



AGENDA
CITY OF ORMOND BEACH, FLORIDA
CITY COMMISSION MEETING
April 6, 2021
7:00 PM

Mayor Bill Partington

Zone 1 – Commissioner Dwight Selby

Zone 3 – Commissioner Susan Persis

Zone 2 – Commissioner Troy Kent

Zone 4 – Commissioner Rob Littleton

COMMISSION CHAMBERS

22 South Beach Street, Ormond Beach, FL 32174

Phone: 386-677-0311

Web: www.ormondbeach.org

***Please see page 5 of this agenda for information on meeting procedures
and public commenting information.***

- 1. CALL TO ORDER**
- 2. INVOCATION**
- 3. PLEDGE OF ALLEGIANCE**
- 4. PRESENTATIONS AND PROCLAMATIONS**
 - A. Jim Cameron
 - B. National Crime Victims' Rights Week
- 5. AUDIENCE REMARKS - REGARDING ITEMS NOT ON THE AGENDA**
- 6. APPROVAL OF MINUTES**
 - A. Minutes from City Commission meeting – March 16, 2021
- 7. COMMUNITY REDEVELOPMENT AGENCY**
 - A. **RESOLUTION NO. 2021-65:** A RESOLUTION OF THE CITY COMMISSION, ALSO ACTING AS THE COMMUNITY REDEVELOPMENT AGENCY, OF THE CITY OF ORMOND BEACH, FLORIDA, AUTHORIZING THE FIRST AMENDMENT TO THE CITY OF ORMOND BEACH BUILDING IMPROVEMENT GRANT PROGRAM GRANT AGREEMENT BETWEEN THE CITY/AGENCY AND HEJAH, LLC TO EXTEND THE EXPIRATION DATE THEREOF TO MAY 17, 2022 TO THE AGREEMENT; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Steven Spraker, Planning Director (386-676-3341)

8. **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. **RESOLUTION NO. 2021-65:** A RESOLUTION OF THE CITY COMMISSION, ALSO ACTING AS THE COMMUNITY REDEVELOPMENT AGENCY, OF THE CITY OF ORMOND BEACH, FLORIDA, AUTHORIZING THE FIRST AMENDMENT TO THE CITY OF ORMOND BEACH BUILDING IMPROVEMENT GRANT PROGRAM GRANT AGREEMENT BETWEEN THE CITY/AGENCY AND HEJAH, LLC TO EXTEND THE EXPIRATION DATE THEREOF TO MAY 17, 2022 TO THE AGREEMENT; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Steven Spraker, Planning Director (386-676-3341)

- B. **RESOLUTION NO. 2021-66:** A RESOLUTION AUTHORIZING THE ACCEPTANCE OF A PUBLIC SIDEWALK EASEMENT DEED OF TWO (2') FEET FROM 88 SOUTH ATLANTIC, LLC, TO PROVIDE A SIDEWALK EASEMENT FOR A PUBLIC SIDEWALK ALONG THE WESTERN PROPERTY LINE ABUTTING THE FLORENCE STREET RIGHT-OF-WAY ON PROPERTY LOCATED AT 88 SOUTH ATLANTIC AVENUE; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Steven Spraker, Planning Director (386-676-3341)

- C. **RESOLUTION NO. 2021-67:** A RESOLUTION AUTHORIZING THE EXTENSION OF TIME FOR BUSINESSES TO DISPLAY BANNER SIGNS ON A TEMPORARY BASIS WITHOUT PERMITTING REQUIREMENTS THROUGH AND INCLUDING JULY 1, 2021; ESTABLISHING CONDITIONS AND A TERMINATION DATE FOR SUCH DISPLAY; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Steven Spraker, Planning Director (386-676-3341)

- D. **RESOLUTION NO. 2021-68:** A RESOLUTION AUTHORIZING THE EXECUTION OF A RAILROAD REIMBURSEMENT AGREEMENT BETWEEN THE CITY, THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION AND THE FLORIDA EAST COAST RAILWAY; SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Shawn Finley, Public Works Director (386-676-3292)

- E. **RESOLUTION NO. 2021-69:** A RESOLUTION AUTHORIZING THE EXECUTION OF A RESERVATION AND SALES AGREEMENT BETWEEN THE CITY OF ORMOND BEACH AND LAKE SWAMP, LLC TO RESERVE AND PURCHASE WETLAND MITIGATION CREDITS FROM THE LAKE SWAMP MITIGATION BANK; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Brian Rademacher, Economic Development Director (386-676-3266)

- F. **RESOLUTION NO. 2021-70:** A RESOLUTION AUTHORIZING AN AMENDMENT TO THE EXISTING AGREEMENT WITH TYLER TECHNOLOGIES INC., REGARDING AN ENTERPRISE RESOURCE SYSTEM DOCUMENT MANAGEMENT PROGRAM, INCLUDING IMPLEMENTATION, HOSTING AND MAINTENANCE SERVICES; AUTHORIZING PAYMENT THEREFOR; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Kelly McGuire, Finance Director (386-676-3226)

- G. **RESOLUTION NO. 2021-71:** A RESOLUTION AMENDING AN AGREEMENT BETWEEN THE CITY OF ORMOND BEACH AND BERRY, DUNN, MCNEIL & PARKER, LLC TO PROVIDE PROJECT MANAGEMENT SERVICES REGARDING IMPLEMENTATION BY TYLER TECHNOLOGIES OF AN ENTERPRISE RESOURCE SYSTEM; AUTHORIZING EXECUTION OF THE AMENDMENT OF THE EXISTING AGREEMENT AND PAYMENT THEREFOR; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Kelly McGuire, Finance Director (386-676-3226)

- H. **Invitation to Bid - SONC Gym Expansion**

Staff Contact: Shawn Finley, Public Works Director (386-676-3292)

Disposition: Approve as recommended in the City Manager memorandum dated April 6, 2021.

- I. **Advertisement for Bids - Taxiways Bravo and Delta Rehabilitation Project (Construction Phase), Bid No. 2021-18**

Staff Contact: Brian Rademacher, Economic Development Director (386-676-3266)

Disposition: Approve as recommended in the City Manager memorandum dated April 6, 2021.

9. PUBLIC HEARINGS

- A. **ORDINANCE NO. 2021-11:** AN ORDINANCE VACATING A PORTION OF FLAGLER ROAD, ABUTTING 1480 NORTH U.S. HIGHWAY 1; REPEALING ALL INCONSISTENT ORDINANCES OR PARTS THEREOF; PROVIDING FOR RECORDATION AND TRANSMITTAL; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Steven Spraker, Planning Director (386-676-3341)

- B. **ORDINANCE NO. 2021-12:** AN ORDINANCE VACATING TWO (2) UN-NAMED ALLEYS LYING BETWEEN LOT(S) 1-30, BLOCK 59, NATIONAL GARDENS SUBDIVISION, WITHIN THE PROPERTY AT 1480 NORTH U.S. HIGHWAY 1; REPEALING ALL INCONSISTENT ORDINANCES OR PARTS THEREOF; PROVIDING FOR RECORDATION AND TRANSMITTAL; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Steven Spraker, Planning Director (386-676-3341)

10. FIRST READING OF ORDINANCES

- A. **ORDINANCE NO. 2021-13:** AN ORDINANCE OF THE CITY OF ORMOND BEACH, FLORIDA, AMENDING ARTICLE I, GENERAL EMPLOYEES' PENSION PLAN, OF CHAPTER 16, PENSIONS AND RETIREMENT, OF THE CODE OF ORDINANCES; AMENDING SECTION 16-6, BENEFIT AMOUNTS AND ELIGIBILITY; AMENDING SECTION 16-17, MINIMUM DISTRIBUTION OF BENEFITS; PROVIDING FOR COMPLIANCE WITH THE SECURE ACT; PROVIDING FOR SEVERABILITY OF PROVISIONS; REPEALING ALL ORDINANCES IN CONFLICT HERewith AND PROVIDING AN EFFECTIVE DATE

Staff Contact: Kelly McGuire, Finance Director (386-676-3226)

- B. **ORDINANCE NO. 2021-14:** AN ORDINANCE OF THE CITY OF ORMOND BEACH, FLORIDA, AMENDING ARTICLE III, FIREFIGHTERS' PENSION TRUST FUND, OF CHAPTER 16, PENSIONS AND RETIREMENT, OF THE CODE OF ORDINANCES; AMENDING SECTION 16-44, CONTRIBUTIONS; AMENDING SECTION 16-45, BENEFIT AMOUNTS AND ELIGIBILITY; AMENDING SECTION 16-46, PRE- RETIREMENT DEATH; AMENDING SECTION 16-55, MINIMUM DISTRIBUTION OF BENEFITS; PROVIDING FOR COMPLIANCE WITH THE SECURE ACT; PROVIDING FOR SEVERABILITY OF PROVISIONS; REPEALING ALL ORDINANCES IN CONFLICT HERewith AND PROVIDING AN EFFECTIVE DATE.

Staff Contact: Kelly McGuire, Finance Director (386-676-3226)

- C. **ORDINANCE NO. 2021-15:** AN ORDINANCE OF THE CITY OF ORMOND BEACH, FLORIDA, AMENDING ARTICLE IV, POLICE OFFICERS' PENSION TRUST FUND, OF CHAPTER 16, PENSIONS AND RETIREMENT, OF THE CODE OF ORDINANCES; AMENDING SECTION 16-76, BENEFIT AMOUNTS AND ELIGIBILITY; AMENDING SECTION 16-86, MINIMUM DISTRIBUTION OF BENEFITS; PROVIDING FOR COMPLIANCE WITH THE SECURE ACT; PROVIDING FOR SEVERABILITY OF PROVISIONS; REPEALING ALL ORDINANCES IN CONFLICT HERewith AND PROVIDING AN EFFECTIVE DATE.

Staff Contact: Kelly McGuire, Finance Director (386-676-3226)

11. REPORTS, SUGGESTIONS, REQUESTS

12. ADJOURNMENT

MEETING PROCEDURES AND PUBLIC PARTICIPATION INFORMATION

In order to follow federal, state, and local guidelines regarding public gatherings, and to protect residents, staff, and elected officials due to the COVID-19 virus, physical access to this meeting will be restricted as outlined below. *Those interested in the meeting can also listen through electronic means and utilize the provided online or alternative commenting methods to participate.*

The following information is also available at www.ormondbeach.org/ccmtg.

How To Listen Live

The meeting audio will be streamed live online at www.ormondbeach.org/live. Any member of the public who wishes to listen to the meeting live can do so at that link. The recording of the meeting will be available the following day online at www.ormondbeach.org/ccrecordings.

Access Restrictions

Space will be limited due to social distancing and grouping guidelines. If you wish to listen to the meeting, or submit comments on agenda items, and are able to use the online options provided, you are encouraged to do so. This will help ensure that all those who wish to participate may be able to.

Members of the public wishing to attend the meeting in person are advised of the following guidelines:

- Those in attendance should practice social distancing when inside the building, entering the building, and exiting the building. The wearing of masks is encouraged.
- There will be limited designated socially distanced seating available in the Commission Chambers and in the atrium. *All those in attendance must sit only in the designated socially distanced seating.*
- If all available designated socially distanced seats are being utilized, overflow individuals will need to wait outside the building until space frees up.
- Those in attendance will be required to adhere to social distancing guidelines, including only sitting in designated socially distanced seating.

Public Comments

The City Commission welcomes public comment on agenda items. Those wishing to make comments on any item on the April 6, 2021 meeting agenda may do so via remote submission, as outlined below, *or* in person – following the guidelines stated herein.

Remote submissions of comments on an agenda item may be submitted the following ways:

- **Through an online form:** The form is available at www.ormondbeach.org/agendacomment. You will be asked to provide your name, address, and identify the agenda item you are commenting on.
- **By fax:** You may send your comment via fax to (386) 676-3330. Please provide your name, address, and identify the agenda item you are commenting on in your facsimile.

- ***By written comment:*** If you'd like to submit a written comment, rather than comment online, you may drop off a comment at the 2nd floor reception desk at City Hall during normal business hours. You may also send comment via U.S. mail to the City Clerk at 22 S. Beach Street, Ormond Beach, FL, 32174. Please make sure to clearly label your submission as an agenda item comment for the April 6 City Commission meeting agenda. Please provide your name, address, and identify the agenda item you are commenting on in your correspondence.

Agenda item comments submitted remotely through one of the above provided online or alternative means before **5:00 p.m. on Monday, April 5, 2021**, will be provided to the City Commission prior to the meeting and made part of the official meeting record. Comments on agenda items submitted after 5:00 p.m. on April 5, 2021, but before the conclusion of the Commission meeting, will be provided to the City Commission following the meeting.

Please note that the equivalent of three minutes of each submitted comment will be included in the record.

In-Person Commenting:

- Those wishing to make comments in-person will need to sign up with staff to do so **prior to the start of the meeting.** Requests to speak will not be accepted after the meeting begins.
- Individuals commenting in person must follow social distancing and other guidelines provided in the access restrictions portion of this page.
- Individuals commenting will be provided with three minutes to make their comments.

Website Address – 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: 386-677-0311



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

In accordance with the Americans with Disabilities Act (ADA), persons with a disability, such as a vision, hearing or speech impairment, or persons needing other types of assistance, and who wish to attend City Commission meetings or any other board or committee meeting may contact the City Clerk's Office in writing, or may call 386-677-0311 for information regarding available aids and services.

MINUTES
ORMOND BEACH CITY COMMISSION
HELD AT CITY HALL COMMISSION CHAMBERS

March 16, 2021	7:00 p.m.	Commission Chambers
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Present were: Mayor Bill Partington, Commissioners Dwight Selby, Troy Kent, Susan Persis, and Rob Littleton, City Manager Joyce Shanahan, Assistant City Manager Claire Whitley, City Attorney Randy Hayes, and Assistant City Clerk Wendy Hontz.

A G E N D A

1.

CALL TO ORDER
2.

INVOCATION
3.

PLEDGE OF ALLEGIANCE
4.

PRESENTATIONS AND PROCLAMATIONS

A.

Jenn Elston - News-Journal's 40 Under Forty

B.

Colby Cilento
5.

AUDIENCE REMARKS - REGARDING ITEMS NOT ON THE AGENDA
6.

APPROVAL OF MINUTES

A.

Minutes from City Commission meeting – March 2, 2021
7.

COMMUNITY REDEVELOPMENT AGENCY

A.

RESOLUTION NO. 2021-56: A RESOLUTION OF THE CITY COMMISSION, ALSO ACTING AS THE COMMUNITY REDEVELOPMENT AGENCY, OF THE CITY OF ORMOND BEACH, FLORIDA ACCEPTING A BID FROM CHINCHOR ELECTRIC, INC. TO PROVIDE CONSTRUCTION SERVICES FOR THE BANNER POLE REPLACEMENT PROJECT UNDER BID 2021-10; AUTHORIZING THE EXECUTION OF A CONTRACT AND PAYMENT THEREFORE; AND SETTING FORTH AN EFFECTIVE DATE. (SEE ITEM 8A)

Staff Contact:

Shawn Finley, Public Works Director (386-676-3292)
8.

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.

RESOLUTION NO. 2021-56: A RESOLUTION OF THE CITY COMMISSION, ALSO ACTING AS THE COMMUNITY REDEVELOPMENT AGENCY, OF THE CITY OF ORMOND BEACH, FLORIDA ACCEPTING A BID FROM CHINCHOR ELECTRIC, INC. TO PROVIDE CONSTRUCTION SERVICES FOR THE BANNER POLE REPLACEMENT PROJECT UNDER BID 2021-10; AUTHORIZING THE EXECUTION OF A CONTRACT AND PAYMENT THEREFORE; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact:

Shawn Finley, Public Works Director (386-676-3292)
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- B. **RESOLUTION NO. 2021-57:** A RESOLUTION AUTHORIZING THE EXECUTION OF A RELEASE AND TERMINATION OF UNITY OF TITLE AGREEMENT ON PROPERTY LOCATED AT 2 INDIANHEAD DRIVE AND 6 INDIANHEAD DRIVE; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Steven Spraker, Planning Director (386-676-3341)

- C. **RESOLUTION NO. 2021-58:** A RESOLUTION AUTHORIZING THE SOLE SOURCE PROCUREMENT OF EQUIPMENT AND SERVICES FROM AQUA-AEROBIC SYSTEMS, INC. TO REPAIR SAND FILTER #1 AT THE WATER RECLAMATION FACILITY; AUTHORIZING THE EXECUTION OF A CONTRACT AND PAYMENT THEREFORE; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Shawn Finley, Public Works Director (386-676-3292)

- D. **RESOLUTION NO. 2021-59:** A RESOLUTION ACCEPTING A PROPOSAL FROM ZEV COHEN & ASSOCIATES, INC. FOR DESIGN SERVICES REGARDING PHASE IV OF THE 2-INCH WATER MAIN REPLACEMENT PROJECT ON THE MAINLAND; AUTHORIZING THE EXECUTION OF A WORK AUTHORIZATION THERETO; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Shawn Finley, Public Works Director (386-676-3292)

- E. **RESOLUTION NO. 2021-60:** A RESOLUTION ACCEPTING A PROPOSAL FROM MCKIM & CREED, INC. FOR DESIGN SERVICES REGARDING PHASE IV OF THE 2-INCH WATER MAIN REPLACEMENT PROJECT ON THE NORTH PENINSULA; AUTHORIZING THE EXECUTION OF A WORK AUTHORIZATION THERETO; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Shawn Finley, Public Works Director (386-676-3292)

- F. **Request for Proposals - Aerial Fireworks Display (RFP No. 2021-15)**

Staff Contact: Robert Carolin, Leisure Services Director (386-676-3279)

Disposition: Approve as recommended in the City Manager memorandum dated March 16, 2021.

- G. **Riverside Drive Road Closure for Fiber Optic Conduit Installation**

Staff Contact: Shawn Finley, Public Works Director (386-676-3292)

Disposition: Approve as recommended in the City Manager memorandum dated March 16, 2021.

- H. **Lincoln Ave RR Grade Crossing Rehab**

Staff Contact: Shawn Finley, Public Works Director (386-676-3292)

Disposition: Approve as recommended in the City Manager memorandum dated March 16, 2021.

9. PUBLIC HEARINGS

- A. **ORDINANCE NO. 2021-10:** AN ORDINANCE AMENDING THE FUTURE LAND USE ELEMENT OF THE COMPREHENSIVE PLAN OF THE CITY OF ORMOND BEACH BY AMENDING THE FUTURE LAND USE MAP TO CHANGE THE DESIGNATION OF 2.81± ACRES OF REAL PROPERTY LOCATED AT 1190 WEST GRANADA BOULEVARD, FROM “OPEN SPACE/CONSERVATION” TO “MEDIUM DENSITY RESIDENTIAL”; PROVIDING FOR CONFLICT; AUTHORIZING TRANSMITTAL; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Steven Spraker, Planning Director (386-676-3341)

10. SECOND READING OF ORDINANCES

- A. **ORDINANCE NO. 2021-09:** AN ORDINANCE APPROVING THE FINAL PLAT FOR THE “ PINELAND P.R.D. SUBDIVISION – PHASES 4 & 5”, A PLANNED RESIDENTIAL DEVELOPMENT; ESTABLISHING CONDITIONS AND EXPIRATION DATE OF APPROVAL; AND SETTING FORTH AN EFFECTIVE DATE. **(SECOND READING)**

Staff Contact: Steven Spraker, Planning Director (386-676-3341)

11. RESOLUTIONS

- A. **RESOLUTION NO. 2021-63:** A RESOLUTION DECLARING THE INTENTION OF THE CITY COMMISSION TO CONSIDER VACATING A PORTION OF FLAGLER ROAD ABUTTING 1480 NORTH U.S. HIGHWAY 1, VOLUSIA COUNTY PARCEL NUMBER 3136-01-59-0010; ESTABLISHING A TIME CERTAIN FOR A PUBLIC HEARING; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Steven Spraker, Planning Director (386-676-3341)

- B. **RESOLUTION NO. 2021-64:** A RESOLUTION DECLARING THE INTENTION OF THE CITY COMMISSION TO CONSIDER VACATING TWO (2) UNNAMED ALLEYS LYING BETWEEN LOT(S) 1 -30, BLOCK 59, NATIONAL GARDENS SUBDIVISION, AS RECORDED IN MAP BOOK 10, PAGE 250-253, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA WITHIN THE PROPERTY AT 1480 NORTH U.S. HIGHWAY 1, VOLUSIA COUNTY PARCEL NUMBER 3136-01-59-0010; ESTABLISHING A TIME CERTAIN FOR A PUBLIC HEARING; AND SETTING FORTH AN EFFECTIVE DATE.

Staff Contact: Steven Spraker, Planning Director (386-676-3341)

12. REPORTS, SUGGESTIONS, REQUESTS

13. ADJOURNMENT

Item #1 – Meeting Call to Order

Mayor Partington called the meeting to order at 7:00 p.m.

Item #2 – Invocation

Pastor Kevin Mahoney, Rima Ridge Baptist Church, gave the invocation.

Item #3 – Pledge of Allegiance

Mayor Partington led the Pledge of Allegiance.

Item #4 – Presentations and Proclamations

Item #4A – Jenn Elston – News Journal’s 40 Under Forty

Mayor Partington presented Public Information Officer Ms. Jenn Elston with a certificate from the Daytona Beach News Journal (News Journal) for being an honoree in their 40 Under Forty Program. Mayor Partington discussed the News Journal’s program in further detail and congratulated Ms. Elston on her accomplishments.

Item #4B – Colby Cilento

Mayor Partington presented a surprise proclamation to former City Clerk Ms. Colby Cilento. He discussed Ms. Cilento’s career at the City of Ormond Beach and thanked her for her years of service. He declared March 16, 2021, as a day to recognize Ms. Cilento for her achievements. He gifted her with a key to the city and wished her the best in her future career endeavors.

Item #5 – Audience Remarks

Mayor Partington noted that Ms. Susan Hurrell had signed up to speak during audience remarks but was not present.

Ms. Jane Corkum, 18 Timucuan Drive, discussed her support for keeping the former Riverbend Golf Course (Riverbend) operating as a golf course. She listed the benefits of the sport and discussed the site of the course. She stated she was speaking on behalf of her group in attendance and encouraged the Commission to keep the site operating as a golf course.

Mr. Travis Sargent, 406 North Beach Street, noted he had met with an attorney regarding the merging of Osceola Elementary (Osceola) and Ortona Elementary (Ortona) at the Ortona site. He discussed the advice and information he was provided with by the attorney. He expressed his disapproval of the merger and encouraged the Commission to prioritize communication with other elected officials.

Item #6– Approval of Minutes

Mayor Partington advised the minutes of the March 2, 2021, meeting had been sent to the Commission for review and were posted on the city’s website for public viewing. He asked for any corrections, additions, or omissions. He stated that hearing no corrections, the minutes would stand approved as presented.

Item #7 – Community Redevelopment Agency

Mayor Partington advised the following item was a Community Redevelopment item. He explained that the City Commission served as the Community Redevelopment Agency (CRA) of the city and must review the item and make a recommendation as the CRA.

Mayor Partington recessed the City Commission meeting, called the CRA meeting to order, and opened the public hearings, at 7:16 p.m.

Item #7A – Banner Pole Replacement Bid Award 2021-10

Assistant City Clerk Wendy Hontz read by title only:

RESOLUTION NO. 2021-56

A RESOLUTION OF THE CITY COMMISSION, ALSO ACTING AS THE COMMUNITY REDEVELOPMENT AGENCY, OF THE CITY OF ORMOND BEACH, FLORIDA ACCEPTING A BID FROM CHINCHOR ELECTRIC, INC. TO PROVIDE CONSTRUCTION SERVICES FOR THE BANNER POLE REPLACEMENT PROJECT UNDER BID 2021-10; AUTHORIZING THE EXECUTION OF A CONTRACT AND PAYMENT THEREFORE; AND SETTING FORTH AN EFFECTIVE DATE. **(SEE ITEM 8A)**

Mayor Partington noted no audience cards had been submitted on the item.

Commissioner Kent moved, seconded by Commissioner Selby, for approval of Resolution No. 2021-56, as read by title only.

The motion passed by voice vote.

Mayor Partington closed the public hearing, adjourned the CRA meeting, and reconvened the City Commission meeting at 7:17 p.m.

Item #8 – Consent Agenda

Mayor Partington 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 Selby moved, seconded by Commissioner Persis, for approval of the consent agenda.

Call Vote:	Commissioner Kent	Yes
	Commissioner Persis	Yes
	Commissioner Littleton	Yes
	Commissioner Selby	Yes
Carried.	Mayor Partington	Yes

Item #9 – Public Hearings

Mayor Partington opened the public hearings.

Item #9A – 1190 West Granada Boulevard, land use amendment

Assistant City Clerk Wendy Hontz read by title only:

ORDINANCE NO. 2021-10
AN ORDINANCE AMENDING THE FUTURE LAND USE ELEMENT OF THE COMPREHENSIVE PLAN OF THE CITY OF ORMOND BEACH BY AMENDING THE FUTURE LAND USE MAP TO CHANGE THE DESIGNATION OF 2.81± ACRES OF REAL PROPERTY LOCATED AT 1190 WEST GRANADA BOULEVARD, FROM “OPEN SPACE/CONSERVATION” TO “MEDIUM DENSITY RESIDENTIAL”; PROVIDING FOR CONFLICT; AUTHORIZING TRANSMITTAL; AND SETTING FORTH AN EFFECTIVE DATE.

Mr. Steven Spraker, Planning Director, explained the item was a request for a comprehensive plan amendment to change the land use of the property located at 1190 West Granada Boulevard from Open Space/Conservation to Medium Density Residential (MDR). He provided details on the process the applicant would need to go through if the item was approved by the Commission. He discussed feedback in opposition of the amendment, including a letter signed by residents in Sagebrush Trails, an email from resident Ms. Connie Colby, 108 Roble Lane; and a phone conversation with Mr. Moore, 222 Sagebrush Trail.

Mr. Spraker reviewed a PowerPoint presentation that displayed images of the area and the assigned land uses of the property and surrounding sites. He discussed the Open Space/Conservation land use and explained the city changed the designated land use of the subject property from Office Professional to Open Space/Conservation in 1993. He stated the property was designated as a Florida Department of Transportation (FDOT) borrow pit, noting FDOT was not subject to the city’s land use assignments. He stated the applicant provided a survey and environmental analysis of the site and there were no determined environmental characteristics that would prevent future development of the site. He discussed access to the property and noted the applicant was seeking to build townhomes. He explained with the suggested land use of MDR, there would be a restriction of 18 units allowed. He stated when the applicant purchased the land it was assigned an Open Space/Conservation land use and changing the land use designation was a discretionary action by the Commission. He noted the Planning Board recommended approval 4-2 and staff recommended approval.

Commissioner Littleton inquired if the Open Space/Conservation land use protected all trees on the property; whereby, Mr. Spraker stated it did not and provided examples of other sites with the same land use that had development activity, but noted there would be a requirement that 15 percent of the site be retained for tree preservation.

Commissioner Persis verified the townhomes proposed for the site would be similar to the ones located next to the property in the Trails South Forty subdivision; whereby, Mr. Spraker stated he believed the goal of the applicant was to replicate the adjacent townhomes.

Commissioner Persis discussed the letter that had been signed by residents in opposition of the project. She questioned which neighborhood residents signed the letter; whereby, Mr. Spraker stated it was signed by residents on Sagebrush Trail.

Mr. Joey Posey, Attorney for the Applicant, noted he believed the residents who had signed the letter in opposition of the project were against the original plan for the site, which proposed adding a connection from the site to Sagebrush Trail. He explained the current plan did not include a connection to Sagebrush Trail. He discussed the original plan for the project site and the changes that had occurred. He stated the goal of the applicant was to match the townhomes that were adjoining the property, with a cap of 18 units. He noted the current proposed development of townhomes seemed more logical than the site becoming an FDOT borrow pit. He stated from a traffic perspective, he believed the MDR land use was the most compatible.

Commissioner Kent noted the project seemed unfair to the site's neighboring residents who had purchased their homes with the knowledge of the zoning and land uses surrounding them. He provided examples as to why he believed the item was unfair and noted the request did not sit well with him. He questioned why the applicant purchased the land with a designation of Open Space/Conservation and was now attempting to change the land use and put townhomes on the property; whereby, Mr. Posey noted the original land use for the property was intended to be Office Professional and the Open Space/Conservation land use was only logical if the site was turned into a borrow pit.

Mr. Posey noted the property was originally planned to become a retention pond and stated he believed residents surrounding the site would not want a retention pond near their properties. He reiterated his belief that the site would have the best usage if it was compatible with its neighboring property land uses. He discussed the project goals in detail and noted comments that were made during the Planning Board meeting.

Commissioner Kent discussed other borrow pits in the city that had an appealing appearance, noting residents may approve of a borrow pit at the site.

Commissioner Persis stated she had visited the site and the lot was less than three acres. She noted the project affected many residents and stated she preferred to keep the land use assignment of Open Space/Conservation. She noted she believed the applicant would not be able to get 18 units at the site and stated she would prefer to see the green space left alone.

Mr. Posey reiterated the site was originally planned to be Office Professional, but due to FDOT wanting to turn the site into a borrow pit it was assigned Open Space/Conservation. He stated 18 units for the project was ambitious, but noted the site plan would reveal further details in the future.

Mr. Steve Moltane, 216 Sagebrush Trail, discussed his disapproval of the project. He noted when he purchased his property near the site he was surrounded by retention ponds and a conservation area. He stated he and many of his neighbors appreciated the surrounding conservation and were not in favor of the project. He noted the applicant purchased the land with the Open Space/Conversation land use assignment and felt the property should remain with that land use.

Mayor Partington stated when viewing the agenda packet materials, the exit for the site appeared to be connected to Sagebrush Trail, which he noted he preferred over traffic exiting directly onto Granada Boulevard. He questioned where the exit from the site would be; whereby, Mr. Spraker explained Yoon Way, a right-of-way that connected to Granada Boulevard, would serve as the site entry and exit.

Mayor Partington questioned why the land use assignment was proposed as MDR and not Low Density Residential (LDR); whereby, Mr. Spraker explained the Commission could assign the LDR land use if they wished to, but noted staff suggested MDR so that the site was consistent with the land use of the adjacent property.

Mayor Partington questioned how many units the applicant could achieve if the land use was LDR; whereby, Mr. Spraker stated LDR would allow a maximum of 12 units.

Mr. Spraker discussed the site plan process that would come in the future if the item was approved. He noted though the MDR allowed a maximum of 18 units, there was no way to determine what the minimum number of units at the site would be until that process was undertaken.

Commissioner Selby questioned how the property came to be assigned Open Space/Conservation; whereby, Mr. Spraker provided a detailed history of the property.

Commissioner Selby questioned if the Trails Inc. owned the parcel in 1993 if it would have likely been assigned the Open Space/Conservation land use; whereby, Mr. Spraker stated he believed that the site would have been assigned MDR in that scenario.

Commissioner Selby moved, seconded by Commissioner Littleton, for approval of Ordinance No. 2021-10, on first reading, as read by title only.

Commissioner Selby noted it was a tough situation and he understood residents’ concerns, as well as the applicant’s hopes to develop the site. He stated when viewing the aerial map, there were existing commercial uses near Sagebrush Trail. He noted he believed the only reason the land was assigned Open Space/Conservation was due to FDOT owning it and planning to turn the site into a borrow pit.

Commissioner Littleton agreed it was a tough decision, but noted he supported the item because he felt the land use was compatible with the area. He stated when the item came back before the Commission for development he would be very strict on what could be put on the site. He stated the property was in his zone and noted the development of the property, if done correctly, would be an asset to Ormond Beach and keep the adjacent property owners happy.

Commissioner Kent stated he felt the decision was an easy choice, noting the lot was assigned an Open Space/Conservation land use and the residents who purchased the homes surrounding the property did their due diligence of researching nearby land uses when purchasing their properties. He noted the land use amendment would strongly impact the lives of surrounding residents and discussed his disapproval of the item.

Commissioner Persis noted she agreed with Commissioner Kent’s comments. She explained she felt the site was not the correct place for further development. She discussed the negative impacts the amendment would have on residents near the site if it were approved.

Call Vote:	Commissioner Persis	No
	Commissioner Littleton	Yes
	Commissioner Selby	Yes
	Commissioner Kent	No
	Mayor Partington	No
Failed.		

Mayor Partington closed the public hearings.

Item #10 – Second Reading of Ordinances

Item #10A – Pineland, Phases 4 & 5, Final Plat

Assistant City Clerk Wendy Hontz read by title only:

ORDINANCE NO. 2021-09
AN ORDINANCE APPROVING THE FINAL PLAT FOR THE “PINELAND P.R.D. SUBDIVISION – PHASES 4 & 5”, A PLANNED RESIDENTIAL DEVELOPMENT; ESTABLISHING CONDITIONS AND EXPIRATION DATE OF APPROVAL; AND SETTING FORTH AN EFFECTIVE DATE.
(SECOND READING)

Mayor Partington noted no audience cards had been submitted on the item.

Commissioner Selby moved, seconded by Commissioner Kent, for approval of Ordinance No. 2021-09, on second reading, as read by title only.

Call Vote:	Commissioner Littleton	Yes
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	Commissioner Selby	Yes
	Commissioner Kent	Yes
	Commissioner Persis	Yes
Carried.	Mayor Partington	Yes

Item #11 – Resolutions

Item #11A – Notice of Intent, right-of-way vacation - 5 foot portion of Flagler Road (1480 N US HWY 1)

Assistant City Clerk Wendy Hontz read by title only:

RESOLUTION NO. 2021-63
A RESOLUTION DECLARING THE INTENTION OF THE CITY COMMISSION TO CONSIDER VACATING A PORTION OF FLAGLER ROAD ABUTTING 1480 NORTH U.S. HIGHWAY 1, VOLUSIA COUNTY PARCEL NUMBER 3136-01-59-0010; ESTABLISHING A TIME CERTAIN FOR A PUBLIC HEARING; AND SETTING FORTH AN EFFECTIVE DATE.

Mr. Spraker displayed a PowerPoint presentation that included a map of the property site. He noted the property was under application for an Ormond Ace Hardware and explained the request was to vacate a five-foot right-of-way of Flagler Road. He stated the Site Plan Review Committee (SPRC) reviewed the right-of-way and determined the subject area had no current or future public use and recommended approval. He stated if the item were approved, it would come before the Commission in April, 2021 as an ordinance.

Mayor Partington noted no audience cards had been submitted on the item.

Commissioner Kent moved, seconded by Commissioner Persis, for approval of Resolution No. 2021-63, as read by title only.

Commissioner Selby questioned if the property owner to the south of the subject property on the map also had a five-foot right-of-way; whereby, Mr. Spraker stated that they did.

Commissioner Selby and Mr. Spraker discussed Flagler Road and the right-of-way location in further detail.

Commissioner Kent questioned if the proposed Ormond Ace Hardware would be an additional location to the Ormond Ace Hardware on Granada Boulevard; whereby, Mr. Jeff Gross, Applicant, stated the proposed store was planned to be in addition to the Granada Boulevard location.

Commissioner Kent encouraged Mr. Gross to consider opening an Ormond Ace Hardware on the beachside.

Call Vote:	Commissioner Selby	Yes
	Commissioner Kent	Yes
	Commissioner Persis	Yes
	Commissioner Littleton	Yes
Carried.	Mayor Partington	Yes

Item #11B – Notice of Intent, right-of-way vacation - two (2) 15 ft alleys (1480 N US HWY 1)

Assistant City Clerk Wendy Hontz read by title only:

RESOLUTION NO. 2021-64
A RESOLUTION DECLARING THE INTENTION OF THE CITY COMMISSION TO CONSIDER VACATING TWO (2) UNNAMED ALLEYS LYING BETWEEN LOT(S) 1 -30, BLOCK 59, NATIONAL GARDENS SUBDIVISION, AS RECORDED IN MAP BOOK 10, PAGE 250-253, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA WITHIN THE PROPERTY AT 1480 NORTH U.S. HIGHWAY 1, VOLUSIA COUNTY PARCEL NUMBER 3136-01-59-0010; ESTABLISHING A TIME CERTAIN FOR A PUBLIC HEARING; AND SETTING FORTH AN EFFECTIVE DATE.

Mr. Spraker stated the property site was the same location as the previous item. He noted when the plat for the site was done in 1926 there were two alleys that were located within the property and the alleys needed to be vacated so that the applicant could move forward with their site plan.

Mayor Partington noted no audience cards had been submitted on the item.

Commissioner Selby moved, seconded by Commissioner Kent, for approval of Resolution No. 2021-64, as read by title only.

Call Vote:	Commissioner Kent	Yes
	Commissioner Persis	Yes
	Commissioner Littleton	Yes
	Commissioner Selby	Yes
Carried.	Mayor Partington	Yes

#12 – Discussion Items

#12A – Future Use and Maintenance of Riverbend Golf Course Airport Property

Mr. Brian Rademacher, Economic Development Director, noted staff was seeking direction from the Commission on the future use of the former Riverbend Golf Course site and on identifying a level of maintenance for the land. He reviewed a map of the property and discussed the site in detail, noting the property consisted of three distinct land areas. He stated the land use for the site was Recreation/Open Space with a zoning of Special Environmental (SE). He explained the site was on airport property and discussed guidelines provided by the Federal Aviation Administration (FAA) and the city’s obligations as the airport sponsor. He noted the FAA currently identified golf courses as an incompatible use on airport property. He stated the FAA strongly discouraged maintaining the site as a golf course and listed reasons why in detail.

Mr. Rademacher reviewed three different maintenance options for the property: maintenance of accessible areas only for 777 dollars monthly, basic mowing and line trimming of the entire course for 17,280 dollars monthly, and comprehensive maintenance for 90,580 dollars monthly. He discussed costs that surrounding cities paid for operating and maintaining municipal golf courses and their financial losses. He noted the course would require significant improvements to bring it to a competitive level of play. He stated staff recommended proceeding with a land use plan analysis to determine potential future uses of the site and recommended basic ground maintenance of accessible areas only. He stated upon completion of the future land use plan, staff would review the results with the Commission for further direction.

Commissioner Persis inquired who would perform the land use plan analysis and how much it would cost; whereby, Mr. Rademacher stated the city would likely use an aviation engineering firm and the cost would depend on the level of scope, but could range between 20,000 to 50,000 dollars.

Mayor Partington questioned if the funds for the analysis would be reimbursable by FDOT; whereby, Mr. Rademacher stated he was unsure, but noted staff would look into that option.

Commissioner Selby confirmed that staff was suggesting the site not reopen as a golf course; whereby, Ms. Joyce Shanahan, City Manager, stated that was correct.

Commissioner Selby noted if the Commission was not going to reopen the site as a golf course, the higher-cost maintenance plans would not be necessary. He discussed the future land use plan analysis in further detail. He questioned if the city’s airport consultant would be involved in performing the analysis for the two parcels of the site located closest to the airport; whereby, Ms. Shanahan stated that was correct and noted the city would provide the consultant with guidance.

Ms. Shanahan stated if the scope for the analysis was greater than 25,000 dollars the item would come back before the Commission for approval. She explained the third parcel of land between Airport Road and the Tomoka River was maintained for conservation and staff was planning to maintain the conservation area for the current time.

Commissioner Selby and Ms. Shanahan discussed the future land use plan analysis and various options for the parcels.

Commissioner Selby stated it was unfortunate that the course was closing and that Ormond Beach would not have a public golf course. He discussed the closure of other courses and the costs other cities paid to maintain their municipal golf courses. He stated several residents had approached him and requested the Commission consider subsidizing golf, but noted the cost to the city would be very high. He stated many golfers who utilized Riverbend Golf Course did not live within the city and were not taxpayers. He provided a detailed history of the course and its ownership. He reiterated that it was unfortunate Riverbend would not remain a golf course, but believed it was the prudent choice for the city to make. He stated he supported staff's recommendations of the future land use plan analysis and suggested level of maintenance.

Commissioner Kent stated he believed that cities struggled to make a profit off of recreational activities. He discussed events held in the city by non-residents and felt the city should be hosting those events. He stated he approved of the 777 dollars monthly for minimal maintenance of the site and also supported the future land use plan analysis.

Commissioner Persis stated she approved of staff's recommendation for both items as well. She noted she felt sorry for those who enjoyed the course, but felt the Commission was making the correct decision.

Commissioner Littleton stated he agreed with staff's recommendations. He concurred with comments made by other Commissioners and discussed the challenges with the FAA not wanting a golf course at the site. He noted it was sad to see the change occur.

Mayor Partington stated he also agreed with both of staff's recommendations and provided reasons why. He discussed reports provided by Mr. Terry Buchen from Golf Agronomy International, LLC, as well as a report from Bomar Construction that listed the costs of improvements that would be needed to bring the course up to improvement. He stated he felt the cost to maintain the site as a golf course was too high. He explained while it was sad the course would close, he believed it was the right decision. He requested the report by Mr. Buchen be included as part of the record.

Ms. Shanahan stated she would work on the specifics of the master planning process and would come back before the Commission if staff needed clarification on any other decision points.

Mayor Partington questioned if the Commission needed to make a motion; whereby, Mr. Randy Hayes, City Attorney, stated the Commission could make a motion if they wished to provide clarification.

Commissioner Persis moved that staff proceed with obtaining a land use plan analysis to determine potential future uses of the former golf course site, and pay 777 dollars monthly, or 9,324 dollars annually, to keep the basic grounds maintenance in the areas accessible, seconded by Commissioner Selby.

Call Vote:	Commissioner Persis	Yes
	Commissioner Littleton	Yes
	Commissioner Selby	Yes
	Commissioner Kent	Yes
Carried.	Mayor Partington	Yes

Item #13 – Reports, Suggestions, Requests

Bike Week

Ms. Shanahan discussed the bike week event that had taken place the week prior, noting the city unfortunately had two fatalities. She stated there had been complaints of loud music, but noted overall the event was successful.

Ms. Shanahan, Commissioner Kent, Commissioner Persis, Commissioner Littleton, and Commissioner Selby discussed the bike week event and thanked the Ormond Beach Police Department, Ormond Beach Fire Department, and all first responders for their dedicated work over the course of the event.

Ms. Claire Whitley, Assistant City Manager, thanked the Ormond Beach Fire Department for allowing her to attend a ride-along during bike week.

Projects

Ms. Shanahan provided updates on the following projects taking place within the city: FDOT 1-95 and U.S. Highway One Interchange project, U.S. Highway One watermain and forcemain projects, the MacDonald House improvements, and renovations to The Casement's Carriage House.

Commissioner Kent complimented the MacDonald House project.

Leisure Services Master Plan Update

Ms. Shanahan noted staff was working on scheduling the Leisure Services Master Plan (Master Plan) consultant to meet with the Commission. She noted there would be a public meeting held on Wednesday, March 31, 2021, at 6:00 p.m. at the South Ormond Neighborhood Center (SONC) to receive public feedback on the Master Plan. She explained a joint Quality of Life Advisory Board and Leisure Services Advisory Board meeting would be held on Thursday, April 1, 2021, at 11:30 a.m. at the SONC to discuss the Master Plan as well. She stated staff was looking into placing QR codes through-out city parks that allowed residents to respond to surveys and provide input through their mobile devices.

Commissioner Littleton stated he hoped that the Ormond Beach Limitless Playground would receive a QR code station for the survey.

Audience Members

Commissioner Kent recognized the following audience members in attendance: Mr. Randy Crabtree, Mr. Gregory Stokes, Mr. Doug Thomas, and Mr. Joe Daniels.

Commissioner Selby greeted applicant Mr. Jeff Gross and those in attendance with him. He stated his excitement for the new Ormond Ace Hardware coming to North U.S. Highway One.

Mayor Partington recognized Mr. Joe Daniels and thanked him for attending.

Compliments and Thanks

Commissioner Kent complimented Mr. Spraker for his knowledge and hard work as the Planning Director for the City of Ormond Beach.

Commissioner Kent thanked the Public Works Department for their dedication and hard work.

Commissioner Kent, Commissioner Persis, and Mayor Partington complimented former City Clerk Ms. Colby Cilento.

Commissioner Persis complimented the city's Wigley T-Ball field dedicated after Mr. Doug Wigley.

Events

Commissioner Persis wished everyone a happy St. Patrick's Day and Easter holiday.

Commissioner Selby noted Ormond MainStreet (MainStreet) had discussed various upcoming events at their past board meeting. He discussed the details and proposed dates for the following events: Spring Fling, Taste of Ormond, Ormond Riverfest, and the Celtic Festival.

Mayor Partington discussed a surprise party he attended at the Nova Recreation Center to celebrate Coach Plemon Hill's 45-year anniversary with the City of Ormond Beach.

Letter from Volusia County Chair

Commissioner Selby addressed a letter the city had received from Volusia County Chair Mr. Jeff Brower regarding the 76 lots at Plantation Oaks that Volusia County was considering purchasing for land preservation. He noted Mr. Brower had asked the City of Ormond Beach to contribute 100,000 dollars to the purchase price. He stated he felt the request was unfair, as Ormond Beach taxpayers already contributed to ECHO funds and Volusia Forever Funds, which were proposed to be utilized for the purchase of the lots. He suggested sending a response letter to Mr. Brower and the Volusia County Council and requested input from the other Commissioners.

Commissioner Persis stated she agreed with Commissioner Selby and felt it would be polite to write a letter in response to Mr. Brower.

Mayor Partington explained the letter the city received from Mr. Brower requested that Ormond Beach residents pay twice the amount of dollars than other Volusia County residents for the purchase of the lots. He discussed his opposition of providing the funds. He noted he preferred Commissioner Kent's comments regarding not responding to the letter.

Mayor Partington requested Ms. Shanahan draft a letter in response to Mr. Brower. He stated the letter should acknowledge receipt of Mr. Brower's correspondence, decline the monetary request being made of the city, and note the Commission did not support use of city general funds for this purpose. He stated he would sign the letter on the Commission's behalf; whereby, all members of the Commission approved.

Commissioner Selby noted he would be welcoming a new granddaughter soon and expressed his excitement.

The meeting was adjourned at 8:45 p.m.

BY:

Bill Partington, Mayor

Wendy Hontz,
Assistant City Clerk



CITY OF ORMOND BEACH

City Manager • 22 S. Beach Street • Ormond Beach • Florida • 32174 • (386) 676-3200 • Fax (386) 676-3384

CITY MANAGER MEMORANDUM

To: The Honorable Mayor Partington and City Commissioners

Through: Joyce A. Shanahan, City Manager

From: Steven Spraker, Planning Director

Date: April 6, 2021

Subject: 100 West Granada Boulevard, Building Improvement Grant first extension

Commission Goal: Community Development - Other

Introduction

This is a request by Dorian Burt, authorized agent for the property owner, HEJAH, LLC, for the first extension of the approved Building Improvement Grant at 100 West Granada Boulevard. The extension seeks to extend the expiration date of the grant for 365 days (May 17, 2022) to complete the project improvements. The grant amount previously approved is \$50,000.00.

Background

The properties located at 124 and 100 West Granada Boulevard were combined in June 2019. 124 West Granada Boulevard is the Sunshine Cleaners old site and 100 West Granada Boulevard is the old gas station site. Per the Volusia County Property Appraiser's records, the buildings were originally constructed in 1963.

The building located at 100 West Granada Boulevard was originally designated for demolition as part of the Pumphouse BBQ Restaurant project approved by Special Exception, via Resolution No. 2018-133, on September 19, 2018. This Special Exception and concept have expired. The property owner purchased the former dry cleaner building at 124 West Granada Boulevard and has an approved site plan to locate the barbecue restaurant where the former dry cleaner store was located. The property owner has indicated a desire for an ice cream/dessert shop at the 100 West Granada Boulevard site.

On September 18, 2019, the City Commission, also acting as the Community Redevelopment Agency, authorized the execution of a building improvement grant agreement, Resolution No. 2019-163, between the City and HEJAH, LLC in the amount of \$50,000 for the property at 100 West Granada Boulevard. The project approved the following:

1. New exterior openings to accommodate additional windows and doors;

2. Modifications to the exterior elevations to enhance the overall appearance;
3. The addition of a parapet wall to screen the roof mounted HVAC units;
4. Install new membrane roof; and
5. Install new exterior lighting and signage.

The project obtained a building permit on October 29, 2019 and the site permit on November 1, 2019. On April 21, 2020, based upon Section 5 of the grant agreement within Resolution No. 2019-163, the Planning Director did extend the grant expiration 240 days from September 17, 2020, to May 17, 2021, based on the applicant's request.

Discussion

On March 9, 2021, City staff received a written request from the applicant that stated:

"The project has had numerous delays, Covid, shortage of construction materials, Florida boom delaying availability of subcontractors and many issues with the sidewalk and FDOT. For these reasons we respectfully request this extension."

City staff does not have the ability to approve any additional extensions and the applicant is seeking an extension from the City Commission, also acting as the Community Redevelopment Agency, from May 17, 2021, to May 17, 2022.

Budget Impact

The project has an approved grant allocation of \$50,000. The requested extension would not impact the downtown area budget. There are sufficient funds to fund the grant extension if desired by the City Commission.

Citizen Impact

The purpose of the Building Improvement Grant Program within the Community Redevelopment Area (CRA) is to eliminate blight by assisting existing property and business owners in improving their properties. When property and business owners improve their properties, they are able to create an aesthetically attractive downtown that is a pleasant experience for shoppers, merchants, and visitors, that also helps stimulate private investment. The extension is not expected to result in any negative citizen impact.

Recommendation

It is recommended that the City Commission **APPROVE** a Building Improvement Grant extension of 365 days, from May 17, 2021 to May 17, 2022 to complete the project improvements for the property at 100 West Granada Boulevard, as shown in the attached resolution and grant agreement. The amount of the approved grant is \$50,000.

Attachments:

- 21-65 100 W Granada Blvd-Building Improvement Grant First Extension (P21-0038G) (PDF)
- First Amendment to the Building Improvement Grant Program Grant Agreement (P21-0038G) (PDF)
- Hejaha 100 W Granada grant ext ltr signed (PDF)
- 100 West Granada Boulevard, aerial exhibit (PDF)
- 100 West Granada Boulevard, building elevation (PDF)
- 100 West Granada Boulevard, site landscape plan (PDF)

REVIEWED BY:


 Kelly McGuire, Finance Director 3/16/2021


 Claire Whitley, Assistant City Manager 3/29/2021

APPROVED BY:


 Joyce A. Shanahan, City Manager 3/31/2021

RESOLUTION NO. 2021-65

A RESOLUTION OF THE CITY COMMISSION, ALSO ACTING AS THE COMMUNITY REDEVELOPMENT AGENCY, OF THE CITY OF ORMOND BEACH, FLORIDA, AUTHORIZING THE FIRST AMENDMENT TO THE CITY OF ORMOND BEACH BUILDING IMPROVEMENT GRANT PROGRAM GRANT AGREEMENT BETWEEN THE CITY/AGENCY AND HEJAH, LLC TO EXTEND THE EXPIRATION DATE THEREOF TO MAY 17, 2022 TO THE AGREEMENT; AND SETTING FORTH AN EFFECTIVE DATE.

WHEREAS, the City Commission approved Resolution No. 84-74 declaring the Central Business District (“District”), as described therein, to be a Community Redevelopment Area in accordance with section 163.357, *Florida Statutes*, and

WHEREAS, Resolution 84-74 further declared the City Commission to be the Community Redevelopment Agency (“Agency”) for the District, and

WHEREAS, in accordance with section 163.387, *Florida Statutes*, the City Commission approved Ordinance No. 84-34 establishing a Redevelopment Trust Fund (“Trust Fund”) for the Agency in accordance with the said statutory provisions, and

WHEREAS, by Resolution No. 87-4, the City Commission approved the Granada Boulevard Master Streetscape Plan (“Granada Plan”) as the official City policy and plan for the said area, and

WHEREAS, by Resolution No. 87-53, the City Commission approved the Bovard Avenue/Vining Court Master Streetscape Plan (“Bovard Plan”) as the official City policy and plan for the said area, and

WHEREAS, together the said plans comprised the Community Redevelopment Plan (“Plan”) for the said area, and

WHEREAS, the City Commission, also acting as the Agency, approved Resolution Nos. 89-262, 93-178, 93-252, 00-155, and 01-168 readopting and amending the Granada and Bovard Plans, and

WHEREAS, the City Commission, also acting as the Agency, approved Resolution No. 2004-181, amending the Granada Plan to provide the establishment of a Property Improvement Grant Program for the District, and

WHEREAS, the City Commission, also acting as the Agency, approved Resolution 2004-187 establishing conditions for the implementation of the Property Improvement Grant Program for the District, and

WHEREAS, the City Commission, also acting as the Agency, approved Resolution 2007-157, adopting the updated master plan for the Ormond Beach Downtown Community Redevelopment Area (CRA), and

WHEREAS, the City Commission, also acting as the Agency, approved Resolution 2011-27, repealed the Property Improvement Grant Guidelines and Application Program for the Central Business District and approved a Building Improvement Grant Guidelines and Application Program (“Grant Program”) for the Downtown Redevelopment Area, and

WHEREAS, on September 18, 2019, the City Commission, also acting as the Community Redevelopment Agency authorized the execution of a Building Improvement Grant Program Grant Agreement between the City and HEJAHHA, LLC, a Florida limited liability

company in the amount of \$50,000 for the property at 100 West Granada Boulevard, which Grant Agreement is recorded in Official Records Book 7752, Pages 2565 through 2580, inclusive, of the Public Records of Volusia County, Florida, and

WHEREAS, a City building permit was obtained on October 29, 2019 and the site permit on November 1, 2019 for the improvements contained within the Grant Agreement, and

WHEREAS, on April 21, 2020, based upon Section 5 of the Grant Agreement within Resolution 2019-163, the Planning Director did extend the grant expiration 240 days from September 17, 2020 to May 17, 2021, and

WHEREAS, the project has experienced delays due to circumstances beyond the control of the Applicant and the Applicant has requested an extension to the expiration date of the Grant Agreement, said expiration date to be May 17, 2022, and

WHEREAS, the City's/Agency's planning staff has determined that Applicant's request to be reasonable and the City/Agency concurs with that determination, and

WHEREAS, the City's Finance Director and the City Manager have certified that the funds necessary for the payment of the Grant are available in Tax Increment Financing Construction Fund (307), and have not been appropriated for any other purpose, now therefore,

BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF ORMOND BEACH, FLORIDA, ALSO ACTING AS THE COMMUNITY REDEVELOPMENT AGENCY, FOR THE CENTRAL BUSINESS DISTRICT AND ADJACENT AREAS, THAT:

SECTION ONE. The Mayor of the City of Ormond Beach/Chairman of the Agency and the City Manager are hereby authorized and directed to execute the attached First Amendment to the City of Ormond Beach Building Improvement Grant Program Grant Agreement for the payment of the Grant to HEJAHA, LLC, a Florida limited liability company, under the terms and conditions set forth therein, and to pay the Grant monies from the aforesaid funds. The purpose of the First Amendment is to extend the expiration date of the Grant Agreement to May 17, 2022.

SECTION TWO. The City Clerk is hereby directed to record the First Amendment to the City of Ormond Beach Building Improvement Grant Program Grant Agreement in the public records of Volusia County.

SECTION THREE. This Resolution shall take effect immediately upon its adoption.

APPROVED AND AUTHENTICATED, this 6th day of April, 2021.

BILL PARTINGTON
Mayor, City of Ormond Beach and
Chairman, Central Business District CRA

ATTEST:

KATE SETTLE
City Clerk

**FIRST AMENDMENT
TO THE
CITY OF ORMOND BEACH
BUILDING IMPROVEMENT GRANT PROGRAM
GRANT AGREEMENT**

This agreement is hereby amended this 6th day of April, 2021 by and between the City of Ormond Beach, also acting as the Community Redevelopment Agency, a Section 163.357, Fla. Stat., agency (“Grantor”) and

APPLICANT INFORMATION

BUSINESS NAME: HEJAHA, LLC, a Florida limited liability company

PROPERTY ADDRESS: 100 West Granada Boulevard

VOLUSIA COUNTY PARCEL ID NO.: 4215-09-03-0050

PROPERTY OWNER (“Grantee”): HEJAHA, LLC, a Florida limited liability company

GRANT AWARD: \$50,000.00

BUSINESS PHONE: (386) 295-4610

WITNESSETH:

In consideration of the mutual promises of the parties hereto, the parties hereby attest and agree as follows:

SECTION 1 - OVERVIEW

The Grantor has established a grant program to further the 2007 Downtown Master Plan which allows exterior improvement projects within the Downtown Community Redevelopment Area to receive one-to-one dollar match from the Tax Increment Financing District. The maximum

eligible amount for each project is fifty percent (50%) of the total eligible costs not to exceed \$50,000.00. The matching grants are awarded by the Grantor to applicants (property owners or tenants with the consent of the property owner) on the basis of the greatest benefit to the redevelopment area as measured by the adopted Building Improvement Grant Program Guidelines. Grants are limited to the available funds appropriated by the Community Redevelopment Agency. Grant applications are reviewed individually upon an evaluation criteria. The Grantor will make the final decision on the award of Grant funds.

SECTION 2 – GRANT FUND AVAILABILITY

At the beginning of each fiscal year, the Grantor shall allocate a portion of the Tax Increment Financing fund for the Building Improvement Grant Program. The Grantor shall approve the grant request as submitted, approve the grant request with conditions, approve a portion of the grant request, or deny funding based on the criteria established in Section 6 of the Building Improvement Grant Program Guidelines. Any applicant aggrieved by the decision of the Grantor may appeal per Section 1-19 of the City's *Land Development Code*. Grant requests/applications shall be reviewed and approved on a first come basis with the funds appropriated on October 1st of each year. Projects that meet the criteria of Section 6 of the Building Improvement Grant Program Guidelines and are approved by the Grantor shall be vested on a first come basis. There shall be no applications accepted once the vested projects approval amount equals the amount budgeted for that fiscal year. Any funds appropriated for a fiscal year that are

not vested through approval, may be carried over in the Building Improvement Grant Program fund or placed back in the Tax Increment Financing Fund, at the discretion of the Grantor.

SECTION 3 – PROGRAM ELIGIBILITY

The Community Redevelopment Area Building Improvement Grant Program (BIGP) is available to:

- a. Downtown property owners or tenants (if the property owner is the applicant) of commercial buildings or mixed-use ones involving an upper floor within the Downtown Community Redevelopment Area (CRA).
- b. Improvements designed to support the 2007 Downtown Master Plan and the Downtown CRA.
- c. A building or buildings on a parcel.
- d. Tax-exempt buildings, regardless of ownership, provided the use of the property is for the arts, social events, and/or cultural and historic assets to enhance the downtown as a destination point. (Schools and houses of worship are not eligible)
- e. Site improvements directly related to building improvements. The grant will only provide assistance to site improvements with building improvements.
- f. Buildings with less than 50,000 square feet of gross leasable area and single tenant space less than 7,500 square feet. (National corporations are not eligible).

By accepting monetary assistance, all recipients agree to shared parking for the public during non-business hours unless specifically waived by the City/Agency. BIGP award(s) for each building are limited to \$50,000 cumulatively, over a five-year timeframe.

SECTION 4 – REVIEW CRITERIA

In reviewing Grant applications, the Grantor shall consider the following criteria:

- 1) The subject property for the grant application must be used for Downtown commercial buildings or mixed-uses involving an upper floor within the Downtown Community Redevelopment Area.
- 2) The following improvements and expenses may be included as ELIGIBLE expenses for projects meeting the applicable minimum qualifications:
 - a. Exterior Renovation: including, but not limited to, stucco, architectural details, replacing windows, door trims, porches, storefronts, façade renovations, painting associated with renovations;
 - b. Expansion of existing buildings;
 - c. Awnings: including the removal of old awnings and the purchase and installation of new awnings;
 - d. Energy retrofitting to the exterior of the building, such as but not necessarily limited to the following: solar panels, reflective roofing material, and exterior siding improvements for the purpose of meeting energy efficiency and reduction of greenhouse gas emissions; and
 - e. Other improvements which the Planning Department deems as enhancements to the building or result in improvements to the surrounding business community.
- 3) The following improvements are only ELIGIBLE if they are part of a qualified building improvement:
 - a. Exterior Lighting including lighting fixtures, attached or connected to a building undergoing renovation, including decorative fixtures for exterior of building or lighting for parking areas;
 - b. Site Signage: including the removal of old site signs and obsolete sign poles or fixtures. Site signage shall be defined as monument and pole signs, where permitted;
 - c. Landscaping: including, but not limited to, removal of plant materials, replacement and addition of plant materials, new window boxes and irrigation systems, when considered integral to the façade treatment of the building. The Planning Department will determine eligibility;

- d. Screening: including the screening of trash receptacles, air conditioning, utility equipment or other objects with landscape or fencing materials that compliments the building and is consistent with the Land Development Code;
 - e. Site Improvements which improves the general appearance and function of the building while supporting the concept of shared parking;
- 4) The following are INELIGIBLE costs:
- a. Improvements made prior to Grant approval.
 - b. Site improvements with NO building improvements.
 - c. Any improvements on vacant land.
 - d. Work performed that is not consistent with the approval of the City Commission.
 - e. Interior Renovations.
 - f. Improvements which are maintenance oriented that should be done for the upkeep of the building such as painting and reroofing with the same material.
 - g. Sweat Equity payments (payment for the applicant's own labor and performance for renovation or new construction work)
 - h. Permit and Recording Fees.
 - i. Design Assistance (the cost for preparing site plan or building permit drawings for the necessary approvals for the project).
 - j. Wall Signage (any signage that is affixed to any building).

SECTION 5 – PROJECT REQUIREMENTS

The project has obtained a building permit and must comply with the City's Land Development Code, Florida Building Code, and any applicable County, State or Federal regulations. On April 21, 2020, based upon Section 5 of the Grant Agreement within Resolution 2019-163, the Planning Director did extend the Grant expiration 240 days from September 17, 2020 to May 17, 2021. The expiration date of this project is hereby extended from **May 17, 2021 to May 17, 2022**, a total of three hundred and sixty-five days. If the project is not completed on

or before May 17, 2022 or an extension thereof has not been granted, then the project shall not be eligible for Grant reimbursement. Any additional Grant extensions shall require approval of the City/Agency. Grantor reserves the right to deny reimbursement payment should the final inspection reveal that the work performed was not completed in a professional and workman-like manner and/or was not completed in conformity with the approved plans, design drawings and specifications and/or the terms of this Agreement. Grantor shall notify Grantee of aforementioned poor workmanship or failure to conform to approved plans, design drawings and specifications and/or the terms of this Agreement. Such notice shall be in writing by certified mail to the address listed above.

SECTION 6 – PLANNING DEPARTMENT INTERIM REVIEW(S)

The Planning Department shall periodically review the progress of the approved contractor's work of the approved project. Such inspections shall not replace any required permit inspection by the Building Department. The Planning Department shall notify Grantee in writing by certified mail of any and all work which is not in conformance with the approved plans, design drawings and specifications. Such deficiencies shall be immediately remedied by the Grantee. At the discretion of Grantor, failure to cure deficient or improper work may result in Grantor's denial of reimbursement payment.

SECTION 7 – COMPLETION

The Grantee shall incur all initial project costs and may receive reimbursement only after all improvements have been completed in accordance with the Grant Agreement. The project shall

be deemed complete only after final inspection and approval by the Planning Department and/or Building Department and after the Grantee tenders the following to the Grantor:

- a) A properly executed and notarized contractor statement showing the full cost of the work as well as each separate component amount due to the contractor and each and every subcontractor involved in furnishing labor, materials or equipment in the work.
- b) Proof of payment of the contract cost pursuant to the contractor's statement.
- c) Proof that all required local, state and federal permits were secured.
- d) Proof that all work passed the requisite inspections.
- e) Final lien waivers from all contractors and subcontractors.

If all work is determined by Grantor to be performed in a professional and workman-like manner and is determined to be completed in conformity with the approved plans, design drawings and specifications and/or the terms of this Agreement, the Grantor shall, within thirty (30) days of receipt of items outlined above, issue a check to the Grantee in the amount specified in the Applicant Information on Page 1 hereof.

SECTION 8 – ALTERATIONS

The Grantee agrees not to alter, modify or remove the improvements made in accordance with the Agreement for a period of three (3) years without the written permission of the Grantor.

SECTION 9 – MAINTENANCE

The Grantee agrees to maintain the improvements, including landscape materials made in accordance with this Agreement for a period of three (3) years. If within the three (3) year maintenance period improvement materials are damaged by automobiles, wildlife, acts of nature,

or any other cause or such materials are stolen, it is expected that they will be replaced at Grantee's sole expense.

SECTION 10 – RELEASE AND INDEMNIFICATION

The Grantee releases the Grantor from, and agrees that the Grantor shall not be liable for, and agrees to indemnify and hold harmless the Grantor and its officials, officers, employees and agents from and against, any and all losses, claims, damages, liabilities or expenses, of every conceivable kind, character and nature whatsoever arising out of, resulting from or in any way connected with directly or indirectly with the Building Improvement Grant Program. The Grantee further agrees to pay for or reimburse the Grantor and its officials, officers, employees and agents for any and all costs, reasonable attorneys' fees, liabilities or expenses incurred in connection with investigating, defending against or otherwise in connection with any such losses, claims, damages, liabilities, or causes of action including those incurred on appeal. The Grantor shall have the right to select legal counsel and to approve any settlement in connection with such losses, claims, damages, liabilities, or causes of action.

SECTION 11 – OTHER WORK

Nothing herein is intended to limit, restrict or prohibit the Grantee from undertaking any other work in or about the subject premises which is unrelated to the Building Improvement Grant provided for in this Agreement.

WITNESSES:

CITY OF ORMOND BEACH, a Florida municipal corporation, also acting as the
CITY OF ORMOND BEACH COMMUNITY REDEVELOPMENT AGENCY

Print Name: _____

BY: _____
BILL PARTINGTON
 Mayor, City of Ormond Beach and
 Chairman, Central Business District
 Community Redevelopment Agency

Print Name: _____

ATTEST: _____
JOYCE SHANAHAN
City Manager

[illegible]

The foregoing instrument was acknowledged before me this ____ day of April, 2021, by **BILL PARTINGTON** and **JOYCE SHANAHAN**, as the Mayor of the City of Ormond Beach and Chairman of the Central Business District Community Redevelopment Agency, and the City Manager of the City of Ormond Beach, respectively. They are personally known to me.

NOTARY PUBLIC State of Florida-at-Large
Notary Seal

HEJAHHA, LLC, a Florida limited liability company

BY:

DORIAN BURT

Print Name: _____

[illegible]

The foregoing instrument was acknowledged before me this ____ day of April, 2021, by **DORIAN BURT**, as the **AUTHORIZED AGENT FOR HEJAHA, LLC**, a Florida limited liability company. She is personally known to me or has produced _____ as identification.

NOTARY PUBLIC State of Florida-at-Large
Notary Seal

Hejaha, LLC
460 Walker Street
Holly Hill, FL 32117
386 295-4610

March 9, 2021

Steven Spraker, Planning Director
City of Ormond Beach

By email

Re: 100 W. Granada Blvd. Grant extension request – no. 2

Dear Steven,

Thank you for your reminder letter reminding me of the expiration date of May 17, 2021, for completion of the project at 100 W. Granada Blvd. in order to qualify for the grant monies.

Unfortunately, Hejaha is not going to be able to complete the project by that date and is asking the City Commission to extend the completion date until May 17, 2022. I am confident that it will not take that long but do not want to have to request a third extension should the unforeseen occur.

This project has had numerous delays, Covid, shortage of construction materials, Florida's boom delaying availability of subcontractors and many issues with the sidewalk and FDOT. For these reasons we respectfully request this extension.

Sincerely,


Dorian Burt
Agent for Hejaha, LLC
Db
gemdori@aol.com





ALL PLANT MATERIAL THAT IS INSTALLED MUST BE FLORIDA NO. 1 GRADE OR BETTER ACCORDING TO THE CURRENT GRADES AND STANDARDS FOR NURSERY PLANTS, STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE.

ANY VARIATIONS FROM THE APPROVED LANDSCAPE PLAN MUST BE INITIALLY REVIEWED BY THE LANDSCAPE ARCHITECT PRIOR TO ANY PROPOSED REVISIONS TO THE LANDSCAPE PLANTING PLAN. FAILURE TO COMPLY WITH THIS PROCEDURE MAY RESULT IN REQUIRED MITIGATION AND/OR DELAY OF THIS PROJECT.

ALL FILL DIRT TO BE PLACED IN THE PROPOSED LANDSCAPE AREAS AND/OR BERMS, MUST HAVE A pH RANGE BETWEEN 5.5 AND 7.5, BE ORGANIC IN NATURE, FREE OF ROCKS AND DEBRIS, AND MATCH NATIVE EXISTING SOILS.

CURVILINEAR LANDSCAPE BEDS ARE TO BE EDGED WITH SMOOTH FLOWING CURVES. STRAIGHT-LINE LANDSCAPE BEDS ARE TO BE EDGED IN A STRAIGHT LINE AND MUST BE PARALLEL TO PARKING LOTS, WALKWAYS, AND/OR STRUCTURES UNLESS INTENTIONALLY DESIGNED TO MEANDER.

BANJA 'ARGENTINE' SOLID SOD IS TO BE USED IN ALL OPEN SOODED AREAS AS SHOWN ON THIS PLAN AND THE LANDSCAPE IRRIGATION PLAN. ALL OPEN SPACE AREAS, INCLUDING BUT NOT LIMITED TO ALL DISTURBED AREAS, RETENTION AREAS, AREAS SUBJECT TO POSSIBLE EROSION, RIGHT-OF-WAYS (R.O.W.), ETC., SHALL ALSO BE SOODED WITH BANJA 'ARGENTINE' SOLID SOD. OR SOLID BERMUDA SOD. ALSO, REFERENCE AND SEE CIVIL ENGINEERING DWGS FOR SOODED LIMITATIONS OF SOD AT WET AND/OR DRY RETENTION AREAS, AND THE EDGE OF PAVEMENTS AND R.O.W.

THE IRRIGATION SYSTEM SHALL MEET SECTION 808.04 OF THE VOLUSIA CODE.

REMOVE ALL NON-Biodegradable NYLON TREE BALL STRAPPING AND REMOVE THE BURLAP FROM THE TOPS OF ALL ROOTBALLS THAT ARE BAB (BURLAPPED) AND BALLED IF CONTAINER TREES ARE NOT INSTALLED. ALSO, REMOVE THE TREE BALL HOISTING BASKET HOOKS. SEE TREE PLANTING DETAIL.

ALL IRRIGATION BACK-FLOW DEVICES WILL BE VISUALLY SCREENED WITH LANDSCAPING AND PAINTED BLACK AND/OR NILE GREEN. MODIFY ALL SHRUB PLANTINGS AND IRRIGATION HEAD LAYOUT FOR EXISTING TREE AND PALMS ON SITE DESIGNED TO REMAIN.

A MINIMUM THREE-FOOT (3') GRASS RING SHALL BE INSTALLED AROUND EACH CATCH BASIN LOCATED WITHIN ANY LANDSCAPE AREA. THE CONTRACTOR IS TO BE SURE THAT NO MULCH CAN FLOW INTO THESE BASINS.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ANY PROPOSED TREES AND SHRUBS TO BE PRESERVED. SEE TREE PROTECTION DETAIL. NO VEHICLES OR MATERIALS SHALL BE PLACED UNDER OR AROUND THESE TREES TO REMAIN.

ALL EXISTING SHRUBS, GROUND COVERS AND TREES NOT SHOWN TO REMAIN ARE TO BE REMOVED ALONG WITH THEIR ROOT SYSTEM. ALL UNDERBRUSH, STUMPS, AND DEAD BRANCHES ARE TO BE REMOVED ON ALL EXISTING REMAINING TREES AND PALMS. ALL WORK AROUND SPECIMEN TREES WILL BE LIMITED TO HAND LABOR AND TOOLS.

ALL EVASIVE EXOTIC PLANTS, AS LISTED ON THE FLORIDA EXOTIC PLANT CONSUMER'S INVASIVE PLANT SPECS LIST, SHALL BE REMOVED. THIS SHALL INCLUDE ALL BRAZILIAN PEPPER WHICH IS EXISTING.

ALL EXISTING HARDSCAPE SURFACES WHICH ARE SHOWN TO BE REMOVED, SHALL HAVE THEIR UNDERLAYER AND/OR COMPACTED BASES REMOVED DOWN TO THE NATIVE SOIL BASE.

THE LOCATION OF ALL REQUIRED TREES MUST NOT CONFLICT WITH THE LIGHTING FIXTURES, SIGNS, UNDERGROUND AND OVERHEAD UTILITIES, FIRE HYDRANTS, ETC.

ALL TREES NOT LOCATED WITHIN A MULCHED PLANTING BED SHALL HAVE A MINIMUM FIVE-FOOT (5') MULCH RING INSTALLED AROUND THE TRUNK AREA. TREES SHALL BE PLANTED A MINIMUM OF FIVE-FOOT (5') FROM BACK OF CURB OR SIDEWALK (TYP).

SEE ENGINEER'S PLAN FOR ALL EXISTING AND PROPOSED EASEMENTS, COVENANTS, R.O.W., BUFFER DIMENSIONS, AND ALL SITE LAYOUT DIMENSIONING.

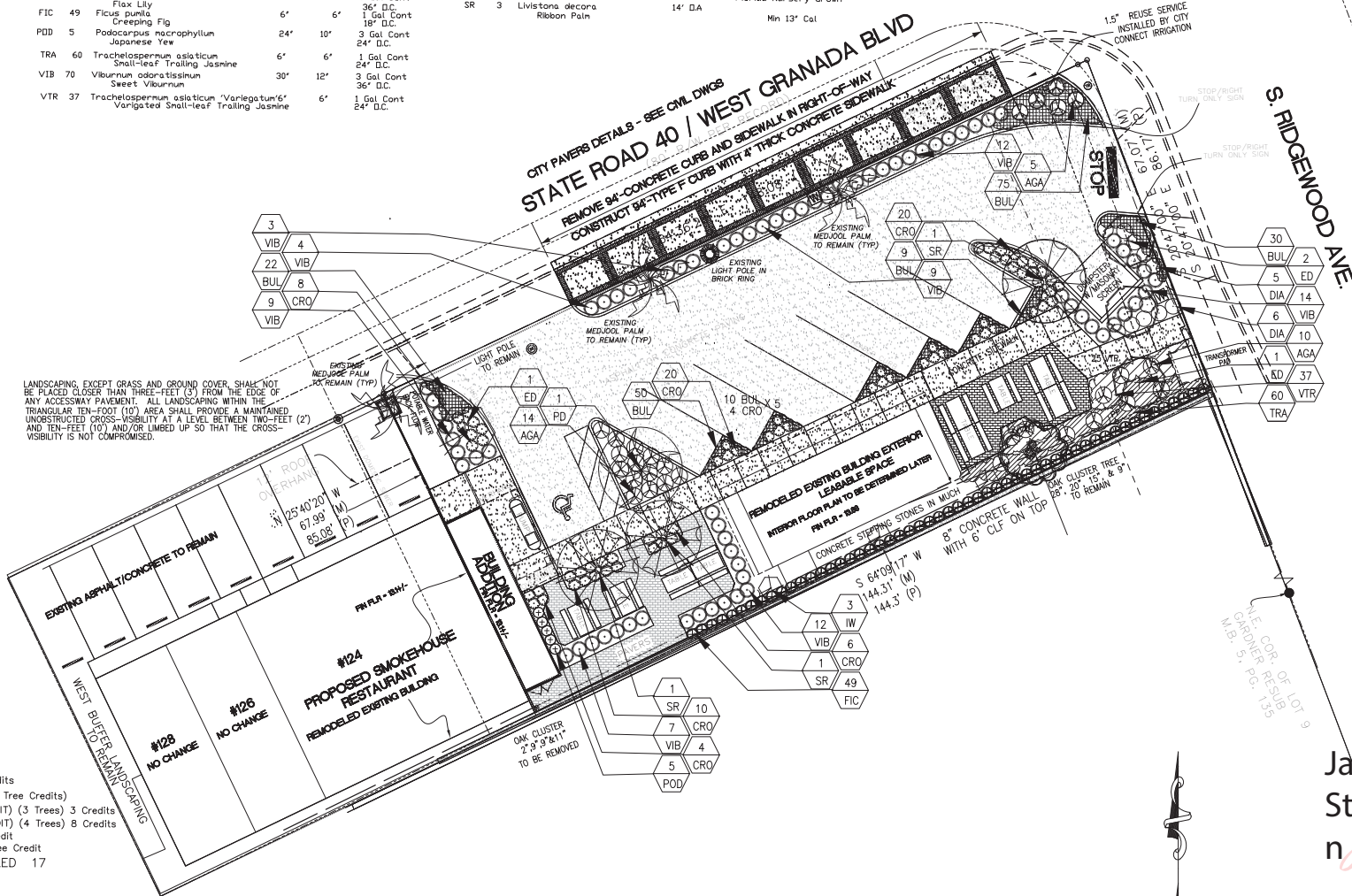
PROJECT MULCH SHALL BE PINE BARK NUGGETS AND BE INSTALLED A MINIMUM OF THREE-INCHES (3") THICK AND A MINIMUM OF TWELVE-INCHES (12") FROM ANY PLANTED TREE TRUNK.

PROPOSED SHRUBS AND GROUND COVERS

KEY	QTY	BOTANICAL/COMMON NAMES	HT.	SPR.	REMARKS
AGA	29	Agapanthus africanus Lily of the Nile	18"	12"	3 Gal Cont Blue Flower
BUL	186	Bulbine frutescens Red and Yellow Desert Candles	6"	6"	1 Gal Cont 18" D.C.
CRD	68	Codiaeum variegatum 'Curly Boy' Curly leaf Croton	18"	3 PPP	3 Gal Cont 30" D.C.
DIA	11	Dianella tasianica	18"	12"	3 Gal Cont
FIC	49	Ficus pumila Creeping Fig	6"	6"	1 Gal Cont 18" D.C.
TRA	60	Podocarpus macrophyllum Japanese Yew	24"	10"	1 Gal Cont 24" D.C.
VIB	70	Trachelospermum asiaticum Small-leaf Trailing Jasmine	6"	6"	1 Gal Cont 24" D.C.
VTR	37	Viburnum odoratissimum Sweet Viburnum	30"	12"	3 Gal Cont 36" D.C.
		Trachelospermum asiaticum 'Variegatum' Variegated Small-leaf Trailing Jasmine	6"	6"	1 Gal Cont 24" D.C.

PROPOSED SHADE, UNDERSTORY TREES AND PALMS

KEY	QTY	BOTANICAL/COMMON NAMES	HT.	SPR.	REMARKS
ED	4	Eleocharis decipiens Japanese Blueberry	10'-12'	3'-4'	Min 3 1/2" Cal FULL TO BASE
IV	3	Ilex vomitoria pendula Weeping Holly	10'	5'	Min 2 1/2" Cal FULL
PD	1	Phoenix sylvestris Sylvestrian Palm	12' C.T.		Min 13" Cal Florida Nursery Grown
SR	3	Livistona decora Ribbon Palm	14' DA		Min 13" Cal



REQUIRED TREES ON SITE

Project Site Acres (16,737.7 SF) 0.38 Ac

REQUIRED: ONE (1) TREE / 1,500 SF = 16 Tree Credits

NUMBER OF SURVEYED EXISTING TREES PRESERVED (4 Tree Credits)

NUMBER OF PROPOSED 2.5" CAL TREES (1 TREE CREDIT) (3 Trees) 3 Credits

NUMBER OF PROPOSED 3.5" CAL TREES (2 TREE CREDIT) (4 Trees) 8 Credits

NUMBER OF PROPOSED QUEEN PALMS (1:1) 1 Tree Credit

NUMBER OF PROPOSED PHOENIX SP. PALMS (1:1) 1 Tree Credit

TOTAL NUMBER OF TREE CREDITS INSTALLED 17

PERVIOUS AREA

0.0565 Pervious Acres = 2,465 SF

REQUIRED:

ONE (1) TREE / 400 SF OF LANDSCAPE AREA = 6.1 Trees

THE STERN DESIGN GROUP, P.A.
 LANDSCAPE ARCHITECTS - LAND PLANNERS
 1685 Promenade Circle, Port Orange, Florida 32129
 (386) 788-3788 CELL 290-6411
 JanStern@SternDesignGroup.com
 SternDesignGroup@att.net

THE PUMPHOUSE
 ORMOND BEACH, FLORIDA

Jan B. Stern
 Digitally signed by Jan B. Stern
 Date: 2019.06.28
 LA #04000

SHEET TITLE
 Landscape plan

SHEET
 L-001
 Landscape



CITY OF ORMOND BEACH

City Manager • 22 S. Beach Street • Ormond Beach • Florida • 32174 • (386) 676-3200 • Fax (386) 676-3384

CITY MANAGER MEMORANDUM

To: The Honorable Mayor Partington and City Commissioners

Through: Joyce A. Shanahan, City Manager

From: Steven Spraker, Planning Director

Date: April 6, 2021

Subject: 88 South Atlantic Avenue, acceptance of a sidewalk easement

Commission Goal: Community Development - Other

Introduction

This is a request to accept a sidewalk easement deed for two (2') feet along the western property line abutting the Florence Street right-of-way at 88 South Atlantic Avenue.

Background

On November 5, 2019, the City Commission approved Ordinances Nos. 2019-24 and 2019-25 that rezoned the property at 88 South Atlantic Avenue to Planned Business Development (PBD) and issued a development order for the redevelopment of the property. The project proposed to demolish the existing structure and construct an 8,596 square foot Ocean Club retail building. As part of the site plan, it was identified that there was a need for a sidewalk easement along the western property boundary, abutting Florence Street, for two (2') feet to allow the construction of a sidewalk.

Discussion

City staff have proceeded with the Florence Street right-of-way on-street parking improvements and are ready to accept the two (2') foot sidewalk easement to allow the construction of a sidewalk along Florence Street. The property owner is agreeable to the sidewalk easement that is attached as part of the resolution.

Budget Impact

There is no budget impact as the result of the sidewalk easement deed acceptance.

Citizen Impact

There is no citizen impact as the result of the sidewalk easement deed acceptance.

Recommendation

It is recommended that the City Commission **ACCEPT** the sidewalk easement deed to allow a five (5') foot sidewalk to be constructed as part of the Florence Street on-street parking improvements.

Attachments:

- 21-66 88 South Atlantic Ave-Sidewalk Easement (P21-0034G) (PDF)
- Exhibit A, 1 of 2, 88 S ATLANTIC EASEMENT DESCRIPTION (PDF)
- Exhibit A, 2 of 2, 88 S ATLANTIC EASEMENT SKETCH (PDF)
- Site plan from Florence St on-street parking (PDF)
- 88_S_ATLANTIC_AERIAL (PDF)

REVIEWED BY:


Kelly McGuire, Finance Director 3/8/2021


Claire Whitley, Assistant City Manager 3/29/2021

APPROVED BY:


Joyce A. Shanahan, City Manager 3/31/2021

RESOLUTION NO. 2021-66

A RESOLUTION AUTHORIZING THE ACCEPTANCE OF A PUBLIC SIDEWALK EASEMENT DEED OF TWO (2') FEET FROM 88 SOUTH ATLANTIC, LLC, TO PROVIDE A SIDEWALK EASEMENT FOR A PUBLIC SIDEWALK ALONG THE WESTERN PROPERTY LINE ABUTTING THE FLORENCE STREET RIGHT-OF-WAY ON PROPERTY LOCATED AT 88 SOUTH ATLANTIC AVENUE; 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 a Public Sidewalk Easement Deed from 88 South Atlantic, LLC, a Florida limited liability company, for two (2') feet along the western property line abutting the Florence Street right-of-way, on property located at 88 South Atlantic Avenue. A copy of said Deed is attached hereto and incorporated herein by reference,

SECTION TWO. A certified copy of this Resolution, and the executed original Public Sidewalk Easement Deed, 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 6th day of April 2021.

BILL PARTINGTON
Mayor

ATTEST:

KATE SETTLE
City Clerk

THIS INSTRUMENT PREPARED BY:

RANDAL A. HAYES, ESQUIRE
 Florida Bar No. 0747157
 Post Office Box 277
 Ormond Beach, FL 32175-0277
 386-676-3217
 PORTION OF ASSESSOR'S
 PARCEL NO. 4214-09-07-0030

PUBLIC SIDEWALK EASEMENT DEED

KNOW ALL MEN BY THESE PRESENTS: That 88 SOUTH ATLANTIC LLC, a Florida limited liability company (hereinafter "Grantor") whose mailing address is 835 North Beach Street, Daytona Beach, Volusia County, Florida 32114, in consideration of the sum of one (\$1.00) dollar and other valuable consideration, the receipt of which is hereby acknowledged, does hereby grant and convey unto the **CITY OF ORMOND BEACH**, a Florida municipal corporation, whose post office address is 22 South Beach Street, Ormond Beach, Florida (hereinafter "Grantee"), and its successors and assigns, a perpetual and exclusive easement for public sidewalk purposes over and upon that real property situate in Ormond Beach, Volusia County, Florida, and legally described and depicted on Exhibit "A" attached hereto and incorporated herein by reference. (Parcel ID No. 4214-09-07-0030).

BY ACCEPTANCE of this Public Sidewalk Easement Deed, the Grantee, to the maximum extent allowed by law, assumes liability for damages arising out of the use and maintenance of any sidewalk constructed upon the real property encumbered by this Public Sidewalk Easement Deed and, to the maximum extent allowed by law, agrees to hold the Grantor harmless from and against such liability, excluding any liability for damages attributable in whole or in part to any negligent act of the Grantor or the Grantor's heirs, successors, or assigns.

TO HAVE AND TO HOLD the same unto the Grantee and its successors and assigns, together with the right to enter upon the aforescribed real property to construct and to maintain a public sidewalk thereon, together with all such fills, cuts, drains, ditches, and other incidents which the said Grantee may deem necessary or convenient in connection therewith.

IN WITNESS WHEREOF, the said Grantor has hereunto set his hands and seals this ____ day of _____, 2021.

Witnesses:

**88 SOUTH ATLANTIC LLC, a Florida
limited liability company**

 Print Name: _____

By: _____
PINCHAS MAMANE
 Manager

 Print Name: _____

-1 of 2-

STATE OF FLORIDA)
)ss:
 COUNTY OF VOLUSIA)

I HEREBY CERTIFY that on this day, before me, an officer duly qualified to take acknowledgments, personally appeared **PINCHAS MAMANE**, as the Manager, of **88 SOUTH ATLANTIC LLC**, to me personally known to be the person, or who provided “satisfactory evidence,” as said term is defined by Chapter 117, *Florida Statutes*, that he/she is the person described in and who executed the foregoing instrument, in his/her respective capacity, and he/she acknowledged before me that he/she executed the same in his/her said capacity, as his/her free and voluntary act.

WITNESS my hand and official seal in the County and State last aforesaid this _____ day of _____, 2021.

NOTARY PUBLIC State of Florida
 Official Seal:

THE WESTERLY 2 (TWO) FEET OF LOTS 2, 3, 4, 5, 6, AND 7, BLOCK 7, REVISED MAP OF ORMOND BEACH, AS RECORDED IN MAP BOOK 6, PAGE 40, OFFICIAL RECORDS OF VOLUSIA COUNTY, FLORIDA, LESS AND EXCEPT THE SOUTH 12 1/2 FEET OF LOT 7, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

FROM A POINT OF COMMENCEMENT AND THE POINT OF BEGINNING FOR THIS DESCRIPTION, SAID POINT BEING THE INTERSECTION OF THE NORTHWEST CORNER OF SAID LOT 2, AND THE EASTERLY LINE OF FLORENCE STREET, (A 30 FOOT RIGHT-OF-WAY AS SHOWN IN THE PLAT OF ELROD ESTATES, MAP BOOK 11, PAGE 172, OFFICIAL RECORDS OF VOLUSIA COUNTY, FLORIDA); THENCE RUN S23°07'37"E ALONG SAID EASTERLY LINE, A DISTANCE OF 287.50 FEET TO A POINT OF INTERSECTION WITH THE NORTH LINE OF BOSARVEY DRIVE, (A 50 FOOT RIGHT-OF-WAY AS SHOWN IN SAID PLAT OF ELROD ESTATES); THENCE DEPARTING SAID EASTERLY LINE, RUN N66°50'32"E ALONG SAID NORTH LINE, A DISTANCE OF 2.00 FEET; THENCE DEPARTING SAID NORTH LINE, RUN N23°07'37"W A DISTANCE OF 287.50 FEET, TO A POINT OF INTERSECTION WITH THE NORTH LINE OF SAID LOT 2; THENCE S66°50'32"W ALONG SAID NORTH LINE, A DISTANCE OF 2.00 FEET TO THE POINT OF BEGINNING

SAID AREA CONTAINING 575.00 S.F. OR 0.01 AC.

SEE SHEET 2 FOR SKETCH OF DESCRIPTION

POINT OF BEGINNING



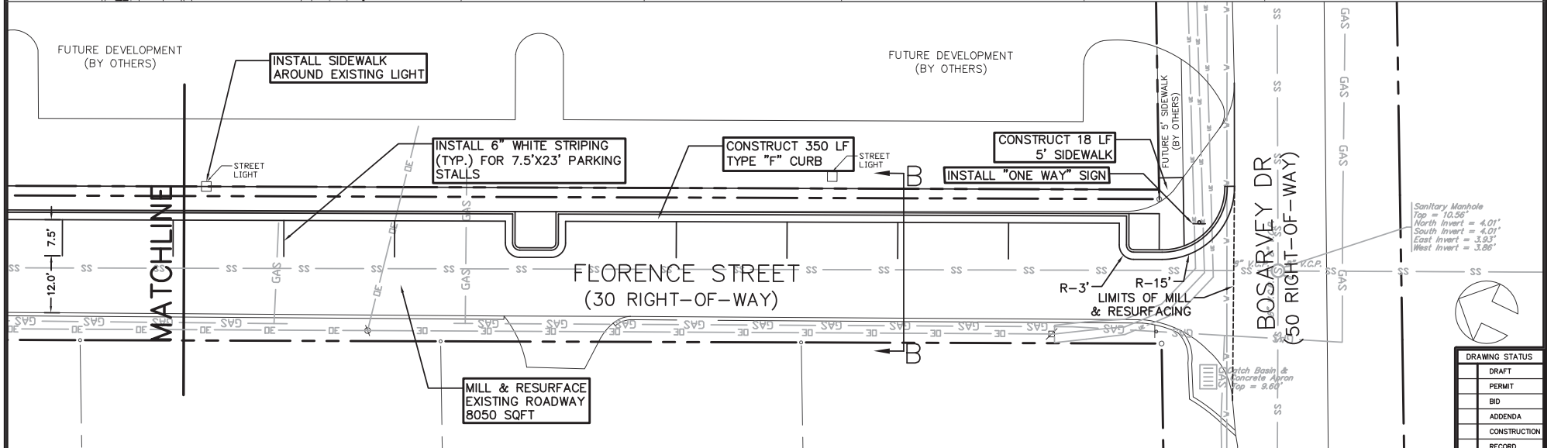
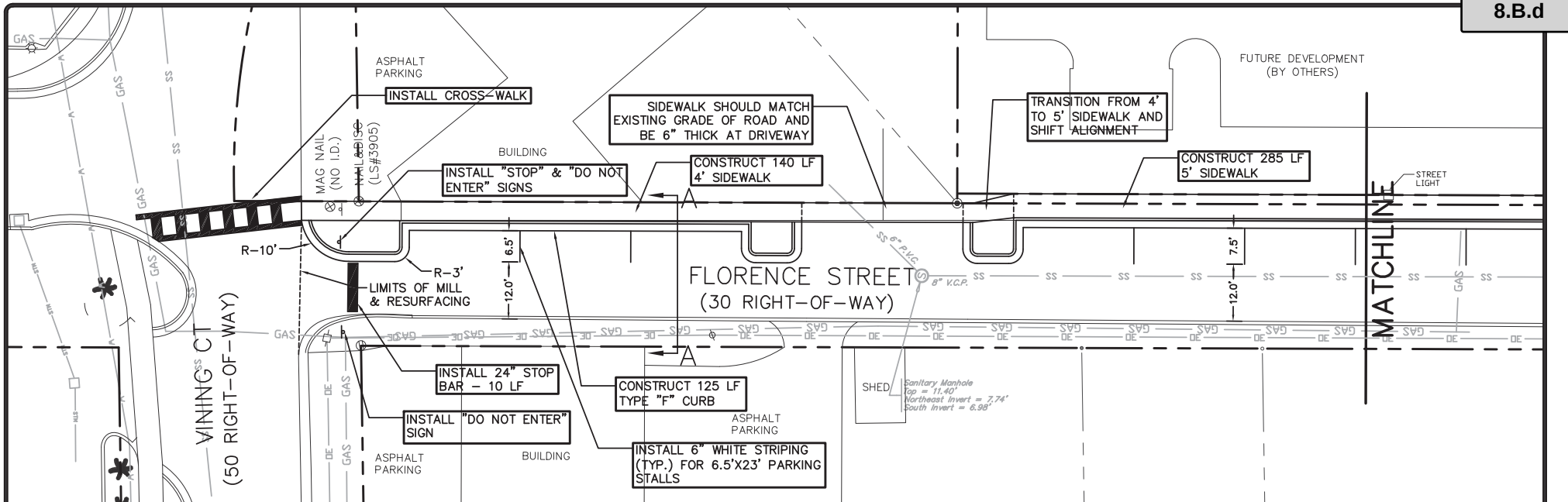
Parcel Line Table		
Line #	Length	Direction
L1	2.00'	N66°50'32"E
L2	2.00'	S66°50'32"W

SEE SHEET 1 FOR LEGAL DESCRIPTION

88 S ATLANTIC AVE

FLORENCE STREET (30' R/W)

BOSARVEY DRIVE (50' R/W)



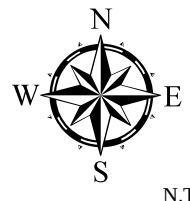
NO.		DATE	REVISIONS	BY	<i>City of Ormond Beach</i> Engineering Division	BILL PARTINGTON, MAYOR JOYCE SHANAHAN, CITY MANAGER	FLORENCE ST IMPROVEMENTS	SITE PLAN	DATE: 9/14/2020	PROJECT NO.:	
										SCALE: 1"=20'	FILE NAME:
						SHAWN FINLEY, P.E., CITY ENGINEER				DRAWN BY: MC	SHEET: 5 of 11

DRAWING STATUS
DRAFT
PERMIT
BID
ADDENDA
CONSTRUCTION
RECORD



AERIAL MAP
88 SOUTH ATLANTIC AVENUE
(4214-09-07-0030)

Prepared By: The City of Ormond Beach
 G.I.S. Department - June 7, 2019





CITY OF ORMOND BEACH

City Manager • 22 S. Beach Street • Ormond Beach • Florida • 32174 • (386) 676-3200 • Fax (386) 676-3384

CITY MANAGER MEMORANDUM

To: The Honorable Mayor Partington and City Commissioners

Through: Joyce A. Shanahan, City Manager

From: Steven Spraker, Planning Director

Date: April 6, 2021

Subject: Temporary banner extension to July 1, 2021

Commission Goal: Community Development - Other

Introduction

This is a request to extend the allowance for businesses to utilize temporary banners without permits and time restrictions during the COVID-19 event for an additional 90 days, from April 1, 2021 to July 1, 2021.

Background

Section 3-46(3) of the Land Development Code allows temporary commercial signs such as a banner or flag with a maximum of 64 square feet for fourteen days, four (4) times a year.

At the special virtual City Commission meeting on April 14, 2020, the City Commission discussed the issue of temporary signage and directed staff to allow businesses to display one banner/flag, not to exceed 64 square feet, with no permit or fee required. Resolution No. 2020-55, which was approved on May 12, 2020, authorized temporary banner signs for businesses during the COVID-19 event. This resolution contained a requirement to require permitting for banners, which was not the intent of the temporary banner policy. Resolution No. 2020-78, which was approved on June 9, 2020, clarified that no permit is required to allow businesses to display one banner/flag, not to exceed 64 square feet. The allowances in both Resolutions Nos. 2020-55 and 2020-78 were set to expire on December 31, 2020. On December 15, 2020, Resolution No. 2020-190 extended the allowance for businesses to utilize temporary banners without permits and time restrictions during the COVID-19 event until April 1, 2021.

Discussion

The purpose of this item is to extend the ability for businesses to have temporary banners without permits and time restrictions from April 1, 2021 to July 1, 2021.

Budget Impact

Banner permits are \$20 per permit and the overall budget impact would be small.

Citizen Impact

The temporary policy would assist businesses in recovery efforts from the COVID-19 event.

Recommendation

It is recommended that the City Commission **APPROVE** the attached resolution to extend the allowance for businesses to utilize temporary banners without permits and time restrictions during the COVID-19 event for an additional 90 days, from April 1, 2021 to July 1, 2021.

Attachments:

- 21-67 Temporary Banner (P20-0069G) (PDF)

REVIEWED BY:


Kelly McGuire, Finance Director 3/16/2021


Claire Whitley, Assistant City Manager 3/29/2021

APPROVED BY:


Joyce A. Shanahan, City Manager 3/31/2021

RESOLUTION NO. 2021-67

A RESOLUTION AUTHORIZING THE EXTENSION OF TIME FOR BUSINESSES TO DISPLAY BANNER SIGNS ON A TEMPORARY BASIS WITHOUT PERMITTING REQUIREMENTS THROUGH AND INCLUDING JULY 1, 2021; ESTABLISHING CONDITIONS AND A TERMINATION DATE FOR SUCH DISPLAY; AND SETTING FORTH AN EFFECTIVE DATE.

WHEREAS, Governor Ron DeSantis issued Executive Order 20-52 declaring a state of emergency throughout the state of Florida as a result of the COVID-19 public health crises, and

WHEREAS, Governor Ron DeSantis has issued several additional executive orders extending the state of emergency related to the COVID-19 public health crisis, including but not limited to Executive Orders 20-114, 20-166, 20-192, 20-213, 20-276, and 20-297, and

WHEREAS, in order to assist in the economic recovery of businesses that were affected as a result of the COVID-19 public health emergency, the City Commission approved Resolution 2020-55 on May 12th, 2020, which allowed businesses to display temporary banner signs on a temporary basis under certain conditions, and

WHEREAS, the City Commission approved Resolution 2020-78 on June 9th, 2020, superseding Section One of Resolution 2020-55, to allow businesses to display banner signs on a temporary basis under certain conditions, without permitting requirements, for the time period through and including December 31, 2020, and

WHEREAS, the City Commission approved Resolution 2020-190 on December 15, 2020, superseding Section One of Resolution 2020-55, to allow businesses to display banner

signs on a temporary basis under certain conditions, without permitting requirements, for the time period through and including March 31, 2021, and

WHEREAS, to assist in the continued economic recovery of businesses that have been affected by the COVID-19 public health emergency, the City Commission desires to continue to allow the display of banner signs on a temporary basis under certain conditions without permitting requirements through and including July 1, 2021, as provided in this resolution, now therefore,

BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:

SECTION ONE. Temporary Banner Signs. The City Commission hereby authorizes business owners to display banner signs, on a temporary basis and for the duration provided herein, subject to the following conditions:

- (a) A business owner shall not be required to obtain a permit to display temporary banner signs.
- (b) A temporary banner sign shall not exceed sixty-four (64) square feet in dimension.
- (c) Only one temporary banner sign shall be allowed per business, and such sign shall only be displayed on the business premises.
- (d) Temporary banner signs are prohibited in, on or upon any publicly owned right-of-way or other public property.
- (e) Permit fees that have been collected, if any, for the issuance of temporary banner sign permits during the Governor's declared state of emergency shall be refunded.
- (f) The display of temporary banner signs shall only be allowed for a limited duration through and including July 1, 2021, at which time the authority to display such signs shall automatically expire and shall be null and void.

- (g) Temporary banner signs that are displayed during the limited display period provided herein shall not count toward the “*Time allowed*” limitation in section 3-46, 3 of the *Land Development Code*; however, all other conditions in Section 3-46, 3 shall apply.

SECTION TWO. Temporary Outdoor Seating/Dining. The City Commission hereby authorizes the city’s planning staff to issue permits to restaurants and food establishments licensed under Chapters 500 or 509, Florida Statutes, allowing outdoor seating/dining on a temporary basis under the following conditions:

- (a) Restaurants and food establishments shall email a desired outdoor seating configuration to: comdev@ormndbeach.org.
- (b) Provide a sketch or diagram of the proposed outdoor seating/dining area (i.e., aerial, photograph, site plan, or some similar document).
- (c) For parking areas that are not in main travel aisles, temporary fencing and/or markings shall be provided.
- (d) The use of main travel lanes in parking areas shall be discouraged; and if used, the outdoor seating/dining areas must be separated by a physical barrier.
- (e) Walkways for handicapped people shall be required.
- (f) There shall be no fee for conducting a safety review by city staff.
- (g) The proposed outdoor seating/dining area shall be subject to the review and approval by the planning, building, and fire safety staff.
- (h) Final set-up of the outdoor seating/dining area shall be subject to a final on-site review and approval.
- (i) Outdoor music is not allowed.
- (j) Outdoor seating/dining area is not allowed in undeveloped space, vegetative buffer areas, or designated open space areas.

- (k) Planning staff may allow an open-sided tent not exceeding ten feet by ten feet (10' x 10') in dimension.
- (l) If the operator of the restaurant or food establishment does not own the real property, the consent of the real property owner shall be required.
- (m) Outdoor seating/dining shall be allowed only for the duration of the Governor's COVID-19 declaration of public health emergency. The outdoor seating/dining shall automatically end upon the termination or expiration of the Governor's declaration of COVID-19 public health emergency, and the area in which outdoor seating/dining was allowed shall be returned to the same condition as it existed prior to provision of outdoor seating/dining.

SECTION THREE. In the event there is a conflict between this resolution or the City's Land Development Code regulating occupancy or temporary signage of businesses during the period of the pandemic and emergency Executive Orders issued by the Governor or Volusia County, the emergency orders of the Governor or Volusia County shall prevail.

SECTION FOUR. This resolution shall take effect immediately upon its adoption.

APPROVED AND AUTHENTICATED this 6th day of April, 2021.

BILL PARTINGTON
Mayor

ATTEST:

KATE SETTLE
City Clerk



CITY OF ORMOND BEACH

City Manager • 22 S. Beach Street • Ormond Beach • Florida • 32174 • (386) 676-3200 • Fax (386) 676-3384

CITY MANAGER MEMORANDUM

To: The Honorable Mayor Partington and City Commissioners

Through: Joyce A. Shanahan, City Manager

From: Shawn Finley, Public Works Director

Date: April 6, 2021

Subject: RR Reimbursement Agmt-Division Avenue

Commission Goal: Transportation - Other

Introduction

This is a request for the City Commission to approve the execution of a Railroad Reimbursement Agreement for Grade Crossing Traffic Control Devices - Municipal with the Florida Department of Transportation (FDOT) and the Florida East Coast Railroad (FEC), regarding the railroad crossing at Division Avenue.

Background

The Florida East Coast Railway (FEC) owns the right-of-way throughout the City on which it operates its facilities. Per a License Agreement executed June 17, 1999, the FEC allows for the public use of the FEC's right-of-way for at-grade road crossing of the railroad tracks at Division Avenue. Per the Agreement, the City is responsible for installation, construction, maintenance, and replacement of all facilities at the crossing site.

Discussion

FDOT informed the City of needed signal improvements at the Division Avenue railroad crossing, specifically the installation of an event recorder, Constant Warning Time, a generator case, and 6 light-emitting diodes (LED)s. The cost for construction of the recommended signal improvements will be at the FDOT's expense using Federal Safety Funds. The purpose of this Reimbursement Agreement is to specify the costs for the signal improvements will be at the FDOT's expense. Per Section 31, once construction is complete, the agreement will be null and void, and the 1999 License Agreement between the City and FEC will govern future responsibilities for the crossing.

Budget Impact

The cost of constructing the signal improvements is the responsibility of the FDOT, and

therefore no budget impact is associated with this agreement.

Citizen Impact

Maintaining the railroad grade crossings is in the best interests of the health, safety and welfare of the citizens of Ormond Beach.

Recommendation

It is recommended that the City Commission approve the execution of the Railroad Reimbursement Agreement.

Attachments:

- 21-68 Railway Reimbursement Agr (P21-0036G)) (PDF)
- FDOT Railroad Reimbursement Agreement (PDF)

REVIEWED BY:


Kelly McGuire, Finance Director 3/16/2021


Claire Whitley, Assistant City Manager 3/29/2021

APPROVED BY:


Joyce A. Shanahan, City Manager 3/31/2021

RESOLUTION NO. 2021-68

A RESOLUTION AUTHORIZING THE EXECUTION OF A RAILROAD REIMBURSEMENT AGREEMENT BETWEEN THE CITY, THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION AND THE FLORIDA EAST COAST RAILWAY; SETTING FORTH AN EFFECTIVE DATE.

