together with complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or his property might in any way be responsible, have been paid or otherwise satisfied; and consent of the Surety, if any, to final payment. If any Subcontractor, manufacturer, fabricator, supplier or distributor fails to furnish a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

**Final Payment and Acceptance:**

14.10. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation - all as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR has fulfilled all of his obligations under the Contract Documents, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing his recommendation of payment and present the Application for payment. Thereupon ENGINEER will give written notice to CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.13. Otherwise, ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application.

If the Application and accompanying documentation are appropriate as to form and substance, OWNER shall, within thirty days after receipt thereof pay CONTRACTOR the amount recommended by ENGINEER.

14.11. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.1, the written consent of the Surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

**CONTRACTOR's Continuing Obligation:**

14.12. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by ENGINEER, nor the issuance of a certificate of Substantial Completion, nor any payment by OWNER to CONTRACTOR under the Contract Documents, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor the issuance of a notice of acceptability by ENGINEER pursuant to paragraph 14.10, nor any correction of defective Work by OWNER shall constitute an acceptance of Work not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents.

**Waiver of Claims:**

14.13. The making and acceptance of final payment shall constitute:

14.13.1. A waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled or unfilled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.8 or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it shall not constitute a waiver by OWNER of any rights in respect of CONTRACTOR's continuing obligations under the Contract Documents; and

14.13.2. A waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled or unfilled.

**ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION**

**Owner May Suspend Work:**

15.1. OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and Surety which

shall fix the date on which Work shall be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR may be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension of work at OWNER's request if he makes a claim therefor as provided in Articles 11 and 12.

**Owner May Terminate:**

- 15.2. Upon the occurrence of any one or more of the following events:
  - 15.2.1. If CONTRACTOR is adjudged a bankrupt or insolvent;
  - 15.2.2. If CONTRACTOR makes a general assignment for the benefit of creditors;
  - 15.2.3. If a trustee or receiver is appointed for CONTRACTOR or for any of CONTRACTOR's property;
  - 15.2.4. If CONTRACTOR files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws;
  - 15.2.5. If CONTRACTOR repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment;
  - 15.2.6. If CONTRACTOR repeatedly fails to make prompt payments to Subcontractors or for labor, materials or equipment;
  - 15.2.7. If CONTRACTOR violates any laws, ordinances, rules, regulations or orders of any public body having jurisdiction;
  - 15.2.8. If CONTRACTOR disregards the authority of ENGINEER; or
  - 15.2.9. If CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents.

OWNER may after giving CONTRACTOR and his Surety seven (7) days' written notice, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the site and demand the Surety to finish the Work by whatever methods he may deem expedient but subject to the approval of OWNER. The Surety shall use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may require. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Work, including compensation for additional professional services, such excess shall be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR and the Surety shall be jointly and severally liable to pay the difference to OWNER. Such costs incurred by OWNER shall be incorporated in a Change Order, but in

finishing the Work OWNER shall not be required to accept the lowest figure for the Work to be performed by the Surety.

15.3. Where CONTRACTOR's services have been so terminated by OWNER, the termination shall not affect any rights of OWNER against CONTRACTOR or the Surety then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.4. Upon seven (7) days' written notice to CONTRACTOR and Surety, OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, CONTRACTOR shall be paid for all Work executed, any expense sustained plus reasonable termination expenses.

#### **CONTRACTOR May Stop Work or Terminate:**

15.5. If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety (90) days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within thirty (30) days after it is submitted, or OWNER fails for thirty days to pay CONTRACTOR any sum finally determined to be due, the CONTRACTOR may, upon seven (7) days' written notice to OWNER, terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if ENGINEER has failed to act on an Application for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven (7) days' notice to OWNER stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve CONTRACTOR of his obligations to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with OWNER.

### **ARTICLE 16 - MISCELLANEOUS**

#### **Giving Notice:**

16.1. Whenever any provision of the Contract Documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

#### **Computation of Time:**

16.2. When any period of time is referred to in the Contract Documents by days, it shall be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day shall be omitted from the computation.

#### **General:**

16.3. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.15, 13.1, 13.11, 13.14, 14.2, and 15.2, and all of the rights and remedies available to OWNER thereunder, shall be in addition to, and not in limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by law or contractor, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph shall be as effective as if repeated specifically in the contract Documents in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the Contract Documents shall survive final payment and termination or completion of this Agreement.

#### **Liquidated Damages:**

16.4. OWNER and CONTRACTOR recognize that time is of the essence to complete this Project and that OWNER will suffer financial loss if the Work is not substantially complete within the time specified in Agreement, plus any extensions thereof allowed in accordance with Article 12. They also recognize the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by OWNER if the Work is not substantially complete on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER the amount stated in the Contract for each day that expires after the time specified in the Contract for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the time specified in the Contract or any proper extension thereof granted by OWNER, CONTRACTOR shall pay the OWNER an amount equal to all actual expenses incurred by the OWNER as a direct result of the CONTRACTOR'S negligence, refusal, or failure to so complete the remaining Work. In the event the CONTRACTOR is terminated or abandons the Work prior to the scheduled date for final completion, the CONTRACTOR may be liable for both liquidated damages attributable to delay and for excess completion costs.

#### **Reports of Investigations and Tests of Subsurface and Latent Physical Conditions:**

16.5. Reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the work which have been relied upon by ENGINEER in preparing the Drawings and Specifications are as listed in the Supplementary Conditions. OWNER will make such reports available for inspection to any Bidder or copies may be obtained from the ENGINEER by the Bidder at reproduction cost. These reports are not guaranteed as to accuracy or completeness, nor are they part of the Contract Documents.

#### **Performance of Work by CONTRACTOR:**

16.6. Contract Assignment. The successful bidder (or bidders) will be required to perform the work as a prime contractor. CONTRACTOR shall not sublet, sell, transfer, assign or otherwise dispose of the contract or any portion thereof, or of his right, title, or interest therein. CONTRACTOR shall perform on the site and with his own organization work equivalent to not

less than fifty (50%) percent of the total dollar value of the work to be performed under this contract except that work designated in the Supplementary Conditions as specialty work may be performed by subcontractors and the cost of any such specialty work so performed by subcontracts may be deducted from the total contract amount before computing the amount of work required to be performed by CONTRACTOR with his own organization.

**Limitation of Remedy and Liability:**

16.7 Contractor and Owner expressly waive any claim for consequential damages against the other including but not limited to, a waiver of claims for diminished bonding capacity, loss of financing, loss of business reputation, lost profits on other projects or other lost opportunity damage claims.

Contractor expressly agrees that any claim (tort, contract, claim in equity, or otherwise) by Contractor for damages against Owner shall not exceed the total amount of the contract price, less any amounts actually paid to the Contractor by the Owner (or by an insurer of the Owner).

All liability of the City allegedly resulting from, arising out of or connected with this Agreement, or from the performance or breach thereof, shall terminate three years from the termination of this Agreement.

**Waiver of Right to Jury Trial:**

16.8 THE PARTIES HEREBY KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVE ANY RIGHT WHICH ANY PARTY MAY HAVE TO TRIAL BY JURY IN RESPECT OF ANY PROCEEDING, LITIGATION OR COUNTERCLAIM BASED ON, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS AGREEMENT OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS (WHETHER VERBAL OR WRITTEN) OR ACTIONS OF ANY PARTY. IF THE SUBJECT MATTER OF ANY LAWSUIT IS ONE IN WHICH THE WAIVER OF JURY TRIAL IS PROHIBITED, NO PARTY TO THIS AGREEMENT SHALL PRESENT AS A NON-COMPULSORY COUNTERCLAIM IN ANY SUCH LAWSUIT ANY CLAIM BASED ON, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS AGREEMENT. FURTHERMORE, NO PARTY TO THIS AGREEMENT SHALL SEEK TO CONSOLIDATE ANY SUCH ACTION IN WHICH A JURY TRIAL CANNOT BE WAIVED.

**END OF SECTION**

**SECTION 00800**  
**SUPPLEMENTARY CONDITIONS**

The following supplements modify, change, delete from, or add to the General Conditions of the Construction Contract (Section 00700). Where any article of the General Conditions is modified or any paragraph, subparagraph or clause thereof is modified or deleted by these supplements, the unaltered provisions of that article, paragraph, subparagraph or clause shall remain in effect.

**ARTICLE 16 - MISCELLANEOUS**

Section 16.5 – Reports of Investigations and Test of Subsurface and Latent Physical Conditions

Add the following subparagraph:

16.5.1 The list of reports of investigations and tests of subsurface and latent physical conditions as referred to in General Conditions Section 16.5 are as follows:

None

Add the following:

16.7 Minimum Requirements for the provision and maintenance of Payment and Performance Bonds, and Contractor's Insurance

In accordance with Resolution 2021-144 as it presently exists or may hereafter change, or applicable state, federal or local law, whichever is stricter, the following minimum requirements have been established:

**A. Payment and Performance Bonds**

1. Except as otherwise provided herein, the Contractor shall, prior to beginning performance, deliver to the City, and the City shall record in the public records of Volusia County, Florida, the Contractor's Payment and Performance Bond in an amount equal to the full amount of the Contract.
2.
  - (a) Payment and Performance Bonds shall not be required for any contract except those which are for the construction of a public building, for the prosecution and completion of a public work (as described in Section 180.06, **Florida Statutes**, as amended from time to time) or for repairs upon a public building or public work (as described in Section 180.06, **Florida Statutes**, as amended from time to time).
  - (b) With respect to those Contracts for which Payment and Performance Bonds are otherwise required:
    - i. Unless the City Manager, or designee, determines such Bond to be necessary to protect the interests of the City, no Contractor shall be

required to provide a Payment and Performance Bond for any Contract which is for \$25,000.00 or less.

- ii. Upon the request of the contractor, good cause shown by the Contractor, and a determination that the public health, safety and welfare will be sufficiently protected, the City Commission may exempt the contractor from the requirement of providing a Payment and Performance Bond for any Contract which is for more than \$25,000.00 but is less than \$200,000.00.
- 3. The Payment and Performance Bond shall list the Contractor as Principal and be issued by a surety insurer authorized to do business in Florida as a surety and listed as an acceptable surety in the Federal Register.
- 4. The Payment and Performance Bond shall be executed pursuant to Section 255.05, **Florida Statutes**, and be in a form substantially similar to the form set forth in Section 255.05(3), **Florida Statutes**.
- 5. The Payment and Performance Bond shall specifically provide coverage for delay damages due to a default by the Contractor.
- 6. The Payment and Performance Bond shall not make the Contract part of the Bond agreement.
- 7. In lieu of the Payment and Performance Bond, the Contractor may file with the Finance Director of the City, in an amount equal to the full amount of the Contract, cash, a money order, a certified check, a cashier's check, an irrevocable letter of credit, or a security of a type listed in Part II, Chapter 625, **Florida Statutes**.
- 8. In the event the surety on any Payment and Performance Bond furnished by the Contractor is declared bankrupt or becomes insolvent, or its right to do business in the State of Florida is terminated, the Contractor shall, within five (5) working days thereafter, substitute another Payment and Performance Bond and surety acceptable to the City.
- 9. The Contractor is totally and solely responsible for keeping its surety informed as to the Base Contract Price as bid, significant changes in the Project Scope, and the overall progress and completion of the Project for the entire life of the Contract.
- 10. The payment and performance bond requirements stated herein above shall not be applicable to service-related contracts unless otherwise determined by the City Manager in order to protect the health, safety and welfare of the general public.

#### **B. Contractual Provisions Relative to Risk Management**

All contracts for any public works to be performed, and service-related contracts, for or on behalf of the City shall include at a minimum, the following, or substantially similar, provisions:



**1. Hold Harmless and Indemnity**

The Contractor agrees to assume liability for and indemnify, hold harmless, and defend the City, its commissioners, mayor, officers, employees, agents, and attorneys of, from, and against all liability and expense, including reasonable attorney's fees, in connection with any and all claims, demands, damages, actions, causes of action, and suits in equity of whatever kind or nature, including claims for personal injury, property damage, equitable relief, or loss of use, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the Contractor, its agents, officers, contractors, subcontractors, employees, or anyone else employed or utilized by the Contractor in the performance of this Contract. The Contractor's liability hereunder shall include all attorney's fees and costs incurred by the City in the enforcement of this provision.

**2. Payment on Behalf of City**

The Contractor shall pay all costs of the City's legal defense, as may be selected by the City, for all claims described in the Hold Harmless paragraph.

Such payment on behalf of the City shall be in addition to any and all other legal remedies available to the City and shall not be considered to be the City's exclusive remedy.

**3. Loss Control/Safety**

Precaution shall be exercised at all times by the Contractor for the protection of all persons, including employees and property. The Contractor shall comply with all applicable laws, regulations and ordinances related to safety and health, shall make special efforts to detect hazardous conditions, and shall take prompt action when loss control/safety measures are reasonably necessary.

The City may order work to be stopped if conditions exist that present an immediate danger to persons or property. The Contractor acknowledges that such work stoppage will not shift responsibility for any damages from the Contractor to the City.

**4. Service Bond**

For Service-related contracts only, the City may require the Contractor to secure a service bond with a minimum \$25,000 coverage limit for the period of the service agreement. The service bond covers dishonest acts of the contractor's employees against the City. A copy of the bond shall be provided to the City when the agreement commences.

Service-related contracts include and are not limited to businesses providing janitorial, pest control, general repair, security, carpet cleaning, locksmith,

temporary employment, painting, moving services or other contracts as determined in the discretion of the Risk Manager as necessary to minimize loss.

## **C. Contractor's Insurance**

### **1. General**

The Contractor, including service-related contractors, shall purchase and maintain for the entire life of the Project, including any and all approved time extensions, until its final acceptance by the City, such insurance as will protect the Contractor from claims under Workers' Compensation, disability benefit laws or other similar employee benefit laws; from claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees; from claims insured by usual or unusual injury liability coverage; from claims or injury to or destruction of tangible property and from claims insured by usual Commercial General Liability coverage. This includes loss of use resulting therefrom, any or all of which may arise out of the Contractor's operations under the Contract Documents, whether such operations be by the Contractor, by any Subcontractor, or by anyone directly or indirectly employed by any of them or for whose acts any of them may be legally liable. The Contractor's deductibles/self-insured retentions shall be disclosed to the City and may be disapproved by the City, and may be reduced or eliminated at the sole discretion of the City. The Contractor is responsible for the amount of any deductible or self-insured retention.

### **2. Types of Insurance and Limits of Liability**

The insurance required herein shall be written for not less than any limits of liability specified and incorporated as part of the Contract Documents or as required by law, whichever is greater, and shall include and not limited to the following:

- (a)** Workers' Compensation Insurance in statutory limits for the State of Florida with Coverage B - Employer's Liability limits of not less than:

\$100,000 Each Accident Bodily Injury by Accident  
\$100,000 Each Employee Bodily Injury by Disease  
\$500,000 Policy Limit Bodily Injury by Disease

Certificate of Exemptions. If the contractor has a State-issued Certificate of Exemption, the contractor may provide a copy in place of the requirement for coverage. However, if the contractor subcontracts or retains any other person or entity to perform under the contract, that person or entity must provide proof of workers' compensation insurance as required by law or provide a Certificate of Exemption.

It is the intent of the City that any individual who either contracts directly with the city or performs any work on behalf of any such contractor be covered by workers' compensation insurance or have a valid exemption from said coverage.

(If applicable to the Project, the policy must include benefits under the United States Longshoremen's and Harbor Workers' Act and the Jones Act coverage--all maritime coverage.)

- (b) Commercial General Liability Insurance shall be written on a coverage form as broad as Insurance Services Office (ISO) Form CG 00 01 11 85, or its successor form, including but not limited to the following coverage (any deviation shall be noted on the Certificates of Insurance):
- a. Premises, Operations, Products and Completed Operations
  - b. Owners' & Contractors' Protective
  - c. Products & Completed Operation
  - d. Explosion, Collapse & Underground Conditions
  - e. Blanket Contractual Liability
  - f. Personal Injury Liability
  - g. Broad Form Property Damage Endorsement, including Completed Operations
  - h. Independent Contractors
  - i. Watercraft--Owned and Non-Owned (if applicable, endorsement must be included in General Liability policy or a separate Protection & Indemnity Policy must be written)
  - j. Pollution Liability (if applicable)
  - k. Asbestos Abatement (if applicable)
  - l. Fire Damage Liability

Certain coverage outlined above may not be required if they do not relate to the Project, as may be determined at the sole discretion of the City.

Commercial General Liability Coverage shall be written on an occurrence basis and the limits shall be no less and not limited to the following amounts:

Limits (not less than)

\$1 Million Each Occurrence

\$2 Million General Aggregate

\$1 Million Aggregate Products & Completed Operations

NOTE: Commercial General Liability Coverage must be purchased on either a project basis (separate policy per contract) or an endorsement allocating an aggregate limit per location or specified project.

- (c) Automobile Liability Insurance is required if an Automobile(s) is used in the performance of the contract.

ISO Symbol 1 (Any Auto), or alternatively a combination of Symbol 2 (Owned Autos), Symbol 8 (Hired Autos), and Symbol 9 (Non-Owned Autos), and limits shall be no less than:

|             |                                                             |
|-------------|-------------------------------------------------------------|
| \$1 Million | Combined Single Limit for Bodily Injury and Property Damage |
|-------------|-------------------------------------------------------------|

**(d) Excess Liability**

For contracts \$250,000 or greater an Excess Liability Policy of at least but not limited to \$1,000,000 in addition to the scheduled underlying policies for Commercial General Liability, Automobile Liability and Employers' Liability, the Contractor shall also provide an Excess Liability Policy with a maximum self-insured retention not to exceed \$25,0000 per occurrence.

**(e) Builder's Risk**

Contractor shall purchase Builder's Risk Insurance for any contracts that are deemed to be vertical construction on an All-Risk policy, and shall also include coverage for wind, hail, and named storm. Limits of coverage shall be at least and not limited to the value of the project.

**(f) Professional Liability, Malpractice and/or Errors and Omissions  
(N/A for construction contracts)**

The Contractor shall purchase and maintain professional liability, malpractice, or errors or omissions insurance with minimum limits of \$1,000,000 per occurrence. If a claims made form of coverage is provided, the retroactive date of coverage shall be no later than the inception date of claims made coverage, unless the prior policy was extended indefinitely to cover prior acts. Coverage shall be extended beyond the policy year either by a supplemental extended reporting period (ERP) of as great a duration as is available, and with no less coverage and with reinstated aggregate limits, or by requiring that any new policy provides a retroactive date no later than the inception date of claims made coverage.

**D. Requirements for Certificates of Insurance**

1. With the execution of the Contract Documents, the Contractor, including service-related contractors, shall provide certificates of such insurance acceptable to the City. These certificates and insurance policies shall contain an endorsement that the coverage under the policies will not be canceled, non-renewed or materially changed until at least thirty (30) days' prior written notice of such cancellation, non-renewal or change (except for nonpayment of premium, which shall be ten (10) days) and a copy of the cancellation endorsement signed by an authorized representative of the insurer, be given to the City. The contractor shall be required to replace any expired or canceled policies in like amount and coverage to the satisfaction of the City. The Certificate of Insurance shall be the ACORD FORM

25-S (7/90), or its successor form, and shall be made a part of the Contract Documents.

2. New certificates of insurance shall be provided to the City at least fifteen (15) days prior to coverage renewals.
3. If requested by the City, the contractor shall immediately furnish complete copies of the Contractor's insurance policies, forms and endorsements.
4. For Commercial General Liability coverage the Contractor shall, at the option of the City, provide an indication of the amount of claims payments or reserves chargeable to the aggregate amount of liability coverage. If the Commercial General Liability form of coverage includes an annual aggregate limitation on the amount of insurance provided, a separate project aggregate limit may be required by the City for the given contract.
5. If the Contractor fails to obtain and maintain for the life of the Project the insurance required hereby or to replace any such expired or canceled policy, the City may obtain and maintain such insurance with such company as it deems satisfactory. Any amounts expended by the City in payment of premiums for such insurance shall be deducted by the City from the amount due the Contractor for the work covered by the Contract.

#### **E. Policies of Insurance**

1. Except as otherwise provided in this Exhibit, all insurance policies shall be issued by insurers licensed to do business in the State of Florida on an admitted basis or which is an eligible surplus lines insurer in the State of Florida, and any such insuring company is required to have a minimum financial rating of (A-), in the latest edition of "Best's Key Rating Guide", published by A. M. Best Co., Inc., or some similarly nationally recognized rating authority, including Standard and Poors and Demotech.
2. For Workers' Compensation coverage only, self-insurance programs are acceptable with a minimum A- rated reinsurance carrier; written confirmation is required.
3. All policies of insurance or certificates thereof referred to in this Exhibit shall be deposited with the City Clerk.
4. The City shall be named an Additional Insured on General Liability including products and completed operations and Automobile Liability policies of insurance and certificates thereof.

**END OF SECTION**

## LIEN WAIVER

The undersigned does hereby certify that through \_\_\_\_\_, 20\_\_\_\_, the undersigned has performed labor and/or furnished materials for the construction of the \_\_\_\_\_ located at \_\_\_\_\_ owned by \_\_\_\_\_, at a price of \$\_\_\_\_\_, and in consideration of the payment to the undersigned of such sum, the receipt of which is hereby acknowledged, the undersigned does hereby release and waive all liens and claims to liens which the undersigned may have as a result of the performance of such labor and/or the furnishing of such materials, and that the undersigned has paid in full for all materials purchased by the undersigned in connection with such project and for all labor furnished by the undersigned in connection with such project. The undersigned further certifies that the last date on which the undersigned furnished such labor and/or materials was \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
CONTRACTOR

By \_\_\_\_\_ DATE: \_\_\_\_\_

TITLE: \_\_\_\_\_

THE STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

Before me, the undersigned authority, on this day personally appeared \_\_\_\_\_, the \_\_\_\_\_ of \_\_\_\_\_, a corporation, known to me to be the person and officer whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed, and as the act and deed of said corporation, and in capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Notary Public in and for  
said County and State

**CONTRACT PROVISIONS FOR NON-FEDERAL ENTITY  
CONTRACTS UNDER FEDERAL AWARDS**

## **EQUAL EMPLOYMENT OPPORTUNITY**

During the performance of this Agreement, the CONTRACTOR agrees as follows:

(1) The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The CONTRACTOR will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identify or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The CONTRACTOR agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The CONTRACTOR will, in all solicitations or advertisements for employees placed by or on behalf of the CONTRACTOR, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.

(3) The CONTRACTOR will send to each labor union or representative of workers with which he has a collective bargaining agreement or other agreement or understanding, a notice to be provided advising the said labor union or workers' representatives of the CONTRACTOR's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The CONTRACTOR will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The CONTRACTOR will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the CONTRACTOR's noncompliance with the nondiscrimination clauses of this Agreement or with any of the said rules, regulations, or orders, this Agreement may be canceled, terminated, or suspended in whole or in part and the CONTRACTOR may be declared ineligible for further Government Agreements or federally assisted construction Agreements in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The CONTRACTOR will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subagreement or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The CONTRACTOR will take such action with respect to any subagreement or purchase order as the administering agency may



direct as a means of enforcing such provisions, including sanctions for noncompliance: *Provided, however,* that in the event a CONTRACTOR becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the CONTRACTOR may request the United States to enter into such litigation to protect the interests of the United States.

## **COMPLIANCE WITH THE CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

### **(1) Overtime Requirements**

No Contractor or Subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

### **(2) Violation; Liability for Unpaid Wages; Liquidated Damages**

In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$32 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1).

### **(3) Withholding for Unpaid Wages and Liquidated Damages**

(A) Withholding Process. The (insert name of recipient or subrecipient) may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this paragraph (b) on this contract, any other federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

(B) Priority to Withheld Funds. The Department has priority to funds withheld or to be withheld in accordance with paragraph (a)(2)(i) or (b)(3)(i) of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its reprocurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s); \
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.

4. Subcontracts.

The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs (b)(1) through (5) of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (5). In the event of any violations of these clauses, the prime contractor, and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation.

It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

- (A) Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;
- (B) Filing any complaint, initiating, or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;
- (C) Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or
- (D) Informing any other person about their rights under CWHSSA or this part.

## **CLEAN AIR ACT**

The contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.

The contractor agrees to report each violation to the City of Ormond Beach, and understands and agrees that the City of Ormond Beach will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

The contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with federal assistance provided by FEMA.

## **FEDERAL WATER POLLUTION CONTROL ACT**

The contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251 et seq.

The contractor agrees to report each violation to the City of Ormond Beach and understands and agrees that the City of Ormond Beach will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

The contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with federal assistance provided by FEMA.

## **SUSPENSION AND DEBARMENT**

This contract is a covered transaction for purposes of 2 C.F.R. Part 180 and 2 C.F.R. Part 3000. As such, the contractor is required to verify that none of the contractor's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

The contractor must comply with 2 C.F.R. Part 180, subpart C and 2 C.F.R. Part 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters.

This certification is a material representation of fact relied upon by the City of Ormond Beach. If it is later determined that the contractor did not comply with 2 C.F.R. Part 180, subpart C and 2 C.F.R. Part 3000, subpart C, in addition to remedies available to the City of Ormond Beach, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

The bidder or proposer agrees to comply with the requirements of 2 C.F.R. Part 180, subpart C and 2 C.F.R. Part 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

## **BYRD ANTI-LOBBYING AMENDMENT, AS AMENDED, 31 U.S.C. § 1352**

Contractors who apply or bid for an award of more than \$100,000 shall file the required certification. Each tier certifies to the tier above that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the federal agency.

The bidder or offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress, in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal Agreement, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subagreements, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

## **PROCUREMENT OF RECOVERED MATERIALS**

In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired:

- a) Competitively within a timeframe providing for compliance with the contract performance schedule;
- b) Meeting contract performance requirements; or
- c) At a reasonable price.

## **PROHIBITION ON CONTRACTING FOR COVERED TELECOMMUNICATIONS EQUIPMENT OR SERVICES**

(a) Definitions. As used in this clause, the terms backhaul; covered foreign country; covered telecommunications equipment or services; interconnection arrangements; roaming; substantial or essential component; and telecommunications equipment or services have the meaning as defined in FEMA Policy 405-143-1, Prohibitions on Expending FEMA Award Funds for Covered Telecommunications Equipment or Services, as used in this clause:

### **(b) Prohibition**

1) Section 889(b) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. No. 115-232, and 2 C.F.R. § 200.216 prohibit the head of an executive agency on or after Aug.13, 2020, from obligating or expending grant, cooperative agreement, loan, or loan guarantee funds on certain telecommunications products or from certain entities for national security reasons.

2) Unless an exception in paragraph (c) of this clause applies, the contractor and its subcontractors may not use grant, cooperative agreement, loan, or loan guarantee funds from the Federal Emergency Management Agency to:

- 1. Procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;
- 2. Enter, extend, or renew a contract to procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;
- 3. Enter, extend, or renew contracts with entities that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system; or
- 4. Provide, as part of its performance of this contract, subcontract, or other contractual instrument, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

### **(c) Exceptions.**

1) This clause does not prohibit contractors from providing:

- i. A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

ii. Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

2) By necessary implication and regulation, the prohibitions also do not apply to:

i. Covered telecommunications equipment or services that:

a. Are not used as a substantial or essential component of any system; and

b. Are not used as critical technology of any system.

ii. Other telecommunications equipment or services that are not considered covered telecommunications equipment or services.

(d) Reporting requirement

1) In the event the contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the contractor is notified of such by a subcontractor at any tier or by any other source, the contractor shall report the information in paragraph (d)(2) of this clause to the recipient or subrecipient, unless elsewhere in this contract are established procedures for reporting the information.

2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause:

i. Within one business day from the date of such identification or notification: The contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

ii. Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: Any further available information about mitigation actions undertaken or recommended. In addition, the contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) *Subcontracts*. The Contractor shall insert the substance of this clause, including this paragraph (e), in all subcontracts and other contractual instruments.

## **DOMESTIC PREFERENCE FOR PROCUREMENTS**

The Contractor should, to the greatest extent practicable and consistent with law, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States. This includes, but is not limited to, iron, aluminum, steel, cement, and other manufactured products. For purposes of this clause:

*Produced in the United States* means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

## **SECTION 01010 SUMMARY OF WORK**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

##### **Work Covered by Contract Documents:**

Work under this Contract is described as:     **Fire Station 93 Wind Wall and Pad Construction**  
2026-19

Construction of wind wall and generator mounting pad.

The Specification Divisions and Drawings are an integrated part of the Contract Documents and as such will not stand alone if used independently as individual Sections, Divisions or Drawings sheets.

The Specifications and Drawings establish minimum standards of quality for this project. They do not purport to cover all details entering into the design and construction of materials or equipment.

The CONTRACTOR is advised that the equipment arrangements as shown on the drawings may vary with different manufacturers and the CONTRACTOR is responsible at no cost to the OWNER for making the changes necessary to accommodate the specific equipment installed.

Omission of a specific item or component part of a system obviously necessary for the proper functioning of the system shall not relieve the CONTRACTOR of the responsibility of furnishing the item as part of the work at no additional cost to the OWNER.

##### **Contracts:**

Construct work under a single, lump sum contract.

#### **1.02 QUALITY ASSURANCE**

##### **Laws and Regulations:**

The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations applicable to the work. If the CONTRACTOR observes that the Specifications or Drawings are at variance therewith, the CONTRACTOR shall give the ENGINEER prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate modification. If the CONTRACTOR performs any work knowing or having reason to know that it is contrary to such laws, ordinances, rules and regulations, and without such notice to ENGINEER, the CONTRACTOR shall bear all costs arising therefrom; however, it shall not be the CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with such laws, ordinances, rules and regulations.

#### **1.03 JOB CONDITIONS**

**Taxes:**

The CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by him in accordance with the law of the place of the project.

**Permits and Business Tax Receipts:**

The CONTRACTOR shall obtain and pay for all construction permits and business tax receipts. The OWNER shall assist the CONTRACTOR, when necessary, in obtaining such permits and business tax receipts. The CONTRACTOR shall provide OWNER with copies of all permits prior to commencing work.

The CONTRACTOR shall pay all charges of utility service companies for connections to the work, and the OWNER shall pay all charges of such companies for capital costs related thereto.

It shall be the responsibility of the CONTRACTOR to verify the existence of all necessary permits and business tax receipts prior to the start of work. The OWNER will obtain permits involving interagency agreements, i.e., State Highway Crossing Permits, Railroad Crossing Permits, and similar permits.

Fees for building permits and impact fees are the responsibility of CONTRACTOR.

The CONTRACTOR and each Subcontractor must be Registered with Volusia County or with the City of Ormond Beach. Requirements for registering a business are as follows:

**STATE CERTIFIED CONTRACTORS**

1. Register with Volusia County Contractor Licensing (386-248-8158)

OR

2. Provide City with:  
Copy of local business tax receipt (where your business is located)  
Copy of State License (if applicable)  
Certificate of Insurance

For additional information regarding registration, permits or business tax receipts, please call:  
(386) 610-0540

**Labor, Materials and Equipment:**

The CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the work and perform construction as required by the Contract Documents. The CONTRACTOR shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the work or property at the site or adjacent thereto, and except as otherwise indicated in the Supplementary Conditions, all work at the site shall be performed during regular working hours, and the CONTRACTOR will not permit overtime work or the performance of work on Saturday, Sunday or any legal holiday without the OWNER's written consent given after prior written notice to the ENGINEER.



Unless otherwise shown, the CONTRACTOR shall furnish all materials, equipment, labor transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the work.

The CONTRACTOR shall be responsible for all materials furnished by him and shall replace at his own expense all such material found to be defective in manufacture or damaged in handling. This shall include the furnishing of all material and labor required for the replacement of installed material discovered defective prior to the final acceptance of the work.

**Contractor Use of Premises:**

The CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workmen to areas permitted by law, ordinances, permits or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment.

The CONTRACTOR shall not enter upon private property for any purpose without first securing the permission of the property owner in writing and furnishing the ENGINEER with a copy of said permission. This requirement will be strictly enforced, particularly with regard to such vacant properties as may be utilized for material storage.

The CONTRACTOR shall conduct his work in such a manner as to avoid damage to adjacent private or public property. Any damage to existing structures or work of any kind, including permanent reference markers or property corner markers, or the interruption of utility service, shall be repaired or restored promptly at no additional expense to the OWNER.

The CONTRACTOR shall preserve and protect all existing vegetation such as trees, shrubs and grass on or adjacent to the site which do not reasonably interfere with the construction, as determined by the ENGINEER. The CONTRACTOR will be responsible for all unauthorized cutting or damaging of trees and shrubs, including damage due to careless operation of equipment, stockpiling of materials or tracking of grass by equipment. The CONTRACTOR will be liable for, or will be required to replace or restore at no additional expense to the OWNER, all vegetation not protected or preserved as required herein that may be destroyed or damaged.

The CONTRACTOR will not be required to move or remove any utilities except as specifically required by the Drawings and Specifications.

During the progress of the work, the CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from work. At the completion of the work, the CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by the OWNER. The CONTRACTOR shall restore to their original condition those portions of the site not designated for alteration by the Contract Documents.

The CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall the CONTRACTOR subject any part of the work or adjacent property to stresses or pressures that will endanger it.

**Subsurface Reports:**

None

**Notification of Construction:**

The CONTRACTOR shall notify, in writing, all residents and businesses adjacent to the project work area of pending construction no later than 48 hours prior to commencement of actual construction. Copies of the written Notice shall be provided to the ENGINEER for approval of wording prior to public distribution.

**Notification of Street Closure:**

The CONTRACTOR is required to obtain permission from the City Engineer prior to initiating street closures.

**In the event a street closure is required, the CONTRACTOR shall notify, in writing, all emergency services and agencies, residents and businesses directly effected by any partial or full street closure caused by the construction no later than 48 hours prior to actual closure.**

Below is a list of the agencies that are required to be notified in the event of a street closure:

| <u>Agency:</u>                               | <u>Contact phone number:</u> |
|----------------------------------------------|------------------------------|
| EVAC Ambulance Service                       | (386) 252-4911               |
| Ormond Beach City Hall                       | (386) 610-0400               |
| Ormond Beach Fire Dept. Administration       | (386) 229-7090               |
| Ormond Beach Police Dept.                    | (386) 229-7120               |
| Ormond Beach Public Works Department         | (386) 610-0700               |
| Ormond Beach Postmaster (US Postal Service)  | (386) 676-0693               |
| Volusia County School Board - Transportation | (386) 258-4677               |
| Volusia County VOTRAN                        | (386) 756-7496               |

If a **County** or **State Road** is to be closed, add the following agencies to the list:

|                                           |                |
|-------------------------------------------|----------------|
| Volusia County Department of Public Works | (386) 239-6535 |
| Volusia County Emergency Management       | (386) 254-1500 |
| Volusia County Fire Services              | (386) 254-4657 |
| Florida Highway Patrol Dispatch           | (407) 737-2200 |

If the closure will last longer than 5 days, the CONTRACTOR shall also notify the general public of such closures by placing an advertisement in the "Area" section of the local newspaper no later than 48 hours prior to the closure. The advertisement shall include information describing the extent of the closure (i.e. between which streets; detour routes, etc.), the date the closure will begin, and estimated date the road will be reopened. Provide a copy of the proposed notification, for approval by the ENGINEER, before placing the advertisement.

The CONTRACTOR shall maintain full compliance with the traffic regulations found in Paragraph 1.06, Section 01500 of this Contract.

**Contractor's Hours of Operation:**

Except in the event of an emergency, no work shall be done between the hours of 7:00 P.M. and 7:00 A.M., or on Saturdays and Sundays. If the proper and efficient execution of the work requires operations during the night or on week-ends, the written permission of the ENGINEER shall be obtained prior to starting such items of the work.

**PART 2 - PRODUCTS**

(Not Applicable)

**PART 3 - EXECUTION**

(Not Applicable)

**END OF SECTION**

## **SECTION 01025 MEASUREMENT AND PAYMENT**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

This section defines the method which will be used to determine the quantities of work performed or materials supplied and establishes the basis upon which payment will be made.

#### **1.02 ESTIMATED QUANTITIES**

Where quantities are shown they are approximate and are given only as a basis of calculation upon which the award of the Contract is to be made. OWNER or ENGINEER do not assume any responsibility that the final quantities, nor shall CONTRACTOR claim misunderstanding because of such estimate of quantities. Final payment will be made only for the satisfactorily completed quantity of each item.

#### **1.03 MEASUREMENT STANDARDS**

All work completed under the Contract shall be measured according to United States Standard Methods.

#### **1.04 METHOD OF MEASUREMENT**

##### Measurement of Length:

Unless otherwise specified for the particular items involved, all measurements of distance for items to be paid for on the basis of length shall be taken horizontally or vertically.

##### Measurement of Area:

In the measurement of items paid for on the basis of area of finished work, the lengths and/or widths to be used in the calculations shall be the actual dimensions measured along the surface of the completed work within the neat lines shown or designated. At intersections, the measurement used for length of side area will be measured from the outside edge of the width allowed along the main trench.

#### **1.05 PAYMENT**

##### Lump Sum Items:

Where payment for items is shown to be paid for on a lump sum basis, no separate payment will be made for any item of work required to complete the lump sum item within the limits of work shown or specified.

### Unit Price Items:

Where payment for items is shown to be paid for on a unit price basis, separate payment will be made for the items of work described herein and listed on the Bid Form. Any related work not specifically listed, but required for satisfactory completion of the work, shall be considered to be included in the scope of the appropriate listed work items.

### **1.06 COSTS INCLUDED IN PAYMENT ITEMS**

No separate payment will be made for the following items and the cost of such work shall be included in the applicable pay items of work.

- Clearing and grubbing (including disposal of material).
- Trench excavation, including necessary pavement removal and removal of vegetative surfaces.
- Dewatering and disposal of surplus water.
- Structural fill, backfill, and grading.
- Replacement of unpaved roadways, grass and shrubbery plots.
- Cleanup.
- Foundation and borrow materials, except as hereinafter specified.
- Testing and placing system in operation.
- Any material and equipment required to be installed and utilized for tests.
- Pipe, structures, pavement replacement, restoration and/or appurtenances included within the limits of lump sum work, unless otherwise shown.
- Maintaining or detouring of the traffic.
- Appurtenant work as required for a complete and operable system.
- Surface restoration including removal and replacement of trees (under 4-inch diameter), shrubs, and sod disturbed by construction activities.
- Relocation and/or replacement of irrigation systems disturbed by construction.
- Relocation and/or replacement of mail boxes disturbed by construction.
- Furnishing adequate sanitary facilities for workers.
- Adjustment of valve boxes.
- Supporting of existing utilities during construction

### Cleanup:

CONTRACTOR's attention is called to the fact that cleanup is considered a part of the work of construction. No payment will be made until cleanup is essentially complete.

At the end of each week of construction, the CONTRACTOR shall perform cleaning of the work site, to the satisfaction of the Owner, before proceeding to the next week's scheduled work.

### Work Outside Authorized Limits:

No payment will be made for work constructed outside the authorized limits of work.

## **1.07 APPLICATIONS FOR PAYMENT**

Applications for payment shall be prepared by the CONTRACTOR and submitted to the ENGINEER in accordance with the schedule established by the Conditions of the Contract and the Agreement. The applications for payment shall be submitted in the number and form established by the ENGINEER at the Preconstruction Conference. The form shall be completely filled out and executed by an authorized representative of the CONTRACTOR. Supporting data such as schedules of stored materials shall be attached to each copy of the application.

## **1.08 CHANGE ORDER PROCEDURE**

As defined in the General Conditions, a Change Order is a written order to the CONTRACTOR signed by the OWNER authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time which is issued after the execution of the Agreement.

The following procedure shall be used in processing Change Orders:

### For Additions to the Work:

The OWNER shall issue a written order to the CONTRACTOR directing him to accomplish the additional work. The CONTRACTOR shall review the order and if he feels that the additional work entitles him to additional payment or additional time, he may submit a claim as prescribed in the Conditions of the Contract.

### For Deletions From the Work:

The OWNER shall issue a written order to the CONTRACTOR directing him to make the change. If the OWNER feels that the Contract price should be reduced as a result of the change, the OWNER shall make a claim for the reduction as provided in the Conditions of the Contract.

Cost of the changes in the work shall be determined in accordance with the requirements spelled out in the Conditions of the Contract. Modifications to incorporate the changes in cost will be made as the amount of any change is determined.

## **PART 2 - PRODUCTS**

(Not Applicable)

## **PART 3 - EXECUTION**

### **3.01 BID ITEMS**

#### **Bid Item No. 1      Mobilization/Demobilization**

*Definition.* Mobilization shall be the preparatory work and operations in mobilizing for beginning work on the project, including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies and incidentals to the project site, and for the establishment of temporary offices, buildings, safety equipment and first aid supplies, sanitary and other facilities, as required by the Contract Documents and applicable laws and

regulations. The cost of bonds, required insurance, permits and any other preconstruction expense necessary for the start of work, excluding the cost of construction materials, shall also be included in this item. Demobilization shall be the work of removing temporary facilities from the site.

*Payment.* Partial payments for this item will be made in accordance with the following schedule:

| <u>Percent of Original Contract<br/>Amount Earned</u> | <u>Allowable Percent of the<br/>Lump Sum Price for the Item</u> |
|-------------------------------------------------------|-----------------------------------------------------------------|
| Contract Approval                                     | 25                                                              |
| 10                                                    | 50                                                              |
| 25                                                    | 75                                                              |
| 50                                                    | 100                                                             |

These payments will be subject to the standard retainage provided in the agreement. Payment of the retainage will be made after successful completion of the work and demobilization.

**Bid Item No. 2      Construct Wind Wall and Pad**

Payment will be made at the contract lump sum price for the Wind Wall and Pad Construction. Payment shall be full compensation for furnishing all plant, labor, materials, and equipment necessary to complete the construction of the wind wall and pad per the construction documents and drawings, complete, accepted by the city, and ready for use.

**Bid Item No. 3      Certified As-Built Drawings**

Payment for performing and providing a certified as-built survey will be made at the Contract lump sum price and shall be full compensation for furnishing all plant, labor, materials and equipment necessary for the CONTRACTOR to submit to the OWNER as-built survey drawings of the completed work, certified by a registered land surveyor in accordance with the Specifications.

**Bid Item No. 4      Allowance**

An allowance is established to reimburse costs associated with permits, fees, inspections, and other authorized expenses for the Fire Station 93 Wind Wall and Pad Construction. **This will be paid at actual cost. Allowance will be used solely based upon prior written approval by the City/Owner.**

**END OF SECTION**

**SECTION 01027**  
**APPLICATIONS FOR PAYMENT**

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**PART 1 – GENERAL**

**1.01 FORMAT AND DATA REQUIRED**

- A. Coordinate the Schedule of Values and Applications for Payment with the CONTRACTOR'S Construction Schedule, Submittal Schedule, and List of Subcontracts.
- B. Schedule of Values: Coordinate preparation of the Schedule of Values with preparation of the CONTRACTOR'S Construction Schedule.
- C. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
  - 1. CONTRACTOR'S Construction Schedule.
  - 2. Application for Payment forms, including Continuation Sheets.
  - 3. List of subcontractors.
  - 4. List of products.
  - 5. List of principal suppliers and fabricators.
  - 6. Schedule of submittals.
- D. Submit the Schedule of Values at the earliest possible date but no later than 7 days before the date scheduled for submittal of the initial Applications for Payment.
- E. Format and Content: Use the Project Manual table of contents as a guide to establish the format for the Schedule of Values. Provide at least one line item for each Specification Section.
- F. Include the following Project identification:
  - 1. Project name and location.
  - 2. Name of ENGINEER.
  - 3. Project number.
  - 4. CONTRACTOR'S name and address.
  - 5. Date of submittal.
- G. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
  - 1. Related Specification Section or Division.
  - 2. Description of Work.
  - 3. Name of subcontractor.



4. Change Orders (numbers) that affect value.
  5. Dollar value.
  6. Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
- H. Provide a breakdown of the Contract Sum in sufficient detail to facilitate evaluation of Applications for Payment. Break subcontract amounts down into several line items. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
- I. Update and resubmit the Schedule of Values when Change Orders or Construction Change Directives change the Contract Sum.
- J. Applications for Payment shall be consistent with previous applications and payments as certified by the ENGINEER and paid for by the OWNER.
- K. Payment Application Times: Payment dates are indicated in the Agreement. The period covered by each application is the period indicated in the Agreement.
- L. Payment Application Forms: Use AIA Document G702 and Continuation Sheets G703 as the form for Applications for Payment.
- M. Application Preparation: Complete every entry, including notarization and execution by a person authorized to sign on behalf of the CONTRACTOR. The ENGINEER will return incomplete applications without action.
1. Entries shall match data on the Schedule of Values and the Contractor's Construction Schedule. Use updated schedules if revisions were made.
  2. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
- N. Transmittal: Submit 3 executed original copies of each Application for Payment to the ENGINEER within 24 hours. One copy shall be complete, including waivers of lien and similar attachments.
1. Transmit each copy with a transmittal listing attachments and recording appropriate information related to the application.
- O. Waivers of Mechanics Lien: With each Application for Payment, submit waivers of lien from every entity who may file a lien arising out of the Contract and related to the Work covered by the previous payment.

## **1.02 INITIAL APPLICATION FOR PAYMENT**

- A. Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include the following:
1. List of subcontractors.
  2. List of principal suppliers and fabricators.
  3. Schedule of Values.
  4. CONTRACTOR'S Construction Schedule (preliminary if not final).
  5. Submittal Schedule (preliminary if not final).
  6. List of CONTRACTOR'S staff assignments.
  7. Copies of building permits.
  8. Copies of licenses from governing authorities.
  9. Certificates of insurance and insurance policies.
  10. Performance and payment bonds.

### **1.03 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS**

- A. When the OWNER requires substantiating data, CONTRACTOR shall submit suitable information, with a cover letter identifying:
1. Project.
  2. Application number and date.
  3. Detailed list of enclosures.
  4. For stored products:
    - a. Item number and identification as shown on application.
    - b. Description of specific material.
- B. Submit one (1) copy of data and cover letter for each copy of application.
- C. Submit requisite number of photographs with each application.
- D. List the name and address of all Subcontractors and Suppliers who have performed work or provided supplies or material for each application.
- E. Submit certified payroll sheets for CONTRACTOR'S forces and all Subcontractors for the month preceding the submitted application.
- F. Submit revised monthly progress schedules with each month's Application for Payment, including cash flow projections.
- G. The CONTRACTOR is to maintain an updated set of drawings to be used as record drawings in accordance with the Contract Documents. AS A PREREQUISITE FOR PAYMENT OF MONTHLY PROGRESS PAYMENTS, THE CONTRACTOR IS TO EXHIBIT THE UPDATED RECORD DRAWINGS FOR REVIEW BY THE OWNER.

#### **1.04 APPLICATION FOR PAYMENT AT SUBSTANTIAL COMPLETION**

- A. Following issuance of the Certificate of Substantial Completion, submit an Application for Payment. This application shall reflect Certificates of Partial Substantial Completion issued previously for OWNER occupancy of designated portions of the Work.
- B. Administrative actions and submittals that shall precede or coincide with this application include the following:
  - 1. Occupancy permits.
  - 2. Warranties and maintenance agreements.
  - 3. Test/adjust/balance records.
  - 4. Maintenance instructions.
  - 5. Meter readings.
  - 6. Changeover information related to OWNER'S occupancy.
  - 7. Final cleaning.
  - 8. Application for reduction of retainage and consent of surety.

#### **1.05 FINAL PAYMENT APPLICATION**

- A. Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:
  - 1. Completion of Project closeout requirements and submittals including As-Built Survey.
  - 2. Completion of items specified for completion after Substantial Completion.
  - 3. Transmittal of Project construction records to the OWNER.
  - 4. Certified property survey.
  - 5. Proof that taxes, fees, and similar obligations were paid.
  - 6. Removal of temporary facilities and services.
  - 7. Change of door locks to OWNER'S access.

#### **PART 2 – PRODUCTS**

(Not Applicable)

#### **PART 3 – EXECUTION**

(Not Applicable)

**END OF SECTION**

## **SECTION 01040 COORDINATION**

### **PART 1 - GENERAL**

#### **1.01 PROJECT COORDINATION**

A. The Contractor shall provide for the complete coordination of the construction efforts. This shall include, but not necessarily be limited to, coordination of the following:

1. the work of subcontractors
2. the flow of material and equipment from suppliers
3. the interrelated work with public utilities companies
4. the interrelated work with the Owner where tie-ins to existing facilities are required
5. the effort of independent testing agencies.

B. The Contractor will be allowed the widest practicable latitude in establishing his work plan. Contractor shall submit a plan of work to Owner and Engineer.

#### **1.02 CUTTING AND PATCHING**

A. The Contractor shall do all cutting, fitting and patching of his work that may be required to make its several parts come together properly and integrate with such other work. The Contractor shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of the Engineer and the others whose work will be affected.

### **PART 2 - MATERIALS AND EQUIPMENT**

(Not Applicable)

### **PART 3 - EXECUTION**

(Not Applicable)

**END OF SECTION**

**SECTION 01065**  
**PERMITS AND FEES**

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**PART 1 – GENERAL**

**1.01 DESCRIPTION**

- A. Scope of Work: Obtain and pay for all permits and licenses including, but not limited to, all construction and Right-of-Way utilization permits.
- B. Permits by CONTRACTOR: CONTRACTOR will apply for and CONTRACTOR will pay for the following permits:

City of Ormond Beach Building Permit and/or Driveway Permit (if applicable)
- C. Permits by CONTRACTOR: CONTRACTOR will apply for and CONTRACTOR will pay for the following permits:

City of Ormond Beach Non-Residential Walls, Structural
- D. Permits by OWNER: The OWNER has applied and paid for the following permits:

None.
- E. Copies of the permits obtained by the OWNER are attached as an Appendix or will be distributed at the Pre-Construction Conference.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

## **SECTION 01200 PROJECT MEETINGS**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

Project meetings shall be scheduled as needed throughout the progress of the work. Those responsible for scheduling the meetings shall prepare the agenda, distribute written notice of each meeting not less than four days in advance of the meeting date, make physical arrangements for the meeting, preside at the meeting, record the minutes (include all significant proceedings and decisions), and reproduce and distribute copies of the minutes to all participants, all parties affected by decisions made, and the Engineer.

Representatives attending the meetings shall be qualified and authorized to act on behalf of the entities they represent.

#### **1.02 PRE CONSTRUCTION CONFERENCE**

Before the Contractor starts the work at the site, the Engineer will schedule a preconstruction conference which will be held for review and acceptance of the schedules referred to in Section 01300, to establish procedures for handling shop drawings and other submittals and for processing Applications for Payment, and to establish a working understanding among the parties as to the work.

The date for the start of construction shall be established at this conference.

### **PART 2 - PRODUCTS**

(Not Applicable)

### **PART 3 - EXECUTION**

(Not Applicable)

**END OF SECTION**

**01200-1**

## **SECTION 01300 SUBMITTALS**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF REQUIREMENTS**

The type of submittal requirements specified in this section include the following:

- Progress Schedules and Reports
- Product Data
- Shop Drawings
- Manufacturer's Data
- Miscellaneous

Submittals shall be clear and legible, printed or typed. Submittals received that are not so, shall be returned to be resubmitted when in legible form.

#### **1.02 PROGRESS SCHEDULES AND REPORTS**

Within 10 days after the effective date of the Agreement, the Contractor shall submit to the Engineer for review and acceptance an estimated progress schedule indicating the starting and completion dates of the various stages of the work, a preliminary schedule of shop drawing submissions, and a preliminary schedule of values of the work. Include subschedules of related activities which are essential to its progress.

Revised schedules shall be submitted periodically as changes become apparent.

Unless other format or use of a network analysis system is required, schedules shall be prepared in the form of a horizontal bar chart. A separate horizontal bar shall be provided for each trade or operation. The first work day of each week shall be identified on the horizontal time scale. Scale and spacing will be such as to allow space for notations and revisions.

Schedules shall show the complete sequence of construction by activity with dates for the beginning and completion of each major element of construction. Projected percentage of completion for each item as of the first day of each month shall be shown.

##### Progress Reports:

The Contractor shall prepare and submit a monthly progress report. The report shall indicate the progress at the date of submission of each activity shown on his progress schedule. It shall show changes occurring since previous submissions, activities modified since previous submissions, and revised projections of progress and completion. The submittal shall include a narrative report to define: problem areas, anticipated delays, and the impact on the schedule, and corrective action recommended and its effect.

### **1.03 PRODUCT DATA (Shop Drawings and Manufacturer's Data)**

The Contractor shall prepare and submit to the Engineer a schedule of the shop drawings, product data and samples which are required for the work together with anticipated submittal time. Any drawings which require critical timing for maintaining delivery or construction schedules shall be so noted. Shop drawing submittal schedule shall be coordinated with the requirements of construction progress schedules.

Those submittals required under various sections of the specifications, but not listed on the Contract Submittal List shall be submitted as "RECORD SUBMITTALS" and given to the Engineer along with the Record Drawings as specified in Section 01700 - Contract Closeout.

Product data submitted for substitutions shall be handled as specified in Section 01630 - Substitutions and Product Options.

#### **Definitions:**

Work-related submittals of this section are categorized for convenience as follows:

Shop drawings include specially-prepared technical data for this project, including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information not in standard printed form for general application to several projects.

Product data include standard printed information on materials, products and systems; not specially-prepared for this project, other than the designation of selections from among available choices printed in the information.

Miscellaneous submittals related directly to the work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, quality testing and certifying reports, copies of industry standard, record drawings, field measurement data, operating and maintenance materials, overrun stock, and similar information, devices and materials applicable to the work and not processed as shop drawings, product data or samples.

### **1.04 GENERAL SUBMITTAL REQUIREMENTS**

After checking and verifying all field measurements, the Contractor shall submit to the Engineer for review and approval, in accordance with the accepted schedule of shop drawing submissions, five copies of all shop drawings, which shall have been checked by and stamped with the approval of the Contractor and identified as the Engineer may require. The data shown on the shop drawings will be complete with respect to dimensions, design criteria, materials of construction and like information to enable the Engineer to review the information as required.

The Contractor shall also submit to the Engineer for review and approval with such promptness as to cause no delay in work, all samples required by the Contract Documents. All samples will have



been checked by and stamped with the approval of the Contractor, identified clearly as to material, manufacturer, and pertinent catalog numbers and the use for which intended. At the time of each submission, the Contractor shall, in writing, call the Engineer's attention to any deviations that the shop drawings or samples may have from the requirements of the Contract Documents.

The Engineer will review and approve with reasonable promptness shop drawings and samples, but the Engineer's review and approval shall be only for conformance with the design concept of the project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, sequences, techniques or procedures of construction or to safety precautions or programs incident to the work. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. The Contractor shall make any corrections required by the Engineer and shall return the required number of corrected copies of shop drawings and resubmit new samples for review and approval. The Contractor shall direct specific attention, in writing, to revisions other than the corrections called for by the Engineer on previous submittals. The Contractor's stamp of approval on any shop drawing or sample shall constitute a representation to the Owner and the Engineer that the Contractor has either determined and verified all quantities, dimension, field construction criteria, materials, catalog numbers, and similar data or assumes full responsibility for doing so, and that the Contractor has reviewed or coordinated each shop drawing or sample with the requirements of the work and the Contract Documents.

Where a shop drawing or sample is required by the Specifications, no related work shall be commenced until the submittal has been reviewed and approved by the Engineer.

The Engineer's review and approval of shop drawings or samples shall not relieve the Contractor from responsibility for any deviations from the Contract Documents unless the Contractor has in writing called the Engineer's attention to such deviations at the time of submission and the Engineer has given written concurrence and approval to the specific deviation, nor shall any concurrence or approval by the Engineer relieve the Contractor from responsibility for errors or omissions in the shop drawings.

Systems to be submitted in the shop drawing submittal shall include but not necessarily be limited to:

1. Each item of equipment and/or materials listed in the project equipment and material schedules;

#### Certifications:

Whenever a standard of quality is established by a reference specification, the Contractor shall submit a certificate by the manufacturer that the material supplied meets the requirements of both the project and reference specification.

#### Schedule of Values:

At least 10 days prior to submitting the first Application for a progress payment, the Contractor shall submit to the Engineer a schedule of values of the work. This schedule shall be satisfactory in form and substance to the Engineer. The schedule of values shall include quantities and unit prices aggregating the contract price, and shall subdivide the work into component parts in sufficient detail to serve as the basis for progress payments during construction. Upon acceptance of the schedule of values by the Engineer, it shall be incorporated into a form of Application for Payment acceptable to the Engineer.

Where estimated quantities and unit prices are shown in the Bid Form as the basis of payment, the quantities shown in the Bid Form are approximate and are given only as a basis of calculation upon which the award of the contract is to be made. The Owner or Engineer do not assume any responsibility that the final quantities will remain in accordance with estimated quantities, nor shall the Contractor claim misunderstanding or deception because of such estimate of quantities. Final payment will be made on the basis of the actual completed quantities of each item.

## **PART 2 - PRODUCTS**

(Not Applicable)

## **PART 3 - EXECUTION**

(Not Applicable)

**END OF SECTION**

SECTION 01380  
CONSTRUCTION PHOTOGRAPHS

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Scope of Work: The Contractor shall employ a competent photographer to take construction record photographs and video recording prior to start of work and periodically during the course of the Work.

1.02 PHOTOGRAPHY REQUIRED

- A. Digital photographs shall be taken in conformance with this Section shall be furnished to the Engineer with each pay request. Failure to comply will result in rejection of pay request.
- B. Digital photographs shall be taken at each of the major stages of construction and as directed by the Engineer.
- C. Digital photographs may be taken by the Contractor's personnel but must be of professional quality as herein specified. Photographs which are deemed unsatisfactory will be rejected and retakes will be required.
- D. Views and Quantities Required:
  - 1. Contractor shall supply Digital pictures on a minimum 4 GB USB Flash Drive. One (1) view of each activity, as directed by the Resident Project Representative, up to a limit of ten activities photographed per month.
  - 2. One (1) Digital picture of five (5) views of overall Project site monthly including any change of condition, any structural changes, relocation, and all conflicts with utilities, as directed by the Resident Project Representative.
- E. Digital pictures shall contain and comply with the following:
  - 1. The Contractor shall maintain all Digital copies of photos for the entire Project and then shall convey the disks to the Owner at the completion of the Project.
  - 2. All disks shall be properly labeled with project name, project number, project start and end dates, Contractor's name, and Owner's name for which work was completed.

3. The photographer shall agree to furnish additional disks to Owner and the Engineer at commercial rates applicable at time of purchase.

### 1.03 COST OF PHOTOGRAPHY

- A. The Contractor shall pay costs for specified Digital photography and any required prints.

## PART 2 - PRODUCTS

### 2.01 DIGITAL PHOTOGRAPH AND/OR PRINTS

- A. Type of Print (if required):
  1. Paper: Single weight, color print paper.
  2. Finish: Smooth surface, glossy.

Size: 4 inch x 6 inch for construction photos.
- B. Identify each photograph with the following (each print shall have information listed on back of each photograph and digital pictures shall have coordinating log sheet with information):
  1. Name of project
  2. Orientation of view
  3. Date and time of exposure
  4. Name and address of photographer
  5. Each photograph shall be numbered in consecutive order.

Note: Digital prints shall be used to clarify as-builts.

## PART 3 - EXECUTION

### 3.01 TECHNIQUE

- A. Factual Presentation.
- B. Correct exposure and focus.
  1. High resolution and sharpness (minimum 800 DPI)
  2. Maximum depth-of-field
  3. Minimum distortion

### 3.02 VIEWS REQUIRED

- A. Digital photographs shall adequately illustrate condition of construction and state of progress.

1. At successive periods of photography, take at least one digital photograph from the same overall view as previously photographed.
2. Consult with the Engineer at each period of digital photography for instructions concerning views required.

### 3.03 DELIVERY OF PRINTS

- A. Deliver photographs, on USB Flash Drive with coordinating log, to the Engineer as attachment to Application for Payment. (Flash Drive will become property of Engineer and/or Owner).
- B. Distribution of construction photographs, as soon as processed, is anticipated to be as follows:
  1. Engineer one (1) set.
  2. Project record file one (1) set to be stored by Contractor until the end of the project which shall be delivered with Project Record Documents.
  3. Contractor one (1) set.

## PART 4 – CONSTRUCTION VIDEO RECORDING

### 4.01 SCOPE OF WORK

- A. Furnish all labor, materials and equipment to furnish color audio video recording of the project site as specified herein.
- B. Furnish to the Engineer an original and one copy of a continuous color audio video recording on DVD around the entire project site. The recording shall be taken prior to any construction activity.
- C. The Engineer reserves the right to reject the audio video recording because of poor quality, unintelligible audio or uncontrolled pan or zoom. Any DVD rejected by the Engineer shall be redone at no cost to the Owner. Under no circumstances shall construction begin until the Engineer has received and accepted the audio video DVD(s).
- D. The recording shall be performed by a qualified, established audio video recording firm, knowledgeable in construction practices which have a minimum of one (1) year experience in the implementation of established inspection procedures.

### 4.02 COLOR AUDIO VIDEO SURVEY

- A. Complete coverage shall include all surface features located within the project site, easement areas, and adjacent private properties covering the extent of the project site to be utilized by the Contractor and will be supported by appropriate audio description made simultaneously with video coverage. Such coverage shall include, but not be limited to, all existing driveways, sidewalks, curbs, ditches, roadways including viaducts, landscaping, trees, culverts, headwalls, and retaining walls, and buildings located within the area. Video coverage shall extend to the maximum height of all structures within this zone.
- B. All recording shall be done during times of good visibility. No recording shall be done during periods of visible precipitation, or when more than ten percent of the ground area is covered with standing water, unless otherwise authorized by Owner.

#### 4.03 AUDIO AND VIDEO

- A. Contractor shall furnish continuous color, audio-video DVD(s) of professional quality.
- B. Pre and post construction recording should be recorded on a DVD –R disk, 4.7 gigabits, recorded in SP mode (120 mins) or better (HQ,HSP), disk must be finalized with no editing of information and must be properly marked with date, location, contractors name, job site, and name of Videographer. The date and time stamp must be visible at all times on image and disk must be stored in an individual sleeve.
- C. Each DVD shall begin with the Owner's name, Contract name and number, Contractor's name, date and location information such as street name, direction of travel, viewing side, etc.
- D. Information appearing on the DVD must be continuous and run simultaneously by computer generated transparent digital information. No editing or overlaying of information at a later date will be acceptable.
- E. Digital information will be as follows:
  - 1. Upper left corner
    - a) Name of Contractor
    - b) Day, date and time
    - c) Name of project
  - 2. Lower left corner
    - a) Route of travel
    - b) Viewing side
    - c) Direction of travel
    - d) Stationing

- F. Time must be accurate and continuously generated.
- G. Engineering station numbers must be continuous, be accurate and correspond to project stationing. The symbols should be the standard engineering symbols (i.e. 16+64).
- H. Written documentation must coincide with the information on the DVD so as to make easy retrieval of location sought for at a later date.
- I. The video system shall have the capability to transfer individual frames of video electronically into hard copy prints or photography negatives.
- J. Audio shall be recorded at the same time as the video recording and shall have the same information as on the viewing screen. Special commentary will be given for unusual conditions of buildings, sidewalks and curbing, foundations, trees and shrubbery, etc.
- K. All DVDs and boxes shall bare labels with the following information:
  - 1. Recording Number
  - 2. Owner's Name
  - 3. Date of Recording
  - 4. Project Name and Number
  - 5. Location and Standing Limit of DVD
- L. Prior to commencement of audio video recording, the contractor shall notify the Engineer in writing when and where the audio video recording will begin. The Engineer may provide a designated representative to accompany and oversee coverage of all recording operations. Audio video recording completed without an Engineer representative present will be unacceptable unless specifically authorized by the Engineer.

END OF SECTION

## **SECTION 01400 QUALITY CONTROL**

### **PART 1 - GENERAL**

#### **1.01 TESTING LABORATORY SERVICES**

Arrangements for testing laboratory services will be made by the Owner. Payment for testing to show compliance with specified requirements will be paid for by the Owner. The cost for tests, when materials and workmanship fail to meet specified requirements (failed tests), will be billed directly to the Contractor by the soils testing laboratory, or deducted from monies due to the Contractor.

#### **1.02 INSPECTION SERVICES**

The authorized representative of all applicable Federal and/or State agencies, including Environmental Protection Agency, Corps of Engineers and Department of Environmental Regulation, shall be permitted to inspect all work, materials, payrolls, records of personnel, invoice of materials, and other relevant data and records. The Owner and his authorized representatives shall be permitted free access and every reasonable facility for the inspection of all work and materials, including the removal or uncovering of such portions of the finished work as may be directed. The Owner and his authorized representative shall also be permitted to inspect payrolls, invoices of materials and other relevant data and records.

#### **1.03 INSPECTION OF WORK AWAY FROM SITE**

If work to be done away from the construction site is to be inspected on behalf of the Owner during its fabrication, manufacture or testing or before shipment, the Contractor shall give notice to the Engineer of the time and place where such fabrication, manufacturing, testing or shipping is to be done. Such notice shall be in writing and delivered to the Engineer in ample time so that the necessary arrangements for the inspection can be made.

### **PART 2 - PRODUCTS**

(Not Applicable)

### **PART 3 - EXECUTION**

(Not Applicable)

**END OF SECTION**

**01400-1**



## **SECTION 01500 TEMPORARY FACILITIES AND CONTROLS**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF REQUIREMENTS**

This section specifies the minimum requirements for temporary facilities, utilities to be brought to the site, refuse/waste collection and control required to enable the construction of the project to progress adequately. The providing of adequate facilities at every stage of performing the work is the Contractor's sole responsibility, and is not limited by the requirement of this section.

Except as otherwise indicated, the Contractor may, at his option, provide stand-alone utility plants to provide needed services, in lieu of connected services from available public utilities, provided such stand-alone plant facilities comply with governing regulations. Prior to availability of temporary utility services, provide trucked-in/trucked-out containerized or unitized services for startup of construction operations at the site.

Except as otherwise indicated, the costs of providing and using temporary utility services are included in the Contract Sum.

#### **1.02 TEMPORARY FACILITIES**

The types of utility services required for general temporary use at the project site include the following (other specific services may be required for specific construction methods or operations):

- Electrical Power Service
- Water Service (potable for certain uses)
- Sanitary
- Storm Sewer or Open Drainage/Run-off Control
- Refuse/Waste Collection

##### Temporary Electricity:

The Contractor shall make necessary applications and arrangements and pay all fees and charges for electrical energy for power and light necessary for proper completion of the work and during its entire progress up to time of final acceptance by the Owner. The Contractor shall provide and pay for all temporary switches, connections and meters.

##### Temporary Water:

The Contractor shall make all necessary application and arrangements, and pay all fees and charges for water necessary for the proper completion of the project up to the time of final acceptance. The Contractor shall provide and pay for any temporary piping and connections.

#### Temporary Sanitary Facilities:

The Contractor shall provide adequate sanitary facilities for the use of those employed on the work. Such facilities shall be made available when the first employees arrive on the site of the work, shall be properly secluded from public observation, and shall be constructed and maintained during the progress of the work in suitable numbers and at such points and in such manner as may be required or approved.

The Contractor shall provide these portable sanitary facilities “on-site” for use by workers. Transporting workers to the nearest “public” sanitary facility will not be considered an acceptable alternative to these requirements.

The Contractor shall maintain the sanitary facilities in a satisfactory and sanitary condition at all times and shall enforce their use. He shall rigorously prohibit the committing of nuisances on the site of the work, on the lands of the Owner, or on adjacent property. The cost of providing these sanitary facilities shall be included in the Contractor’s applicable pay items of work and no separate payment shall be made thereof.

#### Temporary Refuse/Waste Collection

The Contractor shall provide for adequate refuse/waste collection and disposal. City Ordinance requires that all rental open-top rolloff container units or rental cubic-yard container units must be procured from one of the City’s franchised construction and demolition debris providers. For a list of the City’s current Franchised Providers, please call Public Works at 386-610-0700.

It will be the Contractor’s responsibility to make all necessary arrangements for refuse/waste collection and disposal. The cost of providing for such refuse/waste collection and disposal shall be included in the Contractor’s applicable pay items of work and no separate payment shall be made thereof.

#### Termination and Removal:

At the time the need for temporary utility service or a substantial portion thereof has ended, or when its service has been replaced by use of permanent services, or not later than the time of substantial completion, promptly remove the installation unless requested by the Engineer to retain it for a longer period. Complete and restore work which may have been delayed or affected by the installation and use of the temporary utility, including repairs to construction and grades and restoration and cleaning of exposed surfaces. Replace work damaged beyond acceptable restoration.

### **1.03 TEMPORARY CONTROLS**

#### Noise Control:

The Contractor shall provide adequate protection against objectionable noise levels caused by the operation of construction equipment.

#### Dust Control:

The Contractor shall provide for adequate protection against raising objectionable dust clouds caused by moving construction equipment, high winds or any other cause.

#### Water Control:

The Contractor shall provide for satisfactory disposal of surplus water and shall submit a plan to the Engineer for his review prior to initiation and implementation of the plan. Prior approval shall be obtained from the proper authorities for the use of public or private lands or facilities for such disposal.

#### Pollution Control:

The Contractor shall provide for adequate protection against polluting any public or private lands, lakes, ponds, rivers, streams, creeks, and other such areas, by the disposal of surplus material in the form of solids, liquids, or gases or from any other cause. The Contractor shall provide for adequate refuse/waste collection and disposal as described in Part 1, paragraph 1.02 of this Section.

The Contractor shall evaluate and assess the impact of any adverse effects on the natural environment which may result from construction operations and shall operate to minimize pollution of air, ground or surface waters vegetation, and afford the neighboring community the maximum protection during and up to completion of the construction project.

The Contractor shall take sufficient precautions to prevent pollution of streams, lakes and reservoirs with fuels, oils, bitumens, calcium chloride or other harmful materials. He shall conduct and schedule his operations so as to avoid or otherwise prevent pollution of siltation of streams, lakes and reservoirs and to avoid interference with movement of migratory fish.

All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in strict conformance with instructions.

#### Erosion Control:

The Contractor shall not expose, by construction operations, a larger area of erosive land at any one time than the minimum necessary for efficient construction operations, and the duration of exposure of the uncompleted construction to the elements shall be as short as practicable.

Erosion control features shall be constructed concurrently with other work and at the earliest practicable time.

### **1.04 STORAGE FACILITIES**

All products, materials and equipment shall be stored in accordance with the manufacturer's instructions, with seals and labels intact and legible. Products subject to damage by the elements shall be stored in weathertight enclosures. Temperature and humidity shall be maintained within the ranges required by the manufacturer's instructions. Fabricated products shall be stored above the

ground on blocking or skids. Products which are subject to deterioration shall be covered with impervious coatings with adequate ventilation to avoid condensation. Loose granular materials shall be stored in a well-drained area on solid surfaces to prevent mixing with foreign matter. Any products which will come in contact with potable water shall be stored off the ground so as to prevent contamination.

Storage shall be arranged in such a manner to provide easy access for inspection. Periodic inspections shall be made of all stored products to assure that they are maintained under specified conditions, and free from damage or deterioration.

After installation, Contractor shall provide substantial coverings as necessary to installed products to protect from damage from traffic and subsequent construction operations. Coverings shall be removed when no longer needed.

## **1.05 PRESERVATION OF PROPERTY**

Preserve from damage all property along the line of the work, or which is in the vicinity of or in any wise affected by the work, the removal or destruction of which is not called for by the plans. Wherever such property is damaged due to the activities of the Contractor, it shall be immediately restored to its original condition by the Contractor at no cost to the Owner.

In case of failure on the part of the Contractor to restore such property, or make good such damage or injury, the Owner may, after 48 hours notice to the Contractor, proceed to repair, rebuild or otherwise restore such property as may be deemed necessary and the cost thereof will be deducted from any monies due or which may become due the Contractor under this Contract.

The Contractor shall be responsible for the protection of property, in the areas in the vicinity of the project; and for the protection of his equipment, supplies, materials and work, against any damage resulting from the elements, such as flooding, by rainstorm, wind damage, or other elemental cause resulting from the project configuration. The Contractor shall take all precautions against any such damage occurrence, and shall be responsible for damage resulting from same. The Contractor shall provide adequate drainage facilities, tie-downs, or other protection, throughout the Contract period, for the protection of his, the Owner's, and other properties from such damage.

## **1.06 TRAFFIC REGULATION**

Signs, marking barricades and procedures shall conform to the requirements of the Florida Department of Transportation Manual on Traffic Controls and Safe Practices for Street and Highway Construction, Maintenance and Utility Operations.

The Contractor shall maintain one-lane, two-way traffic at all times and maintain customer access to local businesses at all times throughout the course of the work.

The Contractor shall provide and maintain adequate barricades, construction signs, torches, flashers, guards and flagmen as required in pedestrian and vehicular traffic areas. Regulations of local authorities shall be complied with.

The contractor shall provide suitable crossings at street intersections and driveways, and supply such aid as may be required for pedestrians and motorists, including delivery vehicles, to safely negotiate the construction areas.

The Contractor shall carry on the work in a manner that will cause the least interruption in traffic. Closing to through travel of more than two consecutive blocks, including the cross streets intersected will not be permitted without specific authorization from the local authorities. Where traffic must cross open trenches, the Contractor shall provide suitable bridges at street intersections and driveways and provide adequate ingress and egress to dwellings, business facilities, utilities and services. At any time the streets are required to be closed, the Contractor shall notify, in writing, law enforcement agencies, fire departments, and parties operating emergency vehicles before the street is closed and again as soon as it is opened. Access to fire hydrants and other fire extinguishing equipment shall be provided and maintained at all times. Refer to Section 01010 of these Specifications for "Notification of Construction" and "Notification of Street Closure" requirements.

On completion of work, the Contractor shall remove all debris, excess materials, barricades and temporary work leaving walkways and road clear of obstructions.

## **PART 2 - PRODUCTS**

(Not Applicable)

## **PART 3 - EXECUTION**

(Not Applicable)

**END OF SECTION**

## **SECTION 01600 MATERIALS AND EQUIPMENT**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF REQUIREMENTS**

Materials and equipment furnished by CONTRACTOR shall be new and shall not have been in service at any other installation unless otherwise provided. Materials and equipment shall conform to applicable specifications and standards and comply with the size, make, type and quality specified, or as specifically approved in writing by ENGINEER.