WHEREAS, the Florida East Coast Railway, LLC is making signal improvements at the railroad crossing on Division Avenue, 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 a Railroad Reimbursement Agreement between the City, the State of Florida Department of Transportation and the Florida East Coast Railway, a copy of said Agreement being attached hereto and incorporated herein by reference.

SECTION TWO. This Resolution shall take effect immediately upon its adoption.

APPROVED AND AUTHENTICATED, this 6th day of April, 2021.

BILL PARTINGTON
Mayor

ATTEST:

KATE SETTLE
City Clerk

**RAILROAD REIMBURSEMENT AGREEMENT
GRADE CROSSING TRAFFIC CONTROL DEVICES - MUNICIPAL**

FINANCIAL PROJECT NO.	ROAD NAME OR NUMBER	COUNTY NAME	PARCEL & R/W NUMBER	FAP NUMBER
44676915701	DIVISION AVENUE	VOLUSIA ☐	1 (79000-SIGG)	TBD

THIS AGREEMENT, made and entered into this _____ day of _____, 2020, by and between the STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION, hereinafter called the DEPARTMENT, and FLORIDA EAST COAST RAILWAY, LLC, a corporation organized and existing under the laws of FLORIDA, with its principal place of business in the City of JACKSONVILLE, County of DUVAL, State of FLORIDA, hereinafter called the COMPANY; and the City of ORMOND BEACH, a municipal corporation, hereinafter called the CITY.

WITNESSETH:

WHEREAS, the DEPARTMENT is constructing, reconstructing or otherwise changing a portion of the Public Road System, designated by the Financial Project ID 446769-1-57-01, on DIVISION AVENUE, which crosses at grade the right of way and tracks of the COMPANY'S Milepost 104+4174', FDOT/AAR Crossing Number 271922M, at or near ORMOND BEACH, as shown on DEPARTMENT'S Plan Sheet No. 509-070 & 509-100, attached hereto as a part hereof; and

NOW, THEREFORE, in consideration of the mutual undertakings as herein set forth, the parties hereto agree as follows:

1. The COMPANY shall furnish the necessary materials and install Automatic Grade Crossing Signals Type III Class III and/or other traffic control devices at said location on an actual cost basis and in accordance with (1) the attached detailed statement of the work, plans, and specifications; and (2) the DEPARTMENT'S Standard Plans, Index 509-070 attached hereto and made a part hereof.

2. After installation of said signals is completed, fifty (50%) ☐ percent of the expense thereof in maintaining the same shall be borne by the CITY and fifty (50%) ☐ percent shall be borne by the COMPANY, as enumerated by the Schedule of Annual Cost of Automatic Highway Grade Crossing Devices attached hereto and by this reference made a part hereof and subject to future revision.

3. After said signals have been installed and found to be in satisfactory working order by the parties hereto, the same shall be immediately put into service, operated and maintained by the COMPANY so long as said COMPANY or its successors or assigns shall operate the said signals at said grade crossing; or until it is agreed between the parties hereto that the signals are no longer necessary or until the said crossing is abandoned; or legal requirements occur which shall cease operation of signals thereat.

The COMPANY agrees that any future relocation or adjustment of said signals shall be performed by the COMPANY, but at the expense of the party initiating such relocation. Upon relocation the maintenance responsibilities shall be in accordance with the provisions of this agreement. It is further agreed that the cost of maintaining any additional or replacement signal equipment at the same location will be shared as provided under Paragraph 2. above.

4. Unless otherwise agreed upon herein, the CITY agrees to ensure that at the crossing the advance warning signs and railroad crossing pavement markings will conform to the U.S. Department of Transportation Manual on Uniform Traffic Control Devices within 30 days of notification that the railroad signal improvements have been completed and that such signs and pavement markings will be continually maintained at an acceptable level.

5. The COMPANY hereby agrees to install and/or adjust the necessary parts of its facilities along said road in accordance with the provisions set forth in the:

- ☒ (a) DEPARTMENT Procedure No. 725-080-002 Appendix D.4, and Rule 14.57.011 "Public Railroad-Highway Grade Crossing Costs", Florida Administrative Code.
- ☐ (b) Federal Highway Administration Federal-Aid Policy Guide, 23 C.F.R. Subchapter G, Part 646, Subpart B, and 23 C.F.R., Subchapter B, Part 140, Subpart I,

and any supplements thereto or revisions thereof, which, by reference hereto, are made a part hereof. The COMPANY further agrees to do all of such work, with its own forces or by a contractor paid under a contract let by the COMPANY, all under the supervision and approval of the DEPARTMENT and the Federal Highway Administration, when applicable.

6. The DEPARTMENT hereby agrees to reimburse the COMPANY for all costs incurred by it in the installation and/or adjustment of said facilities, in accordance with the provisions of Procedure No. 725-080-002 Appendix D-4 "Billing Requirements," and any supplements thereto or revisions thereof. It is understood and agreed by and between the parties hereto that preliminary engineering costs not incorporated within this agreement shall not be subject to payment by the DEPARTMENT.

7. Attached hereto, and by this reference made a part hereof, are plans and specifications of the work to be performed by the COMPANY pursuant to the terms hereof, and an itemized estimate of the cost thereof in the amount of \$ 117,270.00. All work performed by the COMPANY pursuant hereto, shall be performed according to these plans and specifications as approved by the DEPARTMENT and the Federal Highway Administration if federal aid participating; and all subsequent plan changes shall likewise be approved by the DEPARTMENT and the Federal Highway Administration, when applicable.

8. All labor, services, materials, and equipment furnished by the COMPANY in carrying out the work to be performed hereunder shall be billed by the COMPANY direct to the DEPARTMENT. Separate records as to the costs of

contract bid items and force account items performed for the COMPANY shall also be furnished by the COMPANY to the DEPARTMENT.

9. The COMPANY has determined that the method to be used in developing the relocation or installation cost shall be as specified for the method checked and described hereafter:

- ☐ (a) Actual and related indirect costs accumulated in accordance with a work order accounting procedure prescribed by the applicable Federal or State regulatory body.
- ☒ (b) Actual and related indirect costs accumulated in accordance with an established accounting procedure developed by the COMPANY and approved by the DEPARTMENT.
- ☐ (c) An agreed lump sum \$ _____, as supported by a detail analysis of estimated cost attached hereto. (NOTE: This method is not applicable where the estimated cost of the proposed adjustment exceeds \$100,000.)

10. The installation and/or adjustment of the COMPANY'S facility as planned ☐ will ☒ will not involve additional work over and above the minimum reimbursable requirements of the DEPARTMENT. (If upgrading and/or nonreimbursable work is involved at the option of the COMPANY, then credit against the cost of the project is required and will be governed by the method checked and described hereafter):

- ☐ (a) _____ % will be applied to the final billing of work actually accomplished to determine required credit for (betterment) and/or (expired service life) and/or (nonreimbursable segments).
- ☐ (b) All work involving nonreimbursable segments will be performed by special COMPANY work or job order number apart and separate from the reimbursable portion of the work; such work or job order number to be _____. The COMPANY further agrees to clearly identify such additional work areas in the COMPANY'S plans and estimates for the total work covered by this Agreement.
- ☐ (c) \$ _____ credited for ☐ betterment ☐ expired service life
☐ nonreimbursable segments in accord with Article 9.(c) hereinabove.

11. It is specifically agreed by and between the DEPARTMENT and the COMPANY that the DEPARTMENT shall receive fair and adequate credit for any salvage which shall accrue to the COMPANY as a result of the above installation and/or adjustment work

12. It is further agreed that the cost of all improvements made during this adjustment work shall be borne by the COMPANY, subject only to the DEPARTMENT bearing such portion of this cost as represents the cost of adjustment of previously existing facility, less salvage credit as set forth in the immediately preceding paragraph.

13. Upon completion of the work the COMPANY shall, within one hundred eighty (180) days, furnish the DEPARTMENT with two (2) copies of its final and complete billing of all costs incurred in connection with the work performed hereunder, such statement to follow as closely as possible the order of the items contained in the estimate attached hereto. The totals for labor, overhead, travel expense, transportation, equipment, material and supplies, handling costs and other services shall be shown in such a manner as will permit ready comparison with the approved plans and estimates. Materials shall be itemized where they represent major components of cost in the relocation following the pattern set out in the approved estimate as closely as is possible. Salvage credits from recovered and replaced permanent and recovered temporary materials shall be reported in said bills in relative position with the charge for the replacement or the original charge for temporary use.

The final billing shall show the description and site of the Project; the date on which the first work was performed, or, if preliminary engineering or right-of-way items are involved, the date on which the earliest item of billed expense was incurred; the date on which the last work was performed or the last item of billed expense was incurred; and the location where the records and accounts billed can be audited. Adequate reference shall be made in the billing to the COMPANY'S records, accounts and other relevant documents. All cost records and accounts shall be subject to audit by a representative of the DEPARTMENT. Upon receipt of invoices, prepared in accordance with the provisions of the above indicated Reimbursement Policy, the DEPARTMENT agrees to reimburse the COMPANY in the amount of such actual costs as approved by the DEPARTMENT'S auditor.

14. Payment shall be made only after receipt and approval of goods and services unless advance payments are authorized by the DEPARTMENT's Comptroller under Section 334.044(29), F.S., or by the Department of Financial Services under Section 215.422(14), Florida Statutes (F.S.).

15. In accordance with Section 287.058, Florida Statutes, the following provisions are in this Agreement: If this Contract involves units of deliverables, then such units must be received and accepted in writing by the Contract Manager prior to payments. Bills for fees or other compensation for services or expenses shall be submitted in detail sufficient for a proper preaudit and postaudit thereof.

16. Bills for travel expenses specifically authorized in this agreement shall be submitted and paid in accordance with DEPARTMENT Rule 14-57.011 "Public Railroad-Highway Grade Crossing Costs" and the Federal Highway Administration Federal-Aid Policy Guide, Subchapter B, Part 140, Subpart I "Reimbursement for Railroad Work."

17. In accordance with Section 215.422, Florida Statutes, the following provisions are in this Agreement: Contractors providing goods and services to the Department should be aware of the following time frames. Upon receipt, the Department has five (5) working days to inspect and approve the goods and services, unless the Agreement specifies otherwise. The Department has 20 days to deliver a request for payment (voucher) to the Department of Financial Services. The 20 days are measured from the latter of the date the invoice is received or the goods or services are received, inspected and approved.

If a payment is not available within 40 days, a separate interest penalty at a rate as established pursuant to Section 215.422(3)(b), Florida Statutes, will be due and payable, in addition to the invoice amount, to the Contractor. Interest penalties of less than one (1) dollar will not be enforced unless the Contractor requests payment. Invoices which have to be returned to a Contractor because of Contractor preparation errors will result in a delay in the payment. The invoice payment requirements do not start until a properly completed invoice is provided to the Department.

A Vendor Ombudsman has been established within the Department of Financial Services. The duties of this individual include acting as an advocate for contractors/vendors who may be experiencing problems in obtaining timely payment(s) from a state agency. The Vendor Ombudsman may be contacted at (850) 413-5516 or by calling the Division of Consumer Services at 1-877-693-5236.

18. In the event this contract is for services in excess of TWENTY FIVE THOUSAND DOLLARS (\$25,000.00) and a term for a period of more than one year, the provisions of Section 339.135(6)(a), Florida Statutes, are hereby incorporated:

The Department, during any fiscal year, shall not expend money, incur any liability, or enter into any contract which, by its terms, involves the expenditure of money in excess of the amounts budgeted as available for expenditure during such fiscal year. Any contract, verbal or written, made in violation of this subsection is null and void, and no money may be paid on such contract. The Department shall require a statement from the Comptroller of the Department that such funds are available prior to entering into any such contract or other binding commitment of funds. Nothing herein contained shall prevent the making of contracts for periods exceeding one year, but any contract so made shall be executory only for the value of the services to be rendered or agreed to be paid for in succeeding fiscal years; and this paragraph shall be incorporated verbatim in all contracts of the Department which are for an amount in excess of TWENTY FIVE THOUSAND DOLLARS (\$25,000.00) and which have a term for a period of more than one year.

19. In accordance with Section 287.133 (2)(a), Florida Statutes, the following provisions are included in this Agreement:

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, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies 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 s.287.017 for CATEGORY TWO for a period of 36 months following the date of being placed on the convicted vendor list.

20. In accordance with Section 287.134(2)(a), Florida Statutes, the following provisions are included in this Agreement:

An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies 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.

21. In accordance with Section 287.0582, Florida Statutes, the following provision is included in this Agreement:

The Department's obligation to pay under this section is contingent upon an annual appropriation by the Florida Legislature.

22. ~~The COMPANY covenants and agrees that it will indemnify and hold harmless the DEPARTMENT and all of the DEPARTMENT'S officers, agents, and employees from any claim, loss, damage, cost charge, or expense arising out of any act, action, neglect, omission or delay by the COMPANY during the performance of the contract.~~

~~whether direct or indirect, and whether to any person or property to which the DEPARTMENT or said parties may be subject, except that neither the COMPANY nor any of its sub-contractors will be liable under this section for damages arising out of injury or damage to persons or property directly caused or resulting from the sole negligence of the DEPARTMENT or any of its officers, agents, or employees.~~

23. COMPANY shall:

1. utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the COMPANY during the term of the contract; and
2. expressly require any subcontractors performing work or providing services pursuant to the state contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term.

24. It is understood and agreed by the parties to this Agreement that if any part, term, or provision of this Agreement is held illegal by the courts or in conflict with any law of the State of Florida, the validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular part, term, or provision held to be invalid.

25. Any questions or matters arising under this Agreement as to validity, construction, enforcement, performance, or otherwise, shall be determined in accordance with the laws of the State of Florida. Venue for any action arising out of or in any way related to this Agreement shall lie exclusively in a state court of appropriate jurisdiction in Leon County, Florida.

26. The parties agree to bear their own attorney's fees and costs with respect to this Agreement.

27. The parties agree that this Agreement is binding on the parties, their heirs-at-law, and their assigns and successors in interest as evidenced by their signatures and lawful executions below.

28. A modification or waiver of any of the provisions of this Agreement shall be effective only if made in writing and executed with the same formality as this Agreement.

29. Paragraph 22 was stricken prior to all signatures at the request of Florida East Coast Railway, LLC.

30. This project includes the installation of an event recorder, Constant Warning Time, a generator case and 6 LED's.

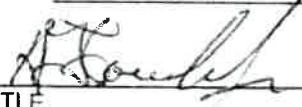
31. This agreement is for the purpose of constructing and upgrading the signals only. Once construction is complete, this agreement will become null and void and the License Agreement (Exhibit A) between Florida East Coast Railway, LLC and the City of Ormond Beach dated 6/17/1999 will govern the future responsibilities for this crossing

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed by their duly authorized officers, the day and year first above written.

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

BY: _____
(TITLE: Director of Transportation Operations)

COMPANY: Florida East Coast Railway, LLC

BY:  A.C. FOWLER JR.
(TITLE: Chief Engineer)
Signals & Communications

CITY OF Ormond Beach FLORIDA

BY: _____ BY _____
(TITLE: Bill Partington, Mayor) Joyce A. Shanahan, City Manager

Legal Review

Approved as to Funds
Available

Approved as to FAPG
Requirements

BY: _____
Attorney - DOT Date

BY: _____
Comptroller - DOT Date

BY: _____
FHWA Date

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
RAILROAD GRADE CROSSING TRAFFIC CONTROL DEVICES
ANNUAL MAINTENANCE COSTS

725-090-41
 RAIL
 OGC - 07/16

FINANCIAL PROJECT NO.	ROAD NAME OR NUMBER	COUNTY NAME	PARCEL & R/W NUMBER	FAP NUMBER
44676915701	DIVISION AVENUE	VOLUSIA ☐	1 (79000-SIGG)	TBD

COMPANY NAME: FLORIDA EAST COAST RAILWAY, LLC

A. FDOT/AAR XING NO.: 271922M RR MILE POST TIE: 104+4174'

B. TYPE SIGNALS PROPOSED III CLASS III DOT INDEX: 509-100

**SCHEDULE OF ANNUAL COST OF AUTOMATIC
 HIGHWAY GRADE CROSSING TRAFFIC CONTROL DEVICES**

Annual Maintenance Cost Exclusive of Installation

<u>CLASS</u>	<u>DESCRIPTION</u>	<u>COST*</u>
I	2-Quadrant Flashing Lights with One Track	\$2,386.00
II	2-Quadrant Flashing Lights with Multiple Tracks	\$3,158.00
III	2-Quadrant Flashing Lights and Gates with One Track	\$3,600.00
IV	2-Quadrant Flashing Lights and Gates with Multiple Tracks	\$4,520.00
V	3 or 4-Quadrant Flashing Lights and Gates with One Track	\$7,116.00
VI	3 or 4-Quadrant Flashing Lights and Gates with Multiple Tracks	\$8,930.00

AUTHORITY: FLORIDA ADMINISTRATIVE RULE 14-57.011
 Public Railroad-Highway Grade Crossing Costs

EFFECTIVE DATE: July 22, 1982

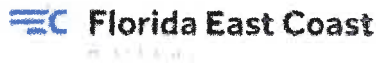
GENERAL AUTHORITY: 334.044, F.S.

SPECIFIC LAW IMPLEMENTED: 335.141, F.S.

*This schedule will become effective July 1, 2016 and will be reviewed every 5 years and revised as appropriate based on the Consumer Price Index for all Urban Consumers published by the U.S. Department of Labor.

Crossing No: 271922M		Roadway: DIVISION AVE		RR Street:		District: 5 County: Volusia	
PUBLIC HWY		AT GRADE Commercial		City: Ormond Beach		IN CITY OPEN-TRACK ACTIVE	
Rank 2018: 1042	SR No.:			RR Company:	FEC	Date: 05/20/2019	
Rank 2017: 1050	CR No.:			Division Name:		Team Members:	
Rank 2016:	US No.:			Subdivision Name:	FLAGLER	L Miller A Fowler	
	Latitude:	29.274100		Branch Name:	MAIN	D Mixon R Crawford	
	Longitude:	-81.060000		RR Milepost:	104.79	J Ganey	
Field Review Comments Old Signals				T Frank			
				J Eady			
Team Recommendations: Event recorder, CWT, gen. case, 6 LEDs				S Graham			
				J Powell			
Highway Speed:		25		☐	Train Speed Range:		5-45
Crossing Angle:		60-90 DEG		☐	Max Time Table Speed:		60
AADT:		4500 (2012)		☐	Day Thru/Switch:		8/0
Percent Trucks:		9 (2012)		☐	Night Thru/Switch:		8/0
School Buses:		3 (2018)		☐	Train Service: Freight		
Street Types:		Two-Way Street		☐	Passenger Count/Day:		0
Thru Lanes:		2		☐	Train Count Date:		06/18/2012
Aux Lanes:		0		☐	Main Tracks:		1
Hazmat Route?		NO		☐	Other Tracks:		
Emergency Services Route?		YES		☐			
Emergency Notification Signs:		NO		☐	Train Signals?		
Crossbuck(4x4 post):		0		☐	Train Signal Proximity:		YES
Crossbuck Sign:		3		☐	Train Detection:		Motion Detection
Stop Sign:		0		☐	Event Recorder?		
Yield Sign:		0		☐	Number of Bells:		2
Low Ground Clearance Signs:		0		☐	Post Mounted Flashing Lights:		0
Exempt Signs:				☐			
Trespass Signs:		YES		☐	Roadway Gate Count:		2
W10-1	2	R10-6a	0	W8-1	0	Pedestrian Gate Count:	1
W10-2	0	R11-2	0	W10-8	0	Gates:	2 Quad
W10-3	0	R15-2P	0	W10-9	0	Cantilevered Flashing Over Traffic:	0
W10-4	0	R15-6	0	W10-9P	0	Cantilevered Flashing Not Over Traffic:	0
W10-11	0	R15-6a	0	W10-11a	0	Intersecting Roadway?	YES
W10-12	0	R15-7	0	W10-11b	0	Signalized?	NO
R3-1a	0	R15-7a	0	W10-13P	0	Interconnection:	Not Interconnected
R3-2a	0	R15-8	0	W10-14P	0	Traffic Signals Controlling?	
R8-8	0	Pvt Crossing	0	W10-14aP	0	Preemption:	
R8-9	0	Look Out	0	W10-15P	0	Does traffic queue across the tracks?	NO
R8-10	0	R8-8 w/Beacon	0	Slow	0	Traffic Pre-Signals?	NO
R8-10a	0	W3-1		W10-1w/Beacon	0	8" Count:	0
R10-6	0	W3-3		LED Signs	0	12" Count:	6
Surface Installment Date:				☐	LED Count:		0
Surface Type:		CONCRETE		☐	Install - Upgrade:		-- 06/01/1991
Pvmt Mrk:		STOPLINES AND XING SYMBOLS		☐	Maintenance Responsibility:		CITY
Surface Condition:		EXCELLENT		☐	Roadway Paved:		YES
Approach:		LOS B = Uneven		☐	Tracks run down street?		NO
Vehicle Reaction:		LOS B = Vibrating		☐	Sidewalks on Crossing Approach?		YES
Driver Reaction:		LOS A = No reaction		☐	Sidewalks Thru Crossing?		YES
Rail/Pad Movement:		LOS B = Uneven		☐	Crossing illuminated?		NO
Incident History:				Commercial Power?			
				Alternative Power?			
				Recommended Warning Device: FL & G			

PRELIMINARY



2019 DIAGNOSTICS - Division Avenue

DATE 05/23/19
 FILE 10.2
 TYPE III
 CLASS III
 NO. OF DAYS 2
 AAR / DOT # 271922M
 MILE POST 104.79
 Project Type FDOT

OFFICE OF THE CHIEF ENGINEER
 OF SIGNALS AND COMMUNICATIONS

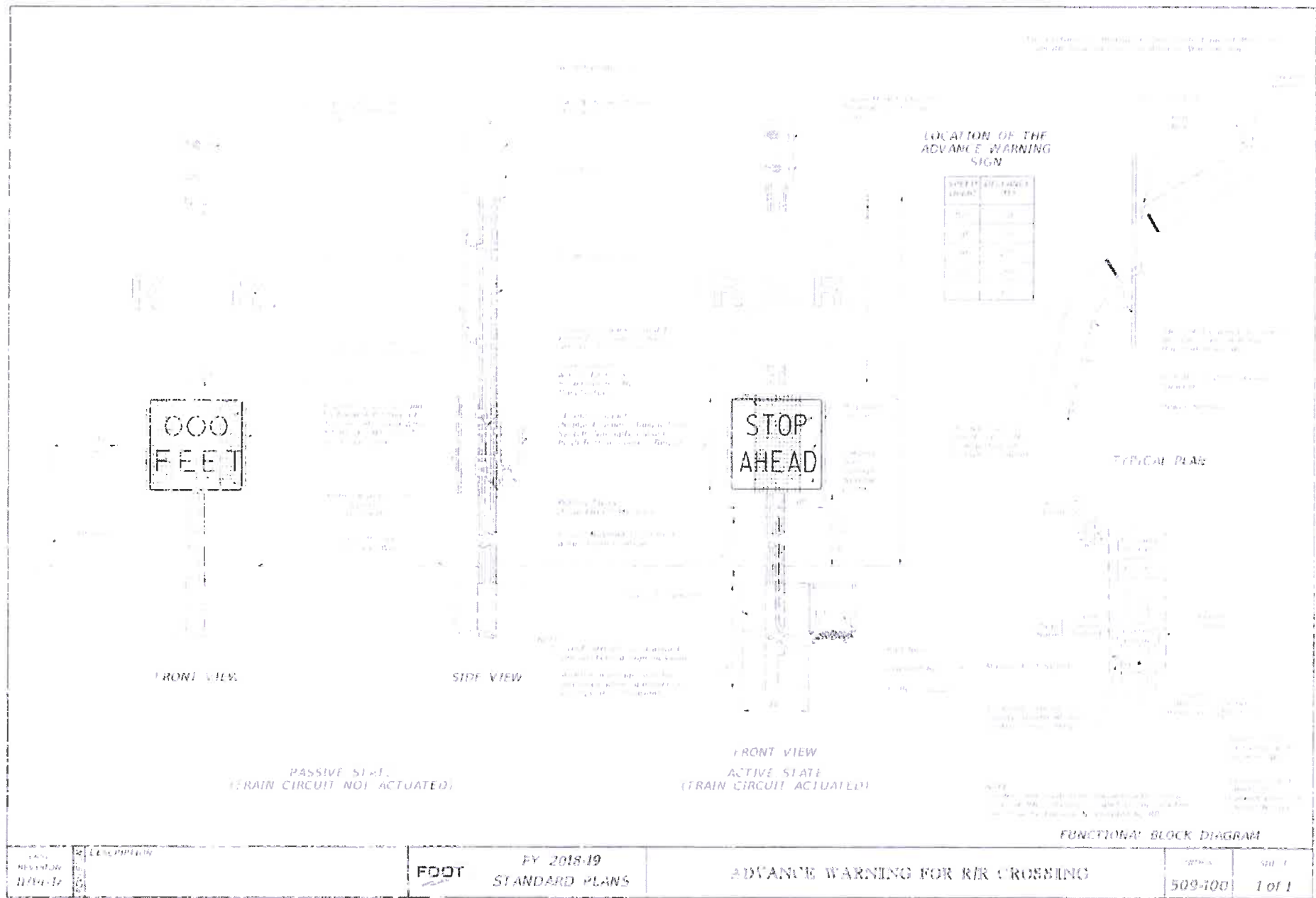
ESTIMATED COST FOR HIGHWAY CROSSING WARNING DEVICES AT DIVISION AVENUE

This estimate should be considered void after one (1) year.

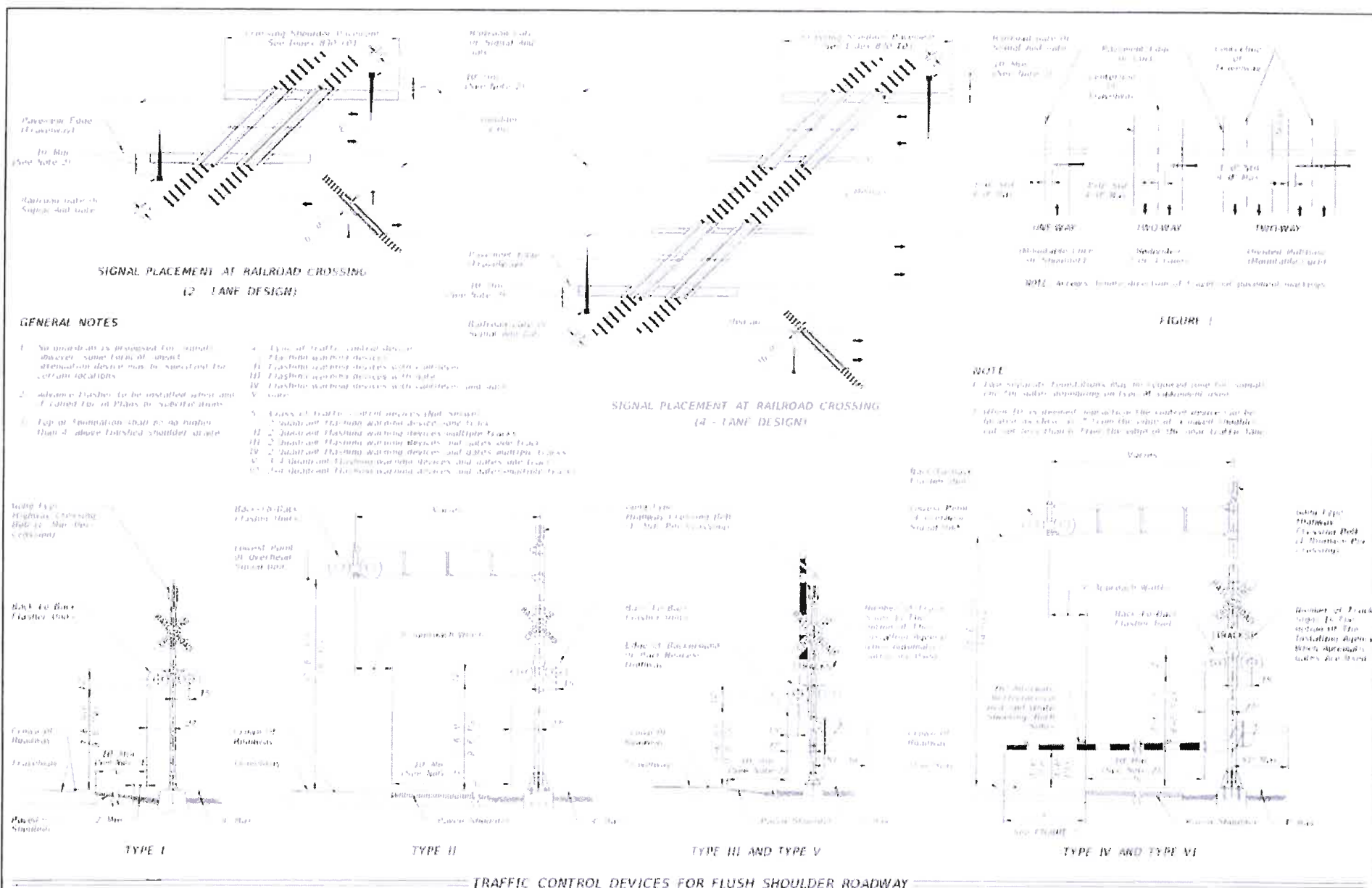
MATERIAL	UNIT COST	UNITS	TOTAL COST
GATE ASSEMBLIES	\$0.00	EA	\$0.00
GATES	\$850.00	EA	\$0.00
GATE FOUNDATIONS	#DIV/0!	EA	\$0.00
12" LED LIGHT ASSEMBLIES	\$6,360.00	1 EA	\$6,360.00
CANTILEVERS 00'	\$0.00	EA	\$0.00
CANTILEVER FOUNDATIONS	\$0.00	EA	\$0.00
XP4 CWT	\$29,167.00	1 EA	\$29,167.00
GENERATOR CASE W/ TRANSFER SWITCH	\$5,615.00	1 EA	\$5,615.00
BATTERY BOX	\$675.00	EA	\$0.00
BATTERIES SAFT SPL250	\$250.00	EA	\$0.00
MISC. GROUND MATERIAL	\$1,347.80	1 PKG	\$1,347.80
CONDUIT & DIRECTIONAL BORE	\$45.00	FT	\$0.00
CABLE / WIRE	\$1,107.40	1 PKG	\$1,107.40
MISCELLANEOUS RELAY EQUIPMENT	\$1,250.00	1 PKG	\$1,250.00
POWER SERVICE	\$2,000.00	EA	\$0.00
MONITORING EQUIPMENT	\$10,725.00	1 PKG	\$10,725.00
SANITATION & DISPOSAL	\$1,500.00	1 PKG	\$1,500.00
FREIGHT & HANDLING			\$13,893.00
TAX @ 6.5%			<u>\$3,512.00</u>
TOTAL MATERIALS			\$74,577.20
EXCAVATING EQUIPMENT PER DAY	\$417.10	2 DAYS	\$834.20
EQUIPMENT RENTAL PER DAY	\$200.00	2 DAYS	\$400.00
FOREMAN'S TRUCK PER DAY	\$224.70	2 DAYS	\$449.40
GANG TRUCK PER DAY	\$647.30	2 DAYS	\$1,294.60
SUPERVISORS TRUCK PER DAY	\$142.60	2 DAYS	<u>\$285.20</u>
EQUIPMENT TOTAL			\$3,263.00
DESIGN ENGINEERING	\$7,500.00	1	\$7,500.00
CONTRACT ENGINEERING	\$14,650.00	1	\$14,650.00
CONSTRUCTION ENGINEERING INSPECTION	\$1,350.00	1 DAYS	<u>\$1,350.00</u>
ENGINEERING TOTAL			\$23,500.00
CONSTRUCTION SUPERVISION	\$468.00	2 DAYS	\$938.00
LABOR ADDITIVE			<u>\$542.00</u>
TOTAL SUPERVISION LABOR			\$1,480.00
LABOR PER DAY	\$1,433.76		\$2,868.00
NUMBER OF DAYS	2		
LABOR ADDITIVE			<u>\$1,686.00</u>
TOTAL GANG LABOR			\$4,554.00
GANG EXPENSES PER DAY	\$1,056.00		
NUMBER OF DAYS	2		
TOTAL GANG EXPENSES			\$2,112.00
ESTIMATED FLAGGING TOTAL	\$1,100.00	2 DAYS	\$2,200.00
SUB-TOTAL			\$111,686.20
CONTINGENCIES 5%			<u>\$5,584.00</u>
TOTAL			\$117,270.00

ESTIMATE NOTES:

NEW - LED LIGHT ASSEMBLIES CWT UNIT RECORDER & GENERATOR CASE.

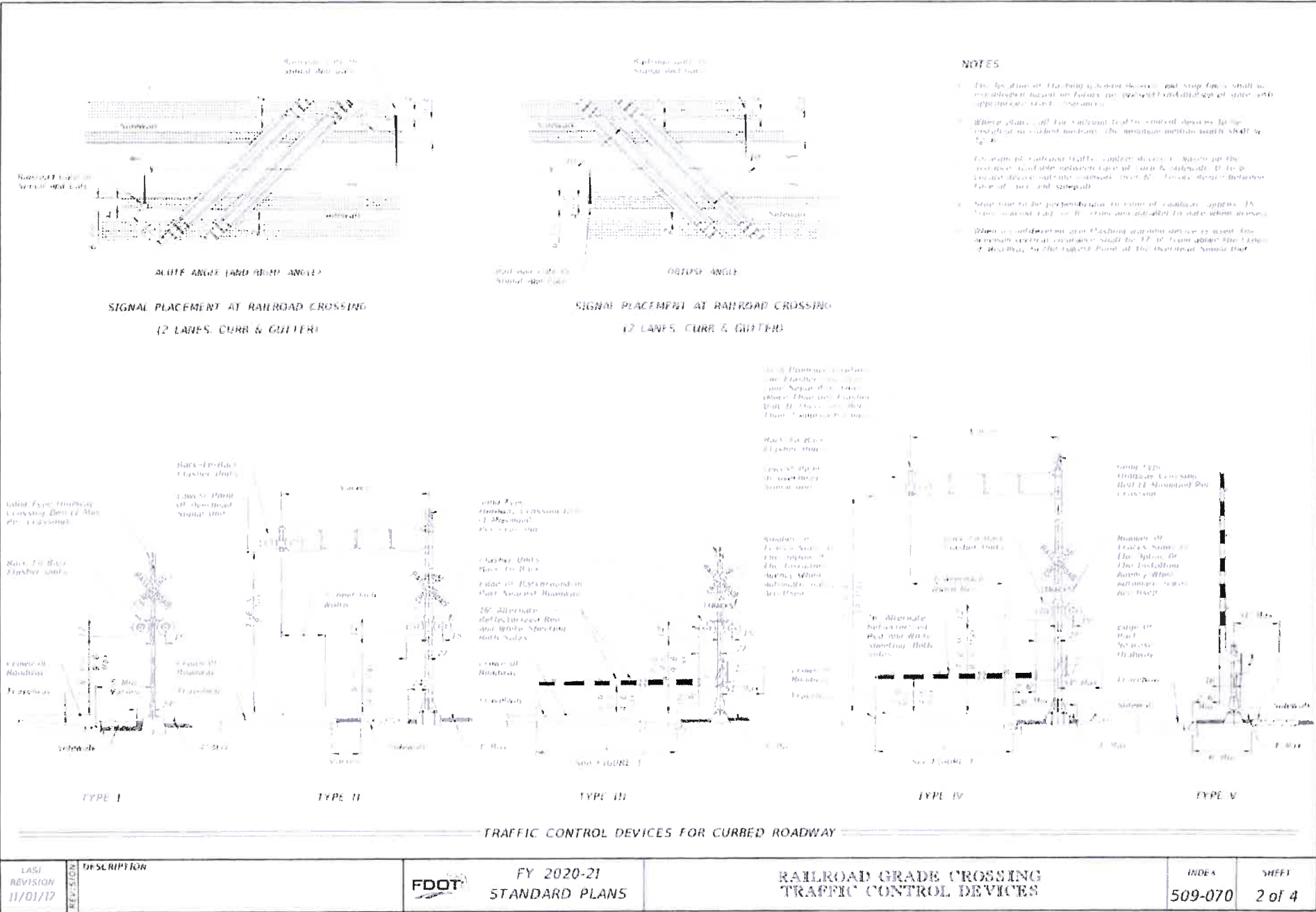


OLD # 17881



LAST REVISION 11/01/17	OF 50 REVISIONS	FY 2020-21 STANDARD PLANS	RAILROAD GRADE CROSSING TRAFFIC CONTROL DEVICES	INDEX 509-070	SHEET 1 of 4
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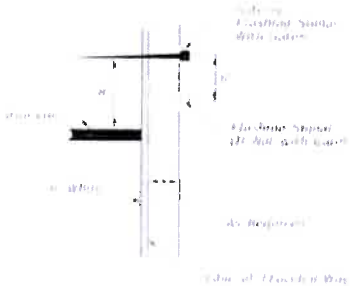
FORMER #17882



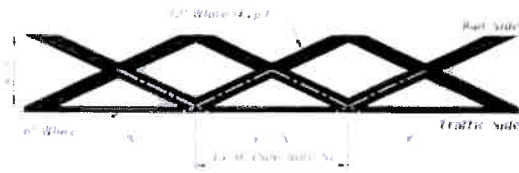
NOTES:

- 1. Place an additional W10-1 Stop where emergency lanes exist between the RDE pavement markings and the right of way.
- 2. Place F1P-61 OR an F1P-62 OR sign 100 in highway at crossing for certain conditions and add an advance W10-1 sign for rural conditions. See Index 500-102 for sign details.
- 3. Install Railroad Dynamic Envelope Pavement Markings only when called for in the Plans.
- 4. Do not install pavement markings when the distance between crossings is less than 1/4 mile.
- 5. The clearance dimension for the RDE may be taken as the lane width for two-lane roadways without shoulders or when shown in the Plans.
- 6. Do not install advance markings in the Road area.

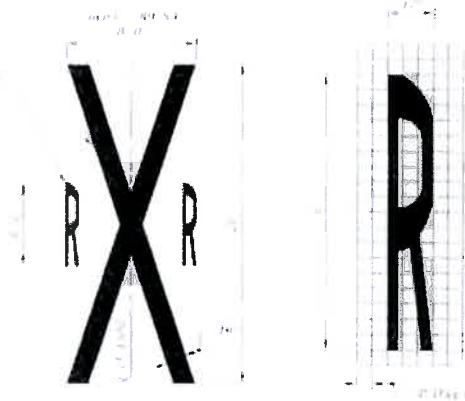
Design Speed (mph)	Distance "A" (ft)
40	400
50	500
60	600
70	700
80	800
90	900
100	1000



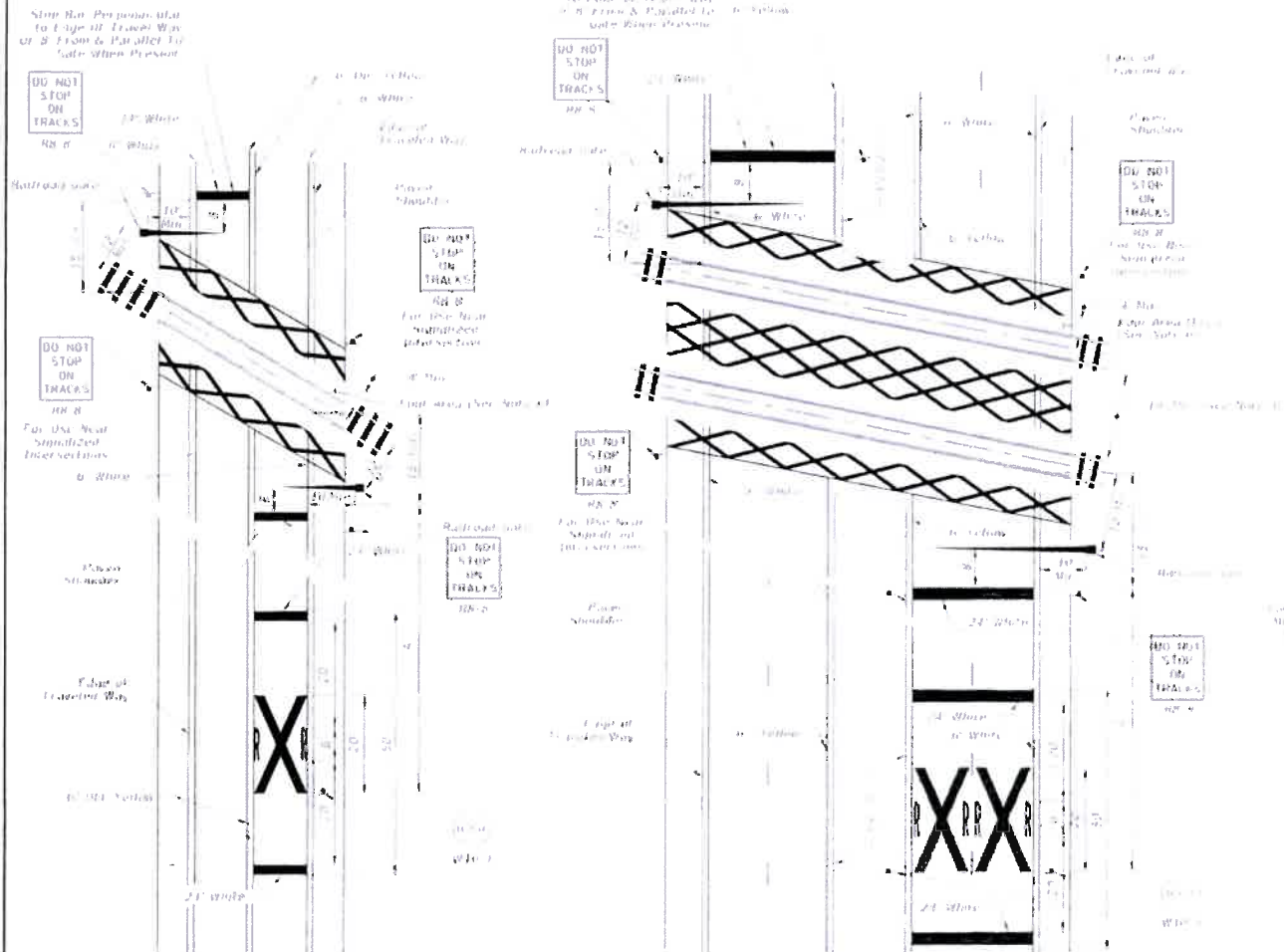
RELATIVE LOCATION OF CROSSING TRAFFIC CONTROL DEVICES



RAILROAD DYNAMIC ENVELOPE (RDE) PAVEMENT MARKING DETAIL



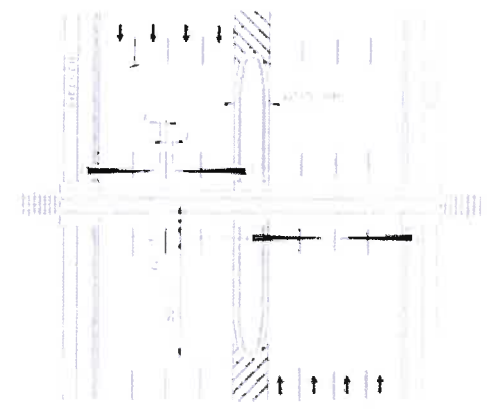
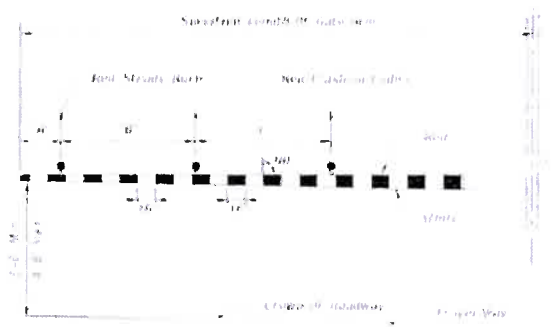
RAILROAD CROSSING PAVEMENT MESSAGE



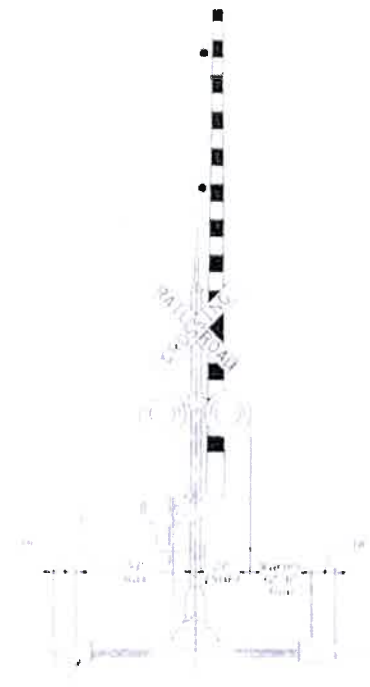
RAILROAD CROSSING AT TWO-LANE ROADWAY

RAILROAD CROSSING AT MULTILANE ROADWAY

LAST REVISION 02/11/20	DESCRIPTION Added Railroad Dynamic Envelope Pavement Markings	FDOT	FY 2020-21 STANDARD PLANS	RAILROAD GRADE CROSSING TRAFFIC CONTROL DEVICES	INDEX 509-070	SHEET 3 of 4
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PLAN



MEDIAN SECTION AT SIGNAL GATES

RAILROAD GATE ARM LIGHT SPACING

Specified Length Of Gate Arm	Dimension "A"	Dimension "B"	Dimension "C"
14 ft.	6"	36"	5'
15 ft.	18"	36"	5'
16-17 ft.	24"	36"	5'
18-19 ft.	28"	42"	5'
20-23 ft.	28"	48"	5'
24-28 ft.	36"	48"	5'
29-31 ft.	36"	48"	5'
32-43 ft.	36"	48"	5'
45-47 ft.	36"	48"	5'
48' and above	36"	48"	10'

NOTE:
For additional information see "The Manual on Uniform Traffic Control Devices" (Part 8, The Traffic Control Handbook, Part VIII and WASHO "A Policy on Geometric Design of Streets and Highways".

MEDIAN SIGNAL GATES FOR
MULTILANE UNDIVIDED URBAN SECTIONS
(THREE OR MORE DRIVING LANES IN ONE DIRECTION, 45 MPH OR LESS)

EXHIBIT A

LICENSE AGREEMENT

THIS LICENSE AGREEMENT, effective from the 17th day of June, 1999, is between the FLORIDA EAST COAST RAILWAY COMPANY (Address: P.O. Box Drawer 1048, St. Augustine, Florida 32084), a Florida corporation, hereinafter called "RAILWAY" and CITY OF ORMOND BEACH, FLORIDA, a political subdivision of the State of Florida, hereinafter called "SECOND PARTY."

WITNESSETH:

That the RAILWAY, for valuable consideration and the covenants and agreements herein contained to be performed and kept by the SECOND PARTY, does hereby give and license unto said SECOND PARTY the right and privilege to use, for public at-grade road crossing purposes only, that part of the right-of-way and property of the RAILWAY at the RAILWAY'S Milepost 104+4.174", more particularly described as follows, and hereinafter referred to as the "CROSSING SITE":

See Exhibit "A" Attached Hereto.

The words "CROSSING SITE" are defined to include any railroad crossing signs, crossing structures or automatic crossing devices which are, or might be, located within or adjacent to the above-described location. The status of the SECOND PARTY is that of a licensee and not lessee. It has the right to use the CROSSING SITE as specified herein, but legal possession of the CROSSING SITE shall remain with the RAILWAY.

In consideration of the granting of this Agreement by the RAILWAY, the SECOND PARTY covenants and agrees with the RAILWAY as follows:

REC'D MAY 11 1999

1. That the CROSSING SITE shall be used for public at-grade road crossing purposes only across the RAILWAY'S right-of-way and tracks, and except as herein provided, no pipe, wire, rail, or other line or structure shall be placed in or on the CROSSING SITE without the previous consent in writing of the RAILWAY. SECOND PARTY further agrees that the CROSSING SITE, together with the additional portions of the RAILWAY'S right-of-way within 325 feet of the northerly and southerly limits or boundaries of the CROSSING SITE, will at all times be kept clear of any vegetation or other growth greater than two (2) feet in height on each side of the tracks at the expense of SECOND PARTY and without cost to RAILWAY or lien upon RAILWAY'S property.

2. This Agreement is for the term of one (1) year. If SECOND PARTY holds over and remains in possession after the expiration of such term or any renewals thereof, this Agreement shall be considered as renewed, unless sixty (60) days' written notice of the termination of same has been or is given by the RAILWAY, and shall continue in effect from year to year, subject to the same terms and conditions as herein contained, unless amended by the RAILWAY, which it has the right to do upon sixty (60) days' written notice.

3. The provisions and stipulations of this Agreement are a part of the consideration of the licensing of the CROSSING SITE, and in the event the said SECOND PARTY shall fail to comply with any of the covenants and conditions, then, at the option of the RAILWAY, this Agreement shall be terminated with full legal rights and remedies retained by the RAILWAY, including but not limited to the right to reenter, repossess, and remove the crossing if it shall elect to do so.

4. The SECOND PARTY hereby grants unto the RAILWAY necessary permits for the installation, construction, erection, repair, and maintenance of any of the RAILWAY-owned or

maintained facilities described in this Agreement. If SECOND PARTY fails to promptly grant the RAILWAY necessary permits, SECOND PARTY shall bear all additional expense incurred by the RAILWAY attributable to such failure, including costs due to slow ordering of trains. SECOND PARTY shall promptly pay such amounts upon rendition of appropriate billing by the RAILWAY.

5. Unless otherwise specified, the cost of installation, construction, maintenance and replacement of all facilities at the CROSSING SITE, including but not limited to the crossing structure and railroad and highway devices, whether performed by the SECOND PARTY or RAILWAY, shall be the sole responsibility of the SECOND PARTY.

6. The RAILWAY shall install, maintain and replace flashing lights, bells and gates, referred to jointly as "RAILROAD DEVICES," at the CROSSING SITE. The RAILWAY will install the necessary RAILROAD DEVICES at the sole cost of the SECOND PARTY. Installation costs are estimated to be \$136,613.00 as shown on the estimate for signal installation attached and incorporated by reference.

This signal installation is a 1-44' Type "T" Class III installation as defined in the Florida Department of Transportation Schedule of Signal Installations by Type and Class attached hereto.

In addition, SECOND PARTY shall pay unto RAILWAY one-half the annual cost of maintenance of said automatic crossing protection devices as provided in the Florida Department of Transportation's SCHEDULE OF ANNUAL COST OF AUTOMATIC HIGHWAY GRADE CROSSING TRAFFIC CONTROL DEVICES, as may in the future be revised or amended, a copy of which is attached hereto and by reference made a part hereof.

The aforementioned RAILROAD DEVICES are owned by the RAILWAY and shall remain at the CROSSING SITE until the RAILWAY decides that they are no longer needed or should be replaced, or until other legal requirements are imposed which shall eliminate or substantially change the operations of the RAILROAD DEVICES.

7. The RAILWAY shall replace the existing 20' wide Type "T" crossing structure with 1-44' wide Type "T" crossing structure (hereinafter referred to as "STRUCTURE") in accordance with Florida Department of Transportation Standard Specifications for Road and Bridge Construction, Index No. 560, as may be amended, at the sole cost of SECOND PARTY. Said cost is estimated to be \$136,613 (see attached estimate, incorporated by reference).

When the RAILWAY determines that the replacement of the new STRUCTURE is more economical than its continued maintenance, the RAILWAY shall have the exclusive option to replace the STRUCTURE with a comparable or improved facility. The replacement, repair and maintenance costs of the new structure shall be the sole responsibility of the SECOND PARTY.

The SECOND PARTY shall, at its sole expense, maintain and replace the remainder of the road inside the RAILWAY'S right-of-way, plus any paving which may be located between the ends of the ties. The RAILWAY shall provide a flagman at said CROSSING SITE while work is being performed by the SECOND PARTY under the provisions of this Agreement, at the sole expense of the SECOND PARTY.

8. The SECOND PARTY agrees, acknowledges and understands that the RAILWAY reserves the right to make any changes at any future time in its existing tracks or other facilities, including the installation, maintenance and operation of any additional track or tracks or other facilities on its right-of-way at the CROSSING SITE. The SECOND PARTY agrees to bear the total expense of any changes or additions to the pavement, RAILROAD DEVICES or other

railroad signalization equipment and STRUCTURE at the CROSSING SITE, whether these changes or additions are required by law or order of any public or judicial authority, done voluntarily by the RAILWAY, or requested by the SECOND PARTY.

9. The SECOND PARTY agrees that it will install, maintain and replace all necessary drainage facilities to prevent the accumulation of surface water due to the existence of the CROSSING SITE. Such facilities must first be approved by the RAILWAY and any governing bodies having jurisdiction thereof and operation of the facilities shall also be subject at all times to their approval. An additional license agreement may or may not be required by the RAILWAY, depending upon the type, size, depth and other specifications of the proposed facilities, as submitted to the RAILWAY.

10. Lighting facilities adequate to comply with the requirements of the laws of the State of Florida covering illumination of road crossings shall be installed, maintained and replaced at or near this CROSSING SITE by and at the sole cost of SECOND PARTY.

11. The SECOND PARTY further covenants to pay, either directly or upon bills presented unto SECOND PARTY by the RAILWAY, within thirty (30) days after presentation of the same, all bills for electricity for the lighting and illumination of the CROSSING SITE.

12. At the termination of this Agreement for any cause, or upon termination of the SECOND PARTY'S use of the CROSSING SITE as herein described, the SECOND PARTY shall remove, at its entire cost and expense, said road and all non-RAILWAY-owned improvements placed upon the RAILWAY'S right-of-way and restore the ground to its original condition.

13. SECOND PARTY shall indemnify and hold harmless RAILWAY for assessments or other charges of any kind whatsoever against the RAILWAY at any time for any portion of

public improvements installed on or within two hundred (200) feet of the CROSSING SITE or arising out of the existence of the CROSSING SITE.

14. The SECOND PARTY shall not take any action that will prevent or tend to restrict the operations of trains over the CROSSING SITE.

15. The SECOND PARTY will include in any contract which it may let for the whole or part of said work to be performed hereunder by or for the SECOND PARTY, each and every one of the terms and conditions included on the two pages entitled "INDEMNITY TO THE FLORIDA EAST COAST RAILWAY COMPANY AND CONTRACTUAL LIABILITY ENDORSEMENTS TO CONTRACTOR'S PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE POLICIES DURING SUCH INDEMNITIES" AND "INSURANCE FOR BENEFIT OF FLORIDA EAST COAST RAILWAY COMPANY TO BE OBTAINED, KEPT IN FULL FORCE AND EFFECT AT COST OF CONTRACTOR," both attached hereto and made a part hereof.

16. SECOND PARTY shall give the RAILWAY one (1) week's advance notice when the SECOND PARTY or its contractor or anyone claiming under this Agreement proposes to enter upon the CROSSING SITE to perform work under this Agreement in order that proper warning may be provided for trains; except that in emergency situations SECOND PARTY shall only be required to give the RAILWAY such advance notice as is practicable under the circumstances. The SECOND PARTY further agrees that at all times its personnel or agents are on the property of the RAILWAY, they will be accompanied by a RAILWAY representative and any cost involved will be borne by the SECOND PARTY.

17. After the STRUCTURE portion of the CROSSING SITE has been installed and the RAILROAD DEVICES have been installed and all other work to be performed by the

RAILWAY under this Agreement has been completed and found to be in satisfactory working order by the RAILWAY, the RAILWAY shall furnish to the SECOND PARTY a statement showing the total cost of material, labor and equipment furnished by the RAILWAY, which statement is agreed to be prima facie reasonable, and said cost to the SECOND PARTY being hereby estimated to be \$136,613 as shown by the estimates of the RAILWAY'S Engineering and Signal Departments, which are attached to this Agreement and by this reference made a part hereof.

18. Installation, maintenance and replacement of any and all railroad advance warning signs and pavement markings on any road approaching the CROSSING SITE shall be the sole responsibility of the SECOND PARTY, and at its sole expense.

19. The SECOND PARTY shall promptly pay RAILWAY all charges for maintenance, replacement, repair or otherwise of the facilities at this crossing as provided for in this Agreement, upon being billed for the same by the RAILWAY. Failure to promptly pay to RAILWAY amounts billed as due under this Agreement shall constitute default by the SECOND PARTY and shall enable RAILWAY to terminate this Agreement as provided for below.

20. The SECOND PARTY is specifically notified that its personnel will be working in an area containing active fiber-optic transmission cable as well as other cables and other facilities. If a cable or other facility is cut or damaged, the SECOND PARTY agrees to indemnify RAILWAY for any damages which may result. The SECOND PARTY will secure insurance to cover this obligation as provided for below.

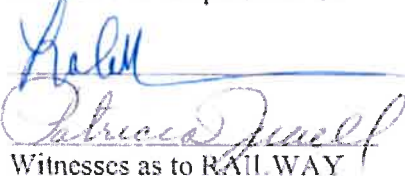
21. If any provision or provisions of this Agreement shall be held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

22. This Agreement will be governed by the laws of the State of Florida. It constitutes the complete and exclusive statement of the Agreement between the parties which supersedes all proposals, oral or written, and all other communications between the parties related to the subject matter of this Agreement. Any future change or modification of this Agreement must be in writing and signed by both parties.

23. It is understood by and between the respective parties hereto that this License Agreement cancels and supersedes that certain Signal Agreement between the RAILWAY and the SECOND PARTY dated January 23, 1959.

IN WITNESS WHEREOF, the RAILWAY and the SECOND PARTY have caused this instrument to be executed in their corporate names and respective seals to be hereunto affixed in duplicate the day first hereinafter written by their undersigned officials thereunto lawfully authorized.

Signed, sealed and
delivered in the presence of:


Witnesses as to RAILWAY

**FLORIDA EAST COAST RAILWAY
COMPANY**, a Florida corporation

By:  (Seal)

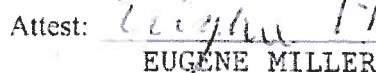
ATTEST: 
Assistant Secretary

DATE: 4-28-99

CITY OF ORMOND BEACH, FLORIDA, a
political subdivision of the State of Florida

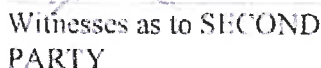
By: 
DAVE HOOD

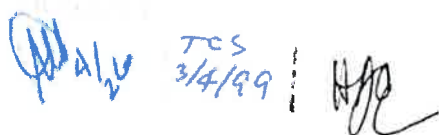
Title: MAYOR

Attest: 
EUGENE MILLER

Title: CITY MANAGER

Date: 6-17-99


Witnesses as to SECOND
PARTY


TCS
3/4/99

LICENSE AREA

December 18, 1998

File: 104/39/4,174'

DIVISION AVENUE – MP 104+4,174' – FDOT # 271922M

A PARCEL OF LAND WITH UNIFORM WIDTH OF ONE HUNDRED (100) FEET NORTHERLY AND SOUTHERLY AND EXTENDING EASTERLY AND WESTERLY ACROSS THE RIGHT-OF-WAY AND MAIN TRACKS OF THE RAILWAY AT DIVISION AVENUE IN VOLUSIA COUNTY, FLORIDA, WITH A LONGITUDINAL CENTER LINE OF SAID PARCEL LOCATED FOUR THOUSAND ONE HUNDRED SEVENTY FOUR (4,174) FEET SOUTHERLY FROM THE RAILWAY'S MILE POST NO. 104 AS MEASURED FROM JACKSONVILLE, FLORIDA, SAID RIGHT-OF-WAY OF THE RAILWAY HAVING A TOTAL WIDTH OF ONE HUNDRED (100) FEET AT THIS LOCATION, BEING SIXTY THREE (63) FEET IN WIDTH ON THE EAST SIDE OF THE CENTERLINE OF THE MAIN TRACK AND THIRTY SEVEN (37) FEET IN WIDTH ON THE WEST SIDE OF THE CENTER LINE OF THE MAIN TRACK, ALL AS SHOWN COLORED IN ORANGE ON THE ATTACHED DRAWING NO. 01-D-255, DATED December 18, 1998, ATTACHED HERETO AND MADE A PART HEREOF.

EXHIBIT "A"



CITY OF ORMOND BEACH

City Manager • 22 S. Beach Street • Ormond Beach • Florida • 32174 • (386) 676-3200 • Fax (386) 676-3384

CITY MANAGER MEMORANDUM

To: The Honorable Mayor Partington and City Commissioners

Through: Joyce A. Shanahan, City Manager

From: Brian Rademacher, Economic Development Director

Date: April 6, 2021

Subject: Airport Access Roads Project - Wetland Mitigation

Commission Goal: Economic Development - Other

Introduction

This is a resolution to authorize execution of a reservation and sales agreement with Lake Swamp, LLC in order to reserve wetland mitigation credits from the Lake Swamp Mitigation Bank required for the project to construct access roads from the Airport Business Park into the Southwest Quadrant of the Ormond Beach Municipal Airport.

Background

This design project is in response to the completion of the airport's new taxiway system, consisting of Taxiways Golf and Alpha. The Taxiway Golf project constructed a Design Group II Taxiway parallel to the full length of Runway 17/35, including run-up areas, and is similar in scope to the Taxiway Alpha project completed in 2013. Taxiway Alpha is a Design Group II Taxiway parallel to the full length of Runway 9/27, also including run-up areas. Construction of these taxiways created a new, intersecting taxiway system that established airside viability of the southwest quadrant of the airport for aviation-use development by providing direct taxiway access to the airport's runways. The proposed access roads, along with water and sewer utilities, are essential infrastructure components necessary to develop, market, and lease lots in the southwest quadrant of the airport, which will provide additional lease revenue to the airport and create value-added jobs in the City.

The southwest quadrant of the airport is currently inaccessible by ground vehicles via existing ingress and egress routes at the airport or the Airport Business Park. Successful development of the southwest quadrant will require such access, and will benefit both the airport and the business park by affording development and co-location of airside and non-airside business parcels. The Airport Access Road Project is consistent with the approved Airport Layout Plan and is included in the City's Capital Improvements Program (CIP) as Project No. 108066. The City is in receipt of two Public Transportation Grant Agreements from the Florida Department of Transportation to fund

design and construction of this project, which were approved by the City Commission via Resolutions Nos. 2020-52 and 2020-53.

Discussion

The Southwest Quadrant Airport Access Road Project, which will open approximately 80 acres of aeronautical-use land for development and revenue generation for the airport, is the subject of St. Johns River Water Management District (SJRWMD) permit application number 29666-17. The project site is a mixture of uplands and wetlands. The project involves work within 0.88 acres of wetlands located within the proposed road right of way. This wetland system will require mitigation to offset the loss of these functions. Water quality treatment for the proposed roadway will be provided in the proposed retention area which is designed to meet the accepted presumptive design standards. The new retention area will also provide for peak rate attenuation. The system will discharge into an onsite ditch that drains to the Tomoka River.

Wetland impacts that occur within the Halifax River Basin must be mitigated within that basin. Mitigation credit costs were obtained from the three mitigation banks listed below which service the Halifax River Basin:

Tiger Bay Mitigation Bank	\$36,000
Farmton Mitigation Bank	\$36,000
Lake Swamp Mitigation Bank	\$34,500

The City has proposed to offset the wetland impacts by obtaining 0.3 forested freshwater credits from Lake Swamp Mitigation Bank. The proposed mitigation fully offsets the proposed impacts and is located within the same drainage basin as the impacted wetlands, so no unacceptable cumulative impacts will occur, pursuant to Section 10.2.8, ERP A.H. Vol. I. The City has provided to SJRWMD reasonable assurance that the proposed project meets the conditions for issuance of permits specified in rules 62-330.301 and 62-330.302, F.A.C. The project is located within the Tomoka River Hydrologic Basin. The project, as proposed, is consistent with the conditions for permit issuance pursuant to Chapter 40C-41.063(5), F.A.C. and Section 13.4, A.H. Vol II.

Citizen Impact

The Southwest Quadrant Airport Access Road Project pertains specifically to current and planned airport operations. The new access roads will enable development of the southwest quadrant, which will increase land lease revenue for the airport and support job creation and tax revenue generation for the community.

Budget Impact

The total cost to purchase the required mitigation credits is \$34,500. The City is in receipt of Public Transportation Grant Agreements (PTGAs) with the Florida Department of Transportation (FDOT) that will fund 50% of the cost for the mitigation

credits in the amount of \$17,250. The total remaining obligation from the Economic Development and Airport Funds is also \$17,250.

Recommendation

Staff recommends that the City Commission authorize execution of the reservation and sales agreement with Lake Swamp, LLC in order to reserve wetland mitigation credits for the project to construct access roads from the Airport Business Park into the Southwest Quadrant of the Airport.

Attachments:

- 21-69 Airport- Reservation and Sales Agreement (P21-0021G)(PDF)
- SW Quadrant Access Road SJRWMD Wetland Credit Reservation Agreement (PDF)
- Exhibit - Road and Pond Layout (PDF)

REVIEWED BY:


Kelly McGuire, Finance Director 3/8/2021


Claire Whitley, Assistant City Manager 3/9/2021

APPROVED BY:


Joyce A. Shanahan, City Manager 3/11/2021

RESOLUTION NO. 2021-69

A RESOLUTION AUTHORIZING THE EXECUTION OF A RESERVATION AND SALES AGREEMENT BETWEEN THE CITY OF ORMOND BEACH AND LAKE SWAMP, LLC TO RESERVE AND PURCHASE WETLAND MITIGATION CREDITS FROM THE LAKE SWAMP MITIGATION BANK; 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 the City Manager are hereby authorized to execute a Reservation and Sales Agreement with Lake Swamp, LLC to reserve and purchase wetland mitigation credits from the Lake Swamp Mitigation Bank, a copy of which Reservation and Sales Agreement is attached hereto and incorporated herein by reference.

SECTION TWO. The Mayor and the City Manager are hereby authorized to execute any subsequent documents to finalize this Agreement.

SECTION THREE. This Resolution shall take effect immediately upon its adoption.

APPROVED AND AUTHENTICATED this 6th day of April, 2021.

BILL PARTINGTON
Mayor

ATTEST:

KATE SETTLE
City Clerk

RESERVATION AND SALES AGREEMENT

This Reservation and Sales Agreement (the "Agreement") is entered into this ____ day of _____, 2021 (the "Effective Date") by and between **LAKE SWAMP, LLC.**, a Florida limited liability company, whose address is 391 Palm Coast Pkwy. SW, Suite 1, Palm Coast, Florida 32137 ("Seller") and **City of Ormond Beach** whose address is P.O. Box 277, Ormond Beach, FL 32175 ("Buyer").

RECITALS:

A. Seller is the owner of Lake Swamp Mitigation Bank, a regionally significant wetland mitigation bank with freshwater mitigation credits under St. Johns River Water Management District ("SJRWMD") Permit Number 4-035-104433-4 ("Lake Swamp Credits");

B. Buyer is in the process of modifying a project known as **Ormond Beach Airport SW Quadrant Access Road** located in Volusia County, Florida, under SJRWMD Application Permit Number 29666-17 (the "SJRWMD Permit");

C. It is anticipated that, as a condition to issuing the Permits, SJRWMD will require Buyer to purchase mitigation credits;

D. Buyer has determined that Lake Swamp Credits will satisfy SJRWMD'S requirements and Buyer therefore desires to obtain an option to acquire Lake Swamp Credits from Seller; and

E. Seller is willing to sell Lake Swamp Credits to Buyer on the terms and conditions hereinafter set forth.

NOW, THEREFORE, in consideration of the mutual covenants and undertakings herein set forth, as hereinafter defined, the receipt and sufficiency of which is hereby acknowledged, Seller and Buyer agree as follows:

1. Recitals. The Recitals set forth above are material parts of this Agreement and are incorporated herein by reference.

2. Reservation. Seller hereby reserves up to **0.30** Lake Swamp Credits (the "Reserved Credits") for Buyer under the terms and conditions set forth herein (the "Reservation").

3. Term. The Reservation shall commence upon the Effective Date and expire on May 31, 2021 (the "Expiration Date").

4. Purchase Price. The total purchase price for the Reserved Credits is **Thirty Four Thousand Five Hundred Dollars (\$ 34,500)** (\$115,000 per credit for 0.30 State only credits) (the "Purchase Price"). Buyer shall pay the Purchase Price to Seller at closing in immediately available funds in Flagler County, Florida.

5. Deposit. Upon execution of this Agreement, Buyer shall pay to Seller the sum of **Three Thousand Four Hundred Fifty Dollars (\$ 3,450)** (the "Deposit"). The Deposit shall be non-refundable to Buyer unless Seller breaches this Agreement in which event the Deposit shall be fully refunded to Buyer.

6. Transfer of Reserved Credits. Upon Seller's timely receipt of the full Purchase Price, less the Deposit, Seller shall assign to Buyer the Reserved Credits using an instrument captioned "Assignment Of Wetland Mitigation Credits," a copy of which is attached as **Exhibit "A"** hereto. If Buyer fails to timely pay the Purchase Price by the Expiration Date, then this Agreement shall terminate and the parties shall be released and relieved of any further obligations under this Agreement.

7. Notices. Any notice required hereunder shall be given in writing and shall be sent by any of the following means: (i) hand delivery; (ii) facsimile transmission; (iii) electronic mail; (iv) registered or certified mail, return receipt requested or (v) deposited into a recognized overnight courier service to the parties hereto:

SELLER:	Lake Swamp, LLC 391 Palm Coast Pkwy. SW, Suite 1 Palm Coast, FL 32137 Attn: Clinton F. Smith, III E-Mail: clintfsmith@aol.com
BUYER:	City of Ormond Beach P.O. Box 277 Ormond Beach, FL 32175 Attn: Steven Robert Lichliter E-Mail: steven.lichliter@ormondbeach.org

Notices shall be deemed received when delivered if hand delivered; when sent via facsimile transmission; when sent via electronic mail; when sent via a recognized overnight courier service; or 3 days after deposit in the U.S. Mail if sent via registered or certified mail.

If the time period or date by which or on which any right or election provided under this Agreement must be exercised, or by which or on which any act required hereunder must be performed, or by which or on which any notice or demand must be given or received, expires or occurs on a Saturday, Sunday or holiday observed by local, state or federal governments or state chartered or national banks in the State of Florida, then such time period or date shall be automatically extended through the end of the next day which is not a Saturday, Sunday or such a holiday.

8. Attorneys' Fees. In the event of any dispute hereunder or of any action to interpret or enforce this Agreement, any provision hereof or any matter arising herefrom, the prevailing party shall be entitled to recover its reasonable costs, fees and expenses, including, but not limited to, witness fees, expert fees, consultant fees, attorney, paralegal and legal assistants'

fees, costs and expenses and other professional fees, costs and expenses whether suit be brought or not, and whether in settlement, in any declaratory action, at trial or on appeal.

9. Severability. If any provisions of this Agreement are held to be illegal or invalid, the other provisions shall remain in full force and effect.

10. Binding Effect. The obligations and covenants of this Agreement shall bind and benefit the successors, personal representatives, heirs and permitted assigns of the parties hereto.

11. Captions. The captions for each section of this Agreement are for convenience and reference only and in no way define, describe, extend or limit the scope or intent of this Agreement, or the intent of any provision hereof.

12. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same Agreement.

13. Facsimile Signatures. Facsimile signatures of this Agreement shall be deemed binding on all parties.

14. Governing Law; Venue. This Agreement shall be governed by the laws of the State of Florida, exclusive of choice of law rules. Venue for any action arising out of this Agreement shall lie exclusively in the County or Circuit Court in Flagler County, Florida, regardless of the amount in controversy or any diversity of citizenship.

15. Entire Agreement/Amendments. This Agreement constitutes the sole and entire agreement between the parties hereto with respect to the Reserved Credits and supersedes all letters-of-intent, term sheets, letters-of-interest, understandings, promises, covenants, representations, statements, agreements and undertakings (whether written or oral), if any, with respect thereto, which may have been given, distributed, furnished or made prior to or contemporaneously with the execution and delivery of this Agreement. This Agreement may not be amended except by written agreement signed by all of the parties.

16. Assignment. Buyer shall not have the right to assign this Agreement without the prior written consent of Seller.

17. Waiver. No waiver of any provision or condition of this Agreement by any party shall be valid unless in writing signed by such party. No such waiver shall be taken as a waiver of any other or similar provision or of any future event, act, or default.

18. Time of the Essence. Time is of the essence of this Agreement and each and every provision hereof.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the Effective Date.

SELLER:

LAKE SWAMP, LLC

By:_____

Clinton F. Smith, III, Vice President

Executed:_____

BUYER:

CITY OF ORMOND BEACH

By:_____

Name:_____

Title:_____

Executed:_____

EXHIBIT "A"**ASSIGNMENT OF
WETLAND MITIGATION CREDITS**

This Assignment is made this ____ day of _____, 202__, by **Lake Swamp, LLC**, a Florida limited liability company, of 391 Palm Coast Pkwy. SW, Suite 1, Palm Coast, Florida 32137 ("Assignor") to **City of Ormond Beach** whose address is P.O. Box 277, Ormond Beach, FL 32175 ("Assignee").

RECITALS

A. Assignor is the Owner of a regionally significant wetland mitigation bank with freshwater mitigation credits under St. Johns River Water Management District ("SJRWMD") Permit Number 4-035-104433-4 ("Credits");

B. Assignee is developing a project known as **Ormond Beach Airport SW Quadrant Access Road** under SJRWMD Application Permit Number 29666-17 (the Permit); and

C. Assignee is required to purchase certain mitigation credits to satisfy the conditions of the Permit.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged by Assignor, Assignor hereby assigns and transfers to Assignee all its right, title and interest in and to **0.30** Credits.

WITNESS our hands and seals this ____ day of _____, 202__.

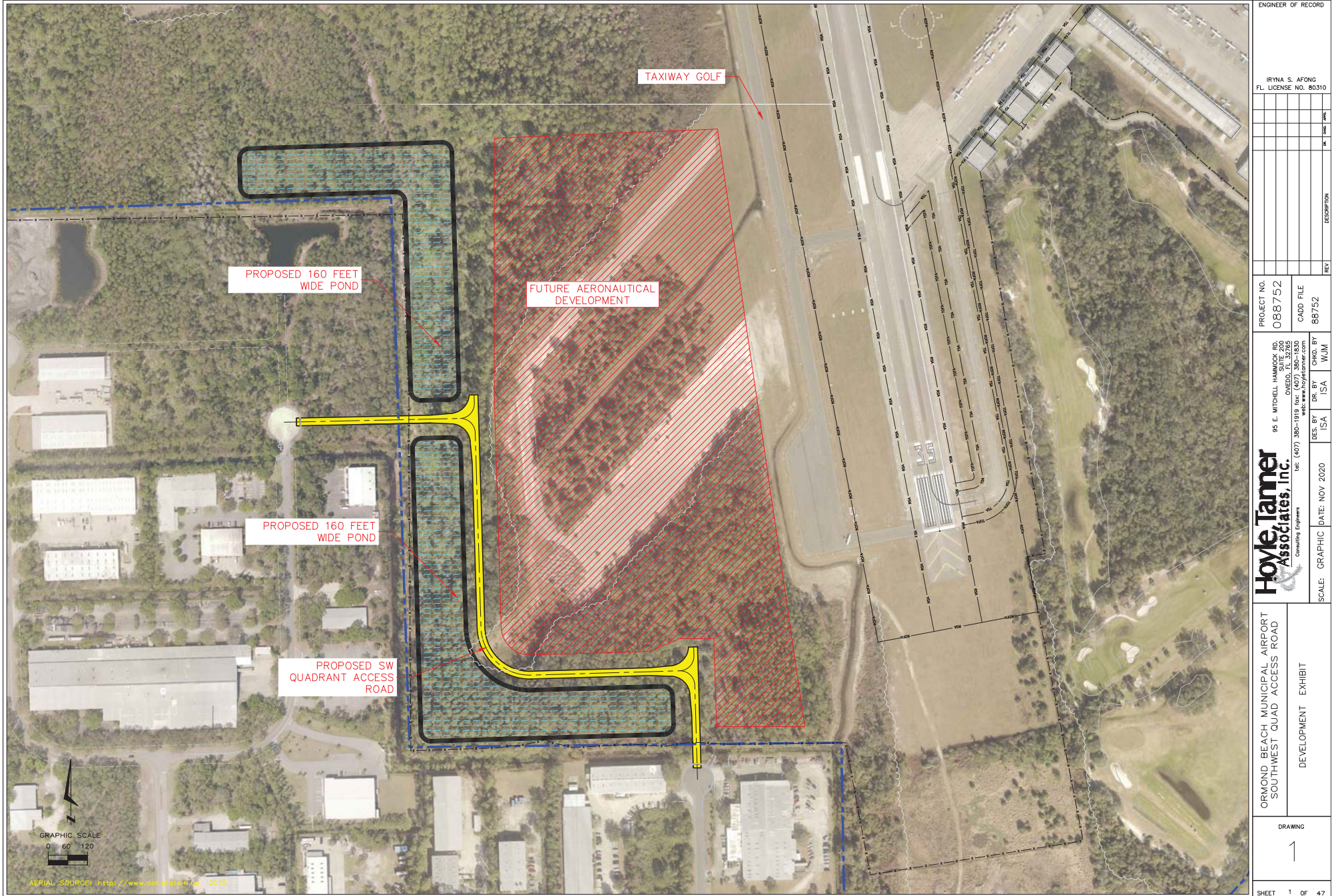
ASSIGNOR:
LAKE SWAMP, LLC

By: _____
Name: _____
Title: _____
Executed: _____

ASSIGNEE:

CITY OF ORMOND BEACH

By: _____
Name: _____
Title: _____
Executed: _____



ENGINEER OF RECORD	
IRYNA S. AFONG FL LICENSE NO. 80310	
PROJECT NO.	088752
CADD FILE	88752
DES. BY	ISA
CHKD. BY	WJM
DATE	NOV 2020
SCALE	GRAPHIC
DEVELOPMENT EXHIBIT	
DRAWING	
1	
SHEET	1 OF 47

Hoyle Tanner Associates, Inc.
Consulting Engineers
98 E. MITCHELL HANCOCK RD.
SUITE 200
OWENSBORO, KY 40301
TEL: (502) 360-1019 FAX: (502) 360-1018
WWW.HOYLETANNER.COM

ORMOND BEACH MUNICIPAL AIRPORT
SOUTHWEST QUAD ACCESS ROAD



CITY OF ORMOND BEACH

City Manager • 22 S. Beach Street • Ormond Beach • Florida • 32174 • (386) 676-3200 • Fax (386) 676-3384

CITY MANAGER MEMORANDUM

To: The Honorable Mayor Partington and City Commissioners

Through: Joyce A. Shanahan, City Manager

From: Kelly McGuire, Finance Director

Date: April 6, 2021

Subject: Enterprise resource system amendment, Tyler, Building, Planning and Code Enforcement

Commission Goal: Community Development - Other

Introduction

This is a request for the City Commission to approve two contract amendments with Tyler Technologies Incorporated ("Tyler"), the city's enterprise resource system provider, for the software implementation and hosting services of the building permitting, licensing, inspection, site plan review, and code enforcement modules.

Background

An enterprise resource system is the computer operating system that connects and supports a wide range of city functions including accounting, budgeting, utility billing, payroll, human resource management, building inspections and permitting, licensing, site plan review, code enforcement liens, public works work order tracking, accounts payable, and cash receipting.

In 2014, the city solicited proposals, through Request for Proposals (RFP) No. 2014-11, for an enterprise resource system to replace the Sungard HTE system that was implemented in the 1980's and is no longer compatible with current technology and programs. Tyler was selected as the vendor for the new enterprise resource system through Resolution No. 2016-67, and staff executed a contract with Tyler for the implementation (configuration of software), hosting (storage of data), and ongoing service maintenance (future software updates and maintenance) of the system.

Due to the complexity of converting the city's entire enterprise resource system to a new platform and vendor, the city executed a contract for project management services with Berry, Dunn, McNeil & Parker ("BerryDunn"), Resolution No. 2016-135, to manage and oversee the conversion. A separate resolution, for the amendment to the BerryDunn agreement, also appears on this agenda.

To date, Tyler and BerryDunn have successfully implemented the accounting, budgeting, utility billing, payroll, and human resource modules. The next modules scheduled for implementation are building permitting, licensing, inspection, site plan review, and code enforcement.

Discussion

The purpose of this agenda item is to approve two amendments to the original Tyler contract that are necessary to complete the building permitting, licensing, inspection, site plan review, and code enforcement modules.

The first amendment addresses the software implementation aspect of the conversion. Originally, the contract allocated \$379,136 in professional services for the implementation of the building permitting, licensing, inspection, site plan review, and code enforcement modules. Based on updates to the scope of work and hours required, the addition of software components not previously available, and subsequent technology updates, an additional **\$117,414** is required to fully implement these modules. City staff will be performing 50% of the workflow design, which significantly reduces the need for professional services, resulting in an overall implementation cost of \$496,550 (original contract \$379,136, plus additional services, totals \$496,550)

The second amendment expands the hosting services for these modules. The original Tyler contract identified an annual cost of \$353,313 for hosting and ongoing maintenance services, however, with the expanded scope and functionality, the annual hosting costs will increase by **\$11,632**. Additionally, a one-time implementation fee for hosting services of **\$29,960** has been added.

These cost increases are primarily a result of adding an electronic based permit review (“e-plans”) component that was not available when the original Tyler contract was executed. Since 2015, the city has been utilizing the ProjectDox software platform, an e-plans system that completely replaced paper submittals. The ability to process submittals remotely has been critical during the pandemic which provided convenient and uninterrupted service to customers. Incorporating this function into Tyler will further integrate the city’s workflow process and eliminate redundant programs and costs. Furthermore, the enhanced hosting services with off-site and cloud data storage significantly reduces the city’s infrastructure and staffing needs and costs, and supports uninterrupted access to the system in the event of a local emergency or disaster.

Once the conversion is completed, the City will realize an **annual cost savings of \$126,000** due to the discontinuation of the previous enterprise resource system Sungard HTE (\$42,000 annual savings) and the ProjectDox platform (\$84,000 annual savings).

In order to continue the highest quality and most efficient implementation of the Tyler modules, it is also necessary to amend the project management agreement with BerryDunn for the upcoming building permitting, licensing, inspection, site plan review,

and code enforcement modules. The proposed project management amendment is included in a separate agenda item.

Budget Impact

Resolution No. 2016-67 allocated \$379,136 for professional services for the implementation of the building permitting, licensing, inspection, site plan review, and code enforcement modules. Based on the revised scope of work, a budget amendment of **\$117,414** is required for a total cost of \$496,550. Fund 401-Water/Wastewater has the existing Tyler contract amount of \$379,136.

The hosting services and ongoing maintenance would increase by **\$11,632** to the existing annual cost of \$353,313. The hosting services are in the budget of the 205 Debt Service. A budget amendment for **\$29,960** is required for the additional hosting implementation fee.

The existing systems of Naviline and ProjectDox would not be renewed once the enterprise resource system is operational. The existing annual cost for Naviline is approximately \$42,000 and Project Dox is \$84,000. It is anticipated that these costs would be required in fiscal year 2021-22 and would not be renewed in fiscal year 2022-23, resulting in an annual savings of approximately **\$126,000**.

Citizen Impact

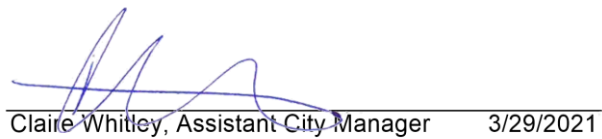
The proposed contract amendments provide a more efficient and cost-effective software solution for city building, planning, and code enforcement functions. Additionally, the cloud-based technology not only decreases storage and staffing costs, but ensures continued operation and recovery during any local disasters or events.

Recommendation

It is recommended that the City Commission **APPROVE** the attached amendments to the 2016 contract with Tyler Technologies Incorporated to update the software systems of building permitting, licensing, inspection, site plan review, and code enforcement.

Attachments:

- 21-70 Enterprise Resource System-Tyler (P20-0225G) (PDF)
- 010421 Ormond Beach, FL E-Review Amendment (PDF)
- 010421 Ormond Beach, FL Amendment - EnerGov Core Applications(PDF)
- Summary of EnerGov Implementation Amendment Changes (2014-8632) (PDF)

REVIEWED BY:
Kelly McGuire, Finance Director 3/16/2021
Claire Whitley, Assistant City Manager 3/29/2021**APPROVED BY:**
Joyce A. Shanahan, City Manager 3/31/2021

RESOLUTION NO. 2021-70

A RESOLUTION AUTHORIZING AN AMENDMENT TO THE EXISTING AGREEMENT WITH TYLER TECHNOLOGIES INC., REGARDING AN ENTERPRISE RESOURCE SYSTEM DOCUMENT MANAGEMENT PROGRAM, INCLUDING IMPLEMENTATION, HOSTING AND MAINTENANCE SERVICES; AUTHORIZING PAYMENT THEREFOR; AND SETTING FORTH AN EFFECTIVE DATE.

WHEREAS, the City solicited proposals (RFP No. 2014-11) for an enterprise resource system document management program, including implementation, vendor hosting and maintenance services (ERP System & Services) in accordance with Section 2-300(b), *Code of Ordinances*, and

WHEREAS, by Resolution 2016-63 the City Commission accepted the proposal from Tyler Technologies, Inc. (Tyler), and an agreement was executed May 23, 2016, for an enterprise resource system document management program, including implementation, vendor hosting and maintenance services, and

WHEREAS, Tyler has completed implementation of the accounting, budgeting, utility billing, payroll, and human resource management functions software programs, and

WHEREAS, the City's Professional staff has recommended that the City Commission approve implementation of the Tyler enterprise resource system modules for building permitting, inspections, licensing, site plan review, capital improvement projects, and code enforcement, and

WHEREAS, amendments to the agreement with Tyler are needed for professional services for implementation of the foregoing system modules, and hosting services and ongoing maintenance, and

WHEREAS, the costs to be paid by the City associated with the Tyler amendment for professional services is a one-time fee of \$496,550, plus an annual fee of \$100,795 for fiscal years 2020-21 through 2026-27, with funding for implementation of this project available from the Water/Wastewater Fund (401), and

WHEREAS, the costs to be paid by the City associated with the Tyler amendment for hosting services and maintenance includes a one-time fee of \$29,960, plus an annual fee of \$11,632 for fiscal years 2020-21 through 2026-27, with funding available from the Debt Service Fund (205), and

WHEREAS, based on the foregoing the City's Professional Staff has recommended that the City Commission accept the Tyler amendments for the provision of ERP System & Services and execute the two agreements, including all documents that are necessary and incidental thereto, a copy of said agreements being attached hereto and incorporated herein by reference, now therefore,

BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:

SECTION ONE. The above recitals are incorporated herein as the legislative findings of the City Commission.

SECTION TWO. The City Commission hereby approves the amended agreements attached hereto regarding the provision of ERP System & Services.

SECTION THREE. The Mayor and the City Manager are hereby authorized and directed to execute the amended agreements, including all documents that are necessary and incidental thereto, between the City and Tyler Technologies, Inc. for the ERP System & Services and to pay the cost thereof as provided herein from the Water/Wastewater Fund (401) for a one-time fee of \$496,550, plus and annual fee of \$100,795 for professional services and to pay the one-time fee of \$29,960, plus an annual fee of \$11,632 for the hosting service, for fiscal years 2020-21 through 2026-27, from the Debt Service Fund (205).

SECTION FOUR. This Resolution shall take effect immediately upon its adoption.

APPROVED AND AUTHENTICATED this 6th day of April, 2021.

BILL PARTINGTON
Mayor

ATTEST:

KATE SETTLE
City Clerk



AMENDMENT

This amendment ("Amendment") is effective as of the date of signature of the last party to sign as indicated below ("Amendment Effective Date"), by and between Tyler Technologies, Inc. with offices at One Tyler Drive, Yarmouth, Maine 04096 ("Tyler") and the City of Ormond Beach, Florida, a body corporate and politic and a subdivision of the State of Florida, with offices at 22 South Beach Street, Ormond Beach, Florida 32174 ("Client").

WHEREAS, Tyler and Client are parties to an agreement dated May 23, 2016 ("Agreement"); and

WHEREAS, Tyler and Client desire to amend the terms of the Agreement as provided herein.

NOW THEREFORE, in consideration of the mutual promises hereinafter contained, Tyler and the Client agree as follows:

1. The items set forth in the sales quotation attached as Exhibit 1 to this Amendment are hereby added to the Agreement as of the first day of the next quarter following the Amendment Effective Date and, notwithstanding anything to the contrary in Exhibit 1, ending coterminous with the SaaS Term as defined in the Agreement. Payment of fees and costs for such items shall conform to the following terms:
 - a. The annual SaaS fees payable under the Agreement shall be increased by \$11,632.00, with a quarterly payment increase of \$2,908.00. Subsequent SaaS Fees shall be invoiced in accord with the terms of the Agreement.
 - b. Unless otherwise provided herein, services identified at Exhibit 1 and added to the Agreement pursuant to this Amendment, along with applicable expenses, shall be invoiced as provided and/or incurred.
2. This Amendment shall be governed by and construed in accordance with the terms and conditions of the Agreement.
3. Except as expressly indicated in this Amendment, all other terms and conditions of Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have executed this Amendment as of the dates set forth below.

Tyler Technologies, Inc.

City of Ormond Beach, FL

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____ Mayor

Date: _____

Date: _____

By: _____

Name: _____

Title: _____ City Manager

Date: _____



Exhibit 1

Investment Summary

The following Investment Summary details the software and services to be delivered by us to you under the Agreement. This Investment Summary is effective as of the Amendment Effective Date. Capitalized terms not otherwise defined will have the meaning assigned to such terms in the Agreement.

In the event a comment in the following sales quotation conflicts with a provision of this Amendment, the provision in this Amendment shall control.

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Quoted By:	Garth Magness
Date:	12/16/2019
Quote Expiration:	1/31/2021
Quote Name:	City of Ormond Beach-LGD-EG-eReviews
Quote Number:	2019-73600
Quote Description:	EnerGov eReviews

Sales Quotation For
City of Ormond Beach
22 S Beach St
Ormond Beach, FL 32174-6386
Phone +1 (386) 677-0311

EnerGov SaaS - Silver

Description	Term	Monthly Fee	Users/Units	Annual Fee
EnerGov e-Reviews	7	\$969.00	Site License	\$11,632.00
TOTAL:				\$11,632.00

EnerGov Professional Services

Description	Hours/Units	Unit Price	Extended Price	Year One Maintenance
Configuration Services NTE	40	\$210.00	\$8,400.00	\$0.00
Project Management Services NTE	36	\$210.00	\$7,560.00	\$0.00
Training & Production Support Services	80	\$175.00	\$14,000.00	\$0.00
TOTAL:			\$29,960.00	\$0.00

Summary	One Time Fees	Recurring Fees
Total Tyler Software	\$0.00	\$0.00

Summary	One Time Fees	Recurring Fees
Total SaaS	\$0.00	\$11,632.00
Total Tyler Services	\$29,960.00	\$0.00
Total 3rd Party Hardware, Software and Services	\$0.00	\$0.00
Summary Total	\$29,960.00	\$11,632.00
Year One Contract Total	\$41,592.00	
Contract Total	\$111,384.00	
Estimated Travel Expenses	\$6,800.00	

Unless otherwise indicated in the contract or amendment thereto, pricing for optional items will be held for six (6) months from the Quote date or the Effective Date of the contract, whichever is later.

Customer Approval:

Date:

Print Name:

P.O. #:

All primary values quoted in US Dollars

Comments

EnerGov e-Reviews requires Bluebeam Studio Prime, at an estimated yearly subscription cost of \$3,000/100 users. Further pricing detail is available by contacting Bluebeam at <https://www.bluebeam.com/solutions/studio-prime>

EnerGov monthly fees are rounded, excluding cents.

EnerGov SaaS includes up to 500GB of storage. Should additional storage be needed it may be purchased as needed at an annual fee of \$3,000 per TB.

As a new Tyler client, you are entitled to a 30-day trial of the Tyler Detect cybersecurity service. Please reference <https://www.tylertech.com/services/tyler-detect> for more information on the service and contact CybersecuritySales@tylertech.com to initiate the trial.

Client agrees that items in this sales quotation are, upon Client's signature or approval of same, hereby added to the existing agreement ("Agreement") between the parties and subject to its terms. Additionally, payment for said items, as applicable but subject to any listed assumptions herein, shall conform to the following terms:

- License fees for Tyler and third party software are invoiced upon the earlier of (i) deliver of the license key or (ii) when Tyler makes such software available for download by the Client;
- Fees for hardware are invoiced upon delivery;
- Fees for year one of hardware maintenance are invoiced upon delivery of the hardware;
- Annual Maintenance and Support fees, SaaS fees, Hosting fees, and Subscription fees are first payable when Tyler makes the software available for download by the Client (for Maintenance) or on the first day of the month following the date this quotation was signed (for SaaS, Hosting, and Subscription), and any such fees are prorated to align with the applicable term under the Agreement, with renewals invoiced annually thereafter in accord with the Agreement.
- Fees for services included in this sales quotation shall be invoiced as indicated below.
 - o Implementation and other professional services fees shall be invoiced as delivered.
 - o Fixed-fee Business Process Consulting services shall be invoiced 50% upon delivery of the Best Practice Recommendations, by module, and 50% upon delivery of custom desktop procedures, by module.
 - o Fixed-fee conversions are invoiced 50% upon initial delivery of the converted data, by conversion option, and 50% upon Client acceptance to load the converted data into Live/Production environment, by conversion option. Where conversions are quoted as estimated, Tyler will invoice Client the actual services delivered on a time and materials basis.
 - o Except as otherwise provided, other fixed price services are invoiced upon complete delivery of the service. For the avoidance of doubt, where "Project Planning Services" are provided, payment shall be invoiced upon delivery of the Implementation Planning document. Dedicated Project Management services, if any, will be invoiced monthly in arrears, beginning on the first day of the month immediately following initiation of project planning.
 - o If Client has purchased any change management services, those services will be invoiced in accordance with the Agreement.
 - o Notwithstanding anything to the contrary stated above, the following payment terms shall apply to services fees specifically for migrations: Tyler will invoice Client 50% of any Migration Fees listed above upon Client approval of the product suite migration schedule. The remaining 50%, by line item, will be billed upon the go-live of the applicable product suite. Tyler will invoice Client for any Project Management Fees listed above upon the go-live of the first product suite.
- Expenses associated with onsite services are invoiced as incurred.

Travel Expenses will be billed as incurred according to Tyler's standard business travel policy.



AMENDMENT

This amendment ("Amendment") is effective as of the date of signature of the last party to sign as indicated below ("Amendment Effective Date"), by and between Tyler Technologies, Inc. with offices at One Tyler Drive, Yarmouth, Maine 04096 ("Tyler") and the City of Ormond Beach with offices at 22 South Beach Street, Ormond Beach, FL 32174 ("Client").

WHEREAS, Tyler and the Client are parties to an agreement dated May 23, 2016 ("Agreement"); and

WHEREAS, Tyler and Client desire to amend the terms of the Agreement as provided herein.

NOW THEREFORE, in consideration of the mutual promises hereinafter contained, Tyler and the Client agree as follows:

1. As of the Amendment Effective Date, Exhibit 2, "EnerGov Investment Summary", of the Agreement is hereby replaced with the new EnerGov Investment Summary attached hereto as Exhibit 1.
2. The Interface (Project Dox) Tyler product is hereby removed from the Agreement as of Amendment Effective Date. Upon such date, Client's license for such software is terminated, as are Tyler's obligations to support, maintain, and update such product. Should Client wish to again use such product, Client shall first pay Tyler the then-current license fee(s), as well as fees for any required services, support, or 3rd party products.
3. As of the Amendment Effective Date, Exhibit 10, Sections H ("EnerGov Project Scope) and I ("EnerGov Implementation") are removed from the Agreement and replaced by the new EnerGov Statement of Work attached hereto as Exhibit 2.
4. This Amendment shall be governed by and construed in accordance with the terms and conditions of the Agreement.
5. Except as expressly indicated in this Amendment, all other terms and conditions of the Agreement shall remain in full force and effect.

SIGNATURES APPEAR ON THE NEXT PAGE



IN WITNESS WHEREOF, the parties hereto have executed this Amendment as of the dates set forth below.

Tyler Technologies, Inc.

City of Ormond Beach, FL

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____ Mayor

Date: _____

Date: _____

By: _____

Name: _____

Title: _____ City Manager

Date: _____



Exhibit 1

EnerGov Investment Summary

The following Investment Summary details the software and services to be delivered by us to you under the Agreement. This Investment Summary is effective as of the Effective Date. Capitalized terms not otherwise defined will have the meaning assigned to such terms in the Agreement.

In the event a comment in the following sales quotation conflicts with a provision of this Amendment, the provision in this Amendment shall control.

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Quoted By: Garth Magness
Date: 6/23/2020
Quote Expiration: 1/31/2021
Quote Name: City of Ormond Beach-EnerGov-2020 Shared Services
Quote
Quote Number: 2020-112110
Quote Description: EnerGov SaaS

Sales Quotation For

City of Ormond Beach
22 S Beach St
Ormond Beach, FL 32174-6386
Phone +1 (386) 677-0311

EnerGov SaaS - Silver

Description	Monthly Fee	Users/Units	Annual Fee
Core Software:			
EnerGov Community Development Suite (30 Users)	\$3,715.00	1	\$44,581.00
EnerGov Business Management Suite (Site License)	\$1,277.00	1	\$15,329.00
Tyler GIS (30 users)	\$639.00	1	\$7,667.00
iG Workforce Mobile Apps (10 Users)	\$426.00	1	\$5,106.00
EnerGov Citizen Self Service - Community Development & Business Mgmt. (Site License)	\$1,704.00	1	\$20,445.00
EnerGov Adv. Server Extensions Bundle (Site License)*	\$639.00	1	\$7,667.00
TOTAL:			\$100,795.00

EnerGov Professional Services

Description	Hours/Units	Unit Price	Extended Price	Year One Maintenance
EnerGov Project Management	470	\$185.00	\$86,950.00	\$0.00
EnerGov Implementation Consultant	1015	\$185.00	\$187,775.00	\$0.00

EnerGov Professional Services

Description	Hours/Units	Unit Price	Extended Price	Year One Maintenance
Fundamentals Training	40	\$185.00	\$7,400.00	\$0.00
Reporting Services	120	\$250.00	\$30,000.00	\$0.00
Training & Go Live Support	120	\$185.00	\$22,200.00	\$0.00
Data Conversion Services	160	\$250.00	\$40,000.00	\$0.00
NTE Additional Hours	385	\$185.00	\$71,225.00	\$0.00
Travel Expenses (25 Trips) NTE	25	\$2,040.00	\$51,000.00	\$0.00
TOTAL:			\$496,550.00	\$0.00

Summary**One Time Fees****Recurring Fees**

Total Tyler Software	\$0.00	\$0.00
Total SaaS	\$0.00	\$100,795.00
Total Tyler Services	\$496,550.00	\$0.00
Total 3rd Party Hardware, Software and Services	\$0.00	\$0.00
Summary Total	\$496,550.00	\$100,795.00
Year One Contract Total	\$597,345.00	
Contract Total	\$597,345.00	

Unless otherwise indicated in the contract or amendment thereto, pricing for optional items will be held for six (6) months from the Quote date or the Effective Date of the contract, whichever is later.

Customer Approval: _____ Date: _____

Print Name: _____ P.O. #: _____

All primary values quoted in US Dollars

Comments

***EnerGov Adv. Server Extensions Bundle includes: Intelligent Automation Agent, Social IO Extension, EnerGov Open Data Service, EnerGov Decision Engine.**

Methodology Details:

- EnerGov Implementation: Tyler leads and owns the configuration of 30 business transactions, 5 geo-rules, and 5 automation events included in the application. Configuration elements beyond this will be owned by the client.
- Tyler Technologies' EnerGov implementation team will be primarily responsible for the following implementation tasks:
- EnerGov Case Type Setup (and all associated items required to configure)
- Training on how to use EnerGov
- Setup of EnerGov GIS Map
- Setup of EnerGov GIS Live Link
- Setup of CSS GIS Map (as applicable, based on contract)
- Setup of CSS ArcGIS Integration (as applicable, based on contract)
- Setup of CSS Payments (as applicable, based on contract and client having secured an appropriate payment gateway)
- Setup and testing of Tyler-to-Tyler integrations (Munis, Tyler Cashiering, Tyler Content Management, Tyler Incident Management, as applicable based on contract)
- Setup of iG Workforce licenses (as applicable, based on contract)
- EnerGov Automation Events (Intelligent Objects, standard Intelligent Queries). This covers automation tasks like E-mails, Tasks, Geo Rules, etc.
- EnerGov Case Type Setup (and all associated items required to configure)
- EnerGov System Setup Configuration (Holidays, Zones, Hold Types, Hearing Types, etc.)
- EnerGov Report Setup's dynamic custom fields
- EnerGov User/User Role Setup
- EnerGov Workflow/Workflow Template Setup (WF Actions, Steps, Templates, Submittal Types, Item Reviews etc.)
- CSS Experience (CSS Case Types, CSS Geo Rules, CSS Themes, Headers, Menus, Security Settings, etc.)
- The City's EnerGov implementation team will be responsible for the following implementation tasks:
- Work with EnerGov personnel to Assess & Define in-scope transactions, geo-rules, automation events, reports, and integrations
- Provide consumable GIS data to EnerGov
- Complete validation testing of all configured business transactions, geo-rules, and automation events within scope
- Complete validation testing of CSS experience (CSS Case Types, CSS Geo Rules, CSS Themes, Headers, Menus, Security Settings, etc.)
- Complete User Acceptance Testing of all configured business transactions, geo-rules, and automation events within scope
- Complete User Acceptance Testing of CSS experience (CSS Case Types, CSS Geo Rules, CSS Themes, Headers, Menus, Security Settings, etc.)
- Participate in all scheduled EnerGov training
- Assist EnerGov data conversion personnel as necessary



Exhibit 2

EnerGov Statement of Work

As of the Amendment Effective Date, the following EnerGov Statement of Work is added to the Agreement in accord with this Amendment.

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Statement of Work

Tyler Technologies

Prepared for:

City of Ormond Beach, FL

22 South Beach Street, Ormond Beach, FL 32174

Prepared by:

Chuck Newberry

2160 Satellite Blvd., Suite 300, Duluth, GA 30097

Tyler Technologies, Inc.

www.tylertech.com

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1 Executive Summary

1.1 Project Overview

The Statement of Work (SOW) documents the Project Scope, methodology, roles and responsibilities, implementation Stages, and deliverables for the implementation of Tyler products.

The Project goals are to offer the City of Ormond Beach the opportunity to make the City more accessible and responsive to external and internal customer needs and more efficient in its operations through:

- Streamlining, automating, and integrating business processes and practices
- Providing tools to produce and access information in a real-time environment
- Enabling and empowering users to become more efficient, productive and responsive
- Successfully overcoming current challenges and meeting future goals

1.2 Product Summary

Below, is a summary of the products included in this Project, as well as reference to the City's functional area utilizing the Tyler product(s). Refer to the Implementation Stages section of this SOW for information containing detailed service components.

[PRODUCT]	[APPLICATION]
EnerGov	Community Development
EnerGov	Business Management
EnerGov	IG Workforce Apps
EnerGov	Citizen Self Service – Community Development
EnerGov	Citizen Self Service – Business Management

1.3 Project Timeline

The Project Timeline establishes a start and end date for each Phase of the Project. Developed during the Initiate & Plan Stage and revised as mutually agreed to, if needed, the timeline accounts for resource availability, business goals, size and complexity of the Project, and task duration requirements.

1.4 Project Methodology Overview

Tyler bases its implementation methodology on the Project Management Institute's (PMI) Process Groups (Initiating, Planning, Executing, Monitoring & Controlling, and Closing). Using this model, Tyler developed a 6-stage process specifically designed to focus on critical project success measurement factors.

Tailored specifically for Tyler's public sector clients, the project methodology contains Stage Acceptance Control Points throughout each Phase to ensure adherence to Scope, budget, timeline controls, effective communications, and quality standards. Clearly defined, the project methodology repeats consistently across Phases, and is scaled to meet the City's complexity, and organizational needs.

2 Project Governance

The purpose of this section is to define the resources required to adequately establish the business needs, objectives, and priorities for the Project; communicate the goals to other project participants; and provide support and guidance to accomplish these goals. Project governance also defines the structure for issue escalation and resolution, Change Control review and authority, and organizational Change Management activities.