Manufactured and fabricated items shall be designed, fabricated and assembled in accordance with the best engineering and shop practices. Like parts of duplicate units shall be manufactured to standard sizes and gauges to be interchangeable.

Two or more things of the same kind shall be identical, by the same manufacturer.

Materials and equipment shall be suitable for service conditions shown or specified.

Equipment which requires auxiliary devices or equipment in order to operate properly shall have such auxiliary devices or equipment included as a part of its system.

Equipment sizes, capacities and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.

Materials and equipment shall not be used for any purpose other than that for which it is designed or is specified.

Where existing materials or equipment is specifically shown or specified to be reused in the work, special care shall be used in removal, handling, storage, and reinstallation, to assure proper function in the completed work.

CONTRACTOR shall arrange for transportation, storage and handling of products which require off-site storage, restoration or renovation.

***Salvaged Materials.*** In the absence of special provisions to the contrary, salvaged materials, equipment or supplies are the property of OWNER and shall be cleaned and stored as directed by ENGINEER.

***Manufacturer's Instructions.*** The installation of all work shall comply with manufacturer's written instructions. CONTRACTOR shall obtain and distribute copies of such instructions to parties involved in the installation including two copies to ENGINEER. One complete set of instructions shall be maintained at the job site during installation and until completion. All products and equipment shall be handled, installed, connected, cleaned, conditioned and adjusted in accordance with the manufacturers instructions and specified requirements. Should job conditions or specified requirements conflict with manufacturers instructions, such conflicts shall be called to ENGINEER'S attention for resolution and revised instructions.

**Equipment Guarantee.** All mechanical and electrical equipment, together with devices of whatever nature and all components, which are furnished and/or installed by CONTRACTOR shall be guaranteed. The guarantee shall be against manufacturing and/or design inadequacies, materials and workmanship, improper assembly, hidden damage, failure of devices and/or components, excessive leakage or other circumstances which would cause the equipment to fail under normal design and/or specific operating conditions for a period of one year or such longer period as may be shown and/or specified from and after the date of acceptance of the equipment by OWNER. Each piece of equipment, device or component which shall fail within the above specified term shall be replaced with reasonable promptness by CONTRACTOR without cost to OWNER.

**Operating Characteristics.** Rotating machinery shall be designed and fabricated to provide satisfactory operation without excessive wear and without excessive maintenance during its operating life. Rotating parts shall be statically and dynamically balanced and shall operate without excessive vibration.

**Lubrication System.** The minimum design criteria for lubrication of moving parts of the equipment shall include one week of continuous operation during which no lubricants shall be added to the system. The system shall also be designed to receive lubricants whether in operation or shut down, and shall not leak or waste lubricants under either condition. The manufacturer's recommendations of grade and quality and a supply of the lubricants so recommended in quantities sufficient to conduct startup and testing operations shall be furnished with the equipment.

**Safety Requirements.** Screens, guards or cages shall be provided for all exposed, rotating or moving parts in accordance with accepted practices of applicable governmental agencies.

**Nameplates.** Each major component of equipment shall have the manufacturers name, catalog and/or model number, serial number and applicable performance requirements and characteristics embossed, stamped, or engraved on a stainless steel plate securely attached to the item of equipment.

**Anchor Bolts.** The manufacturer shall provide stainless steel anchor bolts for each piece of equipment furnished.

## **1.02 TRANSPORTATION AND HANDLING**

Materials and equipment shall be loaded and unloaded by methods affording adequate protection against damage. Every precaution shall be taken to prevent injury to the materials or equipment during transportation and handling. Suitable power equipment will be used and the materials or equipment shall be under control at all times. Under no condition shall the materials or equipment be dropped, bumped or dragged. When a crane is used, a suitable hook or lift sling shall be used. The crane shall be so placed that all lifting is done in a vertical plane. Materials or equipment skid loaded, palletized or handled on skidways shall not be skidded or rolled against materials or equipment already unloaded.

Materials and equipment shall be delivered to the job site by means that will adequately support it and not subject it to undue stresses. Contractor shall promptly inspect the products for damage and defects and conformance with the specification. Materials and equipment damaged or

injured in the process of transportation, unloading or handling will be rejected and shall be immediately removed from the site.

### **1.03 STORAGE AND PROTECTION**

All materials and equipment shall be stored in accordance with the manufacturer's instructions, with seals and labels intact and legible. Items subject to damage by the elements shall be stored in weathertight enclosures. Temperature and humidity shall be maintained within the ranges required by the manufacturers instructions. Fabricated items shall be stored above the ground on blocking or skids. Items which are subject to deterioration shall be covered with impervious coatings with adequate ventilation to avoid condensation. Loose granular materials shall be stored in a well-drained area on solid surfaces to prevent mixing with foreign matter. Any items which will come in contact with potable water shall be stored off the ground so as to prevent contamination.

Storage shall be arranged in such a manner to provide easy access for inspection. Periodic inspections shall be made of all stored items to assure that they are maintained under specified conditions, and free from damage or deterioration.

After installation, CONTRACTOR shall provide substantial coverings as necessary to protect installed items from damage, from traffic, and subsequent construction operations. Coverings shall be removed when no longer needed.

### **PART 2 - MATERIALS AND EQUIPMENT**

(Not Applicable)

### **PART 3 - EXECUTION**

(Not Applicable)

**END OF SECTION**



## **SECTION 01700 CONTRACT CLOSEOUT**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF REQUIREMENTS**

##### **Definition:**

Closeout is defined to include general requirements near end of Contract Time, in preparation for final acceptance, final payment, normal termination of contract, occupancy by OWNER and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in sections of Division 2 through 16. Time of closeout is directly related to "Substantial Completion", and therefore may be either a single time period for entire work or a series of time periods for individual parts of the work which have been certified as substantially complete at different dates. That time variation (if any) shall be applicable to other provisions of this section.

#### **1.02 PREREQUISITES TO SUBSTANTIAL COMPLETION**

When the CONTRACTOR considers the work to be substantially complete, he shall submit to the ENGINEER: a written notice that the work, or designated portion thereof, is substantially complete; and a list of items to be completed or corrected.

Within a reasonable time after receipt of such notice, the ENGINEER will make an inspection to determine the status of completion.

Should the ENGINEER determine that the work is not substantially complete, the ENGINEER will promptly notify the CONTRACTOR, in writing, giving the reasons. The CONTRACTOR shall remedy the deficiencies in the work and send a second written notice of substantial completion to the ENGINEER. The ENGINEER will reinspect the work.

When the ENGINEER finds that the work is substantially complete, he will prepare and deliver to the OWNER a tentative Certificate of Substantial Completion with a tentative list of items to be completed or corrected before final payment. After consideration of any objections made by the OWNER as provided in Conditions of the Contract, and when the ENGINEER considers the work substantially complete, the ENGINEER will execute and deliver to the OWNER and the CONTRACTOR a definite Certificate of Substantial Completion with a revised tentative list of items to be completed or corrected.

When the CONTRACTOR considers the work complete, he shall submit written certification that the Contract Documents have been reviewed, the work has been inspected for compliance with the Contract Documents, the work has been completed in accordance with the Contract Documents, equipment and systems have been tested in the presence of the OWNER's representative and are operational, and the work is completed and ready for final inspection.

With reasonable promptness after receipt of such certification, the ENGINEER will make an inspection to verify the status of completion. Should the ENGINEER consider that the work is

incomplete or defective, he will promptly notify the CONTRACTOR, in writing, listing the incomplete or defective work. The CONTRACTOR shall take immediate steps to remedy the stated deficiencies and send a second written certification to the ENGINEER that the work is complete. The ENGINEER will reinspect the work.

Should the ENGINEER perform reinspections due to failure of the Work to comply with the claims of status of completion made by the CONTRACTOR, the OWNER will compensate the ENGINEER for such additional services, and the OWNER will deduct the amount of such compensation from the final payment to the CONTRACTOR.

### **1.03 CLOSEOUT SUBMITTALS**

When the ENGINEER finds that the work is acceptable under the Contract Documents, he shall request the CONTRACTOR to make closeout submittals.

The CONTRACTOR's closeout submittals shall include:

1. Evidence of compliance with requirements of governing authorities.
2. Project Record Documents.
3. Evidence of Payment and Release of Liens.
4. Certificate of Insurance for Products and Completed Operations.
5. Warranties and Bonds.

### **1.04 ADDITIONAL CLOSEOUT REQUIREMENTS**

#### **Project Record Documents:**

The CONTRACTOR shall keep one Record copy of all specifications, drawings, addenda, modifications, shop drawings, field test records, and samples at the site in good order and annotated in red to show all changes made during the construction process. These shall be available to the ENGINEER for examination and shall be delivered to the ENGINEER for the OWNER upon completion of the work.

Documents and samples shall be stored in the CONTRACTOR's field office apart from documents used for construction. The CONTRACTOR shall provide files and racks for storage of documents, and a locked cabinet or secure storage space for storage of samples. Documents shall be maintained in a clean, dry, legible condition and in good order.

Record Documents shall not be used for construction purposes.

Each Document shall be labeled "PROJECT RECORD" in neat, large printed letters.

Information shall be recorded by the CONTRACTOR, on a daily basis, concurrently with construction progress. No work shall be concealed until required information is recorded on the CONTRACTOR's Record Drawings.

Drawings shall be legibly marked to record actual construction information on: depths of various elements of foundation in relation to finish first floor datum; horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements; location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure; field changes of dimension and detail; changes made by Field Order or by Change Order; and details not on original contract drawings.

Specifications and Addenda shall have each section legibly marked to record: manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed; and changes made by Field Order or by Change Order.

At contract closeout Record Documents shall be delivered to the ENGINEER for the OWNER. The submittal shall be accompanied with a transmittal letter in duplicate, containing:

1. Date
2. Project title and number
3. CONTRACTOR's name and address
4. Title and number of each Record Document
5. Signature of CONTRACTOR or his authorized representative

#### **As-Built Survey Requirements:**

The CONTRACTOR shall provide the ENGINEER with an as-built survey as follows:

1. After completion of the construction, the as-built configuration (both horizontally and vertically) of all the facilities shall be determined and a complete set of as-built drawings prepared.
2. The survey drawing shall be prepared in AutoCAD (R12 or later version) format showing all the as-built improvements and elevations where proposed work is shown on the construction drawings. The CONTRACTOR shall submit three (3) sets of check prints to the ENGINEER for approval prior to the request for final inspection. After the check prints are approved, the CONTRACTOR shall submit one final set of reproducible mylars, four sets of certified prints and a copy of the AutoCAD drawings on diskette.

The as-built survey shall be performed and certified by a registered Florida Land Surveyor meeting the Florida minimum technical standards for surveys and the Surveyor shall provide to the ENGINEER a copy of the Surveyor's professional liability insurance coverage in the amount of one million dollars (\$1,000,000.00). The survey shall be certified to the OWNER.

#### **Operating and Maintenance Data:**

The CONTRACTOR shall compile product data and related information appropriate for OWNER's maintenance and operation of products furnished under the Contract.

The submittals shall include but not necessarily be limited to:

Manufacturer's specifications.

Directions and instructions relating to assembly, installation, operation and maintenance.

Parts list with catalog numbers and other data necessary for ordering replacements.

### **1.05 WARRANTIES AND BONDS**

The CONTRACTOR shall compile and submit to the ENGINEER in duplicate, for review and transmittal to the OWNER, warranties, bonds, service and maintenance contracts as specified in the respective sections of Specifications. Submittal shall be made within ten days after Substantial Completion and prior to final request for payment.

### **1.06 FINAL STATEMENT OF ACCOUNTING**

The CONTRACTOR shall submit a final statement of accounting to the ENGINEER. The statement shall reflect all adjustments to the Contract Sum:

1. The original Contract Sum
2. Additions and deductions resulting from:
  - Previous Change Orders
  - Deductions for uncorrected work
  - Deductions for liquidated damages
  - Deductions for reinspection payments
  - Other adjustments
3. Total Contract Sum, as adjusted
4. Previous payments
5. Sum remaining due

### **1.07 FINAL CHANGE ORDER**

The ENGINEER will prepare a final Change Order, if required, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

### **1.08 FINAL APPLICATION FOR PAYMENT**

The CONTRACTOR shall submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

## **PART 2 - PRODUCTS**

(Not Applicable)

## **PART 3 - EXECUTION**

(Not Applicable)

**END OF SECTION**

## **SECTION 02050 DEMOLITION**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

A. The work includes, but is not limited to, demolition and removal of the top slabs for lift station valve vaults and wet wells, removal of concrete pavement, removal of pumps, piping, electrical controls, wiring and lighting within grassed and landscaped dedicated easements as shown on the drawings.

#### **1.02 QUALITY ASSURANCE**

A. Accomplish all demolition work so there is no injury to any persons and no damage to adjacent structures or property. All demolition methods shall be in full compliance with municipal, county, state, and federal ordinances. Demolition work shall comply with the requirements of the Occupational Safety and Health Administration (OSHA).

B. The Contractor shall comply with all municipal, county, state, and federal ordinances regarding the disposal of rubble, scrap metal, and refuse.

C. Demolition procedures shall provide for safe conduct of the work, protection of property which is to remain undisturbed, and coordination with other work in progress.

#### **1.03 JOB CONDITIONS**

A. General:

1. It shall be the responsibility of the Contractor to visit the site and inspect the nature and condition of the items to be removed and salvaged before submitting his bid.

B. Dust Control:

1. Control the amount of dust resulting from demolition to prevent the spread of dust to occupied portions of buildings and to avoid creation of a nuisance in the surrounding area. Do not use water when it will result in, or create, hazardous or objectionable conditions such as flooding and pollution.

C. Protection of Existing Work:

1. Protect existing work. Work damaged by the Contractor shall be repaired to match existing work.

#### **1.04 PERMITS AND NOTICES**

A. Permits and Licenses: Contractor shall obtain all necessary permits and licenses for performing the work and shall furnish a copy of same to the Engineer prior to commencing the work. The contractor shall comply with the requirements of the permits.

- B. Notices: Contractor shall issue written notices of planned demolition to Owner, Engineer and businesses or local residents located in the vicinity of the project site. Notices shall be received at least 48 hours in advance of the planned demolition activity.
- C. Utility Services: Contractor shall notify utility companies or local authorities furnishing gas, sewer, water, electrical or telephone to remove any equipment owned by them in structures to be demolished and to remove, disconnect, cap or plug their services to facilitate demolition.

#### **1.05 TRAFFIC AND ACCESS**

- A. Conduct demolition and modification operation, and removal of piping and debris to ensure minimum interference with roads, streets and sidewalks both onsite and off site and to ensure minimum interference with occupied or used facilities.
- B. Contractor shall at all times maintain safe and convenient access to the existing site.
- C. Do not close or obstruct streets or walks without permission from the Owner and Engineer. Provide alternate traffic routes around closed or obstructed access ways.

#### **1.06 UTILITIES**

- A. Existing utilities to remain in service and protected against damage during demolition operations. This may include the installation/construction of bypass piping where necessary.
- B. Do not interrupt existing utilities serving occupied or used facilities, except when authorized by the Owner and Engineer. Provide temporary services during interruption to existing utilities as required by the Owner.
- C. The Contractor shall cooperate with the Owner to shut off utilities serving the existing facilities as required by demolition operations. If service must be cut off to existing customers, the Owner must have at least three (3) days notice to make necessary preparations.
- D. The Contractor shall be solely responsible for making all necessary arrangements and for performing any necessary work involved in connection with the discontinuance or interruption of all public and private utilities or services under this jurisdiction of utility companies.

#### **1.07 POLLUTION CONTROL**

- A. For pollution control, use water sprinkling, temporary enclosures and other suitable methods as necessary to limit the amount of dust and dirt rising and scattering in the air to the lowest level of air pollution practical for the conditions or work. Comply with the governing regulations.
- B. Clean structures and improvements of all dust, dirt and debris caused by demolition operations as directed by the Engineer. Return areas to conditions existing prior to the start of work.

## **1.08 QUALITY CONTROL**

- A. Protect all existing materials and equipment to be salvaged or reused from damage.
- B. Cap or plug all lines to be abandoned.
- C. Leave all exposed ends of all pipe covered and safe.

## **PART 2 - PRODUCTS**

NONE

## **PART 3 - EXECUTION**

### **3.01 DISPOSAL**

- A. Equipment, piping, and materials which are designated to remain the property of the Owner shall be moved to a location designated by the Owner.
- B. All removed materials not specifically designated to remain the property of the Owner shall become the property of the Contractor and shall be removed from the site and disposed of in a lawful manner.
- C. Do not allow debris and rubbish to accumulate on the site. Remove debris and rubbish from the site.

### **3.02 CLEAN-UP**

- A. Clean-up in areas where other work is to be done following demolition shall be as specified in the applicable Sections.
- B. Clean-up the job site in areas where no other work is to be done under this Contract following demolition. Remove all debris and rubbish, temporary facilities, and equipment. Level surface irregularities to eliminate depressions. Leave the work in a neat and presentable condition.

**END OF SECTION**

## **SECTION 02100 CLEARING AND GRUBBING**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

A. The work consists of clearing and grubbing, within the limits of construction shown on the drawings. Included is the removal and disposal of all trees, stumps, roots and other such protruding objects necessary to prepare the area for the proposed construction and landscaping.

B. The removal and disposal of all, structures, appurtenances, existing pavement and other facilities is described in Section 02050, Demolition.

#### **1.02 PROTECTION OF PROPERTY REMAINING IN PLACE**

A. Property obstructions which are to remain in place, such as buildings, sewers, drains, water or gas pipes, conduits, poles, walls, posts, bridges, and similar items are to be carefully protected from injury and are not to be displaced. Restore damaged improvements to their original condition, as acceptable to parties having jurisdiction.

B. Protection of Existing Trees and Vegetation:

1. Protect existing trees and other vegetation indicated to remain in place, against unnecessary cutting, breaking or skinning of roots, skinning and bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip lines, excess foot or vehicular traffic, or parking of vehicles within drip line.

2. When ground is to be excavated under the drip line of any existing protected tree (as defined in the City of Ormond Beach Land Development Code), roots shall be pruned at the juncture of the grade excavation to reduce tree root shock and dieback. The depth of the pruning shall be equal to the depth of the excavation. The location of root pruning shall be marked with two (2)-inch by four (4)-inch fencing. The City of Ormond Beach Parks Department shall supervise all root pruning activities.

3. Provide temporary guards to protect trees and vegetation to be left standing.

4. Contractor shall water trees and other vegetation remaining within the limits of the Contract work as required to maintain their health during the course of construction operations.

5. Provide protection for roots over 1/2-inch diameter cut during construction operations. Coat the cut faces with an emulsified asphalt, or other acceptable coating, formulated for use on damaged plant tissues. Temporarily cover exposed roots with wet burlap to prevent roots from drying out; cover with earth as soon as possible.

6. Repair or replace trees and vegetation damaged by construction operations, in a manner acceptable to the Engineer. Repair tree damage with the services of a qualified tree



surgeon.

7. Replace trees which cannot be repaired and restored to full-growth status, as determined by the tree surgeon.

C. Improvements on Adjoining Property:

1. Authority for performing removal and alteration work on property adjoining the Owner's property will be obtained by the Owner prior to award of Contract.

D. Salvageable Improvements:

1. Carefully remove items indicated to be salvaged, and store on the Owner's premises where indicated, unless otherwise directed.

### **1.03 OWNERSHIP OF MATERIALS**

A. Except as may be otherwise called for on the drawings or elsewhere in the specifications, all materials removed by the Contractor shall become the property of the Contractor and shall be disposed of in a lawful manner.

## **PART 2 - PRODUCTS**

(Not Applicable)

## **PART 3 - EXECUTION**

### **3.01 STANDARD CLEARING AND GRUBBING**

A. Standard clearing and grubbing shall consist of the complete removal and disposal of all timber, brush, stumps, roots, rubbish and debris and all other obstructions resting on or protruding through the surface of the existing ground and the surface of excavated areas, and of all other obstructions necessary to be removed and for which the removal is not specified to be done under other items of the contract, including pipes and demolition.

B. Unless otherwise shown on the drawings, standard clearing and grubbing shall be done within the following areas:

1. All areas where retention areas will be modified or constructed.

2. Any other areas specifically called for on the drawings to have standard clearing and grubbing.

C. In all areas where excavation is to be done, roots and other debris shall be removed to a depth of at least one-foot below the finished ground surface. The surface shall then be plowed to a depth of at least 6-inches and all roots thereby exposed shall be removed to a depth of at least one-foot. All stumps within the area of standard clearing and grubbing shall be completely removed and disposed of by the Contractor.

D. Where excavation is done within the standard clearing and grubbing area and where excavation for structures is done, all roots and similar items, protruding through or appearing on the surface of the completed excavation shall be removed to a depth of at least one-foot below the excavation surface.

E. Within all other areas where standard clearing and grubbing is to be done, roots and other debris, projecting through or appearing on the surface of the original ground, shall be removed to a depth of one-foot below the surface, but no plowing and harrowing will be required in these areas.

F. As an exception to the above provisions where so directed by the Engineer, desirable trees within the clearing and grubbing area shall be trimmed, protected and left standing. Trees shown on the drawings to be relocated shall be relocated to a location identified by the Engineer.

G. Any boulders encountered in the site excavation or found on the surface of the ground, shall be removed and placed in neat piles at a location approved by the Engineer.

H. For pipeline construction the Contractor shall only remove trees, shrubs and grass which interfere with the construction. All other vegetation shall be protected, preserved and/or replaced.

### **3.02 DISPOSAL OF MATERIALS**

#### **A. General Disposal:**

1. Timber, stumps, brush, roots, rubbish, and other objectionable material resulting from clearing and grubbing shall be disposed of by the Contractor in locations and by methods approved by the Engineer.

2. In some instances, materials may be disposed of on the Owner's property at a location and by a method approved by the Engineer, but only with advance written permission of the Owner.

#### **B. Burning Debris:**

1. In some instances, burning may be permitted on the Owner's property at a location and by a method approved by the Engineer, but only with advance written permission of the Owner.

2. Where burning of such material is permitted all such burning shall be subject to applicable laws, ordinances and regulations and shall be done at locations where trees and shrubs adjacent to the cleared area will not be harmed.

3. Where burning is prohibited by law, ordinance, or regulation, the Contractor shall dispose of the materials within areas provided by him and approved by the Engineer.

#### **C. Disposal in areas Adjacent to Project:**

1. Materials may be disposed of on private property, provided the Engineer is furnished

with a written statement from the owner of the property giving permission for the disposal of the materials on his property. All disposal areas for materials resulting from clearing and grubbing, both on private property and on property owned by the Contractor, shall be in areas out of sight of the project and at least 300 feet from the nearest right-of-way line of the project, unless such materials are buried, in which case the requirement that the areas be 300 feet distant will be waived.

**END OF SECTION**

## **SECTION 02200 EARTHWORK**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

- A. The extent of earthwork is shown on the drawings.
- B. Related Work Specified Elsewhere:

Section 02222 - Trenching, Backfilling and Compacting.

#### **1.02 QUALITY ASSURANCE**

- A. Codes and Standards:

1. Perform earthwork in compliance with applicable requirements of governing authorities having jurisdiction.

- B. Testing and Inspection Service:

1. The Owner will engage a testing and inspection service, to include testing soil materials proposed for use in the work and field facilities for quality control testing during earthwork operations.

2. Soil survey for satisfactory soil materials and samples of soil materials shall be furnished to the testing service by the Contractor.

3. All test reports must be signed by a licensed engineer.

#### **1.03 JOB CONDITIONS**

- A. Existing Utilities:

1. Locate existing underground utilities in the areas of work before starting earthwork operations. Where utilities are to remain in place, provide adequate means of protection during earthwork operations.

2. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult the utility owner immediately for directions. Cooperate with the Owner and public and private utility companies in keeping their respective services and facilities in operation. Repair damaged utilities to the satisfaction of the utility owner.

3. Do not interrupt existing utilities serving facilities occupied and used by the Owner or others, except when permitted in writing by the Engineer and then only after acceptable temporary utility services have been provided.

4. Demolish and completely remove from the site underground utilities indicated to be removed. Coordinate with local utility companies for shut-off of services if lines are active.

**B. Use of Explosives:**

1. The use of explosives is not permitted.

**C. Temporary Protection:**

1. Barricade open excavations made as a part of earthwork operations and post with warning lights. Operate warning lights as recommended by authorities having jurisdiction.

2. Protect structures, utilities, sidewalks, pavements, and other facilities from damages caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

## **PART 2 - PRODUCTS**

### **2.01 SOIL MATERIALS**

**A. Backfill and Fill Materials:**

1. Soil materials for use as backfill and fill shall be free of rock or gravel larger than 2-inches in any dimension, debris, waste, vegetable, and other deleterious matter.

2. Use excavated or borrows material that has been sampled, tested and certified as satisfactory soil material.

**B. Subbase Material:**

1. Properly graded mixture of natural and crushed gravel, crushed stone, crushed slag, natural or processed sand that will readily compact to the required density.

2. Use material complying with AASHTO M147, Grade A, unless otherwise indicated or acceptable to the Engineer.

## **PART 3 - EXECUTION**

### **3.01 INSPECTION**

A. Examine the areas and conditions under which earthwork is to be performed and notify the Engineer in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

### **3.02 EXCAVATION**

A. Excavation consists of the removal and disposal of materials encountered when establishing the required grade elevations.

1. Where it is necessary to cut roots projecting into an excavation or to trim branches for equipment clearance, all severed root ends or cuts to branches over 1/2-inch diameter shall be treated with an asphalt base pruning paint. Backfill over exposed roots as soon as possible.

**B. Excavation Classifications:**

1. The following classifications of excavation will be made when unanticipated rock excavation is encountered in the work. Do not perform such work until material to be excavated has been cross-sectioned and classified by the Engineer. Such excavation will be paid for under the appropriate bid item in the Bid Proposal.

a. Earth excavation includes the removal and disposal of pavements and other obstructions visible on the ground surface, underground structures and utilities indicated to be demolished and removed, material of any classification indicated in data on subsurface conditions, and all other materials encountered that are not classified as rock excavation or unauthorized excavation.

b. Rock excavation consists of the removal and disposal of materials encountered that cannot be excavated with a 3/4 cubic yard capacity power shovel without drilling and blasting, or continuous use of a ripper or other special equipment, except such materials that are classified as earth excavation. Typical of materials classified as rock are boulders 1/2 cu. yd. or more in volume, solid rock, rock in ledges, and rock-hard cementitious aggregate deposits.

c. Intermittent drilling that may be performed to increase production and is not necessary to permit excavation of the material encountered will be classified as earth excavation.

**C. Rock shall be removed to the following limits:**

1. Two feet outside of concrete work for which forms are required, except footings. One foot outside the perimeters of footings.

2. In pipe trenches, a minimum of 4-inches below invert elevation of pipe and 2-feet wider than the inside diameter of pipe, but not less than 3-foot minimum trench width.

3. Neat outside dimensions of concrete work where no forms are required.

4. Under slabs on grade, 6-inches below bottoms of concrete slab.

D. Unauthorized excavation consists of removal of materials beyond indicated elevations without the specific direction of the Engineer. Replace unauthorized excavation by backfilling and compacting as specified for authorized excavations of the same classification, unless otherwise directed by the Engineer.

**E. Additional Excavation:**

1. When excavation has reached required subgrade elevations, notify the Engineer who will make an inspection of conditions.

2. If unsuitable materials are encountered at the required subgrade elevations, carry excavations deeper and replace the excavated material as directed by the Engineer.

3. Removal of unsuitable material and its replacement as directed will be paid for under the appropriate bid item in the Bid Proposal.

F. Dewatering:

1. Prevent surface water and subsurface or groundwater from flowing into excavations, and flooding the project site and surrounding area.

2. Do not allow water to accumulate in excavations. Remove water from excavations to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to the stability of subgrades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey the water away from the site.

3. Convey water removed from excavations and rainwater to collecting or run-off areas. Do not use trench excavations for site utilities as temporary drainage ditches.

4. Contractor shall be required to obtain any demolition permits as may be required due to dewatering volume requirements set by local and state agencies.

G. Material Storage:

1. Stockpile excavated materials classified as satisfactory soil material where directed, until required for fill. Place, grade, and shape stockpiles for proper drainage.

2. Dispose of excess unsatisfactory soil material, trash and debris, as specified.

### **3.03 BACKFILL AND FILL**

A. Ground Surface Preparation:

1. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow, strip, or break-up sloped surfaces steeper than one vertical to four horizontal so that fill material will bond with existing surface.

2. When the existing ground surface has a density less than that specified under "Compaction" for the particular area classification, break-up the ground surface, pulverize, moisture-condition to the optimum moisture content, and compact to the required depth and percentage of maximum density.

**B. Placement and Compaction:**

1. Place backfill and fill materials in layers not more than 8-inches in loose depth for material compacted by heavy compaction equipment, and not more than 4-inches loose depth for material compacted by hand-operated equipment.

2. Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content of the soil material. Compact each layer to the required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

a. Backfill excavations as promptly as the work permits, but not until completion of inspection, testing, approval, and recording location of underground utilities, as required.

**3.04 COMPACTION**

**A. General:**

1. Control soil compaction during construction, providing the minimum percentage of density specified for each area classification.

**2. Percentage of Maximum Density Requirement:**

a. Lawn Areas: Compact each layer of backfill or fill material at 85% maximum density (optimum moisture).

b. Walkways: Compact top 6-inches of subgrade and each layer of backfill or fill material at 95% maximum density (optimum moisture).

**B. Moisture Control:**

1. Where the subgrade or layer of soil materials must be moisture conditioned before compaction, uniformly apply water to the surface of subgrade, or layer of soil material, to prevent free water appearing on the surface during or subsequent to compaction operations. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.

2. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by disking, harrowing or pulverizing, until the moisture content is reduced to a satisfactory value.

**3.05 FIELD QUALITY CONTROL**

**A. Quality Control Testing During Construction:**

1. Testing service must inspect and approve subgrades and fill layers before further construction work is performed thereon.



2. Secure representative samples of the fill material and determine the Standard Density and required moisture content to be maintained by the Moisture-Density Relation Test ASTM D-1557.

3. Make in-place soil density tests during compaction operations in accordance with ASTM D-1556.

4. If, in the opinion of the Engineer, based on reports of the testing service and inspection, the subgrade or fills which have been placed are below the specified density, additional compaction and testing will be required until satisfactory results are obtained.

a. The results of density tests of soil-in-place will be considered satisfactory if the average of any four consecutive density tests which may be selected are in each instance equal to or greater than the specified density, and if not more than one density test out of five has a value more than 2% below the required density.

### **3.06 MAINTENANCE**

A. Reconditioning Compacted Areas:

1. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify the surface, re-shape, and compact to the required density prior to further construction.

### **3.07 DISPOSAL OF EXCESS AND WASTE MATERIALS**

A. Removal from Owner's Property:

1. Remove waste materials, including excavated material classified as unsatisfactory soil material, trash and debris, and dispose of it off the Owner's property in a lawful manner.

**END OF SECTION**

**SECTION 02222**  
**TRENCHING, BACKFILLING AND COMPACTING**

**PART 1 - GENERAL**

**1.01 DESCRIPTION OF WORK**

- A. The extent of trenching, backfilling and compacting is shown on the drawings.
- B. This section includes furnishing equipment, labor and materials, and performing all operations necessary and incidental to perform the required work.

**PART 2 - PRODUCTS**

(Not Applicable)

**PART 3 - EXECUTION**

**3.01 CLEARING OF THE SITE**

- A. The site of the work shall be cleared of all trees, shrubs, paving and objectionable material which interfere with the prosecution of the proposed work. Trees and shrubs which will not interfere with construction shall be protected from damage. Clearing shall be considered as an incidental item of excavation.

**3.02 EXCAVATION**

A. General:

- 1. Perform excavation described of whatever substance encountered to the dimensions and depths specified or shown on the drawings. Undercutting will not be permitted, except when ordered by the ENGINEER. Material suitable for backfill shall be stockpiled near the site. Rock or other material undesirable for backfill shall be spoiled outside the area in a neat manner, as directed by the ENGINEER. Where it is necessary to cut roots projecting into an excavation or where it is necessary to trim branches for equipment clearance, all severed root ends or cuts to branches over 1/2-inch diameter shall be treated with an asphalt base pruning paint. Backfill over exposed roots as soon as possible.

B. Rock:

- 1. Where encountered in the trench bed, rock shall be excavated to a depth of 1/4 of the pipe diameter below the bottom of the pipe but in no case less than 4-inches. All undercut trench excavation shall be backfilled and tamped with materials as specified in the following paragraphs under Unstable Subgrade.

C. Unstable Subgrade:

1. In the event that unsuitable material is encountered at or below the excavation depth specified or shown on the drawings, the ENGINEER shall be notified. Such material shall be removed and replaced with suitable material. Methods and materials used for replacement shall be one of the following as directed by the ENGINEER in writing.

- a. Suitable earth or sand, compacted in the trench. Materials shall be furnished as a part of the Bid Proposal item covering excavation and backfill.
- b. Gravel or crushed limerock, compacted in the trench and paid for under the appropriate item.
- c. Existing materials, stabilized after removal and then replaced and compacted in the trench at no additional cost to the OWNER.

2. The ENGINEER shall determine the methods and materials to be used, based upon the condition of the excavation, the pipe structure to be supported, and the availability and character of stabilizing materials.

D. Trenches:

1. Keep pipe laying operation as close to the excavation operation as possible during the prosecution of the work. The ENGINEER reserves the right to stop the excavation at any time when, in his opinion, the excavation is opened too far in advance of the pipe laying.

2. Pipe trenches shall be only of sufficient width to provide a free working space on each side of the pipe. To prevent excess pressure on the pipe, the maximum width of trench at the top of the pipe and at the bottom of the trench shall not be greater than 2-feet more than the greatest exterior diameter of the pipe. If this maximum width is exceeded, it shall be the CONTRACTOR's responsibility to provide, at no additional cost to the OWNER, such additional bedding or select backfill materials as the ENGINEER may require. The excavation below the spring line shall be made to conform as near as possible to the shape of the lower third of the pipe. To protect the pipe lines from unusual stresses, all work shall be done in open trenches. Excavation shall be made for bells of all pipes and of sufficient depth to permit access to the joint for construction and inspections. In no case will the bells be used to support the body of the pipe.

3. In order to avoid existing utilities, at times it may be necessary for the pipe to be laid deeper than the minimum cover specified in the preceding paragraph. At such time the CONTRACTOR will not be allowed extra compensation for additional excavation involved.

4. In case excavation has been made deeper than necessary, a layer of concrete, fine gravel or other material satisfactory to the ENGINEER shall be placed, at no extra cost, to secure a firm foundation for the lower third of each pipe. Where possible, excavated material shall be placed so as not to interfere with public travel. Bridging shall be provided to afford necessary access to public or private premises. Bridging shall be considered as part of the excavation operation and shall be supplied at no additional cost to the OWNER.

E. Structural: (For inlets, manholes, and similar structures)

1. Remove sufficient material to allow proper space for erecting and removing forms. The elevations of the bottoms of footings, if shown on the drawings, shall be considered as approximate only, and the ENGINEER may order, in writing, such changes in dimensions or elevations of footings as may be deemed necessary to secure a satisfactory foundation. Excavation for structures shall be sufficient to leave at least 12-inches in the clear between their outer surfaces and the embankment or timber that may be used to protect them. Backfill of earth under structures will not be permitted. Excess excavation for structures shall be filled with thoroughly compacted sand, gravel, or concrete at the expense of the CONTRACTOR.
2. After excavation for a structure is completed, the CONTRACTOR shall notify the ENGINEER to that effect. No concrete or reinforcing steel shall be placed until the ENGINEER has approved the depth of the excavation and the character of the foundation material.

F. Sheet piling and Shoring:

1. The CONTRACTOR shall provide all trench and structural bracing, sheet piling or shoring necessary to construct and protect the excavation, existing utilities, structures and private property of all types and as required for the safety of the employees. Sheet piling shall be removed or cut off by the CONTRACTOR during backfilling operations as directed by the ENGINEER. Removal of shoring for structures shall be done in such a manner as not to disturb or mar finished masonry or concrete surfaces.

### **3.03 DRAINAGE**

A. Grading shall be controlled in the vicinity of excavations so that the surface of the ground will be properly sloped to prevent water from running into trenches or other excavated areas. Any water which accumulates in the excavations shall be removed promptly by well point or by other means satisfactory to the ENGINEER in such a manner as to not create a nuisance to adjacent property or public thoroughfare. Trenches shall be kept dry while pipe is being laid. Bridging of dewatering pipe shall be provided where necessary. Pumps and engines for well point systems shall be operated with mufflers, and at a minimum noise level suitable to a residential area. The CONTRACTOR will not be allowed to discharge water into the OWNER's storm drainage system without the written approval of the ENGINEER. Approval will be subject to the condition that the storm sewer be returned to its original condition.

B. The CONTRACTOR is responsible for carrying the water to the nearest ditch or body of water and for obtaining the necessary permission to use same. The CONTRACTOR shall be financially responsible for any nuisance created due to carrying off water from his drainage system.

### **3.04 BACKFILL**

A. Trenches:

1. Trenches shall be backfilled immediately after the pipe is laid unless other protection for the pipe line is provided. Clean earth, sand, crushed limerock or other material

approved by the ENGINEER shall be used for backfill. Backfill material shall be selected, deposited and compacted (simultaneously on both sides of the pipe) so as to eliminate the possibility of lateral displacement of the pipe. Backfill material shall be solidly tamped around the pipes in layers to a level at least 1-foot above the top of the pipe. Each layer shall be compacted to a maximum thickness of 6-inches.

2. In unpaved areas, the remainder of the backfill shall be deposited and then compacted by puddling, water flooding or mechanical tampers. Mechanical tamping of layers in unpaved areas shall be to a maximum thickness of 12-inches. In areas to be paved or repaved, the entire depth of backfill shall be deposited in layers and compacted by hand or mechanical tampers to a maximum thickness of 6-inches. Compaction shall be carried out to achieve a density of at least 98% of the maximum density as determined by AASHTO, Method T-180. Under areas to be paved, puddling may be used for backfill consolidation after tamping to 1-foot over the pipe, as specified, provided the method is first approved by the ENGINEER and the density requirements are met.

3. In areas to be paved, density tests for determination of the specified compaction shall be made by a testing laboratory and spaced one in every 300-feet of trench cut. It is the intent of this specification to secure a condition where no further settlement of trenches will occur. When backfilling is completed, the roadway base for pavement replacement may be placed immediately. It will be the responsibility of the CONTRACTOR to restore the surface to the original grade wherever settlement occurs.

**B. Structural:**

1. After completion of foundation footings and walls and other construction below the elevation of the final grades, and prior to backfilling, forms shall be removed and the excavation shall be cleared of all trash and debris. Material for backfilling shall consist of the excavation, borrow sand or other approved materials, and shall be free of trash, lumber or other debris. Backfill shall be placed in horizontal layers not in excess of 9-inches in thickness, and have a moisture content such that a density may be obtained to prevent excessive settlement or shrinkage. Each layer shall be compacted by hand or approved machine tampers with extreme care being exerted not to damage pipe or structures. Backfill shall be placed and compacted evenly against the exposed surfaces to prevent undue stress on any surface.

**3.05 RESTORATION OF SURFACE IMPROVEMENTS**

A. Roadways, including shoulders, alleys and driveways of shell, limerock, stabilized soil or gravel, grass plots, sod, shrubbery, ornamental trees, signs, fences, or other surface improvements on public or private property which have been damaged or removed in excavating, shall be restored to conditions equal to or better than conditions existing prior to beginning work. Restoration of shoulders shall consist of sodding, seeding and mulching, or stabilizing with limerock as selected by the ENGINEER. The cost of doing this work shall be included in the cost of the various applicable items.

B. Materials for unpaved roadways, road shoulders, alleys, or drive-ways, shall be compacted to a minimum of 98% of the maximum density as determined by AASHTO, Method T-180. The cost of this work and furnishing new materials shall be included in the

cost of the applicable items of work as no separate payment will be made, unless a separate bid item is provided.

### **3.06 FINE GRADING**

A. Finished areas around structures shall be graded smooth and hand raked and shall meet the elevations and contours shown on the drawings. Lumber, earth clods, rocks and other undesirable materials shall be removed from the site.

### **3.07 DISPOSAL OF MATERIAL**

A. Such portions of the excavated materials as needed and as suitable, shall be used for backfilling and grading about the completed work to the elevations as shown on the drawings or as directed. Excavated material in excess of the quantity required for this purpose shall be disposed of by the CONTRACTOR. The CONTRACTOR shall leave the earth over the trenches or other excavations in a neat and uniform condition acceptable to the OWNER.

### **3.08 TESTS**

A. The CONTRACTOR shall furnish facilities for making all density tests and make such restorations as may be necessary due to test operations. All density tests on backfill or base replacement will be made by a commercial testing laboratory employed by the OWNER and at such locations as may be recommended by the ENGINEER. The CONTRACTOR shall pay for all tests where the densities, as determined by the specified tests, fall below the required minimums (failed tests).

**END OF SECTION**

**SECTION 02801**  
**RESTORATION OF SURFACE IMPROVEMENTS**

**PART 1 - GENERAL**

**1.01 DESCRIPTION OF WORK**

The work includes the restoration of driveways, lawn areas, trees and plants, roadways, sprinkler systems, walks and any other existing improvement affected by the proposed work.

This section includes furnishing equipment, labor and materials, and performing all necessary and incidental operations to perform the required work.

**1.02 QUALITY ASSURANCE**

**Standards.** Florida Grades and Standards for Nursery Plants, Part 1:

**Irrigation Contractor Qualifications.** Irrigation Competency Card is required for contractor or sub-contractor doing any irrigation repair, including relocation of heads, lines or valves, or any new irrigation work.

**PART 2 - MATERIALS AND EQUIPMENT**

**2.01 SOD**

Sod used for restoration shall match the existing sod in the area. St. Augustine sod shall be replaced with St. Augustine Floratam. In areas without irrigation, Argentina Bahia sod shall be used, unless otherwise directed by the Engineer/Landscape Architect.

Sod shall have well matted roots.

The sod shall be sufficiently thick to secure a dense stand of live grass, with a minimum thickness of two-inches. The sod shall be live, fresh and uninjured at the time of planting. It shall be planted as soon as possible after being dug and shall be shaded and kept moist from the time it is dug until it is planted.

The sod shall be commercial size rectangles measuring 12-inches by 24-inches or larger, except where 6-inch strip sodding is called for on the drawings.

Sod shall be planted as soon as possible after being harvested and shall be shaded and kept moist from the time of harvesting until it is planted.

The source of the sod may be inspected and approved by the Engineer/Architect prior to construction.

## **2.02 PLANTS**

Existing damaged plants shall be replaced by plants of equal type, quality and size whenever possible. All new plants shall be sound, healthy, vigorous and free from defects, decay, disfiguring, bark abrasions, plant diseases, insect pests, their eggs or larvae. The new plants shall be approved by the Engineer/Landscape Architect before placing.

Existing plants may be removed, preserved, and replaced at the Contractors option, in which case, the plants shall be handled and maintained by approved nursery staff.

Plants shall be watered and cared for until new growth appears. Dead and dying plants shall be immediately replaced.

Plants used shall be in accordance with the standards for Florida No. 1 or better, as given in the current "Grades and Standards for Nursery Plants," State of Florida, Department of Agriculture, or their equal as approved by the Engineer/Landscape Architect.

Plants shall conform to the sizes indicated by the Owner.

## **2.03 MULCH**

Mulch for all planter areas shall be shredded cypress or eucalyptus, clean, bright and free from weeds, moss, sticks, and other debris.

## **2.04 WATER**

The water used in the performance of this Contract shall be of drinking water quality, clean and free from injurious amounts of oil, acid, alkali, organic matter, or any substance which might be harmful to plant growth or obnoxious to traffic.

## **2.05 PLANTING MIXTURE**

The planting mixture, when required, shall consist of a thorough mixture of 40% peat and 60% sand. The peat shall be Florihome peat or equivalent and the sand shall be clean and free from debris of any kind.

## **2.06 FERTILIZER**

Fertilizer shall be granular 8-8-8, or equivalent.

Commercial fertilizers shall comply with the State fertilizer laws.

Fertilizer may, at the discretion of the Engineer/Architect, upon satisfactory evidence of its feasibility from the manufacturer, be applied in liquid form.



## **2.07 ASPHALTIC CONCRETE**

Asphaltic concrete for surface and base course applications shall be Type S-9.5 as specified in the Florida Department of Transportation's Standard Specifications for Road and Bridge Construction and shall be in accordance with the project specifications and plans.

## **2.08 PORTLAND CEMENT CONCRETE**

Portland cement concrete used in the performance of this Contract shall have a compressive strength of 3000 psi at 28 days and shall conform to the requirements of Section 03300.

## **PART 3 - EXECUTION**

### **3.01 LANDSCAPING RESTORATION**

All grass areas disturbed by construction shall be restored with the same type of sod as was existing prior to disturbance.

**Lawn Areas.** Any lawn area affected by the required work shall be restored to a condition equal or better than the conditions existing before the commencement of work.

**Balled Plants.** Plants where required shall be adequately balled with firm natural balls of soil, sized as set forth in "Grades and Standards". Balls shall be firmly wrapped with burlap or equally approved strong cloth. No balled plant will be planted if the ball is cracked or broken before or during the process of planting.

**Option.** Plants may be furnished as container grown instead of balled if all other requirements are met.

**Preparation of Plant Pits.** All plant pits shall be circular in outline and have vertical sides. Tree pits shall be two feet wider than the width of the ball and one foot deeper than the depth of the ball. Shrubs that are either B&B or in 3 gallon and under containers shall have pits that are one foot wider than the width of the plant ball and 6-inches deeper than the depth of the ball.

**Setting Plants.** All plants except as otherwise specified, shall be centered in pits. Deep planting shall be avoided and unless otherwise specified, plants shall be set at such a level that after settlement they will bear the same relation to the required grade as they have to the natural grade before being transplanted.

Balled and burlapped plants and palms shall be placed on 6-inches to 12-inches of tamped planting mixture and adjusted so as to be at the proper level. The rope and burlap shall be cut away and the burlap folded down to the bottom of the pit. Very large B&B plants shall remain wrapped until fully backfilled and then just the upper portion of the burlap shall be removed. Backfill of planting mix shall be placed halfway up the pit and then water tamped. After this water has drained away, backfill around the edge of the pit to form a saucer and fill area three times with water.

**Water.** Water to be used initially during plant installation shall be furnished by the Contractor. The existing irrigation system, where damaged, shall be promptly repaired after the installation of the plants.

**Sod Placement.** The provisions for the preparation of the area to be sodded shall include scarifying and loosening the soil and application of fertilizer. Sodding shall not be performed when weather and soil conditions are, in the Engineer's opinion, unsuitable for proper results.

The sod shall be placed on the prepared surface with edges in close contact, and shall be firmly and smoothly embedded by light tamping with appropriate tools.

Where sodding is used in drainage ditches or ponds, the setting of the pieces shall be staggered, such as to avoid a continuous seam along the line of flow. Along the edges of such staggered areas, the offsets of individual strips shall not exceed 6-inches.

In order to prevent erosion caused by vertical edges at the outer limits, the outer pieces of sod shall be tamped so as to produce a featheredge effect.

On areas where the sod may slide, due to height and slopes, it shall be pegged, with pegs driven through the sod blocks into firm soil and at intervals as shown on the drawings or as directed by the Engineer/Architect.

Any pieces of sod which, after placing, show appearance of extreme dryness shall be removed from the work.

The sod shall be kept in a moist condition after planting and for the duration of the Contract.

**Maintenance.** Contractor shall maintain the planted areas in a satisfactory condition until final acceptance of the project. Such maintenance shall include mowing, edging, weed control, watering, filling, leveling and repairing of any washed or eroded areas as may be necessary.

### **3.02 PAVEMENT REPLACEMENT**

Asphalt pavement shall be removed by saw cutting on a straight line with edges as vertical as possible. Concrete pavement or asphalt surfaced concrete shall be removed by cutting with a concrete saw in as straight a line and vertically as possible.

Prior to replacing concrete or asphalt pavement replacement, a limerock base shall be laid. The base for concrete pavement shall be six (6) inches of compacted thickness, and that for asphalt pavement shall be twelve (12) inches of compacted thickness for City roadways. The base course for each shall be compacted in two equal layers to a minimum of 98% of the maximum density as determined by AASHTO, Method T-180. The Owner will have tests made by an independent testing laboratory to verify compaction results.

Non-asphalt pavement replacement shall be replaced of like material and thickness. Asphalt or built-up asphalt pavement replacement shall be replaced with like material or concrete as directed by the Engineer/Architect. Where asphalt or built-up asphalt pavement is replaced by concrete,

the concrete shall have a minimum of six (6) inches in thickness and be reinforced with 6 by 6 No. 6 gage welded wire fabric. Where the pavement replacement is of like material, it shall be replaced in thickness equal to or better than that existing at the time of removal.

Unless the base is sealed or other temporary paving applied over driveway areas to be repaved, pavement shall be replaced not later than three weeks after completion of backfill.

### **3.03 CURB REMOVAL AND REPLACEMENT**

Curb removal and replacement required in the construction of this work shall be done by the Contractor. Reasonable care shall be exercised in removing the curb, and the Contractor shall either stockpile or dispose of this material as directed by the Engineer/Architect. Curb shall be replaced of like material in a manner and condition equal to or better than that existing at the time of removal.

### **3.04 TESTS**

The Contractor shall furnish facilities for making all density tests and make such restorations as may be necessary due to test operations. All density tests on backfill or base replacement will be made by a commercial testing laboratory employed by the Owner and at such locations as may be recommended by the Engineer/Architect. If the densities as determined by the specified tests fall below the required minimums, the Contractor shall pay for all retests.

**END OF SECTION**

## **SECTION 02930 GRASSING**

### **PART 1 - GENERAL**

#### **1.01 DESCRIPTION OF WORK**

- A. The extent of grassing consists of supplying and planting grass seed and/or sod in the locations shown on the drawings and in those areas where construction activity has damaged or destroyed the ground cover.
- B. The grassing work shall include, but not be limited to, supplying all labor, materials, and equipment necessary to perform seeding, sodding, fertilizing, liming when specified, mulching, watering, mowing, and clean-up.

#### **1.02 QUALITY ASSURANCE**

- A. Seeds shall meet the requirements of the State Department of Agriculture and Consumer Services and all applicable State laws.
- B. The Engineer/Architect reserves the right to test, reject or approve all materials before application.

#### **1.03 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging, and location of packaging. Damaged packages will not be accepted.
- B. Deliver fertilizer in water proof bags showing weight, chemical analysis, and name of manufacturer.
- C. The Contractor shall, at the time of delivery, furnish the Engineer/Architect invoices of all materials received in order that the minimum application rate of materials may be determined. Failure to supply invoices at the time of delivery will warrant that payment for those items be delayed until proper submittal of invoices are obtained and the minimum application rates of material can be verified.
- D. Mixtures of different types of seed called for in these specifications shall be mixed in the proper proportions at the site of the work in the presence of the Engineer/Architect or his representative.

### **PART 2 - PRODUCTS**

#### **2.01 SEED**

- A. Unless otherwise provided for on the drawings, the Contractor shall conform to the following seed schedule. The total pounds of seed per acre shall be the sum total shown for all the varieties of seed opposite the schedule number.

#### SEEDING SCHEDULE

| <u>Schedule<br/>Number</u> | <u>Common Name of Seed</u>  | <u>Rate<br/>Lbs.<br/>Acre</u> | <u>Planting<br/>Dates</u> |
|----------------------------|-----------------------------|-------------------------------|---------------------------|
| 1.                         | Pensacola Bahia (scarified) | 90                            | March 15-                 |
|                            | Bermuda Common (50% hulled) | 25                            | October 15                |
| 2.                         | Pensacola Bahia (scarified) | 100                           | October 16 -              |
|                            | Bermuda Common (50% hulled) | 35                            | March 14                  |
|                            | Annual Rye Grass            | 10                            |                           |
|                            | Rye Grain                   | 30                            |                           |

- B. The Bermuda seed shall be an equal mixture of hulled and unhulled seed.
- C. The Pensacola Bahia seed shall be scarified seed, having a minimum active germination of 40 percent and a total germination of 85 percent.
- D. Quick-growing type grass seed shall be a species approved by the Engineer/Architect which will provide an early ground cover during the particular season when planting is done and will not later compete with permanent grass.

### **2.02 SOD**

- A. Sod shall be Pensacola Bahia with well matted roots.
- B. The sod shall be commercial size rectangles measuring 12-inches by 24-inches or larger, except where 6-inch strip sodding is called for on the drawings.
- C. The sod shall be sufficiently thick to secure a dense stand of live grass, with a minimum thickness of 2-inches. The sod shall be live, fresh, and uninjured at the time of planting. It shall have a soil mat of sufficient thickness adhering firmly to the roots to withstand all necessary handling. It shall be reasonably free of weeds and other grasses.
- D. Sod shall be planted as soon as possible after being harvested and shall be shaded and kept moist from the time of harvesting until it is planted.
- E. The source of the sod may be inspected and approved by the Engineer/Architect prior to construction.

### **2.03 MULCH**

- A. Dry Mulch:

1. Dry mulch shall be straw or hay, consisting of oat, rye, or wheat straw, or of Pangola, Peanut, Coastal Bermuda or Bahia grass hay. Only undeteriorated mulch which can readily be cut into the soil shall be used.

B. Manufactured Mulch:

1. Manufactured mulches may consist of jute, cotton, or other fiber materials, plastic sheeting, netting, chemical adhesive soil stabilizers, or other approved coverings. Manufactured mulch shall only be used when specifically called for on the drawings and shall be as approved by the Engineer/ Architect.

C. Wood Cellulose Fiber Mulch (for use in hydro-seeding only):

1. Mulch material for use in hydro-seeding slurry shall consist of wood cellulose fiber material, especially prepared for this purpose. It shall be processed in such a manner that it will contain no growth-inhibiting or germination-inhibiting factors and shall be dyed an appropriate color for readily determining the rate of spread, by visual observation. It shall be manufactured in such manner that after agitation in slurry tanks, with fertilizer, grass seed, and water (and with other additives which may be approved for use), the fibers in the material will readily become uniformly suspended in the solution to form a homogeneous slurry; also that when the slurry is hydraulically sprayed on the ground, the mulch material will act to form a blotter-like ground cover, impregnated uniformly with grass seed, and will allow the absorption of water and permit rainfall and watering to percolate to the undersoil.
2. The Contractor shall, if requested, submit appropriate certification from the manufacturer that the material meets all of the above requirements, based on laboratory and field tests of the product.
3. The air dry weight (as defined by the Technical Association of the Pulp and Paper Industry for wood cellulose) shall be marked on each package by the manufacturer.

## **2.04 FERTILIZER**

- A. The fertilizer shall be a commercial granular type with a chemical designation of [12-8-8] [16-4-8] [20-5-10] [     ]
- B. The numerical designations for fertilizer indicate the minimum percentages (respectively) of (1) total nitrogen, (2) available phosphoric acid, and (3) water-soluble potash, contained in the fertilizer.
  1. At least 50 percent of the phosphoric acid shall be from a normal super phosphate or an equivalent source which will provide a minimum of two units of sulfur.
  2. The amount of sulfur shall be indicated on the quantitative analysis card attached to each bag or container.
- C. Commercial fertilizers shall comply with the State fertilizer laws.

- D. Fertilizer may, at the discretion of the Engineer/Architect, upon satisfactory evidence of its feasibility from the manufacturer, be applied in liquid form.

## **2.05 LIME**

- A. Lime shall be agricultural grade, ground limestone minimum 80 percent passing No. 8 sieve, calcium carbonate equivalent minimum 80 percent and shall conform to the requirements of the State Department of Agriculture and Consumer Affairs.

## **2.06 WATER**

- A. The water used in the grassing operations may be obtained from any approved spring, pond, lake, stream, or municipal water system.
- B. The water shall be free of excess and harmful chemicals, acids, alkalis, or any substance which might be harmful to plant growth or obnoxious to traffic.
- C. Salt water shall not be used.

## **2.07 GRAVEL BED**

- A. In the locations shown on the drawings, provide a 3-inch deep bed of river-run gravel of rounded particles ranging in size from 1/2-inch to 2-inches. Gravel shall be as obtained from the vicinity of Montgomery, Alabama, or Chattahoochee, Florida, or equal.
- B. Where gravel is not kept in place by walls or sidewalk, an edging strip shall be used. The edging strip shall be of 1" x 6" cypress, and extend 1/2-inch above the gravel surface.

# **PART 3 - EXECUTION**

## **3.01 GENERAL**

- A. Grassing operations will not be permitted when wind velocities exceed 15 miles per hour. Grassing will be accomplished only when the soil is moist and in proper condition to induce growth. No grassing shall be done when the ground is frozen, unduly wet, or otherwise not in a tillable condition.
- B. Before acceptance of the seeding performed for the establishment of permanent vegetation, the Contractor will be required to produce a satisfactory stand of perennial grass whose root system shall be developed sufficiently to survive dry periods and winter weather and be capable of reestablishment in the spring.

## **3.02 GRASSING BY SEEDING**

- A. Sequence of Operations:

1. The several operations involved in the work shall proceed in the following sequence: grading, fertilizing (and/or application of lime) and preparation of the ground, spreading of the mulch, seeding, cutting in mulch, and rolling.

B. Preparation of Area to be Seeded:

1. The ground over which the seed is to be sown shall be prepared by disk-harrowing and thoroughly pulverizing the soil to a depth of 4-inches. The prepared soil shall be loose and reasonably smooth. The area shall be reasonably free of large clods, roots, and other material which will interfere with the work or subsequent mowing and maintenance operations.

C. Application of Fertilizer:

1. The fertilizer (and/or lime) shall be spread uniformly in one or more applications as specified below.
  - a. An initial application of 500 lbs. per acre.
2. Unless otherwise directed, a second application of 500 lbs. per acre shall be applied within 90 calendar days after the initial application on projects which have not been accepted prior to this time.
3. Unless otherwise directed, a third application of 500 lbs. per acre shall be applied within 270 to 360 calendar days after the initial application on projects which have not been accepted prior to this time.
4. Lime shall be spread at a minimum uniform rate of 250 lbs. per acre and thoroughly mixed with the soil to a depth of 4-inches.

D. Dry Mulching:

1. Approximately 2-inches, loose thickness, of the dry mulch material shall be applied uniformly over the area to be seeded. After the area has been seeded, the mulch material shall be cut into the soil so as to produce a loose mulched thickness of 3- to 4-inches. Care shall be exercised that the materials are not cut too deeply into the soil.

- E. While the soil is still loose and moist, the seed shall be scattered uniformly over the area to be grassed. The application rates of the various types of seed shall be as described in Paragraph 2.01.

F. Rolling:

1. Immediately after completion of the seeding, the entire grassed or mulched area shall be rolled with a cultipacker, traffic roller, or other suitable equipment. At least two trips over the entire area will be required.

G. Watering:



1. The seeded areas shall be watered so as to provide optimum growth conditions for the establishment of the grass. The period for maintaining such moisture conditions shall not be less than two weeks after planting.

### **3.03 GRASSING BY HYDRO-SEEDING**

#### **A. General:**

1. This method of grassing generally consists of distributing materials over the area to be grassed by spraying a slurry composed of water, seed, fertilizer, and mulch (wood cellulose fiber mulch for hydro-seeding applications).

#### **B. Ground Preparation:**

1. The provisions for the preparation of the seeding areas and for the subsequent maintaining of the moisture condition shall be as specified in Paragraphs 3.02 B, C and G.

#### **C. Equipment:**

1. Equipment used in hydro-seeding shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend, and homogeneously mix a slurry of the specified amount of fiber, fertilizer, seed, and water. The slurry distribution lines shall be large enough to prevent stoppage. The discharge line shall be equipped with a set of hydraulic spray nozzles which will provide even distribution of the slurry on the various areas to be grassed. The slurry tank shall have a minimum capacity of 1,000 gallons.

#### **D. Application:**

1. Wood cellulose fiber mulch shall be applied at the rate of 1,500 lbs. per acre in a mixture of seed, fertilizer, and water. The seed, fertilizer, mulch, and water shall be combined into the slurry tank for distribution of all ingredients in one operation. The materials shall be combined in a manner recommended by the mulch manufacturer. The slurry mixture shall be so regulated that the amounts and rates of application shall result in a uniform application of all materials at rates not less than the amounts specified herein. Using the color of the mulch as a guide, the equipment operator shall spray the prepared seed-bed with a uniform visible coat. The slurry shall be applied in a sweeping motion, in an arched stream, so as to fall like rain, allowing the mulch fibers to build upon each other until an even coat is achieved.

### **3.04 SODDING**

#### **A. Ground Preparation:**

1. The provisions for the preparation of the area to be sodded shall include scarifying and loosening the soil and application of fertilizer as described in Paragraphs 3.02 B. and C.

#### **B. Inclement Weather and Unsuitable Conditions:**

1. Sodding shall not be performed when weather and soil conditions are, in the Engineer/Architect's opinion, unsuitable for proper results.

C. Sod Placement:

1. The sod shall be placed on the prepared surface with edges in close contact, and shall be firmly and smoothly embedded by light tamping with appropriate tools.
2. Where sodding is used in drainage ditches or ponds, the setting of the pieces shall be staggered, such as to avoid a continuous seam along the line of flow. Along the edges of such staggered areas, the offsets of individual strips shall not exceed 6-inches.
3. In order to prevent erosion caused by vertical edges at the outer limits, the outer pieces of sod shall be tamped so as to produce a featheredge effect.
4. On areas where the sod may slide, due to height and slopes, it shall be pegged, with pegs driven through the sod blocks into firm soil and at intervals as shown on the drawings or as directed by the Engineer/Architect.
5. Any pieces of sod which, after placing, show appearance of extreme dryness shall be removed from the work.

D. Watering:

1. The sod shall be kept in a moist condition after planting and for the duration of the Contract. Water shall not be applied between the hours of 8:00 A.M. and 4:00 P.M.

**3.05 MAINTENANCE**

- A. The Contractor shall, at his expense, maintain the planted areas in a satisfactory condition until final acceptance. Such maintenance shall include watering, filling, leveling, and repairing of any washed or eroded areas and additional seed, fertilizer, and mulch or sod applied to areas where a satisfactory stand of grass has not been achieved.
- B. Immediately prior to final inspection, the Contractor shall mow and remove clippings from the areas grassed under this Contract.

**END OF SECTION**

**CAPE  
DESIGN  
ENGINEERING**

2000 Water Place  
2nd Floor, Suite 200  
San Diego, CA 92108  
619.594.4444 • [www.cape-engineering.com](http://www.cape-engineering.com)  
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GENERATOR PAD AND WIND WALL  
309 WILLIAMS AVE ORLANDO BEACH, FL 32174  
CITY OF ORLANDO BEACH/PRJ NO. (WIND)

COVER SHEET AND INDEX

**100%**  
**SUBMITTAL**  
**NOT FOR CONSTRUCTION**

|     |              |
|-----|--------------|
| #   | 60260 002    |
| E   | 12/24/25     |
| W   | J. JACOBS    |
| IGN | J. PINHEIROS |
| CK  | M. CHARMBURY |
|     | G-001.dwg    |

SHEET 1 OF 6



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## STRUCTURAL ABBREVIATION LIST

(SOME MAY NOT BE USED)

|       |           |   |                                                        |
|-------|-----------|---|--------------------------------------------------------|
| A     | A         | - | ANCHOR                                                 |
|       | AB        | - | ANCHOR BOLT                                            |
| D     | ACI       | - | AMERICAN CONCRETE INSTITUTE                            |
|       | ADD'L     | - | ADDITIONAL                                             |
| AISC  | AFF       | - | ABOVE FINISH FLOOR                                     |
|       | AISC      | - | AMERICAN INSTITUTE OF STEEL CONSTRUCTION               |
| AL    | AISC      | - | AMERICAN IRON AND STEEL INSTITUTE                      |
|       | AL        | - | ALUMINUM                                               |
| ALT   | ALT       | - | ALTERNATE / ALTERNATIVE                                |
|       | APPD      | - | APPROVED                                               |
| ARCH  | APPROX    | - | APPROXIMATELY                                          |
|       | ARCH      | - | ARCHITECTURAL / ARCHITECT                              |
| ASTM  | ASPH      | - | ASPHALT                                                |
|       | ASTM      | - | AMERICAN SOCIETY OF TESTING MATERIALS                  |
| AWS   | AWS       | - | AMERICAN WELDING SOCIETY                               |
| B     | B         | - | BOTTOM                                                 |
|       | B.M.      | - | BENCH MARK                                             |
| B.I.  | B         | - | BOTTOM OF                                              |
|       | B.I.      | - | BASE PLATE                                             |
| BLDG  | BIT       | - | BITUMINOUS                                             |
|       | BLDG      | - | BUILDING                                               |
| BM    | BLK       | - | BLOCK                                                  |
|       | BM        | - | BEAM                                                   |
| BOT   | BOT       | - | BOTTOM                                                 |
|       | (or) BOTT | - |                                                        |
| BRG   | BRG       | - | BEARING                                                |
|       | BRDG      | - | BRIDGING                                               |
| BU    | BU        | - | BUILT UP                                               |
| C     | C         | - | CENTER TO CENTER                                       |
|       | CB        | - | CONCRETE BEAM                                          |
| CC    | CC        | - | CONCRETE COLUMN                                        |
|       | CE        | - | CONCRETE ENCASED                                       |
| CF    | CF        | - | CUBIC FOOT/FEET                                        |
|       | (or) CH   | - | CHANNEL                                                |
| CHK   | CHK       | - | CHECKERED                                              |
|       | CI        | - | CAST IRON                                              |
| CIP   | CIP       | - | CAST IN PLACE                                          |
|       | CJ        | - | CONTROL JOINT / CONTRACTION JOINT / CONSTRUCTION JOINT |
| CL    | CL        | - | CLEAR/CLEARANCE                                        |
|       | CL        | - | CENTERLINE                                             |
| CLR   | CLR       | - | CLEAR                                                  |
|       | CMP       | - | CORRUGATED METAL PIPE                                  |
| CMU   | CMU       | - | CONCRETE MASONRY UNIT                                  |
|       | CO        | - | COMPANY                                                |
| COL   | COL       | - | COLUMN                                                 |
|       | CONC      | - | CONCRETE                                               |
| CONN  | CONN      | - | CONNECTION                                             |
|       | CONFIG    | - | CONFIGURATION                                          |
| CONST | CONST     | - | CONSTRUCTION                                           |
|       | CONT      | - | CONTINUOUS                                             |
| CONTR | CONTR     | - | CONTRACTOR                                             |
|       | COORD     | - | COORDINATE                                             |
| CORR  | CORR      | - | CORRUGATED                                             |
|       | CS        | - | CARBON STEEL                                           |
| CTR   | CTR       | - | CENTER                                                 |
|       | CY        | - | CUBIC YARD                                             |
| D     | D         | - | DECK DIAPHRAGM LOAD (PLF)                              |
|       | DBA       | - | DOWEL BAR ANCHOR                                       |
| DBL   | DBL       | - | DOUBLE                                                 |
|       | DEG       | - | DEGREE                                                 |
| DEMO  | DEMO      | - | DEMOLITION                                             |
|       | DEP       | - | DEPARTMENT                                             |
| DET   | DET       | - | DETAIL                                                 |
|       | DIA       | - | DIAMETER                                               |
| DIAG  | DIAG      | - | DIAGONAL                                               |
|       | DIM       | - | DIMENSION                                              |
| DIST  | DIST      | - | DISTANCE                                               |
|       | DN        | - | DOWN                                                   |

|             |                |   |                                  |
|-------------|----------------|---|----------------------------------|
| E           | DR             | - | DRAIN                            |
|             | DWG            | - | DRAWING                          |
| E           | E              | - | EXISTING                         |
|             | EA             | - | EACH                             |
| EF          | EF             | - | EACH FACE                        |
|             | EJ             | - | EXPANSION JOINT                  |
| EL          | EL             | - | ELEVATION                        |
|             | ELEC (or) ELEC | - | ELECTRICAL/ELECTRIC              |
| ELEV        | ELEV           | - | ELEVATOR                         |
|             | ENG            | - | ENGINEER                         |
| EOR         | EOR            | - | ENGINEER OF RECORD               |
|             | EOS            | - | EDGE OF SLAB                     |
| EQ          | EQ             | - | EQUAL                            |
|             | EQUIP          | - | EQUIPMENT                        |
| ES          | ES             | - | EQUAL SPACED                     |
|             | EW             | - | EACH WAY                         |
| EXCL        | EXCL           | - | EXCLUDING                        |
|             | EXIST          | - | EXISTING                         |
| EXP         | EXP            | - | EXPANSION                        |
|             | EXT            | - | EXTERIOR                         |
| F           | FB             | - | FLAT BAR                         |
|             | FD             | - | FLOOR DRAIN                      |
| Fe          | Fe             | - | FORCE                            |
|             | FF             | - | FINISH FLOOR                     |
| FG          | FG             | - | FINISH GRADE                     |
|             | FIN            | - | FINISH                           |
| FL (or) FLR | FL (or) FLR    | - | FLOOR                            |
|             | FND            | - | FOUNDATION                       |
| FOM         | FOM            | - | FACE OF MASONRY                  |
|             | FRR            | - | FIBERGLASS REINFORCED PLASTIC    |
| FS          | FS             | - | FAR SIDE                         |
|             | FT             | - | FOOT / FEET                      |
| FTG         | FTG            | - | FOOTING                          |
| G           | GS             | - | GAUGE                            |
|             | GALV           | - | GALVANIZED                       |
| GC          | GC             | - | GENERAL CONTRACTOR               |
|             | GR             | - | GRADE                            |
| H           | HC             | - | HOLLOW CORE                      |
|             | HDA            | - | HEADED STUD ANCHOR               |
| HDC         | HDC            | - | HOT DIPPED GALVANIZED            |
|             | HORIZ          | - | HORIZONTAL                       |
| HP          | HP             | - | HIGH POINT                       |
|             | HT             | - | HEIGHT                           |
| L           | ID             | - | INSIDE DIAMETER                  |
|             | IF             | - | INSIDE FACE                      |
| U           | U              | - | ISOLATION JOINT                  |
|             | IN             | - | INCH                             |
| INFO        | INFO           | - | INFORMATION                      |
|             | INT            | - | INTERIOR                         |
| INV         | INV            | - | INVERT                           |
| J           | JST            | - | JOIST                            |
|             | JT             | - | JOINT                            |
| K           | K              | - | KIPS                             |
|             | KFT            | - | KIPS PER FOOT                    |
| KJ          | KJ             | - | CONST JOINT/KEYSTONE JOIST       |
|             | KO             | - | KNOCK OUT                        |
| KWY         | KWY            | - | KEY WAY                          |
| L           | L              | - | LENGTH / ANGLE                   |
|             | LDG            | - | LANDING                          |
| LG          | LG             | - | LONG                             |
|             | LONG           | - | LONGITUDE                        |
| LP          | LP             | - | LOW POINT                        |
|             | LLH            | - | LONG LEG HORIZONTAL              |
| LLV         | LLV            | - | LONG LEG VERTICAL                |
|             | LWIC           | - | LIGHT WEIGHT INSULATING CONCRETE |
| M           | MANUF          | - | MANUFACTURER                     |
|             | (or) MAF       | - |                                  |

|                |                |   |                                 |
|----------------|----------------|---|---------------------------------|
| MAS            | MAT            | - | MASONRY                         |
|                | (or) MATL      | - | MATERIAL                        |
| MAX            | MAX            | - | MAXIMUM                         |
|                | MB             | - | MASONRY BEAM                    |
| MCJ            | MCJ            | - | MASONRY CONTROL JOINT           |
|                | MECH           | - | MECHANICAL                      |
| MEP            | MEP            | - | MECHANICAL/ELECTRICAL/PLUMBING  |
|                | MF             | - | MONOLITHIC POUR                 |
| MIN            | MIN            | - | MINIMUM                         |
|                | MISC           | - | MISCELLANEOUS                   |
| MU             | MU             | - | MASONRY JOINT                   |
|                | MO             | - | MASONRY OPENING                 |
| MOM            | MOM            | - | MOMENT                          |
|                | MTL            | - | METAL                           |
| N              | N              | - | NEW                             |
|                | NIC            | - | NOT IN CONTRACT                 |
| NS             | NS             | - | NEAR SIDE                       |
|                | NTS            | - | NOT TO SCALE                    |
| OC (or) OC     | OC (or) OC     | - | ON CENTER                       |
|                | OD             | - | OUTSIDE DIAMETER                |
| OF             | OF             | - | OUTSIDE FACE                    |
|                | OPNG           | - | OPENING                         |
| ORIENT         | ORIENT         | - | ORIENTATION                     |
| PIC            | PIC            | - | PRIE CAST CONCRETE              |
|                | PAR            | - | PARALLEL                        |
| PART           | PART           | - | PARTITION                       |
|                | PC             | - | PILE CAP                        |
| PENN           | PENN           | - | PENETRATION                     |
|                | PERM           | - | PERIMETER                       |
| PL             | PL             | - | PLATE                           |
|                | PLF            | - | POUNDS PER LINEAR FOOT          |
| PLY            | PLY            | - | PLYWOOD                         |
|                | PREFAB         | - | PREFABRICATED                   |
| PSF            | PSF            | - | POUNDS PER SQUARE FOOT          |
|                | PSI            | - | POUNDS PER INCH                 |
| PT             | PT             | - | POST TENSION / PRESSURE TREATED |
| Q              | QTY            | - | QUANTITY                        |
|                | R              | - | RISER                           |
| RA             | RA             | - | ROOF ACCESS                     |
|                | ROP            | - | REINFORCED CONCRETE PIPE        |
| RD             | RD             | - | ROOF DRAIN                      |
|                | REF            | - | REFERENCE                       |
| REIN           | REIN           | - | REINFORCED                      |
|                | REM            | - | REMAINDER                       |
| REQD           | REQD           | - | REQUIRED                        |
|                | REV            | - | REVISED / REVISION              |
| RM             | RM             | - | ROOM                            |
|                | RO             | - | ROUGH OPENING                   |
| RQMT           | RQMT           | - | REQUIREMENT                     |
| SCH (or) SCHED | SCH (or) SCHED | - | SCHEDULE                        |
|                | SECT           | - | SECTION                         |
| SF             | SF             | - | SQUARE FOOT / FEET              |
|                | SM             | - | SIMILAR                         |
| SJ             | SJ             | - | SAWCUT JOINT                    |
|                | SL             | - | SLOPE                           |
| SP             | SP             | - | SPACING / SPIRAL                |
|                | SPA            | - | SPACES                          |
| SPEC           | SPEC           | - | SPECIFICATION                   |
|                | SPECS          | - | SPECIFICATIONS                  |
| SQ             | SQ             | - | SQUARE                          |
|                | SQ             | - | SQUARE                          |
| SS             | SS             | - | STAINLESS STEEL                 |
|                | STD            | - | STANDARD                        |
| STR            | STR            | - | STIRRUPS                        |
|                | STL            | - | STEEL                           |
| STRUCT         | STRUCT         | - | STRUCTURAL                      |
|                | SYM            | - | SYMMETRICAL                     |
| T              | T              | - | TOP                             |
|                | T & B          | - | TOP & BOTTOM                    |

|      |       |   |                         |
|------|-------|---|-------------------------|
| TI   | TI    | - | TOP OF                  |
|      | TIC   | - | TOP OF CONCRETE         |
| TIO  | TIO   | - | THRU OUT                |
|      | TIS   | - | TOP OF STEEL            |
| TB   | TB    | - | TIE BEAM                |
|      | TC    | - | TIE COLUMN              |
| TE   | TE    | - | THICKENED EDGE          |
|      | TEMP  | - | TEMPORARY               |
| TENS | TENS  | - | TENSION                 |
|      | THD   | - | THREAD(ED)              |
| THK  | THK   | - | THICK                   |
|      | TJ    | - | TIE JOIST               |
| TOC  | TOC   | - | TOP OF CONCRETE         |
|      | TOL   | - | TOLERANCE               |
| TOS  | TOS   | - | TOP OF STEEL / SLAB     |
|      | TOT   | - | TOTAL                   |
| TR   | TR    | - | TREAD                   |
|      | TRANS | - | TRANSVERSE              |
| TS   | TS    | - | THICKENED SLAB          |
|      | TYP   | - | TYPICAL                 |
| UN   | UN    | - | UNDERSIDE               |
|      | UNO   | - | UNLESS NOTED OTHERWISE  |
| UON  | UON   | - | UNLESS OTHERWISE NOTED  |
| V    | VERT  | - | VERTICAL                |
|      | VOL   | - | VOLUME                  |
| W    | W     | - | WIDE                    |
|      | WI    | - | WITH                    |
| WIO  | WIO   | - | WITHOUT                 |
|      | WD    | - | WOOD                    |
| WF   | WF    | - | WIDE FLANGE             |
|      | WFTG  | - | WALL FOOTING            |
| WH   | WH    | - | WEEP HOLE               |
|      | WP    | - | WORKING POINT           |
| WT   | WT    | - | WEIGHT                  |
|      | WWF   | - | WELDED WIRE FABRIC      |
| WWR  | WWR   | - | WELDED WIRE REINFORCING |
| X    | XFMR  | - | TRANSFORMER             |
|      | Y     | - | WYE                     |
| Z    | Z     | - | ZONE                    |