The preliminary governance structure establishes a clear escalation path when issues and risks require escalation above the project manager level. Further refinement of the governance structure, related processes, and specific roles and responsibilities occurs during the Initiate & Plan Stage.

The path below illustrates an overall team perspective where Tyler and the City collaborate to resolve project challenges according to defined escalation paths. In the event project managers do not possess authority to determine a solution, resolve an issue, or mitigate a risk, Tyler implementation management and the City steering committee become the escalation points to triage responses prior to escalation to the City and Tyler executive sponsors. As part of the escalation process, each project governance tier presents recommendations and supporting information to facilitate knowledge transfer and issue resolution. The City and Tyler executive sponsors serve as the final escalation point.

2.1 Client Governance

Depending on the City's organizational structure and size, the following governance roles may be filled by one or more people:

2.1.1 Client Project Manager

The City's project manager(s) coordinate project team members, subject matter experts, and the overall implementation schedule and serves as the primary point of contact with Tyler. The City project manager(s) will be responsible for reporting to the City steering committee and determining appropriate escalation points.

2.1.2 Steering Committee

The City steering committee understands and supports the cultural change necessary for the Project and fosters an appreciation of the Project's value throughout the organization. Oversees the City project manager(s) and the Project and through participation in regular internal meetings, the City steering committee remains updated on all project progress, project decisions, and achievement of project milestones. The City steering committee also provides support to the City project manager(s) by communicating the importance of the Project to all impacted departments. The City steering committee is responsible for ensuring the Project has appropriate resources, provides strategic direction to the project team, for making timely decisions on critical project issues or policy decisions. The City steering committee also serves as primary level of issue resolution for the Project.

2.1.3 Executive Sponsor(s)

The City's executive sponsor provides support to the Project by allocating resources, providing strategic direction, and communicating key issues about the Project and the Project's overall importance to the organization. When called upon, the executive sponsor also acts as the final authority on all escalated project issues. The executive sponsor engages in the Project, as needed, in order to provide necessary support, oversight, guidance, and escalation, but does not participate in day-to-day project activities. The executive sponsor empowers the City steering committee, project manager(s), and functional leads to make critical business decisions for the City.

2.2 Tyler Governance

2.2.1 Tyler Project Manager

The Tyler project manager(s) have direct involvement with the Project and coordinates Tyler project team members, subject matter experts, the overall implementation schedule, and serves as the primary point of contact with the City. As requested by the City, the Tyler project manager(s) provide regular updates to the City's steering committee and other Tyler governance members.

2.2.2 Tyler Implementation Management

Tyler implementation management has indirect involvement with the Project and is part of the Tyler escalation process. Tyler project manager(s) consult implementation management on issues and outstanding decisions critical to the Project. Implementation management works toward a solution with the Tyler project manager(s) or with the City management, as appropriate. Tyler executive management is the escalation point for any issues not resolved at this level. The name(s) and contact information for this resource will be provided and available to the project team.

2.2.3 Tyler Executive Management

Tyler executive management has indirect involvement with the Project and is part of the Tyler escalation process. This team member offers additional support to the project team and collaborates with other Tyler department managers, as needed, in order to escalate and facilitate implementation project tasks and decisions. The name(s) and contact information for this resource will be provided and available to the project team.

2.3 Acceptance and Acknowledgment Process

All Deliverables and Control Points must be accepted or acknowledged following the process below. Acceptance requires a formal sign-off while acknowledgement may be provided without formal sign-off at the time of delivery. The following process will be used for accepting or acknowledging Deliverables and Control Points:

- The City shall have five (5) business days from the date of delivery, or as otherwise mutually agreed upon by the parties in writing, to accept or acknowledge each Deliverable or Control Point. If the City does not provide acceptance or acknowledgement within five (5) business days, or the otherwise agreed upon timeframe, not to be unreasonably withheld, Tyler deems the Deliverable or Control Point as accepted.
- If the City does not agree the particular Deliverable or Control Point meets requirements, the City shall notify Tyler project manager(s), in writing, with reasoning within five (5) business days, or the otherwise agreed-upon timeframe, not to be unreasonably withheld, of receipt of the Deliverable.
- Tyler shall address any deficiencies and redeliver the Deliverable or Control Point. The City shall then have two (2) business days from receipt of the redelivered Deliverable or Control Point to accept or again submit written notification of reasons for rejecting the milestone. If the City does not provide acceptance or acknowledgement within two (2) business days, or the otherwise agreed upon timeframe, not to be unreasonably withheld, Tyler deems the Deliverable or Control Point as accepted.

3 Overall Project Assumptions

3.1 Project, Resources and Scheduling

- Project activities will begin after the Agreement has been fully executed.
- The City has the ability to allocate additional internal resources if needed. The City also ensures the alignment of their budget and Scope expectations.
- The City and Tyler ensure that the assigned resources are available, they buy-into the change process, and they possess the required business knowledge to complete their assigned tasks successfully. Should there be a change in resources, the replacement resource should have a comparable level of availability, buy-in, and knowledge.
- Tyler and City provide adequate resources to support the efforts to complete the Project as scheduled and within the constraints of the Project budget.
- Abbreviated timelines and overlapped Phases can result in Project delays if there are not sufficient resources assigned to complete all required work as scheduled.
- Changes to Project Plan, availability of resources or changes in Scope may result in schedule delays, which may result in additional charges to the Project.
- Tyler provides a written agenda and notice of any prerequisites to the City project manager(s) ten (10) business days prior to any scheduled on site or remote sessions.
- Tyler provides notice of any prerequisites to the City project manager(s) a minimum of ten (10) business days prior to any key deliverable due dates.
- City users complete prerequisites prior to applicable scheduled activities.
- Tyler provides guidance for configuration and processing options available within the Tyler software. The City is responsible for making decisions based on the options available.
- In the event the City may elect to add and/or modify current business policies during the course of this Project, such policy changes are solely the City's responsibility to define, document, and implement.
- The City makes timely Project related decisions in order to achieve scheduled due dates on tasks and prepare for subsequent training sessions. Decisions left unmade may affect the schedule, as each analysis and implementation session builds on the decisions made in prior sessions.
- Tyler considers additional services out of Scope and requires additional time and costs be requested via Change Request approved through the Change Control process.

- The City will respond to information requests in a comprehensive and timely manner, in accordance with the Project Plan.

3.2 Data Conversion

- The City is readily able to produce the data files needed for conversion from the Legacy System in order to provide them to Tyler on the specified due date(s).
- Each Legacy System data file submitted for conversion includes all associated records in a single approved file layout.
- The City understands the Legacy System data extract(s) must be provided to Tyler in the same format each time unless changes are mutually agreed upon in advance. If not, negative impacts to the schedule, budget, and resource availability may occur and/or data in the new system may be incorrect.
- During this process, the City may need to correct data scenarios in the Legacy System prior to the final data pull. This is a complex activity and requires due diligence by the City to ensure all data pulled includes all required data and the Tyler system contains properly mapped data.

3.3 Data Exchanges, Modifications, Forms and Reports

- The City ensures the 3rd party data received conforms to a Tyler standard format.
- The 3rd party possesses the knowledge of how to program their portion of the interaction and understands how to manipulate the data received.
- Client is on a supported, compatible version of the 3rd party software or Tyler standard Data Exchange tools may not be available.
- The City is willing to make reasonable business process changes rather than expecting the product to conform to every aspect of their current system/process.
- Any Modification requests not expressly stated in the contract are out of Scope. Modifications requested after contract signing have the potential to change cost, Scope, schedule, and production dates for project Phases. Modification requests not in Scope must follow the Project Change Request process.

3.4 Hardware and Software

- Tyler will initially Install the most current generally available version of the purchased Tyler software.
- The City will provide network access for Tyler modules, printers, and Internet access to all applicable City and Tyler project staff.

- The City has in place all hardware, software, and technical infrastructure necessary to support the Project.
- The City's system hardware and software meet Tyler standards to ensure sufficient speed and operability of Tyler software. Tyler will not support use of software if the City does not meet minimum standards of Tyler's published specifications.

3.5 Education

- Throughout the Project lifecycle, the City provides a training room for Tyler staff to transfer knowledge to the City's resources, for both onsite and remote sessions. The City will provide staff with a location to practice what they have learned without distraction. If Phases overlap, the City will provide multiple training facilities to allow for independent sessions scheduling without conflict.
- The training room is set up in a classroom setting. The City determines the number of workstations in the room. Tyler recommends every person attending a scheduled session with a Tyler Consultant or Trainer have their own workstation. However, Tyler requires there be no more than two (2) people at a given workstation.
- The City provides a workstation which connects to the Tyler system for the Tyler trainer conducting the session. The computer connects to a City provided projector, allowing all attendees the ability to actively engage in the training session.
- The City testing database contains the Tyler software version required for delivery of the Modification prior to the scheduled delivery date for testing.
- The City is responsible for verifying the performance of the Modification as defined by the specification.
- Users performing user acceptance testing (UAT) have attended all applicable training sessions prior to performing UAT.

4 Implementation Stages

4.1 Work Breakdown Structure (WBS)

The Work Breakdown Structure (WBS) is a hierarchical representation of a Project or Phase broken down into smaller, more manageable components. The top-level components are called “Stages” and the second level components are called “work packages.” The work packages, shown below each Stage, contain the high-level work to be done. The detailed Project Plan, developed during Initiate & Plan and finalized during Assess & Define, will list the tasks to be completed within each work package. Each Stage ends with a “Control Point”, confirming the work performed during that Stage of the Project.



* - If included in project scope

4.2 Initiate & Plan (Stage 1)

The Initiate & Plan Stage creates a foundation for the Project through identification of City and Tyler Project management teams, development of implementation management plans, and the provision and discussion of system infrastructure requirements. City participation in gathering information is critical. Tyler Project management teams present initial plans to stakeholder teams at Stage end.

4.2.1 Tyler Internal Coordination & Planning

Prior to Project commencement, Tyler management staff assigns Project Manager(s). Tyler provides the City with initial Project documents used in gathering basic information, which aids in preliminary planning and scheduling. City participation in gathering requested information by provided deadlines ensures the Project moves forward in a timely fashion. Internally, the Tyler Project Manager(s) coordinate with Sales to ensure transfer of vital information from the sales process prior to scheduling a Project Planning Meeting with the City's team. During this step, Tyler will work with the Client to establish the date(s) for the Project/Phase Planning session.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 1	Tyler Internal Coordination & Planning																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Assign Tyler Project Manager	A	R	I						I			I								
Provide initial Project documents to Client	A	I	R						C			I								
Sales to Implementation knowledge transfer	A	I	R						C											
Internal planning and phase coordination		A	R					C												

4.2.2 System Infrastructure Planning

The City provides, purchases or acquires hardware according to hardware specifications provided by Tyler and ensures it is available at the City's site. The City completes the system infrastructure audit, ensuring vital system infrastructure information is available to the Tyler implementation team, and verifies all hardware compatibility with Tyler solutions.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 1	System Infrastructure Planning																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Provide system hardware specifications			I					R	A			I							C	
Make hardware available for Installation			I					C				A							R	
Install system hardware, if applicable			I					C				A							R	
Complete system infrastructure audit			I					C				A							R	

4.2.3 Project/Phase Planning

Project and Phase planning provides an opportunity to review the contract, software, data conversions and services purchased, identify Applications to implement in each Phase (if applicable), and discuss implementation timeframes. The Tyler Project Manager(s) deliver an Implementation Management Plan, which is mutually agreeable by City and Tyler.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 1	Project/Phase Planning																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Perform Project/Phase Planning		A	R								I	C	C			I				
Deliver implementation management plan		A	R									C	C	I						

4.2.4 Project Schedule

Client and Tyler will mutually develop an initial Project schedule. The initial schedule includes, at minimum, enough detail to begin Project activities while the detailed Project Plan/schedule is being developed and refined.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 1	Project Schedule																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Develop initial Project schedule		A	R	I								C	I	I						
Deliver Project Plan and schedule for Project Phase		A	R	I						I	I	C	C	I	I	I				
Client reviews Project Plan & initial schedule			C							I	A	R	C	C		C				
Client approves Project Plan & initial schedule			I							I	A	R	C	C	I	I		I	I	I

4.2.5 Stakeholder Presentation

City stakeholders join Tyler Project Management to communicate successful Project criteria, Project goals, Deliverables, a high-level milestone schedule, and roles and responsibilities of Project participants.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 1	Stakeholder Presentation																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
		A	R	I					I	I	I	C	I	I	I	I		I	I	I
			I							R	C	A	C	I	I	C	I	I		

4.2.6 Control Point 1: Initiate & Plan Stage Acceptance

Acceptance criteria for this Stage includes completion of all criteria listed below. Advancement to the Assess & Define Stage is dependent upon Tyler's receipt of the Stage Acceptance.

4.2.6.1 Initiate & Plan Stage Deliverables

- Implementation Management Plan
 - Objective: Update and deliver baseline management plans to reflect the approach to the City's Project.
 - Scope: The Implementation Management addresses how communication, quality control, risks/issues, resources and schedules, and Software Upgrades (if applicable) will be managed throughout the lifecycle of the Project.
 - Acceptance criteria: City reviews and acknowledges Implementation Management Plan
- Project Plan/Schedule
 - Objective: Provide a comprehensive list of tasks, timelines and assignments related to the Deliverables of the Project.
 - Scope: Task list, assignments and due dates
 - Acceptance criteria: City acceptance of schedule based on City resource availability and Project budget and goals.

4.2.6.2 Initiate & Plan Stage Acceptance Criteria

- Hardware Installed
- System infrastructure audit complete and verified
- Implementation Management Plan delivered
- Project Plan/Schedule delivered; dates confirmed
- Stakeholder Presentation complete
-

4.3 Assess & Define (Stage 2)

The primary objective of Assess & Define is to gather information about current City business processes and translate the material into future business processes using Tyler Applications. Tyler uses a variety of methods for obtaining the information, all requiring City collaboration. The City shall provide complete and accurate information to Tyler staff for analysis and understanding of current workflows and business processes.

4.3.1 Fundamentals Review

Fundamentals Review provides functional leads and Power Users an overall understanding of software capabilities prior to beginning current and future state analysis. The primary goal is to provide a basic understanding of system functionality, which provides a foundation for upcoming conversations regarding future state processing. Tyler utilizes a variety of methods for completing fundamentals training including the use of eLearning, videos, documentation, and walkthroughs.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 2	Fundamentals Review																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Schedule fundamentals review & provide fundamentals materials & prerequisites, if applicable		A	R	I								C	I		I				I	
Complete fundamentals materials review and prerequisites			I									A	R		I				C	
Ensure all scheduled attendees are present			I	I							A	R	C		I					
Facilitate fundamentals review			A	R								I	I		I					

4.3.3 Current/Future State Analysis

City and Tyler evaluate current state processes, options within the new software, pros and cons of each option based on current or desired state, and make decisions about future state configuration and processing.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 2	Current/Future State Analysis																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Provide Current/Future State analysis materials to the City, as applicable		A	R	I								C	I		I					
Conduct Current & Future State analysis			A	R								I	C	I	C					
Provide pros and cons of Tyler software options			A	R								I	C	I	C					
Make Future State Decisions according to due date in the Project Plan			I	I							C	A	R	I	C	I				
Record Future State decisions			A	R								I	C	I	C					

4.3.4 Data Conversion Planning & Mapping

This entails the activities performed to prepare to convert data from the City's Legacy System Applications to the Tyler system. Tyler staff and the City work together to complete Data Mapping for each piece of data (as outlined in the Agreement) from the Legacy System to a location in the Tyler system.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 2	Data Conversion Planning & Mapping																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
	Review contracted data conversion(s) options			A	R	I							C	C		C			C	
	Map data from Legacy System to Tyler system			I	C	I						A	C		C				R	
	Pull conversion data extract			I		I						A	C		C				R	
	Run balancing Reports for data pulled and provide to Tyler			I		I						A	C		R				I	
	Review and approve initial data extract		A	I	C	R							I						I	
	Correct issues with data extract, if needed			I	C	C							A	C		C			R	

4.3.5 Standard 3rd Party Data Exchange Planning

Standard Data Exchange tools are available to allow clients to get data in and out of the Tyler system with external systems. Data exchange tools can take the form of Imports and Exports, and Interfaces.

A Standard Interface is a real-time or automated exchange of data between two systems. This could be done programmatically or through an API. It is Tyler's responsibility to ensure the Tyler programs operate correctly. It is the City's responsibility to ensure the third party program operates or accesses the data correctly.

The City and Tyler Project Manager(s) will work together to define/confirm which Data Exchanges are needed (if not outlined in the Agreement). Tyler will provide a file layout for each Standard Data Exchange.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 2	Standard 3 rd Party Data Exchange Planning																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
			A	R								C	I		I			C		
			I	C								A	C		C			R		
Review Standard or contracted Data Exchanges																				
Define or confirm needed Data Exchanges																				

4.3.6 Modification Analysis & Specification, if contracted

Tyler staff conducts additional analysis and develops specifications based on information discovered during this Stage. The City reviews the specifications and confirms they meet City's needs prior to acceptance. Out of Scope items or changes to specifications after acceptance may require a Change Request.

Tyler's intention is to minimize Modifications by using Standard functionality within the Application, which may require a City business process change. It is the responsibility of the City to detail all of their needs during the Assess and Define Stage. Tyler will write up specifications (for City approval) for contracted program Modifications. Upon approval, Tyler will make the agreed upon Modifications to the respective program(s). Once the Modifications have been delivered, the City will test and approve those changes during the Build and Validate Stage.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 2	Modification Analysis & Specification, if contracted																			
	TYLER								CLIENT											
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Analyze contracted modified program requirements			A	C			R					C	C	I	C			C		
Develop specification document(s)	A		I	C			R					I	I		I			I		
Review specification document(s); provide changes to Tyler, if applicable			I	C			C					A	R	I	C			C		
Sign-off on specification document(s) and authorize work			I				I				A	R	C	I	I			C		

4.3.7 Forms & Reports Planning

City and Tyler Project Manager(s) review Forms and Reporting needs. Items that may be included in the Agreement are either Standard Forms and Reports or known/included Modification(s). Items not included in the Agreement could be either City-developed Reports or a newly discovered Modification that will require a Change Request.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 2	Forms & Reports Planning																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Review required Forms output			A	R									C	I	C			I		
Review and complete Forms options and submit to Tyler			I			I						A	R		C					
Review in Scope Reports			A	R								I	C		C					
Identify additional Report needs			I	C								A	R		C					
Add applicable tasks to Project schedule		A	R	I		C						C	I		I			I		

4.3.8 System Deployment

The Tyler Technical Services team installs Tyler Applications on the server (hosted or client-based) and ensures the platform operates as expected.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 2	Tyler Internal Coordination & Planning																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Install contracted software on server	A		I					R				I						C		
Ensure platform operates as expected	A		I					R				I						C		

4.3.9 Control Point 2: Assess & Define Stage Acceptance

Acceptance criteria for this Stage includes completion of all criteria listed below. Advancement to the Build & Validate Stage is dependent upon Tyler's receipt of the Stage Acceptance.

4.3.9.1 Assess & Define Stage Deliverables

- Completed analysis Questionnaire
 - Objective: Gather and document information related to City business processes for current/future state analysis as it relates to Tyler approach/solution.
 - Scope: Provide comprehensive answers to all questions on Questionnaire(s).
 - Acceptance criteria: City acceptance of completed Questionnaire based on thoroughness of capturing all City business practices to be achieved through Tyler solution.
- Data conversion summary and specification documents
 - Objective: Define data conversion approach and strategy
 - Scope: Data conversion approach defined, data extract strategy, conversion and reconciliation strategy.
 - Acceptance criteria: Data conversion document(s) delivered to the City, reflecting complete and accurate conversion decisions.
- Modification specification documents, if contracted
 - Objective: Provide comprehensive outline of identified gaps, and how the modified program meets the City's needs
 - Scope: Design solution for Modification
 - Acceptance criteria: City accepts Modified Specification Document(s) and agrees that the proposed solution meets their requirements
- Completed Forms options and/or packages
 - Objective: Provide specifications for each City in Scope form, Report and output requirements
 - Scope: Complete Forms package(s) included in agreement and identify Reporting needs.
 - Acceptance criteria: Identify Forms choices and receive supporting documentation
- Installation checklist
 - Objective: Installation of purchased Tyler software
 - Scope: Tyler will conduct an initial coordination call, perform an installation of the software included in the Agreement, conduct follow up to ensure all tasks are complete, and complete server system administration training, unless the City is hosted.
 - Acceptance criteria: Tyler software is successfully installed and available to authorized users, City team members are trained on applicable system administration tasks.

4.3.9.2 Assess & Define Stage Acceptance Criteria

- Tyler software is installed
- Fundamentals review is complete

- Required Form information complete and provided to Tyler
- Current/Future state analysis completed; Questionnaires delivered and reviewed
- Data conversion mapping and extractions completed and provided to Tyler

4.4 Build & Validate (Stage 3)

The objective of the Build & Validate Stage is to prepare the software for use in accordance with the City's needs identified during the Assess and Define Stage, preparing the City for Final Testing and Training.

4.4.1 Configuration & Power User Training

Tyler staff collaborates with the City to complete software configuration based on the outputs of the future state analysis performed during the Assess and Define Stage. Tyler staff will train the City Power Users to prepare them for the Validation of the software. The City collaborates with Tyler staff iteratively to Validate software configuration.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 3	Configuration & Power User Training																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Perform configuration			A	R								I	R		I					
Power User process and Validation training			A	R								I	C	I	C				I	
Validate configuration			I	C								A	C		R			C		

4.4.2 Data Conversion & Validation

Tyler completes an initial review of the converted data for errors. With assistance from the City, the Tyler Data Conversion Team addresses items within the conversion program to provide the most efficient data conversion possible. With guidance from Tyler, the City reviews specific data elements within the system and identifies and Reports discrepancies in writing. Iteratively, Tyler collaborates with the City to address conversion discrepancies prior to acceptance.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 3	Data Conversion & Validation																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Write and run data conversion program against Client data		A	I	C	R													C		
Complete initial review of data errors		A	I	C	R							I	I					C		
Review data conversion and submit needed corrections			I	C	I							A	C		R			C		
Revise conversion program(s) to correct error(s)		A	I	C	R							I	I		C			C		

4.4.3 Standard 3rd Party Data Exchange Validation

Tyler provides training on Data Exchange(s) and the City tests each Data Exchange.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 3	Standard 3rd Party Data Exchange Validation																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Train Data Exchange(s) processing in Tyler software			A	R								C	I	I	I			C	I	
Coordinate 3 rd Party Data Exchange activities			I	I								A	C		C			R		
Test all Standard 3 rd party Data Exchange(s)			I	C								A	C	I	R			C		

4.4.4 Modification Delivery & Validation, if contracted

Tyler delivers in Scope Modification(s) to the City for preliminary testing. Final acceptance will occur during the Final Testing and Training Stage.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 3	Modification Delivery & Validation, if contracted																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Develop and deliver contracted modified program(s)		A	I	C	I		R					I	C	I	C			I		C
Test contracted modified program(s) in isolated database			I	C			C					A	C		R			C		
Report discrepancies between specification and delivered contracted modified program(s)			I	I			I					A	R		C			C		
Make corrections to contracted modified program(s) as required		A	I	C	I		R					I	C		C			I		

4.4.5 Forms & Reports Validation

Tyler provides training on Standard Forms/Reports and the City tests each Standard Form/Report.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 3		Forms & Reports Validation																																						
		TYLER								CLIENT																														
TASKS		Tyler Executive Manager		Tyler Implementation Manager		Tyler Project Manager		Tyler Implementation Consultant		Tyler Data Conversion Experts		Tyler Forms & Reports Experts		Tyler Modification Programmers		Tyler Technical Support		Tyler Sales		Client Executive Sponsor		Client Steering Committee		Client Project Manager		Client Functional Leads		Client Change Management Leads		Client Power Users		Client Department Heads		Client End Users		Client Technical Leads		Client Project Toolset Coordinator		Client Upgrade Coordinator
	Standard Forms & Report Training					A		R															I		C				C					I						
	Test Standard Forms & Reports					I		C				C											A		C				R					C						

4.4.6 Control Point 3: Build & Validate Stage Acceptance

Acceptance criteria for this Stage includes all criteria listed below. Advancement to the Final Testing & Training Stage is dependent upon Tyler's receipt of the Stage Acceptance.

4.4.6.1 Build & Validate Stage Deliverables

- Initial data conversion
 - Objective: Convert Legacy System data into Tyler system
 - Scope: Data conversion program complete; deliver converted data for review
 - Acceptance criteria: Initial error log available for review
- Data conversion verification document
 - Objective: Provide instructions to the City to verify converted data for accuracy
 - Scope: Provide self-guided instructions to verify specific data components in Tyler system
 - Acceptance criteria: City accepts data conversion delivery; City completes data issues log
- Installation of Modifications on the City's server(s) *except for hosted Clients
 - Objective: Deliver Modification(s) in Tyler software
 - Scope: Program for Modification is complete and available in Tyler software, Modification testing
 - Acceptance criteria: Delivery of Modification(s) results in objectives described in the City-signed specification.
- Standard Forms & Reports Delivered
 - Objective: Provide Standard Forms & Reports for review
 - Scope: Installation of all Standard Forms & Reports included in the Agreement
 - Acceptance criteria: Standard Forms & Reports available in Tyler software for testing in Stage 4

4.4.6.2 Build & Validate Stage Acceptance Criteria

- Application configuration completed
- Standard Forms & Reports delivered and available for testing in Stage 4
- Data conversions (except final pass) delivered
- Standard 3rd party Data Exchange training provided
- Modifications delivered and available for testing in Stage 4
- The City and Tyler have done a review of primary configuration areas to Validate completeness and readiness for testing and acceptance in Stage 4.

4.5 Final Testing & Training (Stage 4)

During Final Testing and Training, Tyler and the City review the final Cutover plan. A critical Project success factor is the City understanding the importance of Final Testing and Training and dedicating the resources required for testing and training efforts in order to ensure a successful Production Cutover.

4.5.1 Cutover Planning

City and Tyler Project Manager(s) discuss final preparations and critical dates for Production Cutover. Tyler delivers a Production Cutover Checklist to outline Cutover tasks to help prepare the City for success.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 4	Cutover Planning																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Cutover Planning Session		A	R	C						I	I	C	C	C	C			C	C	
Develop Production Cutover Checklist		A	R	C						I	I	C	C	I	I			C		

4.5.2 User Acceptance Testing (UAT)

The City performs User Acceptance Testing to verify software readiness for day-to-day business processing. Tyler provides a Test Plan for users to follow to ensure proper Validation of the system.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 4	User Acceptance Testing (UAT)																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Deliver Test Plan for User Acceptance Testing		A	R	C								I	I							
Perform User Acceptance Testing			I	C							A	R	C	C	C	I	I	C	I	
Accept modified program(s), if applicable			I	I			I				A	R	C	I	C			C		
Validate Report performance			I	C		C						A	C		R			C		

4.5.3 End User Training

End Users attend training sessions to learn how to utilize Tyler software. Training focuses primarily on day-to-day City processes that will be delivered via group training, webinar, eLearnings and/or live training sessions.

Unless stated otherwise in the Agreement, Tyler provides one occurrence of each scheduled training or implementation topic with up to the maximum number of users as defined in the Agreement, or as otherwise mutually agreed. City users who attended the Tyler sessions may train any City users not able to attend the Tyler sessions or additional sessions may be contracted at the applicable rates for training.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 4	End User Training																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Conduct user training sessions			A	R								C	I		I	I		I	I	
Conduct additional End User training sessions			I								I	A	C	I	R	I	I	I	I	

4.5.4 Control Point 4: Final Testing & Training Stage Acceptance

Acceptance criteria for this Stage includes all criteria listed below. Advancement to the Production Cutover Stage is dependent upon Tyler's receipt of the Stage Acceptance.

4.5.4.1 Final Testing & Training Stage Deliverables

- Production Cutover checklist
 - Objective: Provide a detailed checklist outlining tasks necessary for production Cutover
 - Scope: Dates for final conversion, date(s) to cease system processing in Legacy System, date(s) for first processing in Tyler system, contingency plan for processing
 - Acceptance criteria: Definition of all pre-production tasks, assignment of owners and establishment of due dates
- User Acceptance Test Plan
 - Objective: Provide testing steps to guide users through testing business processes in Tyler software.
 - Scope: Testing steps for Standard business processes.
 - Acceptance criteria: Testing steps have been provided for Standard business processes.

4.5.4.2 Final Testing & Training Stage Acceptance Criteria

- Production Cutover Checklist delivered and reviewed
- Modification(s) tested and accepted, if applicable
- Standard 3rd party Data Exchange programs tested and accepted
- Standard Forms & Reports tested and accepted
- User acceptance testing completed
- End User training completed

4.6 Production Cutover (Stage 5)

City and Tyler resources complete tasks as outlined in the Production Cutover Plan and the City begins processing day-to-day business transactions in the Tyler software. Following production Cutover, the City transitions to the Tyler support team for ongoing support of the Application.

4.6.1 Final Data Conversion, if applicable

The City provides final data extract and Reports from the Legacy System for data conversion and Tyler executes final data conversion. The City may need to manually enter into the Tyler system any data added to the Legacy System after final data extract.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 5	Final Data Conversion, if applicable																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Provide final data extract			C		I						I	A	C	I	I	I	I	R		
Provide final extract balancing Reports			I		I							A	C		R			I		
Convert and deliver final pass of data		A	I	I	R							I	I		I			C		
Validate final pass of data			I	C	C						I	A	C		R			C		
Load final conversion pass to Production environment			I		I						I	A	C	I	C			R		

4.6.2 Production Processing & Assistance

Tyler staff collaborates with the City during Production Cutover activities. The City transitions to Tyler software for day-to day business processing.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 5	Production Processing & Assistance																			
	TYLER								CLIENT											
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Production processing			C	C						I	I	A	R	R	R	R	R	R	I	I
Provide production assistance			A	R				C				I	C	C	C	C	C	C		

4.6.3 Transition to Tyler Support

Tyler Project Manager(s) introduce the City to the Tyler Support team, who provides the City with day-to-day assistance following Production Cutover.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 5	Transition to Tyler Support																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Develop internal support plan			I								A	R	C	C	C	C		C	C	C
Conduct transfer to Support meeting	A	I	C					R				C	C	C	C	I	I	C	I	I

4.6.4 Schedule Post-Production Services, if applicable

Tyler provides post-production services if included in the Agreement. Prior to scheduling services, the Tyler Project Manager(s) collaborate with City Project Manager(s) to identify needs.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 5	Schedule Post-Production Services, if applicable																			
	TYLER								CLIENT											
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
			C	C								A	R	I	C				I	
		A	R	I								C	C	I	C				I	

4.6.5 Control Point 5: Production Cutover Stage Acceptance

Acceptance criteria for this Stage includes all criteria listed below. Advancement to the Phase/Project Closure Stage is dependent upon Tyler's receipt of this Stage Acceptance.

4.6.5.1 Production Cutover Stage Deliverables

- Final data conversion, if applicable
 - Objective: Ensure (in Scope) Legacy System data is available in Tyler software in preparation for production processing.
 - Scope: Final passes of all conversions completed in this Phase
 - Acceptance criteria: Data is available in production environment
- Support transition documents
 - Objective: Define strategy for on-going Tyler support
 - Scope: Define support strategy for day-to-day processing, conference call with City Project Manager(s) and Tyler support team, define roles and responsibilities, define methods for contacting support
 - Acceptance criteria: The City receives tools to contact support and understands proper support procedures.

4.6.5.2 Production Cutover Stage Acceptance Criteria

- Final data conversion(s) delivered
- Processing is being done in Tyler production
- Transition to Tyler support is completed
- Post-live services have been scheduled, if applicable

4.7 Phase/Project Closure (Stage 6)

Project or Phase closure signifies full implementation of all products purchased and encompassed in the Phase or Project. The City moves into the next cycle of their relationship with Tyler (next Phase of implementation or long-term relationship with Tyler Support).

4.7.1 Close Phase/Project

The City and Tyler Project Manager(s) review the list of outstanding Project activities and develop a plan to address them. The Tyler Project Manager(s) review the Project budget and status of each contract Deliverable with the City Project Manager(s) prior to closing the Phase or Project.

RACI MATRIX KEY: **R** = Responsible **A** = Accountable **C** = Consulted **I** = Informed

STAGE 6	Close Phase/Project																			
	TYLER									CLIENT										
TASKS	Tyler Executive Manager	Tyler Implementation Manager	Tyler Project Manager	Tyler Implementation Consultant	Tyler Data Conversion Experts	Tyler Forms & Reports Experts	Tyler Modification Programmers	Tyler Technical Support	Tyler Sales	Client Executive Sponsor	Client Steering Committee	Client Project Manager	Client Functional Leads	Client Change Management Leads	Client Power Users	Client Department Heads	Client End Users	Client Technical Leads	Client Project Toolset Coordinator	Client Upgrade Coordinator
Review outstanding Project activities and develop action plan		A	R	C								C	C	I	C	I		C		
Review Project budget and status of contract Deliverables		A	R							I	I	C								

4.7.2 Control Point 6: Phase/Project Closure Stage Acceptance

Acceptance criteria for this Stage includes all criteria listed below. This is the final acceptance for the Phase/Project.

4.7.2.1 Phase/Project Closure Stage Deliverables

- Phase/Project reconciliation report
 - Objective: Provide comparison of contract Scope and Project budget
 - Scope: Contract Scope versus actual, analysis of services provided and remaining budget, identify any necessary Change Requests or Project activity.
 - Acceptance criteria: Acceptance of services and budget analysis and plan for changes, if needed.

4.7.2.2 Phase/Project Closure Stage Acceptance Criteria

- Outstanding Phase or Project activities have been documented and assigned
- Phase/final Project budget has been reconciled
- Tyler Deliverables for the Phase/Project are complete

5 Roles and Responsibilities

5.1 Tyler Roles and Responsibilities

Tyler assigns project manager(s) prior to the start of each Phase of the Project. The project manager(s) assign additional Tyler resources as the schedule develops and as needs arise. One person may fill multiple project roles.

5.1.1 Tyler Executive Management

- Provides clear direction for Tyler staff on executing on the Project Deliverables to align with satisfying the City's overall organizational strategy.
- Authorizes required project resources.
- Resolves all decisions and/or issues not resolved at the implementation management level as part of the escalation process.
- Offers additional support to the project team and is able to work with other Tyler department managers in order to escalate and facilitate implementation project tasks and decisions.
- Acts as the counterpart to the City's executive sponsor.

5.1.2 Tyler Implementation Management

- Acts as the counterpart to the City steering committee.
- Assigns initial Tyler project personnel.
- Works to resolve all decisions and/or issues not resolved at the Project Management level as part of the escalation process.
- Attends City steering committee meetings as necessary.
- Provides support for the project team.
- Provides management support for the Project to ensure it is staffed appropriately and staff have necessary resources.
- Monitors project progress including progress towards agreed upon goals and objectives.

5.1.3 Tyler Project Manager

The Tyler project manager(s) provides oversight of the Project, coordination of resources between departments, management of the project budget and schedule, effective risk and issue management, and is the primary point of contact for all Project related items.

- Contract Management
 - Validates contract compliance throughout the Project.
 - Ensures Deliverables meet contract requirements.
 - Acts as primary point of contact for all contract and invoicing questions.
 - Prepares and presents contract milestone sign-offs for acceptance by City project manager(s).
 - Coordinates Change Requests, if needed, to ensure proper Scope and budgetary compliance.
- Planning

- Update and deliver Implementation Management Plan.
 - Defines project tasks and resource requirements.
 - Develops initial project schedule and full scale Project Plan.
 - Collaborates with City project manager(s) to plan and schedule project timelines to achieve on-time implementation.
- Implementation Management
 - Tightly manages Scope and budget of Project; establishes process and approval matrix with the City to ensure Scope changes and budget planned versus actual are transparent and handled effectively and efficiently.
 - Establishes and manages a schedule and resource plan that properly supports the Project Plan that is also in balance with Scope/budget.
 - Establishes risk/issue tracking/reporting process between the City and Tyler and takes all necessary steps to proactively mitigate these items or communicates with transparency to the City any items that may impact the outcomes of the Project.
 - Collaborates with the City's project manager(s) to establish key business drivers and success indicators that will help to govern project activities and key decisions to ensure a quality outcome of the project.
 - Sets a routine communication plan that will aide all project team members, of both the City and Tyler, in understanding the goals, objectives, current status and health of the project.
- Team Management
 - Acts as liaison between project team and Tyler manager(s).
 - Identifies and coordinates all Tyler resources across all applications, Phases, and activities including development, forms, installation, reports, implementation, and billing.
 - Provides direction and support to project team.
 - Builds partnerships among the various stakeholders, negotiating authority to move the Project forward.
 - Manages the appropriate assignment and timely completion of tasks as defined in the Project Plan, task list, and Production Cutover Checklist.
 - Assesses team performance and adjusts as necessary.
 - Interfaces closely with Tyler developers to coordinate program Modification activities.
 - Coordinates with in Scope 3rd party providers to align activities with ongoing project tasks.

5.1.4 Tyler Implementation Consultant

- Completes tasks as assigned by the Tyler project manager(s).
- Performs problem solving and troubleshooting.
- Follows up on issues identified during sessions.
- Documents activities for on site services performed by Tyler.
- Provides conversion Validation and error resolution assistance.
- Recommends guidance for testing Forms and Reports.
- Tests software functionality with the City following configuration.
- Assists during Production Cutover process and provides production support until the City transitions to Tyler Support.
- Provides product related education.

- Effectively facilitates training sessions and discussions with City and Tyler staff to ensure adequate discussion of the appropriate agenda topics during the allotted time.
- Conducts training (configuration, process, conversion Validation) for Power Users and the City's designated trainers for End Users.
- Clearly documents homework tasks with specific due dates and owners, supporting and reconciling with the final Project Plan.
- Keeps Tyler project manager(s) proactively apprised of any and all issues which may result in the need for additional training, change in schedule, change in process decisions, or which have the potential to adversely impact the success of the Project prior to taking action.

5.1.5 Tyler Sales

- Provide sales background information to Implementation during Project initiation.
- Support Sales transition to Implementation.
- Provide historical information, as needed, throughout implementation.

5.1.6 Tyler Software Support

- Manages incoming client issues via phone, email, and online customer incident portal.
- Documents and prioritizes issues in Tyler's Customer Relationship Management (CRM) system.
- Provides issue analysis and general product guidance.
- Tracks issues and tickets to timely and effective resolution.
- Identifies options for resolving reported issues.
- Reports and escalates defects to Tyler Development.
- Communicates with the City on the status and resolution of reported issues.

5.1.7 Tyler Subject Matter Expert

- Possesses both a broad and deep understanding of the functionality within Tyler software products for his/her functional area(s).
- Provides confident recommendations regarding configuration decisions and business process best practices using Tyler's products based on his/her experience and expertise implementing Tyler software products with similar organizations.
- Provides conversion consulting and mapping assistance.
- Follows up on issues identified during sessions.
- Documents activities for on site services.
- Clearly documents homework tasks with specific due dates and owners, supporting and reconciling with the final Project schedule.
- Keeps Tyler project manager(s) proactively apprised of any and all issues which may result in the need for additional training needs, change in schedule, change in process decisions, or which have the potential to adversely impact the success of the Project prior to taking action.
- Performs gap analysis and documents non-contracted Modifications requests.

5.1.8 Tyler Data Conversion Experts

- Validates client data files are in proper format.

- Develops customized conversion programs to convert Legacy System data into the Tyler database for production use according to defined mapping.
- Provides error Reports on unsupported data conditions and the merging or normalization of data fields.
- Assists the City with understanding and interpreting error Reports.
- Performs changes and corrections to customized conversion programs as the City discovers data anomalies and exception conditions.

5.1.9 Tyler Reports/Forms Experts

- Provides specifications for all Forms & Reports in Scope.
- Reviews requirements for Peripherals and Consumables, if applicable.
- Conducts review of City's form mockup sheets.
- Develops final form designs.
- Configures and installs Forms software and approved Forms.

5.1.10 Tyler Trainer

- Provides product related education.
- Effectively facilitates training sessions and discussions with City and Tyler staff to ensure adequate discussion of the appropriate agenda topics during the allotted time.
- Conducts training (configuration, process, conversion Validation) for Power Users and the City's designated trainers for End Users.

5.2 City Roles and Responsibilities

City resources will be assigned prior to the start of each Phase of the project. One person may be assigned to multiple project roles.

5.2.1 City Executive Sponsor

- Provides clear direction for the Project and how the Project applies to the organization's overall strategy.
- Champions the Project at the executive level to secure buy-in.
- Authorizes required Project resources.
- Resolves all decisions and/or issues not resolved at the City steering committee level as part of the escalation process.
- Actively participates in organizational change communications.

5.2.2 City Steering Committee

- Works to resolve all decisions and/or issues not resolved at the project manager level as part of the escalation process.
- Attends all scheduled steering committee meetings.
- Provides support for the project team.
- Assists with communicating key project messages throughout the organization.
- Prioritizes the project within the organization.

- Provides management support for the project to ensure it is staffed appropriately and staff have necessary resources.
- Monitors project progress including progress towards agreed upon goals and objectives.
- Has the authority to approve or deny changes impacting the following areas:
 - Cost
 - Scope
 - Schedule
 - Project Goals
 - City Policies

5.2.3 City Project Manager

The City shall assign project manager(s) prior to the start of this Project with overall responsibility and authority to make decisions related to project Scope, scheduling, and task assignment, and communicates decisions and commitments to the Tyler project manager(s) in a timely and efficient manner. When the City project manager(s) do not have the knowledge or authority to make decisions, he or she engages the correct resources from City to participate in discussions and make decisions in a timely fashion to avoid Project delays.

- Contract Management
 - Validates contract compliance throughout the Project.
 - Ensures invoicing and Deliverables meet contract requirements.
 - Acts as primary point of contact for all contract and invoicing questions.
 - Signs off on contract milestone acknowledgment documents.
 - Collaborates on and approves Change Requests, if needed, to ensure proper Scope and budgetary compliance.
- Planning
 - Review and acknowledge Implementation Management Plan.
 - Defines project tasks and resource requirements for City project team.
 - Collaborates in the development and approval of the initial Project Plan and Project Plan.
 - Collaborates with Tyler project manager(s) to plan and schedule Project timelines to achieve on-time implementation.
- Implementation Management
 - Tightly manages Project budget and Scope and collaborates with Tyler project manager(s) to establish a process and approval matrix to ensure Scope changes and budget planned versus actual are transparent and handled effectively and efficiently.
 - Collaborates with Tyler project manager to establish and manage a schedule and resource plan that properly supports the Project Plan, as a whole, that is also in balance with Scope/budget.
 - Collaborates with Tyler Project manager(s) to establishes risk/issue tracking/reporting process between the City and Tyler and takes all necessary steps to proactively mitigate these items or communicates with transparency to Tyler any items that may impact the outcomes of the Project.

- Collaborates with Tyler Project manager(s) to establish key business drivers and success indicators that will help to govern Project activities and key decisions to ensure a quality outcome of the Project.
- Routinely communicates with both City staff and Tyler, aiding in the understanding of goals, objectives, current status, and health of the Project by all team members.
- Team Management
 - Acts as liaison between project team and stakeholders.
 - Identifies and coordinates all City resources across all modules, Phases, and activities including data conversions, forms design, hardware and software installation, reports building, and satisfying invoices.
 - Provides direction and support to project team.
 - Builds partnerships among the various stakeholders, negotiating authority to move the Project forward.
 - Manages the appropriate assignment and timely completion of tasks as defined in the Project Plan, task list, and Production Cutover Checklist.
 - Assesses team performance and takes corrective action, if needed.
 - Provides guidance to City technical teams to ensure appropriate response and collaboration with Tyler Technical Support Teams to ensure timely response and appropriate resolution.
 - Coordinates in Scope 3rd party providers to align activities with ongoing Project tasks.

5.2.4 City Functional Leads

- Makes business process change decisions under time sensitive conditions.
- Communicates existing business processes and procedures to Tyler consultants.
- Assists in identifying business process changes that may require escalation.
- Attends and contributes business process expertise for current/future state analysis sessions.
- Identifies and includes additional subject matter experts to participate in Current/Future State Analysis sessions.
- Provides business process change support during Power User and End User training.
- Completes performance tracking review with client project team on End User competency on trained topics.
- Provides Power and End Users with dedicated time to complete required homework tasks.
- Act as an ambassador/champion of change for the new process.
- Identifies and communicates any additional training needs or scheduling conflicts to City project manager.
- Prepares and Validates Forms.
- Actively participates in all aspects of the implementation, including, but not limited to, the following key activities:
 - Task completion
 - Stakeholder Presentation
 - Implementation Management Plan development
 - Schedule development
 - Maintenance and monitoring of risk register
 - Escalation of issues
 - Communication with Tyler project team
 - Coordination of City resources

- Attendance at scheduled sessions
- Change Management activities
- Modification specification, demonstrations, testing and approval assistance
- Conversion Analysis and Verification Assistance
- Decentralized End User Training
- Process Testing
- User Acceptance Testing

5.2.5 City Power Users

- Participate in Project activities as required by the project team and project manager(s).
- Provide subject matter expertise on City business processes and requirements.
- Act as subject matter experts and attend current/future state and validation sessions as needed.
- Attend all scheduled training sessions.
- Participate in all required post-training processes as needed throughout Project.
- Participate in Conversion Validation.
- Test all Application configuration to ensure it satisfies business process requirements.
- Become Application experts.
- Participate in User Acceptance Testing.
- Adopt and support changed procedures.
- Complete all Deliverables by the due dates defined in the Project Plan.
- Demonstrate competency with Tyler products processing prior to Production Cutover.
- Provide knowledge transfer to City staff during and after implementation.

5.2.6 City End Users

- Attend all scheduled training sessions.
- Become proficient in Application functions related to job duties.
- Adopt and utilize changed procedures.
- Complete all Deliverables by the due dates defined in the Project Plan.
- Utilize software to perform job functions at and beyond Production Cutover.

5.2.7 City Technical Support

- Coordinates updates and releases with Tyler as needed.
- Coordinates the copying of source databases to training/testing databases as needed for training days.
- Extracts and transmits conversion data and control reports from City's Legacy System per the conversion schedule set forth in the Project Plan.
- Coordinates and adds new users and printers and other Peripherals as needed.
- Validates all users understand log-on process and have necessary permission for all training sessions.
- Coordinates Interface development for City third party Data Exchanges.
- Develops or assists in creating Reports as needed.
- Ensures onsite system hardware meets specifications provided by Tyler.
- Assists with software Installation as needed.

5.2.8 City Upgrade Coordinator

- Becomes familiar with the Software Upgrade process and required steps.
- Becomes familiar with Tyler's releases and updates.
- Utilizes Tyler Community to stay abreast of the latest Tyler releases and updates, as well as the latest helpful tools to manage the City's Software Upgrade process.
- Assists with the Software Upgrade process during implementation.
- Manages Software Upgrade activities post-implementation.
- Manages Software Upgrade plan activities.
- Coordinates Software Upgrade plan activities with City and Tyler resources.
- Communicates changes affecting users and department stakeholders.
- Obtains department stakeholder sign-offs to upgrade production environment.

5.2.9 City Project Toolset Coordinator

- Ensures users have appropriate access to Tyler project toolsets such as Tyler University, Tyler Community, Tyler Product Knowledgebase, SharePoint, etc.
- Conducts training on proper use of toolsets.
- Validates completion of required assignments using toolsets.

5.2.10 City Change Management Lead

- Validates users receive timely and thorough communication regarding process changes.
- Provides coaching to supervisors to prepare them to support users through the project changes.
- Identifies the impact areas resulting from project activities and develops a plan to address them proactively.
- Identifies areas of resistance and develops a plan to reinforce the change.
- Monitors post-production performance and new process adherence.

6 Glossary

Word or Term	Definition
Application	A computer program designed to perform a group of coordinated functions, tasks or activities for the benefit of the user.
Change Control	A systematic approach for managing change governing how Change Requests will be received, assessed and acted on.
Change Management	An approach for ensuring that changes are thoroughly and smoothly implemented and that the lasting benefits of change are achieved. The focus is on the global impact of change with an intense focus on people and how individuals and teams move from the current situation to the new one.
Change Request	A form used as part of the Change Control process whereby changes in the Scope of work, timeline, resources, and/or budget are revised and agreed upon by participating parties.
Consumables	Items that are used on a recurring basis, usually by Peripherals. Examples: paper stock or scanner cleaning kits.
Control Point	Occurring at the end of each Stage, the Control Point serves as a formal client review point. Project progress cannot continue until the client acknowledges the agreed upon Deliverables of the Stage have been met or agree on an action plan to make the Deliverable acceptable and move to next Stage while executing final steps of current Stage.
Cutover	The point when a client begins using Tyler software in production.
Data Exchange	A term used to reference Imports and Exports, and Interfaces which allow data to be exchanged between an external system and Tyler software.
Data Mapping	The process of mapping fields from the Legacy System to the appropriate location in the new system from one or more sources.
Deliverable	A tangible or intangible object/document produced as a result of the Project that is intended to be delivered to a client (either internal or external) or vendor at a specific time.
End User	The person for whom the software is designed to use on a day-to-day basis.
Forms	A document which is typically printed on a template background and only captures data for one record per page. Forms are provided to entity customers whether internal (employees) or external (citizens).
Imports and Exports	A process within the system that a user is expected to run to consume (Import) or produce (Export) a specifically defined file format/layout.
Interface	A real-time or automated exchange of data between two systems.

Install	References the initial installation of software files on client services and preparing the software for use during configuration. The version currently available for general release will always be used during the initial install.
Legacy System	The system from which a client is converting.
Modification	Modification of software program package to provide individual client requirements documented within the Scope of the Agreement.
Peripherals	An auxiliary device that connects to and works with the computer in some way. Examples: mouse, keyboard, scanner, external drive, microphone, speaker, webcam, and digital camera.
Phase	A portion of the Project in which specific set of related products are typically implemented. Phases each have an independent start, Production Cutover and closure dates but use the same Implementation Plans as other Phases within the Project. Phases may overlap or be sequential and may have the same Tyler project manager and Tyler project team or different individuals assigned.
Power User	An experienced client person or group who is (are) an expert(s) in the client business processes, as well as knowledgeable in the requirements and acceptance criteria.
Project	The Project includes all implementation activity from Plan & Initiate to Closure for all products, Applications and functionality included in a single Agreement. The Project may be broken down into multiple Phases.
Project Plan	The Project Plan serves as the master blueprint for the Project. As developed, the Project schedule will become a part of the Project Plan and outline specific details regarding tasks included in the Project Plan.
Project Planning Meeting	Occurs during the Plan & Initiate Stage to coordinate with the Client project manager to discuss Scope, information needed for project scheduling and resources.
Questionnaire	A document containing a list of questions to be answered by the client for the purpose of gathering information needed by Tyler to complete the implementation.
RACI	A chart describing level of participation by various roles in completing tasks or Deliverables for a Project or process. Also known as a responsibility assignment matrix (RAM) or linear responsibility chart (LRC).
Reports	Formatted to return information related to multiple records in a structured format. Information is typically presented in both detail and summary form for a user to consume.
Scope	Products and services that are included in the Agreement.

Software Upgrade	References the act of updating software files to a newer software release.
Stage	The top-level components of the WBS. Each Stage is repeated for individual Phases of the Project and requires acknowledgement before continuing to the next Stage. Some tasks in the next Stage may begin before the prior Stage is complete.
Stakeholder Presentation	Representatives of the Tyler implementation team will meet with key client representatives to present high level Project expectations and outline how Tyler and the Client can successfully partner to create an environment for a successful implementation.
Standard	Included in the base software (out of the box) package.
Statement of Work (SOW)	Document which will provide supporting detail to the Agreement defining Project -specific activities and Deliverables Tyler will provide to the client.
Test Plan	Describes the testing process. Includes “Test Cases” to guide the users through the testing process. Test cases are meant to be a baseline for core processes; the client is expected to supplement with client specific scenarios and processes.
Validation (or to validate)	The process of testing and approving that a specific Deliverable, process, program or product is working as expected.
Work Breakdown Structure (WBS)	A hierarchical representation of a Project or Phase broken down into smaller, more manageable components.

7 Tyler Resources Purchased

Tyler's complete EnerGov proposal as set forth in the Investment Summary have been defined within the project as follows:

- Estimated Timeline of 12 months

7.1.1 Business Scope (Transactions and Automation)

- Please refer to the Investment summary for hours and scope of the project

7.1.2 "Business transaction" is defined by:

- Unique workflow or business process steps & actions (including output actions)
- Unique Automation logic (IO logic etc)
- Unique Fee assessment / configuration definition
- Unique Custom fields/forms definition

Uniqueness of any of these mentioned parameters regulates the need for a unique business case transaction design document and configuration event

7.1.3 "Template" transaction is defined by:

- A pre-defined and pre-configured EnerGov best management business process.

7.1.4 "Geo-Rule" is defined by:

- An automation event that is triggered by a condition configured around the source Esri geodatabase. Current geo-rule events are:

• Alert	• Displays a pop-up with a custom message to the user, notifying them of certain spatial data (i.e. noise abatement zones; flood zones; etc.).
• Block	• Places a block on the case and prevents any progress or updates from occurring on the record (i.e. no status changes can be completed, no fees can be paid, the workflow cannot be managed, etc.)
• Block with Override	• Places a block on the case and prevents any progress or updates from occurring on the record (i.e. no status changes can be completed, no fees can be paid, the workflow cannot be managed, etc.) However, the block can be overridden by end-users who have been given the proper securities.
• Fee Date	• Populates the CPI vesting date on the record if vesting maps are used by the jurisdiction.

• Filed Mapping	• A custom field or any field inherent in the EnerGov application can automatically populate with information based on spatial data.
• Required Action	• A workflow action can automatically populate in the workflow details for the particular record (i.e. plan, permit, code case, etc.) that requires the action based on certain spatial data related to the case.
• Required Step	• A workflow step can automatically populate in the workflow details for the particular record (i.e. plan, permit, code case, etc.) that requires the step based on certain spatial data related to the case.
• Zone Mapping	• The zone(s) automatically populate on the “Zones” tab of the record (i.e. plan, permit, code case, etc.).

7.1.5 “Intelligent Object (IO)” is defined by:

- Key components for automatically and reactively triggering geo-rules, computing fees, and generating emails, alerts and other notifications.

7.1.6 “Intelligent Automation Agent (IAA)” is defined by:

- A tool designed to automate task in a proactive manner by setting values and generating emails and other tasks. On a nightly basis, a Windows service sweeps the EnerGov system looking for IAA conditions that have been met, and the associated actions are then performed. The IAA does not generate alerts or errors.

7.1.7 “EnerGov SDK API (Toolkits)” are defined by:

- API’s developed by Tyler Technologies for the purpose of extending the EnerGov Framework and functionality to external agencies and systems. Full documentation is available for each toolkit upon request.

Note: The EnerGov toolkits and related documentation are simply tools that allow clients to create applications and integrations. The purchase of a toolkit does not imply any development related services from Tyler Technologies. The client is responsible for working with their IT staff and VAR’s to develop any necessary applications and integrations except as otherwise noted in the Investment Summary for any “in-scope” integrations.

8 EnerGov Conversion Summary

8.1 Community Development: Permits

- Permit master basic information
- Permit Contacts
- Contacts – Unique (keyed) contacts converted to global contacts
- Non-keyed contacts converted to a Memo Custom Field or a standard note
- Parcels and Addresses
- Reviews and Approvals – Converted to Activity
- Inspections and Inspection Cases
- Sub-Permit Associations – Visible in workflow and attached records section
- Fees
- Meetings and Hearings
- Bonds and Escrow
- Activities and Actions
- Conditions
- Notes
- Zones
- Holds
- Renewals
- Initialized Workflows
- Attachments
- Contractors
- Projects
- Payment and Fee History

8.2 Business Management

- Business entity (Only for Business Licensing)
- License master basic information
- License Contacts
- Contacts – Unique (keyed) contacts converted to global contacts
- Non-keyed contacts converted to a Memo Custom Field or a standard note Parcel and Addresses
- Reviews and Approvals – Converted to Activity
- Fees
- Bonds and Escrow
- Activities and Actions
- Conditions
- Notes
- Holds
- Initialized Workflows
- Attachments
- Contractors
- Business Types & NAICS codes

- Payment and Fee History

8.3 Community Development: Code Cases

- Code Case master basic information
- Code Case Contacts and Properties
- Contacts – Unique (keyed) contacts converted to global contacts
- Non-keyed contacts converted to a Memo Custom Field or a standard note
- Parcels and Addresses
- Reviews and Approvals – Converted to Activity Active Fees
- Activities and Actions
- Notes
- Holds
- Initialized Workflows
- Attachments
- Violations
 - Fees
 - Payments
 - Notes
- Meetings and Hearings
- Zones
- Requests
- Payment and Fee history

8.4 Community Development: Plans

- Plan master basic information
- Plan Contacts
- Contacts – Unique (keyed) contacts converted to global contacts
- Non-keyed contacts converted to a Memo Custom Field or a standard note
- Parcels and Addresses
- Reviews and Approvals – Converted to Activity
- Inspections and Inspection Cases
- Fees
- Meetings and Hearings
- Bonds and Escrow
- Activities and Actions
- Conditions
- Notes
- Zones
- Holds
- Initialized Workflows
- Attachments
- Projects
- Payment and Fee history

From: [Smith, Matthew J.](#)
To: [Huhta, Ned](#)
Cc: [Kevin Price](#); [Spraker, Steven](#); [Keith Damon](#)
Subject: Summary of EnerGov Implementation Amendment Changes (2014-8632)
Date: Thursday, November 12, 2020 5:17:08 PM
Attachments: [City of Ormond Beach, FL Amendment - EnerGov Core Applications.pdf](#)
[Ormond Beach, FL Amendment - eReviews.pdf](#)

[External Email-Use Caution] - OB/IT Helpdesk

Good Afternoon Ned,

Per the City of Ormond Beach's request, I have compiled the following description of the history and reasoning behind the proposed changes to the EnerGov implementation.

Upon re-engaging on the EnerGov implementation with the City, Tyler personnel reviewed the existing agreement and determined we needed to adjust several contract elements to better ensure project success.

The service hours and scope identified in the original agreement were mismatched. 1,200 project management and consultant hours was insufficient to analyze, configure, and test 60 unique business transaction types, 5 geo-rules, and 5 intelligent objects. Additionally, the City determined the ProjectDox integration included in the original agreement was no longer required. The amendment removes this integration and all related costs from project scope.

eReviews were not included in the original agreement, owing to the age of the contract. Tyler has submitted an amendment to add eReviews to the scope of the implementation. This amendment is separate from the primary amendment in order to take advantage of beneficial rates on the original eReviews proposal. Please review the amendment for EnerGov eReviews for details.

Finally, the implementation methodology verbiage was dated, and not clearly defined in the original agreement. The amendment replaces old verbiage to match current implementation practices, and better defines the services provided. See the comments on the final page of Exhibit 1 for exact methodology details.

The City and Tyler analyzed several implementation approaches, and Tyler provided cost estimates for each approach. After consultation, the City requested an amendment that required Tyler lead and implement 30 unique business transactions, 5 geo-rules, and 5 automation events. Configuration elements beyond this will be owned by the City. This effectively creates a shared services agreement, where both Tyler and City resources will be responsible for implementing certain aspects of EnerGov.

City personnel taking ownership of certain configuration elements will save service hours, provide valuable software training, and prepare system users to maintain the system once implementation is complete.

Upon receipt of executed amendments, Tyler will assign further resources to the project, develop and work with the City to finalize an implementation schedule, and proceed with activities to assess and define City business processes.

If you have any questions about the information contained within this memo or either amendment, please feel free to contact me.

Sincerely,

Matthew J. Smith, PMP
 Project Manager

Tyler Technologies, Inc.

P: 800.646.2633

www.tylertech.com

*NOTE: Hyperlinks have been disabled in this e-mail. Copy and paste the text into your browser and replace h**p:// or h**ps:// as appropriate.*



CITY OF ORMOND BEACH

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CITY MANAGER MEMORANDUM

To: The Honorable Mayor Partington and City Commissioners

Through: Joyce A. Shanahan, City Manager

From: Kelly McGuire, Finance Director

Date: April 6, 2021

Subject: Enterprise resource system amendment, BerryDunn, Building, Planning and Code Enforcement

Commission Goal: Community Development - Other

Introduction

This is a request for an amendment to the project management agreement with Berry, Dunn, McNeil & Parker, LLC (“BerryDunn”) for project management of the city’s enterprise resource system conversion, approved with Resolution No. 2016-135, and costs associated with Tyler contract amendments related to building permitting, licensing, inspection, site plan review, and code enforcement.

Background

In 2014, the city solicited proposals, through Request for Proposals (RFP) No. 2014-11, for an enterprise resource system document management program to replace the City's current software system implemented in the 1980's, including implementation, vendor hosting and maintenance services. The enterprise resource system is the computer operating system supporting a wide range of city functions including accounting, budgeting, utility billing, payroll, human resource management, building inspections and permitting, licensing, site plan review, code enforcement liens, public works work order tracking, accounts payable, and cash receipting.

Through an evaluation by city staff and the City Commission approval of Resolution No. 2016-67, Tyler Technologies Incorporated (Tyler) was selected as the vendor for the new enterprise resource system. Due to the complexity of converting the entire enterprise resource system to a new platform and vendor, the city also solicited proposals, RFP No. 2016-24, for project management services for the implementation of the new system, and selected BerryDunn as the consultant with Resolution No. 2016-135.

As the project manager, BerryDunn:

- Monitors and coordinates project activities with Tyler;

- Advocates for the city to ensure the city receives the best value for its investment;
- Leads the resolution of issues and mitigation of risks; and
- Maintains a clear status indication of the implementation progress and succinctly communicates this to city leadership and other key stakeholders.

BerryDunn has been instrumental in the project management and implementation of three modules: Accounting, Human Resources, and Utility Billing. Their oversight has led to a quicker implementation time, effective resolution of issues, technical accuracy, and resulted in a better operating system for the completed modules. BerryDunn will continue to leverage their past experience and knowledge of the city to ensure that the next implementation phases (building permitting, licensing, inspection, site plan review, and code enforcement) are equally as successful.

Discussion

The purpose of this agenda item is to request an amendment to the BerryDunn contract for project management costs necessary for the implementation of the building permitting, licensing, inspection, site plan review, and code enforcement modules. BerryDunn's initial Request for Proposal had an estimated total time of 5,096 hours, equating to \$815,360. Their proposal was the lowest hourly cost of the three proposals submitted. Staff had apprehension about awarding a contract based on the full scope of work initially proposed by BerryDunn. Instead, staff recommended a modified award in order to manage costs and have better control over the consultant hours spent with an understanding that awarding additional consultant hours may be needed as the implementation progressed. The initial project management contract awarded to BerryDunn in 2016 was for a total cost of \$282,080.

During implementation of the Accounting, Human Resources, and Utility Billing modules, issues occurred which required significant hours from BerryDunn to resolve those issues on the City's behalf. On several occasions, Tyler trainers were assigned to the City's project who met the minimum requirements of the contract. However, staff did not believe they were skilled enough to lead the City through a successful implementation and therefore requested the trainers be replaced. BerryDunn spent considerable time and was instrumental in negotiating the replacement of these trainers and monetary credits from Tyler for unproductive hours associated with these trainers. As a result of the consulting hours used to address these issues, additional hours will need to be added to the BerryDunn contract to complete the remaining phases of the Tyler implementation project. This agenda item addresses contract modifications for Phase 4 (Building, Planning and Code Enforcement). Phase 5 (Work Orders) will be the final phase. Associated consulting hours needed for Phase 5 will be presented as another agenda item prior to implementation next year. The final BerryDunn contract, including all modifications, is expected to be under the original proposal of \$815,360.

Budget Impact

Fund 401-Water/Wastewater has the existing contract amount and a budget amendment will be needed for the additional contracted one-time implementation fees of \$199,800 and the estimated travel fees of \$20,610. These expenses will be paid over the course of the project as incurred.

Citizen Impact

The successful implementation of building permitting, licensing, inspection, site plan review, and code enforcement modules will provide benefits for the residents, property owners, businesses, design professionals, and contractors who regularly utilize these systems.

Recommendation

It is recommended that the City Commission **APPROVE** the attached amendment to the 2016 contract with BerryDunn for project management of the enterprise resource system for building permitting, licensing, inspection, site plan review, and code enforcement in the amount of \$199,800 and the estimated travel fees of \$20,610.

Attachments:

- 21-71 Enterprise Resource System - BerryDunn (P20-0226G) (PDF)
- BerryDunn Amendment to Agreement (P20-0226G) (PDF)
- BerryDunn_SOW_SystemImplementation_OrmondBeachFL_CD_060420 (PDF)

REVIEWED BY:


Kelly McGuire, Finance Director 3/16/2021


Claire Whitley, Assistant City Manager 3/29/2021

APPROVED BY:


Joyce A. Shanahan, City Manager 3/31/2021

RESOLUTION NO. 2021-71

A RESOLUTION AMENDING AN AGREEMENT BETWEEN THE CITY OF ORMOND BEACH AND BERRY, DUNN, MCNEIL & PARKER, LLC TO PROVIDE PROJECT MANAGEMENT SERVICES REGARDING IMPLEMENTATION BY TYLER TECHNOLOGIES OF AN ENTERPRISE RESOURCE SYSTEM; AUTHORIZING EXECUTION OF THE AMENDMENT OF THE EXISTING AGREEMENT AND PAYMENT THEREFOR; AND SETTING FORTH AN EFFECTIVE DATE.

WHEREAS, by Resolution 2016-135, the City Commission accepted the proposal of Berry, Dunn, McNeil & Parker, LLC (“BerryDunn”) for project management services of an enterprise resource system and authorized the execution of a contract (“the project”), and

WHEREAS, the City Commission desires to amend the contract to include an additional module to include for building permitting, licensing, inspection, site plan review, and code enforcement, and

WHEREAS, the City Manager has certified that funding for this project will be appropriated to the Water & Wastewater Operating Fund (401) through a budget amendment and will not be appropriated for any other purpose, and

WHEREAS, the City Commission concurs with the foregoing recommendations, now therefore,

BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:

SECTION ONE. The City Commission hereby approves the amendment to the contract between the City and Berry, Dunn, McNeil & Parker, LLC to provide project management services at a cost not to exceed \$199,800.00, a copy of which is attached hereto.

SECTION TWO. The Mayor and the City Manager are hereby authorized and directed to execute the amended agreement, a copy of which is attached hereto, including all documents that are necessary and incidental thereto, between the City and Berry, Dunn, McNeil & Parker, LLC to provide project management services and to pay the cost thereof as provided herein from the Water & Wastewater Operating Fund (401).

SECTION THREE. This Resolution shall take effect immediately upon its adoption.

APPROVED AND AUTHENTICATED this 6th day of April, 2021.

BILL PARTINGTON
Mayor

ATTEST:

KATE SETTLE
City Clerk

AMENDMENT TO AGREEMENT

THIS AMENDMENT TO THE AGREEMENT is made and entered into by and between the **City of Ormond Beach, Florida** (hereinafter referred to as "City"), and **Berry, Dunn, McNeil & Parker, LLC.**, (hereinafter referred to as "BerryDunn") for the purposes stated herein, as follows:

WHEREAS, the City and BerryDunn are parties to an Agreement dated September 20, 2016, and

WHEREAS, the City and BerryDunn desire to amend the subject Agreement for the limited purpose of providing project management services regarding implementation by Tyler Technologies of the enterprise resource system to update the software systems of building licensing, permitting and inspection, site plan review and inspection, now therefore,

The Agreement between the City and BerryDunn is hereby amended to include the provisions set forth in the exhibit attached hereto and incorporated by reference herein, and the promises and covenants herein contained shall survive the life of this Agreement.

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: _____, 2021.

CITY OF ORMOND BEACH, FLORIDA

BY: _____
Bill Partington, Mayor

ATTEST: _____
Joyce A. Shanahan, City Manager

DATED: _____, 2021.

Berry, Dunn, McNeil & Parker, LLC.

BY: _____
Name: _____
Title: _____

ATTEST: _____
Name: _____
Title: _____



June 4, 2020

Mr. Ned Huhta
IT Director
City of Ormond Beach
22 South Beach Street
Ormond Beach, FL 32174

Sent via email to: Ned.Huhta@ormondbeach.org

Dear Mr. Huhta:

Thank you for providing BerryDunn with the opportunity to submit information on how our consulting team may assist the City of Ormond Beach (City) with project oversight assistance during its upcoming Tyler Technologies (Tyler) EnerGov software system implementation. We value our existing relationship with the City, and appreciate the time you've taken to discuss your goals for this project with our team.

On the following pages, we have outlined how BerryDunn may continue to assist the City in the successful completion of this important project.

Our Relevant Experience

BerryDunn has extensive experience providing project management and project oversight services for community development system implementation project. Table 1 contains a summary of our current and past project management experience, and the clients served. As highlighted, roughly half of our project management experience has involved EnerGov implementations, enabling our team to come to the City's project with existing insight into EnerGov's functions.

Table 1: Sample Project Management Assistance Clients

Client	Service Provided	System Implemented
City of Tucson, Arizona <i>Population: 530,000</i>	Project Management Support	EnerGov Community Development
City of Frisco, Texas <i>Population: 188,000</i>	Project Oversight	Avolve ProjectDox
Outagamie County, Wisconsin <i>Population: 187,000</i>	Project Oversight	CityView Community Development
City of Grand Prairie, Texas <i>Population: 183,000</i>	Project Management	EnerGov Community Development
City of Sioux Falls, South Dakota <i>Population: 157,000</i>	Project Oversight	EnerGov Community Development

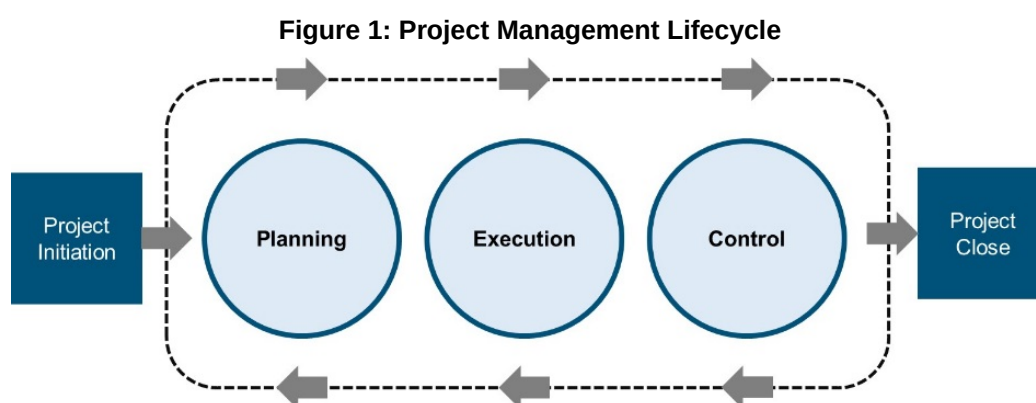
Client	Service Provided	System Implemented
City of Surprise, Arizona <i>Population: 126,000</i>	Project Management	EnerGov Community Development
City of Pearland, Texas <i>Population: 120,000</i>	Project Oversight	CentralSquare Community Development
City of Wilmington, North Carolina <i>Population: 118,000</i>	Project Management	EnerGov Community Development
City of College Station, Texas <i>Population: 114,000</i>	Project Management	CentralSquare Community Development
City of Allen, Texas <i>Population: 101,000</i>	Project Oversight	EnerGov Community Development
City of Boca Raton, Florida <i>Population: 100,000</i>	Project Management	EnerGov Community Development
City of Bismarck, North Dakota <i>Population: 65,000</i>	IV&V/Quality Assurance	CentralSquare Community Development
City of South Jordan, Utah <i>Population: 62,000</i>	Project Oversight	CityView Community Development
Village of Oak Park, Illinois <i>Population: 52,000</i>	Configuration Assistance	CityView Community Development
City of Manassas, Virginia <i>Population: 42,000</i>	Project Oversight	EnerGov Community Development
City of Puyallup, Washington <i>Population: 42,000</i>	Project Oversight	CityView Community Development
City of Farmers Branch, Texas <i>Population: 35,000</i>	Project Management	EnerGov Community Development
Pitkin County, Colorado <i>Population: 18,000</i>	Project Oversight	Sages Community Development

Overview of Our Proposed Approach

Our Methodology

Our Project Management Practices

To help ensure that project objectives are met, and initiation and completion of project work are conducted in a timely manner, each BerryDunn project is led by an experienced project manager who understands and utilizes project management best practices. Our Government Consulting Group employs project management best practices from the Project Management Institute's® (PMI's®) Project Management Body of Knowledge® (PMBOK®), Version 6. Our approach includes applying standard processes across the project-management life cycle, as shown in Figure1.



Our Approach to Change Management

Migrating from legacy systems to modern tools requires a significant change in how work will be performed. Stakeholders' willingness to adopt new processes and tools plays a significant role in the success—or failure—of the new systems. BerryDunn has observed resistance to change in virtually all of our systems planning, procurement, and implementation engagements, and we will work with the City to proactively address resistance to a new digital permitting system by:

- Engaging stakeholders at the right level throughout the project—from initial planning through post go-live—to build understanding for the need for change and gain support from the people who will be using the future systems, and who are most familiar with current processes
- Developing and executing a Communications Plan that considers the information needs of each stakeholder group
- Documenting as-is and to-be business processes, and working with stakeholders to understand how their work will be performed in the future environment
- Monitoring training activities to help ensure that users of the new systems will be prepared on Day 1

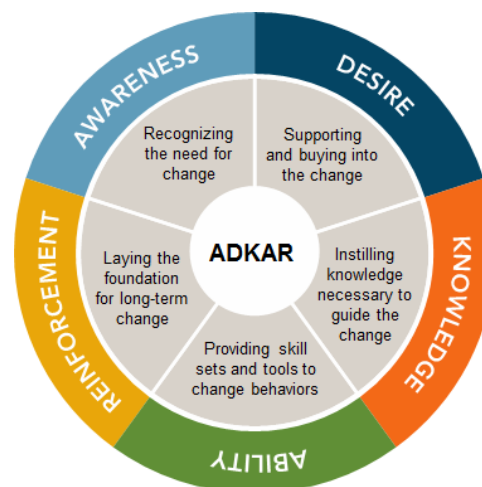
We have adopted the Prosci® change management methodology and trained **over 60 consultants to become Prosci® Certified Change Practitioners (CCPs)**—including our **proposed engagement manager, project manager, and procurement lead for the City’s initiative**. A central focus of the Prosci® change management approach is the belief that, in order for change to work in an organization, individuals must be willing to change and understand change. Based on this belief, Prosci® developed the ADKAR change management approach, defined in Figure 2.

Consistent with the Prosci® methodology, the City can expect our change management approach to involve three stages:

1. **Preparing for Change** begins with the development of a Change Management Plan, based on input from Town leadership and stakeholders about the existing environment.
2. **Managing Change** involves overseeing assigned roles and tasks, providing training and coaching, using tools effectively, and executing a clear Communications Plan.
3. **Reinforcing Change** involves evaluating action plans, reviewing the sustainability of change management activities, and promoting individual and team successes.

The City can be confident in our flexibility while developing and executing our change management approach. We understand that no two engagements are exactly alike, and believe that one of the primary reasons we have been successful with similar projects is our willingness to be flexible in adapting to our clients’ unique needs.

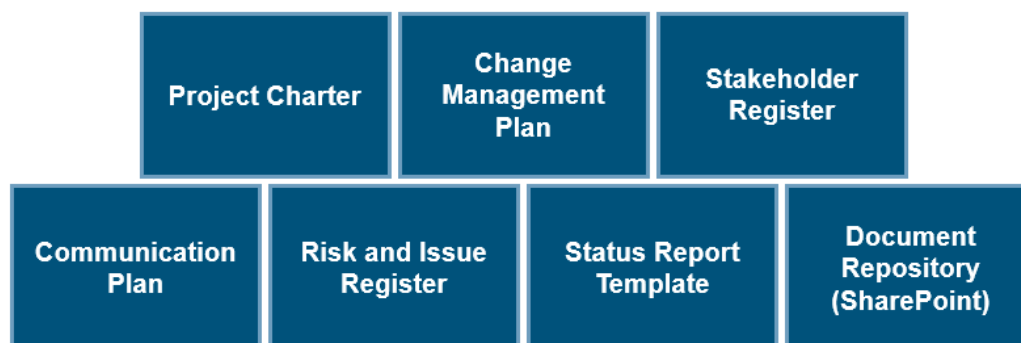
**Figure 2:
ADKAR Change
Management Approach**



Project Approach

Project Initiation

- 1. Develop Project Initiation Documents.** Based on our initial project planning discussions, we will draft a set of detailed Project Initiation Documents that encompass the full scope of the City's EnerGov implementation. These governance documents will include, but not be limited to, the following:



We will provide the City draft versions of the Project Initiation Documents, and then facilitate a work session with the City Project Management team to discuss the documents and collect feedback. We will then update the documents and submit them to the City in final version.

Deliverable: D1. Project Initiation Documents

- 2. Conduct Stakeholder Orientation Meetings.** Our team will facilitate a series of work sessions with key stakeholders and project groups, including the Project Sponsor, City Project Management Team, and all Functional Leads to clarify roles and responsibilities and prepare the respective stakeholder groups to be effective in their assigned roles. In our experience, this early orientation can have a lasting impact on the project, such that resources are ready and able to provide their input when needed.

Deliverable: D2. Stakeholder Group Orientation

Ongoing Project Management

BerryDunn will serve in the role of Project Manager on behalf of the City during the system implementation. The greatest benefit we can offer the City is our structured and proactive approach, which includes planning for upcoming tasks and mitigating risks and issues before they can impact a project's success. Our assumption is that City resources will participate in the testing, training, and data conversion activities and that the BerryDunn Project Manager will oversee these activities. BerryDunn will have overall leadership for the project including fulfilling the following roles:

- ✓ Act on behalf of the City to coordinate with the vendor

- ✓ Advocate for the City in all planning sessions with the vendor to assist with ensuring the City receives the best value for its investment
- ✓ Lead the resolution of issues, mitigation of risks, and removal of “road blocks” that may occur
- ✓ Maintain a clear status indication of the implementation progress and succinctly communicate this to City leadership and other key stakeholders

Because every system implementation project has its own challenges and goals, listing each and every task and activity we will complete in our Project Management role is challenging. Instead, we have summarized the key project management services and deliverables BerryDunn would provide in Table 2. We expect these activities to be shaped by City staff needs and goals as implementation progresses.

Table 2: BerryDunn Key Project Management Services

Service	Description
Project Management Activities	BerryDunn will maintain an active role in leading and managing the implementation for its duration. This will include, but not be limited to, the following tasks: ✓ Monitor progress against project plans ✓ Monitor vendor compliance with the negotiated contract ✓ Monitor the progress of key configuration, data conversion, interface development, and report development activities ✓ Review change orders initiated by either the City or Tyler ✓ Maintain progress documents related to project goals and objectives
Lead Weekly Project Team Meetings	BerryDunn will lead the weekly project management meetings with the City Project Team and participate in weekly vendor project management meetings.
Monthly Project Status Reports and Executive Team Updates	The Monthly Project Status Reports will describe the activities that BerryDunn staff performed during the previous reporting period, planned activities for the upcoming reporting period, risks and issues associated with the implementation, and recommendations for addressing these risks and issues. We will consider needed change management actions as part of these recommendations. Additionally, the Reports will outline the activities/mitigation techniques being employed by the City and Tyler to resolve previously identified risks and issues that are still being monitored by our team.

Service	Description
Vendor Deliverable Review	BerryDunn will provide a written assessment of Tyler deliverables, selected in cooperation with the City. These reports will include prioritized findings for the City to address with the implementation vendor prior to approving the deliverable. We have planned for provide up to four reviews.
Configuration and Analysis Support	BerryDunn will provide support in the City's configuration and design work sessions as planned with the City Project Manager. In each session, our consultants will contribute their public sector knowledge of business process optimization while leveraging our knowledge of the software and its capabilities.
User Acceptance Testing (UAT) Facilitation	BerryDunn will lead UAT for the City, including review of Tyler's test plan and scripts, on-site assessment of testing activities, and recommendations to increase the likelihood of success. In this role, BerryDunn will also assist in the review of test scripts, logistics related to scheduling UAT activities, and analysis of test results.
Management of Training Activities	BerryDunn will provide training oversight, including developing the training plan and training materials, conducting random spot checks of the training activities, providing recommendations for modifications to the training delivery, and providing feedback on training documentation. Additionally, we will lead the team assigned to the development of user manuals and identifying areas where additional user training is required.
Go-live Planning	BerryDunn will lead the City's go-live planning efforts, including, but not limited to reviewing Tyler's Cutover Plan based upon our experience and best practices, incorporating key activities into planned communications, and developing related checklists.
Project Closeout and Lessons Learned	Following each phase go-live, we will lead the Project Team through the process of formally closing the project, including contract reconciliation, management of any outstanding implementation items, recommending approaches to successfully transition to the support/operations phases, and facilitating a Lessons Learned meeting. This will authorize system acceptance for project closeout.

City Roles and Responsibilities

With BerryDunn serving in the role of Project Manager, our expectation for the City's involvement is as follows:

- Review and approve BerryDunn deliverables
- Participate in all EnerGov work sessions
- Collaborate with BerryDunn on the development and maintenance of the Project Work Plan, Schedule, Communication Plan, Budget, and Project Implementation Plan
- Collaborate with BerryDunn and Tyler in the identification of gaps between the functionality of the software and the City's desired future business processes
- Complete EnerGov process questionnaires during the Assess and Define stage
- Collaborate with BerryDunn in maintaining stakeholder communications, based on the previously agreed-upon Communication Plan
- Participate in all testing and quality assurance activities as directed by BerryDunn and the vendor
- Assist BerryDunn with coordinating City staff participation and resources for training activities

Project Cost Estimates

We have provided estimated fees for project management services in Table 3. The hourly estimates are based on BerryDunn's experience with similar projects. BerryDunn does not charge for time spent traveling, so these costs are reflective only of the time BerryDunn team members will be working on the City's project. At the City's request, the cost estimates below are based on an 18-month implementation and are not inclusive of expenses.

Table 3: Costs for Project Management (18 Months)

Services	Cost
Project Initiation – 30 hours - Project Initiation Documents - Stakeholder Group Orientation	\$5,400
Ongoing Project Management (average of 60 hours per month) – 1,080 hours - Project Management Activities - Lead Weekly Project Team Meetings - Monthly Status Reports and Executive Team Updates - Vendor Deliverable Review - Configuration Analysis and Support - UAT Facilitation - Management of Training Activities - Go-live Planning - Project Closeout and Lessons Learned	\$194,400
System Implementation Total (1,110 Hours)	\$199,800

In Table 4, we have provided a per-trip travel expense total to assist the City in planning for travel expenses. Expenses will be billed to the City on a monthly basis, as incurred.

Table 4: Travel Expense Estimates

Expense Category	Price	Units per Trip	Total
Airfare	\$400	1 ticket	\$400
Hotel (federal GSA rate)	\$110	4 nights	\$440
Rental car	\$65	5 days	\$325
Per diem (federal GSA rate)	\$56	5 days	\$280
Estimated cost per person, per on-site trip (assumes average of 4 days on-site)			\$1,445
Estimated total travel costs for Project Management (assumes 18 trips)			\$20,610

We will submit monthly progress invoices based on the actual hours expended that month. We will include the monthly progress amount in hours along with a tracker of the utilization rate versus planned and remaining hours. Actual expenses incurred in the month will also be included in each invoice.

In Closing

We appreciate the opportunity to continue our work with the City of Ormond Beach on its technology initiatives. We would be happy to discuss the above cost estimates or provide any additional details that would aid the City's planning process. Should you have any questions, please do not hesitate to contact me by telephone at 207-541-2379 or by email at kprice@berrydunn.com.

Sincerely,



Chad Snow, PMP®, CFE
Principal
207-541-2294
csnow@berrydunn.com



Kevin Price, MPP, PMP®, Prosci® CCP
Senior Manager
207-541-2379
kprice@berrydunn.com



CITY OF ORMOND BEACH

City Manager • 22 S. Beach Street • Ormond Beach • Florida • 32174 • (386) 676-3200 • Fax (386) 676-3384

CITY MANAGER MEMORANDUM

To: The Honorable Mayor Partington and City Commissioners

Through: Joyce A. Shanahan, City Manager

From: Shawn Finley, Public Works Director

Date: April 6, 2021

Subject: Invitation to Bid - SONC Gym Expansion

Commission Goal: N/A

Introduction

This disposition items provides public notice of the City's intent to issue an invitation to bid for the SONC Gym Expansion, Bid Number 2021-16.

Background

The construction of a new gymnasium at the South Ormond Neighborhood Center (SONC) was determined to be a priority by the Leisure Services Advisory Board at its meeting of November 13, 2019. The City Commission directed staff to move forward with this project at their November 19, 2019 meeting, with the intent of submitting a grant request to the Daytona Beach Racing and Recreational Facilities District (the "District") in time for its 2020 review meeting. At the January 28, 2020 meeting of the Daytona Beach Racing and Recreational Facilities District, the request for funding submitted by the City for the new gymnasium at the South Ormond Neighborhood Center was approved by the District. The District awarded the City a \$235,200 grant for this project.

At the February 2, 2020 City Commission meeting, staff was directed to proceed with the project; at this same meeting, the City's design consultant, Zev Cohen & Associates, was awarded a work authorization for engineering services. Zev Cohen has provided staff with a complete set of plans, approved through the planning department, along with bid specification documents.

Discussion

This project will provide additional indoor gymnasium facilities at the South Ormond Neighborhood Center allowing for the indoor play of activities including basketball, volleyball, and pickleball; this will allow the center to enhance programming to expand league and tournament play as well as additional time for open recreation play.

The SONC Gym Expansion project consists of:

1. Demolition and clearing of existing outdoor basketball court and nearby sidewalks. Includes removal or relocation of light poles surrounding the existing basketball court.
2. Protection of existing trees and facilities that are to remain.
3. Installation of a 7,500 square foot enclosed gymnasium.
4. Installation of associated infrastructure including water, sewer, and additional storm water facilities.
5. Relocation of existing A/C units.
6. Re-configuration and installation of new sidewalks.
7. Installation of landscaping and irrigation.
8. Site restoration as needed

This project will require temporary closure of some of the existing facilities at the South Ormond Neighborhood Center, most notably the tennis courts. All disturbed areas will be restored to pre-construction conditions.

Budget Impact

The total estimated cost for this project is \$780,000. The District awarded this project a \$235,200 grant. The remaining amount will be derived from General Fund Reserves.

Citizen Impact

Construction of a new gymnasium will primarily benefit the local groups that utilize these facilities as well as citizens who use it on a daily basis. The construction of this project will require temporary closure of some of the existing facilities.

Recommendation

The City intends to publicly advertise this project for competitive bidding; unless otherwise directed by the City Commission.

Attachments:

- SONC Gym Project Manual (PDF)
- SONC Gym Design Plans (PDF)

REVIEWED BY:


 Kelly McGuire, Finance Director 3/23/2021



Claire Whitley, Assistant City Manager 3/29/2021**APPROVED BY:**

Joyce A. Shanahan, City Manager 3/31/2021

South Ormond Neighborhood Center Gymnasium

Bid No. 2021-16



City of Ormond Beach Project Manual

PREPARED BY:

Zev Cohen & Associates, Inc.
300 Interchange Blvd., Ste C
Ormond Beach, Florida 32174

South Ormond Neighborhood Center Gymnasium
Ormond Beach, Florida

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South Ormond Neighborhood Center Gymnasium
Ormond Beach, Florida

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South Ormond Neighborhood Center Gymnasium
Ormond Beach, Florida

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South Ormond Neighborhood Center Gymnasium
Ormond Beach, Florida

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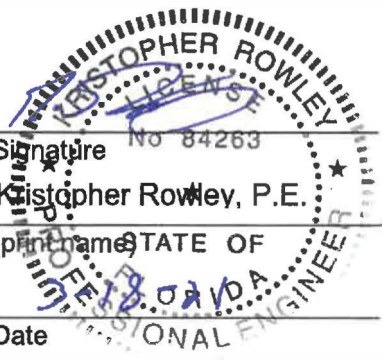
CIVIL ENGINEER CERTIFICATION

PROJECT NUMBER: Bid No. 2021-16

I 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. I also certify that I am a registered professional engineer in the State of Florida, in good standing, and that I have the necessary knowledge and experience that enables me to make this certification statement. Finally, I certify that the Drawings submitted with this Project Manual include all necessary notes and details to ensure that the Contractor can build the **South Ormond Neighborhood Center Gymnasium**, to these engineering specifications and that the City Building Inspector can verify the construction.

Civil Engineer
Divisions 2, 3, and 9

Professional Engineer's Seal:



Signature _____
 Christopher Rowley, P.E.
 (print name) STATE OF _____
 Date _____

Address:
 300 Interchange Blvd Ste C
 Ormond Beach, Florida 32174

Phone Number: 386-677-2482

END OF SECTION

CERTIFICATIONS PAGE

SECTION 00030
ADVERTISEMENT FOR BIDS

Sealed bids for furnishing all labor, materials and equipment necessary for constructing the South Ormond Neighborhood Center Gymnasium, **Bid No. 2021-16** for the City of Ormond Beach, Florida, will be received at the Office of the Purchasing Coordinator, City Hall, Ormond Beach, Florida, until **May 13th at 2PM**, 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: The construction of a gymnasium overtop the existing outdoor basketball court and associated infrastructure at the South Ormond Neighborhood Center. 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 April 27th at 2:00 PM, in the Training Room at City Hall. All prospective bidders are strongly encouraged to attend. The deadline for submitting questions is **May 6th** 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:

Zev Cohen & Associates – 300 Interchange Blvd., Ste C, Ormond Beach, Florida 32174

00102. Copies of Bidding Documents

2.1 The City uses the services of DemandStar (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) 676-3331
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

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.

15.4 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.

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: **South Ormond Neighborhood Center Gymnasium**

CONTRACT IDENTIFICATION AND NUMBER:

Bid No. 2021-16

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.)
South Ormond Neighborhood Center Gymnasium 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

<u>Item No.</u>	<u>Description</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Total Estimated Price</u>
1.	Site Demo & Site Preparation	1	LS	\$_____	\$_____
2.	Site Improvements	1	LS	\$_____	\$_____
3.	Site Utilities	1	LS	\$_____	\$_____
4.	Landscape and Irrigation	1	LS	\$_____	\$_____
5.	Architectural	1	LS	\$_____	\$_____
6.	Plumbing	1	LS	\$_____	\$_____
7.	HVAC	1	LS	\$_____	\$_____
8.	General Conditions	1	LS	\$_____	\$_____
9.	Photography	1	LS	\$_____	\$_____
TOTAL BID					\$_____
					(Figures)
					(Words)

BID (Cont'd.)
South Ormond Neighborhood Center Gymnasium
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 Three Hundred Dollars (\$300) 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

BID (Cont'd.)
South Ormond Neighborhood Center Gymnasium ORMOND
 BEACH, FLORIDA

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)

_____ (SEAL)
 (Individual's Name - Typed or Printed)

doing business as _____

Business address: _____

Phone No.: _____

Fax No.: _____

A Partnership

(General Partner - Signature)

Business Address: _____

Fax No.: _____

A Corporation

(State of Incorporation)

(Name of Person Authorized to Sign - Typed or Printed)

(Title)

(Corporate Seal)

Attest _____

Business address: _____

Phone No.: _____

Fax No.: _____

BID (Cont'd.)
South Ormond Neighborhood Center Gymnasium 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.)
South Ormond Neighborhood Center Gymnasium
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>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Subcontractors:

Work Classification: _____

Name: _____

Address: _____

Phone Number: _____ Fax Number: _____

BID (Cont'd.)
South Ormond Neighborhood Center Gymnasium 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.)
South Ormond Neighborhood Center Gymnasium
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 Quantity</u>	<u>Units</u>	<u>Unit Price</u>	<u>Total Estimated 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.)
South Ormond Neighborhood Center Gymnasium
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 , 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.)

**South Ormond Neighborhood Center Gymnasium 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.)
South Ormond Neighborhood Center Gymnasium
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.)
South Ormond Neighborhood Center Gymnasium
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.

VENDOR DO NOT COMPLETE BELOW

To be verified and completed by an authorized representative of the City of Ormond Beach's Purchasing Department:

Vendor Certified by: _____ Date: _____

BID (Cont'd.)
South Ormond Neighborhood Center Gymnasium 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

00300-15

**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 **South Ormond Neighborhood Center Gymnasium (Bid No. 2021-16)** 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 _____, 2021.

Article 1. WORK

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

This project includes the construction of the South Ormond Neighborhood center Gymnasium and associated infrastructure.

The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

**South Ormond Neighborhood Center Gymnasium
and 2021-16**

Article 2. ENGINEER

The Project has been designed by Zev Cohen & Associates 300 Interchange Boulevard, Suite C, Ormond Beach, Florida 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 **120** 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 **150** 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 Three Hundred Dollars (\$300) 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 15th 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 1 to 37 , 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 34 , inclusive).

7.6 Supplementary Conditions (pages 1 to 6 , inclusive).

7.7 Specifications bearing the title:

South Ormond Neighborhood Center Gymnasium

and consisting of 18 divisions, as listed in table of contents thereof.

7.8 Drawings, consisting of 37 sheets numbered 1 through 37 inclusive and bearing the following general title:

South Ormond Neighborhood Center Gymnasium

7.9 Addenda numbers ___ to ___, inclusive.

7.10 CONTRACTOR'S Bid (pages 1 to ___, 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 _____, 2021

OWNER City of Ormond Beach

CONTRACTOR _____

By _____

Bill Partington
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:

**South Ormond Neighborhood Center Gymnasium
Bid No. 2021-16**

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
 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

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:

**South Ormond Neighborhood Center Gymnasium
Bid No. 2021-16**

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 _____, 2021.

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.

Hold Harmless:

6.15. The OWNER, and its agents, employees, and officials, both elected and appointed, shall be **indemnified** and **held harmless** by CONTRACTOR from any and all claim(s) resulting in liabilities, damages, losses and costs, including but not limited to reasonable attorney's fees, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct in the performance of the construction Contract by the CONTRACTOR, including persons such as subcontractors employed or utilized by the Contractor, unless any such claim arises as a result of the OWNER's sole negligence, as determined by the final arbiter of such claim. Additionally, the OWNER expressly retains all rights, benefits, privileges and immunities provided to Municipalities by **Sovereign Immunity**.

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 the Hold Harmless paragraph. 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 execution 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 2010-125 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 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. 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 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.)

- a. Premises and 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 than the following amounts for all tiers of Contractors and Subcontractors:

<u>Contract Value</u>	<u>Limits (not less than)</u>
0 - \$25,000	\$300,000 Each Occurrence \$300,000 General Aggregate* \$300,000 Aggregate Products & Completed Operations \$25,000 Fire Damage (any one fire)
\$25,001 - \$250,000	\$500,000 Each Occurrence \$1 Million General Aggregate* \$1 Million Aggregate Products & Completed Operations \$50,000 Fire Damage (any one fire)

\$250,001 - \$3,000,000	\$1 Million Each Occurrence \$1 Million General Aggregate* \$1 Million Aggregate Products & Completed Operations \$50,000 Fire Damage (any one fire)
\$3,000,001 & over	20% of the Value of the Contract [Minimum \$1 Million Each Occurrence/\$2 Million General Aggregate]

* 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 for the operation, use, maintenance, loading or unloading of automobiles - ISO Symbol 1 (Any Auto) or alternatively a combination of Symbol 2 (Owned Autos), Symbol 8 (Hired Autos), and Symbol 9 (Non-Owned Autos).

<u>Contract Value</u>	<u>Limits (not less than)</u>
0 - \$25,000	\$300,000 Combined Single Limit
\$25,001 - \$250,000	\$500,000 Combined Single Limit
\$250,001 and over	\$1 Million Combined Single Limit

- (d) Excess Liability

For Contracts of \$250,000 or more, and 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 for occurrences insured in this Excess Policy not to exceed \$25,000 and a minimum limit of \$1 Million.

C. Requirements for Certificates of Insurance

- (a) 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.

- (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 immediately 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 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.

D. Policies of Insurance

- (a) Except as otherwise provided in this Agreement, 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.
- (b) For Workers' Compensation coverage only, self-insurance programs are acceptable with a minimum A- rated reinsurance carriers; written confirmation is required.
- (c) All policies of insurance or certificates thereof referred to in this Agreement shall be deposited with the City Clerk.
- (d) The City shall be named an Additional Insured on General Liability and Automobile Liability policies of insurance and certificates thereof.

END OF SECTION

LIEN WAIVER

The undersigned does hereby certify that through _____, 2021, 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 _____, 2021.

_____ 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 _____, 2021.

Notary Public in and for
said County and State

**SECTION 00850
SPECIAL CONDITIONS**

**PROVISIONS GOVERNING STATE OF FLORIDA
SALE AND USE TAX EXEMPTION FOR
CITY FURNISHED MATERIALS**

1. Sales and Use Taxes. The City is exempt from paying sales and use taxes on materials and equipment purchased for, and incorporated into the **South Ormond Neighborhood Center Gymnasium** (hereinafter the "Project"). The City shall make direct purchases of all materials and equipment purchased for, or to be incorporated into the Project, as identified in this Special Condition and agreed upon by the City in the form of a deductive change order. All direct purchases of materials and equipment shall be made by the City with funds specifically allocated for the construction of the Project. The standard Terms and Conditions applicable to this program are included as Attachment A to this section. Each supplier of materials or equipment to be provided under the Sales Tax Exemption shall be obligated to meet the requirements of the City of Ormond Beach Terms and Conditions and the Technical Specifications.
 - 1.1 The Contractor agrees to arrange for purchase of materials and other items subject to the State sales tax through Ormond Beach to save, where practicable, the payment of sales taxes. The Contractor will establish a procedure with the City for such purchases. In the event the City does not execute the appropriate documents submitted by the Contractor within fifteen (15) days after receipt of same, the Contractor may, in its sole discretion, order such materials irrespective of loss of cost savings. It is the intent of these provisions to implement the cost savings afforded by the sales tax exemption without delay of the Work and that the Contractor retain complete control of the Project Schedule. The Contractor shall not be entitled to a time extension in the event that delay is occasioned by the City's direct purchase of materials.
 - 1.2 The Contractor shall: (a) compile Contractor's and any Subcontractors' itemized requirement for materials and equipment, including quantities, unit costs, manufacturers' or vendors' catalogue or order numbers, delivery instructions, and other specific terms and information that is required to order the specific materials and equipment, and terms and conditions to be imposed on suppliers regarding delivery and submittal time requirements, and quantities thereof required by Contractor or Subcontractors in accordance with the applicable requirements of the Construction Contract, from time to time, during the construction of the Project, as materials and equipment need to be ordered for the Project, and submit such compilation to the City's Construction Services Project Manager: (b) prepare a written request for such materials and/or equipment: and (c) deliver any such request to the City's Construction Services Project Manager no less than thirty (30) days prior to the date the manufacturer or vendor of the materials or equipment, as the case may be, requires orders for such materials or equipment to be placed to assure delivery of such materials or equipment to the Site in accordance with the Project Schedule (the "Order Date"). The request shall identify the Order Date. Upon receipt of any such request the City's Construction Services Project Manager shall forward same to the City. The City shall issue a Purchase Order directly to the vendor of the materials or equipment, prior to the Order Date (a Purchase Order). The City shall include with any such Purchase Order, a copy of the

City's sales and use tax exemption certificate. The City shall make direct payment to the vendor from the City's account.

- 1.3 The Contractor, upon the delivery of any such materials or equipment, shall verify the conformity of such materials or equipment with the terms of the Purchase Order and the Contract Documents. If the Contractor determines that the materials and equipment are conforming, the City shall take title and possession of such material and equipment before such materials and equipment are incorporated into the Project. If the Contractor determines that the materials and equipment are non-conforming, the Contractor shall immediately notify the City in writing and the City shall reject such material and equipment.
- 1.4 To the extent that materials and equipment are purchased pursuant to the City's sales and use tax exemption, a deductive change order will be approved and the Contractor shall reduce the Contract Amount and the penal sum of its public construction bond by the total cost of the materials and equipment purchased directly by the City plus the corresponding applicable State Sales Tax and Volusia County Sales Surtax amount for each Purchase Order. Reconciliation of the Purchase Orders with the change order amount shall be performed at the end of each project phase. At project completion, should the total value of the materials and equipment purchased directly by the City be less than the deducted amount, then the City shall provide the appropriate refund to the Contractor.
- 1.5 The Contractor shall be fully responsible for all matters relating to the receipt of materials and equipment furnished by the City in accordance with this Special Condition, including, but not limited to, the responsibility for verifying correct quantities, verifying documents or orders in a timely manner, coordinating purchases, providing and obtaining all warranties and guarantees required by the Contract Documents, inspection and acceptance of the materials and equipment at the time of delivery, and loss or damage to materials and equipment following acceptance of items due to the negligence of such Contractor or any Subcontractors. The Contractor shall coordinate delivery schedules, sequence of delivery, loading orientation, and other arrangements normally required by such Contractor for the particular materials furnished. The Contractor shall provide or arrange for all services required for the unloading, handling and storage of such materials and equipment through installation.
- 1.6 The Contractor shall visually inspect all shipments from material and equipment vendors purchased directly by the City in accordance with this Special Condition (the "City Furnished Materials") and approve the vendors' invoices for materials or equipment delivered, as City Furnished Materials are furnished to the Site in accordance with this Special Condition. The Contractor shall assure that each delivery of City Furnished Materials is accomplished by documentation adequate to identify the Purchase Order against which the purchase is made. This documentation may consist of a delivery ticket and an invoice from the vendor conforming to the Purchase Order, together with such additional information as the City may require. The Contractor shall deliver to the City's Construction Services Project Manager all invoices for materials and equipment upon verification by such Contractor that the materials and equipment conform exactly to the Contract Documents and the Purchase Order. Upon receipt of any invoice for City Furnished Materials, the City's Construction Services Project Manager shall deliver such invoice to the City for payment directly to the vendor.

- 1.7 The Contractor shall inspect all City Furnished Materials to determine that such City Furnished Materials conform to the Contract Documents, including the Drawings and the Specifications, and to determine prior to incorporation into the Work whether any such City Furnished Materials are patently defective, and whether such City Furnished Materials are identical to the materials ordered and match the description of the bill of lading and the Purchase Order. If Contractor discovers defective or non-conforming City Furnished Materials upon such visual inspection, Contractor shall: (1) not recommend acceptance of such non-conforming materials and equipment, (b) not utilize such non-conforming or defective materials in the Work; (c) not allow Subcontractor to utilize such non-conforming or defective materials in the Work; and (d) promptly notify the City's Construction Services Project Manager, in writing, of the defective or non-conforming condition so that repair or replacement of those City Furnished Materials can occur without any undue delay or interruption to the Project. In the event that such Contractor fails to perform such inspection or otherwise incorporates into the Work such defective or non-conforming City Furnished Materials, the Contractor shall be responsible for the repair and replacement of defective or non-conforming materials, at its sole cost and expense.
- 1.8 The Contractor shall maintain records of all City Furnished Materials incorporated into the Work from the stock of City Furnished Materials. The Contractor shall account monthly to the City's Construction Services Project Manager and City for any City Furnished Materials delivered to the Site, indicating which City Furnished Materials have been incorporated into the Work.
- 1.9 The Contractor shall be responsible for obtaining and managing all warranties and guarantees for all City Furnished Materials. All repair, maintenance or damage-repair calls shall be forwarded by the City to the Contractor for resolution with the appropriate vendor, or Subcontractor.
- 1.10 After the City takes possession of the City Furnished Materials at the Site, possession of the City's Furnished Material shall immediately and automatically transfer to the Contractor without notice. The transfer of possession of City Furnished Materials from the City to the Contractor shall constitute a bailment for the mutual benefit of the City and such Contractor. The City shall be considered the bailor and such Contractor the bailee of the City Furnished Materials. City Furnished Materials shall be considered returned to the City for purposes of their bailment at such time as they are incorporated into the Project or consumed in the process of completing the Project.
- 1.11 The Contractor shall purchase and maintain builder's risk insurance, naming the City as an additional insured, sufficient to protect against loss of or damage to City Furnished Materials. Such insurance shall be in the amount stated elsewhere in the Contract and shall cover the full value of any City Furnished Materials between the time the City first takes title to and possession of any of such City Furnished Materials until final completion of the Work.
- 1.12 The City shall not be liable for any interruption or delay damages in the Project by virtue of ordering the City Furnished Materials, for any defects or other problems with the Project by virtue of ordering the City Furnished Materials, or for any extra costs resulting from any delay in the delivery of, or defects in, the City Furnished Materials.