## LEGENDS:

ELEVATION CALLOUT:



SECTION CALLOUT WITHIN DETAIL:



SECTION CALLOUT:

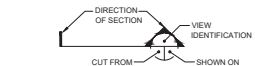


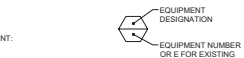
PHOTO CALLOUT:



DETAIL CALLOUT:



EQUIPMENT TAG OF SCHEDULED EQUIPMENT:



NOTE: REFER TO SCHEDULES FOR ADDITIONAL INFORMATION REGARDING EQUIPMENT.



| DATE        |  |
|-------------|--|
| DESCRIPTION |  |
| REVISION    |  |

GENERATOR PAD AND WIND WALL

PROJECT LOCATION: 1000 S. 1000 E. AVENUE, SUITE 100, CHANDLER, AZ 84901

STRUCTURAL ABBREVIATIONS AND LEGENDS

100%  
SUBMITTAL  
(NOT FOR CONSTRUCTION)

|             |              |
|-------------|--------------|
| DATE        | 02/06/2025   |
| DATE        | 12/24/25     |
| DESIGNED BY | J. JACOBS    |
| CHECKED BY  | J. P. JACOBS |
| IN CHARGE   | T. CHAMBERS  |
| FILE        | S-001.dwg    |

S-001

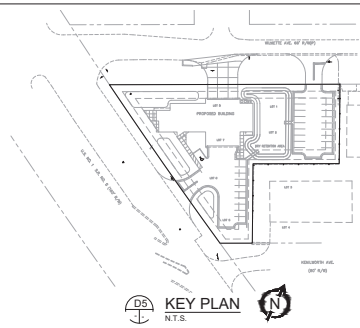
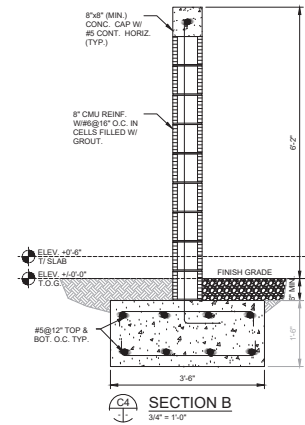
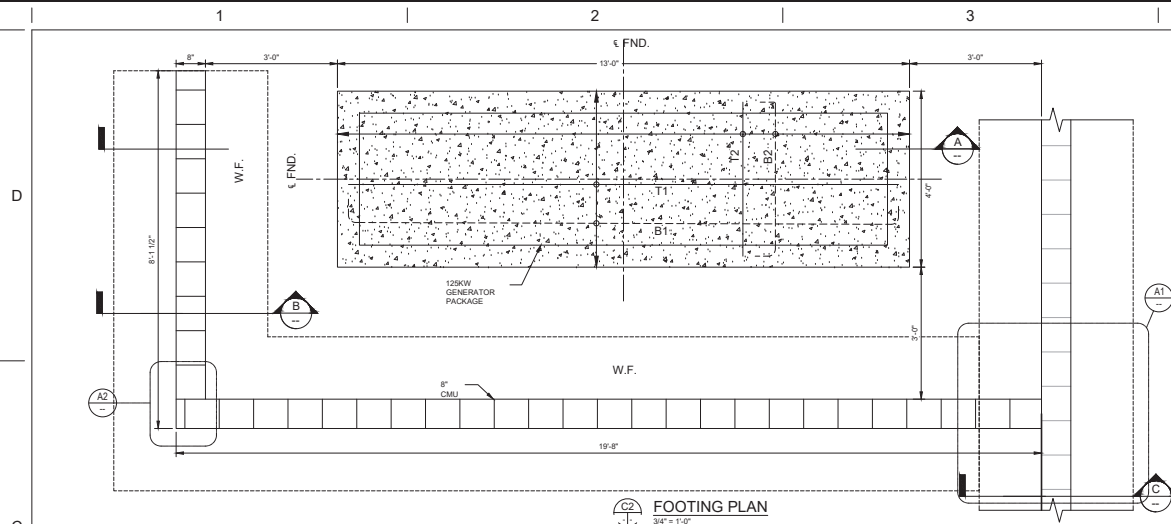
SHEET 2 OF 6



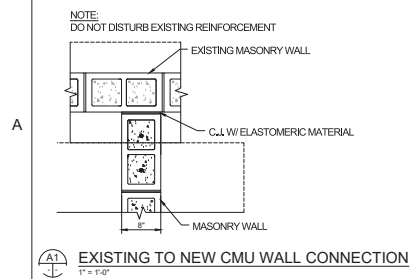
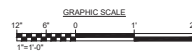
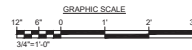
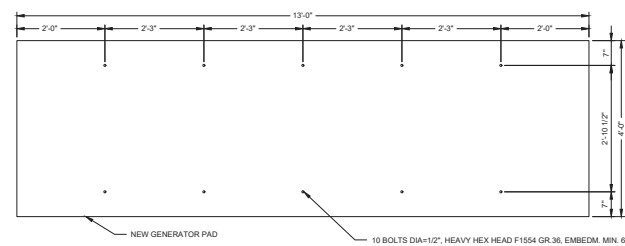
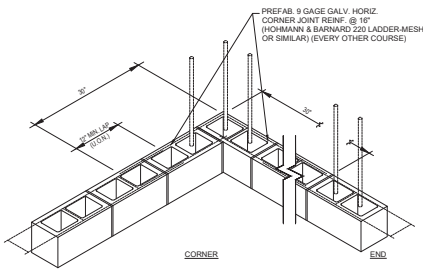
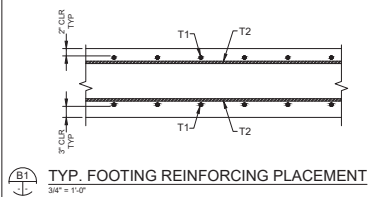
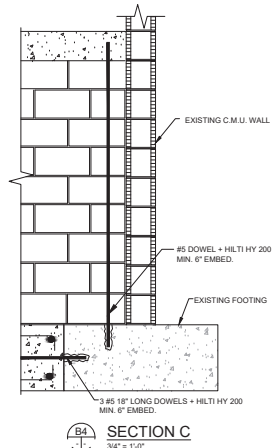
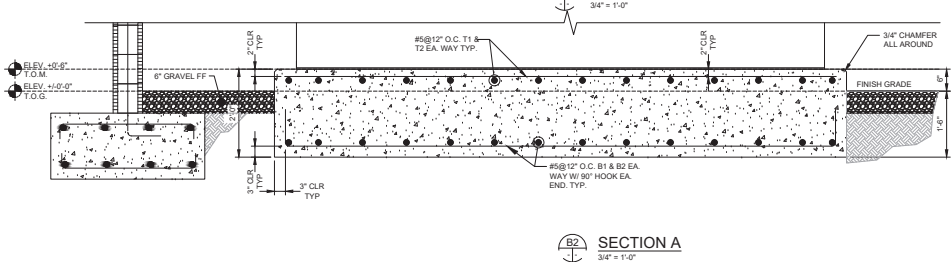




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- NOTES**
1. ALL DIMENSION SHALL BE FIELD VERIFIED.
  2. TOP OF MAT SHALL BE AT ELEV. +0'-0" FROM FINISHED FLOOR DATUM U.O.A. ON PLAN.
  3. G.C. TO COORDINATE TOP OF FOUNDATIONS LOCATIONS WITH ALL TRADES PRIOR TO EXCAVATION & NOTIFY ENG. OF ANY DISCREPANCIES.
  4. G.C. IS RESPONSIBLE FOR COORDINATION OF STRUCTURAL PLANS WITH M.E.P. OR ANY OTHER PROJECT PLANS/DRAWINGS THAT WOULD IMPACT THE STRUCTURAL LAYOUT AND OR DESIGN. STRUCTURAL ENGINEER IS TO BE NOTIFIED OF DISCREPANCIES (IF ANY) PRIOR TO COMMENCEMENT OF WORK DELINEATED HEREIN.



| DATE        |                                               |
|-------------|-----------------------------------------------|
| DESCRIPTION |                                               |
| REV         |                                               |
| 1           | GENERATOR PAD AND WIND WALL                   |
| 2           | FOUNDATION AND WIND LOAD DETAILS AND SECTIONS |

**100% SUBMITTAL**  
(NOT FOR CONSTRUCTION)

|                 |
|-----------------|
| 002600_002      |
| 12/24/25        |
| J. JACOBS       |
| J. PINNICOBS    |
| TM CHAMBERSBURY |
| 5-S01.dwg       |

**S-501**  
SHEET 6 OF 6





**City of Ormond Beach**  
**City Commission Agenda**  
**Staff Report**

|                                 |                                                                                          |                 |                            |
|---------------------------------|------------------------------------------------------------------------------------------|-----------------|----------------------------|
| <b>Agenda Date</b>              | February 17, 2026                                                                        | <b>Item No</b>  | 7.K.                       |
| <b>Section</b>                  | CONSENT AGENDA                                                                           | <b>Category</b> | Consent - Disposition Item |
| <b>Subject</b>                  | City Manager's Monthly Report, February 2026                                             |                 |                            |
| <b>Recommended Action</b>       | This report is for informational purposes. Additional information provided upon request. |                 |                            |
| <b>Strategic Goal</b>           | Governance - Other                                                                       |                 |                            |
| <b>Department Staff Contact</b> | City Manager<br>Joyce Shanahan, City Manager                                             |                 |                            |

Summary

The following reports provide information regarding the City's finances and capital improvement projects, building permits and development activity, and economic development activities and trends. (Reporting dates may vary since tracking and reporting periods may vary based on the subject.)

Financial Impact

None

Citizen Impact

None

Attachments

1. Financial Status Report - November 2025
2. Capital Improvements Projects, Status Report - January 2026
3. Economic Development Report - January 2026
4. Development Activity Report - January 2026
5. Building Permit Activity - January 2026
6. Residential Development Report - January 2026
7. Plantation Oaks Boulevard Area Development - January 2026



# Monthly Financial Status Report

## November 2025

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This report provides the City Commission with an update of the financial status of the City's operating funds. The purpose of this report is to identify any significant variances from the adopted budget and to identify any adverse trends and their implications for the current and future years' budgets.

The first table following this introduction provides a summary of the revenues and expenditures to date by fund. Additional detail by fund type is provided in subsequent tables.

Revenues at or above 17% benchmark is favorable, while expenses at or below the 17% benchmark is also favorable.

**The airport fund has revenue and expense impacts from FAA grants.  
The Impact Fee funds experienced an increase in revenue due to new subdivision  
(Ridge Haven).**

**Financial Status Report:  
November 2025**

**Budget Summary**

| Fund                                    | Final Budget          | YTD Actual           |            | YTD Actual           |            |
|-----------------------------------------|-----------------------|----------------------|------------|----------------------|------------|
|                                         |                       | Revenues             | YTD %      | Expenses             | YTD %      |
| 001 - General Fund                      | 52,356,211            | 4,374,470            | 8%         | 7,810,174            | 15%        |
| 104 - Community Redevelopment           | 1,999,836             | 146,777              | 7%         | 96,213               | 5%         |
| 106 - Ormond Crossing                   | 399,640               | 35,129               | 9%         | 16,587               | 4%         |
| 107 - Stormwater                        | 5,613,386             | 577,639              | 10%        | 494,688              | 9%         |
| 108 - Airport                           | 1,318,198             | 56,800               | 4%         | 59,960               | 5%         |
| 109 - Local Law Enforcement Trust Fund  | -                     | 2,185                | 0%         | -                    | 0%         |
| 113 - Pension Contribution Pass Through | 1,300,000             | -                    | 0%         | -                    | 0%         |
| 115 - Recreation Facility Fee           | 46,970                | 7,706                | 16%        | 16,623               | 35%        |
| 205 - Financing Debt Service            | 675,000               | 112,500              | 17%        | -                    | 0%         |
| 220 - Debt Service GOB 2010             | 358,068               | 24,789               | 7%         | -                    | 0%         |
| 301 - General Capital Improvement       | 3,051,339             | 99,251               | 3%         | 152,912              | 5%         |
| 302 - General Equipment & Vehicle       | 840,000               | 63,384               | 8%         | 43,880               | 5%         |
| 305 - Public Safety Vehicle & Equip     | 1,028,051             | 69,397               | 7%         | 689,598              | 67%        |
| 308 - Transportation                    | 3,306,010             | 47,571               | 1%         | 211,970              | 6%         |
| 310 - Recreation Impact Fee             | 1,100,000             | 109,574              | 10%        | -                    | 0%         |
| 316 - Local Roads Impact Fee            | 275,000               | 63,119               | 23%        | -                    | 0%         |
| 317 - Facilities Renewal & Replacement  | 1,665,797             | 153,234              | 9%         | 139,358              | 8%         |
| 318 - Stormwater Impact Fee             | 15,000                | 1,118                | 7%         | -                    | 0%         |
| 319- Police Impact Fees                 | -                     | 10,720               | 0%         | -                    | 0%         |
| 320- Fire Impact Fees                   | -                     | 13,105               | 0%         | -                    | 0%         |
| 322 - Leisure Services Capital Fund     | 1,700,000             | 44,636               | 3%         | 3,500                | 0%         |
| 401 - Water/Wastewater Operating Fund   | 28,748,938            | 4,233,400            | 15%        | 4,358,315            | 15%        |
| 408 - Water/Wastewater E&V Fund         | 830,000               | 127,878              | 15%        | 133,483              | 16%        |
| 409 - Water/Wastewater Capital          | 6,830,768             | 787,273              | 12%        | 308,688              | 5%         |
| 414 - Water/Wastewater Consolidated Deb | 3,824,000             | 637,334              | 17%        | -                    | 0%         |
| 433 - Reuse Impact Fee Fund             | -                     | 3,221                | 0%         | -                    | 0%         |
| 434 - Water Impact Fee                  | 751,000               | 115,786              | 15%        | 305,868              | 41%        |
| 435 - Wastewater Impact Fee             | 850,000               | 265,227              | 31%        | 19,680               | 2%         |
| 446 - 2024 W&S Bond Projects            | -                     | 11,401               | 0%         | 80,970               | 0%         |
| 447 - 2026 W&S Bond Projects Fund       | 5,680,000             | -                    | 0%         | -                    | 0%         |
| 460 - Solid Waste                       | 14,960,267            | 2,587,646            | 17%        | 2,435,835            | 16%        |
| 502 - Workers Compensation              | 747,500               | 173,200              | 23%        | 325,738              | 44%        |
| 504 - General Liability                 | 2,142,400             | 907,645              | 42%        | 1,219,758            | 57%        |
| <b>Total</b>                            | <b>\$ 142,413,379</b> | <b>\$ 15,863,117</b> | <b>11%</b> | <b>\$ 18,923,797</b> | <b>13%</b> |

### **General Fund Revenues**

**Ad valorem Taxes** – Annual revenue is estimated at \$21 million and is based on the taxable value (\$5.49 billion) and the operating millage (4.096). Year to date we have received \$1.2 million.

**Utility Taxes** – The City levies a utility tax of 10% on electric and gas sales. To date \$531,000 has been received of the \$5.2 million budgeted.

**Communication Taxes** – Communication service taxes for this fiscal year have not started being collected as of November.

**Business Tax** – Business tax collections amounted to \$20,334. The majority of business taxes are collected in the last quarter of the fiscal year.

**Licenses, Permits and Franchise Fees** – This revenue source includes building permits, plan review and franchise fees. franchise fee agreements require electric and natural gas providers to remit 6% of gross sales to the City. Payments often occur several months after they are collected by providers. Collections through November 2025 are \$261,915.

**Intergovernmental** – This revenue source includes municipal revenue sharing and sales tax. Through November, the City received a total of \$351,592 in this category.

**Charges for Services** – This category includes Leisure Services user charges and additional revenue from contracts for right of way mowing, traffic signal maintenance, and street lighting. The City received \$216,539 in this category through November.

**Fines and Forfeitures** – Traffic, code enforcement, and court fines make up this revenue category. Revenues were \$9,750 as of November.

**Miscellaneous Revenue** – Interest and internal service charges for Fleet and Engineering are included in this revenue category. Revenues collected were \$698,000.

**Transfers In** – Transfers have been recorded in the amount of \$1.1 million through November.

## Financial Status Report: November 2025

### General Fund Revenues - November 2025

|                          | Final         | YTD               | Remaining     | % of          | YTD               | \$                 | %                  |
|--------------------------|---------------|-------------------|---------------|---------------|-------------------|--------------------|--------------------|
|                          | <u>Budget</u> | <u>FY 2025-26</u> | <u>Budget</u> | <u>Budget</u> | <u>FY 2024-25</u> | <u>FY Variance</u> | <u>FY Variance</u> |
| Property Tax             | \$ 20,883,814 | \$ 1,174,679      | \$ 19,709,135 | 5.6%          | \$ 3,065,237      | \$ (1,890,558)     | -61.68%            |
| Utility Taxes            | 5,215,000     | 530,952           | 4,684,048     | 10.2%         | 482,600           | 48,352             | 10.02%             |
| Communication Tax        | 1,900,000     | -                 | 1,900,000     | 0.0%          | -                 | -                  | 0.00%              |
| Business Tax             | 283,500       | 20,334            | 263,166       | 7.2%          | 41,860            | (21,527)           | -51.43%            |
| Licenses, Permits & Fees | 5,487,862     | 261,915           | 5,225,947     | 4.8%          | 221,014           | 40,901             | 18.51%             |
| Intergovernmental        | 5,162,000     | 351,592           | 4,810,408     | 6.8%          | 340,939           | 10,652             | 3.12%              |
| Charges for Services     | 883,138       | 216,539           | 666,599       | 24.5%         | 121,399           | 95,140             | 78.37%             |
| Fines & Forfeitures      | 73,000        | 9,750             | 63,250        | 13.4%         | 4,355             | 5,395              | 123.86%            |
| Miscellaneous Revenues   | 4,465,407     | 697,878           | 3,767,529     | 15.6%         | 401,240           | 296,638            | 73.93%             |
| Transfers In             | 6,665,011     | 1,110,834         | 5,554,177     | 16.7%         | 1,142,158         | (31,324)           | -2.74%             |
| Use of Fund Balance      | 1,337,479     | -                 | 1,337,479     | 0.0%          | -                 | -                  | 0.00%              |
|                          | \$ 52,356,211 | \$ 4,374,472      | \$ 47,981,739 | 8.4%          | \$ 5,820,804      | \$ (1,446,332)     | -24.8%             |

**General Fund Reserve** – This category includes commitments made in the current fiscal year by the City Commission by resolution or Commission comments at the City Commission meeting.

| Purpose | Amount | CC Meeting/<br>Approval Date | Comments |
|---------|--------|------------------------------|----------|
|         |        |                              |          |
|         |        |                              |          |
|         |        |                              |          |

**General Fund Expenditures**

**Personnel Services** - This category includes wages and benefits paid by the City. Personnel services account for \$33.76 million of the General Fund gross budget. Expenditures through November were \$5.02 million.

**Operating Expenditures** - This category includes \$16 million for maintenance contracts, utilities, tools, fuel, insurance, supplies and contracts for service with community agencies. Through November, \$2.4 million has been spent.

**Grants and Aids** - This category includes contributions made to not-for-profit organizations which were budgeted at \$127,928. \$27,832 has been expended to date.

**Transfers Out** – The budget for transfers from the General Fund to other funds is \$2.23 million with \$372,080 made through November.

# Financial Status Report: November 2025

## General Fund Expenditures - November 2025

|                                 | Final<br>Budget      | YTD<br>FY 2025-26   | Remaining<br>Budget  | % of<br>Budget | YTD<br>FY 2024-25   | \$<br>FY Variance   | %<br>FY Variance |
|---------------------------------|----------------------|---------------------|----------------------|----------------|---------------------|---------------------|------------------|
| City Commission                 | \$ 474,127           | \$ 44,499           | \$ 429,628           | 9.4%           | \$ 67,779           | \$ (23,280)         | -34.35%          |
| City Administration             | 1,310,599            | 209,423             | 1,101,176            | 16.0%          | 153,138             | 56,285              | 36.75%           |
| Support Services                | 539,600              | 63,002              | 476,598              | 11.7%          | 67,125              | (4,123)             | -6.14%           |
| City Attorney                   | 1,458,131            | 256,809             | 1,201,322            | 17.6%          | 120,268             | 136,541             | 113.53%          |
| <b>Legislation &amp; Policy</b> | 3,782,457            | 573,733             | 3,208,724            | 15.2%          | 408,311             | 165,422             | 40.51%           |
| Finance                         | 1,135,901            | 170,359             | 965,542              | 15.0%          | 135,576             | 34,783              | 25.66%           |
| Information Technology          | 2,606,989            | 753,500             | 1,853,489            | 28.9%          | 206,269             | 547,232             | 265.30%          |
| Human Resources                 | 731,880              | 118,405             | 613,475              | 16.2%          | 101,825             | 16,580              | 16.28%           |
| Planning                        | 922,966              | 162,462             | 760,504              | 17.6%          | 109,309             | 53,153              | 48.63%           |
| Building Inspections            | 1,700,721            | 272,626             | 1,428,095            | 16.0%          | 185,261             | 87,365              | 47.16%           |
| Police Administration           | 1,288,336            | 171,810             | 1,116,526            | 13.3%          | 180,693             | (8,883)             | -4.92%           |
| Police Operations               | 8,809,844            | 1,294,597           | 7,515,247            | 14.7%          | 1,082,274           | 212,323             | 19.62%           |
| Community Outreach              | 698,042              | 107,324             | 590,718              | 15.4%          | 74,354              | 32,970              | 44.34%           |
| Criminal Investigations         | 1,855,567            | 280,176             | 1,575,391            | 15.1%          | 233,717             | 46,459              | 19.88%           |
| Community Services              | 635,960              | 77,084              | 558,876              | 12.1%          | 61,990              | 15,094              | 24.35%           |
| Records                         | 216,238              | 31,462              | 184,776              | 14.5%          | 25,426              | 6,036               | 23.74%           |
| Neighborhood Impr.              | 811,859              | 90,911              | 720,948              | 11.2%          | 61,111              | 29,800              | 48.76%           |
| <b>Police</b>                   | 14,315,846           | 2,053,364           | 12,262,482           | 14.3%          | 1,719,565           | 333,799             | 19.41%           |
| Fire                            | 8,099,114            | 1,237,726           | 6,861,388            | 15.3%          | 1,088,316           | 149,410             | 13.73%           |
| Streets                         | 2,883,795            | 297,732             | 2,586,063            | 10.3%          | 368,323             | (70,591)            | -19.17%          |
| Engineering                     | 1,457,708            | 226,629             | 1,231,079            | 15.5%          | 170,395             | 56,234              | 33.00%           |
| Fleet                           | 2,296,000            | 297,410             | 1,998,590            | 13.0%          | 265,785             | 31,625              | 11.90%           |
| <b>Public Works</b>             | 6,637,503            | 821,772             | 5,815,731            | 12.4%          | 804,504             | 17,268              | 2.15%            |
| Economic Development            | 448,226              | 136,575             | 311,651              | 30.5%          | 125,753             | 10,822              | 8.61%            |
| Building Maintenance            | 1,086,670            | 178,765             | 907,905              | 16.5%          | 175,165             | 3,599               | 2.05%            |
| Administration                  | 940,733              | 99,391              | 841,342              | 10.6%          | 104,624             | (5,234)             | -5.00%           |
| Nova Recreation                 | 480,510              | 66,459              | 414,051              | 13.8%          | 61,416              | 5,043               | 8.21%            |
| S. Ormond Neigh. Center         | 441,128              | 48,089              | 393,039              | 10.9%          | 39,589              | 8,500               | 21.47%           |
| Athletic Fields Mnt.            | 1,856,450            | 172,677             | 1,683,773            | 9.3%           | 201,826             | (29,150)            | -14.44%          |
| Parks                           | 3,010,718            | 309,807             | 2,700,911            | 10.3%          | 273,657             | 36,150              | 13.21%           |
| Environmental Learning          | 307,215              | 51,176              | 256,039              | 16.7%          | 25,856              | 25,320              | 97.93%           |
| The Casements                   | 445,125              | 81,193              | 363,932              | 18.2%          | 57,053              | 24,140              | 42.31%           |
| Performing Arts Center          | 465,043              | 68,133              | 396,910              | 14.7%          | 46,352              | 21,781              | 46.99%           |
| Senior Center                   | 97,933               | 9,142               | 88,791               | 9.3%           | 14,427              | (5,285)             | -36.63%          |
| Community Events                | 319,076              | 24,909              | 294,167              | 7.8%           | 27,950              | (3,040)             | -10.88%          |
| <b>Leisure Services</b>         | 9,450,601            | 1,109,740           | 8,340,861            | 11.7%          | 1,027,916           | 81,824              | 7.96%            |
| Grants & Aid*                   | 91,528               | 27,832              | 63,696               | 30.4%          | 27,832              | -                   | 0.00%            |
| Transfers                       | 2,232,479            | 372,080             | 1,860,399            | 16.7%          | 346,634             | 25,446              | 7.34%            |
| Contingency                     | 200,000              | -                   | 200,000              | 0.0%           | -                   | -                   | 0.00%            |
| <b>Total</b>                    | <b>\$ 52,356,211</b> | <b>\$ 7,810,174</b> | <b>\$ 44,546,037</b> | <b>14.9%</b>   | <b>\$ 6,287,070</b> | <b>\$ 1,523,104</b> | <b>24.23%</b>    |

**Financial Status Report:  
November 2025**

**Downtown Redevelopment Trust**

**Revenues** – Budgeted revenues are comprised of City, County, Hospital, and special district property taxes levied on property within the Downtown Redevelopment boundaries and amount to \$2 million, including \$834,000 in transfers into this fund. \$146,777 has been received as of November.

**Expenditures** – A total of \$96,213 has been expended for capital projects and service contracts (Ormond Main Street and property improvement grants).

**Downtown Redevelopment Fund Revenues - November 2025**

|                     | Final<br>Budget     | YTD<br>FY 2025-26 | Remaining<br>Budget | % of<br>Budget | YTD<br>FY 2024-25 | \$<br>FY Variance | %<br>FY Variance |
|---------------------|---------------------|-------------------|---------------------|----------------|-------------------|-------------------|------------------|
| Grant               | \$ -                | \$ -              | \$ -                | 0.0%           | \$ -              | \$ -              | 0.0%             |
| Local Units         | 1,135,798           | -                 | 1,135,798           | 0.0%           | -                 | -                 | 0.0%             |
| Miscellaneous       | 30,000              | 7,771             | 22,229              | 25.9%          | 4,959             | 2,811             | 56.7%            |
| Transfers In        | 834,038             | 139,006           | 695,032             | 16.7%          | 116,732           | 22,274            | 19.1%            |
| Use of Fund Balance | -                   | -                 | -                   | 0.0%           | -                 | -                 | 0.0%             |
|                     | <b>\$ 1,999,836</b> | <b>\$ 146,777</b> | <b>\$ 1,853,059</b> | <b>7.3%</b>    | <b>\$ 121,691</b> | <b>\$ 25,085</b>  | <b>20.61%</b>    |

**Downtown Redevelopment Fund Expenditures**

|                  | Final<br>Budget     | YTD<br>FY 2025-26 | Remaining<br>Budget | % of<br>Budget | YTD<br>FY 2024-25 | \$<br>FY Variance | %<br>FY Variance |
|------------------|---------------------|-------------------|---------------------|----------------|-------------------|-------------------|------------------|
| Planning         | \$ 71,050           | \$ 175            | \$ 70,875           | 0.2%           | \$ 175            | \$ -              | 0.0%             |
| Public Works     | 68,500              | 77,335            | (8,835)             | 112.9%         | 96                | 77,239            | 80240.0%         |
| Engineering      | 39,388              | -                 | 39,388              | 0.0%           | -                 | -                 | 0.0%             |
| Grants           | 200,000             | -                 | 200,000             | 0.0%           | -                 | -                 | 0.0%             |
| Leisure Services | 774,928             | 18,702            | 756,226             | 2.4%           | 52,471            | (33,769)          | -64.4%           |
| Contingency      | 845,970             | -                 | 845,970             | 0.0%           | -                 | -                 | 0.0%             |
|                  | <b>\$ 1,999,836</b> | <b>\$ 96,213</b>  | <b>\$ 1,903,623</b> | <b>4.8%</b>    | <b>\$ 52,742</b>  | <b>\$ 43,470</b>  | <b>82.42%</b>    |



**Financial Status Report:**  
**November 2025**

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**Stormwater Fund**

**Revenues** – The primary revenue source is stormwater user fees. User fees were budgeted at \$3.3 million with \$577,639 received through November 2025.

**Expenditures** – The total budget for stormwater expenses is \$5.6 million with \$494,688 spent to date.

**Stormwater Fund Revenues - November 2025**

|                     | Final<br>Budget     | YTD<br>FY 2025-26 | Remaining<br>Budget | % of<br>Budget | YTD<br>FY 2024-25 | \$<br>FY Variance | %<br>FY Variance |
|---------------------|---------------------|-------------------|---------------------|----------------|-------------------|-------------------|------------------|
| Grants              | \$ -                | \$ -              | \$ -                | 0.0%           | \$ -              | \$ -              | 0.00%            |
| Stormwater Fees     | 3,301,750           | 565,248           | 2,736,502           | 17.1%          | 435,781           | 129,467           | 29.71%           |
| Miscellaneous       | 125,000             | 12,391            | 112,609             | 9.9%           | 7,870             | 4,521             | 57.45%           |
| Intergovernmental   | 769,020             | -                 | -                   | 0.0%           | -                 | -                 | 0.00%            |
| Use of Fund Balance | 1,417,616           | -                 | 1,417,616           | 0.0%           | -                 | -                 | 0.00%            |
|                     | <b>\$ 5,613,386</b> | <b>\$ 577,639</b> | <b>\$ 4,266,727</b> | <b>10.3%</b>   | <b>\$ 443,652</b> | <b>\$ 133,988</b> | <b>30.20%</b>    |

**Stormwater Fund Expenditures**

|                     | Final<br>Budget     | YTD<br>FY 2025-26 | Remaining<br>Budget | % of<br>Budget | YTD<br>FY 2024-25 | \$<br>FY Variance | %<br>FY Variance |
|---------------------|---------------------|-------------------|---------------------|----------------|-------------------|-------------------|------------------|
| Maintenance         | 5,102,243           | 440,106           | 4,662,137           | 8.6%           | 355,523           | 84,584            | 23.79%           |
| Engineering Support | \$ 183,654          | -                 | \$ 183,654          | 0.0%           | -                 | \$ -              | 0.00%            |
| Transfers Out       | 327,489             | 54,582            | 272,907             | 16.7%          | 46,746            | 7,836             | 16.76%           |
| Contingency         | -                   | -                 | -                   | 0.0%           | -                 | -                 | 0.00%            |
|                     | <b>\$ 5,613,386</b> | <b>\$ 494,688</b> | <b>\$ 5,118,698</b> | <b>8.8%</b>    | <b>\$ 402,269</b> | <b>\$ 92,420</b>  | <b>22.97%</b>    |

**Financial Status Report:  
November 2025**

**Water and Wastewater Fund**

**Revenues** – The primary revenue sources are water and sewer user fees. User fees were budgeted at \$27 million with \$4.1 million collected year to date. The revenue also includes \$530,000 budgeted for transfers, of which \$88,406 has been received.

**Expenditures** – Operating expenses for utility billing and water/wastewater public works services is budgeted in the amount of \$26.8 million, with \$4.4 million expended to date.

**Water/Wastewater Fund Revenues -November 2025**

|                     | Final<br><u>Budget</u> | YTD<br><u>FY 2025-26</u> | Remaining<br><u>Budget</u> | % of<br><u>Budget</u> | YTD<br><u>FY 2024-25</u> | \$<br><u>FY Variance</u> | %<br><u>FY Variance</u> |
|---------------------|------------------------|--------------------------|----------------------------|-----------------------|--------------------------|--------------------------|-------------------------|
| Water/Sewer Charges | \$ 27,325,000          | \$ 4,144,477             | \$ 23,180,523              | 15.2%                 | \$ 3,754,150             | \$ 390,327               | 10.40%                  |
| Miscellaneous       | 51,000                 | 517                      | 50,483                     | 1.0%                  | 2,618                    | (2,101)                  | -80.25%                 |
| Transfers In        | 530,427                | 88,406                   | 442,021                    | 16.7%                 | 75,166                   | 13,240                   | 17.61%                  |
| Intergovernmental   | -                      | -                        | -                          | 0.0%                  | -                        | -                        | 0.00%                   |
| Use of Fund Balance | 842,511                | -                        | 842,511                    | 0.0%                  | -                        | -                        | -                       |
|                     | <b>\$ 28,748,938</b>   | <b>\$ 4,233,400</b>      | <b>\$ 24,515,538</b>       | <b>14.7%</b>          | <b>\$ 3,831,934</b>      | <b>\$ 401,466</b>        | <b>10.48%</b>           |

**Water/Wastewater Fund Expenditures**

|                       | Final<br><u>Budget</u> | YTD<br><u>FY 2025-26</u> | Remaining<br><u>Budget</u> | % of<br><u>Budget</u> | YTD<br><u>FY 2024-25</u> | \$<br><u>FY Variance</u> | %<br><u>FY Variance</u> |
|-----------------------|------------------------|--------------------------|----------------------------|-----------------------|--------------------------|--------------------------|-------------------------|
| Utility Billing       | \$ 1,831,300           | \$ 286,927               | \$ 1,544,373               | 15.7%                 | \$ 204,429               | \$ 82,497                | 40.36%                  |
| Water Production      | 5,202,295              | 731,861                  | 4,470,434                  | 14.1%                 | 640,699                  | 91,162                   | 14.23%                  |
| Water Distribution    | 175,744                | 262,610                  | (86,866)                   | 149.4%                | 239,627                  | 22,983                   | 9.59%                   |
| Wastewater Treatment  | 4,786,102              | 562,634                  | 4,223,468                  | 11.8%                 | 632,318                  | (69,684)                 | -11.02%                 |
| Wastewater Collection | 1,787,071              | 332,634                  | 1,454,437                  | 18.6%                 | 211,719                  | 120,915                  | 57.11%                  |
| W&S Engineering       | -                      | 3,912                    | (3,912)                    | -                     | 7,527                    | (3,615)                  | 0.00%                   |
| Transfers Out         | 13,066,426             | 2,177,738                | 10,888,688                 | 16.7%                 | 1,939,070                | 238,668                  | 12.31%                  |
| Contingency           | -                      | -                        | -                          | 0.0%                  | -                        | -                        | 0.00%                   |
|                       | <b>\$ 26,848,938</b>   | <b>\$ 4,358,315</b>      | <b>\$ 22,490,623</b>       | <b>16.2%</b>          | <b>\$ 3,875,388</b>      | <b>\$ 482,927</b>        | <b>12.46%</b>           |

**Financial Status Report:  
November 2025**

**Solid Waste Fund**

**Revenues** – The primary revenue source is solid waste franchise and user fees. To date, \$2.6 million has been received.

**Expenditures** – Personnel, operating, capital expenses and transfers budgeted for 2025 are \$14.96 million. \$2.4 million has been expended as of November. Year to year variance due to increase in Waste Management service fee increases.

**Solid Waste Fund Revenues - November 2025**

|                     | Final<br>Budget      | YTD<br>FY 2025-26   | Remaining<br>Budget  | % of<br>Budget | YTD<br>FY 2024-25   | \$<br>FY Variance | %<br>FY Variance |
|---------------------|----------------------|---------------------|----------------------|----------------|---------------------|-------------------|------------------|
| Franchise Fees      | \$ 2,626,000         | \$ 418,393          | \$ 2,207,607         | 15.9%          | \$ 298,525          | \$ 119,868        | 40.15%           |
| User Fees           | 12,295,000           | 2,165,642           | \$ 10,129,358        | 17.6%          | 2,035,015           | 130,626           | 6.42%            |
| Miscellaneous       | 1,000                | 3,611               | \$ (2,611)           | 361.1%         | 4,041               | (430)             | -10.65%          |
| Intergovernmental   | -                    | -                   | \$ -                 | 0.0%           | -                   | -                 | 0.00%            |
| Use of Fund Balance | 38,267               | -                   | \$ 38,267            | 0.0%           | -                   | -                 | 0.00%            |
|                     | <u>\$ 14,960,267</u> | <u>\$ 2,587,646</u> | <u>\$ 12,372,621</u> | <u>17.3%</u>   | <u>\$ 2,337,581</u> | <u>\$ 250,064</u> | <u>10.70%</u>    |

**Solid Waste Fund Expenditures**

|                       | Final<br>Budget      | YTD<br>FY 2025-26   | Remaining<br>Budget  | % of<br>Budget | YTD<br>FY 2024-25   | \$<br>FY Variance | %<br>FY Variance |
|-----------------------|----------------------|---------------------|----------------------|----------------|---------------------|-------------------|------------------|
| Collection & Disposal | \$ 11,414,726        | \$ 1,850,193        | \$ 9,564,533         | 16.2%          | \$ 1,602,581        | \$ 247,611        | 15.45%           |
| Recycling             | 1,606,800            | 262,518             | 1,344,282            | 16.3%          | 244,191             | 18,327            | 7.51%            |
| Engineering           | -                    | -                   | -                    | 0.0%           | -                   | -                 | 0.00%            |
| Transfers Out         | 1,938,741            | 323,124             | 1,615,617            | 16.7%          | 286,812             | 36,312            | 12.66%           |
| Contingency           | -                    | -                   | -                    | 0.0%           | -                   | -                 | 0.00%            |
|                       | <u>\$ 14,960,267</u> | <u>\$ 2,435,835</u> | <u>\$ 12,524,432</u> | <u>16.3%</u>   | <u>\$ 2,133,585</u> | <u>\$ 302,250</u> | <u>14.17%</u>    |

## FY 2025-26 Budget Amendments

| <u>Fund</u>                         | <u>Description</u>                  | <u>Revenue Amount</u> | <u>Expenditure Amount</u> | <u>Commission Action</u>                       |
|-------------------------------------|-------------------------------------|-----------------------|---------------------------|------------------------------------------------|
| <b>General Fund</b>                 |                                     |                       |                           |                                                |
| Revenues                            |                                     |                       |                           |                                                |
|                                     | Use of Fund Balance                 | 163,312               |                           | City's Share of Hurricane Damage/reso#2025-155 |
|                                     |                                     | <u>163,312</u>        |                           |                                                |
| Expenditures                        |                                     |                       |                           |                                                |
|                                     | Transfer to Fund 317 Facilities R&R |                       | 3,312                     | Casements Roof & Downspout                     |
|                                     | Fire Fire Hydrant \$160k BID        |                       | 160,000                   | RESO#2025-155                                  |
|                                     |                                     |                       | <u>163,312</u>            |                                                |
| <b>CRA</b>                          |                                     |                       |                           |                                                |
| Revenues                            |                                     |                       |                           |                                                |
|                                     | Use of Fund Balance                 | 45,000                |                           |                                                |
|                                     |                                     | <u>45,000</u>         |                           |                                                |
| Expenditures                        |                                     |                       |                           |                                                |
|                                     | Cassen Park Fire Standpipe          |                       | 45,000                    | Add'l work as required by Building Inspections |
|                                     |                                     |                       | <u>45,000</u>             |                                                |
| <b>Ormond Crossings</b>             |                                     |                       |                           |                                                |
| Revenues                            |                                     |                       |                           |                                                |
|                                     |                                     |                       |                           |                                                |
| Expenditures                        |                                     |                       |                           |                                                |
|                                     |                                     |                       |                           |                                                |
| <b>Stormwater</b>                   |                                     |                       |                           |                                                |
| Revenues                            |                                     |                       |                           |                                                |
|                                     | Use of Fund Balance                 | 40,000                |                           |                                                |
|                                     |                                     | <u>40,000</u>         |                           |                                                |
| Expenditures                        |                                     |                       |                           |                                                |
|                                     | OBSC Drainage                       |                       | 40,000                    | Carryforward from FY 2024-25                   |
|                                     |                                     |                       | <u>40,000</u>             |                                                |
| <b>Airport</b>                      |                                     |                       |                           |                                                |
| Revenues                            |                                     |                       |                           |                                                |
|                                     | FDOT                                | 109,200               |                           |                                                |
|                                     | Use of Fund Balance                 | 419,300               |                           |                                                |
|                                     |                                     | <u>528,500</u>        |                           |                                                |
| Expenditures                        |                                     |                       |                           |                                                |
|                                     | Airport Security Gates              |                       | 136,500                   | Reso 2025-58 2/18/25                           |
|                                     | Riverbend Golf Course Property Tax  |                       | 392,000                   |                                                |
|                                     |                                     |                       | <u>528,500</u>            |                                                |
| <b>Economic Development Fund</b>    |                                     |                       |                           |                                                |
| Revenues                            |                                     |                       |                           |                                                |
|                                     |                                     |                       |                           |                                                |
| Expenditures                        |                                     |                       |                           |                                                |
|                                     |                                     |                       |                           |                                                |
| <b>Pension Pass Thru</b>            |                                     |                       |                           |                                                |
| Revenues                            |                                     |                       |                           |                                                |
|                                     |                                     |                       |                           |                                                |
| Expenditures                        |                                     |                       |                           |                                                |
|                                     |                                     |                       |                           |                                                |
| <b>Recreation Facility Fee Fund</b> |                                     |                       |                           |                                                |
| Revenues                            |                                     |                       |                           |                                                |
|                                     | Prior Year Surplus                  | 9,000                 |                           |                                                |
|                                     |                                     | <u>9,000</u>          |                           |                                                |
| Expenditures                        |                                     |                       |                           |                                                |
|                                     | FF102 linelazer ball field          |                       | 9,000                     |                                                |
|                                     |                                     |                       | <u>9,000</u>              |                                                |

## FY 2025-26 Budget Amendments

| Fund                                            | Description | Revenue Amount | Expenditure Amount | Commission Action                  |
|-------------------------------------------------|-------------|----------------|--------------------|------------------------------------|
| <b>Debt Service Fund</b>                        |             |                |                    |                                    |
| Revenues                                        |             |                |                    |                                    |
|                                                 |             |                |                    |                                    |
| Expenditures                                    |             |                |                    |                                    |
|                                                 |             |                |                    |                                    |
| <b>General Capital Improvements</b>             |             |                |                    |                                    |
| Revenues                                        |             |                |                    |                                    |
| FEMA                                            |             | 38,420         |                    |                                    |
| Use of Fund Balance                             |             | 83,863         |                    |                                    |
|                                                 |             | <b>122,283</b> |                    |                                    |
| Expenditures                                    |             |                |                    |                                    |
| ARBFP Construction Administration               |             |                | 38,420             | Carryforward from FY 2024-25       |
| 301280 CDBG Military BLVD                       |             |                | 83,863             | RESO 2025-197 12/16/2025 approved  |
|                                                 |             |                | <b>122,283</b>     |                                    |
| <b>General Capital Vehicle/Equipment</b>        |             |                |                    |                                    |
| Revenues                                        |             |                |                    |                                    |
|                                                 |             |                |                    |                                    |
| Expenditures                                    |             |                |                    |                                    |
|                                                 |             |                |                    |                                    |
| <b>Public Safety</b>                            |             |                |                    |                                    |
| Revenues                                        |             |                |                    |                                    |
| Transfer from Fund 504-General Liability        |             | 500,000        |                    |                                    |
| Use of Fund Balance                             |             | 23,000         |                    |                                    |
|                                                 |             | <b>523,000</b> |                    |                                    |
| Expenditures                                    |             |                |                    |                                    |
| Purchase of 7 Patrol Vehicles                   |             |                | 500,000            | Reso 2025-159 10/8/25              |
| Fire Station 92 & 93 Generator structure design |             |                | 23,000             | Carryforward from FY 2024-25       |
|                                                 |             |                | <b>523,000</b>     |                                    |
| <b>Transportation</b>                           |             |                |                    |                                    |
| Revenues                                        |             |                |                    |                                    |
|                                                 |             |                |                    |                                    |
| Expenditures                                    |             |                |                    |                                    |
|                                                 |             |                |                    |                                    |
| <b>Facilities R&amp;R</b>                       |             |                |                    |                                    |
| Revenues                                        |             |                |                    |                                    |
| Fund Balance                                    |             | 170,000        |                    |                                    |
| FEMA                                            |             | 19,875         |                    |                                    |
| State of Florida                                |             | 3,313          |                    |                                    |
| Transfer from Fund 001-General Fund             |             | 3,312          |                    |                                    |
|                                                 |             | <b>196,500</b> |                    |                                    |
| Expenditures                                    |             |                |                    |                                    |
| Sanchez Park Fishing Pier Replacement           |             |                | 170,000            | Reso 2025-150 10/8/2025 CC Meeting |
| Sanchez Park Fishing Pier Replacement           |             |                | 50,631             | Budget Adjustment                  |
| Riveria Fishing Pier Replacement                |             |                | (50,631)           | Budget Adjustment                  |
| Casements Roof & Downspout                      |             |                | 26,500             | Hurricane Damage                   |
|                                                 |             |                | <b>196,500</b>     |                                    |
| <b>Leisure Services Capital Revenue</b>         |             |                |                    |                                    |
| Revenues                                        |             |                |                    |                                    |
|                                                 |             |                |                    |                                    |
| Expenditures                                    |             |                |                    |                                    |
|                                                 |             |                |                    |                                    |

## FY 2025-26 Budget Amendments

| Fund                                     | Description                                     | Revenue Amount     | Expenditure Amount | Commission Action            |
|------------------------------------------|-------------------------------------------------|--------------------|--------------------|------------------------------|
| <b>WWW Operating</b>                     |                                                 |                    |                    |                              |
|                                          | Revenues                                        |                    |                    |                              |
|                                          |                                                 |                    |                    |                              |
|                                          |                                                 |                    |                    |                              |
|                                          | Expenditures                                    |                    |                    |                              |
|                                          |                                                 |                    |                    |                              |
|                                          |                                                 |                    |                    |                              |
| <b>WWW Vehicles &amp; Equipment</b>      |                                                 |                    |                    |                              |
|                                          | Revenues                                        |                    |                    |                              |
|                                          |                                                 |                    |                    |                              |
|                                          | Expenditures                                    |                    |                    |                              |
|                                          |                                                 |                    |                    |                              |
|                                          |                                                 |                    |                    |                              |
| <b>WWW Capital Impr.</b>                 |                                                 |                    |                    |                              |
|                                          | Revenues                                        |                    |                    |                              |
|                                          | Use of Fund Balance                             | 56,000             |                    |                              |
|                                          |                                                 | <u>56,000</u>      |                    |                              |
|                                          | Expenditures                                    |                    |                    |                              |
|                                          | Finance Security Enhancements & Renovations     |                    | 50,000             |                              |
|                                          | WTP Generator                                   |                    | 6,000              | Carryforward from FY 2024-25 |
|                                          |                                                 |                    | <u>56,000</u>      |                              |
| <b>Reclaimed Water Impact Fee Fund</b>   |                                                 |                    |                    |                              |
|                                          | Revenues                                        |                    |                    |                              |
|                                          |                                                 |                    |                    |                              |
|                                          | Expenditures                                    |                    |                    |                              |
|                                          |                                                 |                    |                    |                              |
| <b>Water Impact Fee Fund</b>             |                                                 |                    |                    |                              |
|                                          | Revenues                                        |                    |                    |                              |
|                                          |                                                 |                    |                    |                              |
|                                          | Expenditures                                    |                    |                    |                              |
|                                          |                                                 |                    |                    |                              |
| <b>Wastewater Impact Fee Fund</b>        |                                                 |                    |                    |                              |
|                                          | Revenues                                        |                    |                    |                              |
|                                          |                                                 |                    |                    |                              |
|                                          | Expenditures                                    |                    |                    |                              |
|                                          |                                                 |                    |                    |                              |
| <b>2024 Water &amp; Wastewater Bonds</b> |                                                 |                    |                    |                              |
|                                          | Revenues                                        |                    |                    |                              |
|                                          |                                                 |                    |                    |                              |
|                                          | Expenditures                                    |                    |                    |                              |
|                                          |                                                 |                    |                    |                              |
| <b>General Liability</b>                 |                                                 |                    |                    |                              |
|                                          | Revenues                                        |                    |                    |                              |
|                                          | Use of Fund Balance                             | 500,000            |                    |                              |
|                                          |                                                 | <u>500,000</u>     |                    |                              |
|                                          | Expenditures                                    |                    |                    |                              |
|                                          | Transfer to Fund 305-Public Safety Vehicle Fund |                    | 500,000            |                              |
|                                          |                                                 |                    | <u>500,000</u>     |                              |
|                                          |                                                 | 2,183,595          | 2,183,595          |                              |
|                                          |                                                 | <u>144,596,974</u> | <u>144,596,974</u> |                              |

## CIP Status Report as of January 31, 2026

| Project Name                                                                              | Grant Funded    | Phase          | Timeline         |               | Budget        |                 |               |
|-------------------------------------------------------------------------------------------|-----------------|----------------|------------------|---------------|---------------|-----------------|---------------|
|                                                                                           |                 |                | Percent Complete | Date Complete | Budget Amount | Contract Amount | Percent Spent |
| Fund 104 - TIF                                                                            |                 |                |                  |               |               |                 |               |
| Cassen Park Improvements-<br>Coleman Goodemote Construction                               |                 | Design/Bidding | 100%             |               | \$ 203,000    | \$ 202,155      | 100%          |
|                                                                                           |                 | Construction   | 90%              |               | \$ 865,000    | \$ 2,449,071    | 100%          |
|                                                                                           |                 | Total          |                  |               | \$ 1,068,000  | \$ 2,651,226    |               |
| Downtown Upgrades/Impvmts - SR40<br>Median & Tree Fund Renovation US1-<br>A1A - AM Weigel |                 | Design/Bidding | 100%             |               |               | In-House        |               |
|                                                                                           |                 | Construction   | 41%              |               | \$ 120,000    | \$ 221,804      | 41%           |
|                                                                                           |                 | Total          |                  |               | \$ 120,000    | \$ 221,804      |               |
| Downtown East Granada Utility<br>Undergrounding - Economy Electric                        |                 | Design/Bidding | 100%             |               | \$ 20,000     | \$ 27,500       | 100%          |
|                                                                                           |                 | Construction   | 71%              |               | \$ 100,000    | \$ 991,928      | 71%           |
|                                                                                           |                 | Total          |                  |               | \$ 120,000    | \$ 1,019,428    |               |
| Downtown Granada Sidewalk<br>(Design)                                                     |                 | Design/Bidding | 90%              |               |               | In-House        |               |
|                                                                                           |                 | Construction   | 0%               |               |               |                 |               |
|                                                                                           |                 | Total          |                  |               | \$ -          | \$ -            |               |
| Fortunato Park Fishing Pier (Design)                                                      | FIND            | Design/Bidding | 10%              |               | \$ 86,000     | \$ 86,000       | 0%            |
|                                                                                           |                 | Construction   | 0%               |               |               |                 |               |
|                                                                                           |                 | Total          |                  |               | \$ 86,000     | \$ 86,000       |               |
| Fund 107 - Stormwater                                                                     |                 |                |                  |               |               |                 |               |
| Fleming Avenue Stormwater<br>Improvements - Built Rite<br>Construction of Central FL      | HMGP            | Design/Bidding | 100%             |               |               | \$ 907,896      | 100%          |
|                                                                                           |                 | Construction   | 99%              |               |               | \$ 2,294,060    | 100%          |
|                                                                                           |                 | Total          |                  |               |               | \$ 3,201,956    |               |
| OBSC SW Pond Expansion - GPS<br>Civil                                                     |                 | Design/Bidding | 100%             |               | \$ 64,500     | \$ 62,880       | 100%          |
|                                                                                           |                 | Construction   | 38%              |               |               | \$ 870,185      | 38%           |
|                                                                                           |                 | Total          |                  |               | \$ 64,500     | \$ 933,065      |               |
| Fleming Avenue Pump Station &<br>Force Main                                               | HMGP<br>Pending | Design/Bidding | 100%             |               |               |                 |               |
|                                                                                           |                 | Construction   | 0%               |               |               |                 |               |
|                                                                                           |                 | Total          |                  |               | \$ -          | \$ -            |               |
| Fund 108 - Airport                                                                        |                 |                |                  |               |               |                 |               |
| Crosswind Business Park (Design)                                                          | FDOT            | Design/Bidding | 65%              |               | \$ -          | \$ 211,570      | 65%           |
|                                                                                           |                 | Construction   | 0%               |               |               |                 |               |
|                                                                                           |                 | Total          |                  |               | \$ -          | \$ 211,570      |               |
| Fund 301 - General Fund                                                                   |                 |                |                  |               |               |                 |               |
| Ames House Remediation & Repairs -<br>AM Weigel                                           |                 | Design/Bidding | 100%             |               |               |                 |               |
|                                                                                           |                 | Construction   | 100%             |               |               | \$ 362,453      | 95%           |
|                                                                                           |                 | Total          |                  |               | \$ -          | \$ 362,453      |               |
| Military Blvd Sidewalk - Drewry                                                           | CDBG            | Design/Bidding | 100%             |               |               | In-House        |               |
|                                                                                           |                 | Construction   | 90%              |               | \$ 302,514    | \$ 302,514      | 63%           |
|                                                                                           |                 | Total          |                  |               | \$ 302,514    | \$ 302,514      |               |
| Central Park Wood Boardwalk &<br>Concrete Trail - Paul Culver                             | CDBG            | Design/Bidding | 100%             |               |               | In-House        |               |
|                                                                                           |                 | Construction   | 100%             |               |               | \$ 232,163      | 100%          |
|                                                                                           |                 | Total          |                  |               | \$ -          | \$ 232,163      |               |
| Police Station / EOC (Design)                                                             |                 | Design/Bidding | 11%              |               | \$ 557,710    | \$ 557,710      | 11%           |
|                                                                                           |                 | Construction   |                  |               |               |                 |               |
|                                                                                           |                 | Total          |                  |               | \$ 557,710    | \$ 557,710      |               |

## CIP Status Report as of January 31, 2026

| Project Name                                                       | Grant Funded      | Phase          | Timeline         |               | Budget        |                 |               |
|--------------------------------------------------------------------|-------------------|----------------|------------------|---------------|---------------|-----------------|---------------|
|                                                                    |                   |                | Percent Complete | Date Complete | Budget Amount | Contract Amount | Percent Spent |
| Fund 317 - Facility R & R Fund                                     |                   |                |                  |               |               |                 |               |
| Riviera Park Fishing Pier (Design)                                 |                   | Design/Bidding | 0%               |               | \$ 86,000     | \$ 86,000       | 0%            |
|                                                                    |                   | Construction   | 0%               |               | \$ 364,000    |                 |               |
|                                                                    |                   | Total          |                  |               | \$ 450,000    | \$ 86,000       |               |
| Sanchez Park Fishing Pier - Bomar                                  |                   | Design/Bidding | 100%             |               |               | In-House        |               |
|                                                                    |                   | Construction   | 0%               |               | \$ 220,631    | \$ 220,631      | 0%            |
|                                                                    |                   | Total          |                  |               | \$ 220,631    | \$ 220,631      |               |
| Fund 322 - Leisure Services Capital Fund                           |                   |                |                  |               |               |                 |               |
| OBSC Field 4 (Design)                                              |                   | Design/Bidding | 10%              |               | \$ 189,700    | \$ 189,700      | 4%            |
|                                                                    |                   | Construction   | 0%               |               |               |                 |               |
|                                                                    |                   | Total          |                  |               | \$ 189,700    | \$ 189,700      |               |
| OBSC Softball Field Reconstruction (Design)                        |                   | Design/Bidding | 100%             |               | \$ 14,500     | \$ 14,500       | 100%          |
|                                                                    |                   | Construction   | 0%               |               | \$ 800,000    |                 |               |
|                                                                    |                   | Total          |                  |               | \$ 814,500    | \$ 14,500       |               |
| Fund 409 - Water/Wastewater System Improvements                    |                   |                |                  |               |               |                 |               |
| Lift Station Backup Pumps - Thompson Pump & US Water Services Corp | HMGP              | Design/Bidding | 100%             |               |               | In-House        |               |
|                                                                    |                   | Construction   | 100%             |               |               | \$ 455,284      | 99%           |
|                                                                    |                   | Total          |                  |               | \$ -          | \$ 455,284      |               |
| SR40 WM Loop with FM Addition - JD Weber Construction              | FDEP              | Design/Bidding | 100%             |               | \$ 75,000     | \$ 104,275      | 100%          |
|                                                                    |                   | Construction   | 92%              |               | \$ 6,205,000  | \$ 4,525,370    | 84%           |
|                                                                    |                   | Total          |                  |               | \$ 6,280,000  | \$ 4,629,645    |               |
| A1A Utility Relocation - All State Civil Construction              |                   | Design/Bidding | 100%             |               |               | In-House        |               |
|                                                                    |                   | Construction   | 77%              |               | \$ -          | \$ 530,000      | 77%           |
|                                                                    |                   | Total          |                  |               | \$ -          | \$ 530,000      |               |
| Lead Service Line Program 25/26FY (Design)                         |                   | Design/Bidding | 75%              |               |               | In-House        |               |
|                                                                    |                   | Construction   | 0%               |               | \$ 200,000    |                 |               |
|                                                                    |                   | Total          |                  |               | \$ 200,000    | \$ -            |               |
| Pretreatment Effluent Pump Replacement 25/26FY - All State Civil   |                   | Design/Bidding | 100%             |               |               | In-House        |               |
|                                                                    |                   | Construction   | 10%              |               | \$ 300,000    | \$ 174,250      | 0%            |
|                                                                    |                   | Total          |                  |               | \$ 300,000    | \$ 174,250      |               |
| Public Works Renovation (Design)                                   |                   | Design/Bidding | 10%              |               | \$ 100,000    | \$ 30,000       | 0%            |
|                                                                    |                   | Construction   |                  |               | \$ 750,000    |                 |               |
|                                                                    |                   | Total          |                  |               | \$ 850,000    | \$ 30,000       |               |
| Fund 434 & 435 - Water/Wastewater Impact Fee Funds                 |                   |                |                  |               |               |                 |               |
| Hudson Wellfield Expansion - Hazen Construction                    |                   | Design/Bidding | 100%             |               | \$ 300,000    | \$ 292,964      | 100%          |
|                                                                    |                   | Construction   | 55%              |               | \$ 1,300,000  | \$ 4,317,575    | 55%           |
|                                                                    |                   | Total          |                  |               | \$ 1,600,000  | \$ 4,610,539    |               |
| Halifax River Utility Crossing (Design)                            |                   | Design/Bidding | 77%              |               | \$ 480,000    | \$ 438,614      | 77%           |
|                                                                    |                   | Construction   | 0%               |               | \$ 5,680,000  |                 |               |
|                                                                    |                   | Total          |                  |               | \$ 6,160,000  | \$ 438,614      |               |
| Septic to Sewer - Oak, Magnolia & Bonita (Design)                  | FDEP              | Design/Bidding | 17%              |               | \$ 160,000    | \$ 148,079      | 17%           |
|                                                                    |                   | Construction   | 0%               |               | \$ 1,440,000  |                 |               |
|                                                                    |                   | Total          |                  |               | \$ 1,600,000  | \$ 148,079      |               |
| WRF Ultraviolet Disinfection Conversion - SGS Contracting Services | FDEP (const only) | Design/Bidding | 100%             |               | \$ 270,000    | \$ 272,800      | 100%          |
|                                                                    |                   | Construction   | 36%              |               | \$ 2,430,000  | \$ 6,904,700    | 36%           |
|                                                                    |                   | Total          |                  |               | \$ 2,700,000  | \$ 7,177,500    |               |
| Hurricanes IAN & NICOLE - FEMA                                     |                   |                |                  |               |               |                 |               |
| Hurricane Ian - ARBP Seawall - Construct Co.                       |                   | Design/Bidding | 100%             |               |               | \$ 93,965       | 100%          |
|                                                                    |                   | Construction   | 0%               |               | \$ -          | \$ 2,279,065    | 0%            |
|                                                                    |                   | Total          |                  |               | \$ -          | \$ 2,373,030    |               |



## CIP Status Report as of January 31, 2026

| Project Name                                                       | Grant Funded | Phase          | Timeline         |               | Budget        |                 |               |
|--------------------------------------------------------------------|--------------|----------------|------------------|---------------|---------------|-----------------|---------------|
|                                                                    |              |                | Percent Complete | Date Complete | Budget Amount | Contract Amount | Percent Spent |
| Hurricanes MILTON - FEMA                                           |              |                |                  |               |               |                 |               |
| Hurricane Milton-Osceola Elementary Pavilion Replacement           |              | Design/Bidding | 95%              |               |               | In-House        |               |
|                                                                    |              | Construction   | Project on Hold  |               | \$ -          |                 |               |
|                                                                    |              | Total          |                  |               | \$ -          | \$ -            |               |
| Annual Projects Fund 107 - Stormwater                              |              |                |                  |               |               |                 |               |
| Northbrook Lane Stormwater Pipe Repair - <i>Hazen Construction</i> |              | Design/Bidding | 100%             |               |               | In-House        |               |
|                                                                    |              | Construction   | 95%              |               | \$ 294,268    | \$ 294,268      | 0%            |
|                                                                    |              | Total          |                  |               | \$ 294,268    | \$ 294,268      |               |
| Annual Projects Fund 308 - Transportation                          |              |                |                  |               |               |                 |               |
| 2025 Road Resurfacing - <i>Sparks Concrete</i>                     |              | Design/Bidding | 100%             |               |               | In-House        |               |
|                                                                    |              | Construction   | 50%              |               | \$ 750,000    | \$ 687,577      | 21%           |
|                                                                    |              | Total          |                  |               | \$ 750,000    | \$ 687,577      |               |
| Traffic Signal Maintenance 25/26FY - <i>Paul Culver</i>            |              | Design/Bidding | 100%             |               |               | In-House        |               |
|                                                                    |              | Construction   | 75%              |               | \$ 84,000     | \$ 60,000       | 0%            |
|                                                                    |              | Total          |                  |               | \$ 84,000     | \$ 60,000       |               |
| Annual Projects Fund 409 - Water/Wastewater System Improvements    |              |                |                  |               |               |                 |               |
| 2023 Lift Station Rehabilitation - 4P (Design)                     |              | Design/Bidding | 100%             |               | \$ 165,000    | \$ 164,612      | 86%           |
|                                                                    |              | Construction   | 0%               |               |               |                 |               |
|                                                                    |              | Total          |                  |               | \$ 165,000    | \$ 164,612      |               |



# Economic Development Monthly Report

January 2026

## Ormond Beach December Employment

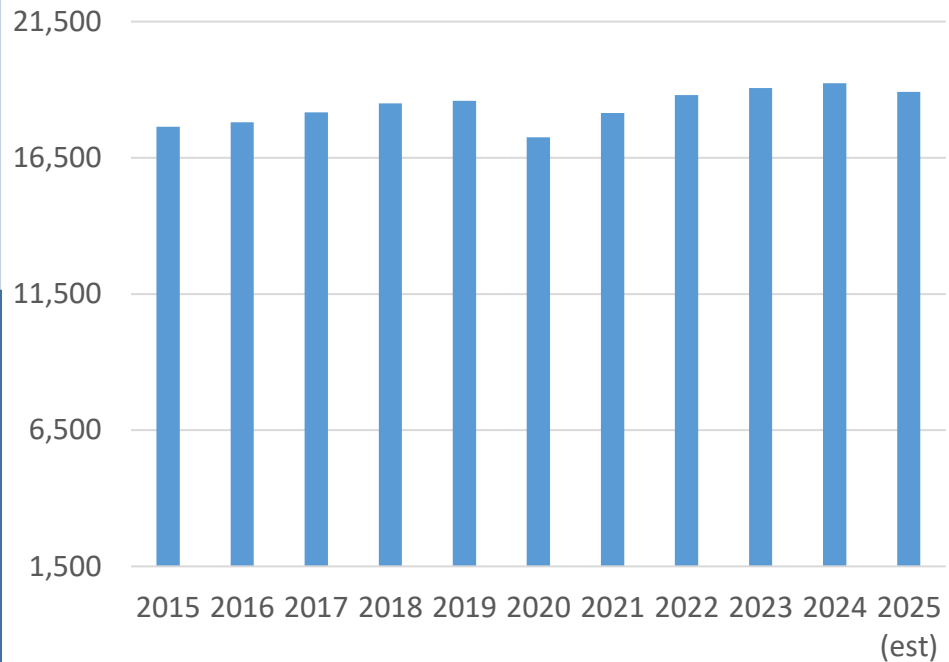
18,915

This is down 1.2% year over  
year

## Ormond Beach Unemployment Rate

5.0%

## Ormond Beach Employment Trend



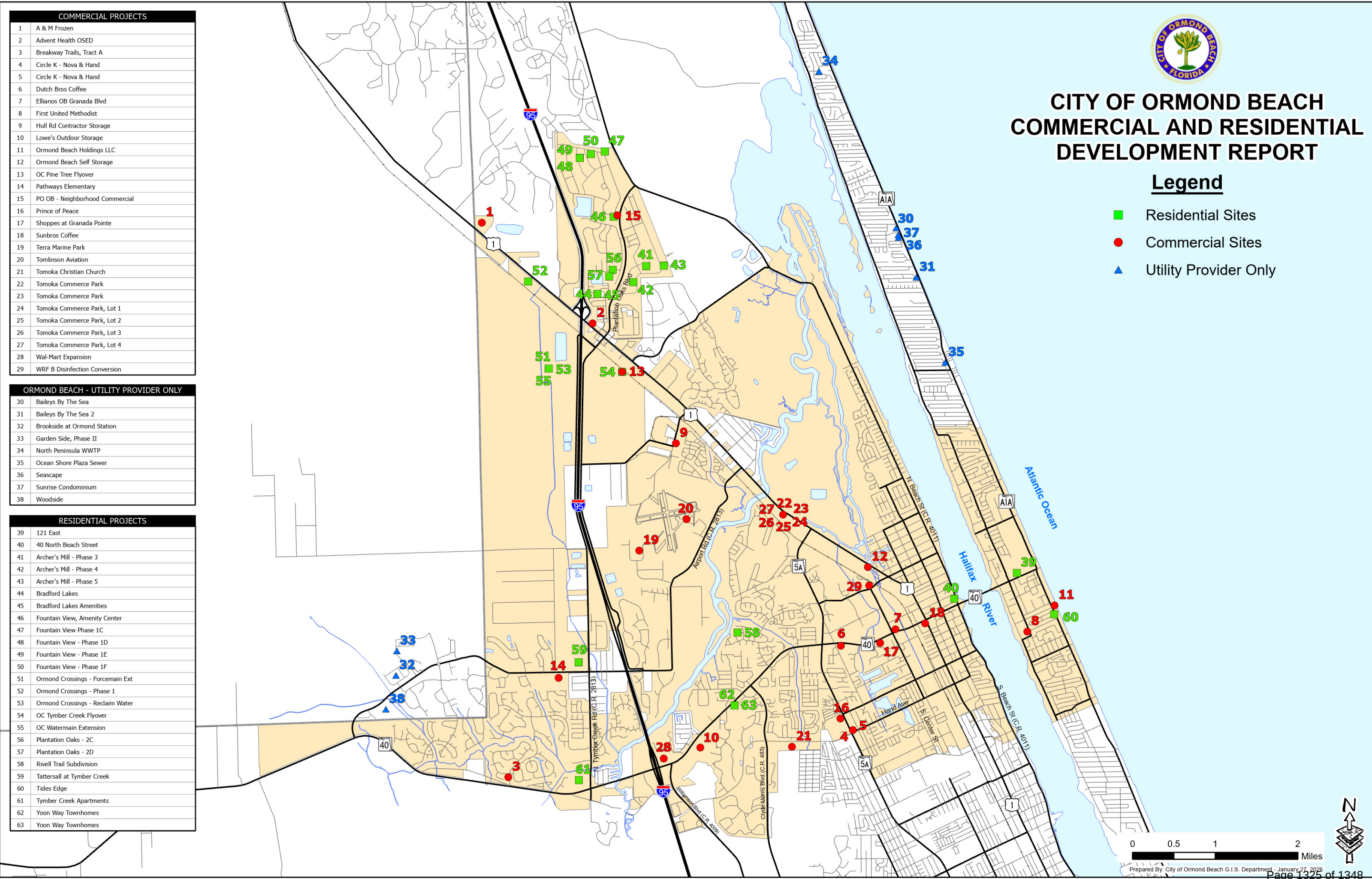
## Notes and Updates:

- **Employment for December** was 18,915 down 1.2% from the same month last year. The unemployment rate is 5.0%. Employment has stayed within a modest range with employment numbers falling slightly since the high in March of 19,266 in March. There were 860 job postings in December – leading industries posting are Health Care, Retail Trade, Admins Accommodation/Food Services, Admin Support Services.
- **Volusia Innovation Challenge** is an exciting local pitch competition designed to nourish innovation and energize new ventures. The Final Pitch Event will be held on Wednesday, March 25, 2026. More details about this unique event can be found here: [www.volusiabusinessresources.com/volusia-innovation-challenge](http://www.volusiabusinessresources.com/volusia-innovation-challenge).
- **The developers of Ormond Crossings** recently hosted an event speaking about the vision of the project, work that has been completed to date, and what the future holds in the coming year. The event was well attended and created greater awareness for this project and its economic development impact for the community.

| COMMERCIAL PROJECTS |                                 |
|---------------------|---------------------------------|
| 1                   | A & M Frozen                    |
| 2                   | Advent Health OSED              |
| 3                   | Breakway Trails, Tract A        |
| 4                   | Circle K - Nova & Hand          |
| 5                   | Circle K - Nova & Hand          |
| 6                   | Dutch Bros Coffee               |
| 7                   | Ellianos OB Granada Blvd        |
| 8                   | First United Methodist          |
| 9                   | Hull Rd Contractor Storage      |
| 10                  | Lowe's Outdoor Storage          |
| 11                  | Ormond Beach Holdings LLC       |
| 12                  | Ormond Beach Self Storage       |
| 13                  | OC Pine Tree Flyover            |
| 14                  | Pathways Elementary             |
| 15                  | PO OB - Neighborhood Commercial |
| 16                  | Prince of Peace                 |
| 17                  | Shoppes at Granada Pointe       |
| 18                  | Sunbros Coffee                  |
| 19                  | Terra Marine Park               |
| 20                  | Tomlinson Aviation              |
| 21                  | Tomoka Christian Church         |
| 22                  | Tomoka Commerce Park            |
| 23                  | Tomoka Commerce Park            |
| 24                  | Tomoka Commerce Park, Lot 1     |
| 25                  | Tomoka Commerce Park, Lot 2     |
| 26                  | Tomoka Commerce Park, Lot 3     |
| 27                  | Tomoka Commerce Park, Lot 4     |
| 28                  | Wal-Mart Expansion              |
| 29                  | WRF B Disinfection Conversion   |

| ORMOND BEACH - UTILITY PROVIDER ONLY |                             |
|--------------------------------------|-----------------------------|
| 30                                   | Baileys By The Sea          |
| 31                                   | Baileys By The Sea 2        |
| 32                                   | Brookside at Ormond Station |
| 33                                   | Garden Side, Phase II       |
| 34                                   | North Peninsula WWTP        |
| 35                                   | Ocean Shore Plaza Sewer     |
| 36                                   | Seascape                    |
| 37                                   | Sunrise Condominium         |
| 38                                   | Woodside                    |

| RESIDENTIAL PROJECTS |                                  |
|----------------------|----------------------------------|
| 39                   | 121 East                         |
| 40                   | 40 North Beach Street            |
| 41                   | Archer's Mill - Phase 3          |
| 42                   | Archer's Mill - Phase 4          |
| 43                   | Archer's Mill - Phase 5          |
| 44                   | Bradford Lakes                   |
| 45                   | Bradford Lakes Amenities         |
| 46                   | Fountain View, Amenity Center    |
| 47                   | Fountain View Phase 1C           |
| 48                   | Fountain View - Phase 1D         |
| 49                   | Fountain View - Phase 1E         |
| 50                   | Fountain View - Phase 1F         |
| 51                   | Ormond Crossings - Forcemain Ext |
| 52                   | Ormond Crossings - Phase 1       |
| 53                   | Ormond Crossings - Reclaim Water |
| 54                   | OC Tymber Creek Flyover          |
| 55                   | OC Watermain Extension           |
| 56                   | Plantation Oaks - 2C             |
| 57                   | Plantation Oaks - 2D             |
| 58                   | Rivell Trail Subdivision         |
| 59                   | Tattersall at Tymber Creek       |
| 60                   | Tides Edge                       |
| 61                   | Tymber Creek Apartments          |
| 62                   | Yoon Way Townhomes               |
| 63                   | Yoon Way Townhomes               |