- 1.13 The Contractor, on a monthly basis, shall review invoices submitted by all vendors of City Furnished Materials delivered to the Site during the prior month and either concur or object to the City's Issuance of payment to the vendors, based upon such contractor's records of materials delivered to the Site and whether any of the City Furnished Materials for which payment has not been made were either non-conforming or defective.
- 1.14 In order to arrange for the prompt payment to the vendor, the Contractor shall provide to the City's Construction Services Project Manager an approved invoice of the goods or materials within fifteen (15) days of receipt of said goods or materials. Upon receipt of the appropriate documentation, the City shall prepare a check payable to the vendor based upon the receipt of data provided. This check will be released, delivered and remitted directly to the vendor. The Contractor shall immediately obtain partial or final release of waivers as appropriate. The City shall not make any payment without the appropriate Contractor's concurrence and approval, which shall be delivered to the City by the City's Construction Services Project Manager. There shall be no retention on City Furnished Materials against either the vendor, the Contractor(s) or the Subcontractor(s).
- 1.15 The Contractor may, in its reasonable discretion, require certain material and equipment vendors to provide a supply bond in the amount of one-hundred percent (100%) of the Purchase Order price. The supply bond, if required, shall be issued by a qualified surety company authorized to do business in the State of Florida and acceptable to the City. If the supply bond is required, the costs thereof will be added to the amount of the Purchase Order. The Contractor shall verify that a vendor can furnish a supply bond. All bonds will name the City and the Contractor as additional obligees.
- 1.16 The Contractor is advised that the following list of equipment may be included under the sales and use tax exemption program for City Furnished Equipment. This list is provided to the Contractor for informational purposes only. The City reserves the right to revise the quantity of City Furnished Equipment by deleting equipment listed or including equipment not listed herein:

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Potential City Furnished Materials and Equipment

Equipment	Units	Specificati on Section	Number
Pre-Fabricated Steel Building	1		
Gymnasium Flooring	1		
Gymnasium Bleachers	1		
Air Conditioning Equipment	1		

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Attachment A**CITY OF ORMOND BEACH
TERMS AND CONDITIONS**

The following Terms and Conditions are applicable to this order entered into by and between City of Ormond Beach (referred to as Buyer) and Vendor (referred to as Seller).

ACCEPTANCE

Seller's acceptance of this order will be presumed unless Seller acknowledges exception, in writing, to Buyer within ten (10) calendar days after date of order.

ANTI-DISCRIMINATION

Sellers doing business with the City are prohibited from discriminating against any employee, applicant, or client because of race, color, religion, disability, sex, age, national origin, ancestry, marital status, or sexual orientation with regard to but not limited to the following employment practices, rates of pay or other compensation methods, and training selection.

ASSIGNMENTS

Any assignment of this order, performance of work hereunder, in whole or in part, or monies due or to become due hereunder, shall be void unless consented to by Buyer in writing and Buyer shall have no obligations to any assignee of Seller under any assignment not consented to in writing by Buyer.

DEFAULT

In the event of default by the Seller, Buyer may procure the articles or services covered by this order from other sources and hold the seller responsible for any excess costs occasioned thereby.

DELIVERIES

Deliveries are to be made during hours 7:00 a.m. to 3:00 p.m., Monday through Friday, excluding holidays, unless otherwise stipulated. Seller shall notify the Buyer of deliveries that require special handling and/or assistance for off-loading. Failure to notify the Buyer concerning this type of delivery will result in the billing to Seller of any add-on re-delivery, storage, or handling charges.

EXCUSABLE DELAYS

The Buyer may grant additional time for any delay or failure to perform hereunder if the delay will not adversely impact the best interest of the City and is due to causes beyond the control of the Seller. Such grant must be in writing and made part of the order.

F.O.B.

In those cases where prices stated are not F.O.B. Destination, Seller is required to prepay charges and list on invoices.

INDEMNIFICATION

To the extent authorized by law, Seller shall indemnify, save and hold harmless City of Ormond Beach, its employees and agents against any and all claims, damages, liability and court awards including costs, expenses and attorney fees incurred as a result of any act or omission by the Seller, or its employees, agents, subcontractors of assignees pursuant to the terms of this order.

INSPECTION

All Commodities delivered on this order are subject to inspection upon receipt by the Contractor and a representative of the City. All rejected commodities shall remain the property of the Seller and will be returned at the Seller's expense.

INVOICING

Seller must render original invoice to the Ormond Beach Engineering Department, 22 South Beach Street Ormond Beach, Florida 32174 or: P.O. Box 277 Ormond Beach, Florida 32175-0277.

LEGAL RESPONSIBILITY

By accepting this order, Seller understands and agrees that the items covered herein, or services to be rendered, shall be manufactured, sold or performed in compliance with applicable Federal, State, County and Local laws, ordinances, rules and regulations. Lack of knowledge by the Seller shall in no way be a cause for relief from responsibility.

LIABILITY-COPYRIGHT/PATENT/TRADEMARK

Seller shall save and hold harmless City of Ormond Beach, its employees and agents from liability for infringement of any United States patent, trademark or copyright trademark or copyright for or on account of the use of any product sold to Buyer or used in the performance of this order.

MODIFICATIONS

No modifications of this order shall be binding upon Buyer unless approved by an authorized representative of Buyer's Purchasing Office.

OCCUPATIONAL SAFETY AND HEALTH

Seller compliance required under Chapter 442, Florida Statutes, that any toxic substance delivered as a part of this order must be accompanied by a Material Safety Data Sheet (MSDS).

ORDER NUMBER

Order Number must appear on all invoices, packing slips, shipping notices, freight bills, and correspondence concerning this order.

PAYMENT CHANGES

Payments will be made only to the company and address as set forth on order unless the Seller has requested a change thereto on official company letterhead, signed by an authorized officer of the company.

PUBLICITY

No endorsement by the City of the product and/or service will be used by Seller in any way, manner or form in product literature or advertising.

QUANTITIES

Quantities specified in the order cannot be changed without Buyer approval. Goods shipped in excess of quantity designated may be returned at Seller's expense.

REPRESENTATIVES

All parties to this order agree that the representatives named herein are, in fact, bona fide and possess full and complete authority to bind said parties.

RESPONSIBILITY

Responsibility will not be accepted for any goods delivered or services performed unless covered by a duly authorized City of Ormond Beach order.

TAX

City of Ormond Beach is exempt from Federal and State taxes for tangible personal property. Sellers doing business with the City shall not be exempt from paying sales tax to their suppliers for materials to fulfill contractual obligations with the City, nor shall any Seller be authorized to use the City Tax Exemption Number in securing such materials.

TERMINATION

Buyer reserves the right to terminate this order in whole or in part for default (a) if Seller fails to perform in accordance with any of the requirements of this order or (b) if Seller becomes insolvent or suspends any of its operations or if any petition is filed of proceeding commenced by or against Seller under any State or Federal law relating to bankruptcy, arrangement, reorganization, receivership or assignment for the benefit of creditors. Any such termination will be without liability to Buyer except for completed items delivered and accepted by the City. Seller will be liable for excess cost of re-procurement.

TERMS

By accepting this order, the Seller agrees that payment terms shall be in accord with the Florida Prompt Payment Act, Florida Statute 218.70, *et seq.*

UNACCEPTABLE TERMS

No provision of Vendor's agreement to supply the ordered goods, equipment, or materials shall in any way limit Vendor's liability for damages caused by defects in the materials incorporated in, nor the design or manufacture of, Vendor's equipment, goods, or materials. Vendor's agreement shall not include any provision requiring City of Ormond Beach to pay Vendor's attorney's fees in any dispute or claim arising out of this purchase order.

UNIFORM COMMERCIAL CODE

The Uniform Commercial Code (Florida Statutes, Chapter 672) shall prevail as the basis for contractual obligations between the Seller and City for any terms and conditions not specifically stated in this order.

VENUE

Any and all legal actions arising from or necessary to enforce this contract will be held in Volusia County, and the service of process and interpretation of contractual obligation shall be in accordance with the laws of the State of Florida.

WARRANTY

Vendor acknowledges that the materials being ordered are for incorporation into a construction project being built by City of Ormond Beach pursuant to a contract with a construction contractor. Vendor agrees that it shall warrant its goods, equipment, or materials being ordered herein in compliance with Vendor's normal warranties, or in compliance with the warranty provisions of the construction contract, the terms of which are incorporated herein, whichever warranty provides the City with the greatest protection.

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 – Site Demolition & Site Preparation

Payment. Payment will be made at the contract lump sum price for the Bid Item and payment shall be full compensation for furnishing all plant, labor, materials, and equipment necessary to complete the item per the construction documents, complete, accepted by the City and ready for use.

Bid Item No. 2 – Site Improvements

Payment. Payment will be made at the contract lump sum price for the Bid Item and payment shall be full compensation for furnishing all plant, labor, materials, and equipment necessary to complete the item per the construction documents, complete, accepted by the City and ready for use.

Bid Item No. 3 – Site Utilities

Payment. Payment will be made at the contract lump sum price for the Bid Item and payment shall be full compensation for furnishing all plant, labor, materials, and equipment necessary to complete the item per the construction documents, complete, accepted by the City and ready for use.

Bid Item No. 4 – Landscape and Irrigation

Payment. Payment will be made at the contract lump sum price for the Bid Item and payment shall be full compensation for furnishing all plant, labor, materials, and equipment necessary to complete the item per the construction documents, complete, accepted by the City and ready for use.

Bid Item No. 5 – Architectural

Payment. Payment will be made at the contract lump sum price for the Bid Item and payment shall be full compensation for furnishing all plant, labor, materials, and equipment necessary to complete the item per the construction documents, complete, accepted by the City and ready for use.

Bid Item No. 6 – Plumbing

Payment. Payment will be made at the contract lump sum price for the Bid Item and payment shall be full compensation for furnishing all plant, labor, materials, and equipment necessary to complete the item per the construction documents, complete, accepted by the City and ready for use.

Bid Item No. 7 – HVAC

Payment. Payment will be made at the contract lump sum price for the Bid Item and payment shall be full compensation for furnishing all plant, labor, materials, and equipment necessary to complete the item per the construction documents, complete, accepted by the City and ready for use.

Bid Item No. 8 – Electrical

Payment. Payment will be made at the contract lump sum price for the Bid Item and payment shall be full compensation for furnishing all plant, labor, materials, and equipment necessary to complete the item per the construction documents, complete, accepted by the City and ready for use.

Bid Item No. 9 – General Conditions

Payment. Payment will be made at the contract lump sum price for the Bid Item and payment shall be full compensation for furnishing all plant, labor, materials, and equipment necessary to complete the item per the construction documents, complete, accepted by the City and ready for use.

Bid Item No. 10 – Photography

Payment. Payment will be made at the contract lump sum price for the Bid Item and payment shall be full compensation for furnishing all plant, labor, materials, and equipment necessary to complete the item per the construction documents, complete, accepted by the City and ready for use.

END OF SECTION

SECTION 01027
APPLICATIONS FOR PAYMENT

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 01050 FIELD ENGINEERING

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

The Contractor shall provide and pay for field engineering service required for the project. Such work shall include survey work to establish lines and levels and to locate and lay out site improvements, structures, and controlling lines and levels required for the construction of the work. Also included are such Engineering services as are specified or required to execute the Contractor's construction methods. Engineers and Surveyors shall be licensed professionals under the laws of the state where the project is located.

1.02 GRADES, LINES AND LEVELS

Existing basic horizontal and vertical control points for the project are those designated on the Drawings. The Contractor shall locate and protect control points prior to starting site work and shall preserve all permanent reference points prior to starting site work and shall preserve all permanent reference points during construction. In working near any permanent property corners or reference markers, the Contractor shall use care not to remove or disturb any such markers. In the event that markers must be removed or are disturbed due to the proximity of the construction work, the Contractor shall have them referenced and reset by a Land Surveyor qualified under the laws of the state of the project.

1.03 LAYOUT DATA

The Contractor shall lay out the work at the location and to the lines and grades shown on the Drawings. Survey notes indicating the information and measurements used in establishing locations and grades shall be kept and furnished with the record drawings for the project.

PART 2 - PRODUCTS

(Not Applicable)

PART 3 - EXECUTION

(Not Applicable)

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 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 rented from the City’s designated solid waste hauler. The solid waste hauler currently under contract with the City is:

Waste Pro of Florida, Inc.
925 South Clyde Morris Blvd.
Daytona Beach, FL 32114
Phone: (386) 788-8890

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 01650 DISINFECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

This section covers materials and methods of cleaning, disinfecting, sampling and obtaining approval for placing the different components of potable water systems in operation. Included is work necessary in order to obtain bacteriological clearances as required by law.

1.02 SUBMITTALS

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 two copies of laboratory test reports to ENGINEER.

1.03 QUALITY CONTROL

Laboratories used for bacteriological testing of samples shall be certified by the Florida Department of Environmental Protection (DEP) as acceptable to that agency.

Methods shall conform to the requirements of the Florida Department of Environmental Protection (DEP).

PART 2 - MATERIALS AND EQUIPMENT

2.01 MATERIALS FOR DISINFECTION

The disinfecting agent shall be liquid chlorine conforming to AWWA B301 or sodium hypochlorite or calcium hypochlorite conforming to the requirements of AWWA B300.

PART 3 - EXECUTION

3.01 DISINFECTION OF STORAGE TANKS

Elevated storage tanks shall be cleaned and disinfected upon completion of the repairs and painting work in accordance with the most recent version of AWWA Standard C652 "Disinfection of Water Storage Facilities".

Sampling and Testing. The CITY will perform sampling and bacterial testing. The tanks will not be considered completed in its entirety and approved until the results of the bacteriological tests are acceptable to Volusia County Health Department.

3.02 REDISINFECTION

Should the initial treatment not provided acceptable test results, the CONTRACTOR shall repeat the tank disinfection process at no additional cost to CITY until acceptable results are obtained.

3.03 DISPOSAL OF HEAVILY CHLORINATED WATER

Chlorinated water shall be disposed of in a manner that will not harm the environment.

Heavily chlorinated water must be neutralized in a separate vessel or pipe prior to being discharged.

One of the chemicals listed in AWWA C651 Appendix B, or C652 Appendix A, shall be used for neutralization.

END OF SECTION

SECTION 01660 PRESSURE TESTING

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

The CONTRACTOR shall be responsible for the pressure testing of all systems prior to placing them in service.

The pressure testing shall be as required to prove that the piping is left in proper condition for satisfactory operation under the conditions specified.

PART 2 - MATERIALS AND EQUIPMENT

(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. Notice shall be given prior to start of tests.

Field pressure and leakage tests shall be conducted on the following:

Force Mains. Mains shall be subjected to a leakage test. This test measures the amount of water required to be supplied to newly laid pipe to maintain a specific pressure after the pipe has been filled with water and the air expelled. The duration of this test shall be not less than two hours and the test pressure shall be 100 psig as measured at the end point in the line. The maximum allowable leakage shall not exceed the limits specified in AWWA C-600.

Water Mains. Mains shall be subjected to a leakage test. This test measures the amount of water required to be supplied to newly laid pipe to maintain a specific pressure after the pipe has been filled with water and the air expelled. The duration of this test shall be not less than two hours and the test pressure shall be 150 psig as measured at the end point in the line. The maximum allowable leakage shall not exceed the limits specified in AWWA C-600.

3.02 ENGINEER'S RIGHT TO RETESTING

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.

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 01670 OPERATING AND MAINTENANCE DATA

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"**.
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 01710 FINAL CLEANING

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

The CONTRACTOR shall execute cleaning, during progress of the work, and at the completion of the work, as required by General Conditions.

Cleaning and disposal operations shall comply with all applicable codes, ordinances, regulations, and anti-pollution laws.

Refer to Section 01500 - Temporary Facilities And Controls for additional requirements.

PART 2 - MATERIALS

The CONTRACTOR shall:

Use only those materials which will not create hazards to health or property and which will not damage surfaces.

Use only those cleaning materials and methods recommended by manufacturer of the surfaces to be cleaned.

Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 - EXECUTION

3.01 CLEANING DURING CONSTRUCTION

The CONTRACTOR shall:

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.

Provide on-site containers for the collection of waste materials, debris and rubbish. Rental of refuse/waste containers must fully comply with the requirements of Section 01500 - Temporary Facilities And Controls.

Remove waste materials, debris and rubbish from the site at least once a week and dispose of at legal disposal areas away from the site.

Prior to final completion, CONTRACTOR shall conduct an inspection of work areas, to verify that the entire work is clean.

3.02 FINAL CLEANING

The CONTRACTOR shall:

Employ skilled workmen for final cleaning.

Remove grease, mastic, adhesives, dust, dirt, stains, and other foreign materials from sight-exposed surfaces.

Broom clean exterior paved surface; rake clean other surfaces of the grounds.

Except as otherwise indicated or requested by the ENGINEER, remove temporary protection devices and facilities which were installed during the course of the work to protect previously completed work during the remainder of the construction project.

Prior to final completion, CONTRACTOR shall conduct an inspection of work areas, to verify that the entire work is clean.

Where extra materials of value remaining after completion of the associated work have become the OWNER's property, dispose or store at the site, as directed by the ENGINEER.

END OF SECTION

**SECTION 02010
SUBSURFACE INVESTIGATION**

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A soils investigation report has not been prepared for the site

1.02 QUALITY ASSURANCE

Bidders should visit the site and acquaint themselves with all existing conditions. Prior to bidding, bidders may make their own subsurface investigations to satisfy themselves as to site and subsurface conditions, but all such investigations shall be performed under time schedules and arrangements approved in advance by the Owner.

Soils Engineer will be retained by the Owner to observe performance of work in connection with excavating, trenching, filling, backfilling and grading.

PART 2 - MATERIALS AND EQUIPMENT

(Not Applicable)

PART 3 - EXECUTION

(Not Applicable)

**END OF SECTION
02010-1**

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 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 02140 DEWATERING

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Scope: In general, the work specified in this section of the specifications shall consist of supplying labor, materials, and plant, and performing all work necessary to lower and control the groundwater levels and hydrostatic pressures to permit all excavations and construction specified under this Contract to be performed in the dry.
- B. Examination of Site: The Contractor shall take all steps that he considers necessary to familiarize himself with the site conditions, the ground conditions and the groundwater conditions. It is expressly understood that neither the Owner nor the Engineer will be held responsible for any interpretations or conclusions drawn by the Contractor.

PART 2 - PRODUCT

2.01 METHOD AND EQUIPMENT

- A. The Contractor may use any dewatering method he deems feasible so long as it results in working in the dry and in stable soil conditions. It is the intent of these specifications that an adequate dewatering system be installed to lower and control the groundwater in order to permit excavation, construction of the structures, construction of pipelines, and the placement of the fill materials, all to be performed under dry conditions. The dewatering system shall be adequate to pre-drain the water-bearing strata above and below the bottom of the foundations, the drains, the sewers and all other excavations. An adequate weight of fill material shall be in place prior to discontinuing operation of dewatering to prevent buoyancy of the structure.

PART 3 - EXECUTION

3.01 GENERAL

- A. The Contractor shall be solely responsible for the arrangement, location and depths of the dewatering system necessary to accomplish the work described under this section of the specifications. The dewatering shall be accomplished in a manner that will reduce the hydrostatic head below any excavation to the extent that the water level and piezometric water levels in the construction area are below the prevailing excavation surface; will prevent the loss of fines, seepage, boils, quick conditions, or softening of the foundation strata; will maintain stability of the sides and bottom of the excavation; and will result in all construction operations being performed in the dry.

- B. Disposal of Water: The Contractor shall promptly dispose of all water removed from the excavations in such a manner as will not endanger public health, damage public or private property, or affect adversely any portion of the work under construction or completed by him or any other Contractor. Contractor shall obtain written permission from the Owner of any property involved before digging ditches or constructing water courses for the removal of water.
- C. Siltation and Erosion:
1. The Contractor shall take steps and make suitable provisions to minimize siltation and erosion which may result from, or as a result of, his operations during the course of construction of this project.
 2. The methods and provisions utilized by the Contractor to minimize siltation and erosion shall be approved by the Engineer and shall be in conformance with current Florida Department of Environmental Protection and St. Johns River Water Management District practices and regulations.
- D. Inadequate System: If the dewatering requirements are not satisfied due to inadequacy or failure of the dewatering system, then loosening of the foundation strata, or instability of the slopes, or damage to the foundations or structures may occur. The supply of all labor, materials, and plant, and the performance of all work necessary to carry out additional work for reinstatement of the structures of foundation soil resulting from such inadequacy or failure shall be undertaken by the Contractor to the approval of the Engineer, and at no additional expense to the Owner.

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 02441 UNDERGROUND SPRINKLER SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

The Contractor shall be responsible to design and install an automatic underground sprinkler system for the proposed Phase III of Central Park. The design shall be based on an irrigation flow of 60 gpm at 55 psi at the discharge end of the pump.

1.02 QUALITY ASSURANCE

Qualification of Installers:

Provide at least one person, acceptable to all parties involved on the job, who shall be present at all times during the execution of this portion of the work and who shall be thoroughly familiar with the type of materials being installed and the material manufacturer's recommended methods of installation, and who shall direct all work performed under this Section.

Manufacturing Qualifications:

Provide underground sprinkler system as a complete unit produced by a single acceptable manufacturer or supplier for all portions of work, including heads, valves, piping circuits, controls and appurtenances.

Available Manufacturers:

Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to the following:

Rain Bird Sprinkler Mfg. Corp.
Toro Company, Irrigation Division
Nelson Irrigation Corp.

1.03 SUBMITTALS

Product Data:

Submit manufacturer's technical data and installation instructions for entire underground sprinkler system including controllers.

Shop Drawings:

Submit shop drawings for complete landscape irrigation system including plan layout and details illustrating location, type and pattern of heads, valves, piping circuits, controls and accessories.

Successful bidder will be supplied with a base site plan of Phase III in order for him to design the irrigation plan. Once plan is accepted and installed, contractor will be required to revise drawing as necessary to produce an as-built.

1.04 PRODUCT HANDLING

Protection:

Protect all materials and work against injury from any cause. Provide and maintain all necessary safeguards for the protection of the public. The Contractor shall be held responsible for any damage or injury to person or property which may occur as a result of negligence in the execution of this work.

1.05 EXISTING CONDITIONS

Exercise care in digging and other work so as not to damage existing work including underground cables and pipes. Should such overhead or underground obstructions be encountered which interfere with this work, the Owner shall be consulted. The Contractor shall be responsible for the immediate repair of any damage caused by his work. This includes lawn areas.

Any pavement cut, broken or undermined during installation of the irrigation system shall be fully repaved with like base and wearing courses so that there is minimum visible indication of patching and repaving.

Any objectionable materials such as old concrete, bricks or other debris encountered during the installation operations shall be removed from and properly disposed of off the site.

The new irrigation system shall be tied into the existing irrigation system that is across the street in Phase II of Central Park on Hammock Lane. Mainline for new system to be tied into existing mainline in Phase II. (See irrigation plan for Central Park Phase II that is attached to these specifications).

1.06 GUARANTEE

The Contractor shall furnish warranties in writing certifying that the quality and workmanship of all materials and installation furnished is in accordance with these specifications and accordance with the original manufacturer's warranties. All equipment and installation shall be guaranteed against defects for a period of one year from the date that the system or any portion is completed and accepted. Any defects in materials or operation within that period shall be corrected immediately without expense to the Owner.

The manufacturer's warranties shall be extended to the Owner for what ever period remains after the duration of the Contractors one-year warranty.

PART 2 - PRODUCTS

2.01 PVC PIPE

2 ½-inch PVC pipe main line shall be Schedule 40.

PVC pipe under 2 ½-inch shall be PR-200 PSI polyvinyl chloride (PVC 1120) pipe conforming to ASTM-D2241, Type I, NSF approved.

PVC fittings shall be Schedule 40, conforming to ASTM-D2466, Type 1, NSF approved.

Sleeves or crossings under paved areas for electrical and water lines shall be Schedule 40 PVC pipe conforming to ASTM-D1785.

Pipe for directional bore under Hammock Lane to use 4" HDPE pipe.

2.02 CONTROLLER

Sprinkler controllers shall provide for completely automatic operations of the sprinkler system. One (1) controller shall be furnished and installed. The existing controller in the Phase II pump-house can be either changed out to a model that has a station capacity equal or greater than the demand for both Phase II & III (contractor may keep existing controller) or add another of the same type that is programmed such that watering times will not overlap. The existing controller is a Rainbird 1260 with 9 stations already being used. Any controller different from this shall be approved by the City prior to installation to determine its conformity to the specifications herein.

The controller details shall be shown on the shop drawing submittal.

Each station shall have an independent time control with time setting up to 60 minutes maximum per station. Minor timing adjustments shall be made from the face of the controller with no disassembly necessary. The controller shall provide for rapid advance between stations. Stations may be omitted with time settings of 60 minutes programmed on them. The controller shall provide for manual operation when particular stations require special irrigation. Also, manual activation of the entire program may be achieved for semi-automatic operation. The controller shall provide for schedules up to 14 days and permit multi-cycle operation as often as every hour.

There shall be fused circuit protection to prevent damage due to excessive voltage surges.

The entire cabinet shall be of weatherproof construction. All controller components shall be mounted in the face of the panel for easy removal. Operation instructions shall be printed on the inside face of the controller door for easy access when programming. A section location chart shall also be placed inside cabinet door.

2.03 PVC CONNECTIONS

South Ormond Neighborhood Center
Gymnasium

These connections shall be achieved by means of 2' length of poly pipe connected to heads and fittings with heavy duty plastic barbed ells. Type and locations shall be shown on the submittal.

2.04 SPRINKLERS

Sprinkler heads shall be located on the submittal and shall adequately cover the areas that are to be irrigated as delineated on the plans. Head to head coverage with 100% overlap will be required.

Full and/or Part Circle Sprinklers shall be gear driven rotary design for control of line drainage. The sprinkler shall be mounted at the final finished grade. The sprinkler shall be capable of a range of from 20' - 52' at an optimum pressure range from 35 - 60 psi. The range of flow shall be from .8 - 9.75 GPM. Radius reduction shall be adjustable by up to 25% by means of a radius adjustment screw accessible from the cap when the sprinkler is properly installed.

The heads shall also meet the following specifications: Stainless steel riser sleeve, basket filter screen, wiper deal, Cicolac body and interchangeable nozzles for matched precipitation, 3" pop-up nozzle, 3/4" NPT female thread inlet (bottom & side), high pop heads required where heads are located in shrubbery bed areas and shall extend 10.5" above head when activated. Mount head on appropriately sized schedule 80 PVC riser if pop-up will not clear vegetation when nozzle is fully extended, support riser for stability with a number four rebar driven in ground next to riser and attached by means of nylon ties. These heads shall be Model Series S-700C or equal, as manufactured by the Toro Company, Irrigation Division, Riverside, California (909) 688-9221.

All trees planted shall have a flood bubbler installed at its base with a minimum of 4' of poly pipe. Poly pipe to be buried with only the bubbler above grade. Bubblers to be Model Number 514-20 or equal as manufactured by the Toro Company, Irrigation Division, Riverside, California (909) 688-9221.

Spray heads shall have multiple stream pattern selections with radius reductions up to 50%. Optimum operating pressure shall be 20-50 psi with a maximum pressure of 75 psi. Flow rates shall be from .05-4.58 GPM. Inlet shall be 1/2" NPT female threaded. Other features include ratcheting riser feature for easy arc adjustment, Cicolac construction, stainless steel retraction spring, maximum radius of 16', and side inlet on 12" high pop bodies. Twelve inch high pop heads to be used where heads are in shrubbery beds. Mount head on appropriately sized schedule 80 PVC riser if pop-up will not clear vegetation when nozzle is fully extended. These heads shall be Model Series 570Z or equal as manufactured by the Toro Company, Irrigation Division, Riverside, California (909) 688-9221.

2.05 CONTROL VALVES

Valves shall be located on the submittal.

The valve shall be of a globe/angle configuration with a stainless steel diaphragm differential spring for smooth positive closing. The diaphragm shall be of rubber construction to retain flexibility and provide maximum sealing throughout its area. Valve shall have a manual flow control and have a flow range from 25.0 - 120.0 GPM.

The 1½-inch diameter valve shall be Model 252-21-06 as manufactured by the Toro Company, Irrigation Division, Riverside, California or equivalent.

2.06 QUICK-COUPLING VALVES

Locate quick coupling valves so that a minimum of one valve is no more than 200' from all tree and shrub plantings and within 200' of the out limits of all areas designated to be hydroseeded.

The quick coupling valves shall be Model No. 474-21 with quick coupler key Model No. 464-02 as manufactured by the Toro Company, Irrigation Division, Riverside, California or equivalent. The Valves shall be installed in a 6 inch diameter plastic valve box as manufactured by Ametek or equal.

2.07 GATE VALVE

A single gate valve shall be located on the right-of-way line on the south side of Hammock Lane where the 2½" main line exits the sleeve under the road.

Gate valve shall be 2½ inch brass Model Number GV21/2FS as manufactured by B & K Industries, Woodale, Ill., or equal.

2.08 VALVE BOXES

Valve boxes shall be constructed from durable high impact, non-corroding material. Box shall be set so as access cover is 1/2-inch above finished grade. Ametek, "Superflexon" or equivalent.

2.09 DIRECTIONAL BORE

Install a 4" HDPE pipe under Hammock Lane to serve as a sleeve for the 2½" Schedule 40 PVC mainline and all the necessary control wires for the Phase III system. Sleeve should be perpendicular to the roadway and be a minimum of 3' deep. Contractor to extend pipe 2' farther than edge of pavement on both sides and mark with a stainless steel nail and washer to mark the location of the pipe at both edges of pavement. Any disturbed areas in Central Park Phase II shall be sodded with Argentine Bahia sod.

Currently the Owner is in the process of verifying if a sleeve already exists across Hammock Lane which could be used for the irrigation pipe crossing. A deductive alternate item for the cost associated with this work has been added in the Bid, in the event the Owner can locate the existing sleeve to use for this purpose.

2.10 SPARE PARTS

Extra stock shall be provided in addition to the installed system providing the Owner with the following:

South Ormond Neighborhood Center
Gymnasium

Two sprinkler heads of each size and type.
 Two valve keys for operating valves.
 Two wrenches for each type of head.
 Two wrenches for removing and installing each head type.

PART 3 - EXECUTION

3.01 PREPARATION

Examine the area and conditions under which the landscape irrigation is to be installed and notify the Owner in writing of conditions detrimental to the proper and timely completion of the project.

Sprinkler head locations shall be staked out prior to installation. Should any location adjustments be required, the Owner shall be consulted for approval.

Only the areas indicated on the plan shall be irrigated. The entire park will not be irrigated.

3.02 INSTALLATION/APPLICATION/PERFORMANCE

Trenches for pipes shall be excavated to sufficient depth and width to permit proper handling and installation of pipe and fittings. Trenches shall be trimmed to a uniform bed free from rocks, clods or other sharp edged objects. A radius of 4-inches from the pipe shall be clean soil or sand free from rocks, large stones or other suitable material. All pipes shall be firmly supported by compacted soil or sand.

Where practical, pipe shall be assembled and welded on the surface and when lowered into trench shall be snaked from side to side of trench bottom to allow for expansion and contraction.

Plastic pipe and fittings shall be solvent welded using solvents and methods as recommended by the manufacturer of the pipe and meeting ASTM standards. Pipe and fittings shall be thoroughly cleaned of dirt, dust and moisture before applying solvent with a non-synthetic bristle-brush.

Pipe openings shall be plugged during construction to prevent entrance of foreign materials.

The 2½-inch main line shall be buried to depth as to have a minimum cover of 24-inches. All other piping shall have a minimum cover of 12-inches.

Connections between plastic pipe and metal valves or steel pipe shall be made with screw fittings using plastic type adapters and non-hardening pipe dope applied to male thread. Make-up with light wrench pressure. Steel pipe shall not be screwed into plastic fittings.

Pipe or wiring under paving shall be placed in separate Schedule 40 PVC sleeves and conduit respectively for the full pavement covered length. Burial depth of sleeves shall be the same as that required for the pipes or wires contained within. (Except the 2½" main line under Hammock Lane, which shall be 3' deep)

Pipe and valve location may be adjusted to facilitate construction and minimize cost in so much that design intent of computation criteria is not affected. All adjustments shall be coordinated with the Owner and shall be recorded on "As-Built Drawings" and submitted to the Owner.

Wiring from the irrigation controller to any remote control valves in the field shall be furnished and installed in the same trench as the main line. Tape wiring to bottom of main line to prevent damage. Where wiring goes from main line to existing pump house building, run wiring in an appropriately sized PVC sleeve, if it is not in same trench as main line.

Heads shall be set at locations shown on the submittal to ensure adequate and even coverage. Adjust radius and arc of all heads to realize maximum pattern of effectiveness with minimum wastage of water on non-irrigated areas.

Sprinklers installed in the vicinity of buildings or signs shall be adjusted to prevent water from hitting these elements. All sprinklers shall also be adjusted to minimize over-spray onto paved street, tennis court, basketball court and shelter.

A typewritten legend enclosed in a transparent protector shall be securely attached inside the controller door stating the areas covered by each remote control valve or zone and the minutes each valve or zone is run.

Trenches that are opened during any particular working day shall be closed and backfilled the same day or shall be adequately barricaded and marked to ensure protection and safety. Backfill shall be thoroughly compacted and evened off with adjacent soil level. Perform all necessary excavations, backfilling and compaction required for complete installation of the system. Compaction shall be made to the original density of the material. Finish grade shall be re-established to the satisfaction of the Owner where any excavations are made. This also applies to sod which may be cut.

3.03 CLEAN-UP

During the course of installation, excess and waste materials shall be continuously and promptly removed, areas kept clean. Reasonable precautions shall be taken to avoid damage to existing structures, plants, and grass. When installation in an area has been completed, that area shall be thoroughly cleaned-up and all debris, rubbish and waste materials removed from the property.

3.04 TESTS

After all welded joints have been cured at least 24 hours, flush out lines and hydrostatically test irrigation main at a pressure of 150 psi in the presence of the Owner. Pressure shall be maintained on pipe for not less than one hour. Should any leaks be found, the main shall be repaired and the line retested until satisfactory. All lateral lines downstream from the remote control valve shall visually inspected for leaks. Should any be found, it shall be repaired. The line shall then be retested until satisfactory.

When the sprinkler system is completed the contractor, in the presence of the Owner, shall perform a coverage test to determine if the covering of areas is complete and adequate.

3.05 MAINTENANCE BEFORE ACCEPTANCE

Provide maintenance for the entire system until final acceptance. Maintenance responsibility shall include full operation and maintenance of the irrigation system at no additional expense to the Owner.

Provide sufficient full time personnel who are fully trained in irrigation operation and maintenance procedures.

Operation and maintenance shall include but not be limited to the following:

Cleaning all equipment, valves, spray heads pipe.

Make repairs necessary for proper operation and functioning of the system.

Maintain all spray heads to assure proper emission of designated water quantities.

Replace all broken or malfunctioning equipment with new equipment.

Train the Owner's maintenance personnel in complete operation and proper maintenance procedure for all equipment.

3.06 FINAL INSPECTION

Upon completion of all irrigation installation (or a specific phase), an inspection for acceptance of work will be held. The Contractor shall notify the Owner for scheduling of the inspection five working days prior to the anticipated inspection date. The Owner will establish the time and date of inspection and notify all concerned parties to be present.

At the time of inspection, demonstrate the entire system proving that remote control valves are properly balanced, that heads are properly adjusted for radius and arc coverage, that the system is workable, clean and efficient. This shall be a requirement for acceptance of the work. If the materials and workmanship are wholly or substantially acceptable, a written notice will be given by the Owner to the contractor within three working days after final inspection, stating that final acceptance has been given and that guarantee period of one year began on the date of final acceptance.

END OF SECTION

SECTION 02605 PRECAST CONCRETE MANHOLES AND STRUCTURES

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials and equipment required and install precast concrete stormwater manholes, stormwater structures, frames and covers, access hatches, manhole rungs, ladders and appurtenances as shown on the Drawings and as specified herein.

1.02 RELATED WORK

- A. Excavation and backfill is included in Section 02220 and 02222.
- B. Drainage structures and piping are included in Section 02720.

1.03 SUBMITTALS

- A. Submit to the ENGINEER, in accordance with Section 01300, shop drawings, product data, materials of construction, and details of installation. Submittals shall include at least the following:
 - 1. Base sections, riser sections, eccentric and concentric conical top sections, flat slab tops, grade rings with notarized certificate indicating compliance with ASTM C478.
 - 2. Pipe connection to manhole.
 - 3. Manhole rungs, including method of installation and notarized certificate indicating compliance with pull-out resistance test specified herein.
 - 4. Manhole frame and cover with notarized certificate indicating compliance with ASTM A48, Class 30.
 - 5. Method of repair for minor damage to precast concrete sections.
 - 6. Building brick with notarized certificate indicating compliance with ASTM C62.
- B. Samples
- C. Design Data
 - 1. Precast concrete structures:
 - a. Six copies of sectional plan(s) and elevations showing dimensions and reinforcing-steel placement.
 - b. Six copies of structural calculations including assumptions.

- c. Six copies of concrete design mix.

D. Test Reports

- 1. Precast concrete structures:

- a. Six copies of concrete test cylinder reports from an approved testing laboratory certifying conformance with this Section.

E. Certificates

F. Manufacturers Installation (or Application) Instructions

G. Statement of Qualifications

H. Manufacturer's Field Report

I. Project Record Documents

J. Operation and Maintenance Data

K. Warranties

1.04 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)

- 1. ASTM A48 - Standard Specification for Gray Iron Castings.
- 2. ASTM A615 - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
- 3. ASTM C32 - Standard Specification for Sewer and Manhole Brick (Made from Clay or Shale).
- 4. ASTM C33 - Standard Specification for Concrete Aggregates.
- 5. ASTM C62 - Standard Specification for Building Brick (Solid Masonry Units Made from Clay or Shale)
- 6. ASTM C 150 - Standard Specification for Portland Cement
- 7. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes
- 8. ASTM C443 - Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets
- 9. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections

10. ASTM D4101 - Standard Specification for Propylene Plastic Injection and Extrusion Materials.

B. American Concrete Institute (ACI)

1. ACI 318 - Building Code Requirements for Reinforced Concrete
2. ACI 350R - Environmental Engineering Concrete Structures

C. American Association of State Highway and Transportation Officials (AASHTO)

1. Standard Specifications for Highway Bridges

D. Occupational Safety and Health Administration (OSHA)

E. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.05 QUALITY ASSURANCE

A. All material shall be new and unused.

B. Materials' quality, manufacturing process and finished sections are subject to inspection and approval by ENGINEER or other OWNER representative. Inspection may be made at place of manufacture, at work site following delivery, or both.

C. Materials will be examined for compliance with ASTM standards, this Section and approved manufacturer's drawings. Additional inspection criteria shall include: appearance, dimensions(s), blisters, cracks and soundness.

D. Materials shall be rejected for failure to meet any requirements specified herein. Rejection may occur at place of manufacture, at work site, or following installation. Mark for identification rejected materials and remove from work site immediately. Rejected materials shall be replaced at no cost to OWNER.

E. Repair minor damage to precast concrete sections by approved method, if repair is authorized by ENGINEER.

PART 2 PRODUCTS

2.01 GENERAL

A. Reference to a manufacturer's name and model or catalog number is for the purpose of establishing the standard of quality and general configuration desired.

B. Like items of materials/equipment shall be the end products of one manufacturer in order to provide standardization for appearance, operation, maintenance, spare parts and

manufacturer's service.

- C. Provide lifting lugs or holes in each precast section for proper handling.

2.02 PRECAST CONCRETE MANHOLE SECTIONS

- A. Precast concrete base sections, riser sections, transition top sections, flat slab tops and grade rings shall conform to ASTM C478 and shall be in accordance with FDOT standards.
 - 1. Top section shall be eccentric cone where cover over pipe exceeds 4-ft. Top section shall be a flat slab where cover over top of pipe is 4-ft or less. Top section shall be a plastic lined flat slab where manhole riser sections are to be plastic lined.
 - 2. Base, riser and transition top sections shall have tongue and groove joints.
 - 3. Sections shall be cured by an approved method.
 - 4. Precast concrete sections shall be shipped after concrete has attained 3000 psi compressive strength.
 - 5. Design precast concrete base, riser, transition top, flat slab top and grade ring for a minimum H-20 loading plus earth load. Calculate earth load with a unit weight of 130 pcf.
 - 6. Mark date of manufacture, name and trademark of manufacturer on the inside of each precast section.
 - 7. Construct and install precast concrete base as shown on the Drawings and specified in FDOT standards.
 - 8. Provide integrally cast knock-out panels in precast concrete manhole sections at locations, and with sizes shown on Drawings. Knock-out panels shall have no steel reinforcing.

2.03 PRECAST CONCRETE STRUCTURES

- A. Refer to FDOT Standards for inside dimensions, headroom requirements and minimum thickness of concrete.
- B. Manufacturer shall notify ENGINEER at least 5 working days prior to placing concrete during manufacturing process. ENGINEER may inspect reinforcing steel placement prior to placing concrete.
- C. Structural design calculations and Drawings shall be prepared and stamped by a professional engineer registered in Florida.
- D. Design Criteria
 - 1. Precast concrete

- a. Minimum compressive strength shall be 5,000 psi at 28 days.
 - b. Maximum water-to-cement ratio shall be 0.40 by weight.
 - c. Minimum cement content shall be 600 lbs of cement per cubic yard of concrete.
2. Manufactured products
- a. Conform to ACI 318 and ACI 350R.
 - b. Analyze walls and slabs using accepted engineering principals.
 - c. When "fy" exceeds 40,000 psi, "z" (ACI 318) shall not exceed 95,000 psi. "fs" shall not exceed 50 percent of "fy".
 - d. Design products to support their own weight, weight of soil at 120 pcf, and a live load equal to AASHTO HS-20 applied to top slab.
 - e. Cast base slab and walls together to form a monolithic base section.
 - f. Design structure walls for a water pressure of 90 psf. Originate pressure diagram at finished ground surface. Include lateral pressure from vehicles in accordance with AASHTO.
 - g. Consider discontinuities in structure produced by openings and joints. Provide additional reinforcing around openings. Frame openings to carry full design loads to support walls.
 - h. Prevent flotation, with ground water level at finished ground surface, by dead weight of structure and soil load above structure. Do not consider skin friction, soil friction, or weight of equipment in structure.
 - i. Locate horizontal wall joints 18-in minimum from horizontal centerline of wall openings.
 - j. Design structure with a minimum number of joints. Maximum number of structure sections, including top slab, shall be four.
 - k. Provide lifting hooks for top slab.
 - 1. Locate access openings, wall sleeves and pipe penetrations as shown on Drawings.
 - m. Wall sleeves shall be provided by the precast concrete manufacturer.

2.04 BRICK MASONRY

- A. Bricks shall be sound, hard, uniformly burned, regular and uniform in shape and size. Underburned or salmon brick shall not be acceptable. Only whole brick shall be used.
 - 1. Bricks for channels and shelves shall conform to ASTM C32, Grade SS except that the mean of five tests for absorption shall not exceed 8 percent and no individual brick exceed 11 percent.
 - 2. Bricks for raising manhole frames to finished grade shall conform to ASTM C62.
- B. Mortar shall be composed of 1 part portland cement, 2 parts sand, and hydrated lime not to exceed 10-lbs to each bag of cement. Portland cement shall be ASTM C150, Type II; hydrated lime shall conform to ASTM C207.
- C. Sand shall be washed, cleaned, screened, well graded with all particles passing a No.4 sieve and conform to ASTM C33.

2.05 JOINTING PRECAST MANHOLE SECTIONS AND STRUCTURES

- A. Seal tongue and groove joints of precast manhole and structure sections with either rubber O-ring gasket or preformed flexible joint sealant. O-ring gasket shall conform to ASTM C443. Preformed flexible joint sealant shall be Kent Seal No.2 by Hamilton-Kent; Ram-Nek by K. T. Snyder Company or equal.
- B. Completed joint shall withstand 15 psi internal water pressure without leakage or displacement of gasket or sealant.

2.06 PIPE CONNECTIONS TO MANHOLE

- A. Connect pipe to manhole in the following ways:
 - 1. Grout in place - Precast manhole section shall have a formed, tapered circular opening larger than the pipe outside diameter. Grout shall be non-shrink and waterproof equal to Hallemite, Waterplug or Embeco. Plastic pipe shall have a waterstop gasket secured to pipe with a stainless steel clamp.
 - 2. Flexible sleeve - Integrally cast sleeve in precast manhole section or install sleeve in a formed or cored opening. Fasten pipe in sleeve with stainless steel clamp(s). Coat stainless steel clamp(s) with bituminous material to protect from corrosion. Flexible sleeve shall be Lock Joint Flexible Manhole Sleeve; Kor-N-Seal connector; PSX Press-Seal Gasket or equal.
 - 3. Compression gasket - Integrally cast compression gasket in precast manhole section. Insert pipe into compression gasket. Compression gasket shall be A-Lok or equal.

2.07 DAMPPROOFING

- A. Dampproofing shall be Hydrocide 648 by Sonneborn Building Products; Dehydratine 4 by A. C. Horn Inc; RIW Marine Liquid by Toch Brothers or equal.

PART 3 EXECUTION

3.01 INSTALLATION

A. Manhole and Structure Installation.

1. Manhole and structure shall be constructed to the dimensions shown on the Drawings and as specified in FDOT standards. Protect all work against flooding and flotation. Construct cast-in-place bases in accordance with the requirements of Division 3 and the details shown on the Drawings.
2. Place manhole base on a bed of 12-in screened gravel as shown on the Drawings. Set manhole base grade so that a maximum grade adjustment of 8-in is required to bring the manhole frame and cover to final grade.
 - a. Use precast concrete grade rings or brick and non-shrink mortar to adjust manhole frame and cover to final grade.
3. Set precast concrete barrel sections and structures plumb with a 1/4-in maximum out of plumb tolerance allowed. Seal joints of precast barrel sections with either a rubber O-ring set in a recess or preformed flexible joint sealant in sufficient quantity to fill 75 percent of the joint cavity. Fill the outside and inside joint with non-shrink mortar and finished flush with the adjoining surfaces. Caulk the inside of any leaking barrel section joint with lead wool or non-shrink grout to the satisfaction of the ENGINEER.
4. Allow joints to set for 14 hours before backfilling unless a shorter period is specifically approved by the ENGINEER.
5. Plug holes in the concrete barrel sections required for handling with a non-shrinking grout or non-shrinking grout in combination with concrete plugs. Finish flush on the inside.
6. Cut holes in precast sections to accommodate pipes prior to setting manhole sections in place to prevent jarring which may loosen the mortar joints.
7. Backfill carefully and evenly around manhole sections.

B. Manhole Pipe Connections

1. Construct manhole pipe connections, including pipe stubs, as specified above. Close or seal pipe stubs for future connections with a gasketed watertight plug.

C. Manhole Rung Installation

1. Aluminum Manhole Rungs

- a. Grout aluminum manhole rungs into precast sections, on 12-in centers. Preform holes in riser and cone sections for rungs during casting. Holes for rungs shall be 1-1/8-inch in diameter and a minimum of 3-1/2-in deep.
- b. Grout rungs into precast sections immediately after casting and placing in the curing area, or immediately after coring holes for manhole rungs into base section. Fill holes with grout consisting of Portland Type II cement and mortar sand in a 1 to 1/2 ratio mixed to a putty consistency.
- c. Paint those parts of the rungs which are embedded with a heavy coating of zinc chromate or other approved paint.

2. Steel Reinforced Polypropylene Plastic Manhole Rungs

- a. Preform holes for manhole rungs during casting of the riser and cone sections, using tapered form pins specifically made for preforming manhole rung holes.
- b. Drive manhole rungs into preformed holes after concrete has developed a compressive strength of 3,000 psi.
- c. Alternatively, cast manhole rungs into riser and cone sections when concrete is placed.
- d. Drilling holes for manhole rungs may be used to accommodate field conditions when approved by the ENGINEER. Drill holes of diameter, spacing and depth required by manhole rung manufacturer.

3. Pull-out resistance test

- a. All manhole rung installation methods shall withstand a pull-out resistance test of 1,500 pounds.

D. Brickwork

1. Mix mortar only in such quantity as may be required for immediate use. Use mortar before initial set has taken place. Mortar shall be used within 1-1/2 hours and shall be constantly worked with hoe or shovel until used. Anti-freeze mixtures shall not be included in the mortar. Install masonry when the outside temperature is above 40 degrees F unless provisions are made to protect the mortar, bricks and finished work from frost by heating and enclosing the work with tarpaulins or other suitable material. ENGINEER's decision regarding the adequacy of protection against freezing shall be final.
2. Construct channels and shelves of brick and concrete as shown on the Drawings and as specified in FDOT standards. Brick lined channels shall correspond in shape with the lower half of the pipe. Set shelf elevation at crown of highest pipe and slope 1-in/ft to drain toward the flow through channel. Construct brick surfaces exposed to

sewage flow with nominal 2-in by 8-in face exposed (i.e. bricks on edge).

E. Setting Manhole Frame and Cover

1. Set manhole covers and frames in a full mortar bed. Utilize bricks or precast concrete grade rings, a maximum of 8-in thick, to assure frame and cover are set to the finished grade. Set manhole frame and cover to final grade prior to placement of permanent paving.

F. Dampproofing

1. Paint outer surfaces of precast and cast-in-place manholes and structures with two coats of bituminous dampproofing at the rate of 30 to 60 sq ft per gallon, in accordance with manufacturer's instructions.

3.02 LEAKAGE TESTS

- A. Test each manhole for leakage. ENGINEER shall observe each test. Perform exfiltration test as described below:
- B. Assemble manhole in place; fill and point all lifting holes and exterior joints within 6-ft of the ground surface with an approved non-shrinking mortar. Test prior to placing the shelf and invert and before filling and pointing the horizontal joints below 6-ft of depth. Lower ground water table below bottom of the manhole for the duration of the test. Plug all pipes and other openings into the manhole and brace to prevent blow out.
- C. Fill manhole with water to the top of the cone section. If the excavation has not been backfilled and no water is observed moving down the surface of the manhole, the manhole is satisfactorily water-tight. If the test, as described above is unsatisfactory as determined by the ENGINEER, or if the manhole excavation has been backfilled, continue the test. A period of time may be permitted to allow for absorption. Following this period, refill manhole to the top of the cone, if necessary and allow at least 8 hours to pass. At the end of the test period, refill the manhole to the top of the cone again, measuring the volume of water added. Extrapolate the refill amount to a 24-hour leakage rate. The leakage for each manhole shall not exceed one gallon per vertical foot for a 24-hour period. If the manhole fails this requirement, but the leakage does not exceed three gallons per vertical foot per day, repairs by approved methods may be made as directed by the ENGINEER. If leakage due to a defective section of joint exceeds three gallons per vertical foot per day, the manhole shall be rejected. Uncover the rejected manhole as necessary and to disassemble, reconstruct or replace it as directed by the ENGINEER. Retest the manhole and, if satisfactory, fill and paint the interior joints.
- D. No adjustment in the leakage allowance will be made for unknown causes such as leaking plugs, absorptions, etc. It will be assumed that all loss of water during the test is a result of leaks through the joints or through the concrete.
- E. An infiltration test may be substituted for an exfiltration test if the ground water table is above the highest joint in the manhole. If there is no leakage into the manhole as determined by the ENGINEER, the manhole will be considered water-tight. If the ENGINEER is not satisfied, testing shall be performed as described hereinbefore.

F. Leakage Tests for Structures

1. The ENGINEER will visually inspect structure(s) for possible leaks before backfilling of structures is allowed. Seal all joints to the satisfaction of the ENGINEER.
2. The ENGINEER may require an exfiltration test as described for manholes on any structure for which he/she deems the test appropriate.

3.03 CLEANING

- A. Thoroughly clean all new manholes of all silt, debris and foreign matter of any kind, prior to final inspections.

END OF SECTION

SECTION 02611 REINFORCED CONCRETE PIPE FOR GRAVITY SERVICE

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. This section covers materials and methods of installation of Reinforced Concrete Pipe for non-pressure or gravity service in Piped Utility Systems.

1.02 HANDLING AND STORAGE

- A. Pipe, fittings, and accessories shall be loaded and unloaded by lifting with hoists or skidding in order to avoid shock or damage. Under no circumstances shall such material 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 internal lining of the pipes.
- B. Materials, if stored, shall be kept safe from damage. The interior of all pipe, fittings, and other appurtenances shall be kept free from dirt or foreign matter at all times.
- C. Gaskets for joints 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.
- D. Inspection:
1. Pipe and appurtenances shall be inspected 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.

PART 2 - PRODUCTS

2.01 ROUNDED PIPE

- A. Pipe shall be cast vibrated, machine-made or flat bed concrete pipe that is designed, manufactured, cured, tested and marked in accordance with the requirements of ASTM Designation C-76. Pipe shall be equivalent to Class III, unless otherwise noted on plans, and Wall B or C of the proper strength for the depth of cover required. Pipe shall be manufactured in lengths no longer than 16-feet nor shorter than 8-feet, except that shorter lengths as required at closures or junctions of structures will be permitted. Pipe with elliptical reinforcing shall be adequately marked to prevent improper placement in the trench. Lift holes or eyes may be provided in each pipe for the purpose of handling.

- B. Joints shall be of either a bell and spigot or double spigot and sleeve design using round rubber gaskets. The joint shall be so designed and fabricated that when the pipe is laid it shall be self-centering, and when the joint completed, the gasket will be enclosed on all four surfaces. The gasket shall not be required to support the weight of the pipe, but shall keep the joint tight under all normal conditions of service, including expansion, contraction and earth settlement.
- C. Joints and gaskets shall conform to the requirements of ASTM C443.

2.02 ELLIPTICAL PIPE

- A. Pipe shall be cast vibrated, machine made or flat bed elliptically shaped concrete pipe designed, manufactured, cured, tested and marked in accordance with ASTM C507.
- B. Pipe shall be of the proper strength for the depth of cover involved and shall be manufactured in lengths not longer than 16-feet nor shorter than 8-feet, except that shorter lengths as required at closures or junctions with structures will be permitted.
- C. Pipe designed for placement with the major axis horizontal shall be designated as "Vertical Elliptical" and shall be so marked.
- D. Joints for elliptical pipe shall be cold adhesive, pre-formed plastic gaskets conforming to Standard Specifications for Road and Bridge Construction of Florida Department of Transportation, Section 942, paragraph 942-2.

2.03 EXTERNAL CONCRETE JOINT WRAP

All concrete pipe joints and pipe connections to structures shall be wrapped with an approved filter fabric joint wrap product. Joint material and installation shall be in accordance with Section 430 of the FDOT Standard Specifications, latest edition.

PART 3 - EXECUTION

3.01 UNDERGROUND STRUCTURES AND CONFLICTS

- A. 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 structure, alignment and grade shall be adjusted as necessary, with the approval of the Engineer to provide clearance as required by federal, state or local regulations or as deemed necessary by the Engineer to prevent future damage or contamination of either structure.

3.02 ALIGNMENT AND GRADE

- A. The pipelines shall be laid and maintained to the lines and grades established by the drawings and specifications, with manholes, service connections, fittings, and appurtenances at the required locations unless otherwise approved by the Engineer.

3.03 TRENCH CONSTRUCTION

- A. 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. Trenches shall be of such extra width, when required, to permit the placement of timber supports, sheeting, bracing and appurtenances.
- B. 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 slight depression may be provided to allow withdrawal of pipe slings or other lifting tackle.
- C. 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 for pipe sizes 24-inches or smaller, and 9-inches for pipe sizes 30-inches and larger. 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 or subterranean structures, such as masonry walls, piers, or foundations that may be encountered during excavation. This installation procedure shall be followed when gravel formation 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 or rock, boulder, or stones of sufficient size and placement which, in the opinion of the Engineer could cause a fulcrum point.
- D. 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.
- E. 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 3-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.

- F. 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.
- G. Pipe cutting for the insertion of fittings, or closure pieces shall be done in neat, workmanlike manner without creating damage to the pipe or lining.

END OF SECTION

**SECTION 02616
DUCTILE-IRON PIPE AND FITTINGS
FOR PRESSURE SERVICE**

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

This Section includes furnishing and installing buried pressure piping systems.

1.02 QUALITY ASSURANCE

Pipe fittings and components shall be manufactured in the USA in accordance with the listed standards and requirements of this specification.

1.03 SUBMITTALS

Provide manufacturer's Certificate of Compliance with specified requirements.

1.04 HANDLING AND STORAGE

All pipe, fittings, and accessories shall be loaded and unloaded by lifting with hoists or skidding in order to avoid shock or damage. Under no circumstances shall such material 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 internal lining of the pipes.

Materials, if stored, shall be kept safe from damage. Pipe to be used for potable water service shall be stored so as to prevent contamination by animals and their wastes. The interior of all pipe and fittings shall be kept free from dirt or foreign matter at all times.

Pipe shall not be stacked higher than the limits shown in the tables in AWWA C600. 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.

At least two rows of 4-inch x 4-inch timbers shall be placed between tiers and chocks affixed to each end in order to prevent movement.

Gaskets for joints 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. Joint bolts shall be handled and stored in a manner that will ensure proper use with respect to types and sizes.

PART 2 - MATERIALS AND EQUIPMENT

2.01 - DUCTILE-IRON PIPE

Pipe for Trench Installation. Pipe for pressure service to be installed in trenches shall be ductile-iron designed in accordance with ANSI/AWWA C150/A21.50. Pipe shall conform to the requirements of ANSI/AWWA C151/A21.51. Pipe shall have push-on joints conforming to the requirements of ANSI/AWWA C111/A21.15. Pipe Pressure Class and Trench Type shall conform with the following:

BURIED DUCTILE-IRON PIPING

<u>Pipe Size</u>	<u>Trench Type</u>	<u>Pressure Class</u>
3-12	2	350
14-20	2	250
24	2	200
30-64	2	150

If mechanical joint pipe is furnished, the minimum acceptable pipe class shall be Class 51.

Pipe for Installation on Supports. Pipe for pressure service to be installed on supports shall be flanged ductile-iron piping conforming to the requirements of ANSI/AWWA C115/A21.15 with a minimum thickness of Class 53. Flanges shall be ductile-iron.

2.02 FITTINGS

Fittings 3-inch through 24-inch diameter may be ductile-iron fittings conforming to the requirements of ANSI/AWWA C153/A21.53 or cast iron fittings conforming to the requirements of ANSI/AWWA C110/A21.10.

Fittings 30-inch through 48-inch diameter shall be cast-iron fittings conforming to the requirements of ANSI/AWWA C110/A21.10.

Fittings shall be provided with joints suitable for use with the pipe with which they are to be installed.

Only those fittings and accessories that are of domestic (USA) manufacture will be acceptable.

2.03 RESTRAINED JOINTS

Thrust Restraint. Thrust restraint for buried piping shall be provided by restrained joints for all buried piping.

Restrained Joints. Restrained joints shall be of the essentially boltless type which rely on metal lugs, rotating retainer rings, or stainless steel gaskets for joint restraint. All welded retainer rings shall be factory installed. Generally joints shall be of the type which can be removed without damage to the joint if necessary to separate the joint after the initial installation. Stainless steel gasket type insert type shall be limited to locations not normally subjected to possible joint separation. A restrained joint shall be installed on each side of all buried valves. The length of restrained joints shall be as detailed on the Drawings. Ductile-iron retainer glands shall not be accepted.

Restrained joints connecting ductile-iron pipe to ductile-iron fittings shall be Megalug Joint Restraint as manufactured by EBBA Iron, Inc.

Concrete Thrust Blocks. Concrete thrust blocks shall be installed at all tees, bends, dead ends and fire hydrants. Concrete thrust blocks should not be used if the soil is saturated or not suitable to resist the piping reactions.

2.04 GASKETS

Gaskets for use with mechanical or push-on joints shall conform to the requirements of ANSI/AWWA C111/A21.11.

Gaskets for use with flanged joints shall be of 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.

2.05 BOLTS AND NUTS

Bolts and nuts for use with flanged joints shall be hex-head conforming to the requirements of ANSI B18.2.1 and B18.2.2.

Bolts for use with mechanical joints shall be tee-head bolts with hexagonal nuts conforming to the requirements of ANSI/AWWA C111/A21.11.

2.06 COATINGS

Coatings. Pipe and fittings which are to be buried or installed in concealed locations shall have a bituminous coating approximately 1 mil thick applied to the outside. 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.

Pipe and fittings in interior or exposed locations which are to be painted shall be furnished with no exterior coating or with a primer coat which will be compatible with the finish coat to be applied.

Marking. All buried reuse piping shall be marked with three identifying purple stripes permanently attached to the outside of the pipe. Each stripe shall be the length of the pipe and a

minimum of 2-inches wide. The stripes shall be located at 10 o'clock, 12 o'clock and 2 o'clock positions at the time of installation.

Marking tape shall be an adhesive backed (pressure sensitive) non-detectable underground marking tape suitable for direct placement on the pipe.

Tape shall be an approved APWA color code for pipeline identification. Marking tape to be Shieldbond Thor Enterprises, Inc., or approved equal.

2.07 LININGS

Cement Mortar Lining. Pipe and fittings which are to be used for potable water service or effluent reuse service shall have a cement mortar lining conforming to the requirements of ANSI/AWWA C104/A21.4.

Pipe and fittings which are to be used to handle sewage or aggressive chemical wastes shall be lined with one of the following:

Coal Tar Epoxy Lining. Pipe and fittings shall be lined with a coal tar epoxy, composed of a two component coal tar epoxy compound capable of at least 50 mils dry film build in a one-coat multipass application process. The material must also meet the following minimum performance requirements:

A direct impact resistance as measured by ASTM D-2794 at 35 mils dry film thickness on ductile-iron panels. The material shall pass 100 inch pounds of impact.

A dielectric strength of at least 300 volts per mil when fully cured.

An abrasion resistance of 25 liters per mil as measured in ASTM D-968.

Following immersion tests without failure of any kind. The lining must be on ductile-iron panels at 35 mils minimum dry film thickness.

<u>Test</u>	<u>Duration</u>
Tap water 160 degrees F.	1000 Hrs.
3% Sulfuric Acid 120 degrees F.	1500 Hrs.
25% Sodium Hydroxide 70 degrees F.	500 Hrs.
Continuous moisture condensation in Hydrogen Sulfide atmosphere	1000 Hrs.

The lining shall be applied under the supervision of the pipe manufacturer.

All surface areas which will be exposed to liquids and gases shall be cleaned and deleterious materials removed. After cleaning, the lining compound shall be applied to all surface areas which will be exposed to liquids and gases. The lining compound shall be applied so as to obtain a continuous and relatively uniform and smooth lining. The barrel of the pipe shall be coated to achieve a 45 mils minimum dry film thickness when measured with a dry film thickness magnetic gage; lining will be tapered at pipe ends. After clearing, all joint surface areas and spigot ends exposed to the liquids and gases shall receive one coat of the lining material brushed on at a rate to achieve 10 mils minimum dry film thickness when measured with a magnetic dry film thickness gage.

Any damaged lined areas shall be repaired in accordance with the manufacturer's recommendations so that the repaired area is equal to the undamaged lined areas.

Polyethylene Lining. The lining shall be a blend of high-density and low-density polyethylene powders complying with ASTM D1248 compounded with carbon black to provide resistance to ultraviolet rays during storage above ground. The pipe shall be heated to an adequate temperature to provide uniform fusing of the polyethylene powders and proper bonding to the pipe. The polyethylene lining shall be 40 mils thick.

2.08 POLYETHYLENE ENCASEMENT

Where polyethylene encasement is required it shall be either tube or sheet material conforming to the requirements of ANSI/AWWA C105/A21.5.

2.09 PIPE COUPLINGS

Pipe couplings used to joint two pieces of plain end pipe shall be sized to suit the outside diameter of the pipe ends to be jointed. Transition couplings shall be used to join pipes of different outside diameters. Pipe couplings shall be bolted type with steel middle ring and end followers. The couplings shall be restrained for the test pressure of line using approved retaining system.

All carbon steel parts of coupling shall be coated on the interior and exterior with a fusion bonded thermosetting epoxy coating with a 12 mil nominal coating thickness. The coating shall be equal to AL-CLAD as manufactured by Dresser Industries, Inc., or approved equal.

Gaskets for the coupling shall be wedge type manufactured of Buna-N resilient rubber.

Bolts shall be manufactured of high strength Type 304 stainless steel with Type 316 stainless steel hexagonal nuts. Bolts and nuts shall conform dimensionally to ANSI/AWWA C111, latest revision.

PART 3 - EXECUTION

3.01 INSPECTION

Inspect for defects, damage, dirt and debris in pipe. Clean if necessary. Discard and remove defective materials. Reject materials found unsatisfactory.

3.02 TRENCH CONSTRUCTION

Excavation. Excavate trenches as specified in Section 02200.

Alignment and Grade. Lay pipelines to lines and grades established by 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. Install Hydrants plumb.

Underground Conflicts. Prior to excavation, investigate to the extent necessary to determine the location of existing underground structures and conflicts. Exercise care to avoid damage to existing structures. When obstructions that are not shown on the drawings are encountered during the progress of the work and interfere so that an alteration of the Drawings 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 federal, state, or local regulations or as deemed necessary by the Engineer to prevent future damage or contamination of either structure.

Trench Preparation. 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.

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 slight depressions may be provided to allow withdrawal of pipe slings or other lifting tackle.

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 for pipe sizes 24-inches or smaller, and 9-inches for pipe 30-inches and larger. 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 or 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 fulcrum point.

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.

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 3-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.

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

Provide and use proper implements, tools, and facilities for the safe and convenient performance of the work. All pipe, fittings, valves, and hydrants shall be lowered carefully into the trench by means of a derrick, ropes, or other suitable tools or equipment in such a manner as to prevent damage to pipeline material and protective coatings and linings. Under no circumstances shall pipeline materials be dropped off or dumped into the trench. Dewater trench prior to installation of the pipe.

Examine all pipe fittings, valves, and other appurtenances carefully for damage and other defects immediately before installation. Defective materials shall be marked and held for inspection by the Engineer who may prescribe corrective repairs or reject the materials.

Remove all lumps, blisters, and excess coating from the socket and plain ends of each pipe. Wipe the outside of the plain end and the inside of the bell clean, dry and free from dirt, sand, grit, or any foreign material before the pipe is laid.

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.

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.

At times when pipe laying is not in progress, the open ends of 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.

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.

Joint Assembly. Pipe joints shall be assembled in accordance with the Manufacturer's instructions and the requirements of ANSI/AWWA C600.

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 shown in ANSI/AWWA C600.

Pipe Cutting. 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 or lining. Ductile cast iron may be cut using an abrasive pipe saw, rotary wheel cutter, guillotine pipe saw, milling wheel saw, or oxyacetylene torch. Cut ends and rough edges shall be ground smooth and for push-on joint connections, the cut end shall be beveled.

Thrust Restraint. Thrust restraint of buried piping shall be provided by restrained joints.

Restrained Joints. All plugs, caps, tees and bends shall be suitably restrained by restrained joints as specified.

Concrete Thrust Blocks. All plugs, caps, tees, bends, and fire hydrants shall be provided with concrete thrust blocks.

Vertical and horizontal reaction backing shall be made of concrete having a compressive strength of not less than 3,000 psi after 28 days.

Backing shall be placed between solid ground and the fitting to be anchored; the area of bearing on the pipe and this ground in each instance shall be that shown or directed. The backing shall, unless otherwise shown or directed, be so located as to contain the resultant thrust force and so that the pipe and fitting joints will be accessible for repair. Concrete thrust blocks shall not cover or encase bolts.

Thrust Restraint Design Pressure. Thrust restraint design pressure shall be equal to 1.5 times the design pressure of the line or 150 psi, whichever is greater.

3.04 POLYETHYLENE ENCASEMENT

Where shown on the Drawings or where directed when corrosive soil conditions are encountered install polyethylene encasement in accordance with requirements of ANSI/AWWA C105/A215.

3.05 TESTING

Test completed piping system in accordance with the requirements of Section 01660, Pressure Testing.

3.06 DISINFECTION

Disinfect pipelines to be used for potable water in accordance with requirements of Section 01650, Disinfection.

END OF SECTION

**SECTION 02623
PLASTIC PIPE
FOR PRESSURE SERVICE**

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

This Section includes materials and methods of installation of Plastic Pipe for pressure service.

1.02 SUBMITTALS

Provide manufacturer's Certificate of Compliance with specified requirements.

1.03 HANDLING AND STORAGE

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.

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.

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.

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.

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 - MATERIALS AND EQUIPMENT

2.01 PLASTIC PIPE

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.

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.

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 21 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.

Pressure Pipe 4-inches through 12-inches in diameter shall be PVC 1120 pressure pipe made from class 12454 material as defined by ASTM D1784 with outside diameters of ductile iron pipe. Pipe shall be pressure class 150 unless otherwise shown. 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.

Pressure pipe 14-inches through 36-inches in diameter shall conform to the requirements of AWWA C 905 for PVC 1120 pipe with cast iron pipe equivalent outside diameter. Pipe 16-inch through 24-inch shall have minimum wall thickness equivalent to a dimension ration (DR) of 18 unless otherwise shown. Pipe 30-inch through 36-inch shall have a minimum wall thickness equal to a dimension ration (DR) of 21 unless otherwise shown. Pipe may be furnished with plain ends for use with elastometric 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 1869. Non-toxic gasket lubricant shall be as specified by the pipe manufacturer.

PVC pipe color shall be blue for potable water main, white for sewer force main, and purple for reuse main.

2.02 FITTINGS

Fittings for use with PVC pipe 3-inches through 24-inches in diameter shall be ductile-iron fittings conforming to the requirements of ANSI/AWWA C153/A21.53. Fittings for use with pipe 30-inch and larger shall be gray iron or ductile-iron conforming to the requirements of ANSI/AWWA C111/A21.11a. Bolts for use with mechanical joints shall conform to the requirements of the joint standard. Fittings shall be suitable for a working pressure of 150 psi. Only those fittings and accessories that are of domestic (USA) manufacture will be acceptable.

Exterior Coating. 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.

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.

Lining.

Cement-Mortar Lining. When fittings are required to have a cement-mortar lining, the lining shall conform to the requirements of ANSI A21.4/AWWA C104.

Ductile-iron fittings which are to be used to handle sewage or aggressive chemical wastes shall be lined with one of the following:

Ceramic Epoxy Lining. Fittings shall be provided with a special lining to resist septic sewage or aggressive chemical wastes. The material shall be an amine cured novolac epoxy containing at least 20% by volume of ceramic quartz pigment

Application of the lining shall be done under the supervision of the pipe manufacturer.

Prior to abrasive blasting, the entire area to receive the protective compound shall be inspected for oil, grease, etc. Any areas with oil, grease, or any substance that can be removed by solvent, shall be solvent cleaned to remove those substances. After the surface has been made free of grease, oil or other substances, all areas to receive the protective compounds shall be abrasive blasted using sand or grit abrasive media. The entire surface to be lined shall be struck with the blast media so that all rust, loose oxides, etc., are removed from the surface. Only slight stains and tightly adhering oxide may be left on the surface. Any area where rust reappears before lining must be re-blasted.

After surface preparation and within 12 hours of surface preparation, the interior of the pipe shall receive 40 mils nominal dry film thickness. No lining shall take place when the substrate or ambient temperature is below 40°F. The surface also must be dry and dust free. If flange pipe or fittings are included in the project, the lining shall not be used on the face of the flange.

Any damaged lined areas shall be repaired in accordance with the manufacturer's recommendations so that the repaired area is equal to the undamaged lined areas.

Lining shall be Protecto 401 Ceramic Epoxy or equivalent.

Coal Tar Epoxy Lining. The coal tar epoxy lining shall be composed of a two-component coal tar epoxy compound capable of at least 40 mils dry film build in a one-coat multipass application process. The material must also meet the following minimum performance requirements:

A direct impact resistance as measured by ASTM D-2794 at 35 mils dry film thickness on ductile-iron panels. The material shall pass 100 inch pounds of impact.

A dielectric strength of at least 300 volts per mil when fully cured.

An abrasion resistance of 25 liters per mil as measured in ASTM D-968.

Following immersion tests without failure of any kind. The lining must be on ductile-iron panels at 35 mils minimum dry film thickness.

3% Sulfuric Acid 120 degrees F.	1500 Hrs.
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25% Sodium Hydroxide 70 degrees F.	500 Hrs.
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Continuous moisture condensation in Hydrogen Sulfide atmosphere	1000 Hrs.
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Application of the lining shall be done under the supervision of the pipe manufacturer.

All surface areas which will be exposed to liquids and gasses shall be cleaned and deleterious materials removed. After cleaning the lining compound shall be applied to all surface areas which will be exposed to liquids and gases. The lining compound shall be applied so as to obtain a continuous and relatively uniform and smooth lining. The barrel of the pipe shall be coated to achieve a 45 mils minimum dry film thickness when measured with a dry film thickness magnetic gage; lining will be tapered at pipe ends. After cleaning, all joint surface areas and spigot ends exposed to the liquids and gases shall receive one coat of the lining material brushed on at a rate to achieve 10 mils minimum dry film thickness when measured with a magnetic dry film thickness gage.

Any damaged lined areas shall be repaired in accordance with the manufacturer's recommendations so that the repaired area is equal to the undamaged lined areas.

2.03 POLYETHYLENE ENCASEMENT

Materials and methods of installation for polyethylene encasement for fittings, valves and appurtenances shall conform to the requirements of ANSI/AWWA CX105.

2.04 LOCATOR TAPE

Locator tape for use with plastic pipes shall be a two-inch wide tape consisting of polyethylene film with a metallic film to allow detection by electronic means. The tape shall be non-corrodible and shall be continuously marked to identify the use of the pipeline which it protects. The tape shall be installed directly above the pipe at a depth of twelve inches below finished grade.

2.05 LOCATOR WIRE

Locator wire shall be solid copper tracing wire 12 THHN and shall be installed directly below the pipe. Wire shall be brought to the surface at 500 foot minimum intervals and located in a valve box, cleanout, or other approved structure. Refer to drawing details for additional requirements.

2.06 THRUST RESTRAINT

Thrust Restraint. Thrust restraint for buried piping shall be provided by restrained joints for all buried piping larger than 1-inch.

2.07 RESTRAINED JOINTS

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.

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.

Twist off nuts, sized same as the tee-head bolts shall be used to insure proper actuating of restraining devices.

PART 3 - EXECUTION

3.01 EXAMINATION

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

Alignment and Grade. The pipelines shall be laid and maintained to the lines and grades established by the Drawings and Specifications, with fittings, valves and hydrants at the required locations unless otherwise approved by the Engineer. Valve-operating stems shall be oriented to allow proper operation. Hydrants shall be installed plumb.

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.

Trench Construction. 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.

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.

Material within the haunching area shall be compacted to 90% density according to AASHTO T-99. 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 6-inches of backfill material shall be placed over the top of the pipe before compacting directly over the crown of the pipe.

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.

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 or rock, boulder, or stones of sufficient size and placement which, in the opinion of the Engineer could cause a fulcrum point.

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.

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.

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

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. The sealing surface of the pipe, the inside of the bell and the gasket shall be cleaned immediately before assembly.

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.

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.

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.

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.

Joint Assembly. Pipe joints shall be assembled in accordance with the manufacturer's instructions.

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.

Pipe Cutting. 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.

Burrs shall be removed from spigots and ends shall be smoothly beveled. Field cut ends shall be marked for proper depth of joint assembly.

Locator Tape. Install all plastic pipe with a locator tape of the type specified.

Locator Wire. Install in accordance with drawing detail. Prior to acceptance, test to ensure continuous current exists.

Polyethylene Encasement. Provide polyethylene encasement for fittings. It shall be installed in accordance with ANSI/AWWA C105.

Thrust Restraint. All plugs, caps, tees, and bends, unless otherwise specified, shall be provided with reaction backing, or restrained joints as specified. Thrust-restraint design pressure shall be equal to 1.5 times the design pressure of the line.

Vertical and horizontal reaction backing shall be made of concrete having a compressive strength of not less than 2,500 psi after 28 days.

Backing shall be placed between solid ground and the fitting to be anchored; the area of bearing on the pipe and on the ground in each instance shall be that shown or directed. The backing shall, unless otherwise shown or directed, be so located as to contain the resultant thrust force so that the pipe and fitting joints will be accessible for repair.

3.04 TESTING

After completion of installation, perform testing in accordance with requirements of Section 01660 - Pressure Testing.

3.05 DISINFECTION

Disinfect potable water lines in accordance with the requirements of Section 01650 - Disinfection.

END OF SECTION

**SECTION 02640
VALVES AND ACCESSORIES
(FOR PIPELINE WORK)**

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

This section includes furnishing and installing valves of the different types and various accessories as shown on the Drawings and as specified.

1.02 SUBMITTALS

Submit certificate of compliance with specified standards.

Submit manufacturer's catalog data and detail construction sheets for record purposes.

PART 2 - MATERIALS AND EQUIPMENT

2.01 JOINTS

Valves shall be fitted with joints suitable for the pipe and fittings with which they are to be used. Bolts and gaskets for making up joints shall conform to the requirements of the joint standard for the pipe and fittings.

2.02 GATE VALVES

Valves exposed above grade outside structures shall be handwheel operated and shall be of a design that will allow operation in any position with respect to the vertical.

Valves buried in earth shall be equipped with 2-inch square operating nuts, valve boxes and covers.

All valves shall open by turning in a counter-clockwise direction.

Pressure Rating. Unless otherwise shown or specified, valves shall be rated for operation at not less than the same pressures of the pipeline in which they are installed or 150 psi, whichever is greater. Valve pressure ratings are for cold-water, non-shock service.

The manufacturer's name and pressure rating shall be cast in raised letters on the valve body.

Two and One-Half Inch and Smaller. Gate valves 2-1/2 inch nominal pipe diameter and smaller shall be of brass and shall conform to Federal Specification WW-V-54, with screwed joints.

Valves for exterior and buried service shall be Type I, wedge disc, nonrising stem type.

Three-Inch to Forty Eight-Inch Diameter. Gate valves, 3-inch to 48-inch diameter, inclusive, shall be suitable for the service intended and shall be iron body resilient-seated gate valves with non-rising stems. Valves shall have O-ring seals and shall conform to ANSI/AWWA C509 or C515.

2.03 BUTTERFLY VALVES

Butterfly valves shall conform to the requirements specified in AWWA standard for rubber-seated butterfly valves (ANSI/AWWA C504) except as modified or supplemental herein.

Acceptable Manufacturers. DeZurik, Mueller, Clow, Keystone, or approved equivalent equal.

Valve design utilizing either continuous rubber lining on the internal body surfaces and extending over the flanges, or a disc which seats at an angle to the axis of the pipe will not be acceptable.

Valves for buried service shall have mechanical joint ends.

Valves for use in exposed locations shall be fitted with flanged ends suitable for use with the equipment and piping systems in which they are to be installed.

Valves shall be Class 150-A or 150-B, unless otherwise shown.

Valve body shall be cast iron conforming to ASTM A126, Class B, or ASTM A48, Class 40.

Valve disc shall be cast iron conforming to ASTM A48, Class 40, alloy cast iron conforming to ASTM A-436, Type I, ASTM A536, Grade 65-45-12 (Ductile-iron) or of stainless steel conforming to ASTM A276, Type 304 or 316.

Mating seat surface shall be of 18-8 stainless steel conforming to ASTM A276, Type 304 or 316, or of alloy cast iron conforming to ASTM A-436, Type I.

Taper pins, lock washers and nuts shall be Type 316 stainless steel.

Valve operators shall be of the type shown. Operator shall be positioned as shown or if not shown, located in a convenient position for operation. Valve operators for buried service shall be furnished with a 2-inch square operating nut. Manual operators shall turn in a counter-clockwise direction to open the valve. Manual operators shall be installed on valves 12-inches or less in size.

Motor Operators for Butterfly Valves 14-inches and larger. The valves shall be the lead screw type. Operators shall be completely enclosed in a cast iron housing and mounted to the valve body by means of bolts located inside the operator housing. The operator housing, exclusive of the change gear section shall be a NEMA 4 enclosure. The housing of the change gear section shall be a NEMA 4 enclosure. The housing and cover shall be of cast iron designed for a safety factor of at least 5 based on ultimate yield strength of cast iron. All mechanical parts shall be designed for a safety factor of at least 2 based on the yield strength used for fabrication of the parts. It shall be so constructed that manual operation of the valve is possible by lifting a hinged

cover on the gear train section and attaching a handwheel to the mechanism. Power to the motor circuit shall be automatically disconnected when the hinged cover is opened. A recessed mechanical indicator shall be provided on the outside of the housing to continually indicate valve position. Bearing shall be "DU" Teflon bronze and lead composite. Seal shall be BUNA N on input with BUNA N O-ring in an 18-8 stainless steel cartridge on the output. All operator bearings shall be self lubricating type or lubricated for life before the operator is sealed at the factory. The operator motor shall be of the reversible type. The motor shall have a 5 ampere rating. The motors and the operator circuit shall be the same whether for modulating with speeds close to zero rpm without overheating for unlimited time periods. Operators for automatically controlled valves shall be actuated by a control module which shall vary the operator speed in proportion to an error signal. The operator shall have a continuous modulating range from zero rpm to maximum speed. The control band shall have zero deadband. Motor shall operate through a suitable gear reduction unit to provide an operating time period of 30 seconds for 90 degrees of operating stroke. Motor circuit limit switches shall be provided in accordance with AWWA specifications C504. Closed position limit switches shall be adjustable over 5 degrees of valve with a vernier screw. Open limit switches shall be adjustable over 75 degrees of valve travel. Auxiliary switches for secondary functions shall be of the cam operated spring leaf type. Operator shall be designed to use limit switch to stop in the open position and torque switch to stop in the closed position. Operators shall have internal space heaters for moisture protection. All internal wiring shall be CSA approved for 105 degrees C operation. Insulation shall be suitable for 600 volts.

2.04 PLUG VALVES

Plug valves shall be of the eccentric type with resilient plugs faced with natural or synthetic rubber suitable for service in sewage and sludge piping. Valves shall be of type which provide tight shut-off for pressure from either direction.

Acceptable Manufacturers. DeZurik Corporation, Sartell, Minn.; Keystone/Drum-Owen Valve Co., Lehigh Valley, Pa.; Clow Corporation, Oak Brook, Illinois, or approved equivalent equal.

Port areas shall be unobstructed when open and have smoothly shaped waterways of not less than 80 percent of full pipe area, except valves 30-inches and larger shall have not less than 70 percent open area.

Port areas of valves used for sludge service shall be unobstructed when open and have smoothly shaped waterways of not less than 100 percent of full pipe area.

Bodies shall be of semisteel, suitable for 125-pound working water pressure and shall have raised seats.

Valves less than 3 inches shall have plastic-covered seats.

Valves shall have permanently lubricated upper and lower Type 304 stainless-steel bushings on plug journal ends.

Valves 8-inches and larger shall be gear-operated and valves smaller than 8-inches shall be wrench operated, except as otherwise shown or specified. Valves for buried service shall be equipped with 2-inch square operating nuts.

Where there is a lack of space for the valve wrench to operate, gear-operator hand wheels shall be provided in lieu of the wrench.

Valves 12-inches or smaller shall have manual operators. Valves 14-inches or larger shall have motor operators.

Gear operators shall be totally enclosed, worm-gear type, permanently lubricated, and shall be watertight and dust-tight.

Adjustable stops shall be provided on gear operators for the open and closed position to prevent over travel, and shall have a valve disk position indicator.

Motor operators for plug valves. The electric valve actuator shall be LIMITORQUE or approved equivalent and shall include the motor, operator unit gearing, limit switch gearing, limit switches, torque switches, declutch lever or knob and auxiliary handwheel as a self contained unit. Space heaters shall be included in the motor and limit switch compartments.

The valve actuator motor and all electrical enclosures shall be weatherproof NEMA 4 as a minimum. Motor shall be specifically designed for valve actuator service and shall be of a high torque totally enclosed non-ventilated construction with motor leads brought into the limit switch compartment without having external piping or conduit box. Motor insulation shall be NEMA Class B with maximum continuous temperature rise of 120 degrees C. The motor shall be of sufficient size to open or close the valve against the maximum expected differential pressure of 70 psi when the voltage to the motor terminals is ten percent above or below the nominal voltage. The motor duty rating shall be sufficient for one complete open to close to open cycle without exceeding its temperature rating. Motor operator used for modulating service shall not exceed its temperature rating even when operating on continuous modulation. The motor shall be prelubricated and all bearings shall be anti-friction type.

The actuator shall be a double reduction unit with a capability of quickly changing the output speed with a simple gear change. The power gearing shall consist of generated spur or helical gears of heat treated steel and worm gearing. The worm shall be of hardened alloy steel and the worm gear shall be of alloy bronze, accurately cut with a hobbing machine. All power gearing shall be grease lubricated. Ball or Roller bearings shall be used throughout.

Limit switches and associated gearing shall be an integral part of the valve actuator. Limit switch gearing shall be of the intermittent type, totally enclosed in its own gear case to prevent dirt and foreign matter from entering the gear train, grease lubricated and shall be made of bronze or stainless steel. Limit switches shall be of the adjustable type capable of being set to trip at any point of valve travel between full open and full closed, and not be subject to breakage or slippage due to over travel.

Limit switches shall be of the heavy duty open contact type with rotary wiping action. Micro-switches or similar switch configurations are not acceptable.

Each valve actuator shall have a minimum of two rotor type switch assemblies and a minimum of eight heavy duty contacts.

Each valve actuator shall be equipped with a double torque switch which is responsive to loads encountered in either the opening or closing direction. Each side of the switch shall have a numbered dial and shall be adjustable. A calibration tag shall be mounted near each switch, correlating dial settings with unit output torque.

The torque switch shall operate during the complete valve cycle without the use of auxiliary relays, linkages, latches or other devices. The torque switch shall be wired to shut off the actuator motor in the event excessive torque is being generated in either direction of travel.

A suitable lever or wrench shall be provided for each six wrench-operated valves and at least one wrench for each operating station. Wrenches or wheels and chains shall be of suitable size and sufficient length for each operation of the valves at their rated working pressure.

Plug valves 2-1/2 inches and smaller shall have threaded ends conforming to ANSI Standards for Pipe Threads B2.1.

Plug valves 3-inches and larger in size, for interior service or exposed above grade outside, shall be fitted with flanged ends suitable for use with the equipment and piping systems in which they are to be installed. Valves for buried service shall be fitted with mechanical joint ends.

2.05 BALL VALVES - METAL

Housing shall be cast iron with permanently lubricated sintered bronze bearings and bronze shaft seals with a suitable sealing medium. Seats shall be synthetic rubber. The seating surface shall be stainless steel Type 304. Valve shafts shall be Type 304 stainless steel ground and polished. The valve shall be equipped with an adjustable thrust bearing. The port area of the valve shall be uniform in cross section and equal to the pipe inside area.

Acceptable Manufacturers. Homestead Industries, Coraopolis, Pennsylvania; Allis-Chalmers, Milwaukee, Wisconsin; or approved equivalent.

2.06 BALL VALVES - PLASTIC

Housing and ball shall be rigid, unplasticized Type 1 polyvinyl chloride (PVC). The seats shall be Teflon and the stem seals shall be Viton A O-rings. The port area shall be uniform in cross section and equal to the pipe inside area.

Acceptable manufacturers. Hayward Manufacturing Company, Elizabeth, New Jersey; or approved equivalent.

2.07 GLOBE AND ANGLE VALVES

Valves larger than 3-inches shall be iron-body, bronze-mounted, O. S. & Y. globe and angle valves with flanged ends. Valves shall be designed for a working pressure of 200 psi.

Flanged ends of valves shall be suitable for use with the equipment and piping systems in which they are to be installed.

Valves 3-inches and smaller shall be 150-pound bronze valves with screwed or solder-joint ends. Body material shall conform to ASTM B62. Valves shall have union bonnet, renewable or regrindable Type 304 stainless-steel plug and seat. Stems shall be made of wrought silicon bronze. If the manufacturer does not furnish this material in the class specified, the valves shall be furnished in the next higher class in which the stem material is available. Globe valves or angle valves may be used for stop valves for sizes 1-inch and smaller, subject to the approval of the Engineer.

2.08 AIR RELEASE VALVES

Deep well air release valves shall have cast iron bodies and covers, with bronze or stainless steel floats and mechanism and synthetic rubber seats. All iron parts shall be properly coated to prevent corrosion.

Acceptable Manufacturers. Valve & Primer Co., G. A., Crispin, Val Matic, or approved equivalent.

Water main air release valves shall be the automatic type. The size shall be one-inch for 1 6-inch diameter pipe and smaller, and two-inch for 18-inch diameter pipe and larger. The body and cover shall be cast iron with bronze or stainless steel float and mechanism and BUNA-N seat.

Acceptable Manufacturers. Valve & Primer Co., G. A., Crispin, Val Matic, or approved equivalent.

Sewage air release valves for use on pressure sewerage lines shall be of the type that automatically releases air, gas, or vapor under pressure during system operation. The valve shall have N.P.T. inlet and outlet. Valve shall be constructed of cast iron body and cover, stainless steel trim and float with an adjustable synthetic rubber orifice for positive seating. All iron parts of the valve shall be properly coated to prevent corrosion. The valve shall be complete with backwash accessories consisting of an inlet shut-off valve, blow-off valve, clean water inlet valve, rubber supply hose and quick disconnect couplings.

Acceptable Manufacturers. Valve & Primer Co., G. A., Crispin, Val Matic, or approved equivalent.

2.09 TAPPING SLEEVES AND VALVES

Tapping sleeves and valves shall be used to make "wet" taps into existing mains when shown on the Drawings.

ALTERNATE 1 - For Tapping Pipes Greater Than 10-inches In Diameter

Cast iron tapping sleeve shall be of split type with mechanical joints, ductile-iron bolts and flanged outlet for connection to the tapping valve.

ALTERNATE 2 - For Tapping Pipes Less Than 10-inches In Diameter

Stainless Steel Tapping Sleeves.

Acceptable Manufacturers. ADIPCO, U.S. Pipe, McWane, Clow, Mueller, JCM, Rockwell, Dresser, M & H, or approved equivalent.

Tapping valves shall conform to the requirements of this section for gate valves except that they shall have an inlet joint to match the sleeve and an outlet joint suitable for connection to the pipe used.

2.10 EXTENSION STEMS FOR BURIED VALVE OPERATORS

Where the depth of the valve is such that its centerline is more than four feet below grade, provide operating extension stems to bring the operating nut to a point of six-inches below the surface of the ground and/or box cover. Extension stems shall be steel and shall be complete with a two-inch operating nut.

2.11 T-HANDLE WRENCHES

Furnish a sufficient number of T-handle wrenches to permit operation of all gates and valves with square operating nuts, regardless of depth.

Length shall be suitable for operators average height working in normal positions.

2.12 VALVE BOXES

Valve boxes shall be provided for all buried valves. Valve boxes shall consist of cast iron base and adjustable top section with cover which shall be marked to indicate type of service. Extensions shall be provided as required to meet grade.

Boxes for butterfly valves shall be a 5-1/4-inch valve box with slip-type joints.

PART 3 - EXECUTION

3.01 INSPECTION

Prior to installation valves shall be inspected for direction of opening, freedom of operation, tightness of pressure-containing bolting, cleanliness of valve ports and seating surfaces, handling damage and cracks. Defective valves and accessories shall be rejected.

3.02 INSTALLATION

Valves shall be installed so that contact faces bear uniformly on the gasket and then are made up with relatively uniform bolt stress. Valves shall be supported so that undue stress is not placed on flanges. Valves shall not be used to bring misaligned pipe into alignment during installation.

Valves for buried service shall be set plumb with the base of the valve box centered over the valve and resting on compacted backfill. The top section of the box shall be set to allow equal movement above and below finished grade. After being correctly positioned, fill shall be carefully tamped around the valve box for a distance of 4-ft. on all sides below the box. In paved areas, top of the cover shall be flush with the finished paving. In off-street areas, the cover shall be set 1-inch above existing grade unless otherwise directed by the Engineer. A concrete pad shall be poured around the top of the box in unpaved areas, as shown in the standard details.

The valve manufacturer shall select and mount the gear operator and accessories on each valve and stroke the valve from fully open to fully closed prior to shipment.

3.03 TESTING

Valves shall be tested as a part of the completed piping system in accordance with the requirements of Section 01660 - Pressure Testing.

END OF SECTION

**SECTION 02720
DRAINAGE STRUCTURES AND PIPING**

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. The extent of drainage structures and piping is shown on the drawings.
- B. Related Work Specified Elsewhere:

Section 02200 - Earthwork.

Section 02222 - Trenching, Backfilling and Compacting.

Section 02611 - Reinforced Concrete Pipe for Gravity Service

1.02 SUBMITTALS

- A. Submit shop drawings of precast manholes, inlets, grating, frames and lids, and pipe.
- B. Submit cut sheets 24-hours in advance of pipe excavation for ENGINEER approval.

1.03 QUALITY ASSURANCE

- A. All material shall be new and unused.
- B. Materials' quality, manufacturing process and finished sections are subject to inspection and approval by ENGINEER or other OWNER representative. Inspection may be made at place of manufacture, at work site following delivery, or both.
- C. Materials will be examined for compliance with ASTM standards, this Section and approved manufacturer's drawings. Additional inspection criteria shall include: appearance, dimensions(s), blisters, cracks and soundness.
- D. Materials shall be rejected for failure to meet any requirements specified herein. Rejection may occur at place of manufacture, at work site, or following installation. Mark for identification rejected materials and remove from work site immediately. Rejected materials shall be replaced at no cost to OWNER.
- E. Repair minor damage to precast concrete sections by approved method, if repair is authorized by ENGINEER.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Reference to a manufacturer's name and model or catalog number is for the purpose of establishing the standard of quality and general configuration desired.

- B. Like items of materials/equipment shall be the end products of one manufacturer in order to provide standardization for appearance, operation, maintenance, spare parts and manufacturer's service.
- C. Provide lifting lugs or holes in each precast section for proper handling.

2.02 PRECAST CONCRETE MANHOLE SECTIONS

- A. Precast concrete base sections, riser sections, transition top sections, flat slab tops and grade rings shall conform to ASTM C478 and shall be in accordance with FDOT standards.
 - 1. Top section shall be eccentric cone where cover over pipe exceeds 4-ft. Top section shall be a flat slab where cover over top of pipe is 4-ft or less. Top section shall be a plastic lined flat slab where manhole riser sections are to be plastic lined.
 - 2. Base, riser and transition top sections shall have tongue and groove joints.
 - 3. Sections shall be cured by an approved method.
 - 4. Precast concrete sections shall be shipped after concrete has attained 3000 psi compressive strength.
 - 5. Design precast concrete base, riser, transition top, flat slab top and grade ring for a minimum H-20 loading plus earth load. Calculate earth load with a unit weight of 130 pcf.
 - 6. Mark date of manufacture, name and trademark of manufacturer on the inside of each precast section.
 - 7. Construct and install precast concrete base as shown on the Drawings and specified in FDOT standards.
 - 8. Provide integrally cast knock-out panels in precast concrete manhole sections at locations, and with sizes shown on Drawings. Knock-out panels shall have no steel reinforcing.

2.03 PRECAST CONCRETE STRUCTURES

- A. Refer to FDOT Standards for inside dimensions, headroom requirements and minimum thickness of concrete.
- B. Manufacturer shall notify ENGINEER at least 5 working days prior to placing concrete during manufacturing process. ENGINEER may inspect reinforcing steel placement prior to placing concrete.
- C. Structural design calculations and Drawings shall be prepared and stamped by a professional engineer registered in Florida.

D. Design Criteria

1. Precast concrete

- a. Minimum compressive strength shall be 5,000 psi at 28 days.
- b. Maximum water-to-cement ratio shall be 0.40 by weight.
- c. Minimum cement content shall be 600 lbs of cement per cubic yard of concrete.

2. Manufactured products

- a. Conform to ACI 318 and ACI 350R.
- b. Analyze walls and slabs using accepted engineering principals.
- c. When "fy" exceeds 40,000 psi, "z" (ACI 318) shall not exceed 95,000 psi. "fs" shall not exceed 50 percent of "fy".
- d. Design products to support their own weight, weight of soil at 120 pcf, and a live load equal to AASHTO HS-20 applied to top slab.
- e. Cast base slab and walls together to form a monolithic base section.
- f. Design structure walls for a water pressure of 90 psf. Originate pressure diagram at finished ground surface. Include lateral pressure from vehicles in accordance with AASHTO.
- g. Consider discontinuities in structure produced by openings and joints. Provide additional reinforcing around openings. Frame openings to carry full design loads to support walls.
- h. Prevent flotation, with ground water level at finished ground surface, by dead weight of structure and soil load above structure. Do not consider skin friction, soil friction, or weight of equipment in structure.
- i. Locate horizontal wall joints 18-in minimum from horizontal centerline of wall openings.
- j. Design structure with a minimum number of joints. Maximum number of structure sections, including top slab, shall be four.
- k. Provide lifting hooks for top slab.
 - 1. Locate access openings, wall sleeves and pipe penetrations as shown on Drawings.
- m. Wall sleeves shall be provided by the precast concrete manufacturer.

2.04 BRICK MASONRY

- A. Bricks shall be sound, hard, uniformly burned, regular and uniform in shape and size. Underburned or salmon brick shall not be acceptable. Only whole brick shall be used.
 - 1. Bricks for channels and shelves shall conform to ASTM C32, Grade SS except that the mean of five tests for absorption shall not exceed 8 percent and no individual brick exceed 11 percent.
 - 2. Bricks for raising manhole frames to finished grade shall conform to ASTM C62.
- B. Mortar shall be composed of 1 part portland cement, 2 parts sand, and hydrated lime not to exceed 10-lbs to each bag of cement. Portland cement shall be ASTM C150, Type II; hydrated lime shall conform to ASTM C207.
- C. Sand shall be washed, cleaned, screened, well graded with all particles passing a No.4 sieve and conform to ASTM C33.

2.05 JOINTING PRECAST MANHOLE SECTIONS AND STRUCTURES

- A. Seal tongue and groove joints of precast manhole and structure sections with either rubber O-ring gasket or preformed flexible joint sealant. O-ring gasket shall conform to ASTM C443. Preformed flexible joint sealant shall be Kent Seal No.2 by Hamilton-Kent; Ram-Nek by K. T. Snyder Company or equal.
- B. Completed joint shall withstand 15 psi internal water pressure without leakage or displacement of gasket or sealant.

2.06 MANHOLE FRAMES AND COVERS

- A. Manhole frames and covers shall be in accordance with FDOT Standard Index No. 201 for the type of manhole or inlet required. Covers shall have 2" raised letter identification: "Storm Sewer" cast into top.

2.07 PIPE CONNECTIONS TO MANHOLE

- A. Connect pipe to manhole in the following ways:
 - 1. Grout in place - Precast manhole section shall have a formed, tapered circular opening larger than the pipe outside diameter. Grout shall be non-shrink and waterproof equal to Hallemite, Waterplug or Embeco. Plastic pipe shall have a waterstop gasket secured to pipe with a stainless steel clamp.
 - 2. Flexible sleeve - Integrally cast sleeve in precast manhole section or install sleeve in a formed or cored opening. Fasten pipe in sleeve with stainless steel clamp(s). Coat stainless steel clamp(s) with bituminous material to protect from corrosion. Flexible sleeve shall be Lock Joint Flexible Manhole Sleeve; Kor-N-Seal connector; PSX Press-Seal Gasket or equal.

3. Compression gasket - Integrally cast compression gasket in precast manhole section. Insert pipe into compression gasket. Compression gasket shall be A-Lok or equal.

2.08 EXTERNAL CONCRETE JOINT WRAP

All concrete pipe joints and pipe connections to structures shall be wrapped with an approved filter fabric joint wrap product. Joint material and installation shall be in accordance with Section 430 of the FDOT Standard Specifications, latest edition.

2.09 DAMPPROOFING

- A.. Dampproofing shall be Hydrocide 648 by Sonneborn Building Products; Dehydratine 4 by A. C. Horn Inc; RIW Marine Liquid by Toch Brothers or equal.

2.10 PIPING

- A.. Reinforced Concrete Pipe (RCP)

1. RCP pipe shall comply with the requirements of ASTM Designation C-76, as specified in Section 02611, Reinforced Concrete Pipe for Gravity Service.

- B. High Density Polyethylene Pipe (HDPE):

1. HDPE pipe shall be smooth interior walled corrugated polyethylene pipe conforming to AASHTO M 294 and minimum cell classification 335420C as specified in ASTM D 3350.

Subject to compliance with requirements, HDPE manufacturers include, but are not limited to, the following:

- a. Advanced Drainage Systems (ADS), Inc.
- b. Hancor, Inc.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Manhole and Structure Installation.

1. Manhole and structure shall be constructed to the dimensions shown on the Drawings and as specified in FDOT standards. Protect all work against flooding and flotation. Construct cast-in-place bases in accordance with the requirements of Division 3 and the details shown on the Drawings.
2. Place manhole base on a bed of 12-in screened gravel as shown on the Drawings. Set manhole base grade so that a maximum grade adjustment of 8-in is required to bring the manhole frame and cover to final grade.

- a. Use precast concrete grade rings or brick and non-shrink mortar to adjust manhole frame and cover to final grade.
3. Set precast concrete barrel sections and structures plumb with a 1/4-in maximum out of plumb tolerance allowed. Seal joints of precast barrel sections with either a rubber O-ring set in a recess or preformed flexible joint sealant in sufficient quantity to fill 75 percent of the joint cavity. Fill the outside and inside joint with non-shrink mortar and finished flush with the adjoining surfaces. Caulk the inside of any leaking barrel section joint with lead wool or non-shrink grout to the satisfaction of the ENGINEER.
4. Allow joints to set for 14 hours before backfilling unless a shorter period is specifically approved by the ENGINEER.
5. Plug holes in the concrete barrel sections required for handling with a non-shrinking grout or non-shrinking grout in combination with concrete plugs. Finish flush on the inside.
6. Cut holes in precast sections to accommodate pipes prior to setting manhole sections in place to prevent jarring which may loosen the mortar joints.
7. Backfill carefully and evenly around manhole sections.

B. Manhole Pipe Connections

1. Construct manhole pipe connections, including pipe stubs, as specified above. Close or seal pipe stubs for future connections with a gasketed watertight plug.

C. Brickwork

1. Mix mortar only in such quantity as may be required for immediate use. Use mortar before initial set has taken place. Mortar shall be used within 1-1/2 hours and shall be constantly worked with hoe or shovel until used. Anti-freeze mixtures shall not be included in the mortar. Install masonry when the outside temperature is above 40 degrees F unless provisions are made to protect the mortar, bricks and finished work from frost by heating and enclosing the work with tarpaulins or other suitable material. ENGINEER's decision regarding the adequacy of protection against freezing shall be final.
2. Construct channels and shelves of brick and concrete as shown on the Drawings and as specified in FDOT standards. Brick lined channels shall correspond in shape with the lower half of the pipe. Set shelf elevation at crown of highest pipe and slope 1-in/ft to drain toward the flow through channel. Construct brick surfaces exposed to sewage flow with nominal 2-in by 8-in face exposed (i.e. bricks on edge).

D. Setting Manhole Frame and Cover

1. Set manhole covers and frames in a full mortar bed. Utilize bricks or precast concrete grade rings, a maximum of 8-in thick, to assure frame and cover are set to the finished grade. Set manhole frame and cover to final grade prior to placement of permanent paving.

E. Dampproofing

1. Paint outer surfaces of precast and cast-in-place manholes and structures with two coats of bituminous dampproofing at the rate of 30 to 60 sq ft per gallon, in accordance with manufacturer's instructions.