City of Ormond Beach Commercial Development Report, as of February 1, 2026

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|   |                                                                                   | Change in project status                                                                                                 |                  |            |                                    | Projects reviewed last month     |                     |                      |                     |                                 |                |                    |                    |                       |                    |                           |                    | E or Arc = Project Engineer or Architect<br>O = Owner<br>A = Applicant                              |
|---|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------|------------|------------------------------------|----------------------------------|---------------------|----------------------|---------------------|---------------------------------|----------------|--------------------|--------------------|-----------------------|--------------------|---------------------------|--------------------|-----------------------------------------------------------------------------------------------------|
| # | Project                                                                           | Description                                                                                                              | Application Date | 1st Review | 2nd Review                         | 3rd Review                       | 4th Review          | Neighborhood meeting | Advisory Board      | City Commission                 | Final Approval | DO Expiration      | Building Permit    | Building Permit Value | Eng. Permit        | Eng. Permit Constr. Value | Under Construction |                                                                                                     |
| 1 | <b>A &amp; M FROZEN</b><br>1899 North US Highway 1<br>SPRC-2024-000031            | Site building expansion of 50,400 square feet and associated site improvements.                                          | 04.18.24         | 05.17.24   | 01.28.25                           |                                  |                     | Not applicable       | Not applicable      | Not applicable                  | 02.25.25       | 02.25.27           | Not applied        | Not applied           | Not applied        | Not applied               |                    | E = Zev Cohen & Associates<br>O = 1899 US HWAY 1, LLC                                               |
| 2 | <b>ADVENT HEALTH OSED</b><br>1561 North US Highway 1<br>SPRC-2025-000069          | New emergency department - 13,451 square foot building on 2.47 acres.                                                    | 05.16.25         | 5.30.25    | 08.31.25                           | 10.23.25                         | In Review           | Not applicable       | 11.13.25 (Approved) | 12.16.25<br>01.20.26 (Approved) |                |                    | Not applied        | Not applied           | Not applied        | Not applied               |                    | E = Kimley-Horn Engineering<br>O =Advent Health System/ Sunbelt INC.                                |
| 3 | <b>BREAKAWAY TRAILS, TRACT A</b><br>PZ-2025-000179<br>8 Breakaway Trail           | Development of Regional Impact amendment for RV and boat storage and storage buildings.                                  | 06.11.25         | 07.18.25   | 01.05.26                           |                                  |                     | Required             | Required            | Required                        |                |                    | Not applied        | Not applied           | Not applied        | Not applied               |                    | E = Zev Cohen & Associates<br>O = Four Deland Plaza LLC                                             |
| 3 | <b>BREAKAWAY TRAILS, TRACT A</b><br>SPRC-2025-000086<br>8 Breakaway Trail         | Development of Regional Impact amendment for RV and boat storage and storage buildings.                                  | 12.11.25         | 01.05.26   |                                    |                                  |                     | Required             | Required            | Required                        |                |                    | Not applied        | Not applied           | Not applied        | Not applied               |                    | E = Zev Cohen & Associates<br>O = Four Deland Plaza LLC                                             |
| 4 | <b>CIRCLE K - NOVA &amp; HAND</b><br>699 South Nova Road<br>SPRC-2024-000051      | Demolish existing bank building and construct 5,200 SF building on 1.88 acres for convenience store with fueling canopy. | 12.04.24         | 12.30.24   | 03.04.25                           | 05.08.25<br>09.16.25<br>10.20.25 | 10.29.25            | 02.10.25             | Not applicable      | Appeal<br>08.05.25              | 11.03.25       | 11.03.27           | Early Review       | \$2,009,000           | Not applied        | Not applied               |                    | E = Kimley-Horn<br>O = Sun State Petrol I, LLC                                                      |
| 5 | <b>CIRCLE K - NOVA &amp; HAND</b><br>699 South Nova Road<br>PZ-2025-000217        | Special Exception for Outdoor Activity for outdoor sales area.                                                           | 11.17.25         | 12.02.25   | 12.24.25                           |                                  |                     | Not applicable       | 01.15.26 (Denied)   | To be determined                |                |                    | Not applicable     | Not applicable        | Not applicable     | Not applicable            |                    | E = Kimley-Horn<br>O = Sun State Petrol I, LLC<br>APP = Circle K Stores, Inc.                       |
| 6 | <b>DUTCH BROS COFFEE</b><br>764 West Granada Boulevard<br>SPRC-2025-000078        | New construction of a 1,071 square feet building on1.07 acres                                                            | 09.22.25         | 10.16.25   | 11.05.25                           | 12.10.25                         | 12.11.25 (Approved) | Not applicable       | Not applicable      | Not applicable                  | 12.11.25       | 12.11.27           | Resubmit Required  | \$650,000             | Not applied        | Not applied               |                    | E = Newkirk Engineering, Inc.<br>O = Ormond Central Investors, LLC<br>ARC = Pursuit Development LLC |
| 7 | <b>ELLIANOS OB GRANADA BLVD</b><br>341 West Granada Boulevard<br>SPRC-2024-000011 | Construct an ±800 sf free standing dual drive through only coffee shop in Winn-Dixie shopping center.                    | 01.04.24         | 01.31.24   | 05.16.24<br>2nd<br>10.27.24<br>3rd | 11.22.24<br>4th                  |                     | Not applicable       | 11.14.24 (Denied)   | 01.07.25 (Approved)             | 03.11.25       | Under Construction | Issued<br>10.23.25 | \$400,000             | Issued<br>05.27.25 | \$238,079                 | 20%                | E = Gmuer Engineering<br>O = Kjump, Inc.                                                            |
| 8 | <b>FIRST UNITED METHODIST</b><br>336 S. Halifax Drive<br>SPRC-2025-000055         | Demolition of the existing gathering building and construction of a new building with associated site improvements.      | 01.17.25         | 02.06.25   | 07.23.25                           | 09.16.25                         | In Review           | 04.09.25             | 10.09.25 (Approved) | 11.18.25 (Approved)             | 12.08.25       | 12.08.27           | Not applied        | Not applied           | Not applied        | Not applied               |                    | E = Zev Cohen & Associates<br>O = First United Methodist Church                                     |
| 9 | <b>HULL RD CONTRACTOR STORAGE</b><br>835 Hull Rd<br>SPRC-2025-000075              | New construction of Outdoor Storage Construction Yard                                                                    | 09.10.25         | 09.26.25   | 10.27.25                           |                                  |                     | Not applicable       | 11.13.25 (Approved) | 12.16.25 (Approved)             | 01.12.26       | Under Construction | Not applicable     | Not applicable        | Issued<br>01.14.26 | \$12,000                  | 0%                 | E = Newkirk Engineering, Inc.<br>O = Vic Abuzov                                                     |

City of Ormond Beach Commercial Development Report, as of February 1, 2026

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|    |                                                                                       | Change in project status                                                                                      |                  |            |            |            |                      |                              | Projects reviewed last month |                                |                |                         |                     |                            |                 |                           |                         |                                                                                                     |
|----|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------|------------|------------|------------|----------------------|------------------------------|------------------------------|--------------------------------|----------------|-------------------------|---------------------|----------------------------|-----------------|---------------------------|-------------------------|-----------------------------------------------------------------------------------------------------|
| #  | Project                                                                               | Description                                                                                                   | Application Date | 1st Review | 2nd Review | 3rd Review | 4th Review           | Neigh-<br>borhood<br>meeting | Advisory Board               | City Commis-<br>sion           | Final Approval | DO Expiration           | Building Permit     | Building Permit Value      | Eng. Permit     | Eng. Permit Constr. Value | Under Construc-<br>tion | E or Arc = Project Engineer or Architect<br>O = Owner<br>A = Applicant                              |
| 10 | LOWE'S OUTDOOR STORAGE<br>1340 West Granada Boulevard<br>PZ-2024-000060               | Special Exception for outdoor activity and outdoor storage.                                                   | 05.31.24         | 6.19.24    | 07.23.24   | 09.10.24   | 07.30.25             | Not applicable               | 07.11.24 Approved            | 09.18.24 Approved              | 10.23.25       | Under Construc-<br>tion | 6/2/25 - Fence Only | \$250,000 (Fence)          | Issued 11.25.25 | \$200,000 (Landscaping)   | 40%                     | APP = Storch Law Firm<br>O = Lowes                                                                  |
| 11 | ORMOND BEACH HOLDINGS LLC<br>251 South Atlantic Avenue<br>PZ #22-018(b)               | Proposed five story, 95,700 square foot hotel with 137 rooms.                                                 | 03.09.22         | 04.04.22   | 06.13.22   | 08.24.22   | 09.07.22<br>01.31.23 | 09.14.22                     | 12.05.22 Approved 5-0        | 01.10.23 & 01.24.23 (Approved) | 05.24.24       | Under Construc-<br>tion | Issued 02.29.24     | \$34,000,000               | Issued 04.12.24 | \$1,400,000               | 90%                     | E = Parker Mynchenberg & Associates, Inc.<br>APP/O = Ormond Beach Holdings, LLC                     |
| 12 | ORMOND BEACH SELF STORAGE<br>490 N. U.S. Highway 1<br>PZ #2023-021                    | Proposed 166,423 of storage square footage on 24.28 acres.                                                    | 01.27.23         | 02.20.23   | 06.07.23   |            |                      | Not applicable               | Not applicable               | Not applicable                 | 10.28.23       | Under Construc-<br>tion | Issued 04.04.25     | All buildings \$21,365,794 | Issued 12.10.25 | \$1,390,816               | 10%                     | E = Mark Dowst & Associates, Inc.<br>O = TSO Ormond Beach, LP<br>ARC = Smith Boland Architects, LLC |
| 13 | OC PINE TREE FLYOVER<br>100 Ormond Crossings Boulevard<br>SPRC-2024-000047            | Railroad flyover (at Pine Tree Dr Intersection) to the Ormond Crossings development.                          | 11.20.24         | 12.22.24   | 09.03.25   |            |                      | Not applicable               | Not applicable               | Not applicable                 |                |                         | Not applied         | Not applied                | Not applied     | Not applied               |                         | E = Pape-Dawson<br>O = Ormond Crossings West                                                        |
| 14 | PATHWAYS ELEMENTARY<br>2100 Airport Road<br>SPRC-2025-000085                          | Courtesy review of Pathways Elementary classroom additions and pickup/drop-off modifications.                 | 12.08.25         | 12.24.25   |            |            |                      | Not applicable               | Not applicable               | Not applicable                 |                |                         | Not applied         | Not applied                | Not applied     | Not applied               |                         | E = Parker Mynchenberg & Associates, Inc.<br>O = Volusia County Schools                             |
| 15 | PO OB - NEIGHBORHOOD COMMERCIAL<br>1730 Plantation Oaks Boulevard<br>SPRC-2024-000023 | Construction of a 2-story, 25,520 square foot building.                                                       | 03.13.24         | 04.12.24   | 06.19.24   |            |                      | 06.10.24                     | 07.11.24 Approved            | 09.04.24 Approved              | 11.05.24       | Under Construc-<br>tion | Not applied         | Not applied                | Issued 02.27.25 | \$478,584                 | 20%                     | E = Parker Mynchenberg & Associates, Inc.<br>O = PLANTATION OAKS OF ORMOND BEACH LLC                |
| 16 | PRINCE OF PEACE<br>600 South Nova Road<br>SPRC-2025-000057                            | Construction of a stations of the cross prayer garden and statue of the virgin Mary.                          | 02.06.25         | 03.02.25   |            |            |                      | Not applicable               | Not applicable               | Not applicable                 | 06.19.25       | Under Construc-<br>tion | Issued 8.11.2025    | \$232,546                  | Issued 07.25.25 | \$76,791                  | 80%                     | E = Alann Engineering Group<br>O = Prince of Peace Catholic Church                                  |
| 17 | SHOPPES AT GRANADA POINTE<br>550 West Granada Boulevard<br>PZ-23-00000082             | Construction of a 21,114 square foot building on 2.52 acres in the Granada Pointe development.                | 09.22.23         | 10.6.23    | 11.18.23   | 01.12.24   |                      | Not applicable               | Not applicable               | Not applicable                 | 02.16.24       | 02.16.26                | Not applied         | Not applied                | Not applied     | Not applied               |                         | E = Newkirk Engineering, Inc.<br>O = Granada Pointe Investors, LLC<br>ARC = BPF Design, Inc.        |
| 18 | SUNBROS<br>14 South Yonge Street<br>SPRC-2024-000043                                  | Redevelopment of site to construct a 250 coffee drive through building.                                       | 10.02.24         | 10.22.24   | 12.18.24   | 01.28.25   |                      | Not applicable               | 12.14.24 Approved            | 01.21.25 Approved              | 02.06.25       | Under Construc-<br>tion | Issued 11.04.25     | \$215,000                  | Issued 10.03.25 | \$137,000                 | 30%                     | E = Zev Cohen & Associates<br>O = D2S Properties, LLC                                               |
| 19 | TERRA MARINE PARK<br>6 Tower Circle Unit A<br>SPRC-2025-000077                        | Construction of a 1-story 12,300 SF warehouse building, which includes 1,200 SF office on a 2.17-acre parcel. | 09.17.25         | 10.16.25   | 12.24.25   |            |                      | Not applicable               | Not applicable               | Not applicable                 |                |                         | Not applied         | Not applied                | Not applied     | Not applied               |                         | E = Parker Mynchenberg & Associates, Inc.<br>A= Safstor Real Estate Co LLC                          |

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|    |                                                                            | Change in project status                                                     |                  |            |            |            |            |                      | Projects reviewed last month |                        |                                  |                    |                                                                   |                                                       |                         |                           |                    |                                                                        |
|----|----------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------|------------|------------|------------|------------|----------------------|------------------------------|------------------------|----------------------------------|--------------------|-------------------------------------------------------------------|-------------------------------------------------------|-------------------------|---------------------------|--------------------|------------------------------------------------------------------------|
| #  | Project                                                                    | Description                                                                  | Application Date | 1st Review | 2nd Review | 3rd Review | 4th Review | Neighborhood meeting | Advisory Board               | City Commission        | Final Approval                   | DO Expiration      | Building Permit                                                   | Building Permit Value                                 | Eng. Permit             | Eng. Permit Constr. Value | Under Construction | E or Arc = Project Engineer or Architect<br>O = Owner<br>A = Applicant |
| 20 | TOMLINSON AVIATION<br>92 & 96 Hanger Way<br>SPRC-2024-000041               | Construct two (2) building additions (13,200 SF) to existing buildings.      | 09.18.24         |            |            |            |            | Not applicable       | Not applicable               | Not applicable         | 10.16.24<br>Revision<br>05.19.25 | 10.16.26           | 92 Hangar -<br>Issued 07.16.25,<br>96 Hangar -<br>Issued 08.01.25 | 92 Hangar -<br>\$308,634, 96<br>Hangar -<br>\$608,240 | Issued<br>07.21.25      | \$308,633                 | 70%                | E = Parker Mynchenberg & Associates, Inc.<br>O = Tomlinson Aviation    |
| 21 | TOMOKA CHRISTIAN CHURCH<br>1450 Hand Avenue<br>SPRC-2024-000005            | Proposed construction of a new ±20,000 square feet building.                 | 12.07.23         | 12.21.23   | 02.29.24   | 04.08.24   | 05.22.24   | 02.22.24             | 03.14.24<br>(Approved)       | 04.16.24<br>(Approved) | 08.18.24                         | Under Construction | Issued<br>08.19.25                                                | \$5,000,000                                           | Issued<br>10.15.24      | \$400,926                 | 70%                | E = Zev Cohen & Associates<br>O = Tomoka Christian Church              |
| 22 | TOMOKA COMMERCE PARK<br>890 North US Highway 1<br>PZ-2025-000165           | Zoning Amendment to PBD - 12.48 acre to allow commercial & industrial uses.  | 05.09.25         | 06.01.25   | 09.16.25   | In Review  |            | 11.12.25             | 12.11.25<br>(Approved)       | 01.20.26 &<br>02.03.26 |                                  |                    | Not applied                                                       | Not applied                                           | Not applied             | Not applied               |                    | E = Park Mynchenberg & Associates<br>O = 890 N US HWY 1, LLC           |
| 23 | TOMOKA COMMERCE PARK<br>890 North US Highway 1<br>SPRC-2025-000063         | Preliminary Plat - One lot into four commercial lots.                        | 05.09.25         | 06.01.25   | 09.23.25   | In Review  |            | 11.12.25             | Not applicable               | Not applicable         |                                  |                    | Not applied                                                       | Not applied                                           | Not applied             | Not applied               |                    | E = Park Mynchenberg & Associates<br>O = 890 N US HWY 1, LLC           |
| 24 | TOMOKA COMMERCE PARK, LOT 1<br>890 North US Highway 1<br>SPRC-2025-000064  | Commercial use in a 9,990 square foot building on 1.52 acres.                | 05.09.25         | 06.01.25   | 09.17.25   | In Review  |            | 11.12.25             | Part of PBD                  | Part of PBD            |                                  |                    | Not applied                                                       | Not applied                                           | Not applied             | Not applied               |                    | E = Park Mynchenberg & Associates<br>O = 890 N US HWY 1, LLC           |
| 25 | TOMOKA COMMERCE PARK, LOT 2<br>890 North US Highway 1<br>SPRC-2025-000065  | Commercial use in a 9,990 square foot building on 1.52 acres.                | 05.09.25         | 06.01.25   | 09.17.25   | In Review  |            | 11.12.25             | Part of PBD                  | Part of PBD            |                                  |                    | Not applied                                                       | Not applied                                           | Not applied             | Not applied               |                    | E = Park Mynchenberg & Associates<br>O = 890 N US HWY 1, LLC           |
| 26 | TOMOKA COMMERCE PARK, LOT 3<br>890 North US Highway 1<br>SPRC-2025-000066  | Commercial/Industrial uses within 36,630 square foot building on 2.46 acres. | 05.09.25         | 06.01.25   | 09.19.25   | In Review  |            | 11.12.25             | Part of PBD                  | Part of PBD            |                                  |                    | Not applied                                                       | Not applied                                           | Not applied             | Not applied               |                    | E = Park Mynchenberg & Associates<br>O = 890 N US HWY 1, LLC           |
| 27 | TOMOKA COMMERCE PARK, LOT 4<br>890 North US Highway 1<br>SPRC-2025-000067  | Commercial/Industrial uses within 27,200 square foot building on 2.47 acres. | 05.09.25         | 06.01.25   | 09.19.25   | In Review  |            | 11.12.25             | Part of PBD                  | Part of PBD            |                                  |                    | Not applied                                                       | Not applied                                           | Not applied             | Not applied               |                    | E = Park Mynchenberg & Associates<br>O = 890 N US HWY 1, LLC           |
| 28 | WAL-MART EXPANSION<br>1521 West Granada Boulevard<br>SPRC-2024-000053      | Expansion of 4,752 square feet to support online pickup area.                | 12.10.24         | 01.08.25   | 06.25.25   | 08.27.25   |            | 02.20.25             | 07.10.25                     | 08.19.25<br>09.03.25   | 10.02.25                         | Under Construction | Early Review                                                      | \$3,000,000                                           | Issued<br>10.22.25      | \$15,000<br>Greenbelt     | 45%<br>Greenbelt   | E = CPH<br>O = Wal-Mart Stores, Inc.                                   |
| 29 | WRF B DISINFECTION CONVERSION<br>550 N. Orchard Street<br>SPRC-2025-000079 | UV Disinfection Conversion for City's Water Reclamation Facility.            | 10.02.25         |            |            |            |            | Not applicable       | Not applicable               | Not applicable         | 10.20.25                         | 10.20.27           | Resubmit Required                                                 | \$2,455,000                                           | Part of building permit | Part of building permit   |                    | O = City of Ormond Beach<br>E = Mead & Hunt                            |

City of Ormond Beach As Utility Provider Only Development Report, as of February 1, 2026

|    |                                                                                  | Change in project status                                                                                                                              |                  |            |            |            |            |                | Projects reviewed last month |               |                 |                              |                    |                                                                              |
|----|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------|------------|------------|------------|----------------|------------------------------|---------------|-----------------|------------------------------|--------------------|------------------------------------------------------------------------------|
| #  | Project                                                                          | Description                                                                                                                                           | Application Date | 1st Review | 2nd Review | 3rd Review | 4th Review | Final Approval | DO Expiration                | LDC Extension | Eng. Permit     | Eng. Permit Constr. Value    | Under Construction | E or Arc = Project Engineer or Architect<br>O = Owner<br>A = Applicant       |
| 30 | <b>BAILEYS BY THE SEA</b><br>2360 Ocean Shore Boulevard<br>SPRC-2024-000003      | Utility connection, Ormond By the Sea, 5 multi-family buildings units with 32 total units.                                                            | 11.02.23         |            |            |            |            | 11.26.23       | Under Construction           | None          | Issued 07.19.24 | \$536,995 (Utilities only)   | 90%                | O = Trisha Bailey<br>E = Kimley-Horn & Associates<br>APP = Jeannimarie, LLC  |
| 31 | <b>BAILEYS BY THE SEA 2</b><br>2020 Ocean Shore Boulevard<br>SPRC-2024-000026    | Utility connection, Ormond By the Sea, 2 multi-family buildings units with 8 total units.                                                             | 03.27.24         | 04.19.24   |            |            |            | 07.26.24       | Under Construction           | None          | Issued 12.16.24 | \$207,442 (Utilities Only)   | 90%                | O = Trisha Bailey<br>E = Kimley-Horn & Associates<br>APP = Jeannimarie, LLC  |
| 32 | <b>BROOKSIDE AT ORMOND STATION</b><br>Flagler County<br>SPRC-2024-000004         | Flagler County utility connection, 162 lots on 53.16 acres.                                                                                           | 11.21.23         | 12.11.23   |            |            |            | 05.17.24       | 05.17.26                     | None          | Not applied     | Not applied                  |                    | E = Alann Engineering Group<br>O = U.S. Capital Alliance, LLC                |
| 33 | <b>GARDEN SIDE, PHASE II</b><br>Flagler County<br>SPRC-2024-000021               | Flagler County utility connection, 89 lots on 40.15 acres.                                                                                            | 03.05.24         | 04.04.24   | 08.23.24   |            |            | 11.15.24       | 11.15.26                     | None          | Not applied     | Not applied                  |                    | E = Alann Engineering Group<br>O = U.S. Capital Alliance, LLC                |
| 34 | <b>NORTH PENINSULA WWTP</b><br>SPRC-2024-000027<br>16 Seabridge Drive            | Converting the existing WWTP to City owned and maintained master lift station and associated 6-in FM from Seabridge development to connection on A1A. | 04.02.24         | 04.24.24   | 07.15.24   |            |            | 09.10.24       | 09.10.26                     | None          | Not applied     | Not applied                  |                    | E = Kimley-Horn and Associates<br>APP = Central States Water Resources, Inc. |
| 35 | <b>OCEAN SHORE PLAZA SEWER</b><br>1452 Ocean Shore Boulevard<br>SPRC-2024-000025 | Construction of new private lift station to connect to city sewer in Ormond by the Sea.                                                               | 03.21.24         | 04.17.24   |            |            |            | 05.13.24       | Under Construction           | None          | Issued 3.18.25  | \$147,420                    | 95%                | E = Parker Mynchenberg & Associates, Inc.<br>O = Ocean Shore Plaza           |
| 36 | <b>SEASCAPE</b><br>SPRC-2025-000062<br>2290 Ocean Shore Boulevard                | Proposed private lift station and approximately 500 LF of 2" force main to connect to public force main.                                              | 03.17.25         | 04.03.25   |            |            |            | 10.03.25       | Under Construction           | None          | Issued 10.20.25 | \$260,000                    | 70%                | E = Kimley-Horn and Associates, Inc.<br>O = Seascape Condo                   |
| 37 | <b>SUNRISE CONDOMINIUM</b><br>SPRC-2025-000081<br>2294 Ocean Shore Boulevard     | Remove existing wastewater treatment plant and install new private lift station and forcemain connection to the City system                           | 10.06.25         | 10.28.25   | 11.12.25   | 12.23.25   |            | 01.23.26       | 01.23.28                     | None          | Not applied     | Not applied                  |                    | E = Saltus Engineering, Inc.<br>O = Sunrise Condominium                      |
| 38 | <b>WOODSIDE</b><br>PZ-23-00000090<br>Flagler County                              | Utility connection for 63 single-family homes. Flagler County (Hunter's Ridge).                                                                       | 10.19.23         | 11.06.23   | 03.04.24   |            |            | 05.06.24       | Under Construction           | None          | Issued 08.26.24 | \$1,526,866 (Utilities Only) | 95%                | E = Alann Engineering Group<br>O = U.S. Capital Alliance, LLC                |



City of Ormond Beach Residential Development Report, as of February 1, 2026

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|    |                                                                                       | Change in project status                                                                              |                  |                              |              |                              | Projects reviewed last month |                      |                     |                                |                               |                      |                   |                           |                    | E or Arc = Project Engineer or Architect<br>O = Owner<br>A = Applicant                           |
|----|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------|------------------------------|--------------|------------------------------|------------------------------|----------------------|---------------------|--------------------------------|-------------------------------|----------------------|-------------------|---------------------------|--------------------|--------------------------------------------------------------------------------------------------|
| #  | Project                                                                               | Description                                                                                           | Application Date | 1st Review                   | 2nd Review   | 3rd Review                   | 4th Review                   | Neighborhood meeting | Advisory Board      | City Commission                | Final Approval                | DO Expiration        | Eng. Permit       | Eng. Permit Constr. Value | Under Construction |                                                                                                  |
| 39 | <b>121 EAST</b><br>121 East Granada Boulevard<br>PZ-22-00000098                       | Development of 24 multi-family units.                                                                 | 08.12.22         | 09.01.22                     | 05.17.23     | 08.23.23                     |                              | 03.14.23             | 06.08.23 (Approved) | 07.18.23 & 08.01.23 (Approved) |                               |                      | Early Review      | \$15,000,000              |                    | E = Zev Cohen & Associates<br>O = Dime Rock Properties, LLC<br>ARC = William Chapin              |
| 40 | <b>40 NORTH BEACH STREET</b><br>40 North Beach Street<br>SPRC-2025-000059             | Addition of two residential units and converting existing building to residential unit.               | 02.27.25         | 03.19.25                     | 09.30.25     |                              |                              | Required             | Required            | Required                       |                               |                      | Not applied       | Not applied               |                    | E = Newkirk Engineering, Inc<br>O - EADS Commercial Properties, LLC<br>ARC = The Trilegacy Group |
| 41 | <b>ARCHER'S MILL, PHASE 3</b><br>3016 Bonspiel Drive<br>PZ-23-00000052                | Preliminary Plat. 59 lots on 22.42 acres, Plantation Oaks PRD (Phase 3).                              | 05.01.23         | 05.24.23                     | 08.08.23     | 09.15.23                     |                              | Not Required         | 06.08.23 (Approved) | 07.18.23 (Approved)            | 10.17.23                      | 10.17.26 (Extension) | Not applied       | Not applied               |                    | E = Parker Mynchenberg & Associates, Inc.<br>O = Forestar USA Real Estate Group Inc.             |
| 42 | <b>ARCHER'S MILL, PHASE 4</b><br>3015 Arch Avenue<br>PZ-23-00000059                   | Preliminary Plat. 111 lots on 51.56 acres, Plantation Oaks PRD (Phase 3)                              | 05.19.23         | 06.29.23                     | 09.19.23     |                              |                              | Not Required         | 08.10.23 (Approved) | 09.20.23 (Approved)            | 10.30.23                      | 10.30.26 (Extension) | Not applied       | Not applied               |                    | E = Parker Mynchenberg & Associates, Inc.<br>O = Forestar USA Real Estate Group Inc.             |
| 43 | <b>ARCHER'S MILL, PHASE 5</b><br>3343 Bonspiel Drive<br>PZ-23-00000060                | Preliminary Plat. 114 lots on 92.71 acres, Plantation Oaks PRD (Phase 3).                             | 05.19.23         | 06.29.23                     | 09.18.23     |                              |                              | Not Required         | 08.10.23 (Approved) | 09.20.23 (Approved)            | 10.17.23                      | Under Construction   | Issued 11.27.23   | \$1,225,490.57            | 90%                | E = Parker Mynchenberg & Associates, Inc.<br>O = Forestar USA Real Estate Group Inc.             |
| 43 | <b>ARCHER'S MILL, PHASE 5</b><br>3343 Bonspiel Drive<br>PZ-2025-000177                | Final Plat. 114 lots on 92.71 acres, Plantation Oaks PRD (Phase 3).                                   | 05.19.23         | 06.27.25                     |              |                              |                              | Not Required         | Not Required        | Not Required                   | See Above                     | See Above            | See Above         | See Above                 | See Above          | E = Parker Mynchenberg & Associates, Inc.<br>O = Forestar USA Real Estate Group Inc.             |
| 44 | <b>BRADFORD LAKES</b><br>140 Bradford Lakes Way<br>PZ-23-00000042                     | Preliminary Plat. 80 single-family lots on 53.12 acres, Plantation Oaks PRD (Phase 4). Plat recorded. | 03.23.23         | 05.01.23 1st<br>07.19.23 2nd | 09.15.23 3rd | 11.22.23 4th<br>02.07.24 5th | 02.29.24 6th                 | Not Required         | 08.10.23 (Approved) | 09.20.23 (Approved)            | 03.08.24                      | Under Construction   | Issued 05.08.24   | \$3,586,560.00            | 95%                | E = Parker Mynchenberg & Associates, Inc.<br>O =Meritage Homes of Florida, Inc.                  |
| 45 | <b>BRADFORD LAKES AMENITIES</b><br>140 Bradford Lakes Way<br>SPRC-2025-000072         | Revision of the Amenities Building of 1,653 square feet with pool                                     | 7.11.25          | 07.29.25                     | 08.31.25     |                              |                              | Not Required         | Not Required        | Not Required                   | 09.24.25                      | See Above            | See Above         | See Above                 |                    | E = Parker Mynchenberg & Associates, Inc.<br>O =Meritage Homes of Florida, Inc.                  |
| 46 | <b>FOUNTAIN VIEW, AMENITY CENTER</b><br>1400 Fountain View Street<br>SPRC-2024-000022 | A 5,040 square foot amenity center with pool and associated improvements.                             | 03.07.24         | 03.30.24                     | 06.21.24     |                              |                              | Not Required         | Not Required        | Not Required                   | 07.07.24                      | Under Construction   | With Sub-division | \$780,000 (building)      | 50%                | E = Parker Mynchenberg & Associates, Inc.<br>O = Plantation Oaks of Ormond Beach, LLC            |
| 47 | <b>FOUNTAIN VIEW PHASE 1C</b><br>1160 Fountain View Street<br>SPRC-2024-000007        | Preliminary Plat. 141 lots on 90.33 acres, Plantation Oaks PRD (Phase 1).                             | 12.11.23         | 01.10.24                     | 03.01.24     |                              |                              | Not Required         | 02.08.24            | 04.02.24                       | Revision 01.21.26<br>05.06.24 | 05.06.26             | Not applied       | Not applied               | 99%                | E = Parker Mynchenberg & Associates, Inc.<br>O = Plantation Oaks of Ormond Beach, LLC            |



City of Ormond Beach Residential Development Report, as of February 1, 2026

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|    |                                                                                     | Change in project status                                                                                       |                  |            |            | Projects reviewed last month |            |                         |                         |                         |                   |                    |                 |                                |                    |                                                                                       |
|----|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------|------------|------------|------------------------------|------------|-------------------------|-------------------------|-------------------------|-------------------|--------------------|-----------------|--------------------------------|--------------------|---------------------------------------------------------------------------------------|
| #  | Project                                                                             | Description                                                                                                    | Application Date | 1st Review | 2nd Review | 3rd Review                   | 4th Review | Neighborhood meeting    | Advisory Board          | City Commission         | Final Approval    | DO Expiration      | Eng. Permit     | Eng. Permit Constr. Value      | Under Construction | E or Arc = Project Engineer or Architect<br>O = Owner<br>A = Applicant                |
| 48 | FOUNTAIN VIEW PHASE 1D<br>1789 Houmas Street<br>SPRC-2024-000016                    | Preliminary Plat. 103 lots on 62.14 acres, Plantation Oaks PRD (Phase 1).                                      | 02.08.23         | 06.19.25   | 06.19.25   | 08.01.25                     |            | Not Required            | 04.11.24 (Approved)     | 05.21.24 (Approved)     | 08.01.25          | 08.01.27           | Issued 12.17.25 | \$3,526,515                    | 10%                | E = Parker Mynchenberg & Associates, Inc.<br>O = Plantation Oaks of Ormond Beach, LLC |
| 49 | FOUNTAIN VIEW PHASE 1E<br>1587 Nottoway Circle<br>SPRC-2024-000017                  | Preliminary Plat. 110 lots on 36.20 acres, Plantation Oaks PRD (Phase 1).                                      | 02.08.23         | 03.18.24   | 06.19.25   | 08.01.25                     |            | Not Required            | 04.11.24 (Approved)     | 05.21.24 (Approved)     | 08.05.25          | 08.05.27           | Not applied     | Not applied                    |                    | E = Parker Mynchenberg & Associates, Inc.<br>O = Plantation Oaks of Ormond Beach, LLC |
| 50 | FOUNTAIN VIEW PHASE 1F<br>1130 Evelynton Lane<br>SPRC-2024-000018                   | Preliminary Plat. 97 lots on 32.13 acres, Plantation Oaks PRD (Phase 1).                                       | 02.08.23         | 03.21.24   | 06.19.25   | 08.01.25                     |            | Not Required            | 04.11.24 (Approved)     | 06.04.24 (Approved)     | 08.01.25          | 08.01.27           | Not applied     | Not applied                    |                    | E = Parker Mynchenberg & Associates, Inc.<br>O = Plantation Oaks of Ormond Beach, LLC |
| 51 | ORMOND CROSSINGS, FORCEMAIN EXT<br>1030 North Tymber Creek Road<br>SPRC-2025-000068 | Construction of 16" proposed reclaim water main.                                                               | 5.13.25          | 06.20.25   | 10.20.25   | 01.13.26                     |            | Not Required            | Not Required            | Not Required            |                   |                    | Not applied     | Not applied                    |                    | E = Pape-Dawson<br>O = Ormond Crossings West, LLC                                     |
| 52 | ORMOND CROSSINGS, PHASE 1<br>1030 North Tymber Creek Road<br>SPRC-2024-000050       | Preliminary Plat. 444 lots on 252.16 acres.                                                                    | 12.03.24         | 01.02.25   | 03.27.25   | 07.17.25<br>10.16.25         |            | Not Required            | Required                | Required                | 12.24.25          |                    | Fees Due        | \$18,690,768                   |                    | E = Pape-Dawson<br>O = Ormond Crossings West, LLC                                     |
| 53 | ORMOND CROSSINGS, RECLAIM WATER<br>1030 North Tymber Creek Road<br>SPRC-2025-000071 | Construction of 12" proposed forcemain.                                                                        | 05.13.25         | 06.22.25   | 11.13.25   | 1.07.26                      |            | Not Required            | Not Required            | Not Required            |                   |                    | Not applied     | Not applied                    |                    | E = Pape-Dawson<br>O = Ormond Crossings West, LLC                                     |
| 54 | OC TYMBER CREEK FLYOVER<br>1700 N US 1 Highway<br>SPRC-2024-000044                  | Railroad flyover (at new Tymber Creek Road) to the Ormond Crossings development. Utilities only.               | 11.21.24         | 12.22.24   | 04.07.25   |                              |            | Not applicable          | Not applicable          | Not applicable          | 09.23.25          |                    | Issued 10.06.25 | Utilities, Phase 1 \$1,190,862 | 10%                | E = Pape-Dawson<br>O = Ormond Crossings West, LLC                                     |
| 55 | OC WATERMAIN EXTENSION<br>1030 North Tymber Creek Road<br>SPRC-2024-000049          | Ormond Crossings. Construction of approximately 18,000 LF of 16" PVC water main along North Tymber Creek Road. | 12.03.24         | 12.30.24   | 03.21.25   |                              |            | Not Required            | Not Required            | Not Required            | Revision 01.07.26 | 06.01.27           | Not applied     | Not applied                    |                    | E = Pape-Dawson<br>O = Ormond Crossings West, LLC                                     |
| 56 | PLANTATION OAKS, 2C<br>2124 Esplanada Drive<br>PZ# 2020-025                         | Development of 121 lots on 63.12 acres. Manufactured home phase. Plantation Oaks PRD (Phase 2)                 | 12.14.17         | 2.07.18    | 07.17.18   |                              |            | Volusia County approval | Volusia County approval | Volusia County approval | 09.20.18          | Under Construction | Issued 09.17.21 | \$3,044,572                    | 95%                | E = Parker Mynchenberg & Associates, Inc.<br>O = Plantation Oaks of Ormond Beach, LLC |
| 57 | PLANTATION OAKS, 2D<br>2258 Chretien Drive<br>PZ# 2020-026                          | Development of 84 units on 27.32 acres. Manufactured home phase. Plantation Oaks PRD (Phase 2)                 | 12.14.17         | 02.12.18   | 08.24.18   |                              |            | Volusia County approval | Volusia County approval | Volusia County approval | 09.20.18          | Under Construction | Issued 09.17.21 | \$1,784,746                    | 75%                | E = Parker Mynchenberg & Associates, Inc.<br>O = Plantation Oaks of Ormond Beach, LLC |

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|    |                                                                                  | Change in project status                                                                                   |                  |            |            |                     |            |                      | Projects reviewed last month |                                      |                |                    |                    |                           |                    |                                                                                        |
|----|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------|------------|------------|---------------------|------------|----------------------|------------------------------|--------------------------------------|----------------|--------------------|--------------------|---------------------------|--------------------|----------------------------------------------------------------------------------------|
| #  | Project                                                                          | Description                                                                                                | Application Date | 1st Review | 2nd Review | 3rd Review          | 4th Review | Neighborhood meeting | Advisory Board               | City Commission                      | Final Approval | DO Expiration      | Eng. Permit        | Eng. Permit Constr. Value | Under Construction | E or Arc = Project Engineer or Architect<br>O = Owner<br>A = Applicant                 |
| 58 | RIVELL SUBDIVISION<br>100 Rivell Trail<br>SPRC-2024-000014                       | Residential subdivision converting one 5.16 acre lot into 4 lots of record                                 | 02.05.24         | 03.07.24   | 11.27.24   | 08.04.25            | 09.23.25   | Not Required         | Not Required                 | Not Required                         | 10.26.25       | 10.26.27           | Not applied        | Not applied               | 70%                | E = Newkirk Engineering, Inc<br>O = Marie Lilienstern                                  |
| 59 | TATTERSALL AT TYMBER CREEK<br>Tymber Creek Road and Airport Road<br>PZ# 2023-041 | Preliminary Plat 75 lots of a. 129 lot subdivision and associated site improvements.                       | 03.14.23         | 05.01.23   | 11.14.23   | 1.29.24<br>03.06.24 | 05.22.24   | 01.18.24             | 02.08.24<br>(Approved)       | 05.07.24<br>(Approved)               | 06.12.24       | 06.12.26           | Issued<br>04.14.25 | \$6,237,383.00            | 75%                | E = Zev Cohen & Associates, Inc.<br>APP = Paylin Tymber 1 and 2, LLC                   |
| 59 | TATTERSALL FINAL PLAT<br>Tymber Creek Road and Airport Road<br>PZ-2025-000219    | Final Plat of 75 lots.                                                                                     | 11.24.25         | 12.16.25   |            |                     |            | Not required         | Not required                 | Not required                         |                | See Above          | See Above          | See Above                 |                    | E = Zev Cohen & Associates, Inc.<br>APP = Paylin Tymber 1 and 2, LLC                   |
| 60 | TIDES EDGE<br>300 South Atlantic Avenue<br>PZ# 2022-018                          | Preliminary Plat, 15 single-family lots.                                                                   | 05.31.22         | 06.13.22   | 09.07.22   | 11.20.22            |            | 09.14.22             | 12.05.22                     | 01.10.23 &<br>01.24.23               | 03.27.23       | Under Construction | Approved           | \$718,460                 | 95%                | E = Parker Mynchenberg & Associates, Inc.<br>O = Ormond Beach Holdings, LLC            |
| 60 | TIDES EDGE<br>300 South Atlantic Avenue<br>PZ-23-00000062                        | Final Plat, 15 single-family lots.                                                                         | 05.22.23         |            |            |                     |            | Not required         | 03.14.24                     | 07.23.24<br>08.06.24                 |                | See Above          | See Above          | See Above                 | See Above          | E = Parker Mynchenberg & Associates, Inc.<br>O = Ormond Beach Holdings, LLC            |
| 61 | TYMBER CREEK APARTMENTS<br>2011 West Granada Boulevard<br>SPRC -2024-000015      | 270 multi-family units and associated site improvements on a vacant 19.62 acre parcel.                     | 12.07.21         | 3.4.24     |            |                     |            | 06.08.22             | 12.08.22<br>Denial           | 05.16.23 &<br>06.06.23<br>(Approved) | 03.20.24       | 03.30.26           | Not applied        | Not applied               |                    | E - Newkirk Engineering<br>O = VCP Ormond Beach, LLC<br>ARC = English Associates, Inc. |
| 62 | YOON WAY TOWNHOMES<br>1190 West Granada Boulevard<br>PZ-2025-000207              | Comprehensive Plan amendment from "Open Space/Conservation" to "Medium Density Residential" for 2.81 acres | 09.22.25         | 10.16.25   |            |                     |            | Not Required         | Required                     | Required                             |                | Not applied        | Not applied        | Not applied               |                    | A = Cobb Cole<br>O = Engineer Realty, LLC                                              |
| 63 | YOON WAY TOWNHOMES<br>1190 West Granada Boulevard<br>PZ-2025-000206              | Zoning Map amendment to Planned Residential Development for 12 townhome units                              | 09.22.25         | 10.16.25   |            |                     |            | Required             | Required                     | Required                             |                | Not applied        | Not applied        | Not applied               |                    | A = Cobb Cole<br>O = Engineer Realty, LLC                                              |

**City Commission items, City Commission Chambers of City Hall at 7:00 P.M., February 3, 2026**

| File Number | Item                                                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Planning Board             | City Commission, 1st or only | City Commission, 2nd reading |
|-------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------|------------------------------|
| PZ-2025-165 | Issuance of a Development Order<br>Tomoka Commerce Park                | This is an application submitted by Parker Mynchenberg & Associates, with the authorization of the property owner, 890 North US Highway 1, LLC, for the Issuance of a development order for the development of 12.48 acres for a four (4) lot commercial subdivision with a mixture of commercial, warehouse, and light industrial uses as the Tomoka Commerce Park. The property is located at 890 North U.S. Highway 1. The master development plan proposes eleven (11) buildings totaling approximately 110,270 square feet. | 12/11/25<br>Approved (6-0) | 01.20.26<br>Approved (4-0)   | <b>02.03.26</b>              |
| PZ-2025-218 | Land Development Code (LDC)<br>Amendment<br>Live Local Act 2025 Update | This is an administrative request to amend Chapter 2, District and General Regulations, Article II, District Regulations, Section 2-39, Affordable housing, to update the section based on changes to the Live Local Act, based on Senate Bill 1730, including expanded applicability to planned developments permitted for commercial, industrial, or mixed use.                                                                                                                                                                | 12/11/25<br>Approved (6-0) | 01.20.26<br>Approved (4-0)   | <b>02.03.26</b>              |

**Note:** City Commission items are based upon the best information available as of the publishing of this report and are subject to change. City Commission agendas are available at: <https://ormondbeach.igmp2.com/citizens/default.aspx?>. For additional information, please contact the Planning Department via e-mail at [comdev@ormondbeach.org](mailto:comdev@ormondbeach.org) or by telephone at (386) 610-0520.

**Board of Adjustment and Appeals - February 4, 2026, City Commission Chambers of City Hall at 6:00 P.M.**

|             |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PZ-2025-225 | 153 Heritage Circle | This is an application from A. Joseph Posey, Jr. on behalf of Truman E. Gailey, Jr., property owner of 153 Heritage Circle, for one variance related to the construction of 34' by 28' detached garage structure on the rear of the property. The property at 153 Heritage Circle is in the R-2, Single-Family Low Density zoning district and section 2-13(B)(9)(b) of the Land Development Code requires a 25' rear yard setback. The applicant is requesting a rear yard setback of 13.5' to construct a detached garage structure, requiring a rear yard variance of 11.5' to the required 25' rear yard setback.                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| PZ-2025-142 | 250 Grove Street    | This is an application from Sue Lynn Garrison, property owner of 708 Garden Lane. Chapter 2, Article II, Section 2-50(o), Garages, requires all single-family residences to have a garage or carport structure. The property currently has a single-car carport that the owner proposes to demolish and construct an addition onto the single-family residence. Additionally, the applicant proposes to construct a 20' by 20' carport in front of the residence. Chapter 2, Article II, Section 2-50(f)(1)(d), Carports, requires the setbacks for carports to be the same as the principal building setbacks of the zoning district in which the property is located. The property at 708 Garden Lane is located in the R-2, Single-Family Low Density zoning district and Section 2-13(B)(9)(a) of the Ormond Beach Land Development Code requires a 30'-front yard setback. The applicant is seeking a variance to allow the construction of a carport with a front yard setback of 14.8', requiring a variance of 15.2' to the required 30'-front yard setback. |

**Note:** Board and Adjustment and Appeals information is based upon the best information available as of the publishing of this report and are subject to change. Board and Adjustment and Appeals agendas are available at: <https://www.ormondbeach.org/218/Board-of-Adjustments-Appeals>. For additional information, please contact the Planning Department via e-mail at [comdev@ormondbeach.org](mailto:comdev@ormondbeach.org) or by telephone at (386) (386) 610-0520.

**Historic Landmark Preservation Board - February 16, 2026, City Commission Conference Room 103, City Hall at 4:00 P.M.**

|    |                                             |                                                                               |
|----|---------------------------------------------|-------------------------------------------------------------------------------|
| NA | Historic signage to recognize Dixie Highway | Discussion item on the status of historic signage to recognize Dixie Highway. |
|----|---------------------------------------------|-------------------------------------------------------------------------------|

**Note:** Historic Landmark Preservation Board information is based upon the best information available as of the publishing of this report and is subject to change. historic Landmark Preservation Board agendas are available at: <https://www.ormondbeach.org/219/Historic-Landmark-Preservation-Board>. For additional information, please contact the Planning Department via e-mail at [comdev@ormondbeach.org](mailto:comdev@ormondbeach.org) or by telephone at (386) (386) 610-0520.

**Planning Board - February 19, 2026, City Commission Chambers of City Hall at 6:00 P.M.**

|  |  |                 |
|--|--|-----------------|
|  |  | <b>Canceled</b> |
|--|--|-----------------|

The Planning Board agenda is available at: <https://www.ormondbeach.org/224/Planning-Board>. For additional information, please contact the Planning Department via e-mail at [comdev@ormondbeach.org](mailto:comdev@ormondbeach.org) or by telephone at (386) (386) 610-0520.



## PERMIT ISSUANCE SUMMARY (01/01/2026 TO 01/30/2026) FOR CITY OF ORMOND BEACH

| Permit Type                            | Permit Work Class*                     | Permits Issued | Square Feet    | Valuation              | Fees Paid           |
|----------------------------------------|----------------------------------------|----------------|----------------|------------------------|---------------------|
| Building Non-Residential               | Electrical                             | 2              | 0              | \$17,174.00            | \$295.00            |
|                                        | Exterior                               | 6              | 256,133        | \$147,485.46           | \$1,762.08          |
|                                        | Interior Build Out                     | 1              | 551            | \$56,000.00            | \$773.79            |
|                                        | Low Voltage Alarm Labels               | 1              | 0              | \$19,818.00            | \$35.00             |
|                                        | Mechanical                             | 6              | 800            | \$38,480.42            | \$795.00            |
|                                        | Plumbing                               | 2              | 0              | \$3,795.00             | \$225.00            |
|                                        | Pool/Spa                               | 1              | 0              | \$23,413.00            | \$329.32            |
|                                        | Reroof                                 | 8              | 32,211         | \$626,598.08           | \$3,256.69          |
|                                        | Signage                                | 5              | 141            | \$27,554.00            | \$826.15            |
|                                        | Solar                                  | 1              | 150            | \$29,000.00            | \$373.05            |
| <b>BUILDING NON-RESIDENTIAL TOTAL:</b> |                                        | <b>33</b>      | <b>289,986</b> | <b>\$989,317.96</b>    | <b>\$8,671.08</b>   |
| Building Residential                   | Demolition, Complete                   | 1              | 12,372         | \$35,599.00            | \$2,295.98          |
|                                        | Demolition, Partial or Interior        | 1              | 528            | \$1,000.00             | \$75.75             |
|                                        | Detached Accessory Structure           | 7              | 3,807          | \$414,495.48           | \$3,691.45          |
|                                        | Dock/Seawall                           | 3              | 0              | \$84,600.00            | \$883.40            |
|                                        | Electrical                             | 24             | 2,489          | \$79,777.55            | \$2,447.24          |
|                                        | Exterior                               | 61             | 796            | \$701,027.48           | \$10,113.70         |
|                                        | Gas                                    | 3              | 0              | \$8,202.00             | \$321.52            |
|                                        | Interior Renovation                    | 1              | 1,991          | \$12,369.27            | \$184.99            |
|                                        | Mechanical                             | 56             | 3,420          | \$559,302.86           | \$4,194.08          |
|                                        | New Construction, Addition             | 5              | 3,080          | \$273,590.00           | \$2,527.64          |
|                                        | New, Single Family Residential         | 33             | 98,126         | \$14,111,102.89        | \$426,491.70        |
|                                        | Plumbing                               | 17             | 2,379          | \$92,947.27            | \$1,187.02          |
|                                        | Pool/Spa                               | 3              | 1,858          | \$130,001.00           | \$1,416.91          |
|                                        | Reroof                                 | 52             | 64,642         | \$906,505.22           | \$8,131.60          |
|                                        | Screen Enclosure                       | 2              | 2,889          | \$54,165.00            | \$626.08            |
|                                        | Solar                                  | 1              | 0              | \$67,890.00            | \$616.78            |
| <b>BUILDING RESIDENTIAL TOTAL:</b>     |                                        | <b>270</b>     | <b>198,377</b> | <b>\$17,532,575.02</b> | <b>\$465,205.84</b> |
| Engineering Residential                | Tree Maintenance and/or Removal        | 39             | 0              | \$3,460.00             | \$470.00            |
| <b>ENGINEERING RESIDENTIAL TOTAL:</b>  |                                        | <b>39</b>      | <b>0</b>       | <b>\$3,460.00</b>      | <b>\$470.00</b>     |
| Fire Non-Residential                   | Fire Protection Systems                | 2              | 9,700          | \$31,583.80            | \$306.50            |
| <b>FIRE NON-RESIDENTIAL TOTAL:</b>     |                                        | <b>2</b>       | <b>9,700</b>   | <b>\$31,583.80</b>     | <b>\$306.50</b>     |
| LDC Non-Residential                    | LDC                                    | 3              | 0              | \$26,200.00            | \$225.00            |
|                                        | Master Solicitor                       | 1              | 0              | \$1.00                 | \$50.00             |
|                                        | Special Event Permit                   | 6              | 64             | \$6.00                 | \$65.00             |
|                                        | SPRC Site Improvements                 | 2              | 12,232         | \$69,000.00            | \$760.00            |
| <b>LDC NON-RESIDENTIAL TOTAL:</b>      |                                        | <b>12</b>      | <b>12,296</b>  | <b>\$95,207.00</b>     | <b>\$1,100.00</b>   |
| LDC Residential                        | Garage Sale                            | 12             | 0              | \$20.00                | \$55.00             |
|                                        | LDC                                    | 40             | 0              | \$247,124.82           | \$2,910.00          |
|                                        | Sheds less than 150 square feet in siz | 1              | 0              | \$2,874.00             | \$75.00             |
| <b>LDC RESIDENTIAL TOTAL:</b>          |                                        | <b>53</b>      | <b>0</b>       | <b>\$250,018.82</b>    | <b>\$3,040.00</b>   |
| <b>GRAND TOTAL:</b>                    |                                        | <b>409</b>     | <b>510,359</b> | <b>\$18,902,162.60</b> | <b>\$478,793.42</b> |

\* Double-click the Permit Work Class Name while in the browser to see Permit details for that Work Class.

## Ormond Beach Residential, as of February 1, 2025

| Subdivision Name           | Type  | Status                      | Lots         | CO Issued  | Issued     | Fees Due  | In Review | Remaining Lots |
|----------------------------|-------|-----------------------------|--------------|------------|------------|-----------|-----------|----------------|
| 121 East                   | MF    | Site Pan Review             | 20           |            |            |           |           | 20             |
| 40 North Beach Street      | MF    | Site Pan Review             | 3            |            |            |           |           | 3              |
| Archer's Mill Phase 1      | SF    | Infrastructure Complete     | 94           | 91         | 0          | 0         | 0         | 3              |
| Archer's Mill Phase 2      | SF    | Infrastructure Complete     | 68           | 34         | 31         | 1         | 1         | 1              |
| Archer's Mill Phase 3      | SF    | No Construction to Date     | 78           | 0          | 0          | 0         | 0         | 78             |
| Archer's Mill Phase 4      | SF    | No Construction to Date     | 111          | 0          | 0          | 0         | 0         | 111            |
| Archer's Mill Phase 5      | SF    | Infrastructure Construction | 114          | 0          | 0          | 0         | 0         | 114            |
| Archer's Mill Phase 6      | SF    | Infrastructure Complete     | 78           | 0          | 1          | 14        | 5         | 58             |
| Bradford Lakes             | SF    | Infrastructure Construction | 80           | 0          | 0          | 0         | 0         | 80             |
| Bradford Park              | TH    | Infrastructure Complete     | 180          | 12         | 26         | 0         | 0         | 142            |
| Enclave (Tymber Creek)     | SF    | Infrastructure Complete     | 12           | 0          | 1          | 0         | 0         | 11             |
| Enclave (North Yonge)      | MF    | Site Pan Review             | 64           |            |            |           |           | 64             |
| Fountain View, Phase 1A    | SF    | Infrastructure Complete     | 121          | 92         | 0          | 0         | 0         | 27             |
| Fountain View, Phase 1B    | SF    | Infrastructure Complete     | 137          | 55         | 23         | 7         | 12        | 40             |
| Fountain View, Phase 1C    | SF    | Infrastructure Construction | 141          | 0          | 0          | 0         | 0         | 141            |
| Fountain View, Phase 1D    | SF    | Infrastructure Construction | 103          | 0          | 0          | 0         | 0         | 103            |
| Fountain View, Phase 1E    | SF    | No Construction to Date     | 110          | 0          | 0          | 0         | 0         | 110            |
| Fountain View, Phase 1F    | SF    | No Construction to Date     | 97           | 0          | 0          | 0         | 0         | 97             |
| Ormond Crossings, Phase 1  | SF    | Site Plan Review            | 444          |            |            |           |           | 444            |
| Ormond Crossings, Approved | SF/MF | Development Order           | 2506         |            |            |           |           | 2506           |
| Plantation Oaks, Phase 2A  | MH    | Infrastructure Complete     | 94           | 84         | 1          | 0         | 0         | 9              |
| Plantation Oaks, Phase 2B  | MH    | Infrastructure Complete     | 125          | 36         | 4          | 0         | 0         | 85             |
| Plantation Oaks, Phase 2C  | MH    | Infrastructure Construction | 121          | 0          | 0          | 0         | 0         | 121            |
| Plantation Oaks, Phase 2D  | MH    | Infrastructure Construction | 84           | 0          | 0          | 0         | 0         | 84             |
| Ridgehaven                 | SF    | Infrastructure Complete     | 286          | 63         | 28         | 1         | 4         | 190            |
| Rivell Trail               | SF    | Site Plan Review            | 3            |            |            |           |           | 3              |
| Tattersall at Tymber Creek | SF    | Infrastructure Construction | 75           |            |            |           |           | 75             |
| Tides Edge                 | SF    | Infrastructure Construction | 15           |            |            |           |           | 15             |
| Tymber Creek Apartments    | MF    | Site Plan Approved          | 270          |            |            |           |           | 270            |
| <b>TOTALS:</b>             |       |                             | <b>5,634</b> | <b>467</b> | <b>115</b> | <b>23</b> | <b>22</b> | <b>5,005</b>   |
| <b>PERCENTAGE:</b>         |       |                             | <b>NA</b>    | <b>8%</b>  | <b>2%</b>  | <b>0%</b> | <b>0%</b> | <b>89%</b>     |

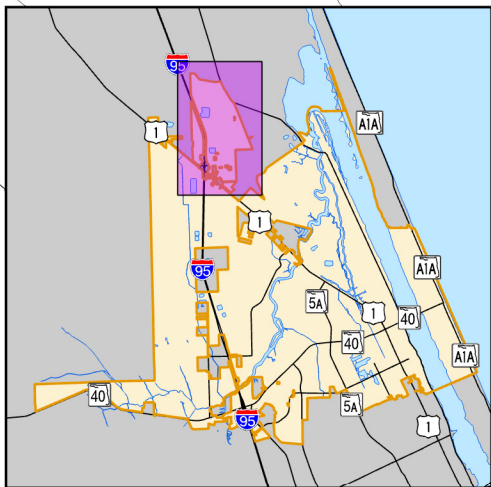
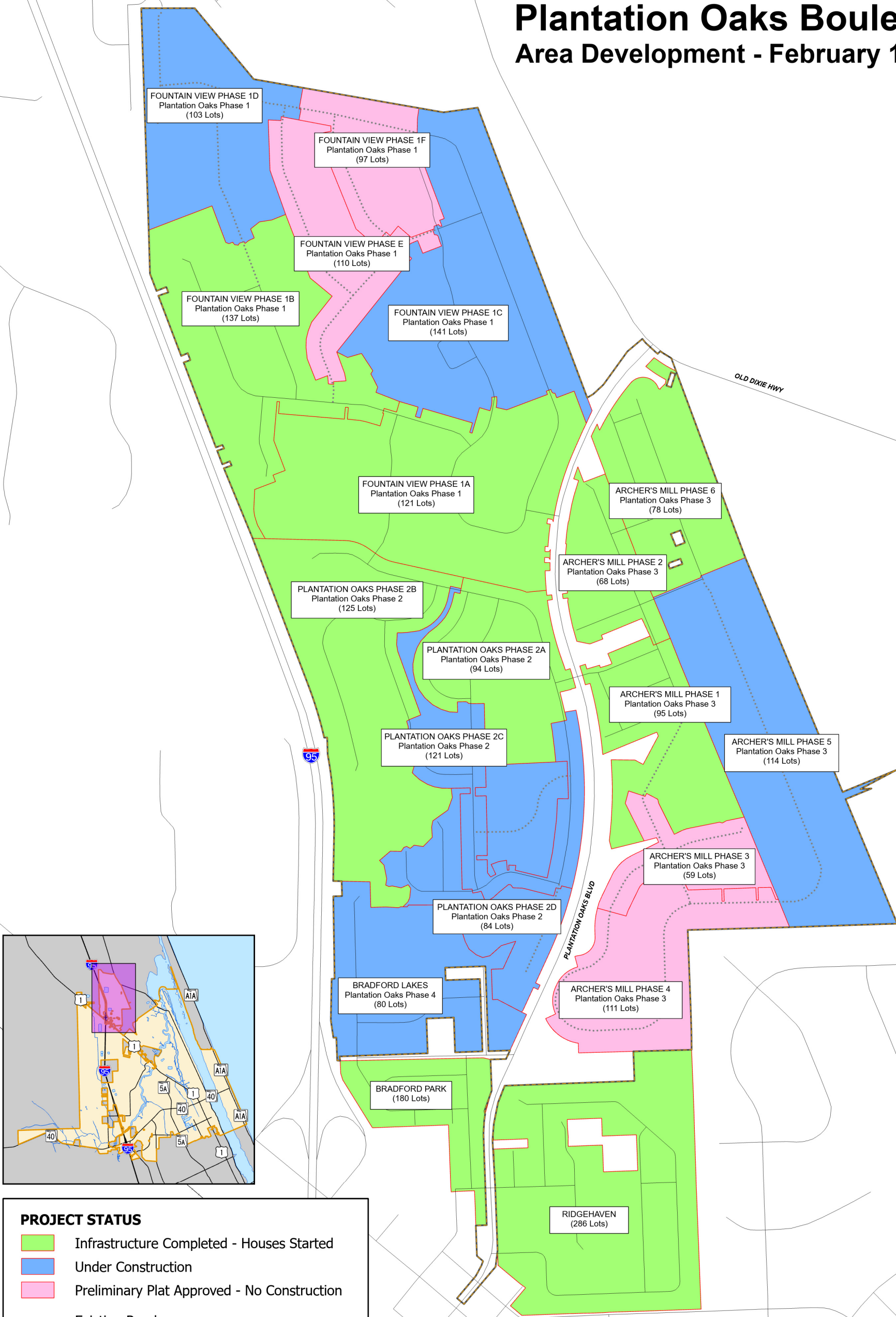
Notes: MF - Multi-family, SF - Single-family, TH - Townhomes, MH - Manufactured Homes (55+), CO - Certificate of Occupancy





# Plantation Oaks Boulevard

## Area Development - February 1, 2026



**PROJECT STATUS**

Infrastructure Completed - Houses Started

Under Construction

Preliminary Plat Approved - No Construction

Existing Roads

Proposed Roads

Railroad

Plantation Oaks Boundary

07501,5003,000

Feet

Prepared by The City of Ormond Beach G.I.S. Department





**City of Ormond Beach**  
**City Commission Agenda**  
**Staff Report**

|                                 |                                                                                                                                                                                                                 |                 |                             |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------------------|
| <b>Agenda Date</b>              | February 17, 2026                                                                                                                                                                                               | <b>Item No</b>  | 8.A.                        |
| <b>Section</b>                  | FIRST READING OF ORDINANCES                                                                                                                                                                                     | <b>Category</b> | First Reading of Ordinances |
| <b>Subject</b>                  | Ordinance Regarding Authority to Record Liens                                                                                                                                                                   |                 |                             |
| <b>Recommended Action</b>       | It is recommended that Code of Ordinances, Section 8-4, regarding unsafe building abatement, be amended to allow the Finance Director or Assistant Finance Director to execute unsafe building abatement liens. |                 |                             |
| <b>Strategic Goal</b>           | Governance - Other                                                                                                                                                                                              |                 |                             |
| <b>Department Staff Contact</b> | City Attorney<br>Ann-Margret Emery, Deputy City Attorney                                                                                                                                                        |                 |                             |

Summary

This agenda item requests approval to amend the *Code of Ordinances*, Section 8-4, unsafe building abatement, to give the Finance Director or Assistant Finance Director the authority to execute and record unsafe building abatement liens in the public records.

These liens are recorded to secure future payment and costs incurred by the city for demolition of unsafe structures. Currently, the City Code states that the City Commission must authorize a resolution which becomes a lien when recorded in the public records. Authorization by the Finance Director will increase efficiency and timeliness of recording liens.

This amendment is consistent with Sections 2-258 and 14-98 for the satisfaction and release of liens; and if the amendment is approved, the lien document will still be prepared and reviewed by the City Attorney's Office but will then be executed by the Finance Department.

Financial Impact

There is no impact upon the city budget.

Citizen Impact

There is no citizen impact.

Attachments

1. 26-03 Code of Ordinances Amendment - Sect 8-4 Liens (P25-0201G)
2. Ordinance Business Impact Estimate



## ORDINANCE NO. 2026-03

AN ORDINANCE AMENDING SECTION 8-4, UNSAFE BUILDING ABATEMENT, OF ARTICLE I, IN GENERAL, OF CHAPTER 8, BUILDINGS AND CONSTRUCTION REGULATIONS, OF THE *CODE OF ORDINANCES* OF THE CITY OF ORMOND BEACH, TO AMEND THE AUTHORITY FOR THE RECORDING OF LIENS; REPEALING ALL INCONSISTENT ORDINANCES OR PARTS THEREOF; PROVIDING FOR SEVERABILITY; AND SETTING FORTH AN EFFECTIVE DATE.

**BE IT ENACTED BY THE PEOPLE OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:**

**SECTION ONE.** Section 8-4, Unsafe building abatement, of Article I, In General, of Chapter 8, Buildings and Construction Regulations, of the City of Ormond Beach, Florida, *Code of Ordinances* is hereby amended to read as follows:

### **Sec. 8-4. Unsafe building abatement.**

The city commission hereby designates the building official as the enforcement official of this section and delegates to the building official the authority to enforce the provisions of this section, including the authority to inspect, issue orders to cause any violation of this chapter to be terminated and abated and impose a lien upon any lot, tract or parcel of benefited property for the actual costs of terminating and abating such violation.

(1) through (7) (...no change in text...)

(8) *Liens.* The actual cost of termination and abatement of violations of this section when such termination and abatement is accomplished under the direction of the building official may be levied and constitute a special assessment lien against the benefited property. The City Commission authorizes the finance director or the assistant finance director to execute and record a lien in the official records of the county against any real property that is or was the subject of a violation of this section in an amount representing all costs incurred by the city in terminating or abating the said violation, including recording costs. ~~Upon the recommendation of the building official, the city commission may approve a resolution imposing a lien against any real property that is or was the subject of a violation of this section in an amount representing all costs incurred by the city in terminating or abating the said violation. A copy of the resolution as approved by the city commission shall be served on the~~

~~violation at his last known address and the violator shall have 15 days from receipt of the resolution within which to pay all costs described in the resolution. Service of the resolution may be effected by regular and/or certified U.S. mail delivery, personal service, or any other service that is permitted by law. If the violator fails to pay all costs described in and imposed by the resolution within 15 calendar days after his receipt of the resolution, a certified copy of the resolution shall be recorded in the official records of the county and shall thereafter constitute a lien against the property. If the notice is not accepted or if returned, receipt shall mean ten calendar days after the resolution was sent. The resolution lien shall, at a minimum, state the name and address of the last known owner as shown on the county tax record, a description of the property, and the amount of the lien. The recording of the lien shall be stayed pending a timely appeal of the action by the property owner per section (7) of this ordinance. The city commission authorizes the finance director or assistant finance director to file in the official records of the county a release and satisfaction of lien upon the full payment of all costs imposed by the lien. Said lien shall be on parity or coequal with the lien of all state, county, and district taxes, and shall be superior in dignity to all other liens, titles, and claims.~~

(9) through (10) (...no change in text...)

**SECTION TWO.** All Ordinances or parts of Ordinances in conflict herewith are hereby repealed to the extent of such conflict.

**SECTION THREE.** In the event any word, phrase, clause, sentence, paragraph, term, or provision of this Ordinance shall be held invalid by a court of competent jurisdiction, such judicial determination shall not affect any other word, clause, phrase, sentence, paragraph, term or provision, of this Ordinance, and the remainder of this Ordinance shall remain in full force and effect.

**SECTION FOUR** This Ordinance shall take effect immediately upon its adoption.

**PASSED UPON** at the first reading of the City Commission, this 17<sup>th</sup> day of February, 2026.

**PASSED UPON** at the second and final reading of the City Commission, this 3<sup>rd</sup>  
day of March, 2026.

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**JASON LESLIE**  
Mayor

**ATTEST:**

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**SUSAN CARROLL DAUDERIS**  
City Clerk



## **Ordinance Adoption** **Business Impact Estimate**

Proposed ordinance's number and legal title:

2026-03

AN ORDINANCE AMENDING SECTION 8-4, UNSAFE BUILDING ABATEMENT, OF ARTICLE I, IN GENERAL, OF CHAPTER 8, BUILDINGS AND CONSTRUCTION REGULATIONS, OF THE *CODE OF ORDINANCES* OF THE CITY OF ORMOND BEACH, TO AMEND THE AUTHORITY FOR THE RECORDING OF LIENS; REPEALING ALL INCONSISTENT ORDINANCES OR PARTS THEREOF; PROVIDING FOR SEVERABILITY; AND SETTING FORTH AN EFFECTIVE DATE.

This Business Impact Estimate is provided in accordance with section 166.041(4), Florida Statutes. If one or more boxes are checked below, this means the City is of the view that a business impact estimate is not required by state law for the proposed ordinance, but the City is, nevertheless, providing this Business Impact Estimate as a courtesy and to avoid any procedural issues that could impact the enactment of the proposed ordinance. This Business Impact Estimate may be revised following its initial posting.

- ☐ The proposed ordinance is required for compliance with Federal or State law or regulation;
- ☐ The proposed ordinance relates to the issuance or refinancing of debt;
- ☐ The proposed ordinance relates to the adoption of budgets or budget amendments, including revenue sources necessary to fund the budget;
- ☐ The proposed ordinance is required to implement a contract or an agreement, including, but not limited to, any Federal, State, local, or private grant or other financial assistance accepted by the municipal government;
- ☐ The proposed ordinance is an emergency ordinance;
- ☐ The ordinance relates to procurement; or
- ☐ The proposed ordinance is enacted to implement the following:
  - a. Part II of Chapter 163, Florida Statutes, relating to growth policy, county and municipal planning, and land development regulation, including zoning, development orders, development agreements and development permits;
  - b. Sections 190.005 and 190.046, Florida Statutes, regarding community development districts;
  - c. Section 553.73, Florida Statutes, relating to the Florida Building Code; or
  - d. Section 633.202, Florida Statutes, relating to the Florida Fire Prevention Code.

**In accordance with the provisions of controlling law, even notwithstanding the fact that an exemption noted above may apply, the City hereby publishes the following information:**

1. A summary of the proposed ordinance, including a statement of the public purpose to be served by the proposed ordinance, such as serving the public health, safety, morals, and welfare of the City.

The purpose of this ordinance is to amend the city's code to give the Finance Director or Assistant Finance Director the authority to execute and record unsafe building abatement liens.

2. An estimate of the direct economic impact of the proposed ordinance on private, for-profit businesses in the City, including the following, if any:

a. An estimate of direct compliance costs that businesses may reasonably incur if the ordinance is enacted;

N/A

b. Identification of any new charge or fee on businesses subject to the proposed ordinance, or for which businesses will be financially responsible; and

N/A

c. An estimate of the City's regulatory costs, including an estimate of revenues from any new charges or fees that will be imposed on businesses to cover such costs.

N/A

3. A good faith estimate of the number of businesses likely to be impacted by the ordinance.

N/A

4. Any additional information the City determines may be useful.

*(This section may include: methodology or data used to prepare the Business Impact Estimate, e.g., City staff solicited comments from businesses as to the potential impact of the proposed ordinance by contacting the chamber of commerce, social media posting, direct mail/email, posting on the City's website, public workshop, etc.; efforts made to reduce the potential fiscal impact on businesses; and state the proposed ordinance is a generally applicable ordinance that applies to all persons similarly situated (individuals or businesses) and, therefore, the proposed ordinance does not affect only businesses.)*



**City of Ormond Beach**  
**City Commission Agenda**  
**Staff Report**

|                                 |                                                                                                              |                 |                 |
|---------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------|-----------------|
| <b>Agenda Date</b>              | February 17, 2026                                                                                            | <b>Item No</b>  | 9.A.            |
| <b>Section</b>                  | DISCUSSION AND DIRECTION ITEMS                                                                               | <b>Category</b> | Discussion Item |
| <b>Subject</b>                  | Downtown Sidewalks                                                                                           |                 |                 |
| <b>Recommended Action</b>       | This discussion will provide an opportunity for the City Commission to provide feedback and ask questions.   |                 |                 |
| <b>Strategic Goal</b>           | Economic Development - Promote and protect Ormond Beach's Historic Downtown to ensure its economic vitality. |                 |                 |
| <b>Department Staff Contact</b> | City Manager<br>Shawn Finley, Assistant City Manager                                                         |                 |                 |

Summary

This discussion item will present the Downtown Sidewalk rehabilitation project to the Commission using this opportunity to update the commission on the proposed change from sidewalks with paver banding to a Florida Department of Transportation (FDOT) compliant concrete sidewalks to improve pedestrian safety, accessibility, and long-term durability.

Staff has discussed this project with Ormond Beach Mainstreet as well as additional stakeholders and has received support in the proposed direction. Discussions have progressed with FDOT who have indicated that upon completion of a sidewalk that meets their standards and specifications that maintenance responsibility of the sidewalk will be transferred back to FDOT.

Financial Impact

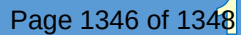
There will be no immediate impact from this discussion item; bid documents and plans will be presented to the commission for advertisement at a later date, as well as an agreement with FDOT transferring maintenance responsibility back to the Department of Transportation.

Citizen Impact

The sidewalk project will enhance the walkability of the Community Redevelopment Agency (CRA) area and enhance the overall aesthetics of the downtown area.

## Attachments

1. 2026 sidewalk





## History of Project

- 1991: Sidewalk Banding first Capital Project in CRA
- 2016/2017: Need Identified to Repair Banding
- October 2021: Proposal Brought to have work completed through Construction Manager at Risk
- June 2022: Commission directed staff to bid project.
- December 2022: Contract Awarded for construction (2022-19)
- June 2024: Rebid (2024-33)
- January 2025: Bids rejected



# Granada Boulevard Sidewalk Rehabilitation

## Proposed Project

- Removal of Banding
- New Concrete throughout
- Consistent with FDOT Standards and Specifications
- Returns Maintenance Responsibility to FDOT