3.02 LEAKAGE TESTS

- A. Test each manhole for leakage. ENGINEER shall observe each test. Perform exfiltration test as described below:
- B. Assemble manhole in place; fill and point all lifting holes and exterior joints within 6-ft of the ground surface with an approved non-shrinking mortar. Test prior to placing the shelf and invert and before filling and pointing the horizontal joints below 6-ft of depth. Lower ground water table below bottom of the manhole for the duration of the test. Plug all pipes and other openings into the manhole and brace to prevent blow out.
- C. Fill manhole with water to the top of the cone section. If the excavation has not been backfilled and no water is observed moving down the surface of the manhole, the manhole is satisfactorily water-tight. If the test, as described above is unsatisfactory as determined by the ENGINEER, or if the manhole excavation has been backfilled, continue the test. A period of time may be permitted to allow for absorption. Following this period, refill manhole to the top of the cone, if necessary and allow at least 8 hours to pass. At the end of the test period, refill the manhole to the top of the cone again, measuring the volume of water added. Extrapolate the refill amount to a 24-hour leakage rate. The leakage for each manhole shall not exceed one gallon per vertical foot for a 24-hour period. If the manhole fails this requirement, but the leakage does not exceed three gallons per vertical foot per day, repairs by approved methods may be made as directed by the ENGINEER. If leakage due to a defective section of joint exceeds three gallons per vertical foot per day, the manhole shall be rejected. Uncover the rejected manhole as necessary and to disassemble, reconstruct or replace it as directed by the ENGINEER. Retest the manhole and, if satisfactory, fill and paint the interior joints.
- D. No adjustment in the leakage allowance will be made for unknown causes such as leaking plugs, absorptions, etc. It will be assumed that all loss of water during the test is a result of leaks through the joints or through the concrete.
- E. An infiltration test may be substituted for an exfiltration test if the ground water table is above the highest joint in the manhole. If there is no leakage into the manhole as

determined by the ENGINEER, the manhole will be considered water-tight. If the ENGINEER is not satisfied, testing shall be performed as described hereinbefore.

F. Leakage Tests for Structures

1. The ENGINEER will visually inspect structure(s) for possible leaks before backfilling of structures is allowed. Seal all joints to the satisfaction of the ENGINEER.
2. The ENGINEER may require an exfiltration test as described for manholes on any structure for which he/she deems the test appropriate.

3.03 CLEANING

- A. Thoroughly clean all new manholes of all silt, debris and foreign matter of any kind, prior to final inspections.

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 feathered edge 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 Number</u>	<u>Common Name of Seed</u>	<u>Rate Lbs. Acre</u>	<u>Planting 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 St. Augustine 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.
- 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 16-4-8
- 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 275 lbs. per acre.
2. Unless otherwise directed, a second application of 275 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 275 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

SECTION 03300 CONCRETE

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. Work consists of the forming, mixing, placing and curing concrete for use in small structures, sidewalk, and curb replacement.

1.02 QUALITY ASSURANCE

A. Concrete may be standard design and product of commercial ready-mix or transit-mix supplier conforming to the following requirements:

<u>Class</u>	<u>Cement Content per cubic yard</u>	<u>Minimum 28-day Strength (lb. per sq. in.)</u>
Structural	6.25 bags or 600 pounds	4000
Non-Structural	5.75 bags or 560 pounds	3000

B. Job mixes of small quantities shall conform to the same requirements.

1.03 SUBMITTALS

A. Compressive strength tests, when required by the Engineer, shall be made by breaking standard 6-inch diameter by 12-inch high test specimens prepared, cured and broken in accordance with the ASTM C31 and C39. Three specimen test cylinders shall be taken from each concrete pour of three cubic yards. One additional test cylinder shall be taken for quantities up to one truck load. Test specimens shall be taken in the presence of the Engineer. One cylinder from each pour shall be broken at seven days, the remainder at twenty-eight days. Additional test cylinders may be ordered for determining the characteristics of a new design mix or changes in equipment or methods, and under adverse weather or curing conditions.

B. Slump test shall be made in accordance with ASTM C143, and shall be made whenever directed by the Engineer.

C. Responsibility for Tests and Reports:

1. The Contractor shall supply all cylinder molds, slump cones, tools and labor for preparing specimens, and shall provide clean, moist sand or burlap for curing. Cylinders shall be shipped to the testing laboratory until the third day following preparation, and shall be protected from accidental damage at all times.

2. The test cylinders shall be tested in a recognized commercial testing laboratory.

1.04 DELIVERY AND STORAGE

A. Ready-mixed concrete delivered shall be accompanied by delivery tickets showing the following:

Date and time leaving plant
Type of cement and weight
Quantity of water and time added
Additive (if any).

B. Bulk or bagged cement or bagged concrete mix shall be stored off the ground in a sheltered area.

PART 2 - PRODUCTS

2.01 CEMENT

A. Portland cement shall conform to the latest revision of Federal and/or ASTM Specifications enumerated below:

1. For general concrete construction, ASTM C150, Type I.
2. Type II (meeting ASTM C150) cement shall be used in all areas where the concrete will be subjected to a hydrogen sulfide environment (i.e., direct contact with groundwater).

2.02 AGGREGATES

A. Fine Aggregate:

1. Fine aggregate shall be clean, hard, strong, durable, uncoated particles of natural sand.
2. The fine aggregate shall be reasonably well graded from coarse to fine.

B. Coarse Aggregate:

1. Coarse aggregate shall be washed and consist of hard, tough, durable components, free from adherent coatings, salt, alkali, vegetable matter, and shall not contain an excessive number of soft, friable, thin or elongated particles. Coarse aggregate shall be properly graded from fine to coarse to produce concrete of the desired strength, density, and workability.

2. Where the cover over reinforcing is two inches or more, the maximum size of aggregate shall be 1-1/2 inches. Where the cover over reinforcing is less than two inches, the maximum size of aggregate shall be 3/4-inch. The maximum size of aggregate shall not exceed one-fifth of the narrowest dimension between forms nor three-fourths of the minimum clear spacing between reinforcing bars.

2.03 BAGGED CONCRETE MIX

A. For very small amounts of concrete a premixed sand, gravel and cement in 40 lb. (1/3 cu. ft.) or 80 lb. (2/3 cu. ft.) bags may be used. The Engineer must give approval for its use.

2.04 ADMIXTURES

A. The design mix may be based upon the use of such admixtures as the designer may select to improve the workability, plasticity or rate of curing of the concrete.

2.05 MIXING WATER

A. The water used in mixing concrete shall be fresh, clean and free from injurious amounts of oil, acid, alkali, or organic matter.

B. Water from any source other than a municipal water supply shall be shown by test to comply with Florida State Department of Transportation requirements for mixing water.

2.06 STEEL BAR AND WIRE FABRIC REINFORCEMENT

A. The reinforcing shall be fabricated to the proper shapes and dimensions. Before placing, all reinforcements shall be thoroughly cleaned of rust, mill scale and/or coatings.

B. Reinforcing bars shall conform to the requirements of ASTM A615, Grade 60 including hoops and stirrups.

C. Reinforcing steel shall be detailed, fabricated and placed according to the methods and standards recommended in the "Manual of Standard Practice for Detailing Reinforced Concrete Structures" of the American Concrete Institute.

D. Splices in reinforcing mats shall be staggered. Horizontal mats shall be supported on metal chairs with all sills or pads below subgrade. Spacers shall be provided for wall and column steel and shall be removed as the concrete is placed.

E. Wire fabric, unless otherwise shown or specified, shall be 6-inches by 6-inches by W1.4 x W1.4 woven or electrically welded wire fabric conforming to the requirements of ASTM A185.

PART 3 - EXECUTION

3.01 FORMS

A. Material:

1. Forms shall be of wood, metal, or other approved materials, shall be built true to line and grade, mortar-tight, adequately braced and supported, and sufficiently rigid to prevent

displacement or sagging. Metal forms shall be of a type and manufacture acceptable to the Engineer. Plywood, fiberboard, or absorptive type form linings may be used where appropriate.

2. Form work shall be constructed conforming to ACI 347 Chapter 2. Joints of sectional forms shall be located in a modular manner with as few fillers as possible. Voids in plywood and joints between form modules used for concrete exposed to view or hydraulic action shall be filled with silicone sealant and shall be tool smooth. Profile items such reglets and anchors shall be securely fastened with flush mechanical fasteners.

3. Pours shall not be scheduled until all erection and bracing of form work has been completed.

3.02 CONCRETE PLACING

A. Concrete shall not be placed until forms and reinforcing have been inspected.

B. Concrete shall be placed with the aid of mechanical vibrating equipment supplemented by hand forking or spading. Vibration shall be transmitted directly to the concrete and not through the forms. The duration of vibration at any location in the forms shall be held to the minimum necessary to produce through consolidation.

C. Concrete shall be compacted and worked in an approved manner into all corners and angles of the forms and around reinforcement and embedded fixtures in such a manner as to prevent segregation of the coarse aggregate.

D. Before depositing new concrete on or against concrete which has set, the existing surfaces shall be cleaned of all laitance, foreign matter and loose particles, and slushed with a neat cement grout. Grout for horizontal construction joints shall be of cement and fine aggregate in the same proportions as in the concrete to be placed, and shall be from 1/2- to 1-inch thickness.

E. The concrete shall be placed by suitable equipment as nearly as possible to its final location and without any segregation of the aggregate. Free vertical drop shall not exceed three feet.

3.03 CONCRETE CURING

A. Water for curing shall be clear and entirely free from any elements which might cause staining or discoloration.

B. Concrete shall be kept wet by covering with water, water saturated covering, or by alternate methods which will keep all surfaces continuously wet, for a period of seven days.

C. Where wood forms are left in place during curing, they shall be kept wet at all times.

3.04 WEATHER PROTECTION

A. No concrete shall be mixed or placed when the air temperature in the shade and away

from artificial heat is as low as 40 degrees F., and falling. Concrete may be mixed and placed when the air temperature in the shade and away from artificial heat is 35 degrees Fahrenheit, and rising.

B. Fresh concrete shall be protected from rain, flowing water and mechanical injury.

3.05 CONCRETE FINISHING

A. Slabs, Walks and Pavements shall be brought to a true and even finish by power or hand-floating. The surface shall be floated to a true, smooth finish. Troweling shall be the minimum to obtain a smooth, dense surface and shall not be done until the mortar has hardened sufficiently to prevent excess fine material from being worked to the surface. All walk and pavement surfaces, shall, immediately after troweling, be lightly broomed. The brooming shall be sufficient to mark the surface without appreciably disturbing the troweled finish.

END OF SECTION

SECTION 03600 GROUT

PART 1 GENERAL

1.10 WORK INCLUDED

- A. Provide all labor, materials, tools and equipment and perform all grouting as specified hereinafter and indicated on the Drawings.

1.02 RELATED WORK

- A. Section 03100: Cast-In-Place and Poured Concrete.

1.03 SUBMITTALS

- A. Submit manufacturer's literature for review on the following items:
 - 1. Nonshrink grout data including grout properties, mixing, surface preparation and installation instructions.

1.04 DELIVERY AND STORAGE

- A. Deliver and store grouting materials in unbroken containers with seals and labels intact as packaged by the manufacturer.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Nonshrink, Nonmetallic Grout: The Burke Company's Non-Ferrous, Non-Shrink Grout, Sauereisen F-100 Level Fill, Master Builders Masterflow 713, Eculid NS Grout, or equal-pre-mixed type.
- B. Nonshrink Metallic Grout: The Burke Company's Metallic Spec Grout, Master Builders Embeco 636 Grout pre-mixed type, or equal.
- C. Epoxy Grout: Sikadur 42 Grout-Pak, or equal, for grouting sleeves for anchor bolts, etc.

PART 3 EXECUTION

3.01 PREPARATION

- A. Clean all bonding surfaces of dust and oil.

3.02 INSTALLATION

- A. Nonshrink Grout:

1. Use nonshrink, nonmetallic grout for grouting precast concrete wall panel connections, column base plates, anchor bolts, reinforcing bars, pipe sleeves, machinery support and pump base plates. Use epoxy grout for anchor bolts, etc., where indicated on the Drawings.
2. Mix and place nonshrink grout as recommended by the manufacturer.
3. Mix grout as close to the work area as possible and transport quickly to its final position in a manner which will not permit segregation of materials.
4. Cure nonshrink grout with water saturated burlap for at least three days or with an application of Super Rez Seal cure and seal compound applied immediately after grout placement.
5. Do not operate machinery set on grout pads until grout has cured for at least 24 hours.

END OF SECTION

**SECTION 09902
PIPE PAINTING AND IDENTIFICATION**

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. This Section includes pipe painting and identification as required for this project.

PART 2 - MATERIALS AND EQUIPMENT

2.01 PAINTING AND IDENTIFICATION

- A. Exposed piping shall be painted. Metal pipe shall be painted System B-4 depending on location. Seal coats shall be used over bitumen coated surfaces as applicable. Plastic pipe shall be painted in accordance with pipe manufacturer's recommendations.
- B. The finish coat color shall be selected by the Owner. Identification shall be as shown on the Pipe Identification Schedule.
- C. All exposed piping shall be identified by stencil painting or printed vinyl plastic pipe markers. Directional arrows shall be placed adjacent to the pipe markers. Identification markers shall be located as follows:
1. Adjacent to each valve and fitting (except plumbing and equipment).
 2. At each branch and riser take-off.
 3. At each pipe passage through wall, floor and ceiling construction.
 4. At each pipe passage to underground.
 5. On all horizontal pipe runs every 40 feet.
- D. If vinyl plastic markers are used for identification and the pipe resists adhesion, the Contractor shall loop 3/4-inch wide pressure sensitive vinyl plastic tape, or matching color to the marker, around the two ends of the pipe marker. The 3/4-inch tape shall be wrapped around the circumference of the pipe and fastened back on itself with a 1-1/2-inch vinyl-vinyl overlap.
- E. Pipe, 3/4-inch diameter and smaller, shall be tagged with a corrosion-resistant tag. The tag shall be securely fastened to the pipe.

2.02 PIPE IDENTIFICATION AND PAINT COLORS

Pipe System	Pipe	Banding (Width)	Letters & Arrows	Text
Force Main (above grade)	Green	1-1/2-in Brown	White	Non-potable

PART 3 - EXECUTION

(Not Applicable)

END OF SECTION

SECTION 015639 - TEMPORARY TREE AND PLANT PROTECTION

TIPS:

To view non-printing **Editor's Notes** that provide guidance for editing, click on MasterWorks/Single-File Formatting/Toggle/Editor's Notes.

To read **detailed research, technical information about products and materials, and coordination checklists**, click on MasterWorks/Supporting Information.

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PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

1.2 DEFINITIONS

- A. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.
- B. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
 - 1. Include plans, elevations, sections, and locations of protection-zone fencing and signage, showing relation of equipment-movement routes and material storage locations with protection zones.
- C. Samples: For each type of the following:

1. Organic Mulch: Sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch.
 2. Protection-Zone Fencing: Assembled Samples.
 3. Protection-Zone Signage: Full-size Samples.
- D. Tree Pruning Schedule: Written schedule detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.

1.5 INFORMATIONAL SUBMITTALS

- A. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
- B. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.
- C. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.

1.6 QUALITY ASSURANCE

- A. Arborist Qualifications: Certified Arborist as certified by ISA, licensed arborist in jurisdiction where Project is located, current member of ASCA, or registered Consulting Arborist as designated by ASCA.

1.7 FIELD CONDITIONS

- A. The following practices are prohibited within protection zones:
 1. Storage of construction materials, debris, or excavated material.
 2. Moving or parking vehicles or equipment.
 3. Foot traffic.
 4. Erection of sheds or structures.
 5. Impoundment of water.
 6. Excavation or other digging unless otherwise indicated.
 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- B. Do not direct vehicle or equipment exhaust toward protection zones.
- C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Backfill Soil: Stockpiled soil from location shown on Drawings of suitable moisture content and granular texture for placing around tree; free of stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth.
- B. Organic Mulch: Free from deleterious materials and suitable as a top dressing for trees and shrubs, consisting of one of the following:
 - 1. Type: As specified on plans.
- C. Protection-Zone Fencing: Fencing fixed in position and meeting the following requirements: Previously used materials may be used when approved by Architect.
 - 1. Plastic Protection-Zone Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch (50-mm) maximum opening in pattern and supported by tubular or T-shape galvanized-steel posts spaced not more than 96 inches (2400 mm) apart. High-visibility orange color.
 - a. Height: **48 inches (1200 mm)**.
 - 2. Gates: Swing access gates matching material and appearance of fencing, to allow for maintenance activities within protection zones.
- D. Protection-Zone Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes prepunched and reinforced; legibly printed with nonfading lettering.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

3.2 PREPARATION

- A. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

3.3 PROTECTION ZONES

- A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones in a manner that will prevent people from easily entering protected areas except by entrance gates.
 - 1. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to Architect.
- B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by Architect.
- C. Maintain protection zones free of weeds and trash.
- D. Maintain protection-zone fencing and signage in good condition as acceptable to Architect and remove when construction operations are complete and equipment has been removed from the site.

3.4 EXCAVATION

- A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Section 312000 "Earth Moving" unless otherwise indicated.
- B. Trenching within Protection Zones: Where utility trenches are required within protection zones, excavate under or around tree roots by hand or with air spade, or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning.
- C. Do not allow exposed roots to dry out before placing permanent backfill.

3.5 ROOT PRUNING

- A. Prune tree roots that are affected by temporary and permanent construction. Prune roots as follows:
 - 1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
 - 2. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
 - 3. Cover exposed roots with burlap and water regularly.
 - 4. Backfill as soon as possible according to requirements in Section 312000 "Earth Moving."
- B. Root Pruning at Edge of Protection Zone: Prune tree roots by cleanly cutting all roots to the depth of the required excavation.
- C. Root Pruning within Protection Zone: Clear and excavate by hand or with air spade to the depth of the required excavation to minimize damage to tree root systems. If excavating by hand, use

narrow-tine spading forks to comb soil to expose roots. Cleanly cut roots as close to excavation as possible.

3.6 CROWN PRUNING

- A. Prune branches that are affected by temporary and permanent construction. Prune branches as directed by arborist.
 - 1. Prune to remove only[**injured,**] broken, dying, or dead branches unless otherwise indicated. Do not prune for shape unless otherwise indicated.
 - 2. Do not remove or reduce living branches to compensate for root loss caused by damaging or cutting root system.
 - 3. Pruning Standards: Prune trees according to ANSI A300 (Part 1).
- B. Cut branches with sharp pruning instruments; do not break or chop.
- C. Do not paint or apply sealants to wounds.
- D. Chip removed branches and dispose of off-site.

3.7 REGRADING

- A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- B. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- C. Minor Fill within Protection Zone: Where existing grade is **2 inches (50 mm)** or less below elevation of finish grade, fill with backfill soil. Place backfill soil in a single uncompacted layer and hand grade to required finish elevations.

3.8 FIELD QUALITY CONTROL

- A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

3.9 REPAIR AND REPLACEMENT

- A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or to be relocated that are damaged by construction operations, in a manner approved by Architect.
 - 1. Perform repairs of damaged trunks, branches, and roots within 24 hours according to arborist's written instructions.
 - 2. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Architect.

- B. Excess Mulch: Rake mulched area within protection zones, being careful not to injure roots. Rake to loosen and remove mulch that exceeds a [2-inch (50-mm)] [4-inch (100-mm)] <Insert dimension> uniform thickness to remain.

3.10 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove excess excavated material, displaced trees, trash, and debris and legally dispose of them off Owner's property.

END OF SECTION 015639

SECTION 05521 PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Steel railings.

1.3 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 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.

1.4 ACTION SUBMITTALS

- A. Product Data:
 - 1. Manufacturer's product lines of mechanically connected railings.
 - 2. Expanded metal infill panels.
 - 3. Perforated metal infill panels.
 - 4. Woven-wire mesh infill panels.
 - 5. Fasteners.
 - 6. Post-installed anchors.
 - 7. Handrail brackets.
 - 8. Shop primer.
 - 9. Intermediate coats and topcoats.
 - 10. Bituminous paint.
 - 11. Nonshrink, nonmetallic grout.
 - 12. Anchoring cement.
 - 13. Metal finishes.

14. Paint products.

- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Delegated-Design Submittal: For railings, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

- A. Welding certificates.
- B. Mill Certificates: Signed by manufacturers of stainless steel products, certifying that products furnished comply with requirements.
- C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.
- D. Product Test Reports: For tests on railings performed by a qualified testing agency, in accordance with ASTM E894 and ASTM E935.
- E. Research Reports: For post-installed anchors, from ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.

1.6 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel in accordance with the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect mechanical finishes on exposed surfaces of railings from damage by applying a strippable, temporary protective covering before shipping.

1.8 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with railings by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design railings, including attachment to building construction.
- B. Structural Performance: Railings, including attachment to building construction, 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. (0.73 kN/m) applied in any direction.
 - b. Concentrated load of 200 lbf (0.89 kN) 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 (0.22 kN) applied horizontally on an area of 1 sq. ft. (0.093 sq. m).
 - b. Infill load and other loads need not be assumed to act concurrently.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 180 deg F material surfaces

2.2 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.
 - 1. Provide type of bracket with flange tapped for concealed anchorage to threaded hanger bolt] [predrilled hole for exposed bolt anchorage and that provides 1-1/2-inch (38-mm) clearance from inside face of handrail to finished wall surface.

2.3 STEEL RAILINGS

- A. Source Limitations: Obtain each type of railing from single source from single manufacturer.

- B. Tubing: [ASTM A500/A500M (cold formed)] [or] [ASTM A513/A513M, Type 5].
- C. Pipe: ASTM A53/A53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.
 - 1. Provide galvanized finish for exterior installations and where indicated.
- D. Plates, Shapes, and Bars: ASTM A36/A36M.
- E. Cast Iron Fittings: Either gray iron, ASTM A48/A48M, or malleable iron, ASTM A47/A47M, unless otherwise indicated.
- F. Expanded Metal Infill Panels: ASTM F1267, [Type I (expanded)] [Type II (expanded and flattened)], Class 1 (uncoated).
 - 1. Style Designation: [3/4 number 13] [1-1/2 number 10] <Insert designation>.
- G. Perforated-Metal Infill Panels:
 - 1. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, or hot-rolled steel sheet, ASTM A1011/A1011M, commercial steel, Type B, [0.060 inch (1.52 mm)] <Insert dimension> thick, [with 1/4-inch (6.4-mm) holes 3/8 inch (9.5 mm) o.c. in staggered rows] <Insert description>.
 - a. Basis-of-Design Product: Provide product with perforations matching [product indicated on Drawings] <Insert manufacturer's name; product name or designation>.
 - 2. Galvanized-Steel Sheet, ASTM A653/A653M, G90 (Z275) coating, commercial steel Type B, [0.064 inch (1.63 mm)] <Insert dimension> thick, [with 1/4-inch (6.4-mm) holes 3/8 inch (9.5 mm) o.c. in staggered rows] [with 1/8-by-1-inch (3.2-by-25.4-mm) round end slotted holes in staggered rows] <Insert description>.
 - a. Basis-of-Design Product: Provide product with perforations matching [product indicated on Drawings] <Insert manufacturer's name; product name or designation>.
- H. Woven-Wire Mesh Infill Panels: Intermediate-crimp, [diamond] [square] pattern, 2-inch (50-mm) woven-wire mesh, made from 0.134-inch- (3.42-mm-) diameter steel wire complying with ASTM A510 (ASTM A510M).
 - 1. Basis-of-Design Product: Provide product with crimp pattern matching [product indicated on Drawings] <Insert manufacturer's name; product name or designation>.

2.4 FASTENERS

A. Fastener Materials:

1. Ungalvanized-Steel Railing Components: Plated steel fasteners complying with **ASTM F1941** (**ASTM F1941M**), Class Fe/Zn 5 for zinc coating.
2. Hot-Dip Galvanized Railing Components: Type 304 stainless steel or hot-dip zinc-coated steel fasteners complying with ASTM A153/A153M or ASTM F2329/F2329M for zinc coating.
3. Aluminum Railing Components: **[Type 304]** **[Type 316]** stainless steel fasteners.
4. Stainless Steel Railing Components: **[Type 304]** **[Type 316]** stainless steel fasteners.
5. Finish exposed fasteners to match appearance, including color and texture, of railings.

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[**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.
2. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless exposed fasteners are unavoidable or are the standard fastening method for railings indicated.
3. Provide **[Phillips]** **[tamper-resistant]** **[square or hex socket]** flat-head machine screws for exposed fasteners unless otherwise indicated.

D. Post-Installed Anchors: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC193[**or ICC-ES AC308**].

1. Material for Interior Locations: Carbon-steel components zinc-plated to comply with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, unless otherwise indicated.
2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy **[Group 1 (A1)]** **[Group 2 (A4)]** stainless steel bolts, ASTM F593, and nuts, ASTM F594.

2.5 MISCELLANEOUS MATERIALS

A. Handrail Brackets: **[Cast iron]** **[Cast aluminum,]** **[Cast stainless steel,]** **[Cast nickel-silver,]** center of handrail **[2-1/2 inches (63.5 mm)]** **[3-1/8 inches (79.4 mm)]** <Insert dimension> from **[face of railing]** **[wall]**.

- B. Welding Rods and Bare Electrodes: Select in accordance with AWS specifications for metal alloy welded.
 - 1. For **[aluminum] [and] [stainless steel]** 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.
- C. Etching Cleaner for Galvanized Metal: Complying with MPI#25.
- D. Galvanizing Repair Paint: High-zinc-dust-content paint, complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- E. Shop Primers: Provide primers that comply with **[Section 099113 "Exterior Painting".]** **[Section 099123 "Interior Painting."]** **[Section 099600 "High-Performance Coatings."]**
- F. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
 - 1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.
- G. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.
- H. Shop Primer for Galvanized Steel: Primer formulated for exterior use over zinc-coated metal and compatible with finish paint systems indicated.
- I. Intermediate Coats and Topcoats: Provide products that comply with **[Section 099113 "Exterior Painting."]** **[Section 099123 "Interior Painting."]** **[Section 099600 "High-Performance Coatings."]**
- J. Epoxy Intermediate Coat: Complying with MPI #77 and compatible with primer and topcoat.
- K. Polyurethane Topcoat: Complying with MPI #72 and compatible with undercoat.
- L. Bituminous Paint: Cold-applied asphalt emulsion, complying with ASTM D1187/D1187M.
- M. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout, complying with ASTM C1107/C1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.
- N. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound.

1. Water-Resistant Product: [At exterior locations] [and] [where indicated on Drawings], provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by manufacturer for exterior use.

2.6 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, anchorage, and ADA standards.
- B. Shop assemble railings to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations.
 1. Clearly mark units for reassembly and coordinated installation.
 2. Use connections that maintain structural value of joined pieces.
- C. Cut, drill, and punch metals cleanly and accurately.
 1. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated.
 2. 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 are exposed to weather in a manner that excludes water.
 1. Provide weep holes where water may accumulate.
 2. Locate weep holes in inconspicuous locations.
- F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
- G. Connections: Fabricate railings with [welded] [or] [nonwelded] connections unless otherwise indicated.
- H. Welded Connections: All welding shall be in accordance with the American Welding Society Structural Welding Code (Steel) ANSI/ AWS D1.1 (current edition). Weld metal shall be E60XX or E70XX. Nondestructive testing of welds is not required.
- I. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
 1. Fabricate splice joints for field connection, using an epoxy structural adhesive, if this is manufacturer's standard splicing method.
- J. Form changes in direction as follows:
 1. As detailed in FDOT index no. 852

- K. 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.
- L. Close exposed ends of hollow railing members with prefabricated cap and end fittings of same metal and finish as railings.
- 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.
 - 1. Fabricate anchorage devices capable of withstanding loads imposed by railings.
 - 2. Coordinate anchorage devices with supporting structure.
- O. For railing posts set in concrete, provide stainless steel sleeves not less than 6 inches (150 mm) long with inside dimensions not less than 1/2 inch (13 mm) greater than outside dimensions of post, with metal plate forming bottom closure.
- P. Expanded-Metal Infill Panels: Fabricate infill panels from expanded-metal sheet of same metal as railings.
 - 1. Edge panels with U-shaped channels made from metal sheet, of same metal as expanded metal and not less than 0.043 inch (1.1 mm) thick.
 - 2. Orient expanded metal with long dimension of diamonds [**parallel to top rail**] [**perpendicular to top rail**] [**horizontal**] [**vertical**].
- Q. Perforated-Metal Infill Panels: Fabricate infill panels from perforated metal made from [**steel**] [**galvanized steel**] [**aluminum**] [**stainless steel**] [**same metal as railings in which they are installed**].
 - 1. Edge panels with U-shaped channels made from metal sheet, of same metal as perforated metal and not less than 0.043 inch (1.1 mm) thick.
 - 2. Orient perforated metal with pattern [**parallel to top rail**] [**perpendicular to top rail**] [**horizontal**] [**vertical**] [**as indicated on Drawings**].
- R. 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.

2.7 STEEL AND IRON FINISHES

A. Galvanized Railings:

1. Hot-dip galvanize [**exterior**] steel railings, including hardware, after fabrication.
2. Comply with ASTM A123/A123M for hot-dip galvanized railings.
3. Comply with ASTM A153/A153M for hot-dip galvanized hardware.
4. Do not quench or apply post-galvanizing treatments that might interfere with paint adhesion.
5. Fill vent and drain holes that are exposed in the finished Work, unless indicated to remain as weep holes, by plugging with zinc solder and filing off smooth.

B. For galvanized railings, provide hot-dip galvanized fittings, brackets, fasteners, sleeves, and other ferrous components.

C. Preparing Galvanized Railings for Shop Priming: After galvanizing, thoroughly clean railings of grease, dirt, oil, flux, and other foreign matter, and treat with etching cleaner[**and as follows**].

1. Comply with SSPC-SP 16.

PART 3 - EXECUTION

3.1 EXAMINATION

- #### A. Examine plaster and gypsum board assemblies, where reinforced to receive anchors, to verify that locations of concealed reinforcements are clearly marked for Installer. Locate reinforcements and mark locations if not already done.

3.2 INSTALLATION, GENERAL

A. Perform cutting, drilling, and fitting required for installing railings.

1. Fit exposed connections together to form tight, hairline joints.
2. Install railings level, plumb, square, true to line; without distortion, warp, or rack.
3. Set railings accurately in location, alignment, and elevation; measured from established lines and levels.
4. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
5. Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).
6. 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 (6 mm in 3.5 m).

- B. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
 - 1. 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.
- C. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- D. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.3 RAILING CONNECTIONS

- A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Use wood blocks and padding to prevent damage to railing members and fittings. 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 (50 mm) beyond joint on either side; fasten internal sleeve securely to one side; and locate joint within 6 inches (150 mm) of post.

3.4 ANCHORING POSTS

- A. Use stainless steel pipe sleeves preset and anchored into concrete for installing posts. After posts are inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.
- B. Form or core-drill holes not less than **5 inches (125 mm)** deep and **3/4 inch (20 mm)** larger than OD of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with **[nonshrink, nonmetallic grout] [or] [anchoring cement]**, mixed and placed to comply with anchoring material manufacturer's written instructions.
- C. Cover anchorage joint with flange of same metal as post, **[welded to post after placing anchoring material] [attached to post with setscrews]**.
- D. Leave anchorage joint exposed with **[1/8-inch (3-mm) buildup, sloped away from post] [anchoring material flush with adjacent surface]**.

- E. Anchor posts to metal surfaces with flanges, angle type, or floor type, as required by conditions, connected to posts and to metal supporting members as follows:
 - 1. For steel railings, weld flanges to post and bolt to metal supporting surfaces.
 - 2. For aluminum railings, attach posts as indicated, using fittings designed and engineered for this purpose.
 - 3. For stainless steel railings, weld flanges to post and bolt to supporting surfaces.
- F. Install removable railing sections, where indicated, in slip-fit stainless steel sockets cast in concrete.

3.5 ATTACHING RAILINGS

- A. Anchor railing ends to concrete and masonry with sleeves concealed within railing ends and anchored to wall construction with anchors and bolts.

3.6 REPAIR

- A. Touchup Painting:
 - 1. Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 - a. Apply by brush or spray to provide a minimum 2.0-mil (0.05-mm) dry film thickness.

3.7 CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas, and repair galvanizing to comply with ASTM A780/A780M.

3.8 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.
- B. Restore finishes damaged during installation and construction period, so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

END OF SECTION

SECTION 328400 PLANTING IRRIGATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes piping, valves, sprinklers, specialties, controls, and wiring for automatic control irrigation system.

Related Sections include the following:

- 1. Division 2 Section "Water Distribution" for water supply from water service piping, water meters, protective enclosures, and backflow preventers.

1.3 DEFINITIONS

- A. Circuit Piping: Downstream from control valves to sprinklers, specialties, and drain valves. Piping is under pressure during flow.

Drain Piping: Downstream from circuit-piping drain valves. Piping is not under pressure.

Irrigation Main Piping: Downstream from point of connection to water distribution piping to, and including, control valves. Piping is under water-distribution-system pressure.

The following are industry abbreviations for plastic materials:

- 1. ABS: Acrylonitrile-butadiene-styrene plastic.
- FRP: Fiberglass-reinforced plastic.
- PA: Polyamide (nylon) plastic.
- PE: Polyethylene plastic.
- PP: Polypropylene plastic.
- PTFE: Polytetrafluoroethylene plastic.
- PVC: Polyvinyl chloride plastic.
- TFE: Tetrafluoroethylene plastic.

1.4 PERFORMANCE REQUIREMENTS

- A. Design 100 percent water-coverage irrigation system for lawns and exterior plants indicated.

Location of Sprinklers and Specialties: Design location is approximate. Make minor adjustments necessary to avoid plantings and obstructions such as signs and light standards. Maintain 100 percent water coverage of turf and planting areas indicated.

Minimum Working Pressures: The following are minimum pressure requirements for piping, valves, and specialties, unless otherwise indicated:

1. Irrigation Main Piping: 200 psig (1380 kPa) .
- Circuit Piping: 150 psig (1035 kPa)
- Drain Piping: 100 psig (690 kPa)

1.5 SUBMITTALS

A. Product Data: Include pressure ratings, rated capacities, and settings of selected models for the following:

1. Water regulators.
- Water hammer arresters.
- General-duty valves.
- Specialty valves.
- Control-valve boxes.
- Sprinklers.
- Irrigation specialties.
- Controllers. Include wiring diagrams.
- Control cables. Include splice kits and conduit.

B. Shop Drawings: Show irrigation system piping, including plan layout, and locations, types, sizes, capacities, and flow characteristics of irrigation system piping components. Include water meters, backflow preventers, valves, piping, sprinklers and devices, accessories, controls, and wiring. Show areas of sprinkler spray and overspray. Show wire size and number of conductors for each control cable.

Coordination Drawings: Show piping and major system components. Indicate interface and spatial relationship between piping, system components, adjacent utilities, and proximate structures.

Field quality-control test reports.

Operation and Maintenance Data: For irrigation systems, to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 1 include data for the following:

1. Automatic-control valves.
- Sprinklers.
- Controllers.

1.6 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.

Store plastic piping protected from direct sunlight. Support to prevent sagging and bending.

1.8 PROJECT CONDITIONS

- A. Interruption of Existing Water Service: Do not interrupt water service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary water service according to requirements indicated:

- 1. Notify Owner no fewer than 72 hours in advance of proposed interruption of water service. Do not proceed with interruption of water service without Owner written permission.

1.9 COORDINATION

- A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified in Division 3.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.

Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.
- B. PVC Pipe: ASTM D 1785, PVC 1120 compound, Schedule 40.
 - 1. PVC Socket Fittings, Schedule 40: ASTM D 2466.
- C. PVC Pipe: ASTM D 1785, PVC 1120 compound, Schedule 80.
 - 1. PVC Socket Fittings, Schedule 80: ASTM D 2467.

PVC Threaded Fittings: ASTM D 2464.
- D. PVC, Pressure-Rated Pipe: ASTM D 2241, PVC 1120 compound, SDR 21.
 - 1. PVC Socket Fittings, Schedule 80: ASTM D 2467.
- E. PE, Controlled OD Pipe: ASTM F 771 and ASTM D 3035, PE 3408 compound, DR 9.

1. PE Socket Fittings: ASTM D 2683.
- PE Butt-Fusion Fittings: ASTM D 3261.

F. PE, Controlled ID Pipe: ASTM F 771 and ASTM D 2239; PE 3408 compound; SDR 7.

1. Insert Fittings for PE Pipe: ASTM D 2609, PA or PP. Include bands or other fasteners.

G. Transition Fittings: Refer to Division 2 Section "Piped Utilities -- Basic Materials and Methods" for transition fittings.

Dielectric Fittings: Refer to Division 2 Section "Piped Utilities -- Basic Materials and Methods" for dielectric fittings.

2.2 JOINING MATERIALS

A. Refer to Division 2 Section "Piped Utilities -- Basic Materials and Methods" for commonly used joining materials.

2.3 SPRINKLERS

A. Description: Brass or plastic housing and corrosion-resistant interior parts designed for uniform coverage over entire spray area indicated, at available water pressure.

1. Manufacturers:

- a. Hunter Industries Incorporated.
- Rain Bird Sprinkler Mfg. Corp.
- Toro Company (The); Irrigation Div.

2. Flush, Surface Sprinklers: Fixed pattern, with screw-type flow adjustment.

Bubblers: Fixed pattern, with screw-type flow adjustment.

Shrubbery Sprinklers: Fixed pattern, with screw-type flow adjustment.

Pop-up, Spray Sprinklers: Fixed pattern, with screw-type flow adjustment and stainless-steel retraction spring.

Pop-up, Rotary, Spray Sprinklers: Gear drive, full-circle and adjustable part-circle types.

Pop-up, Rotary, Impact Sprinklers: Impact drive, full-circle and part-circle types.

Aboveground, Rotary, Impact Sprinklers: Impact drive, full-circle and part-circle types.

2.4 SPRINKLER SPECIALTIES

A. Application Pressure Regulators: Brass or plastic housing, NPS 3/4 (DN 20), with corrosion-resistant internal parts, and capable of controlling outlet pressure to approximately 20 psig (138 kPa).

Strainer/Filter Units: Brass or plastic housing, with corrosion-resistant internal parts; of size and capacity required for devices downstream from unit.

Emitters: PE or vinyl body.

1. Manufacturers:
 - a. Hunter Industries Incorporated.
Rain Bird Sprinkler Mfg. Corp.
Toro Company (The); Irrigation Div.

2.5 AUTOMATIC-CONTROL SYSTEM

- A. Manufacturers:
 1. Hunter Industries Incorporated.
Rain Bird Sprinkler Mfg. Corp.
Toro Company (The); Irrigation Div.
- B. Concrete Base: Reinforced precast concrete with opening for wiring.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Refer to Division 2 Section "Earth Moving" for excavating, trenching, and backfilling.

Install warning tape directly above pressure piping, 12 inches (300 mm) below finished grades, except 6 inches (150 mm) below subgrade under pavement and slabs.

Install piping and wiring in sleeves under sidewalks, roadways, parking lots, and railroads.

1. Install piping sleeves by boring or jacking under existing paving if possible.
- B. Drain Pockets: Excavate to sizes indicated. Backfill with cleaned gravel or crushed stone, graded from 3/4 to 3 inches (19 to 75 mm), to 12 inches (300 mm) below grade. Cover gravel or crushed stone with sheet of asphalt-saturated felt and backfill remainder with excavated material.

Provide minimum cover over top of underground piping according to the following:

1. Irrigation Main Piping: Minimum depth of 36 inches (914 mm) below finished grade, or not less than 18 inches (450 mm) below average local frost depth, whichever is deeper.
Circuit Piping: 12 inches (300 mm).
Drain Piping: 12 inches (300 mm).
Sleeves: 24 inches (600 mm).

3.2 PREPARATION

- A. Set stakes to identify locations of proposed irrigation system. Obtain Architect's approval before excavation.

3.3 PIPING APPLICATIONS

- A. Install components having pressure rating equal to or greater than system operating pressure.

Piping in control-valve boxes and aboveground may be joined with flanges instead of joints indicated.

Aboveground Irrigation Main Piping: Use any of the following piping materials for each size range:

1. NPS 4 (DN 100) and Smaller: Schedule 40, PVC pipe; socket-type PVC fittings; and solvent-cemented joints.
- NPS 4 (DN 100) and Smaller: Schedule 80, PVC pipe; threaded PVC fittings; and threaded joints.
- NPS 5 (DN 125) and Larger: Schedule 40, PVC pipe and socket fittings; and solvent-cemented joints.
- NPS 5 (DN 125) and Larger: Schedule 80, PVC pipe; Schedule 80, threaded, PVC fittings; and threaded joints.

- B. Underground Irrigation Main Piping: Use any of the following piping materials for each size range:

1. NPS 4 (DN 100) and Smaller: Schedule 40, PVC pipe and socket fittings, and solvent-cemented joints.
- NPS 4 (DN 100) and Smaller: Schedule 80, PVC pipe; threaded PVC fittings; and threaded joints.
- NPS 4 (DN 100) and Smaller: SDR 21, PVC, pressure-rated pipe; Schedule 80, PVC socket fittings; and solvent-cemented joints.

- C. Circuit Piping: Use any of the following piping materials for each size range:

1. NPS 2 (DN 50) and Smaller: Schedule 40, PVC pipe and socket fittings; and solvent-cemented joints.
- NPS 2 (DN 50) and Smaller: SDR 26, PVC, pressure-rated pipe; Schedule 40, PVC socket fittings; and solvent-cemented joints.

- D. Underground Branches and Offsets at Sprinklers and Devices: Schedule 80, PVC pipe; threaded PVC fittings; and threaded joints.

1. Option: Plastic piping manufactured for this application may be used instead of pipe and fittings specified.

- E. Risers to Aboveground Sprinklers and Specialties: Schedule 80, PVC pipe and socket fittings; and solvent-cemented joints.

Sleeves: Schedule 40, PVC pipe and socket fittings; and solvent-cemented joints.

Transition Fittings: Use transition fittings for plastic-to-metal pipe connections according to the following:

1. Couplings:

- a. Underground Piping NPS 1-1/2 (DN 40) and Smaller: Manufactured fitting or coupling.
Underground Piping NPS 2 (DN 50) and Larger: AWWA transition coupling.
 - 2. Fittings:
 - a. Aboveground Piping: Plastic-to-metal transition fittings.
Underground Piping: Union with plastic end of same material as plastic piping.
 - 3. Transition fittings are specified in Division 2 Section "Piped Utilities -- Basic Materials and Methods."
- F. Dielectric Fittings: Use dielectric fittings for dissimilar-metal pipe connections according to the following:
- 1. Underground Piping:
 - a. NPS 2 (DN 50) and Smaller: Dielectric couplings or dielectric nipples.
NPS 2-1/2 (DN 65) and Larger: Prohibited except in valve box.
 - 2. Aboveground Piping:
 - a. NPS 2 (DN 50) and Smaller: Dielectric unions.
NPS 2-1/2 to NPS 4 (DN 65 to DN 100): Dielectric flanges.
 - 3. Piping in Valve Boxes or Vaults:
 - a. NPS 2 (DN 50) and Smaller: Dielectric unions.
NPS 2-1/2 to NPS 4 (DN 65 to DN 100): Dielectric flanges.
 - 4. Dielectric fittings are specified in Division 2 Section "Piped Utilities -- Basic Materials and Methods."

3.4 VALVE APPLICATIONS

- A. Aboveground, Shutoff-Duty Valves:
 - 1. NPS 2 (DN 50) and Smaller: Plastic ball valve.
- B. Underground, Shutoff-Duty Valves: Use the following:
 - 1. NPS 2 (DN 50) and Smaller: Curb stop with tee head, curb-stop service box, and shutoff rod.
NPS 3 (DN 80) and Larger: AWWA cast-iron gate valve with elastomeric gaskets and stem nut, valve box, and shutoff rod.
- C. Underground, Manual Control Valves: Bronze globe valve with control-valve box and valve key.

Control Valves:

1. NPS 2 (DN 50) and Smaller: Plastic automatic control valve.
- NPS 2 (DN 50) and Smaller: Plastic ball valve.
- NPS 2-1/2 and NPS 3 (DN 65 and DN 80): Plastic automatic control valve.

D. Drain Valves:

1. NPS 1/2 and NPS 3/4 (DN 15 and DN 20): Automatic drain valve.
- NPS 1/2 and NPS 3/4 (DN 15 and DN 20): nonrising-stem gate valve.
- NPS 1/2 and NPS 3/4 (DN 15 and DN 20): Plastic ball valve.
- NPS 1 to NPS 2 (DN 25 to DN 50): Plastic ball valve.

3.5 PIPING INSTALLATION

- A. Location and Arrangement: Drawings indicate location and arrangement of piping systems. Install piping as indicated unless deviations are approved on Coordination Drawings.

Install piping at minimum uniform slope of 0.5 percent down toward drain valves.

Install piping free of sags and bends.

Install groups of pipes parallel to each other, spaced to permit valve servicing.

Install fittings for changes in direction and branch connections.

Install unions adjacent to valves and to final connections to other components with NPS 2 (DN 50) or smaller pipe connection.

Install flanges adjacent to valves and to final connections to other components with NPS 2-1/2 (DN 65) or larger pipe connection.

Install dielectric fittings to connect piping of dissimilar metals.

Install underground thermoplastic piping according to ASTM D 2774.

Lay piping on solid subbase, uniformly sloped without humps or depressions.

Install ductile-iron piping according to AWWA C600.

Install PVC piping in dry weather when temperature is above 40 deg F 5 deg C. Allow joints to cure at least 24 hours at temperatures above 40 deg F 5 deg C before testing unless otherwise recommended by manufacturer.

Install water regulators with shutoff valve and strainer on inlet and pressure gage on outlet. Install shutoff valve on outlet.

Water Hammer Arresters: Install between connection to building main and circuit valves in valve box.

3.6 JOINT CONSTRUCTION

- A. Refer to Division 2 Section "Piped Utilities -- Basic Materials and Methods" for basic pipe joint construction.

3.7 VALVE INSTALLATION

- A. Underground Gate Valves: Install in valve box with top flush with grade.

- 1. Install valves and PVC pipe with restrained, gasketed joints.

- B. Underground Curb Stops: Install in service box with top flush with grade.

Underground, Manual Control Valves: Install in manual control-valve box.

Control Valves: Install in control-valve box.

Drain Valves: Install in control-valve box.

3.8 SPRINKLER INSTALLATION

- A. Flush circuit piping with full head of water and install sprinklers after hydrostatic test is completed.

Install sprinklers at manufacturer's recommended heights.

Locate part-circle sprinklers to maintain a minimum distance of 4 inches (100 mm) from walls and 2 inches (50 mm) from other boundaries, unless otherwise indicated.

3.9 AUTOMATIC-CONTROL SYSTEM INSTALLATION

- A. Install freestanding controllers on precast concrete bases not less than 36 by 24 by 4 inches thick, and not less than 6 inches greater in each direction than overall dimensions of controller.

Install control cable in same trench as irrigation piping and at least 2 inches (50 mm) below or beside piping. Provide conductors of size not smaller than recommended by controller manufacturer. Install cable in separate sleeve under paved areas if irrigation piping is installed in sleeve.

3.10 CONNECTIONS

- A. Drawings indicate general arrangement of piping, fittings, and specialties.

Ground equipment according to Division 16 Section "Grounding and Bonding."

Connect wiring according to Division 16 Section "Conductors and Cables."

Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3.11 LABELING AND IDENTIFYING

- A. Equipment Nameplates and Signs: Install engraved plastic-laminate equipment nameplates and signs on each automatic controller.
 - 1. Text: In addition to identifying unit, distinguish between multiple units, inform operator of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations.
- B. Refer to Division 2 Section "Piped Utilities -- Basic Materials and Methods" for equipment nameplates and signs.

Warning Tapes: Arrange for installation of continuous, underground, detectable warning tape over underground piping, during backfilling of trenches.

Refer to Division 2 Section "Earthwork" for warning tapes.

3.12 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust field-assembled components and equipment installation, including connections, and to assist in field testing. Report results in writing.

Perform the following field tests and inspections and prepare test reports:

- 1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
 Operational Test: After electrical circuitry has been energized, operate controllers and automatic control valves to confirm proper system operation.
 Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- B. Remove and replace units and retest as specified above.

3.13 STARTUP SERVICE

- A. Engage a factory-authorized service representative to perform startup service.

Verify that controllers are installed and connected according to the Contract Documents.

Verify that electrical wiring installation complies with manufacturer's submittal and installation requirements in Division 16 Sections.

Complete startup checks according to manufacturer's written instructions.

3.14 ADJUSTING

- A. Adjust settings of controllers.

Adjust automatic control valves to provide flow rate of rated operating pressure required for each sprinkler circuit.

Adjust sprinklers so they will be flush with, or not more than 1/2 inch (13 mm) above, finish grade.

3.15 CLEANING

- A. Flush dirt and debris from piping before installing sprinklers and other devices.

3.16 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain controller and automatic control valves. Refer to Division 1 Section "Closeout Procedures."

END OF SECTION 328400

SECTION 329113

SOIL PREPARATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. **Drawings and general provisions** of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes planting soils[**and layered soil assemblies**] specified by composition of the mixes.
- B. Related Requirements:
1. Section 129200 "Interior Planters and Artificial Plants" for placing planting soil in planters for live interior plants.
 2. Section 323300 "Site Furnishings" for placing planting soil in exterior unit planters.
 3. Section 311000 "Site Clearing" for topsoil stripping and stockpiling.
 4. Section 321443 "Porous Unit Paving" for placing planting-soil fill in porous paving.
 5. Section 329200 "Turf and Grasses" for placing planting soil for turf and grasses.
 6. Section 329300 "Plants" for placing planting soil for plantings.
 7. Section 329600 "Transplanting" for placing planting soil in tree planting pits.
 8. Section 329700 "Vegetated Roof Assemblies" for growing media (soil).

1.3 ALLOWANCES

- A. **[Preconstruction] [and] [field quality-control]** testing **[is] [are]** part of testing and inspecting allowance.

1.4 UNIT PRICES

- A. Work of this Section is affected by **[unit prices specified in Section 012200 "Unit Prices."]** <Insert name of unit price.>

1.5 DEFINITIONS

- A. AAPFCO: Association of American Plant Food Control Officials.

- B. Backfill: The earth used to replace or the act of replacing earth in an excavation. This can be amended or unamended soil as indicated.
- C. CEC: Cation exchange capacity.
- D. Compost: The product resulting from the controlled biological decomposition of organic material that has been sanitized through the generation of heat and stabilized to the point that it is beneficial to plant growth.
- E. Duff Layer: A surface layer of soil, typical of forested areas, that is composed of mostly decayed leaves, twigs, and detritus.
- F. Imported Soil: Soil that is transported to Project site for use.
- G. Layered Soil Assembly: A designed series of planting soils, layered on each other, that together produce an environment for plant growth.
- H. Manufactured Soil: Soil produced by blending soils, sand, stabilized organic soil amendments, and other materials to produce planting soil.
- I. NAPT: North American Proficiency Testing Program. An SSSA program to assist soil-, plant-, and water-testing laboratories through interlaboratory sample exchanges and statistical evaluation of analytical data.
- J. Organic Matter: The total of organic materials in soil exclusive of undecayed plant and animal tissues, their partial decomposition products, and the soil biomass; also called "humus" or "soil organic matter."
- K. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified as specified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- L. RCRA Metals: Hazardous metals identified by the EPA under the Resource Conservation and Recovery Act.
- M. SSSA: Soil Science Society of America.
- N. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
- O. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- P. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil"; but in disturbed areas such as urban environments, the surface soil can be subsoil.
- Q. USCC: U.S. Composting Council.

1.6 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at **[Project site]** **<Insert location>**.

1.7 ACTION SUBMITTALS

- A. Product Data: For each type of product.
1. Include recommendations for application and use.
 2. Include test data substantiating that products comply with requirements.
 3. Include sieve analyses for aggregate materials.
 4. Material Certificates: For each type of **[imported soil]** **[and]** **[soil amendment and fertilizer]** **<Insert item>** before delivery to the site, according to the following:
 - a. Manufacturer's qualified testing agency's certified analysis of standard products.
 - b. Analysis of fertilizers, by a qualified testing agency, made according to AAPFCO methods for testing and labeling and according to AAPFCO's SUIP #25.
 - c. Analysis of nonstandard materials, by a qualified testing agency, made according to SSSA methods, where applicable.
- B. Sustainable Design Submittals:
1. [<Double click to insert sustainable design text for regional materials.>](#)
- C. Samples: For each bulk-supplied material, **[1-quart (1-L)]** **[1-gal. (4-L)]** **<Insert value>** volume of each in sealed containers labeled with content, source, and date obtained. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of composition, color, and texture.

1.8 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For each testing agency.
- B. Retain "Preconstruction Test Reports" Paragraph below if specifying preconstruction testing in "Preconstruction Testing" Article as Contractor's responsibility.
- C. Preconstruction Test Reports: For preconstruction soil analyses specified in "Preconstruction Testing" Article.
- D. Field quality-control reports.

1.9 QUALITY ASSURANCE

- A. Testing Agency Qualifications: An independent, state-operated, or university-operated laboratory; experienced in soil science, soil testing, and plant nutrition; with the

experience and capability to conduct the testing indicated; and that specializes in types of tests to be performed.

1. Laboratories: Subject to compliance with requirements, **[provide testing by the following]** **[provide testing by one of the following]**:
 - a. **<Insert laboratory's name and address>**.
2. Multiple Laboratories: At Contractor's option, work may be divided among qualified testing laboratories specializing in physical testing, chemical testing, and fertility testing.

1.10 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: **[Owner will engage]** **[Engage]** a qualified testing agency to perform preconstruction soil analyses on **[existing, on-site soil]** **[imported soil]** **<Insert item>**.
 1. Notify Architect **[seven]** **<Insert number>** days in advance of the dates and times when laboratory samples will be taken.
- B. Preconstruction Soil Analyses: For each unamended soil type, perform testing on soil samples and furnish soil analysis and a written report containing soil-amendment and fertilizer recommendations by a qualified testing agency performing the testing according to "Soil-Sampling Requirements" and "Testing Requirements" articles.
 1. Have testing agency identify and label samples and test reports according to sample collection and labeling requirements.

1.11 SOIL-SAMPLING REQUIREMENTS

- A. General: Extract soil samples according to requirements in this article.
- B. Sample Collection and Labeling: Have samples taken and labeled by **[Owner]** **[Contractor in presence of Architect]** **[soil scientist (CPSS) certified by SSSA]** **[soil classifier (CPSC) certified by SSSA]** **[soil scientist (RPSS) registered by the National Society of Consulting Soil Scientists]** **[or]** **[state-certified, -licensed, or -registered soil scientist]** **<Insert requirement>** under the direction of the testing agency.
 1. Number and Location of Samples: Minimum of **[three]** **[eight]** **<Insert number>** representative soil samples **[from varied locations]** **[where indicated on Drawings]** **[where directed by Architect]** **<Insert requirement>** for each soil to be used or amended for landscaping purposes.
 2. Procedures and Depth of Samples: **[According to USDA-NRCS's "Field Book for Describing and Sampling Soils."]** **[As directed by Architect.]** **<Insert requirement.>**
 3. Division of Samples: Split each sample into two, equal parts. Send half to the testing agency and half to Owner for its records.

4. Labeling: Label each sample with the date, location keyed to a site plan or other location system, visible soil condition, and sampling depth.

1.12 TESTING REQUIREMENTS

- A. General: Perform tests on soil samples according to requirements in this article.
- B. Physical Testing:
 1. Soil Texture: Soil-particle, size-distribution analysis by[**one of**] the following methods according to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods":
 - a. Sieving Method: Report sand-gradation percentages for very coarse, coarse, medium, fine, and very fine sand; and fragment-gradation (gravel) percentages for fine, medium, and coarse fragments; according to USDA sand and fragment sizes.
 - b. Hydrometer Method: Report percentages of sand, silt, and clay.
 2. Total Porosity: Calculate using particle density and bulk density according to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods."
 3. Water Retention: According to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods."
 4. Saturated Hydraulic Conductivity: According to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods"; at 85% compaction according to ASTM D 698 (Standard Proctor).
- C. Chemical Testing:
 1. CEC: Analysis by sodium saturation at pH 7 according to SSSA's "Methods of Soil Analysis - Part 3- Chemical Methods."
 2. Clay Mineralogy: Analysis and estimated percentage of expandable clay minerals using CEC by ammonium saturation at pH 7 according to SSSA's "Methods of Soil Analysis - Part 1- Physical and Mineralogical Methods."
 3. Metals Hazardous to Human Health: Test for presence and quantities of RCRA metals including aluminum, arsenic, barium, copper, cadmium, chromium, cobalt, lead, lithium, and vanadium. If RCRA metals are present, include recommendations for corrective action.
 4. Phytotoxicity: Test for plant-available concentrations of phytotoxic minerals including aluminum, arsenic, barium, cadmium, chlorides, chromium, cobalt, copper, lead, lithium, mercury, nickel, selenium, silver, sodium, strontium, tin, titanium, vanadium, and zinc.
- D. Fertility Testing: Soil-fertility analysis according to standard laboratory protocol of [SSSA NAPT NCR-13] [SSSA NAPT NEC-67] [SSSA NAPT SERA-6] [SSSA NAPT WERA-103], including the following:
 1. Percentage of organic matter.
 2. CEC, calcium percent of CEC, and magnesium percent of CEC.
 3. Soil reaction (acidity/alkalinity pH value).

4. Buffered acidity or alkalinity.
 5. Nitrogen ppm.
 6. Phosphorous ppm.
 7. Potassium ppm.
 8. Manganese ppm.
 9. Manganese-availability ppm.
 10. Zinc ppm.
 11. Zinc availability ppm.
 12. Copper ppm.
 13. Sodium ppm[**and sodium absorption ratio**].
 14. Soluble-salts ppm.
 15. Presence and quantities of problem materials including salts and metals cited in the Standard protocol. If such problem materials are present, provide additional recommendations for corrective action.
 16. Other deleterious materials, including their characteristics and content of each.
- E. Organic-Matter Content: Analysis using loss-by-ignition method according to SSSA's "Methods of Soil Analysis - Part 3- Chemical Methods."
- F. Recommendations: Based on the test results, state recommendations for soil treatments and soil amendments to be incorporated to produce satisfactory planting soil suitable for healthy, viable plants indicated. Include, at a minimum, recommendations for nitrogen, phosphorous, and potassium fertilization, and for micronutrients.
1. Fertilizers and Soil Amendment Rates: State recommendations in weight [**per 1000 sq. ft. (100 sq. m) for 6-inch (150-mm)depth of soil**] <Insert requirement>.
 2. Soil Reaction: State the recommended liming rates for raising pH or sulfur for lowering pH according to the buffered acidity or buffered alkalinity in weight [**per 1000 sq. ft. (100 sq. m) for 6-inch (150-mm)depth of soil**] <Insert requirement>.

1.13 DELIVERY, STORAGE, AND HANDLING

- A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and compliance with state and Federal laws if applicable.
- B. Bulk Materials:
1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
 3. Do not move or handle materials when they are wet or frozen.
 4. Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. [<Double click to insert sustainable design text for regional materials.>](#)

2.2 PLANTING SOILS SPECIFIED BY COMPOSITION

- A. General: Soil amendments, fertilizers, and rates of application specified in this article are guidelines that may need revision based on testing laboratory's recommendations after preconstruction soil analyses are performed.
- B. Planting-Soil Type **<Insert drawing designation>**: Existing, on-site surface soil, with the duff layer, if any, retained[; and stockpiled on-site]; modified to produce viable planting soil. Blend existing, on-site surface soil with the following soil amendments and fertilizers in the following quantities to produce planting soil:
- Ratio of Loose Compost to Soil: **[1:4] [1:3] [1:2] <Insert ratio>** by volume.
 - Ratio of Loose **[Sphagnum] [Muck] Peat** to Soil: **<Insert ratio>** by volume.
 - Ratio of Loose Wood Derivatives Soil: **<Insert ratio>** by volume.
 - Weight of Lime: **<Insert weight>** per **[1000 sq. ft. (100 sq. m)] <Insert area>** per **[6 inches (150 mm)] <Insert dimension>** of soil depth.
 - Weight of **[Sulfur] [Iron Sulfate]**: **<Insert weight>** per **[1000 sq. ft. (100 sq. m)] <Insert area>** per **[6 inches (150 mm)] <Insert dimension>** of soil depth.
 - Weight of Agricultural Gypsum: **<Insert weight>** per **[1000 sq. ft. (100 sq. m)] <Insert area>** per **[6 inches (150 mm)] <Insert dimension>** of soil depth.
 - Weight of Superphosphate: **<Insert weight>** per **[1000 sq. ft. (100 sq. m)] <Insert area>** per **[6 inches (150 mm)] <Insert dimension>** of soil depth.
 - Weight of Commercial Fertilizer: **<Insert weight>** per **[1000 sq. ft. (100 sq. m)] <Insert area>** per **[6 inches (150 mm)] <Insert dimension>** of soil depth.
 - Weight of Slow-Release Fertilizer: **<Insert weight>** per **[1000 sq. ft. (100 sq. m)] <Insert area>** per **[6 inches (150 mm)] <Insert dimension>** of soil depth.
- C. Planting-Soil Type **<Insert drawing designation>**: Imported, naturally formed soil from off-site sources and consisting of **[sandy loam] [loam] [silt loam] [loamy sand] [or] [sand]** soil **<Insert soil texture>** according to USDA textures; and modified to produce viable planting soil.
- Sources: Take imported, unamended soil from sources that are naturally well-drained sites where topsoil occurs at least **4 inches (100 mm)** deep, not from **[agricultural land,]** bogs, or marshes; and that do not contain undesirable organisms; disease-causing plant pathogens; or obnoxious weeds and invasive plants including, but not limited to, quackgrass, Johnsongrass, poison ivy, nutsedge, nimblewill, Canada thistle, bindweed, bentgrass, wild garlic, ground ivy, perennial sorrel, and brome grass.
 - Additional Properties of Imported Soil before Amending: Soil reaction of **[pH 6 to 7] <Insert range>** and minimum of **[2] [4] [6] <Insert number>** percent organic-matter content, friable, and with sufficient structure to give good tilth and aeration.
 - Unacceptable Properties: Clean soil of the following:

- a. Unacceptable Materials: Concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.
 - b. Unsuitable Materials: Stones, roots, plants, sod, clay lumps, and pockets of coarse sand that exceed a combined maximum of [8] <Insert number> percent by dry weight of the imported soil.
 - c. Large Materials: Stones, clods, roots, clay lumps, and pockets of coarse sand exceeding [2 inches (50 mm)] [3 inches (75 mm)] <Insert dimension> in any dimension.
4. Amended Soil Composition: Blend imported, unamended soil with the following soil amendments and fertilizers in the following quantities to produce planting soil:
- a. Ratio of Loose Compost to Soil: [1:4] [1:3] [1:2] <Insert ratio> by volume.
 - b. Ratio of Loose [Sphagnum] [Muck] Peat to Soil: <Insert ratio> by volume.
 - c. Ratio of Loose Wood Derivatives to Soil: <Insert ratio> by volume.
 - d. Weight of Lime: <Insert weight> per [1000 sq. ft. (100 sq. m)] <Insert area> per [6 inches (150 mm)] <Insert dimension> of soil depth.
 - e. Weight of [Sulfur] [Iron Sulfate]: <Insert weight> per [1000 sq. ft. (100 sq. m)] <Insert area> per [6 inches (150 mm)] <Insert dimension> of soil depth.
 - f. Weight of Agricultural Gypsum: <Insert weight> per [1000 sq. ft. (100 sq. m)] <Insert area> per [6 inches (150 mm)] <Insert dimension> of soil depth.
 - g. Weight of Superphosphate: <Insert weight> per [1000 sq. ft. (100 sq. m)] <Insert area> per [6 inches (150 mm)] <Insert dimension> of soil depth.
 - h. Weight of Commercial Fertilizer: <Insert weight> per [1000 sq. ft. (100 sq. m)] <Insert area> per [6 inches (150 mm)] <Insert dimension> of soil depth.
 - i. Weight of Slow-Release Fertilizer: <Insert weight> per [1000 sq. ft. (100 sq. m)] <Insert area> per [6 inches (150 mm)] <Insert dimension> of soil depth.
- D. Planting-Soil Type <Insert drawing designation>: Manufactured soil consisting of manufacturer's basic [topsoil,] [sandy loam according to USDA textures,] <Insert soil texture or manufacturer's base-soil designation> blended in a manufacturing facility with sand, stabilized organic soil amendments, and other materials to produce viable planting soil.
1. Additional Properties of Manufacturer's Basic Soil before Amending: Soil reaction of [pH 6 to 7] <Insert range> and minimum of [2] [4] [6] <Insert number> percent organic-matter content, friable, and with sufficient structure to give good tilth and aeration.
 2. Unacceptable Properties: Manufactured soil shall not contain the following:
 - a. Unacceptable Materials: Concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.

- b. Unsuitable Materials: Stones, roots, plants, sod, clay lumps, and pockets of coarse sand that exceed a combined maximum of [5] <Insert number> percent by dry weight of the manufactured soil.
 - c. Large Materials: Stones, clods, roots, clay lumps, and pockets of coarse sand exceeding [1-1/2 inches (38 mm)] [2 inches (50 mm)] <Insert dimension> in any dimension.
3. Blend manufacturer's basic soil with the following soil amendments and fertilizers in the following quantities to produce planting soil:
- a. Ratio of Loose Compost to Soil: [1:4] [1:3] [1:2] <Insert ratio> by volume.
 - b. Ratio of Loose [Sphagnum] [Muck] Peat to Soil: <Insert ratio> by volume.
 - c. Ratio of Loose Wood Derivatives Soil: <Insert ratio> by volume.
 - d. Volume of Sand: <Insert volume> per [cu. yd. (cu. m)] <Insert value>.
 - e. Volume of Perlite: <Insert volume> per [cu. yd. (cu. m)] <Insert value>.
 - f. Weight of Lime: <Insert weight> per [cu. yd. (cu. m)] <Insert value>.
 - g. Weight of [Sulfur] [Iron Sulfate]: <Insert weight> per [cu. yd. (cu. m)] <Insert value>.
 - h. Weight of Agricultural Gypsum: <Insert weight> per [cu. yd. (cu. m)] <Insert value>.
 - i. Weight of Superphosphate: <Insert weight> per [cu. yd. (cu. m)] <Insert value>.
 - j. Weight of Commercial Fertilizer: <Insert weight> per [cu. yd. (cu. m)] <Insert value>.
 - k. Weight of Slow-Release Fertilizer: <Insert weight> per [cu. yd. (cu. m)] <Insert value>.

2.3 INORGANIC SOIL AMENDMENTS

- A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
 - 1. Class: T, with a minimum of 99 percent passing through a No. 8 (2.36-mm) sieve and a minimum of 75 percent passing through a No. 60 (0.25-mm) sieve.
 - 2. Class: O, with a minimum of 95 percent passing through a No. 8 (2.36-mm) sieve and a minimum of 55 percent passing through a No. 60 (0.25-mm) sieve.
 - 3. Form: Provide lime in form of ground [dolomitic limestone] [calcitic limestone] [mollusk shells] <Insert material>.
- B. Sulfur: Granular, biodegradable, and containing a minimum of 90 percent elemental sulfur, with a minimum of 99 percent passing through a No. 6 (3.35-mm) sieve and a maximum of 10 percent passing through a No. 40 (0.425-mm) sieve.
- C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
- D. Perlite: Horticultural perlite, soil amendment grade.
- E. Agricultural Gypsum: Minimum 90 percent calcium sulfate, finely ground with 90 percent passing through a No. 50 (0.30-mm) sieve.

- F. Sand: Clean, washed, natural or manufactured, free of toxic materials, and according to [ASTM C 33/C 33M] <Insert requirement>.

2.4 ORGANIC SOIL AMENDMENTS

- A. Compost: Well-composted, stable, and weed-free organic matter produced by composting feedstock, and bearing USCC's "Seal of Testing Assurance," and as follows:
1. Feedstock: [Limited to leaves] [May include sewage sludge] [May include animal waste] <Insert requirement>.
 2. Reaction: [pH of 5.5 to 8] <Insert range>.
 3. Soluble-Salt Concentration: Less than [4] <Insert value> dS/m.
 4. Moisture Content: [35 to 55] <Insert number range> percent by weight.
 5. Organic-Matter Content: [30 to 40] [50 to 60] <Insert number range> percent of dry weight.
 6. Particle Size: Minimum of 98 percent passing through a [4-inch (100-mm)] [2-inch (50-mm)] [1-inch (25-mm)] [1/2-inch (13-mm)] sieve.
- B. Sphagnum Peat: Partially decomposed sphagnum peat moss, finely divided or of granular texture with 100 percent passing through a [1/2-inch (13-mm)] <Insert dimension> sieve, a pH of 3.4 to 4.8, and a soluble-salt content measured by electrical conductivity of [maximum 5] <Insert value or range> dS/m.
- C. Muck Peat: Partially decomposed moss peat, native peat, or reed-sedge peat, finely divided or of granular texture with 100 percent passing through a [1/2-inch (13-mm)] <Insert dimension> sieve, a pH of 6 to 7.5, a soluble-salt content measured by electrical conductivity of [maximum 5] <Insert value or range> dS/m, having a water-absorbing capacity of 1100 to 2000 percent, and containing no sand.
- D. Wood Derivatives: Shredded and composted, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture and free of chips, stones, sticks, soil, or toxic materials.
1. Partially Decomposed Wood Derivatives: In lieu of shredded and composted wood derivatives, mix shredded and partially decomposed wood derivatives with ammonium nitrate at a minimum rate of [0.15 lb/cu. ft. (2.4 kg/cu. m)] <Insert value> of loose sawdust or ground bark, or with ammonium sulfate at a minimum rate of [0.25 lb/cu. ft. (4 kg/cu. m)] <Insert value> of loose sawdust or ground bark.
- E. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, debris, and material harmful to plant growth.

2.5 FERTILIZERS

- A. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of [20] [33] [50] percent available phosphoric acid.

- B. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
 - 1. Composition: [**1 lb/1000 sq. ft. (0.5 kg/100 sq. m)**] <Insert value> of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
 - 2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified testing agency.
- C. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
 - 1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.
 - 2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified testing agency.
- D. Chelated Iron: Commercial-grade FeEDDHA for dicots and woody plants, and commercial-grade FeDTPA for ornamental grasses and monocots.

PART 3 - EXECUTION

3.1 GENERAL

- A. Place planting soil and fertilizers according to requirements in other Specification Sections.
- B. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in planting soil.
- C. Proceed with placement only after unsatisfactory conditions have been corrected.

3.2 PREPARATION OF UNAMENDED, ON-SITE SOIL BEFORE AMENDING

- A. Excavation: Excavate soil from designated area(s) to a depth of [**6 inches (150 mm)**] <Insert dimension> and stockpile until amended.
- B. Unacceptable Materials: Clean soil of concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.
- C. Unsuitable Materials: Clean soil to contain a maximum of [**8**] <Insert number> percent by dry weight of stones, roots, plants, sod, clay lumps, and pockets of coarse sand.
- D. Screening: Pass unamended soil through a [**2-inch (50-mm)**] [**3-inch (75-mm)**] <Insert dimension> sieve to remove large materials.

3.3 PLACING AND MIXING PLANTING SOIL OVER EXPOSED SUBGRADE

- A. General: Apply and mix unamended soil with amendments on-site to produce required planting soil. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.
- B. Subgrade Preparation: Till subgrade to a minimum depth of [4 inches (100 mm)] [6 inches (150 mm)] [8 inches (200 mm)] [12 inches (300 mm)] [18 inches (450 mm)] <Insert dimension>. Remove stones larger than [1-1/2 inches (38 mm)] [2 inches (50 mm)] [3 inches (75 mm)] <Insert dimension> in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
 - 1. Apply, add soil amendments, and mix approximately half the thickness of unamended soil over prepared, loosened subgrade according to "Mixing" Paragraph below. Mix thoroughly into top [2 inches (50 mm)] [4 inches (100 mm)] of subgrade. Spread remainder of planting soil.
- C. Mixing: Spread unamended soil to total depth [of 4 inches (100 mm)] [of 6 inches (150 mm)] [of 8 inches (200 mm)] [of 12 inches (300 mm)] [indicated on Drawings] <Insert dimension>, but not less than required to meet finish grades after mixing with amendments and natural settlement. Do not spread if soil or subgrade is frozen, muddy, or excessively wet.
 - 1. Amendments: Apply soil amendments[, except compost,] and fertilizer, if required, evenly on surface, and thoroughly blend them with unamended soil to produce planting soil.
 - a. Mix [lime] [and] [sulfur] with dry soil before mixing fertilizer.
 - b. Mix fertilizer with planting soil no more than seven days before planting.
 - 2. Lifts: Apply and mix unamended soil and amendments in lifts not exceeding [8 inches (200 mm)] [12 inches (300 mm)] <Insert dimension> in loose depth for material compacted by compaction equipment, and not more than [4 inches (100 mm)] [6 inches (150 mm)] in loose depth for material compacted by hand-operated tampers.
- D. Compaction: Compact each blended lift of planting soil to [75 to 82] <Insert number range> percent of maximum Standard Proctor density according to ASTM D 698 and tested in-place[except where a different compaction value is indicated on Drawings].
- E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.4 PLACING MANUFACTURED PLANTING SOIL OVER EXPOSED SUBGRADE

- A. General: Apply manufactured soil on-site in its final, blended condition. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.

- B. Subgrade Preparation: Till subgrade to a minimum depth of [4 inches (100 mm)] [6 inches (150 mm)] [8 inches (200 mm)] [12 inches (300 mm)] [18 inches (450 mm)] <Insert dimension>. Remove stones larger than [1-1/2 inches (38 mm)] [2 inches (50 mm)] [3 inches (75 mm)] <Insert dimension> in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
1. Apply approximately half the thickness of planting soil over prepared, loosened subgrade. Mix thoroughly into top [2 inches (50 mm)] [4 inches (100 mm)] of subgrade. Spread remainder of planting soil.
- C. Application: Spread planting soil to total depth [of 4 inches (100 mm)] [of 6 inches (150 mm)] [of 8 inches (200 mm)] [of 12 inches (300 mm)] [indicated on Drawings] <Insert dimension>, but not less than required to meet finish grades after natural settlement. Do not spread if soil or subgrade is frozen, muddy, or excessively wet.
1. Lifts: Apply planting soil in lifts not exceeding [8 inches (200 mm)] [12 inches (300 mm)] <Insert dimension> in loose depth for material compacted by compaction equipment, and not more than [4 inches (100 mm)] [6 inches (150 mm)] in loose depth for material compacted by hand-operated tampers.
- D. Compaction: Compact each lift of planting soil to [75 to 82] <Insert number range> percent of maximum Standard Proctor density according to ASTM D 698[except where a different compaction value is indicated on Drawings].
- E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.5 BLENDING PLANTING SOIL IN PLACE

- A. General: Mix amendments with in-place, unamended soil to produce required planting soil. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.
- B. Preparation: Till unamended, existing soil in planting areas to a minimum depth of [of 4 inches (100 mm)] [of 6 inches (150 mm)] [of 8 inches (200 mm)] [of 12 inches (300 mm)] [of 18 inches (450 mm)] [indicated on Drawings] <Insert dimension>. Remove stones larger than [1-1/2 inches (38 mm)] [2 inches (50 mm)] [3 inches (75 mm)] <Insert dimension> in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
- C. Mixing: Apply soil amendments[, except compost,] and fertilizer, if required, evenly on surface, and thoroughly blend them into full depth of unamended, in-place soil to produce planting soil.
1. Mix [lime] [and] [sulfur] with dry soil before mixing fertilizer.
 2. Mix fertilizer with planting soil no more than seven days before planting.

- D. Compaction: Compact blended planting soil to [75 to 82] <Insert number range> percent of maximum Standard Proctor density according to ASTM D 698[**except where a different compaction value is indicated on Drawings**].
- E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.6 APPLYING COMPOST TO SURFACE OF PLANTING SOIL

- A. Application: Apply [compost component of planting-soil mix] [4 inches (100 mm) of compost] [6 inches (150 mm) of compost] <Insert depth> to surface of in-place planting soil. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.
- B. Finish Grading: Grade surface to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.7 LAYERED SOIL ASSEMBLIES

- A. Layered Soil Assembly <Insert designation>:
 - 1. [Top Layer] <Insert layer designation>: Planting-soil type <Insert drawing designation>.
 - 2. <Insert layer designation>: Planting-soil type <Insert drawing designation>.

3.8 FIELD QUALITY CONTROL

- A. Testing Agency: [Owner will engage] [Engage] a qualified testing agency to perform tests and inspections.
- B. Perform the following tests[**and inspections**]:
 - 1. Compaction: Test planting-soil compaction after placing each lift and at completion using a densitometer or soil-compaction meter calibrated to a reference test value based on laboratory testing according to ASTM D 698. Space tests at no less than one for each [1000 sq. ft. (100 sq. m)] [2000 sq. ft. (200 sq. m)] <Insert dimension> of in-place soil or part thereof.
 - 2. <Insert name of test>: <Insert requirement>.
 - 3. <Insert name of inspection>: <Insert requirement>.
- C. Soil will be considered defective if it does not pass tests[**and inspections**].
- D. Prepare test[**and inspection**] reports.
- E. Label each sample and test report with the date, location keyed to a site plan or other location system, visible conditions when and where sample was taken, and sampling depth.

3.9 PROTECTION

- A. Protection Zone: Identify protection zones according to Section 015639 "Temporary Tree and Plant Protection."
- B. Protect areas of in-place soil from additional compaction, disturbance, and contamination. Prohibit the following practices within these areas except as required to perform planting operations:
 - 1. Storage of construction materials, debris, or excavated material.
 - 2. Parking vehicles or equipment.
 - 3. Vehicle traffic.
 - 4. Foot traffic.
 - 5. Erection of sheds or structures.
 - 6. Impoundment of water.
 - 7. Excavation or other digging unless otherwise indicated.
- C. If planting soil or subgrade is overcompacted, disturbed, or contaminated by foreign or deleterious materials or liquids, remove the planting soil and contamination; restore the subgrade as directed by Architect and replace contaminated planting soil with new planting soil.

3.10 CLEANING

- A. Protect areas adjacent to planting-soil preparation and placement areas from contamination. Keep adjacent paving and construction clean and work area in an orderly condition.
- B. Remove surplus soil and waste material including excess subsoil, unsuitable materials, trash, and debris and legally dispose of them off Owner's property unless otherwise indicated.
 - 1. Dispose of excess subsoil and unsuitable materials on-site where directed by Owner.

END OF SECTION 329113

SECTION 02930 PLANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Plants.
 - 2. Tree stabilization.
 - 3. Tree-watering devices.
- B. Related Requirements:
 - 1. Section 015639 "Temporary Tree and Plant Protection" for protecting, trimming, pruning, repairing, and replacing existing trees to remain that interfere with, or are affected by, execution of the Work.
 - 2. Section 329200 "Turf and Grasses" for turf (lawn) and meadow planting, hydroseeding, and erosion-control materials.

1.3 ALLOWANCES

- A. Allowances for plants are specified in Section 012100 "Allowances."
 - 1. Perform planting work under quantity allowances and only as authorized. Authorized work includes work required by Drawings and the Specifications and work authorized in writing by Architect.
 - 2. Notify Architect weekly of extent of work performed that is attributable to quantity allowances.
 - 3. Perform work that exceeds quantity allowances only as authorized by Change Orders.

1.4 UNIT PRICES

- A. Work of this Section is affected by unit prices specified in Section 012200 "Unit Prices."
- B. Unit prices apply to authorized work covered by quantity allowances.
- C. Unit prices apply to additions to and deletions from the Work as authorized by Change Orders.

1.5 DEFINITIONS

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Balled and Burlapped Stock: Plants dug with firm, natural balls of earth in which they were grown, with a ball size not less than **sizes indicated**; wrapped with burlap, tied, rigidly supported, and drum laced with twine with the root flare visible at the surface of the ball as recommended by ANSI Z60.1.
- C. Bare-Root Stock: Plants with a well-branched, fibrous-root system developed by transplanting or root pruning, with soil or growing medium removed, and with not less than the minimum root spread according to ANSI Z60.1 for type and size of plant required.
- D. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.
- E. Finish Grade: Elevation of finished surface of planting soil.
- F. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant. Some sources classify herbicides separately from pesticides.
- G. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- H. Planting Area: Areas to be planted.
- I. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- J. Plant; Plants; Plant Material: These terms refer to vegetation in general, including trees, shrubs, vines, ground covers, ornamental grasses, bulbs, corms, tubers, or herbaceous vegetation.
- K. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.
- L. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.
- M. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

1.6 COORDINATION

- A. Coordination with Turf Areas (Lawns): Plant trees, shrubs, and other plants after finish grades are established and before planting turf areas unless otherwise indicated.

1. When planting trees, shrubs, and other plants after planting turf areas, protect turf areas, and promptly repair damage caused by planting operations.

1.7 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project Site

1.8 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 1. Plant Materials: Include quantities, sizes, quality, and sources for plant materials.

1.9 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For landscape Installer. Include list of similar projects completed by Installer demonstrating Installer's capabilities and experience. Include project names, addresses, and year completed, and include names and addresses of owners' contact persons.
- B. Product Certificates: For each type of manufactured product, from manufacturer, and complying with the following:
 1. Manufacturer's certified analysis of standard products.
 2. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.
- C. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.
- D. Sample Warranty: For special warranty.

1.10 CLOSEOUT SUBMITTALS

- A. Maintenance Data: Recommended procedures to be established by Owner for maintenance of plants during a calendar year. Submit before expiration of required maintenance periods.

1.11 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful establishment of plants.
 1. Professional Membership: Installer shall be a member in good standing of either the National Association of Landscape Professionals or AmericanHort.
 2. Experience: 3 years' experience in landscape installation in addition to requirements in Section 014000 "Quality Requirements."
 3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.

4. Pesticide Applicator: State licensed, commercial.
- B. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.
 1. Selection of plants purchased under allowances is made by Architect, who tags plants at their place of growth before they are prepared for transplanting.
- C. Measurements: Measure according to ANSI Z60.1. Do not prune to obtain required sizes.
 1. Trees and Shrubs: Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container-grown stock. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper measurements 6 inches above the root flare for trees up to 4-inch caliper size, and 12 inches above the root flare for larger sizes.
 2. Other Plants: Measure with stems, petioles, and foliage in their normal position.
- D. Plant Material Observation: Architect may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Architect may also observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and may reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.
 1. Notify Architect of sources of planting materials seven days in advance of delivery to site.

1.12 DELIVERY, STORAGE, AND HANDLING

- A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws if applicable.
- B. Bulk Materials:
 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
 3. Accompany each delivery of bulk materials with appropriate certificates.
- C. Deliver bare-root stock plants within 24 hours of digging. Immediately after digging up bare-root stock, pack root system in wet straw, hay, or other suitable material to keep root system moist until planting. Transport in covered, temperature-controlled vehicles, and keep plants cool and protected from sun and wind at all times.
- D. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide

protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.

- E. Handle planting stock by root ball.
- F. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.
 - 1. If deciduous trees or shrubs are moved in full leaf, spray with antidesiccant at nursery before moving and again two weeks after planting.
- G. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.
- H. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.
 - 1. Heel-in bare-root stock. Soak roots that are in less than moist condition in water for two hours. Reject plants with dry roots.
 - 2. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
 - 3. Do not remove container-grown stock from containers before time of planting.
 - 4. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly wet condition.

1.13 FIELD CONDITIONS

- A. Field Measurements: Verify actual grade elevations, service and utility locations, irrigation system components, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.
- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions and warranty requirements.

1.14 WARRANTY

- A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner.

- b. Structural failures including plantings falling or blowing over.
 - c. Faulty performance of tree stabilization
- 2. Warranty Periods: From date of written acceptance
 - a. Trees, Shrubs, Vines, and Ornamental Grasses: 90 days.
 - b. Ground Covers, Biennials, Perennials, and Other Plants: 90 days.
 - c. Annuals: 90 days.
- 3. Include the following remedial actions as a minimum:
 - a. Immediately remove dead plants and replace unless required to plant in the succeeding planting season.
 - b. Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
 - c. A limit of one replacement of each plant is required except for losses or replacements due to failure to comply with requirements.
 - d. Provide extended warranty for period equal to original warranty period, for replaced plant material.

PART 2 - PRODUCTS

2.1 PLANT MATERIAL

- A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant List, Plant Schedule, or Plant Legend indicated on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
 - 1. Trees with damaged, crooked, or multiple leaders; tight vertical branches where bark is squeezed between two branches or between branch and trunk ("included bark"); crossing trunks; cut-off limbs more than 3/4 inch in diameter; or with stem girdling roots are unacceptable.
 - 2. Collected Stock: Do not use plants harvested from the wild, from native stands, from an established landscape planting, or not grown in a nursery unless otherwise indicated.
- B. Provide plants of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of plants required. Plants of a larger size may be used if acceptable to Architect, with a proportionate increase in size of roots or balls.
- C. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which begins at root flare according to ANSI Z60.1. Root flare shall be visible before planting.
- D. Labeling: Label **at least one** plant of each variety, size, and caliper with a securely attached, waterproof tag bearing legible designation of common name and full scientific name, including genus and species. Include nomenclature for hybrid, variety, or cultivar, if applicable for the plant.

- E. If formal arrangements or consecutive order of plants is indicated on Drawings, select stock for uniform height and spread, and number the labels to assure symmetry in planting.

2.2 FERTILIZERS

- A. Planting Osmocote slow release fertilizer or equivalent shall be applied to all tree, shrubs and ground cover planting areas at the rate of three (3) tablespoon per 2 square feet of planting.

2.3 MULCHES

- A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:
 1. Type: Pine Bark
 2. Color: Natural.

2.4 PESTICIDES

- A. General: Pesticide registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent Herbicide (Selective and Nonselective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Nonselective): Effective for controlling weed growth that has already germinated.

2.5 TREE-STABILIZATION MATERIALS

- A. Trunk-Stabilization Materials:
 1. Upright and Guy Stakes: 3x2x8' pt pine stakes.
 2. Flexible Ties: Wide rubber or elastic bands or straps of length required to reach stakes or turnbuckles or compression springs.
 3. Guys and Tie Wires: ASTM A641/A641M, Class 1, galvanized-steel wire, two-strand, twisted, 0.106 inch in diameter.
 4. Tree-Tie Webbing: UV-resistant polypropylene or nylon webbing with brass grommets.
 5. Hose Chafing Guards
 6. Flags: Standard surveyor's plastic flagging tape, white, 6 inches long.

2.6 TREE-WATERING DEVICES

- A. Slow-Release Watering Device: Standard product manufactured for drip irrigation of plants and emptying its water contents over two to three weeks; manufactured from UV-light-stabilized nylon-reinforced polyethylene sheet, PVC, or HDPE plastic.

2.7 MISCELLANEOUS PRODUCTS

- A. Wood Pressure-Preservative Treatment: AWWPA U1, Use Category UC4a; acceptable to authorities having jurisdiction, and containing no arsenic or chromium.
- B. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's written instructions.
- C. Burlap: Non-synthetic, biodegradable.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive plants, with Installer present, for compliance with requirements and conditions affecting installation and performance of the Work.
 - 1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
 - 2. Verify that plants and vehicles loaded with plants can travel to planting locations with adequate overhead clearance.
 - 3. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
 - 4. Uniformly moisten excessively dry soil that is not workable or which is dusty.
- B. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas and existing plants from damage caused by planting operations.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- C. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain Architect's acceptance of layout before excavating or planting. Make minor adjustments as required.
- D. Lay out plants at locations directed by Architect. Stake locations of individual trees and shrubs and outline areas for multiple plantings.

3.3 PLANTING AREA ESTABLISHMENT

- A. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.4 EXCAVATION FOR TREES AND SHRUBS

- A. Planting Pits and Trenches: Excavate circular planting pits.
 1. Excavate planting pits with sides sloping inward at a 45-degree angle. Excavations with vertical sides are unacceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.
 2. Excavate approximately three times as wide as ball diameter for container-grown stock.
 3. Excavate at least 12 inches wider than root spread and deep enough to accommodate vertical roots for bare-root stock.
 4. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
 5. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
 6. Maintain angles of repose of adjacent materials to ensure stability. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
 7. Maintain supervision of excavations during working hours.
 8. Keep excavations covered or otherwise protected **when unattended by Installer's personnel.**
 9. If drain tile is indicated on Drawings or required under planting areas, excavate to top of porous backfill over tile.
- B. Backfill Soil: Subsoil and topsoil removed from excavations may be used as backfill soil unless otherwise indicated.
- C. Obstructions: Notify Landscape Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.
 1. Hardpan Layer: Drill 6-inch diameter holes, 24 inches apart, into free-draining strata or to a depth of 10 feet, whichever is less, and backfill with free-draining material.
- D. Drainage: Notify Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub planting pits.
- E. Fill excavations with water and allow to percolate away before positioning trees and shrubs.

3.5 TREE, SHRUB, AND VINE PLANTING

- A. Inspection: At time of planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to

where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.

- B. Roots: Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.
- C. Slopes: When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

3.6 TREE, SHRUB, AND VINE PRUNING

- A. Prune, thin, and shape trees, shrubs, and vines according to standard professional horticultural and arboricultural practices. Unless otherwise indicated by Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.
- B. Do not apply pruning paint to wounds.

3.7 TREE STABILIZATION

- A. Trunk Stabilization by Staking and Guying: As indicated on drawings.

3.8 GROUND COVER AND PLANT PLANTING

- A. Set out and space ground cover and plants other than trees, shrubs, and vines as indicated on Drawings in even rows with triangular spacing.
- B. Use planting soil for backfill.
- C. Dig holes large enough to allow spreading of roots.
- D. For rooted cutting plants supplied in flats, plant each in a manner that minimally disturbs the root system but to a depth not less than two nodes.
- E. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.
- F. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.
- G. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

3.9 PLANTING AREA MULCHING

- A. Mulch backfilled surfaces of planting areas and other areas indicated.

1. Trees in Turf Areas: Apply as indicated on plans mulch ring of 3-inch average thickness, with radius around trunks or stems. Do not place mulch within 3 inches of trunks or stems.
2. Organic Mulch in Planting Areas: Apply 3-inch average thickness of organic mulch extending over whole surface of planting area, and finish level with adjacent finish grades. Do not place mulch within 3 inches of trunks or stems.

3.10 INSTALLATION OF EDGING

- A. Shovel-Cut Edging: Separate mulched areas from turf areas with a 45-degree, 4- to 6-inch-deep, shovel-cut edge.

3.11 PLANT MAINTENANCE

- A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings.
- B. Fill in, as necessary, soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
- C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices when possible to minimize use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

3.12 PESTICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents according to authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- B. Pre-Emergent Herbicides (Selective and Nonselective): Apply to tree, shrub, and ground-cover areas according to manufacturer's written recommendations. Do not apply to seeded areas.
- C. Post-Emergent Herbicides (Selective and Nonselective): Apply only as necessary to treat already-germinated weeds and according to manufacturer's written recommendations.

3.13 REPAIR AND REPLACEMENT

- A. General: Repair or replace existing or new trees and other plants that are damaged by construction operations, in a manner approved by Architect.
 1. Submit details of proposed pruning and repairs.
 2. Perform repairs of damaged trunks, branches, and roots within 24 hours, if approved.

3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Architect.
- B. Remove and replace trees that are more than 25 percent dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that Architect determines are incapable of restoring to normal growth pattern.
 1. Provide new trees of same size as those being replaced.
 2. Species of Replacement Trees: Same species being replaced.

3.14 CLEANING AND PROTECTION

- A. During planting, keep adjacent paving and construction clean and work area in an orderly condition. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.
- C. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.
- D. After installation and before 90 days, remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.

3.15 MAINTENANCE SERVICE

- A. Maintenance Service for Trees and Shrubs: Provide maintenance by skilled employees of landscape Installer. Maintain as required in "Plant Maintenance" Article. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established, but for not less than maintenance period below:
 1. Maintenance Period: 90 days from date of written acceptance.
- B. Maintenance Service for Ground Cover and Other Plants: Provide maintenance by skilled employees of landscape Installer. Maintain as required in "Plant Maintenance" Article. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established, but for not less than maintenance period below:
 1. Maintenance Period: 90 days from date of written acceptance.

END OF SECTION 02930

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Project information.
2. Work covered by Contract Documents.
3. Access to site.
4. Coordination with occupants.
5. Work restrictions.
6. Specification and drawing conventions.

B. Related Section:

1. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.2 PROJECT INFORMATION

A. Project Identification: South Ormond Neighborhood Center Gymnasium.

B. Owner: City of Ormond Beach.

1. Owner's Representative: Cole Buck, P.E.

C. Architect: DJdesign Services, Inc.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of the Project is defined by the Contract Documents and consists of the following:

1. Drawings and Specifications.

B. Type of Contract.

1. Project will be constructed under a single prime contract.

C. General Conditions:

1. City of Ormond Beach, Standard Service Agreement.

1.4 PHASED CONSTRUCTION

- A. Construction work in the building shall be done without disturbance to adjacent ongoing activities. Access shall remain unimpeded during construction.

1.5 ACCESS TO SITE

- A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1.6 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 - 1. Comply with limitations on use of public streets and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7 a.m. to 5 p.m., Monday through Friday, except as otherwise indicated.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
 - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
 - 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
 - 1. Notify Owner not less than two days in advance of proposed disruptive operations.
 - 2. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet (8 m) of entrances, operable windows, or outdoor air intakes.
- F. Controlled Substances: Use of tobacco products and other controlled substances on the Project site is not permitted.
- G. Owner shall reserve the right to remove contractor's personnel from jobsite who are deemed not to have the best interest of the owner.

1.7 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on the Drawings are described in detail in the Specifications. One or more of the following are used on the Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 2. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

SONC GYMNASIUM

PROJECT #02454

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ADDITIVE ALTERNATES

1. Alternate No. 1: Provide solar panels for domestic hot water.
2. Alternate No. 2: Remove and replace existing ACU/AHU equipment in Gym #1.

END OF SECTION 012300

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Section:
 - 1. Division 01 Section "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1.3 SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use CSI Form 13.1A or similar form.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication, or installation cannot be provided, if applicable.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable specification section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.

- i. Research reports evidencing compliance with building code in effect for Project, from Florida Building Code.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
- 3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.4 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage qualified testing agency to perform compatibility tests recommended by manufacturers.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
 - 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Requested substitution will not adversely affect Contractor's construction schedule.

- c. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - d. Requested substitution is compatible with other portions of the Work.
 - e. Requested substitution has been coordinated with other portions of the Work.
 - f. Requested substitution provides specified warranty.
 - g. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Not allowed, unless otherwise indicated.
- C. Substitutions for Convenience: Architect will consider requests for substitution if received within 60 days after the Notice to Proceed
 - 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied:
 - a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 - b. Requested substitution does not require extensive revisions to the Contract Documents.
 - c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - d. Requested substitution will not adversely affect Contractor's construction schedule.
 - e. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - f. Requested substitution is compatible with other portions of the Work.
 - g. Requested substitution has been coordinated with other portions of the Work.
 - h. Requested substitution provides specified warranty.
 - i. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Requests for Information (RFIs).
 - 2. Owner/Architect/Contractor Project meetings. (OAC)

1.2 DEFINITIONS

- A. RFI: Request from Owner, Architect, or Contractor seeking information from each other during construction.
- B. OAC: Owner, Architect and Contractor meetings held on a regular basis.

1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's construction schedule.
 - 2. Preparation of the schedule of values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.

5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.
9. Project closeout activities.

1.4 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of Architect.
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Drawing number and detail references, as appropriate.
 9. Field dimensions and conditions, as appropriate.
 10. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 11. Contractor's signature.
 12. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
- C. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow five working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
 1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Architect's actions on submittals.
 - f. Incomplete RFIs or inaccurately prepared RFIs.

2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
- D. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly.

1.5 PROJECT MEETINGS (OAC)

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.
- B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
 1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for RFIs.
 - g. Procedures for testing and inspecting.
 - h. Procedures for processing Applications for Payment.
 - i. Distribution of the Contract Documents.
 - j. Submittal procedures.

- k. Preparation of record documents.
 - l. Use of the premises and existing building.
 - m. Work restrictions.
 - n. Working hours.
 - o. Owner's occupancy requirements.
 - p. Responsibility for temporary facilities and controls.
 - q. Procedures for moisture and mold control.
 - r. Procedures for disruptions and shutdowns.
 - s. Construction waste management and recycling.
 - t. Parking availability.
 - u. Office, work, and storage areas.
 - v. Equipment deliveries and priorities.
 - w. First aid.
 - x. Security.
 - y. Progress cleaning.
- 3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Progress Meetings: Conduct progress meetings at biweekly intervals.
 - 1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.

- 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of proposal requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.
3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
- a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's construction schedule.
 - 2. Daily construction reports.
 - 3. Field condition reports.
- B. Related Section:
 - 1. Division 01 Section "Multiple Contract Summary" for preparing a combined Contractor's Construction Schedule.

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.

1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. PDF electronic file.
 - 2. Two paper copies.
- B. Start-up Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.
- C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.
- D. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
 1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
 2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
 3. Total Float Report: List of all activities sorted in ascending order of total float.
- E. Daily Construction Reports: Submit at weekly intervals.
- F. Field Condition Reports: Submit at time of discovery of differing conditions.

1.4 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's construction schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 1. Secure time commitments for performing critical elements of the Work from entities involved.
 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion.
 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
 1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.

2. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
 3. Startup and Testing Time: Include not less than 15 days for startup and testing.
 4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
 5. Punch List and Final Completion: Include not more than 30 days for punch list and final completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule and show how the sequence of the Work is affected.
1. Phasing: Arrange list of activities on schedule by phase.
 2. Work under More Than One Contract: Include a separate activity for each contract.
 3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
 4. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use of premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.
 5. Work Stages: Indicate important stages of construction for each major portion of the Work.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.
- E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
1. Unresolved issues.
 2. Unanswered RFIs.
 3. Rejected or unreturned submittals.
 4. Notations on returned submittals.
- F. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule.
- G. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's construction schedule within 30 days of date established for the Notice of Award.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
 - 1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.3 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 - 1. List of subcontractors at Project site.
 - 2. List of separate contractors at Project site.
 - 3. Approximate count of personnel at Project site.
 - 4. Equipment at Project site.
 - 5. Material deliveries.
 - 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 - 7. Accidents.
 - 8. Meetings and significant decisions.
 - 9. Unusual events.
 - 10. Stoppages, delays, shortages, and losses.
 - 11. Meter readings and similar recordings.
 - 12. Emergency procedures.
 - 13. Orders and requests of authorities having jurisdiction.
 - 14. Change Orders received and implemented.
 - 15. Construction Change Directives received and implemented.
 - 16. Services connected and disconnected.
 - 17. Equipment or system tests and startups.
 - 18. Partial completions and occupancies.
 - 19. Substantial Completions authorized.
- B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 - 3. As the Work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect, Construction Manager, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
 - 1. Post copies in Project meeting rooms and temporary field offices.
 - 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Sections:
 - 1. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 2. Division 01 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.
 - 3. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
 - 4. Division 01 Section "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action.
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.3 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or modifications to submittals noted by the Architect and Construction Manager and additional time for handling and reviewing submittals required by those corrections.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic copies of CAD Drawings of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals.
 - 1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project record drawings.

- a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
 - b. Contractor shall execute a data licensing agreement in the form of an Agreement form acceptable to the Owner and Architect.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's Construction Manager's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 - 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
- D. Identification and Information: Place a permanent label or title block on each paper copy submittal item for identification.
 - 1. Indicate name of firm or entity that prepared each submittal on label or title block.
 - 2. Provide a space approximately 6 by 8 inches (150 by 200 mm) on label or beside title block to record Contractor's review and approval markings and action taken by Architect
 - 3. Include the following information for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of subcontractor.
 - g. Name of supplier.
 - h. Name of manufacturer.
 - i. Submittal number or other unique identifier, including revision identifier.
 - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).

- j. Number and title of appropriate Specification Section.
 - k. Drawing number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Other necessary identification.

- E. Identification and Information: Identify and incorporate information in each electronic submittal file as follows:
 - 1. Assemble complete submittal package into a single indexed file with links enabling navigation to each item.
 - 2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01A).
 - 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
 - 4. Include the following information on an inserted cover sheet:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of firm or entity that prepared submittal.
 - g. Name of subcontractor.
 - h. Name of supplier.
 - i. Name of manufacturer.
 - j. Number and title of appropriate Specification Section.
 - k. Drawing number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Related physical samples submitted directly.
 - n. Other necessary identification.

- F. Options: Identify options requiring selection by the Architect.

- G. Deviations: Identify deviations from the Contract Documents on submittals.

- H. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
 - 1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.

- I. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return submittals, without review, received from sources other than Contractor.

1. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- J. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- K. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- L. Use for Construction: Use only final submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements:
1. Submit electronic submittals via email as PDF electronic files.
 - a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
 2. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."
 3. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
 4. Test and Inspection Reports Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before or concurrent with Samples.
 6. Submit Product Data in the following format:
 - a. PDF electronic file.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based upon Architect's digital data drawing files is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 30 by 42 inches (750 by 1067 mm).
 3. Submit Shop Drawings in the following format:
 - a. PDF electronic file.

- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit two full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
 5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit two sets of Samples. Architect will retain one Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a Project record sample.
 - 1) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Submit product schedule in the following format:
 - a. PDF electronic file.
- F. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."
- G. Application for Payment: Comply with requirements specified in Division 01 Section "Payment Procedures."
- H. Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."
- I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A.
 1. Submit subcontractor list in the following format:
 - a. PDF electronic file.
 - b. Number of Copies: Three paper copies of subcontractor list, unless otherwise indicated. Architect will return two copies.
 - c. List shall include the following trades:
 - Selective Demolition
 - Landscaping/Irrigations
 - Metal Stud Framing and Dry Wall
 - Acoustical Grid and Ceiling Tile
 - Casework
 - EIFS Repair
 - Membrane Roofing and Accessories
 - Tile Roofing and Accessories
 - Plumbing
 - HVAC
 - Electrical
 - Painting
 - Carpet Tile, VCT, Base and Accessories
 - Quarry Tile, Ceramic Tile, Base and Accessories
 - Concrete Placement and Finishing
 - Aluminum Storefront Systems
 - Rough Carpentry
 - Structural Steel Fabrications and Installation
 - Alternate #1, Solar Collector Supplier and Installation
- J. Coordination Drawings: Comply with requirements specified in Division 01 Section "Project Management and Coordination."
- K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

- L. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on American Welding Society (AWS) forms. Include names of firms and personnel certified.
- M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- R. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- S. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project.
- T. Schedule of Tests and Inspections: Comply with requirements specified in Division 01 Section "Quality Requirements."
- U. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- V. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- W. Field Test Reports: Submit reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- X. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."

- Y. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Division 01 Section "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:

1. Reviewed
 2. Rejected
 3. Submit Specific Item
 4. Furnish as corrected
 5. Revise and Re-Submit.
- C. Informational Submittals: Architect and Construction Manager will review each submittal and will not return it or will return it if it does not comply with requirements. Architect and Construction Manager will forward each submittal to appropriate party.
- D. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 2. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Sections:
 - 1. Divisions 02 through 33 Sections for specific test and inspection requirements.

1.2 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Mockups: Full size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
 - 1. Laboratory Mockups: Full-size, physical assemblies constructed at testing facility to verify performance characteristics.
- D. Preconstruction Testing: Tests and inspections performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.

- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade or trades.
- J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of FIVE previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.4 INFORMATIONAL SUBMITTALS

- A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems.
 - 1. Seismic-force resisting system, designated seismic system, or component listed in the designated seismic system quality assurance plan prepared by the Architect.

2. Main wind-force resisting system, or a wind-resisting component listed in the wind-force-resisting system quality assurance plan prepared by the Architect.
- B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

1.5 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
1. Date of issue.
 2. Project title and number.
 3. Name, address, and telephone number of testing agency.
 4. Dates and locations of samples and tests or inspections.
 5. Names of individuals making tests and inspections.
 6. Description of the Work and test and inspection method.
 7. Identification of product and Specification Section.
 8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.
 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Field Reports: Prepare written information documenting tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 5. Other required items indicated in individual Specification Sections.
- C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.6 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

- B. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. **Fabricator Qualifications:** A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. **Installer Qualifications:** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in 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 installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F. **Specialists:** Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. **Testing Agency Qualifications:** An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. **Manufacturer's Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. **Preconstruction Testing:** Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.

- d. When testing is complete, remove test specimens, assemblies, mockups do not reuse products on Project.
2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

1.7 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
 1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.
- D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform any duties of Contractor.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Delivery of samples to testing agencies.
 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 01 Section "Execution."

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- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.2 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.3 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Thomson Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

AA	Aluminum Association, Inc. (The)
AAADM	American Association of Automatic Door Manufacturers
AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ABAA	Air Barrier Association of America
ABMA	American Bearing Manufacturers Association
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AEIC	Association of Edison Illuminating Companies, Inc. (The)
AF&PA	American Forest & Paper Association
AGA	American Gas Association
AGC	Associated General Contractors of America (The)
AHA	American Hardboard Association (Now part of CPA)
AHAM	Association of Home Appliance Manufacturers

AI	Asphalt Institute
AIA	American Institute of Architects (The)
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALCA	Associated Landscape Contractors of America (Now PLANET - Professional Landcare Network)
ALSC	American Lumber Standard Committee, Incorporated
AMCA	Air Movement and Control Association International, Inc.
ANSI	American National Standards Institute
AOSA	Association of Official Seed Analysts, Inc.
APA	Architectural Precast Association
APA	APA - The Engineered Wood Association
APA EWS	APA - The Engineered Wood Association; Engineered Wood Systems (See APA - The Engineered Wood Association)
API	American Petroleum Institute
ARI	Air-Conditioning & Refrigeration Institute
ARMA	Asphalt Roofing Manufacturers Association
ASCE	American Society of Civil Engineers
ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute (See ASCE)
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASME	ASME International (American Society of Mechanical Engineers International)
ASSE	American Society of Sanitary Engineering
ASTM	ASTM International (American Society for Testing and Materials International)
AWCI	Association of the Wall and Ceiling Industry

AWCMA	American Window Covering Manufacturers Association (Now WCMA)
AWI	Architectural Woodwork Institute
AWPA	American Wood Protection Association (Formerly: American Wood Preservers' Association)
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Industry Association (The)
BICSI	BICSI, Inc.
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International)
BISSC	Baking Industry Sanitation Standards Committee
BWF	Badminton World Federation (Formerly: IBF - International Badminton Federation)
CCC	Carpet Cushion Council
CDA	Copper Development Association
CEA	Canadian Electricity Association
CEA	Consumer Electronics Association
CFFA	Chemical Fabrics & Film Association, Inc.
CGA	Compressed Gas Association
CIMA	Cellulose Insulation Manufacturers Association
CISCA	Ceilings & Interior Systems Construction Association
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturers Institute
CRRC	Cool Roof Rating Council
CPA	Composite Panel Association
CPPA	Corrugated Polyethylene Pipe Association

CRI	Carpet and Rug Institute (The)
CRSI	Concrete Reinforcing Steel Institute
CSA	Canadian Standards Association
CSA	CSA International (Formerly: IAS - International Approval Services)
CSI	Cast Stone Institute
CSI	Construction Specifications Institute (The)
CSSB	Cedar Shake & Shingle Bureau
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute)
DHI	Door and Hardware Institute
EIA	Electronic Industries Alliance
EIMA	EIFS Industry Members Association
EJCDC	Engineers Joint Contract Documents Committee
EJMA	Expansion Joint Manufacturers Association, Inc.
ESD	ESD Association (Electrostatic Discharge Association)
ETL SEMCO	Intertek ETL SEMCO (Formerly: ITS - Intertek Testing Service NA)
FIBA	Federation Internationale de Basketball (The International Basketball Federation)
FIVB	Federation Internationale de Volleyball (The International Volleyball Federation)
FM Approvals	FM Approvals LLC
FM Global	FM Global (Formerly: FMG - FM Global)
FMRC	Factory Mutual Research (Now FM Global)
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.

FSA	Fluid Sealing Association
FSC	Forest Stewardship Council
GA	Gypsum Association
GANA	Glass Association of North America
GRI	(Part of GSI)
GS	Green Seal
GSI	Geosynthetic Institute
HI	Hydraulic Institute
HI	Hydronics Institute
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)
HPVA	Hardwood Plywood & Veneer Association
HPW	H. P. White Laboratory, Inc.
IAS	International Approval Services (Now CSA International)
IBF	International Badminton Federation (Now BWF)
ICEA	Insulated Cable Engineers Association, Inc.
ICRI	International Concrete Repair Institute, Inc.
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The)
IESNA	Illuminating Engineering Society of North America
IEST	Institute of Environmental Sciences and Technology
IGCC	Insulating Glass Certification Council
IGMA	Insulating Glass Manufacturers Alliance
ILI	Indiana Limestone Institute of America, Inc.
ISO	International Organization for Standardization Available from ANSI

ISSFA	International Solid Surface Fabricators Association
ITS	Intertek Testing Service NA (Now ETL SEMCO)
ITU	International Telecommunication Union
KCMA	Kitchen Cabinet Manufacturers Association
LMA	Laminating Materials Association (Now part of CPA)
LPI	Lightning Protection Institute
MBMA	Metal Building Manufacturers Association
MFMA	Maple Flooring Manufacturers Association, Inc.
MFMA	Metal Framing Manufacturers Association, Inc.
MH	Material Handling (Now MHIA)
MHIA	Material Handling Industry of America
MIA	Marble Institute of America
MPI	Master Painters Institute
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc.
NAAMM	National Association of Architectural Metal Manufacturers
NACE	NACE International (National Association of Corrosion Engineers International)
NADCA	National Air Duct Cleaners Association
NAGWS	National Association for Girls and Women in Sport
NAIMA	North American Insulation Manufacturers Association
NBGQA	National Building Granite Quarries Association, Inc.
NCAA	National Collegiate Athletic Association (The)
NCMA	National Concrete Masonry Association
NCPI	National Clay Pipe Institute

NCTA	National Cable & Telecommunications Association
NEBB	National Environmental Balancing Bureau
NECA	National Electrical Contractors Association
NeLMA	Northeastern Lumber Manufacturers' Association
NEMA	National Electrical Manufacturers Association
NETA	InterNational Electrical Testing Association
NFHS	National Federation of State High School Associations
NFPA	NFPA (National Fire Protection Association)
NFRC	National Fenestration Rating Council
NGA	National Glass Association
NHLA	National Hardwood Lumber Association
NLGA	National Lumber Grades Authority
NOFMA	NOFMA: The Wood Flooring Manufacturers Association (Formerly: National Oak Flooring Manufacturers Association)
NOMMA	National Ornamental & Miscellaneous Metals Association
NRCA	National Roofing Contractors Association
ARMCA	National Ready Mixed Concrete Association
NSF	NSF International (National Sanitation Foundation International)
NSSGA	National Stone, Sand & Gravel Association
NTMA	National Terrazzo & Mosaic Association, Inc. (The)
NTRMA	National Tile Roofing Manufacturers Association (Now TRI)
NWWDA	National Wood Window and Door Association (Now WDMA)
OPL	Omega Point Laboratories, Inc. (Now ITS)
PCI	Precast/Prestressed Concrete Institute

PDCA	Painting & Decorating Contractors of America
PDI	Plumbing & Drainage Institute
PGI	PVC Geomembrane Institute
PLANET	Professional Landcare Network (Formerly: ACLA - Associated Landscape Contractors of America)
PTI	Post-Tensioning Institute
RCSC	Research Council on Structural Connections
RFCI	Resilient Floor Covering Institute
RIS	Redwood Inspection Service
SAE	SAE International
SDI	Steel Deck Institute
SDI	Steel Door Institute
SEFA	Scientific Equipment and Furniture Association
SEI/ASCE	Structural Engineering Institute/American Society of Civil Engineers (See ASCE)
SGCC	Safety Glazing Certification Council
SIA	Security Industry Association
SIGMA	Sealed Insulating Glass Manufacturers Association (Now IGMA)
SJI	Steel Joist Institute
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SMPTE	Society of Motion Picture and Television Engineers
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division)
SPIB	Southern Pine Inspection Bureau (The)

SPRI	Single Ply Roofing Industry
SSINA	Specialty Steel Industry of North America
SSPC	SSPC: The Society for Protective Coatings
STI	Steel Tank Institute
SWI	Steel Window Institute
SWRI	Sealant, Waterproofing, & Restoration Institute
TCA	Tile Council of America, Inc. (Now TCNA)
TCNA	Tile Council of North America, Inc.
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance
TMS	The Masonry Society
TPI	Truss Plate Institute, Inc.
TPI	Turfgrass Producers International
TRI	Tile Roofing Institute
UL	Underwriters Laboratories Inc.
UNI	Uni-Bell PVC Pipe Association
USAV	USA Volleyball
USGBC	U.S. Green Building Council
USITT	United States Institute for Theatre Technology, Inc.
WASTEC	Waste Equipment Technology Association
WCLIB	West Coast Lumber Inspection Bureau
WCMA	Window Covering Manufacturers Association
WCSC	Window Covering Safety Council (Formerly: WCMA - Window Covering Manufacturers Association)
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association)
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California)

WIC	Woodwork Institute of California (Now WI)
WMMPA	Wood Moulding & Millwork Producers Association
WSRCA	Western States Roofing Contractors Association
WWPA	Western Wood Products Association

- C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

IAPMO	International Association of Plumbing and Mechanical Officials
ICC	International Code Council
ICC-ES	ICC Evaluation Service, Inc.
UBC	Uniform Building Code (See ICC)

- D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CE	Army Corps of Engineers
CPSC	Consumer Product Safety Commission
DOC	Department of Commerce
DOD	Department of Defense
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FDA	Food and Drug Administration
GSA	General Services Administration
HUD	Department of Housing and Urban Development
LBL	Lawrence Berkeley National Laboratory
NCHRP	National Cooperative Highway Research Program

(See TRB)

NIST	National Institute of Standards and Technology
OSHA	Occupational Safety & Health Administration
PBS	Public Buildings Service (See GSA)
PHS	Office of Public Health and Science
RUS	Rural Utilities Service (See USDA)
SD	State Department
TRB	Transportation Research Board
USDA	Department of Agriculture
USPS	Postal Service
E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.	
ADAAG	Americans with Disabilities Act (ADA) Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities Available from U.S. Access Board
CFR	Code of Federal Regulations Available from Government Printing Office
DOD	Department of Defense Military Specifications and Standards Available from Department of Defense Single Stock Point
DSCC	Defense Supply Center Columbus (See FS)
FED-STD	Federal Standard (See FS)
FS	Federal Specification Available from Department of Defense Single Stock Point Available from Defense Standardization Program Available from General Services Administration

Available from National Institute of Building Sciences

FTMS Federal Test Method Standard
(See FS)

MIL (See MILSPEC)

MIL-STD (See MILSPEC)

MILSPEC Military Specification and Standards
Available from Department of Defense Single Stock Point

UFAS Uniform Federal Accessibility Standards
Available from Access Board

F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CBHF State of California, Department of Consumer Affairs Bureau of Home Furnishings and Thermal Insulation

CCR California Code of Regulations

CPUC California Public Utilities Commission

TFS Texas Forest Service
Forest Resource Development

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Section:
 - 1. Division 01 Section "Substitution Procedures" for requests for substitutions.

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable

product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

- a. Form of Approval: As specified in Division 01 Section "Submittal Procedures."
- b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 01 Section "Submittal Procedures." Show compliance with requirements.

1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

- B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

- C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 - 3. Refer to Divisions 02 through 49. Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Architect will make selection.
 - 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
- B. Product Selection Procedures:
 - 1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 3. Products:
 - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered, unless otherwise indicated.
 - b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
 4. Manufacturers:
 - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered, unless otherwise indicated.
 - b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
 5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
- C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Division 01 Section "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Recycling nonhazardous demolition and construction waste.
 - 2. Disposing of nonhazardous demolition and construction waste.
- B. Related Sections:
 - 1. Division 02 Section "Selective Structure Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements, and for disposition of hazardous waste.
 - 2. Division 04 Section "Unit Masonry" for disposal requirements for masonry waste.

1.2 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.3 PERFORMANCE REQUIREMENTS

- A. General: Achieve end-of-Project rates for salvage/recycling of 50 percent by weight of total non-hazardous solid waste generated by the Work. Facilitate recycling and salvage of materials.

1.4 ACTION SUBMITTALS

- A. Waste Management Plan: Submit plan within 7 days of date established for the Notice to Proceed.

1.5 INFORMATIONAL SUBMITTALS

- A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Include the following information:
 - 1. Material category.
 - 2. Generation point of waste.
 - 3. Total quantity of waste in tons.
 - 4. Quantity of waste salvaged, both estimated and actual in tons.
 - 5. Quantity of waste recycled, both estimated and actual in tons.
 - 6. Total quantity of waste recovered (salvaged plus recycled) in tons.
 - 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- B. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- C. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- D. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- E. Qualification Data: For waste management coordinator.
- F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.6 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- B. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

1.7 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to ASTM E 1609 and requirements of this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Distinguish between demolition and construction waste. Indicate

quantities by weight or volume, but use same units of measure throughout waste management plan.

- B. Waste Identification: Indicate anticipated types and quantities of demolition and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
 - 1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
 - 2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
 - 3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
 - 4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 - 5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 - 6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
 - 1. Distribute waste management plan to everyone concerned within three days of submittal return.
 - 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
 2. Comply with Division 01 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

A. Salvaged Items for Reuse in the Work:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until installation.
4. Protect items from damage during transport and storage.
5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

B. Salvaged Items for Sale and Donation: Not permitted on Project site.

C. Salvaged Items for Owner's Use:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area on-site off-site designated by Owner.
5. Protect items from damage during transport and storage.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.

C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.

2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

3.4 RECYCLING DEMOLITION WASTE

- A. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
 1. Pulverize concrete to maximum 1-1/2-inch (38-mm) size.
- B. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
 1. Pulverize masonry to maximum 1-1/2-inch (38-mm) size.
 2. Clean and stack undamaged, whole masonry units on wood pallets.
- C. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.
- D. Metals: Separate metals by type.
 1. Structural Steel: Stack members according to size, type of member, and length.
 2. Remove and dispose of bolts, nuts, washers, and other rough hardware.
- E. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts. Remove and dispose of nails, staples, and accessories.
- F. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.
- G. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.
- H. Metal Suspension System: Separate metal members including trim, and other metals from acoustical panels and tile and sort with other metals.
- I. Carpet: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.
 1. Store clean, dry carpet in a closed container or trailer provided by Carpet Reclamation Agency or carpet recycler.
- J. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.
- K. Conduit: Reduce conduit to straight lengths and store by type and size.

3.5 RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Site-Clearing Wastes: Chip brush, branches, and trees at landfill facility.

C. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

D. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.

1. Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

3.6 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Burning: Burning of waste materials is permitted only at designated areas on Owner's property, provided required permits are obtained. Provide full-time monitoring for burning materials until fires are extinguished.

D. Disposal: Transport waste materials and dispose of at designated spoil areas on Owner's property.

E. Disposal: Transport waste materials off Owner's property and legally dispose of them.

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3.7 SAMPLE FORMS

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
- B. Related Sections:
 - 1. Division 01 Section "Photographic Documentation" for submitting final completion construction photographic documentation.
 - 2. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 3. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 4. Division 01 Section "Demonstration and Training" for requirements for instructing Owner's personnel.
 - 5. Divisions 02 through 49 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.2 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete with request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
 - 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 - 7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.

8. Complete startup testing of systems.
9. Submit test/adjust/balance records.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise Owner of changeover in heat and other utilities.
12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.
14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.3 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report and warranty.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 - 3. Submit list of incomplete items in the following format:
 - a. PDF electronic file.
 - b. Three paper copies, unless otherwise indicated. Architect will return two copies.

1.5 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark 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 Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
 - 4. Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide table of contents at beginning of document.
- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

1. Use cleaning products that meet Green Seal GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.
 - l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates.

- m. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - n. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
 - o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - q. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - r. Leave Project clean and ready for occupancy.
- C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.

END OF SECTION 017700

SECTION 054000 - COLD-FORMED METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Exterior Non-Load-Bearing Wall-Framing
 - 2. Roof Trusses.

1.2 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide cold-formed metal framing capable of withstanding design loads within limits and under conditions indicated.
 - 1. Design Loads:
 - a. Dead Loads: Weights of materials and construction 5 psf.
 - b. Live Loads: 20 psf.
 - c. Roof Loads: Secondary framing 20 psf.
 - 2. Deflection Limits: Design framing systems to withstand design loads without deflections greater than the following:
 - a. Exterior Non-Load-Bearing Framing: Horizontal deflection of 1/240 of the wall height.
 - b. Roof sub-framing: Vertical deflection of 1/240 of the span.

1.3 SUBMITTALS

- A. Product Data: For each type of product and accessory indicated.
- B. Shop Drawings: Show layout, spacings, sizes, thicknesses, and types of cold-formed metal framing; fabrication; and fastening and anchorage details, including mechanical fasteners.
 - 1. For cold-formed metal framing indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- C. Welding certificates.
- D. Qualification data.
- E. Product test reports.

- F. Research/evaluation reports.

1.4 QUALITY ASSURANCE

- A. Product Tests: Mill certificates or data from a qualified independent testing agency indicating steel sheet complies with requirements.
- B. Welding: Qualify procedures and personnel according to AWS D1.3, "Structural Welding Code--Sheet Steel."
- C. Fire-Test-Response Characteristics: Where indicated, provide cold-formed metal framing identical to that of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.
- D. AISI Specifications and Standards: Comply with AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members" and its "Standard for Cold-Formed Steel Framing - General Provisions."
 - 1. Comply with AISI's "Standard for Cold-Formed Steel Framing - Truss Design."
 - 2. Comply with AISI's "Standard for Cold-Formed Steel Framing - Header Design."
- E. Comply with AISI's "Standard for Cold-Formed Steel Framing - Prescriptive Method for One and Two-Family Dwellings."

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Recycled Content of Steel Products: Provide products with an average recycled content of steel products so postconsumer recycled content plus one-half of preconsumer recycled content is not less than 25 percent.

2.2 FRAMING ACCESSORIES

- A. Fabricate steel-framing accessories from steel sheet, ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of same grade and coating weight used for framing members, unless otherwise indicated.
- B. Steel Shapes and Clips: ASTM A 36/A 36M, zinc coated by hot-dip process according to ASTM A 123/A 123M.
- C. Anchor Bolts: ASTM F 1554, Grade 36, threaded carbon-steel hex-headed bolts and carbon-steel nuts; and flat, hardened-steel washers; zinc coated by hot-dip process according to ASTM A 153/A 153M, Class C.
- D. Mechanical Fasteners: ASTM C 1513, corrosion-resistant-coated, self-drilling, self-tapping steel drill screws.

1. Head Type: Low-profile head beneath sheathing, manufacturer's standard elsewhere.

2.3 MISCELLANEOUS MATERIALS

- A. Galvanizing Repair Paint: SSPC-Paint 20 or DOD-P-21035.
- B. Shims: Load bearing, high-density multimonomer plastic, nonleaching.

2.4 EXTERIOR NON-LOAD-BEARING WALL FRAMING

- A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:
 1. Minimum Base-Metal Thickness: 0.0428 inch (1.09 mm).
 2. Flange Width: 2 inches (51 mm).
- B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges, and same minimum base-metal thickness as steel studs.
- C. Vertical Deflection Clips: Manufacturer's standard head clips, capable of accommodating upward and downward vertical displacement of primary structure through positive mechanical attachment to stud web.
- D. Single Deflection Track: Manufacturer's single, deep-leg, U-shaped steel track; unpunched, with unstiffened flanges, of web depth to contain studs while allowing free vertical movement, with flanges designed to support horizontal and lateral loads.
- E. Double Deflection Tracks: Manufacturer's double, deep-leg, U-shaped steel tracks, consisting of nested inner and outer tracks; unpunched, with unstiffened flanges.

2.5 ROOF TRUSSES

- A. Roof Truss Members: Manufacturer's standard C-shaped steel sections, of web depths indicated, unpunched, with stiffened flanges.

2.6 FRAMING ACCESSORIES

- A. Fabricate steel-framing accessories from steel sheet, ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of same grade and coating weight used for framing members, unless otherwise indicated.
- B. Steel Shapes and Clips: ASTM A 36/A 36M, zinc coated by hot-dip process according to ASTM A 123/A 123M.
- C. Anchor Bolts: ASTM F 1554, Grade 36, threaded carbon-steel hex-headed bolts and carbon-steel nuts; and flat, hardened-steel washers; zinc coated by [hot-dip process according to ASTM A 153/A 153M, Class C.

- D. Expansion Anchors: Fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 5 times design load, as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.
- E. Power-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 10 times design load, as determined by testing per ASTM E 1190 conducted by a qualified independent testing agency.
- F. Mechanical Fasteners: ASTM C 1513, corrosion-resistant-coated, self-drilling, self-tapping steel drill screws.
 - 1. Head Type: Low-profile head beneath sheathing, manufacturer's standard elsewhere.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Install cold-formed metal framing according to AISI's "Standard for Cold-Formed Steel Framing - General Provisions" and to manufacturer's written instructions unless more stringent requirements are indicated.
- B. Install cold-formed metal framing and accessories plumb, square, and true to line, and with connections securely fastened.
- C. Install framing members in one-piece lengths.
- D. Install temporary bracing and supports to secure framing and support loads comparable in intensity to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.
- E. Do not bridge building expansion and control joints with cold-formed metal framing. Independently frame both sides of joints.
- F. Install insulation, specified in Division 07 Section "Thermal Insulation," in built-up exterior framing members, such as headers, sills, boxed joists, and multiple studs at openings, that are inaccessible on completion of framing work.
- G. Fasten hole reinforcing plate over web penetrations that exceed size of manufacturer's standard punched openings.
- H. Erection Tolerances: Install cold-formed metal framing level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet (1:960) and as follows:
 - 1. Space individual framing members no more than plus or minus 1/8 inch (3 mm) from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

3.2 EXTERIOR NON-LOAD-BEARING WALL INSTALLATION

- A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure as indicated.
- B. Fasten both flanges of studs to top and bottom track, unless otherwise indicated. Space studs as follows:
 - 1. Stud Spacing: 16 inches (406 mm) of as indicated on structural drawings.
- C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements.
- D. Isolate non-load-bearing steel framing from building structure to prevent transfer of vertical loads while providing lateral support.
 - 1. Install single deflection tracks and anchor to building structure.
 - 2. Install double deflection tracks and anchor outer track to building structure.
 - 3. Connect vertical deflection clips to infill studs and anchor to primary building structure.
- E. Install horizontal bridging in wall studs, spaced in rows indicated on Shop Drawings but not more than 48 inches (1220 mm) apart. Fasten at each stud intersection.
 - 1. Top Bridging for Single Deflection Track: Install row of horizontal bridging within 12 inches (305 mm) of single deflection track. Install a combination of flat, taut, steel sheet straps of width and thickness indicated and stud or stud-track solid blocking of width and thickness matching studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
 - a. Install solid blocking at centers indicated on Shop Drawings.
 - 2. Bridging: Cold-rolled steel channel, welded or mechanically fastened to webs of punched studs.
 - 3. Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
 - 4. Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.
- F. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, fasteners, and stud girts, to provide a complete and stable curtain-wall-framing system.

3.3 TRUSS INSTALLATION

- A. Install, bridge, and brace trusses according to Shop Drawings and requirements in this Section.
- B. Truss Spacing: 24 inches (610 mm) of as indicated on structural drawings.
- C. Do not alter, cut, or remove framing members or connections of trusses.

- D. Erect trusses with plane of truss webs plumb and parallel to each other, align, and accurately position at spacings indicated.
- E. Erect trusses without damaging framing members or connections.

3.4 SUB-FRAMING INSTALLATION

- A. Install, bridge, and brace sub-frame according to Shop Drawings and requirements in this Section.
- B. Sub-Frame Spacing: As indicated.
- C. Do not alter, cut, or remove framing members or connections of purlins.
- D. Erect sub-frame plumb and parallel to each other, align, and accurately position at spacings indicated.
- E. Erect sub-frame without damaging framing members or connections.
- F. Align load-bearing studs or continuously reinforce track to transfer loads to structure. Anchor trusses securely at all bearing points.

3.5 REPAIRS AND PROTECTION

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed metal framing with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
- B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that cold-formed metal framing is without damage or deterioration at time of Substantial Completion.

END OF SECTION 054000

SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Plastic-laminate cabinets.
 - 2. Plastic-laminate countertops.

1.2 SUBMITTALS

- A. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.

1.3 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or, if not indicated, as required by woodwork quality standard.

2.2 CABINET HARDWARE AND ACCESSORIES

- A. General: Provide cabinet hardware and accessory materials associated with architectural woodwork, except for items specified in Division 08 Section "Door Hardware (Scheduled by Describing Products)."
- B. Butt Hinges: 2-3/4-inch (70-mm), 5-knuckle steel hinges made from 0.095-inch- (2.4-mm-) thick metal, and as follows:
 - 1. Semi-concealed Hinges for Overlay Doors: BHMA A156.9, B01521.
- C. Wire Pulls: Back mounted, solid metal, 4 inches long, 5/16 inch in diameter.
- D. Catches: Magnetic catches, BHMA A156.9, B03141
- E. Drawer Slides: BHMA A156.9, B05091.

1. Standard Duty (Grade 1, Grade 2, and Grade 3): Side mounted; full-extension type; zinc-plated steel with polymer rollers.
- F. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.
 1. Satin Stainless Steel: BHMA 630.

2.3 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.
- B. Adhesives, General: Do not use adhesives that contain urea formaldehyde.

2.4 FABRICATION

- A. Plastic-Laminate Cabinets: AW1 Custom Grade
 1. AWI Type of Cabinet Construction: Flush overlay.
 2. Reveal Dimension: 1/2 inch (13 mm).
 3. Laminate Cladding for Exposed Surfaces: High-pressure decorative laminate as follows:
 - a. Horizontal Surfaces Other Than Tops: Grade HGS.
 - b. Vertical Surfaces: Grade HGS.
 4. Materials for Semi-Exposed Surfaces Other Than Drawer Bodies: High-pressure decorative laminate, Grade VGS.
 5. Drawer Sides and Backs: Solid-hardwood lumber
 6. Drawer Bottoms: Hardwood plywood.
 7. Colors, Patterns, and Finishes: As selected by Architect from laminate manufacturer's full range of solid colors, matte finish.
- B. Plastic-Laminate Countertops: AW1 Custom Grade.
 1. High-Pressure Decorative Laminate Grade: HGS.
 2. Colors, Patterns, and Finishes: As selected by Architect from laminate manufacturer's full range of solid colors, matte finish.
 3. Core Material at Sinks: exterior-grade plywood.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Cabinets: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation.

1. Fasten wall cabinets through back, near top and bottom, at ends and not more than 16 inches (400 mm) o.c. with toggle bolts through metal backing or metal framing behind wall finish.
- B. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop. Calk space between backsplash and wall with sealant specified in Division 07 Section "Joint Sealants."

END OF SECTION 064023

SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Glass-fiber blanket insulation.
 - 2. Vapor retarders.
 - 3. Closed-Cell Polyurethane Spray Foam.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Product test reports.
- C. Research/evaluation reports.

PART 2 - PRODUCTS

2.1 GLASS-FIBER BLANKET INSULATION

- A. 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:
 - 1. CertainTeed Corporation.
 - 2. Guardian Building Products, Inc.
 - 3. Johns Manville.
 - 4. Knauf Insulation.
 - 5. Owens Corning.
- B. Unfaced, Glass-Fiber Blanket Insulation: ASTM C 665, Type I; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively, per ASTM E 84; passing ASTM E 136 for combustion characteristics.
- C. Polypropylene-Scrim-Kraft-Faced, Glass-Fiber Blanket Insulation: ASTM C 665, Type II (non-reflective faced), Class A (faced surface with a flame-spread index of 25 or less); Category 1 (membrane is a vapor barrier).
- D. Kraft-Faced, Glass-Fiber Blanket Insulation: ASTM C 665, Type II (non-reflective faced), Class C (faced surface not rated for flame propagation); Category 1 (membrane is a vapor barrier).

- E. Reinforced-Foil-Faced, Glass-Fiber Blanket Insulation: ASTM C 665, Type III (reflective faced), Class A (faced surface with a flame-spread index of 25 or less); Category 1 (membrane is a vapor barrier), faced with foil scrim, foil-scrim kraft, or foil-scrim polyethylene.
- F. Foil-Faced, Glass-Fiber Blanket Insulation: ASTM C 665, Type III (reflective faced), Class B (faced surface with a flame-propagation resistance of 0.12 W/sq. cm); Category 1 (membrane is a vapor barrier), faced with foil scrim, foil-scrim kraft, or foil-scrim polyethylene.
- G. Eave Ventilation Troughs: Preformed, rigid fiberboard or plastic sheets designed and sized to fit between roof framing members and to provide cross ventilation between insulated attic spaces and vented eaves.

2.2 VAPOR RETARDERS

- A. Polyethylene Vapor Retarders: ASTM D 4397, 6 mils (0.15 mm) thick, with maximum permeance rating of 0.13 perm (7.5 ng/Pa x s x sq. m).
- B. Vapor-Retarder Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.

2.3 SPRAY FOAM

- A. Spray applied rigid cellular polyurethane thermal insulation ASTM C1029.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.
- C. Extend insulation to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

3.2 INSTALLATION OF INSULATION FOR FRAMED CONSTRUCTION

- A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.

- B. Glass-Fiber or Mineral-Wool Blanket Insulation: Install in cavities formed by framing members according to the following requirements:
1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 3. Maintain 3-inch (76-mm) clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
 4. Install eave ventilation troughs between roof framing members in insulated attic spaces at vented eaves.
 5. For metal-framed wall cavities where cavity heights exceed 96 inches (2438 mm), support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.
 6. For wood-framed construction, install blankets according to ASTM C 1320 and as follows:
 - a. With faced blankets having stapling flanges, secure insulation by inset, stapling flanges to sides of framing members.
 - b. With faced blankets having stapling flanges, lap blanket flange over flange of adjacent blanket to maintain continuity of vapor retarder once finish material is installed over it.
- C. Spray-Applied Insulation: Apply spray-applied insulation according to manufacturer's written instructions. Do not apply insulation until installation of pipes, ducts, conduits, wiring, and electrical outlets in walls is completed and windows, electrical boxes, and other items not indicated to receive insulation are masked. After insulation is applied, make flush with face of studs by using method recommended by insulation manufacturer.
- D. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:
1. Loose-Fill Insulation: Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft. (40 kg/cu. m).
 2. Spray Polyurethane Insulation: Apply according to manufacturer's written instructions.

3.3 INSTALLATION OF VAPOR RETARDERS

- A. Place vapor retarders on side of construction indicated on Drawings. Extend vapor retarders to extremities of areas to protect from vapor transmission. Secure vapor retarders in place with adhesives or other anchorage system as indicated. Extend vapor retarders to cover miscellaneous voids in insulated substrates, including those filled with loose-fiber insulation.
- B. Seal vertical joints in vapor retarders over framing by lapping no fewer than two studs.
1. Fasten vapor retarders to wood framing at top, end, and bottom edges; at perimeter of wall openings; and at lap joints. Space fasteners 16 inches (406 mm) o.c.
 2. Before installing vapor retarders, apply urethane sealant to flanges of metal framing including runner tracks, metal studs, and framing around door and window openings.

- Seal overlapping joints in vapor retarders with vapor-retarder tape according to vapor-retarder manufacturer's written instructions. Seal butt joints with vapor-retarder tape. Locate all joints over framing members or other solid substrates.
3. Firmly attach vapor retarders to metal framing and solid substrates with vapor-retarder fasteners as recommended by vapor-retarder manufacturer.
- C. Seal joints caused by pipes, conduits, electrical boxes, and similar items penetrating vapor retarders with vapor-retarder tape to create an airtight seal between penetrating objects and vapor retarders.
- D. Repair tears or punctures in vapor retarders immediately before concealment by other work. Cover with vapor-retarder tape or another layer of vapor retarders.

END OF SECTION 072100

SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Manufactured reglets and counterflashing.
2. Formed roof drainage sheet metal fabrications.
3. Formed steep-slope roof sheet metal fabrications.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show installation layouts of sheet metal flashing and trim, including plans, elevations, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled work.

1. Include details for forming, joining, supporting, and securing sheet metal flashing and trim, including pattern of seams, termination points, fixed points, expansion joints, expansion-joint covers, edge conditions, special conditions, and connections to adjoining work.

C. Samples: For each exposed product and for each finish specified.

D. Maintenance data.

E. Warranty: Sample of special warranty.

1.3 QUALITY ASSURANCE

A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual" unless more stringent requirements are specified or shown on Drawings.

B. Pre-installation Conference: Conduct conference at Project site.

1.4 WARRANTY

A. Special Warranty on Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying a strippable, temporary protective film before shipping.
- B. Stainless-Steel Sheet: ASTM A 240/A 240M or ASTM A 666, Type 304, dead soft, fully annealed; 2D (dull, cold rolled) finish.

2.2 UNDERLAYMENT MATERIALS

- A. Self-Adhering, High-Temperature Sheet: Minimum 40 mils (1.0 mm) thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.
 - 1. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F (116 deg C).
 - 2. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F (29 deg C).

2.3 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
 - 1. General: Blind fasteners or self-drilling screws, gasketed with hex-washer head.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating.
 - b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
 - c. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
 - 2. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.
- C. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, non-sag, nontoxic, non-staining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.

- D. Elastomeric Sealant: ASTM C 920, elastomeric polymer sealant; low modulus; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- E. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
- F. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.
- G. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.4 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, geometry, metal thickness, and other characteristics of item indicated. Fabricate items at the shop to greatest extent possible.
 - 1. Obtain field measurements for accurate fit before shop fabrication.
 - 2. Form sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
 - 3. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces exposed to view.
- B. Sealed Joints: Form non-expansion but movable joints in metal to accommodate elastomeric sealant.
- C. Expansion Provisions: Where lapped expansion provisions cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints.
- D. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- E. Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- F. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.

2.5 ROOF DRAINAGE SHEET METAL FABRICATIONS

- A. Hanging Gutters: Fabricate to cross section indicated, complete with end pieces, outlet tubes, and other accessories as required. Fabricate in minimum 96-inch- (2400-mm-) long sections.

Furnish flat-stock gutter spacers and gutter brackets fabricated from same metal as gutters, of size recommended by SMACNA but not less than twice the gutter thickness. Fabricate expansion joints, expansion-joint covers, gutter bead reinforcing bars, and gutter accessories from same metal as gutters.

- B. Downspouts: Fabricate rectangular downspouts complete with mitered elbows. Furnish with metal hangers, from same material as downspouts, and anchors.
 - 1. Fabricate from the following materials:
 - a. Steel: 24 gauge (0.70 mm) thick.
- C. Valley Flashing: Fabricate from the following materials:
 - 1. Steel: 24 gauge (0.70 mm) thick.
- D. Drip Edges: Fabricate from the following materials:
 - 1. Steel: 24 gauge (0.70 mm) thick.
- E. Eave, Rake, Ridge, and Hip Flashing: Fabricate from the following materials:
 - 1. Steel: 24 gauge (0.70 mm) thick.

PART 3 - EXECUTION

3.1 UNDERLAYMENT INSTALLATION

- A. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Comply with temperature restrictions of underlayment manufacturer for installation; use primer rather than nails for installing underlayment at low temperatures. Apply in shingle fashion to shed water, with end laps of not less than 6 inches (150 mm) staggered 24 inches (600 mm) between courses. Overlap side edges not less than 3-1/2 inches (90 mm). Roll laps with roller. Cover underlayment within 14 days.

3.2 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement so that completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 - 1. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
 - 2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

3. Space cleats not more than 12 inches (300 mm) apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.
 4. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
 5. Install sealant tape where indicated.
 6. Torch cutting of sheet metal flashing and trim is not permitted.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by SMACNA.
1. Coat back side of stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.
 2. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet or install a course of polyethylene sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (600 mm) of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with sealant concealed within joints.
- D. Fastener Sizes: Use fasteners of sizes that will penetrate metal decking not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- E. Seal joints as shown and as required for watertight construction.
- F. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches (38 mm), except reduce pre-tinning where pre-tinned surface would show in completed Work.
1. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.
 2. Stainless-Steel Soldering: Tin edges of uncoated sheets using solder recommended for stainless steel and acid flux. Promptly remove acid flux residue from metal after tinning and soldering. Comply with solder manufacturer's recommended methods for cleaning and neutralization.

3.3 ROOF DRAINAGE SYSTEM INSTALLATION

- A. General: Install sheet metal roof drainage items to produce complete roof drainage system according to SMACNA recommendations and as indicated. Coordinate installation of roof perimeter flashing with installation of roof drainage system.
- B. Hanging Gutters: Join sections with riveted and soldered joints or with lapped joints sealed with sealant. Provide for thermal expansion. Attach gutters at eave or fascia to firmly anchored straps spaced not more than 36 inches (900 mm) apart. Provide end closures and seal watertight with sealant. Slope to downspouts.

1. Install gutter with expansion joints at locations indicated, but not exceeding, 50 feet (15.24 m) apart. Install expansion-joint caps.
- C. Downspouts: Join sections with 1-1/2-inch (38-mm) telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls. Locate hangers at top and bottom and at approximately 60 inches (1500 mm) o.c. in between.
- D. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration indicated. Lap joints a minimum of 4 inches (100 mm) in direction of water flow.

3.4 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
- B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in SMACNA's "Architectural Sheet Metal Manual" and as indicated. Interlock bottom edge of roof edge flashing with continuous cleat anchored to substrate at staggered 3-inch (75-mm) centers.
- C. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending a minimum of 4 inches (100 mm) over base flashing. Install stainless-steel draw band and tighten.
- D. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches (100 mm) over base flashing. Lap counterflashing joints a minimum of 4 inches (100 mm) and bed with sealant.
- E. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric butyl sealant and clamp flashing to pipes that penetrate roof.

3.5 WALL FLASHING INSTALLATION

- A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to SMACNA recommendations and as indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.

3.6 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder and sealants.

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- C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.

END OF SECTION 076200

SECTION 077200 - ROOF ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Roof curbs.
2. Equipment supports.
3. Roof hatches.

1.2 SUBMITTALS

- A. Product Data: For each type of roof accessory indicated.
- B. Shop Drawings: For roof accessories.
- C. Samples: For each exposed product and for each color and texture specified.
- D. Coordination Drawings: Roof plans, drawn to scale, and coordinating penetrations and roof-mounted items.
- E. Operation and maintenance data.
- F. Warranty: Sample of special warranty.

1.3 WARRANTY

- A. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finishes or replace roof accessories that show evidence of deterioration of factory-applied finishes within 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 METAL MATERIALS

- A. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 (Z275) coating designation.
 1. Mill-Phosphatized Finish: Manufacturer's standard for field painting.
 2. Factory Prime Coating: Where field painting is indicated, apply pretreatment and white or light-colored, factory-applied, baked-on epoxy primer coat, with a minimum dry film thickness of 0.2 mil (0.005 mm).

2.2 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items required by manufacturer for a complete installation.
- B. Acrylic Glazing: ASTM D 4802, thermoformable, monolithic sheet, manufacturer's standard,
- C. Wood Nailers: Softwood lumber, pressure treated with waterborne preservatives for aboveground use, acceptable to authorities having jurisdiction, containing no arsenic or chromium, and complying with AWPA C2; not less than 1-1/2 inches (38 mm) thick.
- D. Fasteners: Roof accessory manufacturer's recommended fasteners suitable for application and metals being fastened. Match finish of exposed fasteners with finish of material being fastened. Provide nonremovable fastener heads to exterior exposed fasteners.
- E. Sealants: As recommended by roof accessory manufacturer for installation indicated.

2.3 ROOF CURBS

- A. Roof Curbs: Internally reinforced roof-curb units capable of supporting superimposed live and dead loads, including equipment loads and other construction indicated on Drawings; with welded or mechanically fastened and sealed corner joints, stepped integral metal cant raised the thickness of roof insulation, and integrally formed deck-mounting flange at perimeter bottom.
 - 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. AES Industries, Inc.
 - b. Curbs Plus, Inc.
 - c. Custom Solution Roof and Metal Products.
 - d. Greenheck Fan Corporation.
 - e. LM Curbs.
 - f. Metallic Products Corp.
 - g. Milcor Inc.; Commercial Products Group of Hart & Cooley, Inc.
 - h. Pate Company (The).
 - i. Roof Products, Inc.
 - j. Safe Air of Illinois.
 - k. Thybar Corporation.
 - l. Vent Products Co., Inc.
- B. Material: Zinc-coated (galvanized) steel sheet, 0.052 inch (1.32 mm) thick.
 - 1. Finish: Factory prime coating.
 - 2. Color: As selected by Architect from manufacturer's full range.
- C. Construction:
 - 1. Insulation: Factory insulated with 1-1/2-inch- (38-mm-) thick glass-fiber board insulation.

2. Liner: Same material as curb, of manufacturer's standard thickness and finish.
3. Factory-installed wood nailer at top of curb, continuous around curb perimeter.
4. On ribbed or fluted metal roofs, form deck-mounting flange at perimeter bottom to conform to roof profile.
5. Fabricate curbs to minimum height of 12 inches (300 mm) unless otherwise indicated.
6. Top Surface: Level around perimeter with roof slope accommodated by sloping the deck-mounting flange.
7. Sloping Roofs: Where roof slope exceeds 1:48, fabricate curb with perimeter curb height tapered to accommodate roof slope so that top surface of perimeter curb is level. Equip unit with water diverter or cricket on side that obstructs water flow.
8. Security Grille: Provide where indicated.

2.4 ROOF HATCH

- A. Roof Hatches: Metal roof-hatch units with lids and insulated double-walled curbs, welded or mechanically fastened and sealed corner joints, continuous lid-to-curb counterflashing and weathertight perimeter gasketing, and integrally formed deck-mounting flange at perimeter bottom.
 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. AES Industries, Inc.
 - b. Babcock-Davis.
 - c. Bilco Company (The).
 - d. Bristolite Skylights.
 - e. Custom Solution Roof and Metal Products.
 - f. Dur-Red Products.
 - g. Hi Pro International, Inc.
 - h. J. L. Industries, Inc.
 - i. Metallic Products Corp.
 - j. Milcor Inc.; Commercial Products Group of Hart & Cooley, Inc.
 - k. Naturalite Skylight Systems; Vistawall Group (The).
 - l. Nystrom.
 - m. O'Keeffe's Inc.
 - n. Pate Company (The).
 - o. Precision Ladders, LLC.
- B. Type and Size: Single-leaf lid, 30 by 36 inches (750 by 900 mm).
- C. Loads: Minimum 40-lbf/sq. ft. (1.9-kPa) external live load and 20-lbf/sq. ft. (0.95-kPa) internal uplift load.
- D. Hatch Material: Zinc-coated (galvanized) steel sheet, 0.079 inch (2.01 mm) thick.
 1. Finish: Factory prime coating.
 2. Color: As selected by Architect from manufacturer's full range.
- E. Construction:

1. Insulation: Polyisocyanurate board.
 2. Hatch Lid: Opaque, insulated, and double walled, with manufacturer's standard metal liner of same material and finish as outer metal lid.
 3. Hatch Lid: Glazed, insulated, and double walled, with manufacturer's standard metal liner of same material and finish as outer metal lid.
 4. Curb Liner: Manufacturer's standard, of same material and finish as metal curb.
 5. On ribbed or fluted metal roofs, form flange at perimeter bottom to conform to roof profile.
 6. Fabricate curbs to minimum height of 12 inches (300 mm) unless otherwise indicated.
- F. Hardware: Galvanized-steel spring latch with turn handles, butt- or pintle-type hinge system, and padlock hasps inside and outside.
1. Provide two-point latch on lids larger than 84 inches (2130 mm).
 2. Provide remote-control operation.
- G. Safety Railing System: Roof-hatch manufacturer's standard system including rails, clamps, fasteners, safety barrier at railing opening, and accessories required for a complete installation; attached to roof hatch and complying with 29 CFR 1910.23 requirements and authorities having jurisdiction.
- H. Ladder-Assist Post: Roof-hatch manufacturer's standard device for attachment to roof-access ladder. Post locks in place on full extension; release mechanism returns post to closed position.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Verify dimensions of roof openings for roof accessories. Install roof accessories according to manufacturer's written instructions.
1. Install roof accessories level, plumb, true to line and elevation, and without warping, jogs in alignment, excessive oil canning, buckling, or tool marks.
 2. Anchor roof accessories securely in place so they are capable of resisting indicated loads.
 3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof accessories and fit them to substrates.
 4. Install roof accessories to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.
- B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
1. Coat concealed side of roof accessories with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
 2. Underlayment: Where installing roof accessories directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet, or install a course of polyethylene sheet.

- C. Seal joints with sealant as required by roof accessory manufacturer.

3.2 REPAIR AND CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A 780.
- B. Touch up factory-primed surfaces with compatible primer ready for field painting according to Division 09 painting Sections.
- C. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077200

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Silicone joint sealants.

1.2 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Warranties.

1.3 QUALITY ASSURANCE

1.4 WARRANTY

- A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. VOC Content of Interior Sealants: Provide sealants and sealant primers for use inside the weatherproofing system that comply with the following limits for VOC content when calculated according to 40 CFR 59, Part 59, Subpart D (EPA Method 24):
 1. Architectural Sealants: 250 g/L.
 2. Sealant Primers for Nonporous Substrates: 250 g/L.
 3. Sealant Primers for Porous Substrates: 775 g/L.
- B. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
 1. Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing

according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.

2.2 SILICONE JOINT SEALANTS

A. Mildew-Resistant Neutral-Curing Silicone Joint Sealant: ASTM C 920.

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. BASF Building Systems.
 - b. Dow Corning Corporation.
 - c. GE Advanced Materials - Silicones.
 - d. May National Associates, Inc.
 - e. Pecora Corporation.
 - f. Polymeric Systems, Inc.
 - g. Schnee-Morehead, Inc.
 - h. Sika Corporation; Construction Products Division.
 - i. Tremco Incorporated.
2. Type: Single component (S).
3. Grade: Pourable (P) or non-sag (NS).
4. Class: 100/50.
5. Uses Related to Exposure: Traffic (T) or Non-traffic (NT).

2.3 JOINT SEALANT BACKING

- A. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.
- C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
 - 1. Remove laitance and form-release agents from concrete.
 - 2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.2 INSTALLATION

- A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Non-Sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form

smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
- F. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.3 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.
1. Joint Locations:
 - a. Isolation and contraction joints in cast-in-place concrete slabs.
 - b. Other joints as indicated.
 2. Joint Sealant: Silicone.
- B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal non-traffic surfaces.
1. Joint Locations:
 - a. Construction joints in cast-in-place concrete.
 - b. Control and expansion joints in unit masonry.
 - c. Joints in exterior insulation and finish systems.
 - d. Perimeter joints between materials listed above and frames of doors and louvers.
 2. Joint Sealant: Silicone.
- C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.
1. Joint Locations:
 - a. Isolation joints in cast-in-place concrete slabs.
 2. Joint Sealant: Silicone.
- D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal non-traffic surfaces.
1. Joint Locations:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints of exterior openings where indicated.
 - c. Vertical joints on exposed surfaces of interior unit masonry walls and partitions.
 - d. Perimeter joints between interior wall surfaces and frames of interior doors.
 2. Joint Sealant: Silicone.

- E. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal non-traffic surfaces.
 - 1. Joint Sealant Location:
 - a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - 2. Joint Sealant: Silicone.

END OF SECTION 079200

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Standard hollow metal doors and frames.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Include elevations, door edge details, frame profiles, metal thicknesses, preparations for hardware, and other details.

1.3 QUALITY ASSURANCE

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. 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:
 1. Amweld Building Products, LLC.
 2. Benchmark; a division of Therma-Tru Corporation.
 3. Ceco Door Products; an Assa Abloy Group company.
 4. Curries Company; an Assa Abloy Group company.
 5. Deansteel Manufacturing Company, Inc.
 6. Firedoor Corporation.
 7. Fleming Door Products Ltd.; an Assa Abloy Group company.
 8. Habersham Metal Products Company.
 9. Kewanee Corporation (The).
 10. Mesker Door Inc.
 11. Pioneer Industries, Inc.
 12. Security Metal Products Corp.
 13. Steelcraft; an Ingersoll-Rand company.
 14. Windsor Republic Doors.

2.2 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, CS, Type B; suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, CS, Type B.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) metallic coating.
- D. Frame Anchors: ASTM A 591/A 591M, Commercial Steel (CS), 40Z (12G) coating designation; mill phosphatized.
 - 1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
- F. Grout: ASTM C 476, except with a maximum slump of 4 inches (102 mm), as measured according to ASTM C 143/C 143M.
- G. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil (0.4-mm) dry film thickness per coat.

2.3 STANDARD HOLLOW METAL DOORS

- A. General: Comply with ANSI/SDI A250.8.
 - 1. Design: Flush panel.
 - 2. Core Construction: Manufacturer's standard kraft-paper honeycomb, polystyrene, polyurethane, polyisocyanurate, mineral-board, or vertical steel-stiffener core.
 - 3. Top and Bottom Edges: Closed with flush or inverted 0.042-inch- (1.0-mm-) thick, end closures or channels of same material as face sheets.
 - 4. Tolerances: SDI 117, "Manufacturing Tolerances for Standard Steel Doors and Frames."
- B. All Doors: Face sheets fabricated from metallic-coated steel sheet. Comply with ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:
 - 1. Level 2 and Physical Performance Level B (Heavy Duty), Model 1 (Full Flush).
- C. Hardware Reinforcement: ANSI/SDI A250.6.

2.4 STANDARD HOLLOW METAL FRAMES

- A. General: Comply with ANSI/SDI A250.8.

- B. All Frames: Fabricated from metallic-coated steel sheet.
 - 1. Fabricate frames with mitered or coped corners.
 - 2. Fabricate frames as face welded unless otherwise indicated.
 - 3. Frames for Level 2 Steel Doors: 0.053-inch- (1.3-mm-) thick steel sheet.

- C. Hardware Reinforcement: ANSI/SDI A250.6.

2.5 FRAME ANCHORS

- A. Jamb Anchors:
 - 1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch (1.0 mm) thick, with corrugated or perforated straps not less than 2 inches (50 mm) wide by 10 inches (250 mm) long; or wire anchors not less than 0.177 inch (4.5 mm) thick.
 - 2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch (1.0 mm) thick.
 - 3. Floor Anchors: Formed From same materials as frames, not less than 0.042 inch (1.0 mm) thick. Monolithic Concrete Slabs: Chip-type anchors, with two holes to receive fasteners.
 - 4. Post installed Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch- (9.5-mm-) diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.

2.6 LOUVERS

- A. Provide sight proof louvers for, where indicated, that comply with SDI 111C, with blades or baffles formed of 0.020-inch- (0.5-mm-) thick, cold-rolled steel sheet set into 0.032-inch- (0.8-mm-) thick steel frame.

2.7 FABRICATION

- A. Tolerances: Fabricate hollow metal work to tolerances indicated in SDI 117.
- B. Hollow Metal Doors:
 - 1. Exterior Doors: Provide weep-hole openings in bottom of exterior doors. Seal joints in top edges of doors against water penetration.
- C. Hollow Metal Frames: Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
 - 1. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.

2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
 3. Jamb Anchors: Provide number and spacing of anchors as follows:
 - a. Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:
 - 1) Three anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
 - b. Post installed Expansion Type: Locate anchors not more than 6 inches (152 mm) from top and bottom of frame. Space anchors not more than 26 inches (660 mm) o.c.
 4. Door Silencers: Except on weather-stripped doors, drill stops to receive door silencers.
 - a. Single-Door Frames: Three door silencers.
- D. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."
1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
 2. Reinforce doors and frames to receive non-templated, mortised and surface-mounted door hardware.
 3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.

2.8 STEEL FINISHES

- A. Prime Finish: Apply manufacturer's standard primer immediately after cleaning and pretreating.
 1. Shop Primer: ANSI/SDI A250.10.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Hollow Metal Frames: Comply with ANSI/SDI A250.11.
 1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
 - a. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - b. Install frames with removable glazing stops located on secure side of opening.
 - c. Install door silencers in frames before grouting.

- d. Remove temporary braces necessary for installation only after frames have been properly set and secured.
 - e. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
 - f. Field apply bituminous coating to backs of frames that are filled with grout containing anti-freezing agents.
- 2. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
- 3. In-Place Concrete or Masonry Construction: Secure frames in place with post installed expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
- 4. Installation Tolerances: Adjust hollow metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
 - a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
 - c. Twist: Plus, or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.
- B. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.
 - 1. Non-Fire-Rated Standard Steel Doors:
 - a. Jambs and Head: 1/8 inch (3 mm) plus or minus 1/16 inch (1.6 mm).
 - b. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch (9.5 mm).
 - c. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch (19 mm).

3.2 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.
- B. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- C. Metallic-Coated Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION 081113

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid-core doors with hardboard.

B. Related Sections:

1. Division 08 Section "Glazing" for glass view panels in flush wood doors.

1.2 SUBMITTALS

A. Product Data: For each type of door indicated.

B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; location and extent of hardware blocking; and other pertinent data.

1. Indicate dimensions and locations of mortises and holes for hardware.
2. Indicate dimensions and locations of cutouts.
3. Indicate requirements for veneer matching.
4. Indicate doors to be factory finished and finish requirements.
5. Indicate fire-protection ratings for fire-rated doors.

1.3 QUALITY ASSURANCE

A. Quality Standard: In addition to requirements specified, comply with WDMA I.S.1-A, "Architectural Wood Flush Doors."

B. Fire-Rated Wood Doors: Doors complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. 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:

1. Algoma Hardwoods, Inc.

2. Ampco, Inc.
3. Buell Door Company Inc.
4. Chappell Door Co.
5. Eagle Plywood & Door Manufacturing, Inc.
6. Eggers Industries.
7. Lambton Doors.
8. Marlite.
9. Mohawk Flush Doors, Inc.; a Masonite company.
10. VT Industries Inc.

2.2 DOOR CONSTRUCTION, GENERAL

- A. Low-Emitting Materials: Provide doors made with adhesives and composite wood products that do not contain urea formaldehyde.
- B. WDMA I.S.1-A Performance Grade:
 1. Heavy Duty unless otherwise indicated.
- C. Particleboard-Core Doors:
 1. Particleboard: ANSI A208.1, Grade LD-1, made with binder containing no urea-formaldehyde resin.
 2. Blocking: Provide wood blocking in particleboard-core doors as needed to eliminate through-bolting hardware.
- D. Fire-Protection-Rated Doors: Provide core specified or mineral core as needed to provide fire-protection rating indicated.
 1. Edge Construction: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed edges.

2.3 VENEERED-FACED DOORS FOR TRANSPARENT FINISH

- A. Interior Solid-Core Doors:
 1. Grade: Custom (Grade A faces).
 2. Species: White oak.
 3. Cut: Plain sliced (flat sliced).
 4. Match between Veneer Leaves: Pleasing match.
 5. Assembly of Veneer Leaves on Door Faces: Running match.
 6. Core: Particleboard.
 7. Construction: Five or seven plies. Stiles and rails are bonded to core, then entire unit abrasive planed before veneering.
 8. Construction: Seven plies, either bonded or nonbonded construction.

2.4 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
 - 1. Comply with requirements in NFPA 80 for fire-rated doors.
- B. Factory machine doors for hardware that is not surface applied.
- C. Openings: Cut and trim openings through doors in factory.
 - 1. Light Openings: Trim openings with moldings of material and profile indicated.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Hardware: For installation, see Division 08 Section "Door Hardware."
- B. Installation Instructions: Install doors to comply with manufacturer's written instructions and the referenced quality standard, and as indicated.
 - 1. Install fire-rated doors in corresponding fire-rated frames according to NFPA 80.
- C. Job-Fitted Doors: Align and fit doors in frames with uniform clearances and bevels; do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors. Machine doors for hardware. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
 - 1. Clearances: Provide 1/8 inch (3.2 mm) at heads, jambs, and between pairs of doors. Provide 1/8 inch (3.2 mm) from bottom of door to top of decorative floor finish or covering unless otherwise indicated. Where threshold is shown or scheduled, provide 1/4 inch (6.4 mm) from bottom of door to top of threshold unless otherwise indicated.
 - a. Comply with NFPA 80 for fire-rated doors.
- D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.
- E. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

END OF SECTION 081416

SECTION 083323 - OVERHEAD COILING DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Service doors.
2. Counter doors.

B. Related Section:

1. Division 05 Section "Metal Fabrications" for miscellaneous steel supports.

1.2 PERFORMANCE REQUIREMENTS

A. Structural Performance, Exterior Doors: Exterior overhead coiling doors shall withstand the wind loads, the effects of gravity loads, and loads and stresses within limits and under conditions indicated according to SEI/ASCE 7.

1. Wind Loads: As indicated on Drawings.

B. Windborne-Debris-Impact-Resistance Performance: Provide impact-protective overhead coiling doors that pass missile-impact and cyclic-pressure tests when tested according to ASTM E 1886 and ASTM E 1996.

1. Large Missile Test: For overhead coiling doors located within 30 feet (9.144 m) of grade.

1.3 SUBMITTALS

A. Product Data: For each type and size of overhead coiling door and accessory.

B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data. Include plans, elevations, sections, details, and attachments to other work.

1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
2. Show locations of replaceable fusible links.

C. Maintenance Data.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for both installation and maintenance of units required for this Project.

PART 2 - PRODUCTS

2.1 DOOR CURTAIN MATERIALS AND CONSTRUCTION

- A. Door Curtains: Fabricate overhead coiling-door curtain of interlocking metal slats, designed to withstand wind loading indicated, in a continuous length for width of door without splices. Unless otherwise indicated, provide slats of thickness and mechanical properties recommended by door manufacturer for performance, size, and type of door indicated.
- B. Bottom Bar for Service Doors: Consisting of two angles, each not less than 1-1/2 by 1-1/2 by 1/8 inch (38 by 38 by 3 mm) thick; fabricated from metal to match curtain slats and finish.
- C. Bottom Bar for Counter Doors: Manufacturer's standard continuous channel or tubular shape, fabricated from metal to match curtain slats and finish.
- D. Curtain Jamb Guides: Manufacturer's standard angles or channels and angles of same material and finish as curtain slats unless otherwise indicated, with sufficient depth and strength to retain curtain, to allow curtain to operate smoothly, and to withstand loading. Slot bolt holes for guide adjustment. Provide removable stops on guides to prevent overtravel of curtain.

2.2 HOOD

- A. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Form closed ends for surface-mounted hoods and fascia for any portion of between-jamb mounting that projects beyond wall face. Equip hood with intermediate support brackets as required to prevent sagging.
 - 1. Include automatic drop baffle on fire-rated doors to guard against passage of smoke or flame.

2.3 COUNTER DOORS

- A. Integral Frame, Hood, and Fascia for Counter Door: Welded sheet metal assembly of the following sheet metal: Galvanized Steel.
- B. Integral Metal Sill for Counter Door: Fabricate sills as integral part of frame assembly of Type 304 stainless steel in manufacturer's standard thickness with No. 4 finish.

2.4 LOCKING DEVICES

- A. Slide Bolt: Fabricate with side-locking bolts to engage through slots in tracks for locking by padlock, located on both left and right jamb sides, operable from coil side.

2.5 CURTAIN ACCESSORIES

- A. Weatherseals: Equip each exterior door with weather-stripping gaskets fitted to entire perimeter of door for a weathertight installation, unless otherwise indicated.
- B. Push/Pull Handles: Equip each push-up-operated or emergency-operated door with lifting handles on each side of door, finished to match door. Provide pull-down straps or pole hooks for doors more than 84 inches (2130 mm) high.

2.6 MECHANISM

- A. General: Counterbalance doors by means of manufacturer's standard mechanism with an adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to top of curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.
- B. Brackets: Manufacturer's standard mounting brackets of either cast iron or cold-rolled steel plate.

2.7 MANUAL DOOR OPERATORS

- A. Equip door with manufacturer's recommended manual door operator unless another type of door operator is indicated.
- B. Push-up Door Operation: Design counterbalance mechanism so required lift or pull for door operation does not exceed 25 lbf (111 N).
- C. Chain-Hoist Operator: Consisting of endless steel hand chain, chain-pocket wheel and guard, and gear-reduction unit with a maximum 25 lbf (111 N) force for door operation. Provide alloy-steel hand chain with chain holder secured to operator guide.

2.8 DOOR ASSEMBLY

- A. Service Door: Overhead coiling door formed with curtain of interlocking metal slats.
 - 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. ACME Rolling Doors.
 - b. Alpine Overhead Doors, Inc.
 - c. AlumaTek, Inc.
 - d. C.H.I. Overhead Doors.

- e. City-Gates.
- f. Cookson Company.
- g. Cornell Iron Works, Inc.
- h. Dynamic Closures Corp.
- i. Lawrence Roll-Up Doors, Inc.
- j. Mahon Door Corporation.
- k. McKeon Rolling Steel Door Company, Inc.
- l. Metro Door.
- m. Overhead Door Corporation.
- n. QMI Security Solutions.
- o. Raynor.
- p. Southwestern Steel Rolling Door Co.
- q. Wayne-Dalton Corp.
- r. Windsor Door.

- B. Operation Cycles: Not less than 10,000.
- C. Door Curtain Material: Galvanized steel.
- D. Door Curtain Slats: Flat profile slats of 1-1/4-inch (32-mm) center-to-center height.
- E. Curtain Jamb Guides: Galvanized steel with exposed finish matching curtain slats.
- F. Hood: Match curtain material and finish.
 - 1. Shape: Square.
 - 2. Mounting: Face of wall.
- G. Sill Configuration for Counter Door: No sill.
- H. Locking Devices: Equip door with slide bolt for padlock.
- I. Manual Door Operator: Push-up operation.
 - 1. Provide operator with manufacturer's standard removable operating arm.
- J. Door Finish:
 - 1. Factory Prime Finish: Manufacturer's standard color.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install overhead coiling doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.

- B. Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion. Lubricate bearings and sliding parts as recommended by manufacturer. Adjust seals to provide weathertight fit around entire perimeter.

3.2 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain overhead coiling doors.

END OF SECTION 083323

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Commercial door hardware.
 - 2. Cylinders for doors specified in other Sections.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Details of electrified door hardware, including wiring diagrams.
- C. Other Action Submittals:
 - 1. Door Hardware Sets: Prepared by or under the supervision of Installer, detailing fabrication and assembly of door hardware, as well as procedures and diagrams.
 - a. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
 - b. Content: Include the following information:
 - 1) Identification number, location, hand, fire rating, and material of each door and frame.
 - 2) Type, style, function, size, quantity, and finish of each door hardware item. Include description and function of each lockset and exit device.
 - 3) Complete designations of every item required for each door or opening including name and manufacturer.
 - 4) Description of each electrified door hardware function, including location, sequence of operation, and interface with other building control systems.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by lock manufacturer.
 - 1. Installer's responsibilities include supplying and installing door hardware and providing a qualified Architectural Hardware Consultant available during the Work to consult with Contractor, Architect, and Owner about door hardware and keying.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

- B. Deliver keys and permanent cores to Owner by registered mail or overnight package service.

1.5 COORDINATION

- A. Templates: Distribute door hardware templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

1.6 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Three years from date of Substantial Completion, except as follows:
 - a. Manual Closers: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in this Section and door hardware sets indicated in door and frame schedule.
 - 1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and named manufacturers' products.
- B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Part 3 "Door Hardware Sets" Article. Products are identified by using door hardware designations, as follows:
 - 1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required for establishing minimum requirements. Manufacturers' names are abbreviated in Part 3 "Door Hardware Sets" Article.
 - 2. References to BHMA Standards: Provide products complying with these standards and requirements for description, quality, and function.

2.2 HINGES, GENERAL

- A. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
- B. Hinge Base Metal: Unless otherwise indicated, provide the following:
 - 1. Exterior Hinges: Stainless steel, with stainless-steel pin.

- C. Nonremovable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for outswinging exterior doors.
- D. Fasteners: Comply with the following:
 - 1. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.

2.3 HINGES

- A. Butts and Hinges: BHMA A156.1.
- B. Template Hinge Dimensions: BHMA A156.7.
- C. Available Manufacturers:
 - 1. Baldwin Hardware Corporation (BH).
 - 2. Bommer Industries, Inc. (BI).
 - 3. Cal-Royal Products, Inc. (CRP).
 - 4. Hager Companies (HAG).
 - 5. Lawrence Brothers, Inc. (LB).
 - 6. McKinney Products Company; an ASSA ABLOY Group company (MCK).
 - 7. PBB, Inc. (PBB).
 - 8. Stanley Commercial Hardware; Div. of The Stanley Works (STH).

2.4 LOCKS AND LATCHES, GENERAL

- A. Accessibility Requirements: Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf (22 N).
- B. Lock Trim:
 - 1. Levers: Schlage ND Tubular or similar.
 - 2. Dummy Trim: Match lever lock trim and escutcheons.
- C. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors.
- D. Backset: 2-3/4 inches (70 mm), unless otherwise indicated.
- E. Strikes: Manufacturer's standard strike with strike box for each latch bolt or lock bolt, with curved lip extended to protect frame, finished to match door hardware set.

2.5 MECHANICAL LOCKS AND LATCHES

- A. Lock Functions: Function numbers and descriptions indicated in door hardware sets comply with the following:
 - 1. Bored Locks: BHMA A156.2.

B. Bored Locks: BHMA A156.2, Grade 1; Series 4000.

1. Available Manufacturers:

- a. Arrow USA; an ASSA ABLOY Group company (ARW).
- b. Best Access Systems; Div. of The Stanley Works (BAS).
- c. Cal-Royal Products, Inc. (CRP).
- d. Corbin Russwin Architectural Hardware; an ASSA ABLOY Group company (CR).
- e. Falcon Lock; an Ingersoll-Rand Company (FAL).
- f. Marks USA (MKS).
- g. Medeco Security Locks, Inc.; an ASSA ABLOY Group company (MED).
- h. PDQ Manufacturing (PDQ).
- i. SARGENT Manufacturing Company; an ASSA ABLOY Group company (SGT).
- j. Schlage Commercial Lock Division; an Ingersoll-Rand Company (SCH).
- k. Security Door Controls (SDC).
- l. Weiser Lock; a Masco Company (WEI).
- m. Yale Commercial Locks and Hardware; an ASSA ABLOY Group company (YAL).

2.6 AUXILIARY LOCKS AND LATCHES

A. Auxiliary Locks: BHMA A156.5, Grade 1.

1. Available Manufacturers:

- a. ABLOY Security, Inc.; an ASSA ABLOY Group company (ABL).
- b. Accurate Lock & Hardware Co. (ALH).
- c. Adams Rite Manufacturing Co. (ARM).
- d. Arrow USA; an ASSA ABLOY Group company (ARW).
- e. Best Access Systems; Div. of The Stanley Works (BAS).
- f. Cal-Royal Products, Inc. (CRP).
- g. Falcon Lock; an Ingersoll-Rand Company (FAL).
- h. Marks USA (MKS).
- i. Medeco Security Locks, Inc.; an ASSA ABLOY Group company (MED).
- j. PDQ Manufacturing (PDQ).
- k. SARGENT Manufacturing Company; an ASSA ABLOY Group company (SGT).
- l. Schlage Commercial Lock Division; an Ingersoll-Rand Company (SCH).
- m. Weiser Lock; a Masco Company (WEI).
- n. Yale Commercial Locks and Hardware; an ASSA ABLOY Group company (YAL).

2.7 DOOR BOLTS

A. Bolt Throw: Comply with testing requirements for length of bolts required for labeled fire doors.

B. Dustproof Strikes: BHMA A156.16, Grade 1.

2.8 LOCK CYLINDERS

- A. Standard Lock Cylinders: BHMA A156.5, Grade 1.
- B. Cylinders: Manufacturer's standard tumbler type, constructed from brass or bronze, stainless steel, or nickel silver, and complying with the following:
 - 1. Number of Pins: Five.
- C. Permanent Cores: Manufacturer's standard; finish face to match lockset; with interchangeable cores.
- D. Construction Keying: Comply with the following:
 - 1. Construction Master Keys: Provide cylinders with feature that permits voiding of construction keys without cylinder removal. Provide 10 construction master keys.
 - 2. Construction Cores: Provide construction cores that are replaceable by permanent cores. Provide 10 construction master keys.
 - a. Furnish permanent cores to Owner for installation.
- E. Manufacturer: Same manufacturer as for locks and latches.

2.9 KEYING

- A. Keying System: Factory registered, complying with guidelines in BHMA A156.28, Appendix A. Incorporate decisions made in keying conference into master key system.

2.10 OPERATING TRIM

- A. Standard: BHMA A156.6.
- B. Materials: Fabricate from stainless steel, unless otherwise indicated.
- C. Available Manufacturers:
 - 1. Burns Manufacturing Incorporated (BM).
 - 2. Forms + Surfaces (FS).
 - 3. Hager Companies (HAG).
 - 4. Hiawatha, Inc. (HIA).
 - 5. IVES Hardware; an Ingersoll-Rand Company (IVS).
 - 6. Rockwood Manufacturing Company (RM).
 - 7. Trimco (TBM).

2.11 CLOSERS

- A. Accessibility Requirements: Comply with the following maximum opening-force requirements:
 - 1. Interior, Non-Fire-Rated Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.

- B. Door Closers for Means of Egress Doors: Comply with NFPA 101. Door closers shall not require more than 30 lbf (133 N) to set door in motion and not more than 15 lbf (67 N) to open door to minimum required width.
- C. Size of Units: Unless otherwise indicated, comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.
- D. Surface Closers: BHMA A156.4, Grade 1. Provide type of arm required for closer to be located on non-public side of door, unless otherwise indicated.
 - 1. Available Manufacturers:
 - a. Arrow USA; an ASSA ABLOY Group company (ARW).
 - b. Corbin Russwin Architectural Hardware; an ASSA ABLOY Group company (CR).
 - c. DORMA Architectural Hardware; Member of The DORMA Group North America (DAH).
 - d. Dor-O-Matic; an Ingersoll-Rand Company (DOR).
 - e. LCN Closers; an Ingersoll-Rand Company (LCN).
 - f. Norton Door Controls; an ASSA ABLOY Group company (NDC).
 - g. Rixson Specialty Door Controls; an ASSA ABLOY Group company (RIX).
 - h. SARGENT Manufacturing Company; an ASSA ABLOY Group company (SGT).
 - i. Yale Commercial Locks and Hardware; an ASSA ABLOY Group company (YAL).

2.12 PROTECTIVE TRIM UNITS

- A. Size: 1-1/2 inches (38 mm) less than door width on push side and 1/2 inch (13 mm) less than door width on pull side, by height specified in door hardware sets.
- B. Metal Protective Trim Units: BHMA A156.6; beveled top and 2 sides; fabricated from the following material:
 - 1. Material: 0.050-inch- (1.3-mm-) thick stainless steel.
 - 2. Available Manufacturers:
 - a. American Floor Products Co., Inc. (AFP).
 - b. Baldwin Hardware Corporation (BH).
 - c. Burns Manufacturing Incorporated (BM).
 - d. Don-Jo Mfg., Inc. (DJO).
 - e. Hager Companies (HAG).
 - f. Hiawatha, Inc. (HIA).
 - g. IPC Door and Wall Protection Systems, Inc.; Div. of InPro Corporation (IPC).
 - h. IVES Hardware; an Ingersoll-Rand Company (IVS).
 - i. Pawling Corporation (PAW).
 - j. Rockwood Manufacturing Company (RM).
 - k. Trimco (TBM).

2.13 STOPS AND HOLDERS

- A. Stops and Bumpers: BHMA A156.16, Grade 1.
 - 1. Provide floor stops for doors unless wall or other type stops are scheduled or indicated. Do not mount floor stops where they will impede traffic. Where floor or wall stops are not appropriate, provide overhead holders.
- B. Combination Floor and Wall Stops and Holders: BHMA A156.8, Grade 1.
- C. Silencers for Door Frames: BHMA A156.16, Grade 1; neoprene or rubber; fabricated for drilled-in application to frame.

2.14 DOOR GASKETING

- A. Standard: BHMA A156.22.
- B. General: Provide continuous weather-strip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated or scheduled. Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.
 - 1. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- C. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- D. Gasketing Materials: ASTM D 2000 and AAMA 701/702.

2.15 THRESHOLDS

- A. Standard: BHMA A156.21.
- B. Accessibility Requirements: Bevel raised thresholds with a slope of not more than 1:2. Provide thresholds not more than 1/2 inch (13 mm) high.
- C. Thresholds for Means of Egress Doors: Comply with NFPA 101. Maximum 1/2 inch (13 mm) high.

2.16 FABRICATION

- A. Base Metals: Produce door hardware units of base metal, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18. Do not furnish manufacturer's standard materials or forming methods if different from specified standard.
- B. Fasteners: Provide screws according to commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.

- C. Finishes: BHMA A156.18, as indicated in door hardware sets.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Steel Doors and Frames: Comply with DHI A115 Series. Drill and tap doors and frames for surface-applied door hardware according to ANSI A250.6.
- B. Mounting Heights: Mount door hardware units at heights indicated as follows unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
- C. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
- E. Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 - 1. Spring Hinges: Adjust to achieve positive latching when door is allowed to close freely from an open position of 30 degrees.
 - 2. Door Closers: Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.

END OF SECTION 087100

SECTION 088000 - GLAZING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:
 - 1. Windows.
 - 2. Doors.

1.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design glass, including comprehensive engineering analysis according to ASTM E 1300 by a qualified professional engineer, using the following design criteria:
 - 1. Design Wind Pressures: As required by Code.
 - 2. Vertical Glazing: For glass surfaces sloped 15 degrees or less from vertical, design glass to resist design wind pressure based on glass type factors for short-duration load.

1.3 PRECONSTRUCTION TESTING

- A. Preconstruction Adhesion and Compatibility Testing: Test each glazing material type, tape sealant, gasket, glazing accessory, and glass-framing member for adhesion to and compatibility with elastomeric glazing sealants.
 - 1. Testing will not be required if data are submitted based on previous testing of current sealant products and glazing materials matching those submitted.

1.4 SUBMITTALS

- A. Product Data: For each glass product and glazing material indicated.
- B. Glass Samples: For each type of glass product other than clear monolithic vision glass; 12 inches (300 mm) square.
- C. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.
- D. Delegated-Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- E. Preconstruction adhesion and compatibility test report.

1.5 QUALITY ASSURANCE

- A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.
 - 1. GANA Publications: GANA's "Laminated Glazing Reference Manual."
- B. Safety Glazing Labeling: Where safety glazing labeling is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction or the manufacturer. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.
- C. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of IGCC.

1.6 WARRANTY

- A. Manufacturer's Special Warranty on Laminated Glass: Manufacturer's standard form in which laminated-glass manufacturer agrees to replace laminated-glass units that deteriorate within specified warranty period. Deterioration of laminated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.
 - 1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GLASS PRODUCTS, GENERAL

- A. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass lites in thicknesses as needed to comply with requirements indicated.
- B. Strength: Where float glass is indicated, provide annealed float glass, Kind HS heat-treated float glass, or Kind FT heat-treated float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened glass is indicated, provide Kind HS heat-treated float glass or Kind FT heat-treated float glass as needed to comply with "Performance Requirements" Article. Where fully tempered glass is indicated, provide Kind FT heat-treated float glass.
- C. Windborne-Debris-Impact Resistance: Provide exterior glazing that passes basic protection testing requirements in ASTM E 1996 for Wind Zone 1 when tested according to ASTM E 1886. Test specimens shall be no smaller in width and length than glazing indicated for use on the Project and shall be installed in same manner as glazing indicated for use on the Project.
 - 1. Large-Missile Test: For glazing located within 30 feet (9.1 m) of grade.

- D. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:
1. U-Factors: Center-of-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as Btu/sq. ft. x h x deg F (W/sq. m x K).
 2. Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
 3. Visible Reflectance: Center-of-glazing values, according to NFRC 300.

2.2 GLASS PRODUCTS

- A. Float Glass: ASTM C 1036, Type I, Quality-Q3, Class I (tinted) unless otherwise indicated.
1. Products: Subject to compliance with requirements, provide available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. AFG Industries, Inc.; Krystal Klear.
 - b. Guardian Industries Corp.; Ultrawhite.
 - c. Pilkington North America; Optiwhite.
 - d. PPG Industries, Inc.; Starphire.
- B. Reflective-Coated Vision Glass: ASTM C 1376, coated by pyrolytic process and complying with other requirements specified.
1. Basis-of-Design Product: Subject to compliance with requirements, provide comparable product by one of the following:
 - a. Pilkington North America PPG Industries Inc, Guardian Glass.
 2. Kind: Kind CV (coated vision glass), except that Kind CO (coated overhead glass) may be used where the lower edge of the glass is more than 6 feet (1.8 m) above the adjacent floor level or cannot be approached closer than 10 feet (3.0 m).
 3. Coating Color: Pewter.
 4. Glass: Tinted float.
 5. Tint Color: Gray.
 6. Visible Light Transmittance: 60 percent minimum.

2.3 LAMINATED GLASS

- A. 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:
1. Cardinal Glass Industries
 2. Viracon
 3. Pilkington North America.

- B. Laminated Glass: ASTM C 1172, and complying with testing requirements in 16 CFR 1201 for Category II materials, and with other requirements specified. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.
 - 1. Construction: Laminate glass with polyvinyl butyral interlayer or cast-in-place and cured-transparent-resin interlayer to comply with interlayer manufacturer's written recommendations.
 - 2. Interlayer Thickness: Provide thickness not less than that indicated and as needed to comply with requirements.
 - 3. Interlayer Color: Clear unless otherwise indicated.
- C. Windborne-Debris-Impact-Resistant Laminated Glass: ASTM C 1172, and complying with testing requirements in 16 CFR 1201 for Category II materials, with "Windborne-Debris-Impact Resistance" Paragraph in "Glass Products, General" Article, and with other requirements specified. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.
 - 1. Construction: Laminate glass with one of the following to comply with interlayer manufacturer's written recommendations:
 - a. Polyvinyl butyral interlayer.
 - b. Polyvinyl butyral interlayers reinforced with polyethylene terephthalate film.
 - c. Ionoplast interlayer.
 - d. Cast-in-place and cured-transparent-resin interlayer.
 - e. Cast-in-place and cured-transparent-resin interlayer reinforced with polyethylene terephthalate film.
 - 2. Interlayer Thickness: Provide thickness not less than that indicated and as needed to comply with requirements.
 - 3. Interlayer Color: Clear unless otherwise indicated.

2.4 GLAZING GASKETS

- A. Dense Compression Gaskets: Molded or extruded gaskets of profile and hardness required to maintain watertight seal, made from one of the following:
 - 1. Neoprene complying with ASTM C 864.
 - 2. EPDM complying with ASTM C 864.
 - 3. Silicone complying with ASTM C 1115.
 - 4. Thermoplastic polyolefin rubber complying with ASTM C 1115.
- B. Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned neoprene EPDM silicone or thermoplastic polyolefin rubber gaskets complying with ASTM C 509, Type II, black; of profile and hardness required to maintain watertight seal.
 - 1. Application: Use where soft compression gaskets will be compressed by inserting dense compression gaskets on opposite side of glazing or pressure applied by means of pressure-glazing stops on opposite side of glazing.

- C. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; non-staining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
 - 1. AAMA 804.3 tape, where indicated.
 - 2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
 - 3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.
- D. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:
 - 1. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.
 - 2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.5 MISCELLANEOUS GLAZING MATERIALS

- A. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.
- B. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.
- C. Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
- D. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).
- E. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.
- F. Perimeter Insulation for Fire-Resistive Glazing: Product that is approved by testing agency that listed and labeled fire-resistant glazing product with which it is used for application and fire-protection rating indicated.

PART 3 - EXECUTION

3.1 GLAZING, GENERAL

- A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

- B. Adjust glazing channel dimensions as required by Project conditions during installation to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.
- C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.
- D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.
- E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
- F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
- G. Provide spacers for glass lites where length plus width is larger than 50 inches (1270 mm).
- H. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

3.2 TAPE GLAZING

- A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.
- B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
- C. Cover vertical framing joints by applying tapes to heads and sills first and then to jambs. Cover horizontal framing joints by applying tapes to jambs and then to heads and sills.
- D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
- E. Apply heel bead of elastomeric sealant.
- F. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.
- G. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.3 GASKET GLAZING (DRY)

- A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

- B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.
- C. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
- D. Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
- E. Install gaskets so they protrude past face of glazing stops.

3.4 SEALANT GLAZING (WET)

- A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.
- B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.
- C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

3.5 CLEANING AND PROTECTION

- A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels and clean surfaces.
- B. Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer.
- C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains; remove as recommended in writing by glass manufacturer.
- D. Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, and vandalism, during construction period.

END OF SECTION 088000

SECTION 088300 - MIRRORS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes the following types of silvered flat glass mirrors:

1. Annealed monolithic glass mirrors.
2. Tempered glass mirrors qualifying as safety glazing.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Include mirror elevations, edge details, mirror hardware, and attachments to other work.
- C. Samples:
1. Mirrors: 12 inches (300 mm) square, including edge treatment on two adjoining edges.
 2. Mirror Clips: Full size.
 3. Mirror Trim: 12 inches (300 mm) long.
- D. Preconstruction test reports.
- E. Maintenance data.
- F. Warranty: Sample of special warranty.

1.3 QUALITY ASSURANCE

- A. Glazing Publications: Comply with GANA's "Glazing Manual" and "Mirrors, Handle with Extreme Care: Tips for the Professional on the Care and Handling of Mirrors."
- B. Safety Glazing Products: For tempered mirrors, provide products complying with testing requirements in 16 CFR 1201 for Category II materials.
- C. Preconstruction Mirror Mastic Compatibility Test: Submit mirror mastic products to mirror manufacturer for testing to determine compatibility of mastic with mirror backing and substrates on which mirrors are installed.

1.4 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which mirror manufacturer agrees to replace mirrors that deteriorate within specified warranty period. Deterioration of mirrors is defined as

defects developed from normal use that are not attributed to mirror breakage or to maintaining and cleaning mirrors contrary to manufacturer's written instructions. Defects include discoloration, black spots, and clouding of the silver film.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SILVERED FLAT GLASS MIRRORS

- A. Glass Mirrors, General: ASTM C 1503; manufactured using copper-free, low-lead mirror coating process.

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. Arch Aluminum & Glass Co., Inc.
- b. Avalon Glass and Mirror Company.
- c. Binswanger Mirror; a division of Vitro America, Inc.
- d. D & W Incorporated
- e. Donisi Mirror Company.
- f. Gardner Glass, Inc.
- g. Gilded Mirrors, Inc.
- h. Guardian Industries.
- i. Head West.
- j. Independent Mirror Industries, Inc.
- k. Lenoir Mirror Company.
- l. Maran-Wurzell Glass & Mirror.
- m. National Glass Industries.
- n. Stroupe Mirror Co., Inc.
- o. Sunshine Mirror; Westshore Glass Corp.
- p. Virginia Mirror Company, Inc.
- q. Walker Glass Co., Ltd.

- B. Tempered Clear Glass: Mirror Glazing Quality, for blemish requirements; and comply with ASTM C 1048 for Kind FT, Condition A, tempered float glass before silver coating is applied.

1. Nominal Thickness: 5.0 mm.

2.2 MISCELLANEOUS MATERIALS

- A. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.
- B. Edge Sealer: Approved by mirror manufacturer.

- C. Mirror Mastic: An adhesive setting compound, asbestos-free, produced specifically for setting mirrors.
- D. Film Backing for Safety Mirrors: Film backing and pressure-sensitive adhesive; both compatible with mirror backing paint as certified by mirror manufacturer.

2.3 MIRROR HARDWARE

- A. Top and Bottom Aluminum J-Channels: Aluminum extrusions with a return deep enough to produce a glazing channel to accommodate mirrors of thickness indicated and in lengths required to cover bottom and top edges of each mirror in a single piece.
 - 1. Finish: Clear bright anodized.
- B. Fasteners: Fabricated of same basic metal and alloy as fastened metal and matching it in finished color and texture where fasteners are exposed.
- C. Anchors and Inserts: Provide devices as required for mirror hardware installation.

2.4 FABRICATION

- A. Cutouts: Fabricate cutouts before tempering for notches and holes in mirrors without marring visible surfaces. Locate and size cutouts so they fit closely around penetrations in mirrors.
- B. Mirror Edge Treatment: Flat polished. Seal edges of mirrors with edge sealer.
- C. Film-Backed Safety Mirrors: Apply film backing with adhesive coating over mirror backing paint as recommended in writing by film-backing manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Examine substrates, over which mirrors are to be mounted, with Installer present, for compliance with installation tolerances, substrate preparation, and other conditions affecting performance of the Work.
 - 1. Verify compatibility with and suitability of substrates, including compatibility of mirror mastic with existing finishes or primers.
 - 2. Proceed with installation only after unsatisfactory conditions have been corrected and surfaces are dry.
- B. Comply with mastic manufacturer's written installation instructions for preparation of substrates, including coating substrates with mastic manufacturer's special bond coating where applicable.

- C. General: Install mirrors to comply with mirror manufacturer's written instructions and with referenced GANA publications. Mount mirrors accurately in place in a manner that avoids distorting reflected images.
- D. Wall-Mounted Mirrors: Install mirrors with mastic and mirror hardware. Attach mirror hardware securely to mounting surfaces with mechanical fasteners installed with anchors or inserts as applicable. Install fasteners so heads do not impose point loads on backs of mirrors. Apply mastic to comply with mastic manufacturer's written instructions for coverage and to allow air circulation between back of mirrors and face of mounting surface.
- E. Protect mirrors from breakage and contaminating substances resulting from construction operations.
- F. Do not permit edges of mirrors to be exposed to standing water.
- G. Maintain environmental conditions that will prevent mirrors from being exposed to moisture from condensation or other sources for continuous periods of time.
- H. Wash exposed surface of mirrors not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash mirrors as recommended in writing by mirror manufacturer.

END OF SECTION 088300

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes non-load-bearing steel framing members for the following applications:
 - 1. Interior framing systems (e.g., supports for partition walls, framed soffits, furring, etc.).

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.3 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

PART 2 - PRODUCTS

2.1 NON-LOAD-BEARING STEEL FRAMING, GENERAL

- A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal, unless otherwise indicated.
 - 2. Protective Coating: ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized zinc coating, unless otherwise indicated.

2.2 STEEL FRAMING FOR FRAMED ASSEMBLIES

- A. Steel Studs and Runners: ASTM C 645.
 - 1. Minimum Base-Metal Thickness: 24 ga.
- B. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
 - 1. Minimum Base-Metal Thickness: 24 ga.
- C. Cold-Rolled Channel Bridging: 0.0538-inch (1.37-mm) bare-steel thickness, with minimum 1/2-inch- (12.7-mm-) wide flanges.

1. Depth: 1-1/2 inches (38.1 mm).
 2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches (38.1 by 38.1 mm), 0.068-inch- (1.73-mm-) thick, galvanized steel.
- D. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
1. Minimum Base Metal Thickness: 0.0312 inch (0.79 mm).
 2. Depth: 1-1/2 inches (38.1 mm).
- E. Resilient Furring Channels: 1/2-inch- (12.7-mm-) deep, steel sheet members designed to reduce sound transmission.
1. Configuration: Asymmetrical or hat shaped.
- F. Cold-Rolled Furring Channels: 0.0538-inch (1.37-mm) bare-steel thickness, with minimum 1/2-inch- (12.7-mm-) wide flanges.
1. Depth: 3/4 inch (19.1 mm).
 2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum bare-steel thickness of 0.0312 inch (0.79 mm).
 3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch- (1.59-mm-) diameter wire, or double strand of 0.0475-inch- (1.21-mm-) diameter wire.
- G. Z-Shaped Furring: With slotted or nonslotted web, face flange of 1-1/4 inches (31.8 mm), wall attachment flange of 7/8 inch (22.2 mm), minimum bare-metal thickness of 0.0179 inch (0.45 mm), and depth required to fit insulation thickness indicated.

2.3 AUXILIARY MATERIALS

- A. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754.
1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.

3.2 INSTALLING FRAMED ASSEMBLIES

- A. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- B. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to

terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.

1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb, unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch (12.7-mm) clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
3. Other Framed Openings: Frame openings other than door openings the same as required for door openings, unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.
5. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.

C. Z-Furring Members:

1. Erect insulation vertically and hold in place with Z-furring members spaced 24 inches (610 mm) o.c.
2. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches (600 mm) o.c.
3. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than 12 inches (300 mm) from corner and cut insulation to fit.

- D. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch (3 mm) from the plane formed by faces of adjacent framing.

END OF SECTION 092216

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Interior gypsum board.
 - 2. Exterior gypsum board for walls, ceilings and soffits.
 - 3. Tile backing panels.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.3 QUALITY ASSURANCE

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

PART 2 - PRODUCTS

2.1 INTERIOR GYPSUM BOARD

- A. General: Complying with ASTM C 36/C 36M or ASTM C 1396/C 1396M, as applicable to type of gypsum board indicated and whichever is more stringent.
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. American Gypsum Co.
 - b. BPB America Inc.
 - c. G-P Gypsum.
 - d. Lafarge North America Inc.
 - e. National Gypsum Company.
 - f. PABCO Gypsum.
 - g. Temple.
 - h. USG Corporation.
- B. Regular Type:

1. Thickness: 5/8 inch.
2. Long Edges: Tapered.

C. Type X:

1. Thickness: 5/8 inch (15.9 mm).
2. Long Edges: Tapered.

D. Moisture- and Mold-Resistant Type: With moisture- and mold-resistant core and surfaces.

1. Thickness: 5/8 inch (15.9 mm).
2. Long Edges: Tapered.

E. Abuse-Resistant Type: With high-density core.

1. Thickness: 5/8 inch (15.9 mm).
2. Long Edges: Tapered.

2.2 TILE BACKING PANELS

A. Water-Resistant Gypsum Backing Board: ASTM C 630/C 630M or ASTM C 1396/C 1396M.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. American Gypsum Co.
 - b. BPB America Inc.
 - c. G-P Gypsum.
 - d. Lafarge North America Inc.
 - e. National Gypsum Company.
 - f. PABCO Gypsum.
 - g. Temple.
 - h. USG Corporation.
2. Core: 5/8 inch (15.9 mm), Type X.

B. Glass-Mat, Water-Resistant Backing Board:

1. Complying with ASTM C 1178/C 1178M.
 - a. Product: Subject to compliance with requirements, provide "DensShield Tile Guard" by G-P Gypsum.

2.3 EXTERIOR GYPSUM BOARD FOR WALLS, CEILINGS AND SOFFITS

A. Exterior Gypsum Soffit Board: ASTM C 931/C 931M or ASTM C 1396/C 1396M, with manufacturer's standard edges.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Gypsum Co.
 - b. BPB America Inc.
 - c. G-P Gypsum.
 - d. Lafarge North America Inc.
 - e. National Gypsum Company.
 - f. PABCO Gypsum.
 - g. Temple.
 - h. USG Corporation.
3. Core: 5/8 inch (15.9 mm), Type X.

2.4 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Plastic.
2. Shapes:
 - a. Cornerbead.
 - b. Bullnose bead.
 - c. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - d. L-Bead: L-shaped; exposed long flange receives joint compound.
 - e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
 - f. Expansion (control) joint.
 - g. Curved-Edge Cornerbead: With notched or flexible flanges.

2.5 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:

1. Interior Gypsum Wallboard: Paper.
2. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
3. Tile Backing Panels: As recommended by panel manufacturer.

C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.

- a. Use setting-type compound for installing paper-faced metal trim accessories.
- 3. Fill Coat: For second coat, use setting-type, sandable topping compound.
- 4. Finish Coat: For third coat, use setting-type, sandable topping compound.
- D. Joint Compound for Tile Backing Panels:
 - 1. Water-Resistant Gypsum Backing Board: Use setting-type taping compound and setting-type, sandable topping compound.

2.6 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
 - 1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.
 - 2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

PART 3 - EXECUTION

3.1 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations, and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

3.2 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Regular Type: Vertical surfaces, unless otherwise indicated.
 - 2. Type X: Where required for fire-resistance-rated assembly.
 - 3. Moisture- and Mold-Resistant Type: Within 5' 2" of plumbing fixtures and on existing CMU walls.
 - 4. Abuse-Resistant Type: In residential areas of second floor.

3.3 APPLYING TILE BACKING PANELS

- A. Where tile backing panels abut other types of panels in same plane, shim surfaces to produce a uniform plane across panel surfaces.

3.4 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Interior Trim: Install in the following locations:
 - 1. Cornerbead: Use at outside corners.

3.5 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below:
 - 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
 - 2. Level 2: Panels that are substrate for tile.
 - 3. Level 4: At panel surfaces that will be exposed to view, unless otherwise indicated.
 - a. Primer and its application to surfaces are specified in other Division 09 Sections.
- E. Glass-Mat, Water-Resistant Backing Panels: Finish according to manufacturer's written instructions.

3.6 PROTECTION

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

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PROJECT #02454

END OF SECTION 092900

GYPSUM BOARD

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SECTION 093000 - TILING

PART 1 - PRODUCTS

1.1 TILE PRODUCTS

A. Available Manufacturers:

1. American Olean; Div. of Dal-Tile International Corp.
2. Buchtal Corporation USA.
3. Crossville Ceramics Company, L.P.
4. Daltile; Div. of Dal-Tile International Inc.
5. Florida Tile Industries, Inc.
6. Interceramic.
7. Metropolitan Ceramics.
8. Monarch Tile, Inc.
9. Porcelanite, Inc.
10. Quarry Tile Company.
11. Summitville Tiles, Inc.
12. United States Ceramic Tile Company.

B. ANSI Ceramic Tile Standard: Provide Standard grade tile that complies with ANSI A137.1, "Specifications for Ceramic Tile," for types, compositions, and other characteristics indicated.

C. Unglazed Ceramic Mosaic Tile CT-1: Factory-mounted flat tile as follows:

1. Composition: Porcelain.
2. Surface: Slip-resistant, with abrasive admixture.
3. Module Size: 12" by 12 inches.
4. Basis-of-Design Product: Interceramic-Intertech Ararat or a comparable product of one of the following:

D. Glazed Wall Tile CT-2: Flat tile as follows:

1. Module Size: 6 by 6 inches (152 by 152 mm).
2. Basis-of-Design Product: Interceramic Wall Tile Collection or a comparable product of one of the following:

E. Glazed Wall Tile Trim Units: Matching characteristics of adjoining flat tile and coordinated with sizes and coursing where applicable.

1. Base: Coved, module size 6 by 6 inches (152 by 152 mm).
2. Wainscot Cap: Bullnose, module size 6 by 6 inches (152 by 152 mm).
3. External Corners: Bullnose.
4. Internal Corners: Field-buttet square corners except with coved base and cap angle pieces designed to fit with stretcher shapes.

1.2 ACCESSORY MATERIALS

- A. Thresholds: Fabricate to provide transition between adjacent floor finishes. Bevel edges at 1:2 slope, limit height of bevel to 1/2 inch (12.7 mm) or less, and finish bevel to match face of threshold.
 - 1. Marble Thresholds: ASTM C 503 with a minimum abrasion resistance of **12** per ASTM C 1353 or ASTM C 241 and with honed finish.

1.3 SETTING AND GROUTING MATERIALS

- A. Available Manufacturers:
 - 1. Atlas Minerals & Chemicals, Inc.
 - 2. Boiardi Products Corporation.
 - 3. Bonsal, W. R., Company.
 - 4. Bostik.
 - 5. C-Cure.
 - 6. Custom Building Products.
 - 7. DAP, Inc.
 - 8. Jamo Inc.
 - 9. LATICRETE International Inc.
 - 10. MAPEI Corporation.
 - 11. Southern Grouts & Mortars, Inc.
 - 12. Summitville Tiles, Inc.
 - 13. TEC Specialty Products Inc.
- B. Portland Cement Mortar (Thickset) Installation Materials: ANSI A108.1A.
- C. Latex-Portland Cement Mortar (Thin Set): ANSI A118.4.
 - 1. Prepackaged dry-mortar mix containing dry additive to which only water must be added.
 - 2. Prepackaged dry-mortar mix combined with liquid-latex additive.
 - 3. For wall applications, provide non-sagging mortar.
- D. Water-Cleanable, Tile-Setting Epoxy Adhesive: ANSI A118.3, with a VOC content of 65 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- E. Standard Sanded Cement Grout: ANSI A118.6, color as indicated.
- F. Standard Un-Sanded Cement Grout: ANSI A118.6, color as indicated.

PART 2 - EXECUTION

2.1 INSTALLATION, GENERAL

- A. ANSI Tile Installation Standards: Comply with parts of ANSI A108 Series "Specifications for Installation of Ceramic Tile" that apply to types of setting and grouting materials and to methods indicated in ceramic tile installation schedules.

- B. TCA Installation Guidelines: TCA's "Handbook for Ceramic Tile Installation." Comply with TCA installation methods indicated in ceramic tile installation schedules.
- C. At showers, tubs, and where indicated, install cementitious backer units and treat joints to comply with ANSI A108.11.
- D. For installations indicated below, follow procedures in ANSI A108 Series tile installation standards for providing 95 percent mortar coverage.
 - 1. Exterior tile floors.
 - 2. Tile floors in wet areas.
 - 3. Tile swimming pool decks.
 - 4. Tile floors in laundries.
 - 5. Tile floors composed of tiles 8 by 8 inches (200 by 200 mm) or larger.
 - 6. Tile floors composed of rib-backed tiles.

2.2 FLOOR TILE INSTALLATION SCHEDULE

- A. Interior floor installation on concrete; thin-set mortar; TCA F113.
 - 1. Thin-Set Mortar: Latex- Portland cement mortar.
 - 2. Grout: Polymer-modified sanded grout.
- B. Interior floor installation on concrete; water-cleanable epoxy adhesive; TCA F116.
 - 1. Grout: Polymer-modified sanded grout.

2.3 WALL TILE INSTALLATION SCHEDULE

- A. Interior wall installation over masonry or concrete; thin-set mortar; TCA W202.
 - 1. Thin-Set Mortar: Latex- Portland cement mortar.
 - 2. Grout: Polymer-modified sanded grout.
- B. Interior wall installation; thin-set mortar; over cementitious backer units; TCA W244.
 - 1. Thin-Set Mortar: Latex- Portland cement mortar.
 - 2. Grout: Polymer-modified sanded grout.
- C. Interior bathtub wall installation; thin-set mortar; over cementitious backer units; TCA B412.
 - 1. Thin-Set Mortar: Latex-Portland cement mortar.
 - 2. Grout: Polymer-modified sanded grout.

END OF SECTION 093000

SECTION 095113 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes acoustical panels and exposed suspension systems for ceilings.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For each exposed finish.
- C. Maintenance data.

1.3 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics:
 - 1. Surface-Burning Characteristics: Acoustical panels complying with ASTM E 1264 for Class A materials, when tested per ASTM E 84.
 - a. Smoke-Developed Index: 450 or less.

PART 2 - PRODUCTS

2.1 ACOUSTICAL PANEL CEILINGS, GENERAL

- A. Attachment Devices: Size for five times the design load indicated in ASTM C 635, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
 - 1. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hangers of type indicated, and with capability to sustain, without failure, a load equal to 10 times that imposed by ceiling construction, as determined by testing per ASTM E 1190, conducted by a qualified testing and inspecting agency.
- B. Wire Hangers, Braces, and Ties: Zinc-coated carbon-steel wire; ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
 - 1. Size: Select wire diameter so its stress at 3 times hanger design load (ASTM C 635, Table 1, "Direct Hung") will be less than yield stress of wire, but provide not less than 0.106-inch- (2.69-mm-) diameter wire.

- C. Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension system runners.

2.2 ACOUSTICAL PANELS FOR ACOUSTICAL PANEL CEILING

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Armstrong World Industries, Inc.
 - 2. BPB USA.
 - 3. Chicago Metallic Corporation.
 - 4. Ecophon CertainTeed, Inc.
 - 5. Tectum Inc.
 - 6. USG Interiors, Inc.
 - 7. Rockfon LLC
- B. Basis-of-Design Product: Subject to compliance with requirements, provide Rockfon "Alaska"
- C. Classification: Provide panels complying with ASTM E 1264 for type and form as follows:
 - 1. Type and Form: Type XX, other types; described as high-density, ceramic- and mineral-base panels with scrubbable finish, resistant to heat, moisture, and corrosive fumes.
- D. Color: White.
- E. LR: Not less than .86.
- F. NRC: Not less than .90.
- G. CAC: Not less than 22.
- H. AC: Not less than 180.
- I. Edge/Joint Detail: Square.
- J. Thickness: 3/4 inch (19 mm).
- K. Modular Size: 24 by 24 inches (610 by 610 mm).

2.3 METAL SUSPENSION SYSTEM FOR ACOUSTICAL PANEL CEILING

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
- B. Products: Subject to compliance with requirements, provide one of the following:
 - 1. Armstrong World Industries, Inc.
 - 2. BPB USA.
 - 3. Chicago Metallic Corporation.

4. Ecophon CertainTeed, Inc.
 5. USG Interiors, Inc.
 6. Rockfon LLC
- C. Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet, prepainted, electrolytically zinc coated, or hot-dip galvanized according to ASTM A 653/A 653M, not less than G30 (Z90) coating designation, with prefinished 15/16-inch- (24-mm-) wide metal caps on flanges.
1. Structural Classification: Heavy-duty system.
 2. End Condition of Cross Runners: Override (stepped) type.
 3. Cap Material: Steel cold-rolled sheet.
 4. Cap Finish: Painted white.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with ASTM C 636, per manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."
- B. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders.
- C. Suspend ceiling hangers from building's structural members, plumb and free from contact with insulation or other objects within ceiling plenum. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers, use trapezes or equivalent devices. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
- D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels. Screw attach moldings to substrate at intervals not more than 16 inches (400 mm) o.c. and not more than 3 inches (75 mm) from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet (3.2 mm in 3.6 m). Miter corners accurately and connect securely.
- E. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- F. Install acoustical panels with undamaged edges and fit accurately into suspension system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide a neat, precise fit.

END OF SECTION 095113

SECTION 096400 - WOOD FLOORING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes factory- and field-finished wood flooring.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For each exposed finish.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.
- B. Forest Certification: Provide wood components produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."
- C. Hardwood Flooring: Comply with NOFMA's "Official Flooring Grading Rules" for species, grade, and cut.
 - 1. Certification: Provide flooring that carries NOFMA grade stamp on each bundle or piece.
- D. Maple Flooring: Comply with applicable MFMA grading rules for species, grade, and cut.
 - 1. Certification: Provide flooring that carries MFMA mark on each bundle or piece.
- E. Softwood Flooring: Comply with WCLIB No. 17 grading rules for species, grade, and cut.
- F. Mockups: Install mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Install mockups as shown on Drawings.
 - 2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Protect wood flooring from exposure to moisture. Do not deliver wood flooring until after concrete, masonry, plaster, ceramic tile, and similar wet work is complete and dry.

- B. Store wood flooring materials in a dry, warm, ventilated, weathertight location.

1.5 PROJECT CONDITIONS

- A. Conditioning period begins not less than seven days before wood flooring installation, is continuous through installation, and continues not less than seven days after wood flooring installation.
 - 1. Environmental Conditioning: Maintain an ambient temperature between 65 and 75 deg F (18 and 24 deg C) and relative humidity planned for building occupants in spaces to receive wood flooring during the conditioning period.
 - 2. Wood Flooring Conditioning: Move wood flooring into spaces where it will be installed, no later than the beginning of the conditioning period.
 - a. Do not install flooring until it adjusts to relative humidity of, and is at same temperature as, space where it is to be installed.
 - b. Open sealed packages to allow wood flooring to acclimatize immediately on moving flooring into spaces in which it will be installed.
- B. After conditioning period, maintain relative humidity and ambient temperature planned for building occupants.
- C. Install factory-finished wood flooring after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 FIELD-FINISHED WOOD FLOORING

- A. Solid-Wood, Strip and Plank Flooring: Kiln dried to 6 to 9 percent maximum moisture content, tongue and groove and end matched, and with backs channeled (kerfed) for stress relief.
 - 1. Available Manufacturers: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Manufacturers: Subject to compliance with requirements, provide products of one of the following:
 - a. Bruce; Division of Armstrong.
 - b. Carlisle Restoration Lumber.
 - c. Heartpine Lumber and Millwork.
 - d. International Hardwood Flooring, Inc.
 - e. Kentucky Wood Floors.
 - f. Memphis Hardwood Flooring Co.; Chicksaw Hardwood Flooring.
 - g. Miller and Company, Inc.; Cahaba Brand Hardwood Flooring.
 - h. Oregon Lumber Company.
 - i. Sandy Pond Hardwoods, Inc.
 - j. World Flooring International.
 - k. Horner Flooring Company.

3. Species and Grade: MFMA-RL First Grade hard maple.
 4. Cut: Plain sawn.
 5. Thickness: 25/32 inch (20 mm).
 6. Face Width: 2-1/4 inches (57 mm).
 7. Lengths: Random-length strips complying with applicable grading rules.
 8. Preservative Treatment: Clear, penetrating, water-repellent wood preservative that protects against mold, mildew, staining, and decay fungi; complying with MFMA's written recommendations and applied by immersion.
 9. Simulated Wood Pegs: Contrasting wood pegs at ends of plank flooring pieces.
- B. Urethane Finish System: Complete water-based system of compatible components that is recommended by finish manufacturer for application indicated.
1. VOC Content: When calculated according to 40 CFR 59, Subpart D (EPA Method 24), as follows:
 - a. Finish Coats and Floor Sealers: Not more than 350 g/L.
 - b. Stains: Not more than 250 g/L.
 2. Finish Coats: Formulated for multicoat application on wood flooring.
 - a. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - b. Products: Subject to compliance with requirements, provide one of the following:
 - 1) Basic Coatings, Inc.
 - 2) BonaKemi USA Inc.
 - 3) Dura Seal, Sherwin-Williams Company (The).
 - 4) Ecolab Inc., Huntington Brand.
 - 5) Hillyard, Inc.
 - 6) Polo-Plaz Coatings, National Coatings Company.
 3. Stain: Penetrating and nonfading type.
 - a. Color: As selected by Architect from manufacturer's full range.
 4. Floor Sealer: Pliable, penetrating type.
- C. Wood Filler: Compatible with finish system components and recommended by filler and finish manufacturers for use indicated. If required to match approved Samples, provide pigmented filler.

2.2 ACCESSORY MATERIALS

- A. Wood Sleepers and Subfloor: As specified in Division 06 Section "Rough Carpentry."]
- B. Wood Underlayment: As specified in Division 06 Section "Rough Carpentry."
- C. Vapor Retarder: ASTM D 4397, polyethylene sheet not less than 6.0 mils (0.15 mm) thick.
- D. Asphalt-Saturated Felt: ASTM D 4869, Type II.

- E. Wood Flooring Adhesive: Mastic recommended by flooring and adhesive manufacturers for application indicated.
 - 1. Use adhesives that have a VOC content of not more than 100 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- F. Trowelable Leveling and Patching Compound: Latex-modified, hydraulic-cement-based formulation approved by wood flooring manufacturer.
- G. Fasteners: As recommended by manufacturer, but not less than that recommended in NWFA's "Installation Guidelines: Wood Flooring."
- H. Cork Expansion Strip: Composition cork strip.
- I. Metal Feature Strips: 1/8-by-1/8-inch (3-by-3-mm) solid-brass strip, designed for inlaying into routed reveal in wood flooring surface.
- J. Trim: In same species and grade as wood flooring, unless otherwise indicated.
 - 1. Base: 5/8 inch (16 mm) thick by 4 inches (100 mm) high.
 - 2. Base Shoe Molding: 1/2 by 3/4 inch (13 by 19 mm).
 - 3. Threshold: Tapered on each side and routed at bottom of one side to accommodate wood flooring.
 - 4. Reducer Strip: 2 inches (51 mm) wide, tapered on 1 side, and in thickness matching wood flooring.

PART 3 - EXECUTION

3.1 PREPARATION

- A. For adhesively applied wood flooring, verify that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. Substrate Moisture Testing, General: Perform tests recommended by manufacturer or, if none, comply with applicable recommendations in NWFA's "Installation Guidelines: Wood Flooring."
 - 1. Proceed with installation only after substrates pass testing.
- C. Concrete Substrates:
 - 1. Moisture Testing: Perform anhydrous calcium chloride test per ASTM F 1869, as follows:
 - a. Perform tests so that each test area does not exceed 200 sq. ft. (18.6 sq. m) and perform not less than 2 tests in each installation area with test areas evenly spaced in installation area.

- b. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m) in 24 hours.
 - c. Perform alkalinity and adhesion tests recommended in writing by manufacturer or, if none, according to NWFA's "Installation Guidelines: Wood Flooring." Proceed with installation only after substrates pass testing.
- 2. Grind high spots and fill low spots on concrete substrates to produce a maximum 1/8-inch (3-mm) deviation in any direction when checked with a 10-foot (3-m) straight edge.
 - a. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, and depressions in substrates.
- 3. Remove coatings, including curing compounds, and other substances on substrates that are incompatible with installation adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
- D. Broom or vacuum clean substrates to be covered immediately before product installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with flooring manufacturer's written installation instructions, but not less than applicable recommendations in NWFA's "Installation Guidelines: Wood Flooring."
- B. Wood Sleepers and Subfloor: Install according to requirements in Division 06 Section "Rough Carpentry."
- C. Wood Underlayment: Install according to requirements in Division 06 Section "Rough Carpentry."
- D. Provide expansion space at walls and other obstructions and terminations of flooring of not less than 3/4 inch (19 mm).
- E. Asphalt-Saturated Felt: Where strip or plank flooring is nailed to solid-wood subfloor, install flooring over a layer of asphalt-saturated felt.
- F. Vapor Retarder:
 - 1. Wood Flooring Nailed to Sleepers over Concrete: Install flooring over a layer of polyethylene sheet with edges overlapped over sleepers and turned up behind baseboards.
 - 2. Wood Flooring Installed Directly on Concrete: Install a layer of polyethylene sheet according to flooring manufacturer's written instructions.
- G. Solid-Wood, Strip and Plank Flooring: Blind nail or staple flooring to substrate.
 - 1. For flooring of face width more than 3 inches (75 mm), do the following:
 - a. Install countersunk screws at each end of each piece in addition to blind nailing. Cover screw heads with wood plugs glued flush with flooring.

- b. Install no fewer than 2 countersunk nails at each end of each piece, spaced not more than 16 inches (406 mm) along length of each piece, in addition to blind nailing. Fill holes with matching wood filler.
- H. Wood Trim: Nail baseboard to wall and nail shoe molding or other trim to baseboard; do not nail to flooring.

3.3 FIELD FINISHING

- A. Machine-sand flooring to remove offsets, ridges, cups, and sanding-machine marks that would be noticeable after finishing. Vacuum and tack with a clean cloth immediately before applying finish.
 - 1. Comply with applicable recommendations in NWFA's "Installation Guidelines: Wood Flooring."
- B. Fill open-grained hardwood.
- C. Fill and repair wood flooring seams and defects.
- D. Apply floor-finish materials in number of coats recommended by finish manufacturer for application indicated, but not less than one coat of floor sealer and three finish coats.
 - 1. Apply stains to achieve an even color distribution matching approved Samples.
 - 2. For water-based finishes, use finishing methods recommended by finish manufacturer to minimize grain raise.
- E. Cover wood flooring before finishing.
- F. Do not cover wood flooring after finishing until finish reaches full cure, and not before seven days after applying last finish coat.

3.4 PROTECTION

- A. Protect installed wood flooring during remainder of construction period with covering of heavy kraft paper or other suitable material. Do not use plastic sheet or film that might cause condensation.
 - 1. Do not move heavy and sharp objects directly over kraft-paper-covered wood flooring. Protect flooring with plywood or hardboard panels to prevent damage from storing or moving objects over flooring.

END OF SECTION 096400

SECTION 096516 - RESILIENT SHEET FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Vinyl sports floor covering.
2. Playground Turf.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For each type of floor covering. Include floor covering layouts, locations of seams, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.
- C. Samples: In manufacturer's standard size, but not less than 6-by-9-inch (150-by-230-mm) sections of each different color and pattern of floor covering required.
- D. Maintenance data.

1.3 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

1.4 PROJECT CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer in spaces to receive floor coverings.
- B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer.
- C. Close spaces to traffic during floor covering installation.
- D. Close spaces to traffic for 48 hours after floor covering installation.
- E. Install floor coverings after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 VINYL SHEET FLOOR COVERING

- A. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
- B. Basis of Design: Tarkett, Inc.: Omnisports 7.1 min:
 - 1. Armstrong World Industries, Inc.
 - 2. Congoleum Corporation.
 - 3. Forbo Flooring, Inc.
 - 4. Mannington Mills, Inc.
 - 5. Polyflor, Ltd., Distributed by Gerbert Limited.
- C. Vinyl Sheet Floor Covering with Backing: ASTM F 1303.
 - 1. Type (Binder Content): Type I, minimum binder content of 90 percent.
 - 2. Wear-Layer Thickness: PVC.
 - 3. Overall Thickness: As standard with manufacturer.
 - 4. Interlayer Material: PVC with interwoven fiberglass.
- D. Wearing Surface: Embossed with embedded abrasives.
- E. Sheet Width: 12 feet (3.6 m).
- F. Colors and Patterns: As selected by Architect from full range of industry colors.

2.2 PLAYGROUND TURF:

- A. Products: 90oz./sq. yd. polyethylene yarn artificial turf with 1" pile height with dual backing system and perforated holes for drainage.
- B. Basis of Design: Turf Factory Direct: TFD K-9 Supreme.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of floor coverings.
- B. Concrete Substrates: Prepare according to ASTM F 710.
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 - 2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.

3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
4. Moisture Testing: Perform tests recommended by manufacturer and as follows. Proceed with installation only after substrates pass testing.
 - a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m) in 24 hours.
- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install floor coverings until they are same temperature as space where they are to be installed.
 1. Move floor coverings and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
- E. Sweep and vacuum clean substrates to be covered by floor coverings immediately before installation.

3.2 FLOOR COVERING INSTALLATION

- A. Comply with manufacturer's written instructions for installing floor coverings.
- B. Unroll floor coverings and allow them to stabilize before cutting and fitting.
- C. Lay out floor coverings as follows:
 1. Maintain uniformity of floor covering direction.
 2. Minimize number of seams; place seams in inconspicuous and low-traffic areas, at least 6 inches (152 mm) away from parallel joints in floor covering substrates.
 3. Match edges of floor coverings for color shading at seams.
 4. Avoid cross seams.
- D. Scribe and cut floor coverings to butt neatly and tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, and door frames.
- E. Extend floor coverings into toe spaces, door reveals, closets, and similar openings.
- F. Maintain reference markers, holes, or openings that are in place or marked for future cutting by repeating on floor coverings as marked on substrates. Use chalk or other nonpermanent marking device.
- G. Adhere floor coverings to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

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3.3 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protection of floor covering.
- B. Cover floor coverings until Substantial Completion.

END OF SECTION 096516

SECTION 096519 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Solid Vinyl floor tile.
 - 2. Vinyl composition floor tile.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: Full-size units of each color and pattern of floor tile required.
- C. Maintenance data.

1.3 PROJECT CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer in spaces to receive floor tile.
- B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer.
- C. Close spaces to traffic during floor tile installation.
- D. Close spaces to traffic for 48 hours after floor tile installation.
- E. Install floor tile after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 SOLID VINYL FLOOR TILE

- A. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Altro Group
 - 2. Amtico Studio (The), Amtico International Inc
 - 3. Armstrong World Industries, Inc
 - 4. Burke Mercer Flooring Products, Division of Burke Industries Inc
 - 5. Estrie Products International, American Biltrite (Canada) Ltd
 - 6. Flexco

7. Gemtec Inc
8. Gerflor, Architectural Floor Systems, Inc
9. Johnsonite
10. Polyflor, Ltd., Distributed by Gerbert Limited
11. Roppe Corporation, USA
12. Tarkett, Inc
13. TOLI International
14. VPI, LLC, Floor Products Division
15. Centiva; Victory Series

B. Tile Standard: ASTM F 1700.

1. Class: Class III, printed film vinyl tile.
2. Type: Type B, embossed surface.

C. Thickness: 0.120 inch (3.0 mm).

D. Size: 18 by 18 inches (457 by 457 mm).

E. Colors and Patterns: As selected by Architect from full range of industry colors.

2.2 VINYL COMPOSITION FLOOR TILE

A. Products: Subject to compliance with requirements, available manufacturers that may be incorporated into the Work include, but are not limited to, the following:

1. AB ColorPlus, American Biltrite (Canada) Ltd.
2. Armstrong World Industries, Inc
3. Congoleum Corporation.
4. Mannington Mills, Inc.
5. Tarkett, Inc.
6. Vinylasa Tile, Distributed by American Tile Inc.

B. Tile Standard: ASTM F 1066, Class 1, solid-color tile.

C. Wearing Surface: Smooth.

D. Thickness: 0.125 inch (3.2 mm).

E. Size: 12 by 12 inches (305 by 305 mm).

F. Colors and Patterns: As selected by Architect from full range of industry colors.

2.3 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.

- B. Adhesives: Water-resistant type recommended by manufacturer to suit floor tile and substrate conditions indicated.
 - 1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - a. VCT and Asphalt Tile Adhesives: Not more than 50 g/L.
- C. Floor Polish: Provide protective liquid floor polish products as recommended by manufacturer.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Concrete Substrates: Prepare according to ASTM F 710.
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 - 2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
 - 3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install floor tiles until they are same temperature as space where they are to be installed.
 - 1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
- E. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

3.2 FLOOR TILE INSTALLATION

- A. Comply with manufacturer's written instructions for installing floor tile.
- B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.
 - 1. Lay tiles square with room axis.

- C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.
 - 1. Lay tiles with grain direction alternating in adjacent tiles (basket-weave pattern).
- D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.
- E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent, nonstaining marking device.
- G. Adhere floor tiles to flooring substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

3.3 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protection of floor tile.
- B. Floor Polish: Remove soil, visible adhesive and surface blemishes from floor tile surfaces before applying liquid floor polish if required by manufacturer.
- C. Cover floor tile until Substantial Completion.

END OF SECTION 096519

SECTION 099110 - PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes surface preparation and field painting of exposed exterior and items and surfaces, including but not limited to soffit canopy, gable ends, stucco, exposed structural steel, awning window frames, steel doors and frames.
- B. Paint exposed surfaces, except where these Specifications indicate that the surface or material is not to be painted or is to remain natural. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Architect will select from standard colors and finishes available.
- C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

1.2 SUBMITTALS

- A. Product Data: For each paint system indicated. Include block fillers and primers.
- B. Samples for Initial Selection: For each type of finish-coat material indicated.
- C. Samples for Verification: For each color and material to be applied, with texture to simulate actual conditions, on representative Samples of the actual substrate.
 - 1. Provide stepped Samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.

1.3 QUALITY ASSURANCE

- A. Source Limitations: Obtain block fillers and primers for each coating system from the same manufacturer as the finish coats.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain storage containers in a clean condition, free of foreign materials and residue.

1.5 PROJECT CONDITIONS

- A. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F (10 and 32 deg C).
- B. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.
 - 1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.
- B. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
 - 1. Benjamin Moore & Co. (Benjamin Moore). Basis-of-Design unless otherwise noted
 - 2. Coronado Paint Company (Coronado). Basis of Design unless otherwise noted.
 - 3. Devoe Coatings. (Devoe)
- C. Coronado Paint Company will be shown in the specified systems. Products of manufacturer's listed above will be accepted meeting those specifications. Products of other manufacturer's not listed above shall not be accepted without written approval from the Architect.

2.2 PAINT MATERIALS, GENERAL

- A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
 - 1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.
- C. Colors: As indicated by manufacturer's designations.

2.3 EXTERIOR PRIMERS

- A. Exterior Concrete and Masonry Primer: Factory-formulated alkali-resistant acrylic-latex primer for exterior application.
- B. Exterior Ferrous-Metal Primer: Factory-formulated rust-inhibitive metal primer for exterior application.
- C. Exterior non-ferrous or Galvanized Metal Primer: Factory-formulated galvanized metal primer for exterior application.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for paint application.
- B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

3.2 PREPARATION

- A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
- B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.
- C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
 - 1. Provide barrier coats over incompatible primers or remove and reprime.
 - 2. Cementitious Materials: Power-wash concrete unit masonry, cement plaster, and mineral-fiber-reinforced cement panel surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
 - 3. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC's recommendations.
 - 4. Non-ferrous or Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

- D. Material Preparation: Mix and prepare paint materials according to manufacturer's written instructions.
 - 1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
 - 2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
 - 3. Use only thinners approved by paint manufacturer and only within recommended limits.
- E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

- A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
 - 1. Paint colors, surface treatments, and finishes are indicated in the paint schedules.
 - 2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
 - 3. Provide finish coats that are compatible with primers used.
 - 4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, grilles, convector covers, covers for finned-tube radiation, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.
 - 5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 6. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
 - 7. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
 - 8. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
 - 9. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.
 - 10. Sand lightly between each succeeding enamel or varnish coat.
- B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
 - 1. The number of coats and film thickness required are the same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
 - 2. Omit primer over metal surfaces that have been shop primed and touchup painted.
 - 3. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special

- attention to ensure that edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm and does not deform or feel sticky under moderate thumb pressure, and until application of another coat of paint does not cause undercoat to lift or lose adhesion.
- C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
1. Brushes: Use brushes best suited for type of material applied. Use brush of appropriate size for surface or item being painted.
 2. Rollers: Use rollers of carpet, velvet-back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.
 3. Spray Equipment: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate to achieve dry film thickness indicated. Provide total dry film thickness of the entire system as recommended by manufacturer.
- E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and occupied spaces.
- F. Mechanical items to be painted include, but are not limited to, the following:
1. Uninsulated metal piping.
 2. Uninsulated plastic piping.
 3. Pipe hangers and supports.
 4. Duct, equipment, and pipe insulation having "all-service jacket" or other paintable jacket material.
- G. Electrical items to be painted include, but are not limited to, the following:
1. Switchgear.
 2. Panelboards.
 3. Electrical equipment that is indicated to have a factory-primed finish for field painting.
- H. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.
- I. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.
- J. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

- K. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.4 FIELD QUALITY CONTROL

- A. Owner reserves the right to invoke the following test procedure at any time and as often as Owner deems necessary during the period when paint is being applied:
 - 1. Owner will engage a qualified independent testing agency to sample paint material being used. Samples of material delivered to Project will be taken, identified, sealed, and certified in the presence of Contractor.
 - 2. Owner may direct Contractor to stop painting if test results show material being used does not comply with specified requirements. Contractor shall remove noncomplying paint from Project site, pay for testing, and repaint surfaces previously coated with the noncomplying paint. If necessary, Contractor may be required to remove noncomplying paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

3.5 CLEANING

- A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.
 - 1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

3.6 PROTECTION

- A. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
- B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
 - 1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.7 EXTERIOR PAINT SCHEDULE

- A. Concrete, Stucco, EIFS, and Masonry (Other Than Concrete Unit Masonry): Provide the following finish systems over exterior concrete, stucco, and brick masonry substrates:
 - 1. Low-Luster Acrylic Finish: Two finish coats over a primer.
 - a. Primer: Exterior concrete and masonry primer: Basis-of-Design: Ultra Spec High-Build Sealer 609.

- b. Finish Coats: Exterior low-luster acrylic paint: Basis-of-Design: Ultra Spec EXT Satin N448.
- B. Ferrous Metal: Provide the following finish systems over exterior ferrous metal. Primer is not required on shop-primed items. Basis-of-Design: Corotech V180, Rust Arrestor over rusted surfaces and Corotech V160 Epoxy Mastic. Structural Steel only: 35-147 Primer Alkyd Red Rust Scat.
 - 1. Semigloss Acrylic-Enamel Finish: Two finish coats over a rust-inhibitive primer.
 - a. Primer: Exterior ferrous-metal primer. Corotech Acrylic Metal Primer V110.
 - b. Finish Coats: Exterior semigloss acrylic enamel: Coronado Rust Scat Enamel 90 Line.
- C. Non-ferrous and Galvanized Metal: Provide the following finish systems over exterior zinc-coated metal surfaces:
 - 1. Full-Gloss Acrylic-Enamel Finish: Two finish coats over a galvanized metal primer.
 - a. Primer: Exterior galvanized metal primer. Basis-of-Design: Corotech Acrylic Metal Primer V110.
 - b. Finish Coats: Exterior full-gloss acrylic enamel for ferrous and other metals Basis-of-Design: Coronado Rust Scat Enamel 80 Line.

Interior Paint Schedule:

Concrete Masonry Units:

- 1. Acrylic Finish, two coats over block filler:
 - a. Block Filler; Coronado by Benjamin Moore Super Kote 5000 Block Filler 958 line.
 - b. Second and Third Coats: Ultra Spec SCUFF-X Interior Satin finish 486.
 - c. Sheen: Satin.

Gypsum Drywall:

- 1. Walls:
 - a. Primer: 1 coat of Benjamin Moore Prep-Coat Hi Build Primer 580.
 - b. Second and Third Coats: Ultra Spec SCUFF-X Interior Satin finish 486.
 - c. Sheen: Satin.
- 2. Ceilings:
 - a. Primer: 1 coat of Benjamin Moore Prep-Coat Hi Build Primer 580.
 - b. Second & Third Coats: Coronado by Benjamin Moore Super Kote 5000 Flat 28 line.
 - c. Sheen: Flat.

Hollow Metal Doors and Frames-Int/Ext Ferrous & Non-ferrous Metal:

- 1. Acrylic-Enamel Finish:
 - a. Primer: Spot coat of Corotech Acrylic Metal Primer V110.
 - b. Second and Third Coats: Corotech Rust Scat Enamel 90 line.
 - c. Sheen: Semi-Gloss.

D. Manufacturers and Suppliers Responsibilities:

1. Monitoring of critical phase points i.e.; cleaning, priming/sealing, caulking, and finishing will be performed periodically by either the manufacturer's rep. or the supplier's rep. The monitoring process will be random and unannounced. The monitoring process is strictly for the benefit and comfort of the Paint Company and the supplier. This is not an inspection that certifies conformance of the specification. A third party independent inspector should be employed by the Owner or Association for certified application inspection.
2. A final review of the project will be performed at the completion of the job, no warranty will be issued until a final review has been completed. This final review confirms that the products used are as specified.

E. Warranty Information:

1. (7) Seven Year, Non-Prorated, Limited Material and Labor Warranty Warrants that the materials used, as manufactured by Benjamin Moore, Coronado or Devoe Paints, are manufactured to specification and free from defects. These specified coatings will not flake, crack, peel, or blister when applied to a properly prepared masonry substrate, due to a material defect. This warranty does not apply to the condition of or to any failure of the pre-existing paints or any pre-existing structural defects. There is no warranty on metal or against rust or corrosion of metals, or discoloration from masonry alkalinity burn. Substrate repairs and mechanical damage of paint is not covered under warranty.

END OF SECTION 099110

SECTION 101400 - SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:

1. Plaques.

1.2 DEFINITIONS

- A. ADA-ABA Accessibility Guidelines: U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines."

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show fabrication and installation details for signs.
1. Show sign mounting heights, locations of supplementary supports to be provided by others, and accessories.
 2. Provide message list, typestyles, graphic elements including tactile characters and Braille, and layout for each sign.
- C. Samples: For each sign type and for each color and texture required.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with applicable provisions in ADA-ABA Accessibility Guidelines.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), Type UVA (UV absorbing).

2.2 PANEL SIGNS

- A. Panel Signs: Provide smooth sign panel surfaces constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch (1.5 mm) measured diagonally from corner to corner, complying with the following requirements:
 - 1. Acrylic Sheet: 0.060 inch (1.52 mm) thick.
 - 2. Edge Condition: Square cut.
 - 3. Corner Condition: Rounded to radius indicated.
 - 4. Mounting: Framed.
 - 5. Color: As indicated.
 - 6. Tactile Characters: Characters and Grade 2 Braille raised 1/32 inch (0.8 mm) above surface with contrasting colors.
- B. Applied Vinyl: Die-cut characters from vinyl film of nominal thickness of 3 mils (0.076 mm) with pressure-sensitive adhesive backing. Apply copy to exposed face of panel sign.
 - 1. Panel Material: Opaque acrylic sheet.

2.3 ACCESSORIES

- A. Anchors and Inserts: Provide nonferrous-metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion-bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.

2.4 FABRICATION

- A. General: Provide manufacturer's standard signs of configurations indicated.
 - 1. Mill joints to tight, hairline fit. Form joints exposed to weather to exclude water penetration.
 - 2. Conceal fasteners if possible; otherwise, locate fasteners where they will be inconspicuous.

2.5 ACRYLIC SHEET FINISHES

- A. Colored Coatings for Acrylic Sheet: For copy, background and frame colors, provide colored coatings, including inks, dyes, and paints, that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and that are UV and water resistant for five years for application intended.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.

1. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.
 2. Interior Wall Signs: Install signs on walls adjacent to latch side of door where applicable. Where not indicated or possible, such as double doors, install signs on nearest adjacent walls. Locate to allow approach within 3 inches (75 mm) of sign without encountering protruding objects or standing within swing of door.
- B. Wall-Mounted Signs: Comply with sign manufacturer's written instructions except where more stringent requirements apply.
1. Two-Face Tape: Mount signs to smooth, nonporous surfaces. Do not use this method for vinyl-covered or rough surfaces.

END OF SECTION 101400

SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Public-use washroom accessories.
2. Childcare accessories.
3. Underlavatory guards.
4. Custodial accessories.

B. Owner-Furnished Material: Toilet Tissue Dispenser, Soap Dispenser, and Paper Towel Dispenser.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.

1. Identify locations using room designations indicated.
2. Identify products using designations indicated.

C. Maintenance data.

D. Warranty: Sample of special warranty.

1.3 WARRANTY

A. Special Mirror Warranty: Manufacturer's standard form in which manufacturer agrees to replace mirrors that develop visible silver spoilage defects and that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PUBLIC-USE WASHROOM ACCESSORIES

A. 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:

1. A & J Washroom Accessories, Inc.
2. American Specialties, Inc.
3. Bobrick Washroom Equipment, Inc.
4. Bradley Corporation.
5. GAMCO Specialty Accessories; a division of Bobrick Washroom Equipment, Inc.
6. Tubular Specialties Manufacturing, Inc.

B. Grab Bar:

1. Basis-of-Design Product: Bobrick "B-6806".
2. Mounting: Flanges with exposed fasteners.
3. Material: Stainless steel, 0.05 inch (1.3 mm) thick.
 - a. Finish: Smooth, No. 4 finish (satin) on ends and slip-resistant texture in grip area.
4. Outside Diameter: 1-1/4 inches (32 mm).
5. Configuration and Length: As indicated on Drawings.

C. Mirror Unit:

1. Basis-of-Design Product: Bobrick "B-165 series".
2. Frame: Stainless-steel channel. Retain first subparagraph below if required.
3. Hangers: Produce rigid, tamper- and theft-resistant installation, using method indicated below.

D. Sanitary-Napkin Disposal Unit:

1. Basis-of-Design Product: Bobrick "B-270".
2. Mounting: Surface mounted.
3. Door or Cover: Self-closing, disposal-opening cover.
4. Receptacle: Removable.
5. Material and Finish: Stainless Steel

2.2 PRIVATE-USE SHOWER ROOM ACCESSORIES

- A. 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:
- B. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
 1. A & J Washroom Accessories, Inc.
 2. American Specialties, Inc.
 3. Bobrick Washroom Equipment, Inc.
 4. Bradley Corporation.
 5. GAMCO Specialty Accessories; a division of Bobrick Washroom Equipment, Inc.
 6. Tubular Specialties Manufacturing, Inc.

2.3 PRIVATE-USE BATHROOM ACCESSORIES

- A. 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:
1. Basco, Inc.
 2. Bobrick Washroom Equipment, Inc.
 3. Franklin Brass by Liberty Hardware Manufacturing Corporation; a Masco company.
 4. GAMCO Specialty Accessories; a division of Bobrick Washroom Equipment, Inc.
 5. Ginger; a Masco company.
 6. Seachrome Corporation.
 7. Tubular Specialties Manufacturing, Inc.
- B. Towel Bar:
1. Basis-of-Design Product: Bobrick "B-205".
 2. Description: 3/4-inch- (19-mm-) square tube with rectangular end brackets.
 3. Mounting: Flanges with exposed fasteners.
 4. Length: 24 inches (610 mm).
 5. Material and Finish: Stainless steel, No. 4 finish (satin).

2.4 CHILDCARE ACCESSORIES

- A. 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:
1. American Specialties, Inc.
 2. Brocar Products, Inc.
 3. Diaper Deck & Company, Inc.
 4. GAMCO Specialty Accessories; a division of Bobrick Washroom Equipment, Inc.
 5. Koala Kare Products; a division of Bobrick Washroom Equipment, Inc.
 6. SSC, Inc.
 7. Tubular Specialties Manufacturing, Inc.
- B. Diaper-Changing Station:
1. Basis-of-Design Product: Bobrick "B-2200".
 2. Description: Vertical unit that opens by folding down from stored position and with child-protection strap.
 - a. Engineered to support a minimum of 250-lb (113-kg) static load when opened.
 3. Mounting: Surface mounted, with unit projecting not more than 4 inches (100 mm) from wall when closed.
 4. Operation: By pneumatic shock-absorbing mechanism.
 5. Material and Finish: HDPE in manufacturer's standard color.
 6. Liner Dispenser: Built in.

2.5 UNDERLAVATORY GUARDS

- A. 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:
 - 1. Plumberex Specialty Products, Inc.
 - 2. Truebro by IPS Corporation.
- B. Underlavatory Guard:
 - 1. Description: Insulating pipe covering for supply and drain piping assemblies that prevent direct contact with and burns from piping; allow service access without removing coverings.
 - 2. Material and Finish: Antimicrobial, molded plastic, white.

2.6 CUSTODIAL ACCESSORIES

- A. 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:
 - 1. A & J Washroom Accessories, Inc.
 - 2. American Specialties, Inc.
 - 3. Bobrick Washroom Equipment, Inc.
 - 4. Bradley Corporation.
 - 5. GAMCO Specialty Accessories; a division of Bobrick Washroom Equipment, Inc.
 - 6. Tubular Specialties Manufacturing, Inc.
- B. Utility Shelf:
 - 1. Description: With exposed edges turned down not less than 1/2 inch (13 mm) and supported by two triangular brackets welded to shelf underside.
 - 2. Size: 16 inches (406 mm) long by 6 inches (152 mm) deep.
 - 3. Material and Finish: Not less than nominal 0.05-inch- (1.3-mm-) thick stainless steel, No. 4 finish (satin).
- C. Mop and Broom Holder:
 - 1. Description: Unit with shelf, hooks, holders, and rod suspended beneath shelf.
 - 2. Length: 36 inches (914 mm).
 - 3. Hooks: Three.
 - 4. Mop/Broom Holders: Four, spring-loaded, rubber hat, cam type.
 - 5. Material and Finish: Stainless steel, No. 4 finish (satin).

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units' level, plumb, and firmly anchored in locations and at heights indicated.
- B. Grab Bars: Install to withstand a downward load of at least 250 lbf (1112 N), when tested according to ASTM F 446.

END OF SECTION 102800

SECTION 104416 - FIRE EXTINGUISHERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes portable, hand-carried fire extinguishers and mounting brackets for fire extinguishers as shown on Life Safety Plan.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Operation and maintenance data.
- C. Warranty: Sample of special warranty.

1.3 QUALITY ASSURANCE

- A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."
- B. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.
- C. Coordinate type and capacity of fire extinguishers with fire protection cabinets to ensure fit and function.

1.4 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire extinguishers that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Six years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

- A. Fire Extinguishers: Type, size, and capacity for each mounting bracket indicated.

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. Amerex Corporation.
 - b. Ansul Incorporated; Tyco International Ltd.
 - c. Badger Fire Protection; a Kidde company.
 - d. Buckeye Fire Equipment Company.
 - e. Fire End & Croker Corporation.
 - f. J. L. Industries, Inc.; a division of Activar Construction Products Group.
 - g. Kidde Residential and Commercial Division; Subsidiary of Kidde plc.
 - h. Larsen's Manufacturing Company.
 - i. Moon-American.
 - j. Pem All Fire Extinguisher Corp.; a division of PEM Systems, Inc.
 - k. Potter Roemer LLC.
 - l. Pyro-Chem; Tyco Safety Products.
 2. Instruction Labels: Include pictorial marking system complying with NFPA 10, Appendix B.
- B. Multipurpose Dry-Chemical Type: UL-rated 3A-40B: C nominal capacity, with monoammonium phosphate-based dry chemical in manufacturer's standard enameled container.
- C. Carbon Dioxide Type: UL-rated 5BC capacity, with carbon dioxide in manufacturer's standard enameled-metal container.

2.2 MOUNTING BRACKETS

- A. Mounting Brackets: Manufacturer's standard galvanized steel, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated, with plated or red baked-enamel finish.
- B. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as indicated by Architect.
 1. Identify bracket-mounted fire extinguishers with the words "FIRE EXTINGUISHER" in red letter decals applied to mounting surface.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Examine fire extinguishers for proper charging and tagging.
 1. Remove and replace damaged, defective, or undercharged fire extinguishers.
- B. Install fire extinguishers and mounting brackets in locations indicated and in compliance with requirements of authorities having jurisdiction.

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1. Mounting Brackets: 54 inches (1372 mm) above finished floor to top of fire extinguisher.
- C. Mounting Brackets: Fasten mounting brackets to surfaces, square and plumb, at locations indicated.

END OF SECTION 104416

SECTION 126600 - TELESCOPING STANDS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wall-attached, freestanding telescoping stands.

1.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design telescoping stands, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Structural Performance: Telescoping stands shall withstand the effects of gravity loads and loads and stresses within limits and under conditions indicated according to NFPA 102.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. LEED Submittal:

1. Certificates for Credit MR 7: Chain-of-custody certificates certifying that wood and wood-based materials comply with forest certification requirements. Include evidence that manufacturer is certified for chain of custody by an FSC-accredited certification body.
 - a. Include statement indicating costs for each certified wood product.

C. Shop Drawings: For telescoping stands in both stacked and extended positions. Include plans, elevations, sections, details, and attachments to other work.

1. Wiring Diagrams: For power, signal, and control wiring.

D. Samples: For each exposed product and for each color and texture specified, 6-inch- (150-mm-) square in size.

E. Delegated-Design Submittal: For telescoping stands indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

F. Welding certificates.

G. Operation and maintenance data.

1.4 QUALITY ASSURANCE

- A. Forest Certification: Fabricate products with wood components produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."
- B. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel," and AWS D1.3, "Structural Welding Code - Sheet Steel."
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- D. Standard: Provide telescoping stands to comply with NFPA 102.
- E. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.
- F. Preinstallation Conference: Conduct conference at Project site.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Steel:
 - 1. Structural-Steel Shapes, Plates, and Bars: ASTM A 36/A 36M.
 - 2. Galvanized-Steel Sheet: ASTM A 653/A 653M, G90 (Z275) coating designation.
 - 3. Uncoated Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold-rolled commercial steel), or ASTM A 1011/A 1011M, Designation CS (hot-rolled commercial steel).
 - 4. Tubing: ASTM A 500, cold formed; ASTM A 501, hot formed; or ASTM A 513, mechanical.
- B. Extruded Aluminum: ASTM B 221 (ASTM B 221M), alloy as standard for manufacturer.
- C. Polyethylene Plastic: High-density polyethylene; molded, color-pigmented, textured, impact-resistant, structural formulation.

2.2 TELESCOPING STANDS

- A. General: Operable systems of multiple-tiered seating on interconnected folding platforms that close, without being dismantled, into a nested stack for storing. Stand units permit opening and closing of adjacent rows, allow individual and collective rows to be locked open for use, and close with vertical faces of upper skirts on the same vertical plane.
- B. Wall-Attached Telescoping Stands: Forward-folding system, in which the bleachers open in the forward direction by initially moving the front row away from the stack to the fully extended position, and the rear of bleacher understructure is permanently attached to wall construction.

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:
2. Basis-of-Design Product: Subject to compliance with requirements, provide Hussey MAXAM Wall-attached or comparable product by one of the following:
 - a. Hussey Seating Company.
 - b. Interkal LLC.
 - c. Irwin Telescopic Seating Company.
 - d. Kodiak Industries Ltd.
3. Operation: Manual.

2.3 COMPONENTS

A. Benches: Seats and skirts.

1. Material: Molded polyethylene plastic with contour surfaces.
 - a. Color: As selected by Architect from manufacturer's standard.
2. Bench Height: Not less than 16 inches (406 mm) or more than 18 inches (457 mm).
3. Bench Depth: 12 inches (305 mm).

B. Wheelchair-Accessible Seating: Locate seating cutouts to provide wheelchair-accessible seating at locations indicated on Drawings.

1. Equip tiers adjacent to wheelchair-accessible seating with front rails as required by referenced safety standard.
2. Equip cutouts with full-width front closure panels that match decking construction and finish and that extend from underside of tiers adjacent to cutouts to 1-1/2 inches (38 mm) from finished floor.

C. Deck: Aluminum.

1. Finish: Clear anodized.
 - a. Color: As selected by Architect from manufacturer's standard colors.

D. Risers: Steel sheet with manufacturer's standard, rust-inhibiting coating or hot-dip galvanized finish.

E. Safety Rails: Structural steel, finished with manufacturer's standard powder coat system.

1. Self-storing mid-aisle handrails located at centerline of each vertical aisle with seating on both sides.
2. End rails (guards) that are telescoping and self-storing
3. Back rails (guards) along rear of units where required by referenced safety standard.
4. Removable front rails (guards) along front of units where required by referenced safety standard.
5. Fixed rails around accessible seating cutouts and truncations.

6. Removable, programming-support front rails to allow seating in upper rows while lower rows remain in the stored position.
7. Color: Black.

F. Understructure: Structural steel.

1. Finish: Manufacturer's standard rust-inhibiting finish.
2. Color: Manufacturer's standard.

G. Support Column Wheels: Nonmarring, soft, rubber-face wheel assembly under each support column.

1. Include wheels of size, number, and design required to support stands and operate smoothly without damaging the flooring surface, but no fewer than four per column or less than 3-1/2 inches (89 mm) in diameter and 1 inch (25.4 mm) wide.

H. Fasteners: Vibration proof, in manufacturer's standard size and material.

2.4 ACCESSORIES

A. Steps:

1. Slip-resistant, abrasive tread nosings at vertical aisles.
2. Intermediate aisle steps, fully enclosed, at each vertical aisle.
3. Transitional top step, fully enclosed, at each vertical aisle where last row of telescoping stands is adjacent to a cross aisle.
4. Removable front steps, fully enclosed, at each vertical aisle, that engage with front row to prevent accidental separation or movement and are equipped with a minimum of four skid-resistant feet.

B. Stairs: Portable access-stair units equipped with handrails, with no fewer than four full-swiveling, nonmarring wheels and a locking mechanism to prevent movement during use.

C. Closure Panels and Void Fillers:

1. Aisle closures at foot level that produce flush vertical face at aisles when system is stored.
2. End panels covering exposed ends of stands in the stored position.
3. Back panels covering rear of freestanding units. Panels extend full height and width of unit.
4. Panels at cutouts and truncations for accessible seating.
5. Rear fillers including supports for closing openings between top row and rear wall of adjoining construction.
6. Gap fillers for closing openings between stand units or between stand units and adjoining construction.

2.5 FABRICATION

- A. Fabricate understructure from structural-steel members in size, spacing, and form required to support design loads specified in referenced safety standard.
- B. Weld understructure to comply with applicable AWS standards.
- C. Round corners and edges of components and exposed fasteners to reduce snagging and pinching hazards.
- D. Form exposed sheet metal with flat, flush surfaces, level and true in line, and without cracking and grain separation.
- E. Seating Supports: Fabricate supports to withstand, without damage to components, the forces imposed by use of stands without failure or other conditions that might impair the usefulness of seating units.
 - 1. Cantilever bench seat supports to produce toe space uninterrupted by vertical bracing.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install telescoping stands to comply with referenced safety standard and manufacturer's written instructions.
- B. On completion of installation, lubricate, test, and adjust each telescoping stand unit so that it operates according to manufacturer's written operating instructions.
- C. Clean installed telescoping stands on exposed and semiexposed surfaces. Touch up shop-applied finishes or replace components as required to restore damaged or soiled areas.

3.2 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain telescoping stands.

END OF SECTION 126600

SECTION 133419 - METAL BUILDING SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Structural-steel framing.
2. Metal roof panels.
3. Metal soffit panels.
4. Thermal insulation.
5. Accessories.

1.2 SUBMITTALS

- A. Product Data: For each type of metal building system component.
- B. Shop Drawings: For metal building system components. Include plans, elevations, sections, details, and attachments to other work.
- C. Samples: For each type of exposed finish required.
- D. Delegated-Design Submittal: For metal building systems indicated to comply with performance requirements and design criteria, including analysis data and calculations signed and sealed by the qualified professional engineer responsible for their preparation.
- E. Welding certificates.
- F. Metal Building System Certificates: For each type of metal building system, from manufacturer.
 1. Letter of Design Certification: Signed and sealed by a qualified professional engineer. Include the following:
 - a. Name and location of Project.
 - b. Order number.
 - c. Name of manufacturer.
 - d. Name of Contractor.
 - e. Building dimensions including width, length, height, and roof slope.
 - f. Indicate compliance with AISC standards for hot-rolled steel and AISI standards for cold-rolled steel, including edition dates of each standard.
 - g. Governing building code and year of edition.
 - h. Design Loads: Include dead load, roof live load, collateral loads, roof snow load, deflection, wind loads/speeds and exposure, seismic design category or effective peak velocity-related acceleration/peak acceleration, and auxiliary loads (cranes).
 - i. Load Combinations: Indicate that loads were applied acting simultaneously with concentrated loads, according to governing building code.

- j. Building-Use Category: Indicate category of building use and its effect on load importance factors.
 - k. AISC Certification for Category MB: Include statement that metal building system and components were designed and produced in an AISC-Certified Facility by an AISC-Certified Manufacturer.
- G. Material test reports.
- H. Source quality-control reports.
- I. Field quality-control reports.
- J. Maintenance data.
- K. Warranties: Sample of special warranties.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer.
 - 1. AISC Certification for Category MB: An AISC-Certified Manufacturer that designs and produces metal building systems and components in an AISC-Certified Facility.
 - 2. Engineering Responsibility: Preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.
- B. Erector Qualifications: An experienced erector who specializes in erecting and installing work similar in material, design, and extent to that indicated for this Project and who is acceptable to manufacturer.
- C. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. AWS D1.3, "Structural Welding Code - Sheet Steel."
- D. Structural Steel: Comply with AISC 360, "Specification for Structural Steel Buildings," for design requirements and allowable stresses.
- E. Cold-Formed Steel: Comply with AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members" for design requirements and allowable stresses.
- F. Preinstallation Conference: Conduct conference at Project site.

1.4 WARRANTY

- A. Special Warranty on Metal Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Finish Warranty Period: 20 years from date of Substantial Completion.

- B. Special Weathertightness Warranty for Standing-Seam Metal Roof Panels: Manufacturer's standard form in which manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that leak or otherwise fail to remain weathertight within specified warranty period.
 - 1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. 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:
 - 1. American Steel Building Co., Inc.
 - 2. Behlen Mfg. Co.
 - 3. Bigbee Steel Buildings, Inc.
 - 4. Butler Manufacturing Company; a BlueScope Steel company.
 - 5. Inland Buildings; Subsidiary of Behlen Mfg. Co.
 - 6. Kirby Building Systems; Division of Magnatrax Corp.
 - 7. Mesco Building Solutions; Division of NCI Building Systems, L.P.
 - 8. Nucor Building Systems.
 - 9. Star Building Systems; an NCI company.
 - 10. VP Buildings; a United Dominion company.

2.2 METAL BUILDING SYSTEM PERFORMANCE

- A. Delegated Design: Design metal building system, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Structural Performance: Metal building systems shall be designed according to procedures in MBMA's "Metal Building Systems Manual."
 - 1. Design Loads: As required by MBMA's "Metal Building Systems Manual." ASCE/SEI 7.
 - 2. Deflection Limits: Design metal building system assemblies to withstand design loads with deflections no greater than the following:
 - a. Purlins and Rafters: Vertical deflection of 1/180 of the span.
 - b. Metal Roof Panels: Vertical deflection of 1/180 of the span.
 - c. Design secondary-framing system to accommodate deflection of primary framing and construction tolerances, and to maintain clearances at openings.
 - 3. Metal panel assemblies shall withstand the effects of gravity loads and loads and stresses within limits and under conditions indicated according to ASTM E 1592.
- C. Thermal Movements: Allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other

detrimental effects. Base engineering calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient, material surfaces.
- D. Air Infiltration for Metal Roof Panels: Air leakage through assembly of not more than 0.06 cfm/sq. ft. (0.3 L/s per sq. m) of roof area when tested according to ASTM E 1680 at negative test-pressure difference of 1.57 lbf/sq. ft. (75 Pa).
- E. Water Penetration for Metal Roof Panels: No water penetration when tested according to ASTM E 1646 at test-pressure difference of 2.86 lbf/sq. ft. (137 Pa).
- F. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for Class 90.
- G. Energy Performance: Provide roof panels with Solar Reflectance Index not less than 78 when calculated according to ASTM E 1980 based on testing identical products by a qualified testing agency.
- H. Energy Performance: Provide roof panels that are listed on the DOE's ENERGY STAR Roof Products Qualified Product List for low-slope roof products.
- I. Energy Performance: Provide roof panels with initial solar reflectance not less than 0.70 and emissivity not less than 0.75 when tested according to CRRC.

2.3 STRUCTURAL-STEEL FRAMING

- A. Secondary Framing: Manufacturer's standard secondary framing, including purlins, girts, eave struts, flange bracing, base members, gable angles, clips, headers, jambs, and other miscellaneous structural members. Unless otherwise indicated, fabricate framing from either cold-formed, structural-steel sheet or roll-formed, metallic-coated steel sheet, prepainted with coil coating.
- B. Bolts: Provide plain-finish bolts for structural-framing components that are primed, or finish painted. Provide zinc-plated or hot-dip galvanized bolts for structural-framing components that are galvanized.
- C. Recycled Content of Steel Products: Provide steel products with an average recycled content so postconsumer recycled content plus one-half of preconsumer recycled content is not less than 25 percent.
- D. Finish: Factory primed. Apply specified primer immediately after cleaning and pretreating.

2.4 METAL ROOF PANELS

- A. Trapezoidal-Rib, Standing-Seam Metal Roof Panels: Formed with ribs at panel edges and intermediate stiffening ribs symmetrically spaced between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels and engaging opposite edge of adjacent panels.

1. Material: Aluminum-zinc alloy-coated steel sheet, 0.028-inch (0.71-mm) nominal thickness.
 - a. Exterior Finish: Siliconized polyester.
 - b. Color: As selected by Architect from manufacturer's full range.
2. Clips: Manufacturer's standard, floating type to accommodate thermal movement; fabricated from aluminum-zinc alloy-coated steel sheet.
3. Joint Type: Panels snapped together.
4. Joint Type: Mechanically seamed, single folded.
5. Panel Coverage: 16 inches (406 mm).
6. Panel Height: 1 ½ inches.
7. Uplift Rating: UL 90.

2.5 METAL SOFFIT PANELS

- A. General: Provide factory-formed metal soffit panels designed to be installed by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to supports using concealed fasteners and factory-applied sealant in side laps. Include accessories required for weathertight installation.
- B. Metal Soffit Panels: Match profile and material of metal roof panels.
 1. Finish: Match finish and color of metal roof panels.

2.6 THERMAL INSULATION

- A. Faced Metal Building Insulation: ASTM C 991, Type II, glass-fiber-blanket insulation; 0.5-lb/cu. ft. (8-kg/cu. m) density; 2-inch- (51-mm-) wide, continuous, vapor-tight edge tabs; with a flame-spread index of 25 or less.
 1. Vapor-Retarder Facing: ASTM C 1136, with permeance not greater than 0.02 perm (1.15 ng/Pa x s x sq. m) when tested according to ASTM E 96/E 96M, Desiccant Method.

2.7 ACCESSORIES

- A. General: Provide accessories as standard with metal building system manufacturer and as specified. Fabricate and finish accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes. Comply with indicated profiles and with dimensional and structural requirements.
 1. Form exposed sheet metal accessories that are without excessive oil-canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
- B. Roof Panel Accessories: Provide components required for a complete metal roof panel assembly including copings, fasciae, corner units, ridge closures, clips, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels unless otherwise indicated.

- C. Flashing and Trim: Formed from 0.022-inch (0.56-mm) nominal-thickness, metallic-coated steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating; finished to match adjacent metal panels.
- D. Gutters: Formed from 0.022-inch (0.56-mm) nominal-thickness, metallic-coated steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating; finished to match roof fascia and rake trim. Match profile of gable trim, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 96-inch- (2438-mm-) long sections, sized according to SMACNA's "Architectural Sheet Metal Manual."
 - 1. Gutter Supports: Fabricated from same material and finish as gutters.
 - 2. Strainers: Bronze, copper, or aluminum wire ball type at outlets.
- E. Downspouts: Formed from 0.022-inch (0.56-mm) nominal-thickness, zinc-coated (galvanized) steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating; finished to match metal wall panels. Fabricate in minimum 10-foot- (3-m-) long sections, complete with formed elbows and offsets.
 - 1. Mounting Straps: Fabricated from same material and finish as gutters.
- F. Skylights: Translucent fiberglass light panels manufactured to match roof panel profiles and with weather tight seal.
- G. Pipe Flashing: Premolded, EPDM pipe collar with flexible aluminum ring bonded to base.

2.8 SOURCE QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to evaluate product.
- B. Special Inspector: Owner will engage a qualified special inspector to perform the following tests and inspections and to submit reports. Special inspector will verify that manufacturer maintains detailed fabrication and quality-control procedures and will review the completeness and adequacy of those procedures to perform the Work.
 - 1. Special inspections will not be required if fabrication is performed by manufacturer registered and approved by authorities having jurisdiction to perform such Work without special inspection.
 - a. After fabrication, submit copy of certificate of compliance to authorities having jurisdiction, certifying that Work was performed according to Contract requirements.
- C. Testing: Test and inspect shop connections for metal buildings according to the following:
 - 1. Bolted Connections: Shop-bolted connections shall be inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- D. Product will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

2.9 FABRICATION

- A. General: Design components and field connections required for erection to permit easy assembly.
 - 1. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.
 - 2. Fabricate structural framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape, and location. Members shall be free of cracks, tears, and ruptures.
- B. Tolerances: Comply with MBMA's "Metal Building Systems Manual" for fabrication and erection tolerances.
- C. Secondary Framing: Shop fabricate framing components to size and section by roll-forming or break-forming, with baseplates, bearing plates, stiffeners, and other plates required for erection welded into place. Cut, form, punch, drill, and weld secondary framing for bolted field connections to primary framing.
- D. Metal Panels: Fabricate and finish metal panels at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

PART 3 - EXECUTION

3.1 ERECTION OF STRUCTURAL FRAMING

- A. Secondary Framing: Erect framing level, plumb, rigid, secure, and true to line. Field bolt secondary framing to clips attached to primary framing.
 - 1. Provide rake or gable purlins with tight-fitting closure channels and fasciae.
 - 2. Locate and space wall girts to suit openings such as doors and windows.
 - 3. Locate canopy framing as indicated.
 - 4. Provide supplemental framing at entire perimeter of openings, including doors, windows, louvers, ventilators, and other penetrations of roof and walls.
- B. Bracing: Install bracing in roof and sidewalls where indicated on erection drawings.
 - 1. Tighten rod and cable bracing to avoid sag.
 - 2. Locate interior end-bay bracing only where indicated.
- C. Framing for Openings: Provide shapes of proper design and size to reinforce openings and to carry loads and vibrations imposed, including equipment furnished under mechanical and electrical work. Securely attach to structural framing.
- D. Erection Tolerances: Maintain erection tolerances of structural framing within AISC 303.

3.2 METAL PANEL INSTALLATION, GENERAL

- A. General: Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 1. Field cut metal panels as required for doors, windows, and other openings. Cut openings as small as possible, neatly to size required, and without damage to adjacent metal panel finishes.
 - a. Field cutting of metal panels by torch is not permitted unless approved in writing by manufacturer.
 - 2. Install metal panels perpendicular to structural supports unless otherwise indicated.
 - 3. Flash and seal metal panels with weather closures at perimeter of openings and similar elements. Fasten with self-tapping screws.
 - 4. Locate and space fastenings in uniform vertical and horizontal alignment.
 - 5. Locate metal panel splices over, but not attached to, structural supports with end laps in alignment.
 - 6. Lap metal flashing over metal panels to allow moisture to run over and off the material.
- B. Lap-Seam Metal Panels: Install screw fasteners using power tools with controlled torque adjusted to compress EPDM washers tightly without damage to washers, screw threads, or metal panels. Install screws in predrilled holes.
 - 1. Arrange and nest side-lap joints so prevailing winds blow over, not into, lapped joints. Lap ribbed or fluted sheets one full rib corrugation. Apply metal panels and associated items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line.
- C. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with corrosion-resistant coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal roof panel manufacturer.
- D. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal panel assemblies. Provide types of gaskets, fillers, and sealants recommended by metal panel manufacturer.
 - 1. Seal metal panel end laps with double beads of tape or sealant the full width of panel. Seal side joints where recommended by metal panel manufacturer.
 - 2. Prepare joints and apply sealants to comply with requirements in Division 07 Section "Joint Sealants."

3.3 METAL ROOF PANEL INSTALLATION

- A. General: Provide metal roof panels of full length from eave to ridge unless otherwise indicated or restricted by shipping limitations.
 - 1. Install ridge and hip caps as metal roof panel work proceeds.

2. Flash and seal metal roof panels with weather closures at eaves and rakes. Fasten with self-tapping screws.
- B. Standing-Seam Metal Roof Panels: Fasten metal roof panels to supports with concealed clips at each standing-seam joint, at location and spacing and with fasteners recommended by manufacturer.
1. Install clips to supports with self-drilling or self-tapping fasteners.
 2. Install pressure plates at locations indicated in manufacturer's written installation instructions.
 3. Snap Joint: Nest standing seams and fasten together by interlocking and completely engaging factory-applied sealant.
 4. Seamed Joint: Crimp standing seams with manufacturer-approved motorized seamer tool so that clip, metal roof panel, and factory-applied sealant are completely engaged.
 5. Rigidly fasten eave end of metal roof panels and allow ridge end free movement due to thermal expansion and contraction. Predrill panels for fasteners.
 6. Provide metal closures at peaks and each side of ridge and hip caps.
- C. Metal Fascia Panels: Align bottom of metal panels and fasten with blind rivets, bolts, or self-drilling or self-tapping screws. Flash and seal metal panels with weather closures where fasciae meet soffits, along lower panel edges, and at perimeter of all openings.

3.4 METAL SOFFIT PANEL INSTALLATION

- A. Provide metal soffit panels the full width of soffits. Install panels perpendicular to support framing.
- B. Flash and seal metal soffit panels with weather closures where panels meet walls and at perimeter of all openings.

3.5 THERMAL INSULATION INSTALLATION

- A. General: Install insulation concurrently with metal panel installation, in thickness indicated to cover entire surface, according to manufacturer's written instructions.
 1. Set vapor-retarder-faced units with vapor retarder toward warm side of construction unless otherwise indicated. Do not obstruct ventilation spaces except for firestopping.
 2. Tape joints and ruptures in vapor retarder, and seal each continuous area of insulation to the surrounding construction to ensure airtight installation.
 3. Install factory-laminated, vapor-retarder-faced blankets straight and true in one-piece lengths, with both sets of facing tabs sealed, to provide a complete vapor retarder.
- B. Blanket Roof Insulation: Comply with the following installation method:
 1. Over-Framing Installation: Extend insulation and vapor retarder over and perpendicular to top flange of secondary framing. Hold in place by metal roof panels fastened to secondary framing.

2. Retainer Strips: Install retainer strips at each longitudinal insulation joint, straight and taut, nesting with secondary framing to hold insulation in place.
- C. Blanket Wall Insulation: Extend insulation and vapor retarder over and perpendicular to top flange of secondary framing. Hold in place by metal wall panels fastened to secondary framing.
1. Retainer Strips: Install retainer strips at each longitudinal insulation joint, straight and taut, nesting with secondary framing to hold insulation in place.
 2. Sound-Absorption Insulation: Where sound-absorption requirement is indicated for metal liner panels, cover insulation with polyethylene film and provide inserts of wire mesh to form acoustical spacer grid.

3.6 ACCESSORY INSTALLATION

- A. General: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
1. Install components required for a complete metal roof panel assembly, including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
 2. Install components for a complete metal wall panel assembly, including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
 3. Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with corrosion-resistant coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by manufacturer.
- B. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
1. Install exposed flashing and trim that is without excessive oil-canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance.
 2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (600 mm) of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).
- C. Gutters: Join sections with riveted-and-soldered or lapped-and-sealed joints. Attach gutters to eave with gutter hangers spaced as required for gutter size, but not more than 36 inches (914 mm) o.c. using manufacturer's standard fasteners. Provide end closures and seal watertight with sealant. Provide for thermal expansion.

- D. Downspouts: Join sections with 1-1/2-inch (38-mm) telescoping joints. Provide fasteners designed to hold downspouts securely 1-inch (25 mm) away from walls; locate fasteners at top and bottom and at approximately 60 inches (1524 mm) o.c. in between.
 - 1. Provide elbows at base of downspouts to direct water away from building.
 - 2. Tie downspouts to underground drainage system indicated.
- E. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to panel as recommended by manufacturer.

3.7 FIELD QUALITY CONTROL

- A. Special Inspections: Engage a qualified special inspector to perform special inspections.
- B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- C. Tests and Inspections:
 - 1. High-Strength, Field-Bolted Connections: Connections shall be inspected during installation according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
 - 2. Welded Connections: In addition to visual inspection, field-welded connections shall be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at inspector's option:
 - a. Liquid Penetrant Inspection: ASTM E 165.
 - b. 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.
 - c. Ultrasonic Inspection: ASTM E 164.
 - d. Radiographic Inspection: ASTM E 94.
- D. Product will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

END OF SECTION 133419

PROJECT DRAWINGS

SOUTH ORMOND NEIGHBORHOOD CENTER (SONC) GYMNASIUM

CITY OF ORMOND BEACH - VOLUSIA COUNTY, FL

100% ENGINEERING PLANS

OWNER:

CITY OF ORMOND BEACH
22 SOUTH BEACH STREET
ORMOND BEACH, FL 32175
PHONE NUMBER
FAX NUMBER

CONTACT PERSON: SHAWN FINLEY, P.E.
e-mail: Shawn.Finley@ormondbeach.org

CIVIL ENGINEER:

ZEV COHEN & ASSOCIATES, INC.
300 INTERCHANGE BLVD., SUITE C
ORMOND BEACH, FL 32174
(386) 677-2482
FAX NUMBER (386) 677-2505
CONTACT: KRISTOPHER T. ROWLEY, P.E.
e-mail: krowley@zevcohen.com

SURVEYOR:

ATLANTIC DRAFTING & SURVEYING, INC.
1362 N. US HWY 1, SUITE 304
ORMOND BEACH, FL 32174
(386)-264-8490
FAX NUMBER
CONTACT PERSON: JOSEPH JAY WOOLDRIDGE, PSM
e-mail: ads.inc.fl1@gmail.com

LANDSCAPE ARCHITECT:

ZEV COHEN & ASSOCIATES, INC.
300 INTERCHANGE BLVD., SUITE C
ORMOND BEACH, FL 32174
(386) 677-2482
FAX NUMBER (386) 677-2505
CONTACT PERSON: JAKE STEHR, PLA
e-mail: jstehr@zevcohen.com

PROJECT DESCRIPTION:

THIS PROJECT INCLUDES THE PROPOSED SITE PLAN FOR THE SOUTH ORMOND NEIGHBORHOOD CENTER GYMNASIUM LOCATED AT 176 DIVISION AVENUE, ORMOND BEACH, FL.

PARKING CALCULATIONS:		
USE	PARKING REQUIREMENT	SPACES REQUIRED
EXISTING REQUIRED PARKING		12
PROPOSED REQUIRED PARKING		30
TOTAL REQUIRED PARKING	1 SPACE PER 250 SF	42
EXISTING PARKING		42



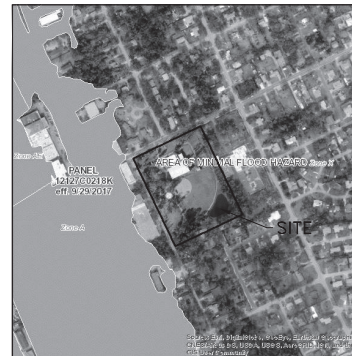
VICINITY MAP
SCALE: 1" = 400'



ZONING MAP
SCALE: 1" = 400'
CURRENT ZONING FOR THIS SITE IS: R3



SOILS MAP
SCALE: 1" = 400'
THE SITE LIES WITHIN THE FOLLOWING VOLUSIA COUNTY SOIL CLASSIFICATIONS:
6 AUSTRALIA-URBAN LAND COMPLEX, 0-8 PERCENT SLOPES, 37 ORSINA FINE SAND, 0-5 PERCENT SLOPES



FLOOD_ZONE MAP
SCALE: 1" = 400'
THE PROPERTY LIES IN:
FLOOD_ZONE X PER FEMA MAPS 12127C0218K

SHEET INDEX:

- C1 COVER SHEET
- C2 CONSTRUCTION NOTES
- C3 DEMOLITION & EROSION CONTROL PLAN
- C4 GEOMETRY, SIGNAGE & STRIPING PLAN
- C5 PAVING, GRADING, DRAINAGE AND UTILITY PLAN
- C6-C7 CONSTRUCTION DETAILS
- TP1 TREE PROTECTION PLAN AND DETAILS
- LA1 LANDSCAPE PLAN AND DETAILS
- IR1 IRRIGATION PLAN AND DETAILS

NOTE:
1. CONTRACTOR TO REFER TO GEOTECHNICAL REPORT FOR SOIL REQUIREMENTS AND RECOMMENDATIONS.

**SONC GYMNASIUM
100% ENGINEERING PLANS
COVER SHEET**

PROJECT NO.: 2019158
DESIGNED BY: KR
DRAWN BY: TR
CHECKED BY: MED
DRAWING FILE: 01_19158 CDV
DATE: 01/20/2021
XREF'S:

Kristopher Rowley
Professional Engineer
No. 12127C0218K
Date: 01/20/2021
10:00:00 AM

SHEET **C1** OF 7

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF ORMOND BEACH LAND DEVELOPMENT CODE REQUIREMENTS, STANDARD CONSTRUCTION DETAILS & STANDARD SPECIFICATIONS, LATEST EDITIONS.
- ALL DRAINAGE STRUCTURES AND OTHER IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION.
- SHOP DRAWINGS AND CERTIFICATIONS FOR ALL MATERIALS AND STRUCTURES ARE REQUIRED. THE CONTRACTOR SHALL REVIEW AND SIGN SHOP DRAWINGS. THE CONTRACTOR SHALL SUBMIT REVISED SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE MATERIALS REQUIRED FOR CONSTRUCTION.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL REQUIRED PERMITS. THE CONTRACTOR SHALL MAINTAIN COPIES OF ALL RELEVANT PERMITS AND CONSTRUCTION DOCUMENTS AVAILABLE ON THE JOB SITE AT ALL TIMES.
- CONTRACTOR TO MAINTAIN THE SITE IN A SAFE AND SECURE MANNER TO PROTECT PUBLIC SAFETY AND THE CONDITIONS OF THE IMPROVEMENTS.
- THE CONTRACTOR SHALL MAINTAIN, AT THE JOB SITE, A RECORD COPY OF ALL CONSTRUCTION DRAWINGS AND SPECIFICATIONS ON WHICH ALL FIELD CHANGES ARE TO BE SHOWN. THESE CHANGES ARE TO BE INCORPORATED IN THE "AS-BUILT" SURVEY FURNISHED TO THE ENGINEER.
- SHOULD CONDITIONS VARY FROM THOSE SHOWN ON THESE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF RECORD PRIOR TO CONTINUING CONSTRUCTION.
- ANY FIELD MODIFICATIONS OR DEVIATIONS TO THESE CONSTRUCTION PLANS REQUIRES APPROVAL BY BOTH THE ENGINEER OF RECORD AND THE CITY OF ORMOND BEACH PRIOR TO PERFORMING THE WORK.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AN "AS-BUILT" SURVEY OF THE COMPLETED CONSTRUCTION. THE "AS-BUILT" SURVEY SHALL BE PREPARED IN ACCORDANCE WITH APPROPRIATE GOVERNMENTAL REGULATIONS AND ZONING REQUIREMENTS. THE "AS-BUILT" SURVEY SHALL BE PREPARED BY A ZONING PERMITTED PLANS, ELECTRONIC AND PAPER COPIES OF THE "AS-BUILT" SURVEY SHALL BE PROVIDED TO THE ENGINEER OF RECORD. THE "AS-BUILT" SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL LAND SURVEYOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING VEHICULAR AND PEDESTRIAN TRAFFIC SAFELY THROUGH THE WORK ZONE AT ALL TIMES. IF APPLICABLE, AN ADVANCE ROAD CLOSURE REQUIREMENT AND APPROVAL IN ADVANCE AND A SEVEN (7) DAY MINIMUM NOTICE TO THE JURISDICTIONAL AGENCY/AGENCIES INVOLVED IN OPERATIONS (386-239-6035). THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REQUIRED COORDINATION.
- MAINTENANCE OF TRAFFIC WILL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS CONSTRUCTION, MAINTENANCE AND UTILITY WORK AND CLOSURE, THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD PLANS, LATEST EDITIONS.
- CONTRACTOR TO NOTIFY THE REGULATORY AGENCIES FORTY EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL ADVISE ALL OF ALL TESTING REQUIRED TO THE REGULATORY AGENCIES AND THE ENGINEER OF RECORD.
- SURVEY INFORMATION PROVIDED BY ATLANTIC DRAFTING & SURVEYING, INC. DATED MARCH 24, 2020. ALL ELEVATIONS BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29) / NORTH AMERICAN VERTICAL DATUM OF 1888 (NAVD 88) AND ARE SHOWN IN FEET. STATE PLANE COORDINATES ARE BASED UPON 83.
- ALL PUBLIC LAND CORNERS AND MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED. THE CONTRACTOR SHALL EMPLOY A SURVEYOR, REGISTERED IN THE STATE OF FLORIDA, TO REPLACE, RESTORE ANY PROPERTY OR LAND MARKERS DISTURBED BY CONSTRUCTION ACTIVITIES FOR THE PROJECT.
- NO LAND SHALL BE CLEARED, EXCAVATED OR FILLED AND NO STRUCTURES SHALL BE ERECTED, REPAIRED OR DEMOLISHED WITHOUT PROPER PERMITS(S).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS AS WELL AS THE REQUIREMENTS OF SET-BACK RIVER WATER MANAGEMENT DISTRICT AND E.P.A. (NPDES). CONTRACTOR SHALL ESTABLISH BEST MANAGEMENT PRACTICES AND EROSION CONTROL MEASURES PRIOR TO COMMENCING ANY SITE CLEARING OR DEMOLITION AND SHALL MAINTAIN THOSE BARRIERS UNTIL FINAL ACCEPTANCE OF THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROJECT'S NPDES PERMITTING, INSPECTION AND REPORTING, IF APPLICABLE.
- THE EROSION, SEDIMENT AND TURBIDITY CONTROL MEASURES DELINEATED HEREON ARE THE MINIMUM REQUIRED. ADDITIONAL CONTROLS MAY BE NEEDED, DEPENDING UPON THE ACTUAL SITE CONDITIONS. JURISDICTIONAL AGENCY PERMIT REQUIREMENTS FOR EROSION, SEDIMENT AND TURBIDITY CONTROL SHALL BE UTILIZED TO CONTROL EROSION AND RELEASE OF SUSPENDED SOLIDS. SEDIMENT TRAPPING CONTROL DEVICES SHALL BE INSTALLED TO PREVENT THE TEMPORARY TRANSPORT OF SEDIMENT BY EXPOSED VEHICLES. IF CONTROL MEASURES DO NOT PROVIDE SATISFACTORY WORK, WORK SHALL CEASE UNTIL NEW MEASURES ARE ADOPTED WITH SATISFACTORY RESULTS.
- ALL EROSION AND SEDIMENT TRAPPING CONTROL DEVICES SHALL BE INSPECTED DAILY AND IMMEDIATELY FOLLOWING A RAINFALL EVENT. REFER TO PROJECT'S STORMWATER POLLUTION PREVENT PLAN (SWPPP). TOWARD UPSTREAM MANHOLES.
- ALL UNDESIRABLE SOLIDS AND UNWISABLE MATERIALS (SUCH AS GLASS, ORGANICS, ROCK, COINTEGRATED COCONA, DEBRIS, ETC.) SHALL BE REMOVED, DISPOSED OF IN A LEGAL MANNER AND REPLACED WITH DRY CLEANED GRANULAR FILL. ALL DEBRIS AND UNDESIRABLE MATERIALS SHALL BE REMOVED FROM THE PROJECT AND MATERIALS IS TO BE INCLUDED IN THE UNIT PRICE OF THE ASSOCIATED CONSTRUCTION ITEMS UNLESS OTHERWISE SHOWN IN THE PLANS.
- IN THE EVENT THAT WATER IS ENCOUNTERED DURING CONSTRUCTION, SEWERAGING SHALL BE PERFORMED AS NEEDED. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, PERMITTING, INSTALLATION, OPERATION AND SUBSEQUENT REMOVAL OF SEWERAGING SYSTEMS AND THEIR SAFETY AND CONFORMITY WITH APPLICABLE CODES AND REGULATIONS.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE ELECTRIC, TELEPHONE, GAS, CABLE TELEVISION, COMMUNICATIONS, ETC. COMPANIES TO DETERMINE THE TYPE AND LOCATION OF ALL UNDERGROUND FACILITIES IN THE AREA OF CONSTRUCTION.
- ALL UNDERGROUND UTILITIES HAVE BEEN LOCATED HORIZONTALLY AND VERTICALLY BASED ON THE BEST INFORMATION AVAILABLE AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING ALL ELEVATIONS OF EXISTING UTILITIES (PUBLIC AND PRIVATE) SHOWN OR NOT SHOWN PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE VARIOUS UTILITY COMPANIES TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATION, DISRUPTION OF SERVICE OR CLARIFICATION OF ACTIVITY REGARDING SAID UTILITY. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING NEAR OR CROSSING A UTILITY, WHETHER SHOWN ON THESE PLANS OR FIELD LOCATED. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE AND NOTIFY THE UTILITY COMPANIES FOR UTILITIES WHICH NEED TO BE RELOCATED FOR THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PAY FOR ANY REPAIR, RELOCATION OR TEMPORARY MEASURES NEEDED FOR EXISTING OR PROPOSED UTILITIES.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND AVOID ALL UTILITIES, OTHER STRUCTURES AND OBSTRUCTIONS BOTH ABOVE AND BELOW GROUND. ALL DAMAGE RESULTING FROM THE CONTRACTOR'S FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITY PROVIDERS AT LEAST TWO (2) BUSINESS DAYS PRIOR TO ANY CONSTRUCTION.
- THE CONTRACTOR SHALL MAINTAIN UNINTERRUPTED SERVICE AT ALL SERVICE CONNECTIONS. THE MANNER IN WHICH THIS IS ACCOMPLISHED SHALL BE LEFT TO THE DISCRETION OF THE CONTRACTOR, SUBJECT TO THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS.
- ALL EXISTING DRAINAGE STRUCTURES AND UTILITIES WITHIN THE CONSTRUCTION LIMITS SHALL REMAIN, UNLESS OTHERWISE NOTED IN PLANS.
- ALL STATIONS AND OFFSETS REFER TO CENTERLINE CONSTRUCTION UNLESS OTHERWISE NOTED IN PLANS.
- THE LENGTH OF ALL DRAINAGE PIPES AND LOCATION OF ALL DRAINAGE STRUCTURES ARE APPROXIMATE. THE LOCATION OF THE DRAINAGE STRUCTURE SHALL DETERMINE THE LENGTH OF PIPE.
- THE TOP OF CASTING ELEVATIONS (TIC) OF ALL STRUCTURES ARE SHOWN. HOWEVER, THE CONTRACTOR SHALL INSTALL ALL FRAMES SO AS TO PROVIDE A SMOOTH SURFACE FOR VEHICULAR AND/OR PEDESTRIAN TRAFFIC.
- CONTRACTOR SHALL CONFORM PROPOSED TOP OF CASTING (TIC) ELEVATIONS WILL ALLOW POSITIVE DRAINAGE TO PROPOSED INLETS. IF POSITIVE DRAINAGE DOES NOT EXIST, CONTRACTOR TO COORDINATE WITH ENGINEER OF RECORD FOR SOLUTION AND ADJUST PROPOSED INLETS AS NECESSARY.
- CONTRACTOR SHALL CONFORM ELEVATION OF EXISTING GRADE PRIOR TO PLACING DRAINAGE OUTFALL STRUCTURES. CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD IF EXISTING GRADE DOES NOT MATCH PROPOSED OUTFALL INVERT. CONTRACTOR SHALL ADJUST OUTFALL STRUCTURE INVERT AND/OR STRUCTURE LOCATION AS DIRECTED BY ENGINEER OF RECORD.
- ANY DRAINAGE PROBLEMS CREATED BY CONSTRUCTION, OR EXISTING BEFORE CONSTRUCTION AND NOT ALLEVATED, SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD AT THE TIME OF DISCOVERY.
- ALL STORMWATER PIPES AND INLETS SHALL BE CLEARED OF DEBRIS AND ERODED MATERIALS AT LAST STAGES OF WORK PRIOR TO COMPLETION OF CONSTRUCTION.

GENERAL NOTES

- SPECIAL ATTENTION IS DIRECTED TO THE FACT THAT PORTIONS OF SOME DRAINAGE STRUCTURES MAY EXTEND INTO THE STABILIZED PORTION OF THE ROADBED. EXTREME CAUTION WILL BE NECESSARY DURING COMPACTION AND STABILIZATION OPERATIONS AT THESE LOCATIONS TO AVOID DAMAGE AND ACHIEVE THE REQUIRED COMPACTION.
- DURING CONSTRUCTION, AN ALL-WEATHER ACCESSIBLE ROADWAY SHALL BE MAINTAINED AT ALL TIMES FOR FIRE ACCESS.
- ALL REQUIRED FIRE LINES & HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL & STATE REQUIREMENTS FOR OPERATIONS PRIOR TO START OF VERTICAL CONSTRUCTION.
- NONE OF THE EXISTING LIMBOK BASE THAT IS REMOVED IS TO BE USED IN THE CONSTRUCTION OF THE NEW LIMBOK BASE UNLESS OTHERWISE NOTED ON PLANS.
- EXISTING DRIVEWAYS WITHIN THE LIMITS OF THIS PROJECT ARE TO BE REPLACED AT THE SAME LOCATION AND WIDTH WITH THE SAME TYPE OF MATERIAL, UNLESS OTHERWISE SHOWN IN THE PLANS.
- ALL RAMPS, SIDEWALKS AND ACCESSIBLE ROUTES ARE TO BE IN COMPLIANCE WITH CURRENT A.D.A. REQUIREMENTS.
- SIGNS THAT ARE REMOVED AND ARE TO BE RELOCATED SHALL BE STOCK PILED BY THE CONTRACTOR. ANY EXISTING SIGNS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT HIS COST.
- ROADWAY AND PARKING SIGNAGE AND MARKINGS SHALL BE IN CONFORMANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.
- GRADES SHOWN ARE FINISHED GRADES.
- OPERATION AND MAINTENANCE OF THE STORMWATER SYSTEM WILL BE PROVIDED BY THE OWNER OF PROPERTY. MAINTENANCE IS TO INCLUDE BI-WEEKLY MOWING OF SIDE SLOPES FOR VEGETATION CONTROL, AND MONTHLY INSPECTION/CLEANING OF CULVERTS & STORM SYSTEMS.
- ALL DISTURBED AREAS SHALL BE SOODED, UNLESS OTHERWISE SHOWN, AND SHALL HAVE SOO/VEGETATED COVER ESTABLISHED PRIOR TO THE INSPECTION FOR THE CERTIFICATE OF OCCUPANCY.
- INSTALLATION OF THE REQUIRED STREET SIGNS, TRAFFIC SIGNS, PAVEMENT STRIPING, STREET LIGHTS AND SIDEWALKS ALONG WITH THE PAINTING OF THE FIRE HYDRANTS MUST BE COMPLETED PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF COMPLETION.
- CONTRACTOR IS RESPONSIBLE FOR NOTIFYING AND PRE-TESTING PRIOR TO SCHEDULING A TEST OR WALK-THROUGH WITH THE UTILITY REPRESENTATIVES, MUNICIPAL REPRESENTATIVES AND ENGINEER OF RECORD. THE COST ASSOCIATED WITH RETESTING SHALL BE FOR THE CONTRACTOR.
- THE ENGINEER OF RECORD AND LOCAL UTILITY SHALL BE GIVEN SEVENTY-TWO (72) HOURS NOTICE OF ALL REQUESTED MEETINGS AND/OR TESTING MEASURES.
- CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE REGULATORY REPRESENTATIVES TO INSPECTING AUTHORITIES BEFORE AND DURING CONSTRUCTION.

GENERAL NOTES

- 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 (SCDCS), AN ENGINEERING PERMIT AND TREE REMOVAL PERMIT IS REQUIRED PRIOR TO STARTING CONSTRUCTION.
- 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.
- NOTIFY THE CITY OF ORMOND BEACH'S ENGINEERING DIVISION AT 678-3269 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- ANY CONSTRUCTION CHANGES TO APPROVED PLANS SHALL BE SUBMITTED TO THE CITY OF ORMOND BEACH FOR APPROVAL PRIOR TO PERFORMING THE WORK.
- 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.
- A PRE-PAVING UTILITY INSPECTION MUST BE REQUESTED AND COMPLETED PRIOR TO THE PAVING OF ALL ROADS, STREETS, AND PARKING AREAS.
- 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'S ENGINEERING DIVISION 678-3269 WHEN REQUESTING A FINAL INSPECTION.
- 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.
- THE CITY HAS A CONTRACTOR FOR ROLL OFF SERVICE. NO OTHER CONTRACTOR SHALL BE PERMITTED TO PROVIDE THIS SERVICE.
- CONSTRUCTION SITES THAT DISTURB ONE ACRE OR MORE WILL BE REQUIRED TO SEEK COVERAGE UNDER THE GENERAL PERMIT FOR STORM WATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES. IN ACCORDANCE WITH THIS REQUIREMENT, A STORM WATER POLLUTION PREVENTION PLAN (SWPP) MUST BE SUBMITTED TO THE CITY'S ENGINEERING DIVISION PRIOR TO CONSTRUCTION TO BE IN COMPLIANCE WITH THE PERMIT.
- CONTRACTOR WILL FOLLOW REQUIRED WASTE MANAGEMENT PRACTICES.
- SEEDING OR SOODING 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.
- ANY FIELD MODIFICATIONS OR DEVIATIONS TO THIS CONSTRUCTION PLAN REQUIRES WRITTEN APPROVAL BY BOTH THE ENGINEER OF RECORD AND THE CITY OF ORMOND BEACH ENGINEERING DIVISION.

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 PAVING AND DRAINAGE "AS-BUILT" DRAWINGS:
- PAVEMENT AND CURB WIDTHS SHALL BE VERIFIED AND DIMENSIONED FOR EACH STREET AT EACH BLOCK. ALL RAMP AT INTERSECTIONS SHALL BE VERIFIED AND DIMENSIONED. THIS INFORMATION TO CLEARLY INDICATE IT AS "AS-BUILT" INFORMATION.
 - 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 TO IT MAY BE COMPARED TO THE EXISTING AND DESIGNED PROFILE GRADE LINES. ALL STREET CENTERLINES ON "AS-BUILT" SHALL BE LABELED WITH STREET NAME AND RIGHT-OF-WAY BOTH ON EVERY PAGE.
 - STORM DRAINAGE PIPES SHALL BE LOCATED AND/OR DIMENSIONED FROM CENTERLINES OR LOT LINES AS APPROPRIATE.
 - STORM DRAINAGE PIPE INVERT AND STRUCTURE TOP AND BOTTOM ELEVATIONS SHALL BE RECORDED AND CLEARLY IDENTIFIED AS "AS-BUILT" INFORMATION. DESIGN ELEVATIONS SHALL BE CROSSED OUT AND "AS-BUILT" INFORMATION WRITTEN NEXT TO IT.
 - STORM DRAINAGE PIPE MATERIAL, LENGTH, AND SIZE SHALL BE MEASURED AND/OR VERIFIED. THIS INFORMATION TO CLEARLY INDICATE IT AS "AS-BUILT" INFORMATION.
 - ALL APPLICABLE TOPOGRAPHIC INFORMATION, PERTINENT TO THE ON SITE DRAINAGE SYSTEM SUCH AS OTHER 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 THE DOWN THESE FEATURES TO THE ROADWAY CENTERLINES AND TO PLANT LINES. WHICHEVER POSSIBLE, CENTER LINES SHALL BE UTILIZED TO GRAPHICALLY DESCRIBE THESE TOPOGRAPHIC FEATURES.
 - RETENTION AREAS SHALL HAVE THEIR TOP-OF-BANK AND BOTTOM ELEVATIONS RECORDED. MEASUREMENTS SHALL BE TAKEN AND DIMENSIONED RECORDED. THE SIZE OF ALL RETENTION AREAS. MEASUREMENTS SHALL BE DONE FROM TOP-OF-BANK TO TOP-OF-BANK WITH SLOPES INDICATED. SEPARATE MEASUREMENTS SHALL BE SUBMITTED TO UTILIZE REQUIRED AND PROVIDED RETENTION VOLUMES.
 - STORM DRAINAGE CENTERLINES SHALL BE LOCATED AND ELEVATIONS OF FLOW LINE SHALL BE RECORDED EVERY 100 FEET.
 - ANY SPECIAL FEATURES SUCH AS CONCRETE FLOW, LAKE BANKS, WALLS, FENCING, ETC., WHICH WERE A PART OF THE APPROVED CONSTRUCTION DRAWINGS SHOULD ALSO BE LOCATED AND DIMENSIONED.
 - ALL MATERIALS USED AND ELEVATIONS AND DIMENSIONS OF OVERFLOW WEIR STRUCTURES AND SHIMMERS SHALL BE NOTED ON THE "AS-BUILT" INFORMATION.
- THE FOLLOWING INFORMATION IS REQUIRED ON ALL WATER AND SEWER "AS-BUILT" DRAWINGS:
- SANITARY SEWER MANHOLES SHALL BE VERIFIED AND DIMENSIONED FROM STREET CENTERLINES OR LOT LINES AS APPROPRIATE. ALL R/W AND INVERT ELEVATIONS SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS "AS-BUILT" INFORMATION.
 - SANITARY SEWER LINE LENGTHS, SIZES, MATERIAL, SLOPE, ETC., SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS "AS-BUILT" INFORMATION.



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STANDARD CONSTRUCTION DETAIL
REQUIREMENTS FOR "AS-BUILT" DRAWINGS

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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 DROP LINE OF EXISTING NATURAL 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 END OF THE EASEMENT 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 DROP LINE OF A SPECIEN 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, &/OR HAVE BEST MANAGEMENT PRACTICES (BMP'S) 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 THE FINAL APPROVED SITE DESIGN PREPARED BY THE ENGINEER OF RECORD. LINE WEIGHTS, LINE TYPES, AND ANNOTATION SHALL BE MAINTAINED IN A MANNER THAT CLEARLY DISTINGUISHES DESIGN INFORMATION FROM "AS-BUILT" INFORMATION.
- ALL "AS-BUILT" SHEETS SHALL INCLUDE A TITLE BLOCK AND CLEARLY STATE PROJECT NAME, PRELIMINARY DATE OF FIELD WORK, AS WELL AS PROJECT CREDITATION BLOCK FROM THE ENGINEER OF RECORD.
- ONCE AN AREA IS SEEDDED OR SOODED, 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.



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REQUIREMENTS FOR AS BUILT DRAWINGS

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STANDARD CONSTRUCTION DETAIL
CONTRACTOR REQUIREMENTS FOR SITE CLEARING,
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Know what's below.
Call before you dig.

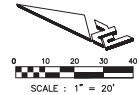
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DATE: 11/18/2020 (2nd)

VALUENUE OF C.D. OF 1000 MCT
DATE: 11/18/2020 (2nd)
DATE: 11/18/2020 (2nd)

SHEET C2 OF 7



CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION



LEGEND:

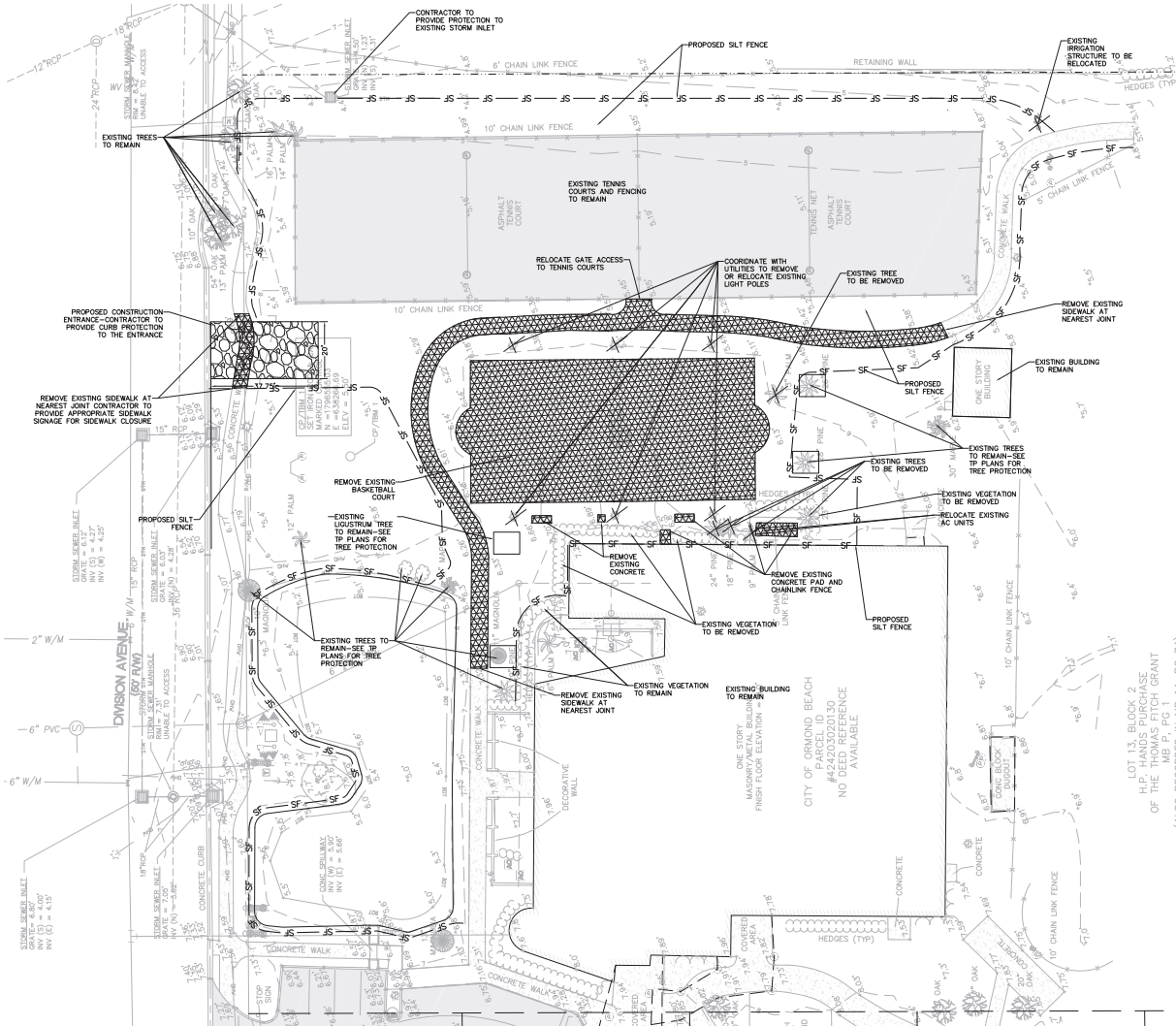
- SF — PROPOSED SILT FENCE
- X — PROPOSED TEMPORARY CONSTRUCTION FENCE
- [Pattern] EXISTING TENNIS COURT
- [Pattern] PROPOSED DEMOLITION/CLEARING AREA
- [Pattern] PROPOSED CONSTRUCTION ENTRANCE
- [Symbol] EXISTING TREE TO BE REMOVED
- [Symbol] EXISTING TREE TO REMAIN WITH TREE PROTECTION

NOTES:

1. THE CITY OF ORMOND BEACH SHALL MAINTAIN ALL SALVAGE RIGHTS FOR THE DEMOLISHED MATERIALS.
2. THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF ORMOND BEACH'S LEISURE SERVICE FOR MAINTENANCE AND TIMING OF EXISTING PARK ACTIVITIES.

SURVEYOR'S NOTES:

1. THIS IS A TOPOGRAPHIC SURVEY, NOT A BOUNDARY SURVEY. THE PURPOSE OF THIS SURVEY IS TO SHOW EXISTING SITE CONDITIONS AS REQUESTED BY THE CLIENT FOR THE FUTURE ENGINEERING DESIGN OF SITE IMPROVEMENTS.
2. EVERY EFFORT HAS BEEN MADE TO ACCURATELY IDENTIFY THE SPECIES OF TREES SHOWN HEREON. THE TREES SHOWN HEREON WERE IDENTIFIED BY INDIVIDUALS THAT DO NOT PRACTICE IN THE FIELD OF DENDROLOGY OR BOTANY. IT IS POSSIBLE THAT SOME TREES SHOWN ON THIS SURVEY WERE MISTAKENLY IDENTIFIED.
3. THE LANDS SHOWN HEREON ARE CONSIDERED URBAN HIGH RISK. THE CALCULATED ERROR OF CLOSURE MEETS OR EXCEEDS THE MINIMUM STANDARD REQUIREMENTS.
4. EASEMENTS SHOWN HEREON ARE FOR THE RECORDED PLAT, INSTRUMENTS OF RECORD PROVIDED TO THE SURVEYOR, OR INFORMATION OBTAINED BY A CURSORY SEARCH OF THE PUBLIC RECORDS OF THIS COUNTY.
5. THERE MAY BE ADDITIONAL COVENANTS, EASEMENTS, RESERVATIONS AND/OR, RESTRICTIONS NOT SHOWN ON THIS SURVEY THAT MAY BE RECORDED IN THE PUBLIC RECORDS OF THIS COUNTY.
6. THIS SURVEY MAKES NO CLAIMS REGARDING OWNERSHIP OR RIGHTS OF POSSESSION.
7. ALL DIMENSIONS SHOWN HEREON ARE STATED IN U.S. SURVEY FEET AND DECIMALS THEREOF. FOOT TO METER CONVERSION FORMULA IS 1 U.S. FT. = 0.3048006096 M.
8. ALL ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).
9. BENCHMARK S 722 PD 026207, HAVING A PUBLISHED ELEVATION OF 6.05 FEET.
10. THE VERTICAL ERROR OF CLOSURE FOR THIS SURVEY IS LESS THAN OR EQUAL TO .05 TIMES THE SQUARE ROOT OF THE BENCH LOOP IN MILES.
11. UNDERGROUND FOUNDATIONS, IF ANY, WERE NOT LOCATED.
12. ANY REFERENCE TO UTILITIES THAT MAY APPEAR ON THIS MAP, HAVE BEEN LOCATED FROM VISIBLE EVIDENCE THAT EXISTED AT OR ABOVE THE SURFACE OF THE EARTH AT THE TIME OF THIS SURVEY. NO UNDERGROUND UTILITY INFORMATION WAS COLLECTED OR VERIFIED AS PART OF THIS SURVEY.
13. UNDERGROUND UTILITIES WERE NOT LOCATED EXCEPT AS SHOWN.
14. THIS PROPERTY LIES WITHIN FLOOD ZONE X (NO BASE FLOOD ELEVATION), PER THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS, (NIP FIRM) SHAP NO. 121270208K, WITH A REVISED DATE OF SEPTEMBER 29, 2017.
15. THIS SURVEY WAS PERFORMED FOR THE SOLE AND EXCLUSIVE BENEFIT OF THE FOLLOWING PARTY(IES): ZEV COHEN & ASSOCIATES AND THE CITY OF ORMOND BEACH AND IS NON-TRANSFERABLE TO ANY OTHER PARTY(IES). THIS SURVEY SHALL NOT BE RELIED UPON BY ANY OTHER ENTITY OR INDIVIDUAL. ANY RE-USE OF THIS SURVEY FOR ANY PURPOSE OTHER THAN WHICH IT WAS ORIGINALLY INTENDED, WITHOUT THE WRITTEN PERMISSION OF THE UNDERSIGNED SURVEYOR AND MAPPER, WILL BE DONE SO AT THE RISK OF THE RE-USING PARTY AND WITHOUT ANY LIABILITY TO THE UNDERSIGNED SURVEYOR AND MAPPER.
16. ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY ANYONE OTHER THAN THE SIGNING SURVEYOR IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE SIGNING SURVEYOR.
17. THIS SURVEY WAS CONDUCTED IN COMPLIANCE WITH THE STANDARDS OF PRACTICE ESTABLISHED IN CHAPTER 54-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.007 FLORIDA STATUTES, UNDER THE RESPONSIBLE CHARGE OF THE SIGNING SURVEYOR NAMED BELOW.
18. THIS SURVEY IS NOT VALID UNLESS SIGNED BY THE PROFESSIONAL SURVEYOR AND MAPPER NOTED, AND EMBOSSED WITH THE SURVEYOR'S SEAL.
19. THIS SURVEY MAP WAS PREPARED AT A SCALE OF 1" INCH EQUALS 30 FEET ON 24 INCH BY 36 INCH MEDIA. THIS SURVEY MAY HAVE BEEN REDUCED OR ENLARGED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED INFORMATION.
20. FIELD WORK FOR THIS SURVEY WAS PERFORMED ON MARCH 5, 2020 THROUGH MARCH 13, 2020.



LOT 13, BLOCK 2
H.P. HANDS PURCHASE
OF THE THOMAS FITCH GRANT
SUBS. 1 & 2, PG 14, PG 74)

CITY OF ORMOND BEACH
PARCEL ID
#424203020130
NO DEED REFERENCE
AVAILABLE

SONC GYMNASIUM
100% ENGINEERING PLANS
DEMOLITION & EROSION
CONTROL PLAN

PROJECT NO: 20-1950
DESIGNED BY: KR
DRAFTED BY: TR
CHECKED BY: MDG

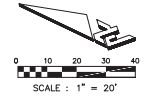


REPRODUCTION PROHIBITED
NOT VALID WITHOUT SEAL

SHEET C3 OF 7



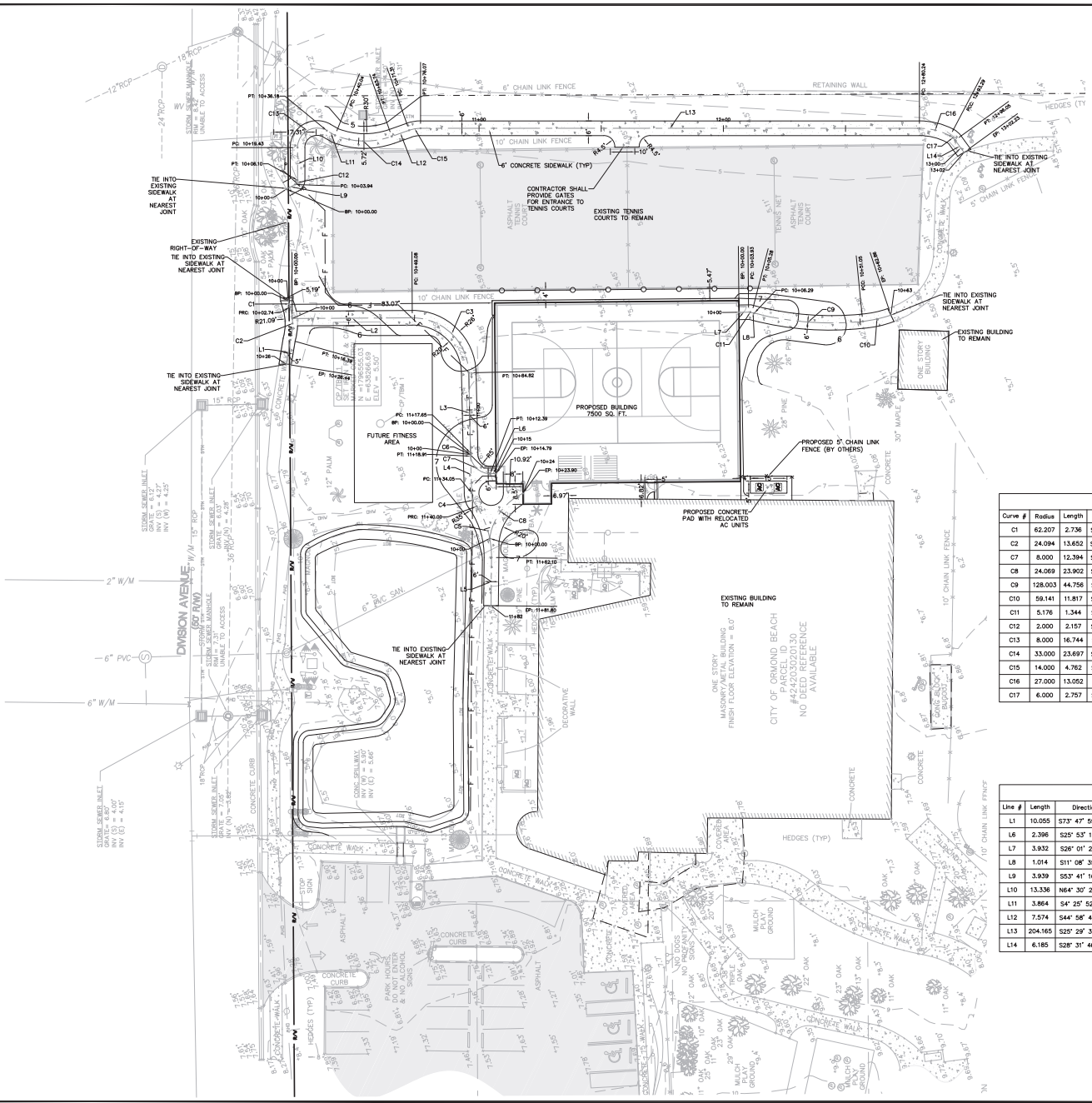
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION



LEGEND:

- EXISTING TENNIS COURT HATCH
- PROPOSED CONCRETE
- EXISTING STREET LIGHT

NOTES:
1. CONTRACTOR TO NOTIFY ENGINEER OF RECORD IF FIELD LAYOUT DIFFERS FROM FIELD CONDITIONS



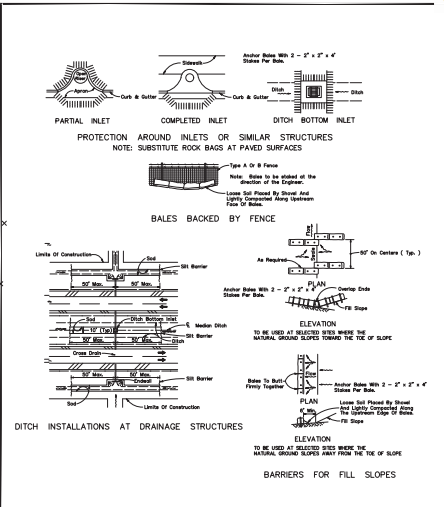
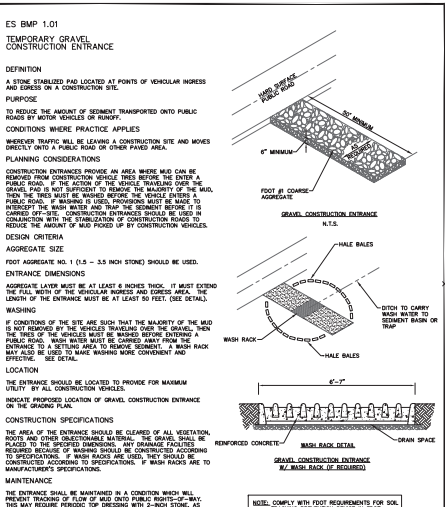
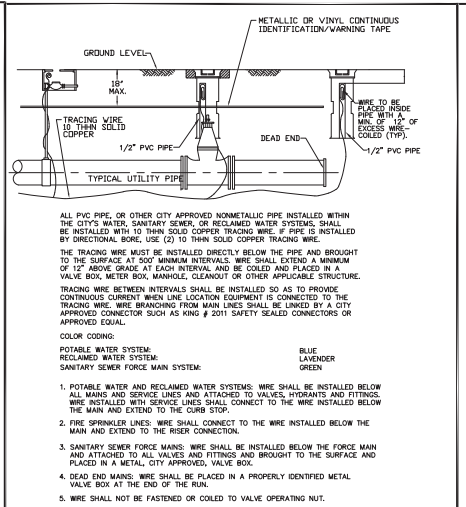
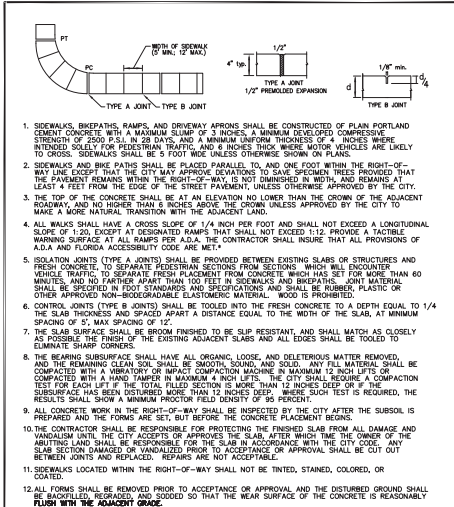
Curve Table: Alignments					
Curve #	Radius	Length	Chord Direction	Start Point	End Point
C1	62.207	2.736	S46° 59' 01.75\"	(638295.8326,1796610.7654)	(638295.8327,1796608.8993)
C2	24.094	13.652	S64° 07' 43.80\"	(638293.8327,1796608.8993)	(638281.7128,1796603.0218)
C7	8.000	12.394	S18° 29' 47.73\"	(638271.0923,1796516.2541)	(638267.5419,1796505.6410)
C8	24.069	23.902	S79° 05' 54.80\"	(638243.5233,1796494.4224)	(638266.0412,1796490.0855)
C9	128.003	44.756	S21° 09' 44.54\"	(638373.3108,1796436.3770)	(638389.3862,1796394.8518)
C10	59.141	11.817	S38° 05' 22.82\"	(638389.3862,1796394.8518)	(638396.6642,1796385.5864)
C11	5.178	1.344	S18° 34' 57.78\"	(638372.6877,1796438.6428)	(638373.1148,1796437.3723)
C12	2.000	2.157	S84° 35' 23.55\"	(638339.9578,1796628.6965)	(638342.0029,1796628.5028)
C13	8.000	16.744	S55° 31' 49.01\"	(638354.0410,1796634.2428)	(638365.4601,1796626.4033)
C14	33.000	23.697	S24° 24' 29.56\"	(638365.1616,1796622.5511)	(638374.7451,1796601.4325)
C15	14.000	4.762	S35° 14' 09.79\"	(638380.0986,1796596.0750)	(638382.8329,1796592.2043)
C16	27.000	13.052	S11° 38' 37.13\"	(638470.7022,1796407.9156)	(638473.3107,1796395.2566)
C17	6.000	2.757	S15° 22' 01.31\"	(638473.3107,1796395.2566)	(638472.5866,1796392.6218)

Line Table: Alignments				
Line #	Length	Direction	Start Point	End Point
L1	10.055	S73° 47' 59.87\"	(638281.7128,1796603.0218)	(638272.0570,1796600.2165)
L6	2.396	S25° 53' 11.90\"	(638287.5419,1796505.6410)	(638268.0886,1796503.4852)
L7	3.932	S28° 01' 20.11\"	(638370.9625,1796442.7865)	(638372.6877,1796438.6428)
L8	1.014	S11° 08' 35.45\"	(638373.1149,1796437.3723)	(638373.3108,1796436.3775)
L9	3.939	S53° 41' 16.25\"	(638356.7839,1796631.0290)	(638359.9578,1796628.6965)
L10	13.336	N64° 30' 29.15\"	(638342.0029,1796628.5028)	(638354.0410,1796634.2428)
L11	3.864	S4° 25' 52.84\"	(638365.4601,1796626.4033)	(638365.1616,1796622.5511)
L12	7.574	S44° 58' 48.74\"	(638374.7451,1796601.4325)	(638380.0986,1796596.0750)
L13	204.165	S25° 29' 30.85\"	(638382.8329,1796592.2043)	(638470.7022,1796407.9156)
L14	6.185	S28° 31' 46.04\"	(638472.5866,1796392.6218)	(638469.6326,1796387.1879)

SONC GYMNASIUM
100% GEOMETRY, SIGNAGE &
STRIPING PLAN

PROJECT NO.: 20-18159
DESIGNED BY: KR
DRAWN BY: TR
CHECKED BY: MDG



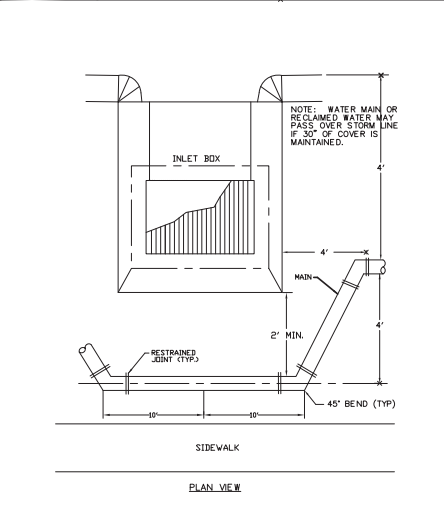
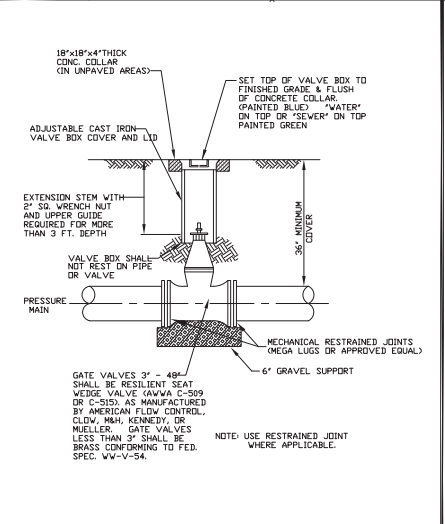
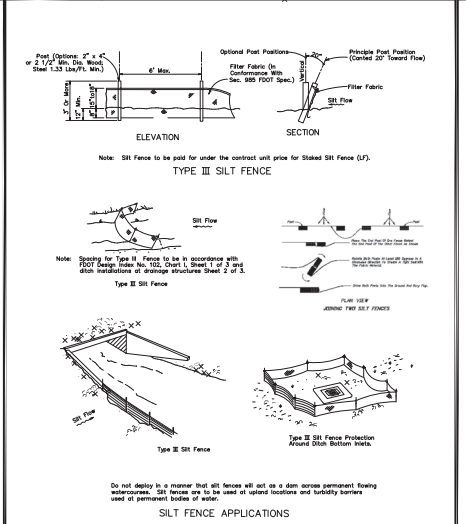
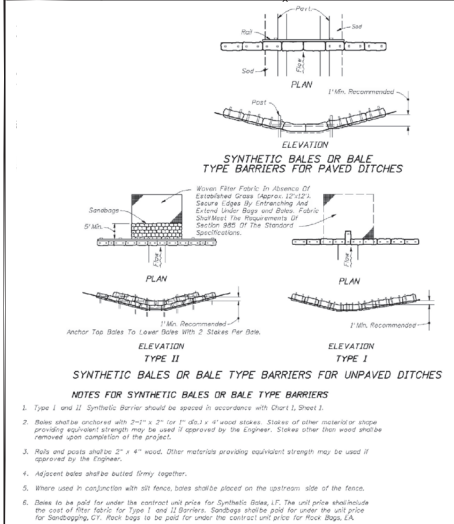


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		DEC 2015

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	NTS	DEC 2015

	STANDARD CONSTRUCTION DETAIL	INDEX
	EROSION CONTROL – SYNTHETIC BALES NT	M-14A DEC 2015

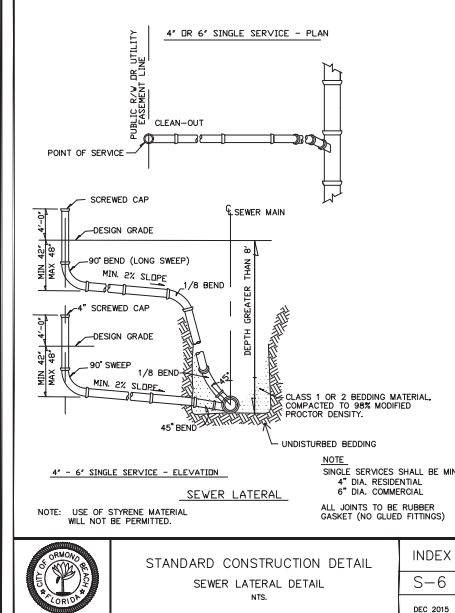
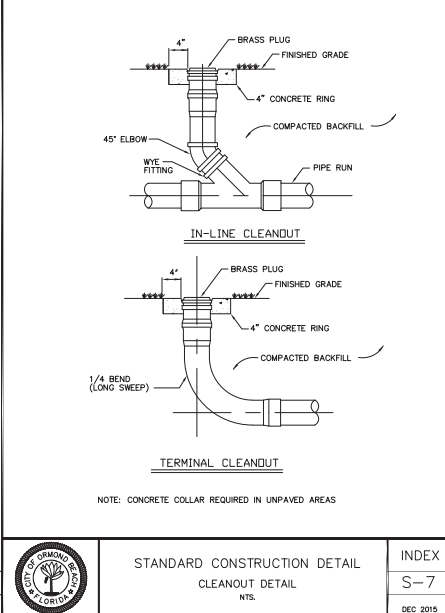


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	EROSION CONTROL – SILT FENCE	M-15
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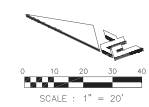
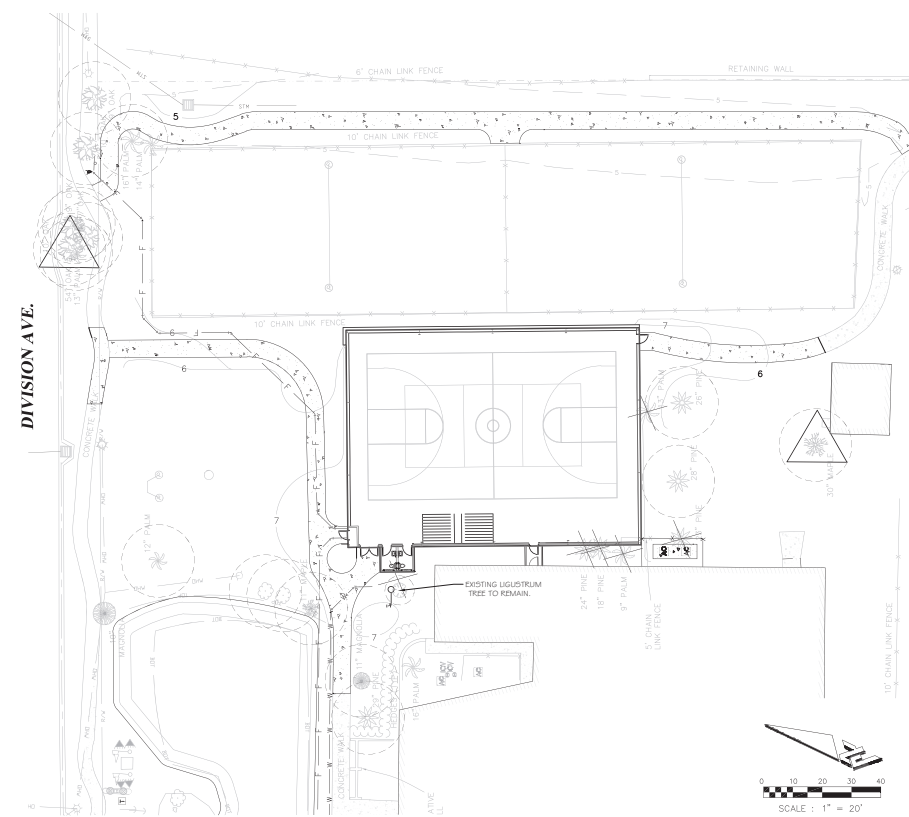
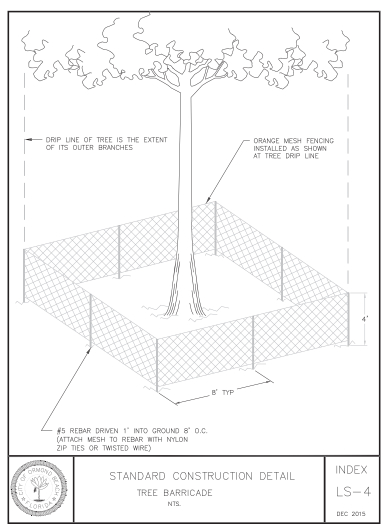
NO.	DATE	BY	REVISIONS

SONC GYMNASIUM
100% ENGINEERING PLANS
TREE PROTECTION PLAN AND
DETAILS
CITY OF PRINCE GEORGE
VOLUNTARY COUNTY, FLORIDA

PROJECT NO. ZC 1818R
DESIGNED BY: JES
DRAFTED BY: JES
CHECKED BY: BMG
DRAWING FILE: 191050 TP XREF'S: 191050.DWG XREF'S: 191050.DWG

Jake E Stehr
Digitally signed by
Jake E Stehr
Date: 2021.01.21
09:42:58-0500
SHEET TP1 OF 1

- LEGEND**
- EXISTING PROTECTED TREE TO REMAIN
 - ✕ EXISTING PROTECTED TREE TO BE REMOVED
 - △ EXISTING SPECIMEN TREE TO REMAIN
 - DENOTES ROOT ZONE PROTECTION AREA
BARRICADE SEE TREE BARRICADE
DETAIL THIS SHEET.




 CIVIL ENGINEERING
 LANDSCAPE ARCHITECTURE
 ENVIRONMENTAL
 PLANNING
 TRANSPORTATION

FOR REVIEW ONLY NOT FOR CONSTRUCTION
SONC GYMNASIUM
100% ENGINEERING PLANS
LANDSCAPE PLAN AND DETAILS

CITY OF ORANGE/BRACH

 PROJECT NO. JC 19159
 DESIGNED BY: JES
 DRAFTED BY: JES
 CHECKED BY: SG
 DRAWING FILE: 19159 LA
 XREF'S: 19159B.DWG
 XREF'S: 19159C.DWG

Jake E Stehr

 Digitally signed by
 Jake E Stehr
 Date: 2021.02.12
 08:42:01 -05'00'
 SHEET LA1 OF 1

LANDSCAPE SPECIFICATIONS

- FLORIDA #1:** ALL PLANT MATERIAL SHALL BE GRADE FLORIDA NO. 1 OR BETTER IN QUALITY AS DESIGNATED IN THE MOST RECENT PUBLICATION OF GRASSES AND STANDARDS FOR NURSERY PLANTS, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES.
- EXISTING PLANTS:** IF EXISTING LANDSCAPING INTERFERES WITH PROPOSED PLANTINGS SHOWN ON PLAN, THE EXISTING LANDSCAPING IS TO BE REMOVED IN FAVOR OF THE NEW PLANTINGS, UNLESS OTHERWISE INDICATED. IF THE EXISTING VEGETATION IS INTENDED TO REMAIN, THE PROPOSED LANDSCAPING SHALL BE LOCATED AS CLOSE AS POSSIBLE TO ITS INTENDED LOCATION.
- MULCH:** ALL PLANTING BEDS SHALL BE TOP DRESSED WITH 3" FINE BARK MULCH, GRADE "B" OR APPROVED EQUAL. ALL TREES NOT IN BEDS SHALL HAVE A 5" DIAMETER MULCH RING. ALL PALMS NOT IN BEDS SHALL HAVE A 3" DIAMETER MULCH RING UNLESS OTHERWISE NOTED ON PLANS.
- SOD:** SOD SHALL BE FLOKATAM 91, AUGUSTINE SOD UNLESS OTHERWISE SPECIFIED ON THE PLANS AS ARGENTINE BAHIA SOD. ALL SOD SHALL BE ROLLED UPON INSTALLATION. CONTRACTOR TO SOD ALL AREAS THAT ARE DISTURBED BY CONSTRUCTION RELATED ACTIVITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THE SOD IS FREE OF WEEDS & INSECTS UPON INSTALLATION AND FOR THE DURATION OF THE 90 DAY MAINTENANCE PERIOD. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE NO GAPS BETWEEN SOD. SOD QUANTITY TAKEOFFS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- QUANTITIES:** IN THE EVENT OF A VARIATION BETWEEN THE QUANTITIES SHOWN ON THE PLANT LIST AND THE QUANTITIES OF PLANTS SHOWN ON THE PLAN, THE PLAN SHALL CONTROL.
- UNFORESEEN CONFLICTS:** CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY PORTION OF THE LANDSCAPE PLAN AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNFORESEEN OBSTRUCTIONS, GRADE DIFFERENCES, STANDING WATER, SOIL CONDITIONS OR OTHER CONFLICTS EXIST. SUCH UNFORESEEN CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE AND THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- SUBSTITUTIONS:** NO SUBSTITUTIONS OR VARIATIONS OF ANY PLANT MATERIAL OR ITS INSTALLED LOCATION SHALL BE PERMITTED WITHOUT THE PRIOR CONSENT OF THE LANDSCAPE ARCHITECT.
- CONTAINERS:** IF GALLONAGE FOR PLANTS OR TREES IS SHOWN THEY SHALL BE CONTAINER GROWN AND THE SIZE SHOWN SHALL REPRESENT THE MINIMUM ALLOWABLE GALLONAGE. IN ALL CASES THE PLANT SPECIFIED SHALL COVER THE GALLONAGE INDICATED.
- PLANTING SOIL:** CONTRACTOR SHALL VERIFY THAT SOIL CONDITIONS ARE SUITABLE TO THE PLANT SPECIES SPECIFIED. IF SOIL CONDITIONS ARE DETERMINED UNSUITABLE FOR PROPER PLANT HEALTH, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT AND PROPER SUBSTITUTIONS SHALL BE SPECIFIED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. THE CONTRACTOR SHALL REMOVE LIME ROCK, CONCRETE AND OTHER DETERIORATED DEBRIS FROM PLANTING BEDS. IF DEBRIS IS INTEGRATED IN THE SOIL, THE SOIL MUST BE EXCAVATED AND REPLACED WITH ACCEPTABLE SOIL. ALL FILL TO BE PLACED IN LANDSCAPE AREAS MUST HAVE A PH RANGE BETWEEN 5.5 AND 7.5, BE ORGANIC IN NATURE, AND BE FREE OF ROCKS AND DEBRIS.
- TOPSOIL:** TOPSOIL MATERIAL SHALL BE FREE FROM ALL HARD CLODS, WEEDS, STONES OVER 1" IN DIAMETER, CLAY, HARD PAN, NOXIOUS OR OTHER UNDESIRABLE PLANTS, SODS, INSECTS, SEEDS, OR MATERIAL WHICH MAY BE HARMFUL FOR GROWTH.
- WEEDS:** IF PRESENT, THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE ANY WEEDS FROM PLANTING AND SOD AREAS PRIOR TO THE INSTALLATION OF PROPOSED PLANTING MATERIAL AND MULCH COVER. CONTRACTOR SHALL BE RESPONSIBLE TO KEEP BEDS AND SOD FREE OF WEEDS FOR THE DURATION OF THE 90 DAY MAINTENANCE PERIOD.
- GRADING:** UNLESS OTHERWISE STATED ON THESE PLANS, THE LANDSCAPE CONTRACTOR SHALL FINE GRADE ALL AREAS TO BE PLANTED AND SODDED IN ORDER TO ELIMINATE DUMPS AND DEPRESSIONS. FINE GRADING SHALL BE DEFINED AS THE FINAL 2" OF GRADE TO BE ACHIEVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND RE-GRADING WITHOUT AREAS CAUSED BY EROSION UNTIL FINAL ACCEPTANCE OF THE PROJECT.
- STAKING:** ALL TREES AND PALMS ARE TO BE STAKED ACCORDING TO THE DETAILS IN THESE PLANS. IF THE CONTRACTOR PREFERENCES TO USE OTHER STAKING METHODS THAN SHOWN IN THE DETAILS, HE OR SHE MUST SUBMIT PROPOSED STAKING DETAILS TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. THE LANDSCAPE CONTRACTOR SHALL STRAIGHTEN, REPAIR, AND/OR REPLACE ANY PLANTS DAMAGED BY FAILURE TO PROPERLY STAKE OR CUT ANY TREES & PALMS ON SITE, AT THEIR OWN EXPENSE.
- BED LINES:** CONTRACTOR TO ENSURE CURVILINEAR LANDSCAPE BEDS ARE TO BE EDGED WITH SMOOTH FLOWING CURVES. STRAIGHT-LINE LANDSCAPE BEDS ARE TO BE EDGED IN A STRAIGHT LINE PARALLEL TO ADJACENT STRUCTURES UNLESS DESIGNED OTHERWISE.
- FERTILIZER:** OSMAKOTEC SLOW RELEASE FERTILIZER OR EQUIVALENT SHALL BE APPLIED TO ALL TREE, SHRUB, AND GROUNDCOVER PLANTING AREAS AT THE RATE OF THREE (3) TABLETS PER 2.5' OF PLANTING LENGTH.
- DRAINAGE:** THE LANDSCAPE CONTRACTOR SHALL ENSURE THAT THIS WORK DOES NOT INTERRUPT EXISTING OR PROPOSED DRAINAGE PATTERNS AND SHALL NOTIFY THE OWNERS REPRESENTATIVE IMMEDIATELY SHALL A CONFLICT ARISE. CONTRACTOR IS RESPONSIBLE FOR ALL LANDSCAPE/SOD AREAS TO PROPERLY DRAIN AWAY FROM BUILDINGS/STRUCTURES.
- SPECIFICATIONS:** THE LANDSCAPE ARCHITECT SHALL BE PERMITTED THE RIGHT DURING INSTALLATION, TO REJECT ANY AND ALL PLANT MATERIAL AND WORKMANSHIP WHICH IN HIS OR HER OPINION DOES NOT MEET THE REQUIREMENTS OF THESE SPECIFICATIONS.
- PLANT SELECTION:** THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF THE NURSERY PLANT SOURCE LOCATION A MINIMUM OF 72 HOURS PRIOR TO PURCHASING THE MATERIAL. THE LANDSCAPE ARCHITECT SHALL ACCOMPANY THE CONTRACTOR AND THEIR DESIGNATED LANDSCAPE CONTRACTOR TO THE NURSERY TO REVIEW THE PLANT MATERIAL TAGGED BY THE CONTRACTOR. THE LANDSCAPE ARCHITECT WILL REVIEW THE TAGGED MATERIAL TO BE PURCHASED TO GENERALLY CONFIRM IT MEETS THE SPECIFICATION STANDARDS STATED IN NOTE #11. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE QUALITY, SPECIFICATION, INSTALLATION, AND SURVIVORSHIP OF THE PLANT MATERIAL.
- WILDLIFE NOTIFICATION:** THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT WHO SHALL PROPOSE PLANT SUBSTITUTIONS UPON WRITTEN NOTIFICATION OF RUSSIAN ANIMAL EXISTENCE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE ANNUAL INSTALLED PLANT MATERIAL DESTROYED/DAMAGED BY WILDLIFE WITHIN THE MAINTENANCE PERIOD.
- TURNOVER:** CONTRACTOR SHALL CONTACT OWNERS REPRESENTATIVE FOR A TURNOVER DATE TO INCLUDE A WALK-THROUGH AND ACCEPTANCE OF WORK BY THE LANDSCAPE ARCHITECT OR OWNER. ANY WORK DEEMED UNACCEPTABLE SHALL BE CORRECTED IMMEDIATELY AND RE-INSPECTED AS SCHEDULED.
- MAINTENANCE:** CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE TO BEGIN AFTER EACH PLANT HAS BEEN INSTALLED AND SHALL CONTINUE 90 DAYS AFTER FINAL WRITTEN ACCEPTANCE BY THE OWNER. MAINTENANCE SHALL INCLUDE WATERING, PRUNING, WEEDING, MULCHING, MOWING, REPLACEMENT OF SICK OR DEAD PLANTS, AND ANY OTHER CARE NECESSARY IN ORDER TO MAINTAIN PROPER PLANT HEALTH AND SOIL MOISTURE CONTENT.
- GUARANTEE:** CONTRACTOR SHALL GUARANTEE AND REPLACE ALL INSTALLED PLANT MATERIAL FOR ONE (1) CALENDAR YEAR STARTING FROM THE TURNOVER DATE FOR WORK FOUND ACCEPTABLE. ANY CORRECTED WORKS SHALL HAVE A PROPORTIONAL EXTENSION OF WARRANTY ONCE APPROVED. ANY SICK OR DEAD MATERIAL SHALL BE REPLACED IMMEDIATELY. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO HONOR ANY WARRANTY FOR THE LOSS OF ANY PLANT MATERIAL CAUSED BY FLOODING, FIRE, ABNORMAL FREEZING TEMPERATURES, WINDS OVER 50 MPH, LIGHTNING, ANY OTHER NATURAL DISASTER, OR ANY LOSS/DAMAGE CAUSED BY VANDALISM OR NEGLIGENCE ON THE PART OF THE OWNER.
- CALL BEFORE YOU DIG:** CONTRACTOR SHALL NOTIFY SUNSHINE 811 AND HAVE UTILITIES LOCATED PRIOR TO DIGGING, BY CALLING 811. CONTRACTOR SHALL NOT PLANT TREES WITHIN 3' OF ALL UNDERGROUND UTILITY, OTHER AS LOCATED OR AS SHOWN ON THE PLAN, WITHOUT FIRST OBTAINING WRITTEN PERMISSION FROM OWNERS REPRESENTATIVE.
- RECORD DRAWINGS:** THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT REGULATED MARK-UPS OF THE LANDSCAPE AND IRRIGATION IMPROVEMENTS, THESE AS-BUILT REGULATED MARK-UPS SHALL BE REPRESENTED ON ZEV COHEN & ASSOCIATES, INC. PLAN SHEETS AND PROVIDED TO THE LANDSCAPE ARCHITECT.

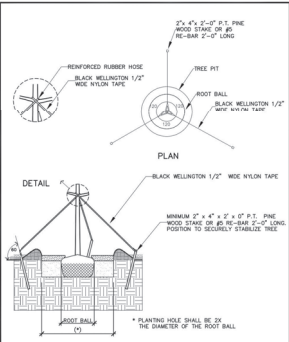
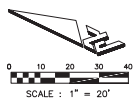
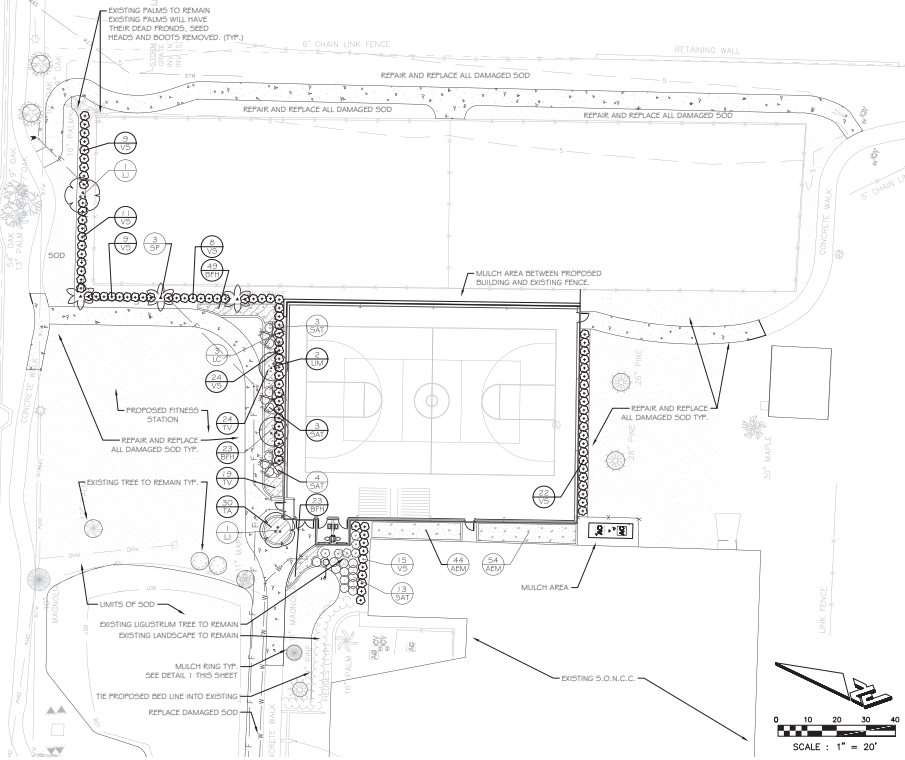
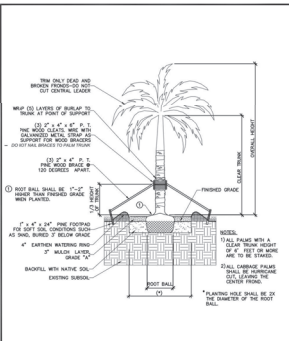
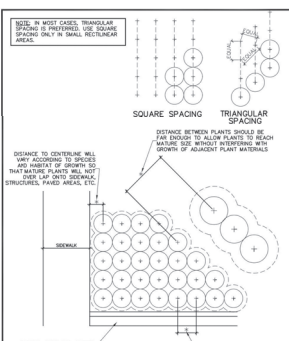
IRRIGATION NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING REDLINED MARK-UPS OF THE IRRIGATION IMPROVEMENTS AND PROVIDE TO THE LANDSCAPE ARCHITECT.
- AMEND EXISTING AUTOMATIC TIME CONTROLLED IRRIGATION SYSTEM TO PROVIDE 100% COVERAGE OF ALL NEW PLANTINGS.

PLANT SCHEDULE

TRAFFIC	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
LM	2	LAGERSTEDDIA INDICA 'MUSKOGEE'	MUSKOGEE CREPE MYRTLE	3" CAL., 10" HT., MIN.		
LM	2	UGUISTRUM JAPONICUM 'TREE FORM'	UGUISTRUM TREE	10" HT.		M.T., 4" C.T., PRUNED, TRUNKS SHALL ADD UP TO 6" COMBINED CALIPER MIN.
PALM TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
LC	3	LYSTIOHA CYRTROGUS	CHINESE FAN PALM	10" C.T.		
SP	3	SAGAL PALMETTO	SAGAL PALMETTO	8" - 10" HT. O.A.		
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING
SAT	23	SCHEFFERA ARBORESCOLA 'TRINETE'	VAREGATED SCHEFFERA	18" HT. X 15" SP.	3 GAL.	30" o.c.
VS	100	VERBURNUM SUSPENSUM	SANDWICHIA VERBURNUM	24" HT. X 18" SP.	3 GAL.	30" o.c.
GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING
ASH	35	ASPIDISTRA ELATOR 'MILKY WAY'	MILKY WAY CAST IRON PLANT	6" CAL.	1 GAL.	24" o.c.
DH	35	BULBINE PROFUSCENS 'HALLMARK'	ORANGE BULBINE	12" HT. X 12" SP.	1 GAL.	18" o.c.
JA	30	TRACHELOSPERMUM AGASTHARK	DWARF ASIANIC JASMINE	12" SP.	1 GAL.	18" o.c.
TV	43	TULSAGRA VIOLACEA	SOCIETY GARLIC	12" SP.	1 GAL.	18" o.c.
SOD	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING
STP	72,326.1 SF	STYCTATAPHRUM SECUNDATUM 'FLORTAM'	ST. AUGUSTINE GRASS	---	---	---

DIVISION AVE.


 STANDARD CONSTRUCTION DETAIL
 TYPICAL TREE COUING DETAIL
 INDEX
 LS-7
 MAY 2020

 STANDARD CONSTRUCTION DETAIL
 STRAIGHT TRUNK PALM PLANTING DETAIL
 INDEX
 LS-6
 MAY 2020

 STANDARD CONSTRUCTION DETAIL
 SQUARE AND TRIANGULAR SPACING
 INDEX
 LS-11
 MAY 2020

 STANDARD CONSTRUCTION DETAIL
 TYPICAL CONTAINER SPACING
 INDEX
 LS-11
 MAY 2020

 STANDARD CONSTRUCTION DETAIL
 PLANT LANE USE THIS DETAIL
 INDEX
 LS-13
 MAY 2020

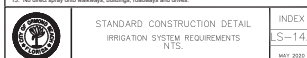

Property owners who wish to install, expand or substantially modify an irrigation system are required, in advance of such work, to obtain an irrigation permit from the Florida Department of Health in Volusia County. Irrigation installation requirements are described in the following county ordinances:

Wells, Pumping Facilities & Irrigation Systems - Section 74-31 to 48 County Ordinance
(<http://volusia.floridahealth.gov/programs-and-services/environmental-health/irrigation-construction/irrigation-forms.html>)

Volusia County Health Department developed an Irrigation Permitting Packet (<http://volusia.floridahs.gov/programs-and-services/environmental-health/irrigation-construction/documents/irrigation-permit.pdf>) in order assist applicants. It includes the application form, a Contractor/Owner Irrigation Self Certification Checklist and a site plan template. Please call our office at 386-274-0694 for more information.

1. Automatic irrigation controllers, when utilized, shall contain a functional rain sensor device, capable of

1. A battery bank to store energy for the night and battery backup operation in the event of a power outage.
2. A rain sensor placed on a downspout shutoff, free and clear of any overhead obstructions and the house.
3. Equipment with check valves used to tie-in lying valves to prevent low head discharge.
4. Recirculate pressure washers and other pressures prescribed in section 74-2.42.
5. Irrigation design with the appropriate uniformity for the type of plant being grown and for the type of soil.
6. Irrigation system equipment installed as designed.
7. Irrigation zones divided according to available water range, vegetated (grasses, i.e., turf, shrubs, native plants, etc.), xeriscape (trees, i.e., spruce/fir with matching precipitation rates) and soil characteristics.
8. Spray heads and nozzles not retired in same zone.
9. Distribution equipment in a given zone having matched precipitation rates.
10. Application rates that avoid runoff and permit uniform water infiltration into the soil, considering land slope, soil type and plant, vegetation and soil cover and prevailing wind.
11. A minimum separation of four inches between distribution equipment and pavement.
12. A minimum separation of 12 inches between distribution equipment and buildings and other vertical structures.
13. Modified www.waterconservation.org/irrigation/conservation/irrigation and others.



14. Lawn spray patterns providing head to head coverage.
15. Water conveyance systems with a flow velocity of five feet per second or less.
16. Pipelines designed to provide the system with the appropriate pressure required for maximum irrigation uniformly.
17. Pressure regulating heads.
18. A maintenance checklist provided to the property owner by the irrigation contractor accompanied by a recommended maintenance schedule, proper irrigation system settings according to season, recommendations for installing rain sensor device, filter cleaning recommendations and information on the current water restrictions.

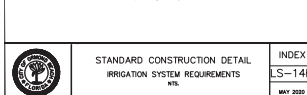
1. A high volume irrigation area shall not exceed 50 percent of the landscaped area. Low or medium

- Native vegetation irrigation areas may be utilized in lieu of any high volume irrigation areas.
- A medium volume irrigation area shall not exceed 25 percent of the landscaped area. However, the landscaped area may contain up to 75 percent medium volume irrigation area, if no high volume irrigation area is utilized on site.
- A low volume irrigation area may be utilized for an entire landscaped area with the exception of native vegetation areas regulated to section 50-372(b)(4).
- In the alternative to (1), (2) and (3) above, if 25 percent of the pre-existing native vegetation is retained on site, the remaining 75 percent of the site may be a high volume irrigation area. For all pre-existing native vegetation retained on a parcel:
 - No supplemental water shall be applied to the native vegetation area.
 - Only hand pruning of native vegetation is allowed.
 - Mechanical mowing or clearing is prohibited.

No person may install or repair an irrigation system in Volusia County unless they possess a valid irrigation

certificate of competency from the Department. The following persons are exempted from having to possess a certificate of competency:

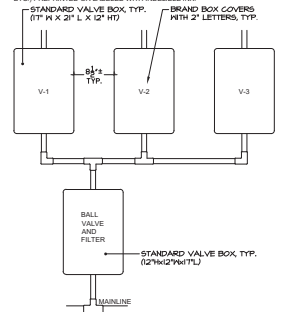
- Licensed Florida Water Well Contractors and Florida State Certified Plumbing Contractors.
- Florida State Registered Plumbing Contractors.
- Property owners who personally perform construction, maintenance or repairs on an irrigation system that serves his or her owner-occupied single family residence.



NOTES:

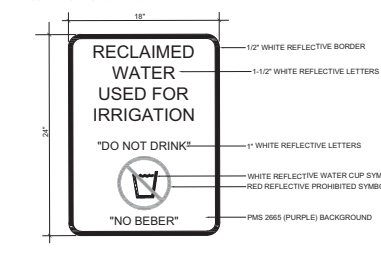
VALVE GROUPINGS SHALL NOT HAVE MORE THAN 3 VALVE BOXES AND 1 GATE VALVE BOX.

PLASTIC TAGS SHALL BE AFFIXED TO EACH VALVE WITH THE ZONE NUMBER AND ZONE TYPE (TURF, SHRUB, ETC.) PREPRINTED OR LABELED WITH INDELEBIL INK.



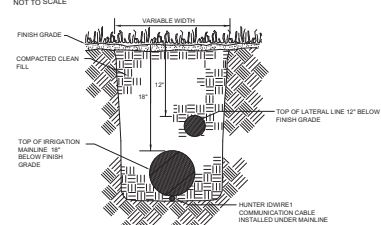
SCALE-NTS

SIGNS SHALL BE DIMENSIONED AS SHOWN. SIGNS MUST BE ALUMINUM AND HAVE A MINIMUM OF .063 GAGE. DEVIATIONS TO THIS SIGN LAYOUT SHALL BE SUBMITTED TO THE IRRIGATION DESIGNER OR LANDSCAPE ARCHITECT FOR APPROVAL.



ALL SIGNS MUST BE VISIBLY POSTED AT EACH ENTRANCE AND BE A MINIMUM OF 24" ABOVE FINISHED GRADE OF ROAD CROWN AND WITHIN 5 FEET OF EDGE OF CURB.

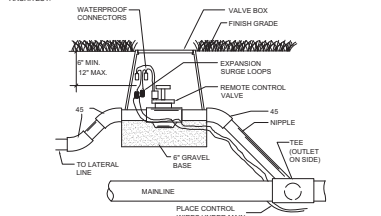
LONGER SCALE



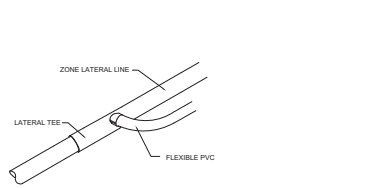
- NOTES:**
1. DEPTH MEASUREMENTS ARE TO BE DONE FROM FINISH GRADE TO TOP OF PIPE.
 2. PROVIDE A 6" MINIMUM VERTICAL SEPARATION BETWEEN MAINLINES AND LATERAL LINES.
 3. ALL TRENCHES SHALL BE BACKFILLED WITH CLEAN SOIL FREE OF DEBRIS & NOXIOUS WEEDS.

SCALE: NTS

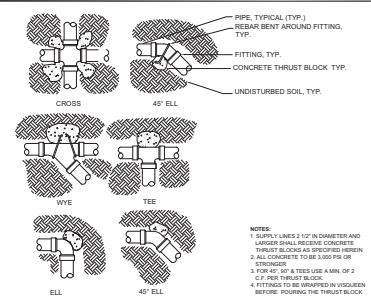
MARK ALL VALVE BOXES WITH
THE ZONE NUMBER AS
DIRECTED BY THE LANDSCAPE
ARCHITECT.



SCALE: NTS



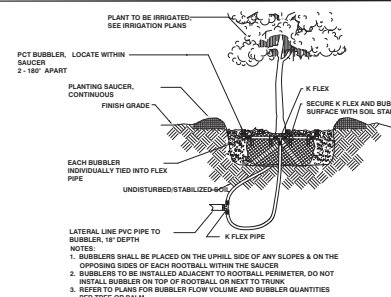
SCALE POINTS



NOTES:

1. SUPPLY LINES 2 1/2" IN DIAMETER AND LARGER SHALL RECEIVE CONCRETE THRUST BLOCKS AS SPECIFIED HEREIN.
2. ALL CONCRETE TO BE 3,000 PSI OR STRONGER
3. FOR 45°, 90° & TEES USE A MIN. OF 2 C.F. PER THRUST BLOCK.
4. FITTINGS TO BE WRAPPED IN VISQUEE BEFORE POURING THE THRUST BLOCK.

SCALE: NT9



LATERAL LINE PVC PIPE TO
BUBBLER, 18" DEPTH

K FLEX PIPE

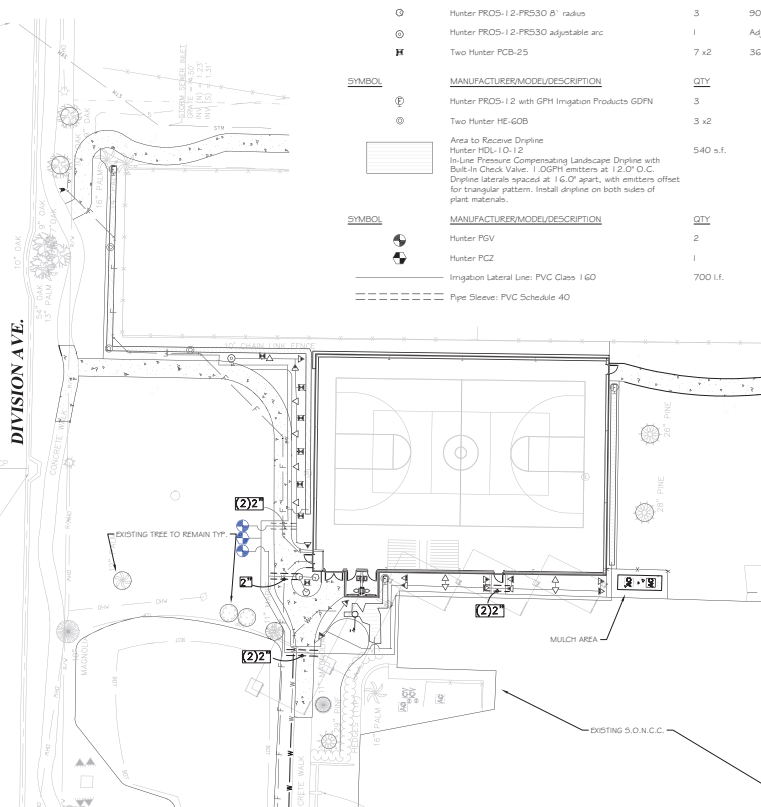
NOTES:

1. BUBBLERS SHALL BE PLACED ON THE UPHILL SIDE OF ANY SLOPES & ON THE OPPOSING SIDES OF EACH ROOTBALL WITHIN THE SAUCER
2. BUBBLERS TO BE INSTALLED ADJACENT TO ROOTBALL PERIMETER, DO NOT INSTALL BUBBLER ON TOP OF ROOTBALL OR NEXT TO TRUNK
3. REFER TO PLANS FOR BUBBLER FLOW VOLUME AND BUBBLER QUANTITIES

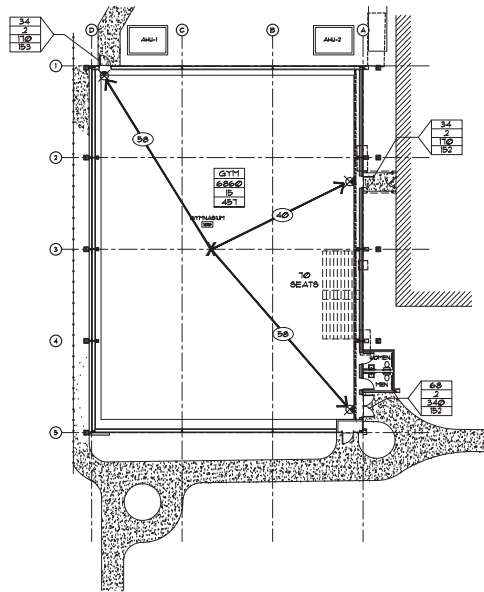
SYMBOL	MANUFACTURER/MODEL	QTY	ARI
	Hunter PROS-1 2-PR530 5" strip spray	8	LC
◀	Hunter PROS-1 2-PR530 5" strip spray	5	LC
◀	Hunter PROS-1 2-PR530 5" strip spray	9	SS
⊙	Hunter PROS-1 2-PR530 8" radius	3	90
⊙	Hunter PROS-1 2-PR530 adjustable arc	1	Adj
H	Two Hunter PCB-25	7 x 2	36

<u>SYMBOL</u>	<u>MANUFACTURER/MODEL/DESCRIPTION</u>	<u>QTY</u>
①	Hunter PROS-12 with GPH Irrigation Products GDFN	3
②	Two Hunter HE-60B	3 x2
	Area to Receive Dripine Hunter HDL-10-12	540 ±f.

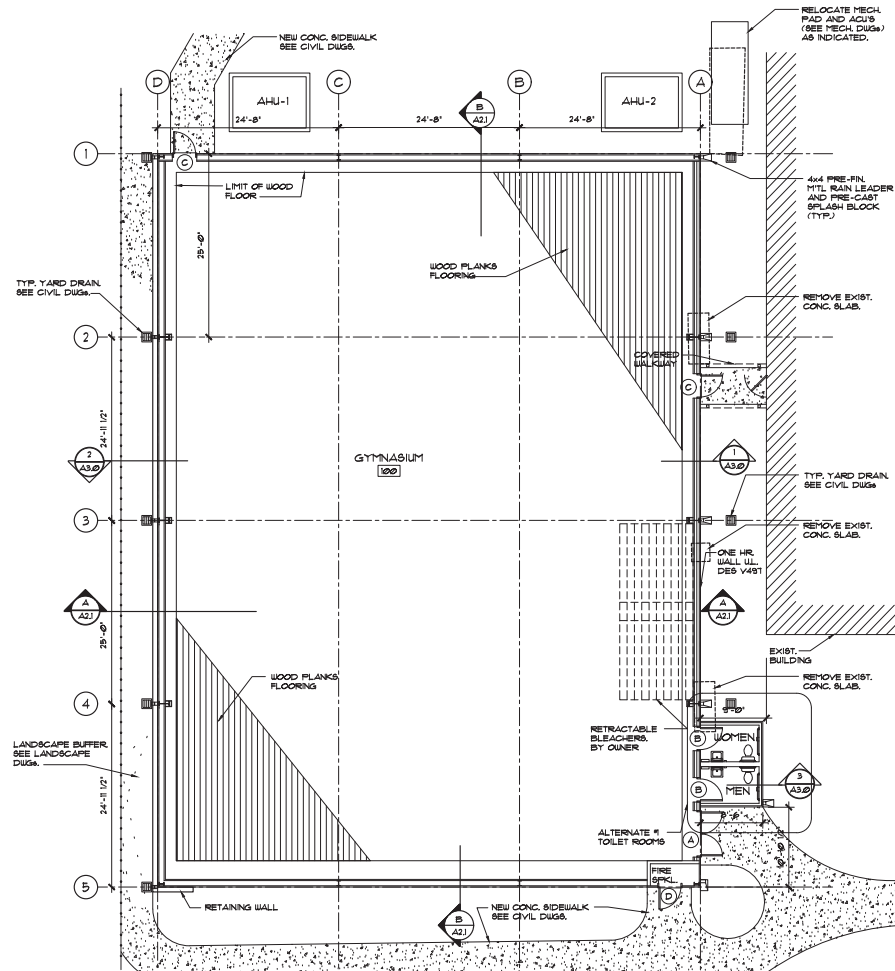
<u>SYMBOL</u>	<u>MANUFACTURER/MODEL/DESCRIPTION</u>	<u>QTY</u>
	In-Line Pressure Compensating Landscape Drip emitter with Built-In Check Valve, 1.0GPH emitters at 12.0' O.C.	
	Drip emitter spaced at 16.0' apart, with emitters offset for triangular pattern. Install dripeline on both sides of plant materials.	
	Immigation Lateral Line: PVC Class 160	700 L.F.
	Pipe Sleeve: PVC Schedule 40	



LIFE SAFETY PLAN LEGEND PARTITION SYMBOLS		
SYMBOL	DESCRIPTION	REMARKS
	1 HOUR FIRE RATING	
	4 HOUR FIRE RATING	
	FIRE DOOR / RATING (HOURS)	
	PATH OF EGRESS	
LIFE SAFETY SYMBOLS		
	FIRE EXTINGUISHER CABINET	
	EGRESS DOOR CAPACITY	
	A) DOOR SIZE OR STAIR WIDTH	
	B) EGRESS WIDTH	
	C) MAX ALLOWABLE LOAD	
	D) ACTUAL OCCUPANT LOAD	
	OCCUPANT LOAD	
	A) OCCUPANCY PER TABLE 1004.1.3	
	B) ACTUAL FLOOR AREA	
	C) OCCUPANT LOAD FACTOR PER TABLE 1004.1.3	
	D) ACTUAL LOAD	
	TRAVEL DISTANCE	
	DISTANCE FROM MOST REMOTE POINT IN OCCUPANT AREA	
	DIRECTION OF TRAVEL / PATH OF TRAVEL	
	START / FINISH OF TRAVEL DISTANCE	
	EMERGENCY EXIT LIGHTS	



LIFE SAFETY PLAN
SCALE: 1/16"=1'-0"



FIRST FLOOR PLAN
SCALE: 1/16"=1'-0"



ARCHITECT



DELOSE O'NEAL ENGINEERING
P.O. BOX 304 P (407) 744-2913
Gulf Breeze, FL 32561 C (321) 277-4128

CONSULTANTS



LOWE STRUCTURES, INC.
11651 Central Parkway, Suite 106
Jacksonville, FL 32224
(904) 992-0377
FL Cert of Auth: 28261
EOR: J. Matthew Lowe FL PE: 59027

CONSULTANTS

REV #	ISSUES / REVISIONS	DATE
1	FBC CHANGES	01-22-21

DRAWN BY: WCB
DESIGNED BY: DMS
REVIEWED BY: DMS

PROJECT TITLE AND ADDRESS
**BUILDING PLANS FOR
SOUTH ORMOND
NEIGHBORHOOD GYMNASIUM**
176 DIVISION AVE.
ORMOND BEACH, FL 32174

SHEET TITLE
**FIRST FLOOR PLAN
LIFE SAFETY PLAN**



DANA M. SMITH
AR000483

PROJECT # 02454 DATE: 12.09.2019



DELOSE O'NEAL ENGINEERING
 P.O. BOX 304 Goldenrod, FL 32733 P (407) 744-2813 C (321) 277-4128

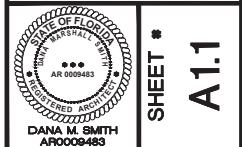
LOWE STRUCTURES, INC.
 11651 Central Parkway, Suite 106 Jacksonville, FL 32224 (904) 992-0377
 FL Cert of Auth: 28261 EOR: J. Matthew Lowe FL PE: 59027

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BUILDING PLANS FOR SOUTH ORMOND NEIGHBORHOOD GYMNASIUM
 176 DIVISION AVE.
 ORMOND BEACH, FL 32174

SHEET TITLE
REFLECTED CEILING AND ROOF PLAN



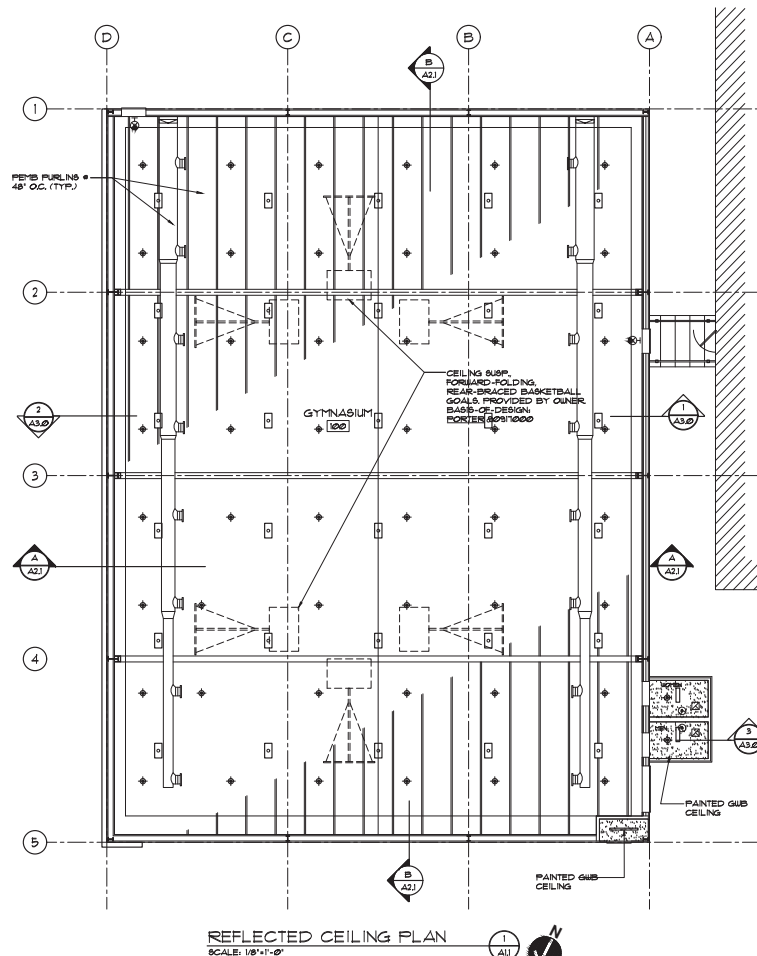
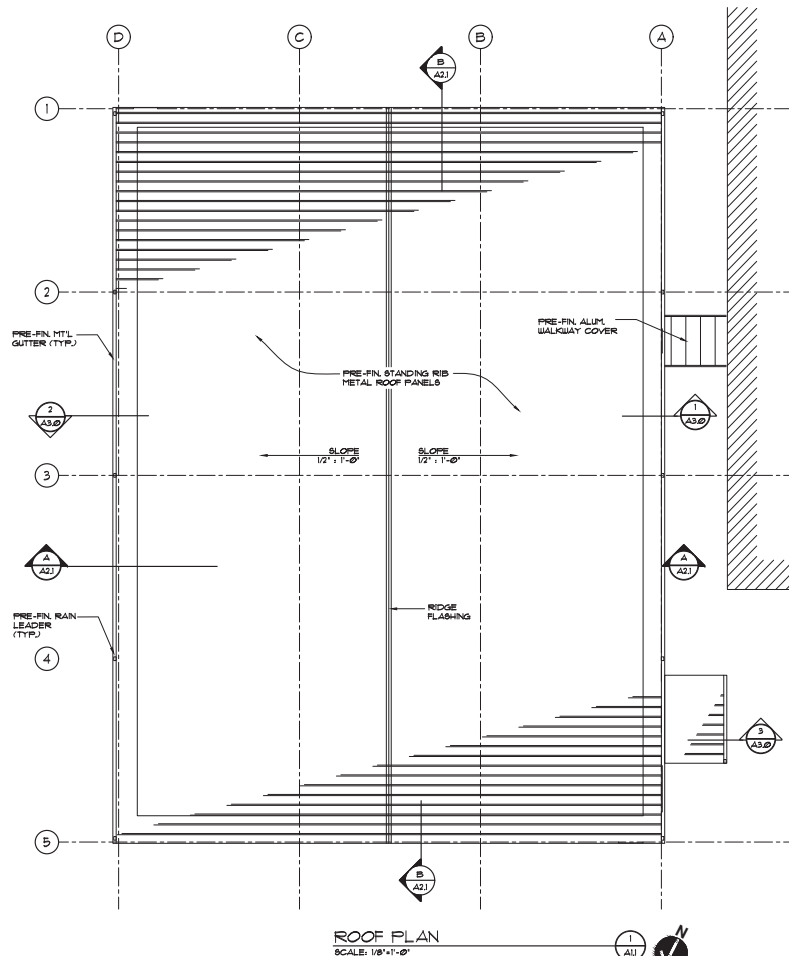
PROJECT # 02454 DATE: 12.09.2019

REFLECTED CEILING PLAN LEGEND

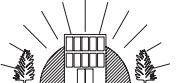
	ACOUSTICAL CEILING TILE
	GYPSUM WALL BOARD ATTACHED TO SUSPENDED SYSTEM
	STUCCO OVER 1/2" DENIGOLD ATTACHED TO UNDERSIDE OF HTL TRACING
	1' x 2' LED FIXTURE
	2' x 2' LED FIXTURE
	LED PAR FIXTURE

REFLECTED CEILING PLAN LEGEND (CONT.)

	EXIT LIGHT
	HVAC SUPPLY
	HVAC RETURN
	EXHAUST FAN
	SMOKE DETECTOR
	FIRE SPRINKLER



dj DESIGN INC.
 985 NORTH NOVA RD
 HOLLY HILLS, FL 32117
 PHONE (386) 265-6882
 FAX (386) 265-6884

ARCHITECT:

DELOOSE O'NEAL ENGINEERING
 P.O. BOX 304 P (407) 744-2813
 Goldenrod, FL 32733 C (321) 277-4128

CONSULTANTS:

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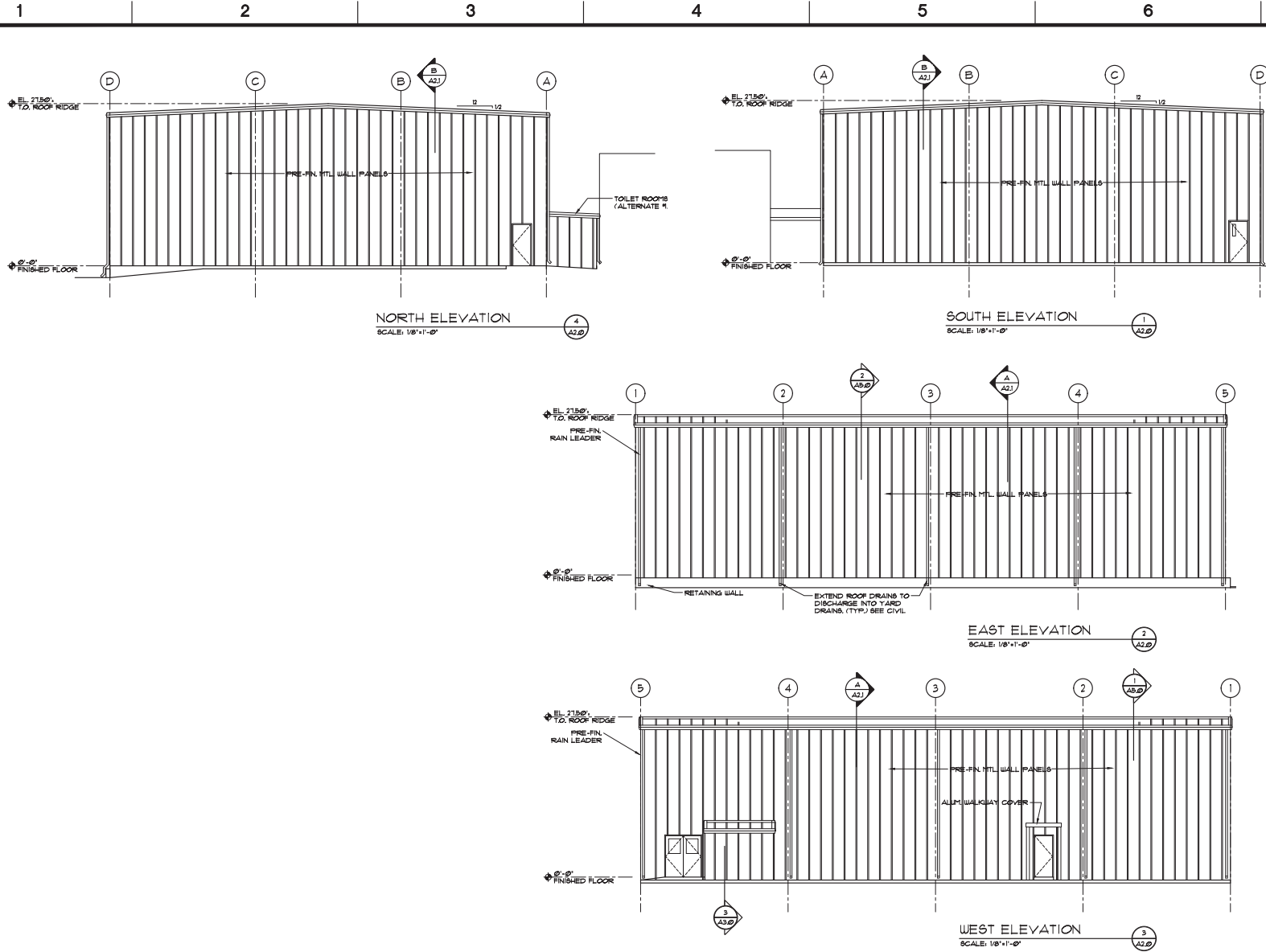
DRAWN BY: WCB
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PROJECT TITLE AND ADDRESS
**BUILDING PLANS FOR
 SOUTH ORMOND
 NEIGHBORHOOD GYMNASIUM**
 176 DIVISION AVE.
 ORMOND BEACH, FL 32174

SHEET TITLE
ELEVATIONS


DANA M. SMITH
 AR0009483
 PROJECT # 02454 DATE: 12.09.2019

SHEET #
A2.0



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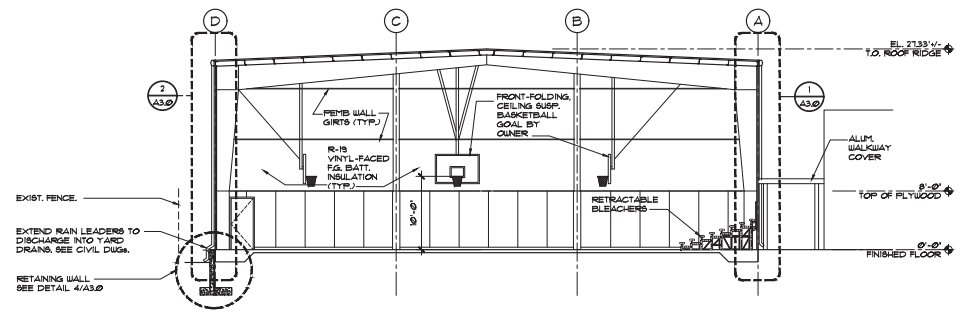
SHEET TITLE
BUILDING SECTIONS

DANA M. SMITH
 APRO009483

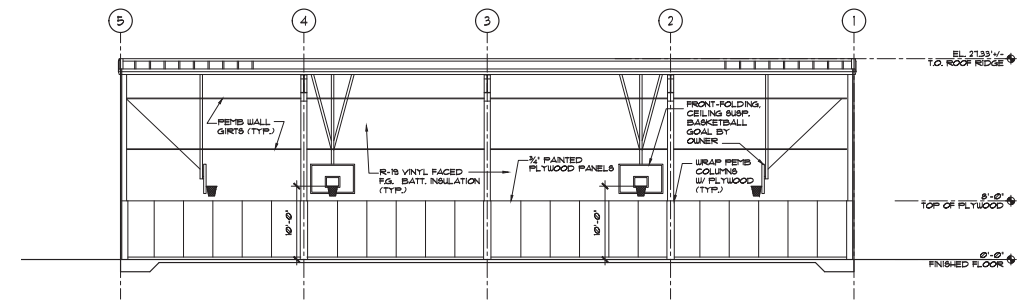
PROJECT • 02454

DATE • 12.09.2019

SHEET #
A2.1

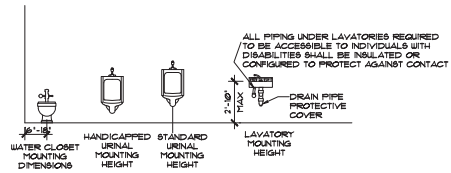


BUILDING SECTION
 SCALE: 1/8"=1'-0"
 A
 A2.1

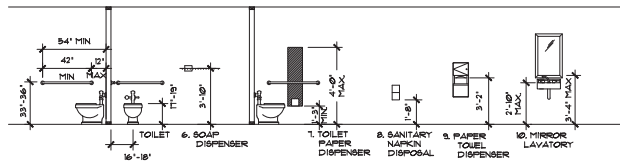


BUILDING SECTION
 SCALE: 1/8"=1'-0"
 B
 A2.1

SHEET #
A3.0



PLUMBING FIXTURE MOUNTING HEIGHTS



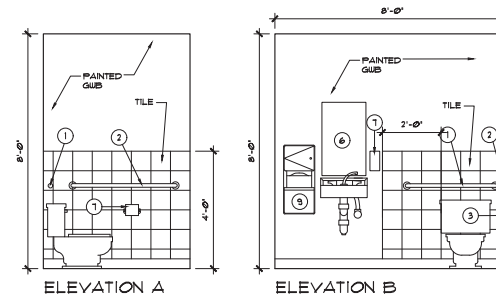
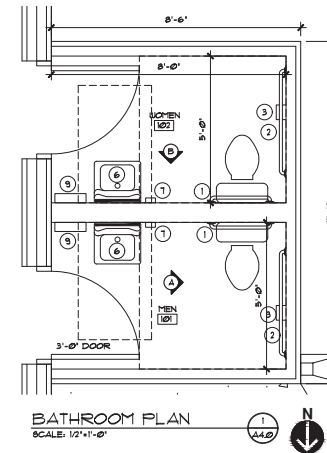
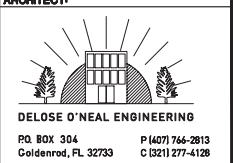
TOILET ACCESSORY MOUNTING HEIGHTS

TOILET ACCESSORIES LEGEND

OWNER SUPPLIED AND CONTRACTOR INSTALLED.

'BOBRICK' IS THE BASIS OF DESIGN. ALL NUMBERS REFER TO BOBRICK PRODUCTS

NO.	ACCESSORY	MODEL NO.
1	36" GRAB BAR	B-6606
2	42" GRAB BAR	B-6606
3	SURFACE-MOUNTED TOILET PAPER DISPENSER	B-26-4
4	SURFACE-MOUNTED SANITARY NAPKIN DISPOSAL	B-270
5	SURFACE-MOUNTED PAPER TOWEL DISPENSER	B-26-2
6	TEMP. GLASS MIRROR & FRAME (18" X 36")	B-165 SERIES
7	SURFACE-MOUNTED SOAP DISPENSER	B-412
8	FULL WIDTH MIRROR - SEE PLANS	
9	60"x60" CLEAR SPACE	
10	30"x48" CLEAR SPACE	
11	BABY CHANGING STATION	
12	TOP SINK	

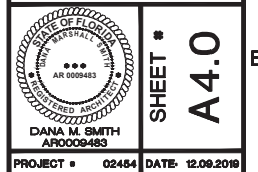
BATHROOM ELEVATION
SCALE: 1/2"=1'-0"

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DESIGNED BY: DMS
REVIEWED BY: DMS

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SOUTH ORMOND
NEIGHBORHOOD GYMNASIUM**
176 DIVISION AVE.
ORMOND BEACH, FL 32174

SHEET TITLE
**ENLARGED TOILET RM.
PLAN AND ELEVATIONS**



PROJECT # 02454 DATE: 12.09.2019

GENERAL REQUIREMENTS

- A. GENERAL
- CONFORM TO ALL GENERAL AND SPECIAL CONDITIONS OF CONTRACT AS SPECIFIED BY ENGINEER AND/OR OWNER.
 - VISIT SITE, CHECK FACILITIES AND CONDITIONS AND MAKE ALL NECESSARY OBSERVATIONS AND MEASUREMENTS. NOTE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED AND TAKE ALL ITEMS INTO CONSIDERATION IN BID.
 - SYSTEMS ARE TO BE COMPLETE AND WORKABLE IN ALL RESPECTS, PLACED IN OPERATION AND PROPERLY ADJUSTED.
 - CONTRACTOR SHALL PROVIDE THEIR OWN CLEAN-UP, REMOVAL AND LEGAL DISPOSAL OF ALL RUBBISH DAILY.
 - CONTRACTOR SHALL PROTECT THEIR WORK, THEIR EXISTING AND ADJACENT PROPERTY AGAINST WEATHERS.
 - CONTRACTOR SHALL PROTECT THEIR WORK, MATERIALS, APPARATUS AND FIXTURES FROM DAMAGE, ANY WORK DAMAGED BY FAILURE TO PROVIDE PROTECTION REQUIRED, SHALL BE REPAIR OR WITH NEW MATERIAL AT THE CONTRACTORS EXPENSE.
 - ARRANGE FOR AND OBTAIN OWNERS AND INSURANCE REPRESENTATIVES PERMISSION FOR ANY SERVICE SHUTDOWNS.
 - THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, SEQUENCES OF CONSTRUCTION AND THE SAFETY OF WORKERS.
 - NO PIPING, DUCTWORK, WIRING, ETC. SHALL BE INSTALLED OR ROUTED ABOVE ELECTRICAL PANELS AND EQUIPMENT.
 - THE CONTRACTOR SHALL COORDINATE AND OBTAIN A WRITTEN APPROVAL IDENTIFYING THE ELECTRICAL CHARACTERISTICS OF ALL MECHANICAL EQUIPMENT PRIOR TO ORDERING OF EQUIPMENT. NO ADDITIONAL PAYMENT WILL BE MADE FOR LACK OF CONTRACTOR COORDINATION OF ELECTRICAL CHARACTERISTICS.
 - DURING CONSTRUCTION THE CONTRACTOR MAY UNCOVER AN EXISTING CONDITION THAT WILL HAVE TO BE MODIFIED. ANY SUCH WORK WHICH COMES UNDER THE JURISDICTION OF THIS CONTRACTOR SHALL BE DONE BY THIS CONTRACTOR WITHOUT EXTRA COST TO THE OWNER, AS THOUGH FULLY DETAILED ON PLANS AND/OR DESCRIBED IN THE SPECIFICATIONS.
 - ALL DIMENSIONS, MEASUREMENTS AND PROTECT CONDITIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR. REFER ALL DIFFERENCES, IN WRITING, TO THE OWNERS REPRESENTATIVE FOR CONSIDERATION PRIOR TO PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BEAR THE COST OF RECTIFYING WORK NOT APPROVED BY THE OWNERS REPRESENTATIVE, CAUSED BY LACK OF COORDINATION AND/OR NOTIFICATION.
 - INSTALL ALL EQUIPMENT IN FULL ACCORDANCE WITH LOCAL CODE REQUIREMENTS, OTHER SPECIFICATION SECTION REQUIREMENTS, AND MANUFACTURERS RECOMMENDATIONS.
- B. CODES, PERMITS, STANDARDS AND REGULATIONS
- CONFORM TO ALL APPLICABLE CODES: LOCAL, STATE, NATIONAL CODES, NFPA, OSHA, ETC.) GOVERNMENT REGULATIONS, UTILITY COMPANY REQUIREMENTS, AND APPLICABLE STANDARDS.
 - OBTAIN PERMITS AND PAY ALL FEES, ARRANGE FOR ALL REQUIRED INSPECTIONS AND APPROVALS.
- C. DRAWINGS
- THE SYSTEMS AS SHOWN ON DRAWINGS ARE DIAGRAMMATIC, CONFIRM ALL DIMENSIONS BY FIELD MEASUREMENT.
 - THE EXACT LOCATIONS FOR FIXTURES, EQUIPMENT AND PIPING WHICH IS NOT COVERED BY DRAWINGS, SHALL BE OBTAINED FROM THE ENGINEER OR ENGINEERS REPRESENTATIVE IN THE FIELD AND THE WORK SHALL BE DONE AND OF ACCORDINGLY.
- D. BASE EQUIPMENT, MATERIALS AND SUBSTITUTIONS
- ALL EQUIPMENT AND MATERIALS SHALL BE NEW, FREE OF DEFECTS AND U/L LABELED.
 - BASE BID MANUFACTURERS ARE INCLUDED IN THE SPECIFICATIONS OR LISTED IN THE NAME OR MAKE OF ANY ARTICLE, DEVICE, MATERIAL, FORM OF CONSTRUCTION, FIXTURE, ETC. STATED IN THIS SPECIFICATIONS, WHETHER OR NOT THE WORDS "OR APPROVED EQUAL" ARE USED, SHALL BE KNOWN AS A "STANDARD".
 - ALL PROPOSALS SHALL BE BASED ON "STANDARDS" SPECIFIED.
 - THE EQUIPMENT SCHEDULES ON THE DRAWINGS INDICATE MANUFACTURERS EQUIPMENT MODEL NUMBERS THAT THIS DESIGN HAS BEEN BASED ON. THE USE OF OTHER MANUFACTURERS EQUIPMENT THAT IS LISTED AS ACCEPTABLE ALTERNATES AND REFLECTS ANY ADDITIONAL COST OF SUCH CHANGES SHALL BE PAID BY THE CONTRACTOR.
 - SUBSTITUTIONS ARE SUBJECT TO THE APPROVAL OF THE OWNER. IF A SUBSTITUTION IS SUBMITTED, IT IS THE CONTRACTORS RESPONSIBILITY TO EVALUATE AND CERTIFY THAT THE SUBSTITUTION IS EQUIVALENT IN ALL RESPECTS TO THE BASE SPECIFICATIONS.
 - COORDINATE ALL APPROVED SUBSTITUTIONS, ANY COSTS RESULTING FROM SUBSTITUTION SHALL BE THE RESPONSIBILITY OF AND PAID FOR BY THE CONTRACTOR. APPROVED SHOP DRAWINGS DO NOT ASSUME THIS CONTRACTOR FROM THIS RESPONSIBILITY.
- E. ALL EQUIPMENT SHALL BE INSTALLED IN FULL ACCORDANCE WITH THE MANUFACTURERS DATA AND INSTALLATION INSTRUCTIONS. CONTRACTOR SHALL CONFIRM THESE REQUIREMENTS PRIOR TO STARTING WORK.
- F. WARRANTY
- FULLY WARRANT ALL MATERIALS, EQUIPMENT AND WORKMANSHIP FOR (1) YEAR FROM DATE OF ACCEPTANCE.
 - EXTEND ALL MANUFACTURERS WARRANTIES TO OWNER.
 - REPAIR OR REPLACE WITHOUT CHARGE TO THE OWNER ALL ITEMS FOUND DEFECTIVE DURING THE WARRANTY PERIOD. IN THE CASE OF REPLACEMENT OR REPAIR DUE TO FAILURE WITHIN THE WARRANTY PERIOD, THE WARRANTY ON THAT PORTION OF THE WORK SHALL BE EXTENDED FOR A MINIMUM PERIOD OF ONE (1) YEAR FROM THE DATE OF SUCH REPLACEMENT OR REPAIR.
- G. SHOP DRAWING SUBMITTALS
- SUBMIT SHOP DRAWINGS FOR MECHANICAL AND PLUMBING SYSTEMS, INCLUDING BUT NOT LIMITED TO SHEET METAL AND EQUIPMENT WITH ADEQUATE DETAILS AND SCALES TO CLEARLY SHOW CONSTRUCTION. INDICATE THE OPERATING CHARACTERISTICS FOR EACH REQUIRED ITEM. CLEARLY IDENTIFY EACH ITEM ON THE SUBMITTAL AS TO MAKE, LOCATION AND USE, USING SAME IDENTIFICATION AS PROVIDED ON THE CONSTRUCTION DOCUMENTS.
 - SHEET METAL DRAWINGS SHALL BE FULLY DIMENSIONED AND COORDINATED BASED ON FIELD VERIFIED BUILDING CLEARANCES AND ARCHITECTS CEILING LAYOUTS. INDICATE STRUCTURAL, LIGHTING, DUCTWORK AND PIPING AT ALL CRITICAL LOCATIONS.
 - CONTRACTOR SHALL REVIEW AND INDICATE THEIR APPROVAL OF EACH SHOP DRAWING PRIOR TO SUBMITTAL FOR REVIEW. SHOP DRAWINGS WILL NOT BE REVIEWED BY THE ENGINEER UNLESS THE CONTRACTORS APPROVAL IS NOTED. DO NOT START WORK OR FABRICATION UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED BY THE ENGINEER AND RETURNED TO THE CONTRACTOR.
 - SUBMITTALS WILL BE REVIEWED ONLY FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS AND NOT FOR DIMENSIONS OR QUANTITIES. THE SUBMITTAL REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PURCHASE OF ANY ITEM IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS OR ITS COMPLETE AND PROPER INSTALLATION.
 - WHERE SUBMITTALS VARY FROM THE CONTRACT REQUIREMENTS, THE CONTRACTOR SHALL CLEARLY INDICATE ON SUBMITTAL OR ACCOMPANYING DOCUMENTS THE NATURE AND REASON FOR THE VARIATIONS.
 - EACH MANUFACTURERS OR MANUFACTURERS REPRESENTATIVE MUST CHECK THE APPLICATION OF THEIR EQUIPMENT AND CERTIFY AT TIME OF SHOP DRAWING SUBMITTAL THAT THE EQUIPMENT SPECIFIED HAS BEEN PROPERLY APPLIED AND CAN BE INSTALLED, SERVICED AND MAINTAINED WHERE INDICATED ON THE DRAWINGS. ADVISE ENGINEER IN WRITING WITH SUBMITTAL DRAWINGS OF ANY POTENTIAL PROBLEMS. THE MANUFACTURER SHALL BE RESPONSIBLE FOR ANY CHANGES THAT MIGHT BE NECESSARY BECAUSE OF PHYSICAL CHARACTERISTICS OF EQUIPMENT THAT HAVE NOT BEEN CALLED TO THE ENGINEERS ATTENTION AT THE TIME OF SUBMITTAL.

BASIC MATERIALS AND METHODS

- A. GENERAL
- THIS SECTION INCLUDES BASIC MATERIALS AND METHODS TO COMPLEMENT OTHER SECTIONS IN THIS SPECIFICATION AND REQUIREMENTS INDICATED ON THE MECHANICAL DRAWINGS.
- B. SUPPORTS AND HANGERS
- INSTALL HANGERS, SUPPORTS, CLAMPS AND ATTACHMENTS AS REQUIRED TO PROPERLY SUPPORT PIPING FROM BUILDING STRUCTURE.
- C. ESCUTCHEONS
- FIT ALL PIPE PASSING THROUGH WALLS, FLOORS OR CEILINGS IN FINISHED ROOMS WITH STEEL OR BRASS ESCUTCHEONS, WHERE SURFACE IS TO RECEIVE A PAINT FINISH. MAKE ESCUTCHEONS PRIME PAINTED, OTHERWISE MAKE ESCUTCHEONS NICKEL OR CHROME PLATED, WHERE PIPING IS INSULATED, FIT ESCUTCHEONS OUTSIDE INSULATION.
- D. IDENTIFYING DEVICES AND LABELS
- PROVIDE METAL EQUIPMENT NAMEPLATES PERMANENTLY FASTENED TO EQUIPMENT WITH OPERATIONAL DATA ENGRAVED OR STAMPED.
 - IDENTIFY ALL PIPES AND VALVES IN EXPOSED AREAS, ABOVE ACCESSIBLE CEILINGS AND SHAFTS.
 - COLOR CODE IDENTIFICATION BANDS OR MARKER BACKGROUNDS TO IDENTIFY CONTENTS OF PIPE AND DIRECTION OF FLOW LOCATED NEAR EACH VALVE AND FITTING, ON BOTH SIDES OF PIPE PASSING THROUGH WALLS AND LONG RUNS AT NOT OVER 20 FOOT INTERVALS.

PIPING AND VALVES

- A. GENERAL
- LABEL ALL PIPING AND SHOW DIRECTION OF FLOW EVERY 20 FEET ON CENTER.
- B. CONNECTIONS TO EQUIPMENT
- PROVIDE ALL WATER AND/OR GAS CONNECTION FOR EQUIPMENT.
 - INCLUDE ACCESSORIES REQUIRED BY CODE, DRAWING OR MANUFACTURERS INSTRUCTIONS.
- C. CONDENSATE DRAIN PIPING
- INSTALL TYPE "M" COPPER CONDENSATE PIPING AT A MINIMUM 1% DOWNWARD SLOPE IN THE DIRECTION OF FLOW UNLESS OTHERWISE INDICATED. SCHEDULE 40 PVC PIPING SHALL BE AN ACCEPTABLE ALTERNATE.

HVAC SYSTEMS AND EQUIPMENT

- A. GENERAL
- CONTRACTORS BIDDING THIS PROJECT SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THEIR WORK. SUBMISSION OF A BID ON THIS PROJECT SHALL BE CONSTRUED AS HAVING SUCH KNOWLEDGE.
 - VERIFY EXACT CONDITIONS IN FIELD AND COORDINATE WITH THESE DRAWINGS AND OTHER TRADES BEFORE BEGINNING NEW WORK.
- B. SEE EQUIPMENT SCHEDULES ON MECHANICAL DRAWINGS
- DETERMINE EXACT LOCATIONS FOR ALL EQUIPMENT, PIPING, CONDUTS AND DUCTWORK IN FIELD.
 - COORDINATE WORK OF THIS CONTRACT WITH OTHER TRADES. CONFLICTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE SITE ENGINEERS. SITE ENGINEERS RESOLUTION TO CONFLICTS SHALL BE FINAL.
 - ANY DISCREPANCIES BETWEEN WHAT IS SHOWN ON DRAWINGS OR SPECIFIED AND THE ACTUAL CONDITIONS IN THE FIELD SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE SITE ENGINEERS BEFORE PROCEEDING.
 - BUILDING AND SURFACES DAMAGED DURING INSTALLATION SHALL BE REPAIRED, REPLACED, AND/OR RESTORED TO ORIGINAL CONDITION AFTER COMPLETION OF WORK AND BEFORE ACCEPTANCE BY OWNER.
- B. EQUIPMENT
- MECHANICAL CONTRACTOR TO FURNISH ALL HVAC EQUIPMENT INDICATED AND/OR SCHEDULED ON THE DRAWINGS COMPLETE WITH BASES, ISOLATORS, SUPPORTS AND OTHER REQUIRED ACCESSORIES.
 - INSTALL COMPLETE AND PLACE IN PROPER OPERATION PER MANUFACTURERS RECOMMENDATIONS, LUBRICATE AND ADJUST AS REQUIRED. FURNISH AND INSTALL CLEAN SET OF FILTERS PRIOR TO BALANCING.
 - EQUIPMENT TO BE MADE AND MODEL AS SCHEDULED UNLESS ALTERNATE EQUIPMENT OF EQUIVALENT QUALITY AND PERFORMANCE IS SUBMITTED AS A SUBSTITUTION PRIOR TO BIDDING. ALL SUBSTITUTIONS ARE SUBJECT TO ACCEPTANCE WITHOUT QUALIFICATION BY OWNER, ENGINEER AND SITE ENGINEERS.
- C. COOLING COIL CONDENSATE DRAIN
- PROVIDE EACH AIR CONDITIONING UNIT WITH A TRAPPED CONDENSATE DRAIN.

AIR DISTRIBUTION SYSTEMS

- A. GENERAL
- CONTRACTORS BIDDING THIS PROJECT SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THEIR WORK. SUBMISSION OF A BID ON THIS PROJECT SHALL BE CONSTRUED AS HAVING SUCH KNOWLEDGE.
 - VERIFY EXACT CONDITIONS IN FIELD AND COORDINATE WITH THE DRAWINGS AND OTHER TRADES BEFORE BEGINNING NEW WORK. DETERMINE EXACT LOCATIONS FOR ALL NEW DUCTWORK AND ACCESSORIES IN THE FIELD.
 - COORDINATE WORK OF THIS CONTRACT WITH OTHER TRADES.
 - ANY DISCREPANCIES BETWEEN WHAT IS SHOWN ON DRAWINGS OR SPECIFIED AND THE ACTUAL CONDITIONS IN THE FIELD SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE SITE ENGINEERS BEFORE PROCEEDING.
 - BUILDING AND SURFACES DAMAGED DURING INSTALLATION SHALL BE REPAIRED, REPLACED, AND/OR RESTORED TO ORIGINAL CONDITION AFTER COMPLETION OF WORK AND BEFORE ACCEPTANCE BY OWNER.
- B. DUCTWORK
- FABRICATE AND ERECT ALL DUCTWORK TO SMACNA STANDARDS FOR GALVANIZED STEEL. COMPLY WITH NFPA 90A REQUIREMENTS.
 - DUCTWORK SHALL BE SMACNA LOW PRESSURE CONSTRUCTION 7" STATIC PRESSURE RATING WITH SEAL CLASS B SEAMS AND JOINTS.
 - INCLUDE ALL ACOUSTIC, AIRFOIL SHAPED PERFORATED ALUMINUM TURNING VAINES, MANUAL DAMPERS, FLEXIBLE CONNECTORS, GRILLES AND DIFFUSERS, ACOUSTIC LINING, AND OTHER SHEET METAL ACCESSORIES FOR THE PROJECT.
 - ALL BRANCH CONNECTIONS SHALL BE AS PER THE DETAILS SHOWN ON THE DRAWINGS.
 - EXHAUST DUCT OUTLETS SHALL BE INSTALLED A MINIMUM OF 10 FEET FROM ALL OUTSIDE AIR INTAKES.
- C. HVAC INSULATION (AS MANUFACTURED BY OWENS CORNING, KNAUF, SKULLER, OR CERTAINTEE)
- INSULATE ALL NON-LINED SUPPLY, RETURN, AND EXHAUST DUCTS WITH 1-1/2" THICK FOL FACED REINFORCED KRAFT JACKET, FIBERGLASS DUCT WRAP FULLY SECURED TO DUCT LAP AND TAPE SEAMS AND SECURE TIGHTLY TO THE DUCTS WITH WIRE OR STICK PINS.
 - INSULATE ALL SUPPLY AND RETURN DUCTS LOCATED IN UNCONDITIONED SPACES OR OUTSIDE OF BUILDING WITH 3" THICK FOL FACED REINFORCED KRAFT JACKET, FIBERGLASS DUCT WRAP FULLY SECURED TO DUCT.
 - INSTALL A PVC JACKET ON ALL INSULATED DUCTWORK LOCATED OUTSIDE OF BUILDING.
 - ALL INSULATION TO BE APPLIED IN FULL ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND COMPLY WITH 25/50 FLAME AND SMOKE HAZARD RATINGS PER ASTM E 84, NFPA 255 AND UL 723.
 - INSULATE AIR CONDITIONING CONDENSATE DRAIN PIPING WITH 1" THICK MOLDED FIBER GLASS INSULATION.
 - INSULATE REPRESENT PIPING WITH 1" THICK ELASTOMER.
 - COVER ALL EXPOSED REFRIGERANT PIPING ON EXTERIOR OF BUILDING WITH ALUMINUM.
- D. DUCT LINER
- DUCT DIMENSIONS INDICATED ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS (FREE AREA).
 - DUCT LINER SHALL COMPLY WITH NFPA 90A AND 90B REQUIREMENTS AND NAIMA "VIBROGLASS GLOSS DUCT LINER STANDARD".
- E. GRILLES, REGISTERS AND DIFFUSERS
- SUPPLY DIFFUSERS SHALL BE SQUARE 24"x24" WITH THREE CONE AIR DISTRIBUTION.
 - SUPPLY GRILLES SHALL BE STEEL DOUBLE DEFLECTION OF THE SIZE AND MOUNTING SHOWN ON PLAN.
 - DEFLECTIONS BLADES SHALL BE SPACED ON 3/4 CENTERS AND HAVE STEEL FRICTION PIVOTS ON BOTH ENDS TO ALLOW INDIVIDUAL BLADE ADJUSTMENT WITHOUT LOOSENING OR RATTLING.
 - RETURN GRILLES SHALL BE COGGRATE WITH 1/2"x1/2"x1/2" COKE ALUMINUM BORDER.
 - RETURN REGISTERS SHALL BE STEEL OF SIZE AND MOUNTING SHOWN ON PLANS.
- F. EQUIPMENT TRAINING
- HVAC EQUIPMENT SUPPLIER TO PROVIDE OAM TRAINING OF EQUIPMENT TO OWNER. TRAINING SHALL BE A MINIMUM OF 3 HOURS.

HVAC INSTRUMENTS AND CONTROLS

- A. GENERAL
- PROVIDE NEW CONTROL DEVICES INCLUDING THERMOSTATS, STAGING RELAYS AND OTHER RELATED DEVICES FOR A COMPLETE OPERATIONAL SYSTEM PER THE OPERATING SEQUENCES AND INDUSTRY STANDARDS.
 - MOUNT ALL CONTROLS FURNISHED AS ACCESSORIES TO EQUIPMENT AND PROVIDE ALL CONTROL WIRING REQUIRED FOR PROPER OPERATION. ALL WIRING SHALL BE IN CONDUIT PER N.E.C. AND LOCAL CODE REQUIREMENTS.
 - FURNISH AND WIRE PHOTO-ELECTRIC DUCT SMOKE DETECTORS AT EACH UNIT TO SHUT DOWN FAN UPON ACTIVATION. DETECTOR SHALL BE LOCATED IN THE SUPPLY AIR DUCT OF THE UNIT CONNECTION. DETECTOR WILL HAVE MANUAL RESET AND WILL ACTIVATE A LOCAL ALARM PANEL.
- START UP
- A. GENERAL
- AFTER INSTALLATION, CHECK ALL EQUIPMENT AND PERFORM START UP IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.
 - ALL PIPING SHALL BE TESTED AND FREE OF LEAKS AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
 - WORK THAT IS SCHEDULED TO BE CONCEALED OR INSULATED SHALL REMAIN UNCOVERED UNTIL REQUIRED TESTS HAVE BEEN COMPLETED. IF THE CONSTRUCTION SCHEDULE REQUIRES, ARRANGE FOR TESTS ON SECTIONS OF THE SYSTEM AT A TIME.
 - BALANCE ALL SYSTEMS, CALIBRATE CONTROLS, CHECK FOR PROPER OPERATION AND SEQUENCE UNDER ALL CONDITIONS AND MAKE ALL NECESSARY ADJUSTMENTS.
 - INSTRUCT OWNER IN OPERATION OF SYSTEMS AND SUBMIT OPERATING AND MAINTENANCE MANUAL FOR ALL EQUIPMENT AND SYSTEMS.

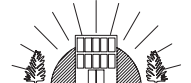
TESTING, ADJUSTING, AND BALANCING

- A. BALANCING, START UP AND INSTRUCTIONS
- AFTER EQUIPMENT IS PLACED IN OPERATION, SYSTEMS SHALL BE BALANCED TO WITHIN 10% OF DESIGN FLOW WITH REPORT SUBMITTED TO OWNER. BALANCING SHALL BE PERFORMED BY AN INDEPENDENT AABC OR NEBB CERTIFIED CONTRACTOR.
 - BALANCE THE AIR SYSTEMS PRIOR TO BALANCING HYDRONIC AND REFRIGERANT SYSTEMS.
 - TEST, ADJUST AND BALANCE COOLING SYSTEMS DURING SUMMER SEASON AND HEATING SYSTEMS DURING WINTER SEASON. BALANCE SYSTEMS WHEN THE OUTSIDE AIR CONDITIONS ARE WITHIN 9 DEGREES F WET BULB TEMPERATURE OF THE MAXIMUM SUMMER DESIGN CONDITION AND WITHIN 10 DEGREES F DRY BULB TEMPERATURE OF THE MINIMUM WINTER DESIGN CONDITION.
 - START UP AND PLACE ALL SYSTEMS IN OPERATION AND TAG ALL SWITCHES AND CONTROLS WITH PERMANENT LABELS INSTRUCT OWNER ON PROPER OPERATION AND PREVENTATIVE MAINTENANCE OF SYSTEM.



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REV #	ISSUES / REVISIONS	DATE
	SCHEMATIC DESIGN	5.18.2020
	PROGRESS SET	8.14.2020
	BID SET	1.25.2021

DRAWN BY: KMO
DESIGNED BY: KMO
REVIEWED BY: MNO

PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
176 DIVISION AVE.
ORMOND BEACH, FL. 32174

SHEET TITLE
MECHANICAL
SPECIFICATIONS

SHEET #
MO.0

MINDY N. O'NEAL
FL# 69779

PROJECT # 020005 DATE: 12.09.2019

HVAC SYMBOLS		TESTING AND BALANCING NOTES	
SYMBOL	DESCRIPTION		
	NEW DUCT WORK	1. CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE TESTING, ADJUSTING AND BALANCING FOR THIS PROJECT. TESTING, ADJUSTING AND BALANCING SHALL BE DONE IN ACCORDANCE WITH THESE NOTES.	
	FLEXIBLE DUCT	2. THE FOLLOWING MECHANICAL (HVAC) SYSTEMS SHALL BE TESTED, ADJUSTED AND BALANCED: A. ROOFTOP AIR CONDITIONING UNITS AND RELATED SUPPLY AND RETURN DUCTWORK, INCLUDING ALL AIR INLETS AND OUTLETS AND ROOFTOP UNIT OUTSIDE AIR. B. AIR HANDLING UNITS AND RELATED SUPPLY AND RETURN DUCTWORK, INCLUDING ALL AIR INLETS AND OUTLETS AND AIR HANDLING UNIT OUTSIDE AIR. C. EXHAUST FANS. D. COMMERCIAL KITCHEN HOODS, COMMERCIAL KITCHEN HOOD EXHAUST FANS, COMMERCIAL KITCHEN HOOD MAKEUP AIR FANS. E. PROVIDE A COMMERCIAL KITCHEN HOOD PERFORMANCE TEST AND CAPTURE AND CONTAINMENT TEST. PERFORM THESE TESTS PER SECTION 907 & 907.6.1 OF THE FLORIDA BUILDING CODE SEVENTH EDITION 2020, MECHANICAL.	
	SUPPLY AIR DUCT WORK	3. PRIOR TO COMMENCING ANY WORK, REVIEW CONTRACT DOCUMENTS, TESTING/ADJUSTING AND BALANCING STRATEGIES AND STEP-BY-STEP PROCEDURES.	
	RETURN AIR OR EXHAUST DUCT WORK	4. CONTRACTOR PROVIDING TESTING, ADJUSTING AND BALANCING SHALL BE CERTIFIED BY EITHER ASBC OR NEBB.	
	DUCT WORK TRANSITION	5. TESTING, ADJUSTING AND BALANCING REPORT FORMS SHALL BE STANDARD FORMS FROM EITHER ASBC OR NEBB.	
	90° ELBOW WITH TURNING VANES	6. CONTRACTOR SHALL COORDINATE THE EFFORTS OF FACTORY AUTHORIZED SERVICE REPRESENTATIVES FOR SYSTEMS AND EQUIPMENT. HVAC CONTROLS INSTALLERS, AND OTHER MECHANICS TO OPERATE HVAC SYSTEMS AND EQUIPMENT TO SUPPORT AND ASSIST THE TESTING, ADJUSTING AND BALANCING ACTIVITIES.	
	RADIUS ELBOW	7. CONTRACTOR SHALL VERIFY QUANTITIES AND LOCATIONS OF BALANCING DEVICES. CONTRACTOR SHALL VERIFY THAT THESE BALANCING DEVICES ARE ACCESSIBLE AND APPROPRIATE FOR BALANCING AND FOR EFFICIENT SYSTEM EQUIPMENT OPERATION PRIOR TO COMMENCEMENT OF WORK.	
	MANUAL AIR VOLUME CONTROL DAMPER	8. CONTRACTOR SHALL PERFORM TESTING AND BALANCING PROCEDURES IN EACH AIR AND WATER SYSTEM.	
	SUPPLY AIR DEVICE	9. HVAC SYSTEM AIR AND WATER FLOW RATES SHALL BE WITHIN THE FOLLOWING TOLERANCES: A. SUPPLY: PLUS 5 TO PLUS 10 PERCENT B. RETURN: PLUS 5 TO PLUS 10 PERCENT C. EXHAUST FANS: PLUS 5 TO PLUS 10 PERCENT D. EQUIPMENT WITH FANS: PLUS 5 TO PLUS 10 PERCENT E. AIR OUTLETS AND INLETS: 0 TO MINUS 10 PERCENT F. DOMESTIC HOT WATER RECIRCULATING FLOW RATE: 0 TO MINUS 10 PERCENT.	
	RETURN AIR DEVICE	10. FINAL BALANCING REPORT SHALL INCLUDE THE FOLLOWING: A. TEST CONDITIONS FOR FANS AND PUMPS B. SYSTEMS DIAGRAMS C. AIR CONDITIONING UNIT TEST REPORTS D. APPARATUS COIL TEST REPORTS E. GAS-FIRED HEAT APPARATUS TEST REPORTS F. ELECTRICAL COIL TEST REPORTS G. FAN TEST REPORTS H. DUCT TRANSVERSE REPORTS I. AIR TERMINAL DEVICE REPORTS J. SYSTEM COIL REPORTS K. PUMP TEST REPORTS	
	EXHAUST AIR DEVICE	11. ADDITIONAL TESTING AND BALANCING SHALL BE MADE AS DIRECTED BY THE DESIGN ENGINEER TO CORRECT UNUSUAL CONDITIONS. ADDITIONAL TESTING WILL NOT EXCEED THREE DAYS DURING THE FIRST SIX MONTHS OF OPERATION.	
	WALL MOUNTED THERMOSTAT	12. IF INITIAL TESTING AND BALANCING PROCEDURES WERE NOT PERFORMED DURING THE NEAR PEAK SUMMER AND WINTER CONDITIONS, PERFORM ADDITIONAL TESTING, ADJUSTING AND BALANCING DURING NEAR PEAK SUMMER AND WINTER CONDITIONS.	
	WALL MOUNTED TEMPERATURE SENSOR	13. CONTRACTOR TO PROVIDE THREE (3) COPIES OF THE TESTING, ADJUSTING AND BALANCING REPORT FOR REVIEW.	
	STATIC PRESSURE SENSOR		
	ANSUL SYSTEM PULL STATION		
	DUCT SMOKE DETECTOR		
	DIFFUSER DEVICE TYPE - AIR QUANTITY		
	TYPICAL		
	EXISTING		
	EQUIPMENT DESIGNATION TAG		
	1° DOOR UNDERCUT		
	REVISION REFERENCE		
	REFRIGERATION PIPING		
	CONDENSATE PIPING ON ROOF		
	CONDENSATE DRAIN PIPING		
	FIRE DAMPER		
	SMOKE DAMPER		
	FIRE/SMOKE DAMPER		
	CLEANOUT		
	ACCESS DOOR/PANEL		

FLORIDA BUILDING CODE SEVENTH EDITION (2020) ENERGY CONSERVATION COMPLIANCE

THE REQUIREMENTS OF SECTION CH20.5, CH20.2, CH24, CH25.2, CH26.1, CH26.4, CH26.6 AND CH27 OF THE BUILDING ENERGY CODE SHALL BE EQUAL TO OR LESS THAN 60 PERCENT OF THE STANDARD REFERENCE DESIGN BUILDING.

DRAWING INDEX	
SHEET NUMBER	TITLE
MO.0	Mechanical Specifications
MO.1	Mechanical General Information
MO.2	Mechanical Schedule
MO.3	Mechanical First Floor Plan
MO.4	Mechanical Details

MECHANICAL GENERAL NOTES

- ALL MECHANICAL WORK SHALL MEET ALL THE REQUIREMENTS OF THE FLORIDA BUILDING CODE SEVENTH EDITION 2020, MECHANICAL.
- CONTRACTOR TO VISIT SITE AND VERIFY ALL CLEARANCES BEFORE FABRICATION OF DUCTWORK AND PROVIDE ADDITIONAL OFFSET AND/OR CHANGES IN DUCT SIZES TO MEET FIELD CONDITIONS AND COORDINATE WITH ELECTRICAL, PLUMBING, AND FIRE PROTECTION SUBCONTRACTOR BEFORE ANY CONSTRUCTION WORK.
- PROVIDE EQUIPMENT GUARDS AT ALL EQUIPMENT WITHIN 10 FEET OF A ROOF EDGE OR OPEN SIDE OF WALKING SURFACE THAT IS OVER 30" ABOVE FLOOR GRADE.
- OUTSIDE AIR INTAKES, ROOFTOP UNITS, GRAVITY ROOF VENTS, LOUVERS SHALL MAINTAIN A MINIMUM OF 10" FROM ANY EXHAUST OUTLET OR SANITARY VENT.
- PROVIDE ALL MECHANICAL EQUIPMENT WITH MANUFACTURER'S RECOMMENDED SERVICE AREA CLEARANCES.
- ALL ROOF TOP UNITS SHALL BE CONSTRUCTED AND INSTALLED TO WITHSTAND LOCAL WIND LOAD DESIGN.
- DUCT SMOKE DETECTORS SHALL BE FURNISHED BY THE FIRE ALARM CONTRACTOR, INSTALLED IN DUCT BY THE MECHANICAL CONTRACTOR AND WIRED BY THE FIRE ALARM CONTRACTOR. SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72, NATIONAL FIRE ALARM CODE NFPA 96, STANDARD FOR INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS, FLORIDA BUILDING CODE SEVENTH EDITION 2020, MECHANICAL, AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. COORDINATE LOCATION OF SMOKE DETECTORS WITH FIRE ALARM CONTRACTOR. PROVIDE A VISIBLE/ACCESSIBLE NOTIFICATION PANEL. MAKE SYSTEM SENSOR FITS OR EQUAL, COMPATIBLE WITH BUILDING FIRE ALARM SYSTEM.
- PLANS AND DIAGRAMS ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED.
- PROVIDE EXTERNAL DUCT INSULATION FOR SUPPLY, RETURN AND OUTSIDE AIR DUCTWORK. DUCTWORK INSULATION SHALL BE FOIL FACED FIBERGLASS DUCT WRAP WITH A MINIMUM THERMAL RESISTANCE (R) OF 6.0. INSULATION SHALL HAVE VAPOR BARRIER. INSTALL PER MFR. REQUIREMENTS.
- COORDINATE CEILING MOUNTED DIFFUSERS, REGISTERS, AND GRILLES AND OTHER CEILING MOUNTED EQUIPMENT WITH OTHER CEILING MOUNTED EQUIPMENT. (SEE REFLECTED CEILING PLAN).
- DUCTWORK, DIFFUSERS, REGISTERS, GRILLES, AND OTHER ITEMS OF THE AIR HANDLING SYSTEM SHALL NOT BE SUPPORTED BY THE CEILING OR CEILING SUSPENSION SYSTEM.
- CONTRACTOR TO PROVIDE ALL SUPPLEMENTARY STEEL REQUIRED TO SUPPORT MECHANICAL EQUIPMENT & MATERIALS. INSTALLATION OF EQUIPMENT SHALL COMPLY WITH MANUFACTURER'S SPECIFICATIONS AND CLEARANCE REQUIREMENTS FOR SERVING OF EQUIPMENT.
- VERIFY VOLTAGE REQUIREMENTS WITH ELECTRICAL CONTRACTOR BEFORE ORDERING EQUIPMENT.
- PROVIDE A TRAP & AIR CONDENSATE PIPING SERVING AIR HANDLING UNITS AND ROOFTOP UNITS. SLOPE CONDENSATE LINE 1/8" PER FOOT. ALL CONDENSATE DRAIN PIPING SHALL BE PROPERLY SUPPORTED.
- GUARANTEE FOR ONE YEAR AFTER DATE OF ACCEPTANCE BY THE OWNER. ALL EQUIPMENT, MATERIALS AND WORKMANSHIP TO BE FREE FROM DEFECT.
- DO NOT CUT STRUCTURAL MEMBERS WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
- FLEXIBLE AND RIGID ROUND DUCT TAKE-OFFS FOR DIFFUSERS SHALL BE THE SAME SIZE AS DIFFUSER NECK. MAXIMUM FLEXIBLE DUCT LENGTH SHALL BE 8'-0". FLEXIBLE DUCT SHALL BE THERMOPLASTIC PVC OR EQUAL. FLEXIBLE DUCT SHALL BE INSTALLED FIBERGLASS, R-6 CLASS 1, ULTRALISTED AND COMPLY WITH NFPA 96A AND NFPA 90B.
- ALL WALL MOUNTED THERMOSTATS AND HUMIDISTATS SHALL BE INSTALLED AT AN ELEVATION OF 5'4" ABOVE FINISHED FLOOR TO THE TOP UNLESS OTHERWISE NOTED ON DRAWINGS. LOCATION OF THE WALL MOUNTED THERMOSTAT SHALL BE COORDINATED WITH OTHER TRADES FOR A NEAT APPEARANCE. WALL LOCATION OF THERMOSTAT SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER OR HIS REPRESENTATIVE IN THE FIELD.
- PROVIDE FLEXIBLE NEOPRENE DUCT CONNECTORS ON THE DISCHARGE AND ENTERING SIDES OF ROOFTOP UNITS, AIR HANDLING UNITS, FANS AND OTHER VIBRATING EQUIPMENT TO WHICH DUCTWORK IS ATTACHED.
- PROVIDE ACCESS DOORS IN HARD CEILINGS OR WALLS REQUIRING ACCESS TO VALVES, FIRE DAMPERS, BALANCING DAMPERS, VOLUME DAMPERS OR OTHER PARTS OF THE SYSTEM WHICH REQUIRE OPERATION AND MAINTENANCE AND ARE LOCATED AT INACCESSIBLE AREAS. MAKE MILCOR MODEL F FOR CEILING LOCATION, MILCOR MODEL M FOR WALL LOCATION. INSTALL FOR DOWNWARD OPENING IN CEILING LOCATIONS.
- COORDINATION: CONTRACTOR SHALL COORDINATE ITS CONSTRUCTION OPERATIONS WITH THOSE OF OTHER CONTRACTORS AND SUBMITTALS TO INSURE EFFICIENT AND ORDERLY INSTALLATION OF EACH PART OF THE WORK. CONTRACTOR SHALL COORDINATE ITS OPERATIONS WITH OTHER CONTRACTORS OPERATIONS, THAT DEPEND ON EACH OTHER FOR PROPER INSTALLATION, CONNECTION AND OPERATION.
- REFER TO ARCHITECTURAL DRAWINGS FOR ALL RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. CHASE AND WALL PENETRATIONS INTENDED FOR DUCTWORK AND PIPING SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION.
- MECHANICAL EQUIPMENT, DUCTWORK AND PIPING IS SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENT AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. FIELD VERIFY FINAL LOCATIONS TO INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
- WHEN THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS NOT CLEAR, OR IS CAPABLE OF MORE THAN ONE INTERPRETATION, SUCH MATTERS WILL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER IN WRITING BEFORE THE SUBMISSION OF BID. THE ARCHITECT/ENGINEER SHALL MAKE CORRECTION OR EXPLANATION IN WRITING.
- PLANS AND SPECIFICATIONS ARE INTENDED AS A GENERAL DESCRIPTION OF THE WORK TO BE PERFORMED. ALL ITEMS NOT SPECIFICALLY MENTIONED OR SHOWN, BUT NECESSARY FOR THE COMPLETION OF THE INSTALLATION, SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. THIS CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE MECHANICAL, ARCHITECTURAL, STRUCTURAL AND ELECTRICAL PLANS BEFORE SUBMITTING HIS FINAL BID. NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO THE CONTRACTOR'S FAILURE TO FAMILIARIZE HIMSELF HERSELF WITH THE PLANS.
- CONTRACTOR SHALL ENGAGE A FACTORY AUTHORIZED SERVICE REPRESENTATIVE FOR START-UP TO INSPECT, TEST AND ADJUST FIELD-ASSEMBLED COMPONENTS AND EQUIPMENT INSTALLATION, INCLUDING CONNECTIONS AND PERFORM THE FOLLOWING FIELD TESTS AND INSPECTIONS:
 - LEAK TEST: AFTER INSTALLATION, CHARGE SYSTEM AND TEST FOR LEAKS. REPAIR LEAKS AND RETEST UNTIL NO LEAKS EXIST.
 - OPERATIONAL TEST: AFTER ELECTRICAL CHARGITY HAS BEEN ENERGIZED, START UNITS TO CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATION.
 - TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.
 - REPORT TESTING RESULTS IN WRITTEN REPORT.

SUBMITTALS AND SUBSTITUTIONS

- CONTRACTOR SHALL SUBMIT THE FOLLOWING EQUIPMENT FOR REVIEW PRIOR TO ORDERING AND INSTALLING:
 - AIR HANDLING UNITS AND AIR COOLED CONDENSERS
 - DIFFUSERS AND REGISTERS
 - EXHAUST FANS
 - DUCT WORK
 - DUCT CONSTRUCTION STANDARDS
- PROCESSING TIME: ALLOW 10 WORKING DAYS FOR REVIEW OF EACH SUBMITTAL. ALLOW ADDITIONAL TIME IF COORDINATION WITH SUBSEQUENT SUBMITTALS IS REQUIRED. ENGINEER WILL ADVISE CONTRACTOR WHEN A SUBMITTAL BEING PROCESSED MUST BE DELAYED FOR COORDINATION.
- SUBMITTALS: PLACE A PERMANENT LABEL OR TITLE BLOCK ON EACH SUBMITTAL ITEM FOR IDENTIFICATION. INDICATE NAME OF FIRM OR ENTITY THAT PREPARED EACH SUBMITTAL ON LABEL OR TITLE BLOCK. PROVIDE A SPACE INSIDE TITLE BLOCK TO RECORD CONTRACTOR'S REVIEW AND APPROVAL MARKINGS AND ACTION TAKEN BY ENGINEER. INCLUDE THE FOLLOWING INFORMATION FOR PROCESSING AND RECORDING ACTION TAKEN:
 - A. PROJECT NAME
 - B. DATE
 - C. NAME OF ENGINEER
 - D. NAME OF CONTRACTOR
 - E. NAME OF SUBCONTRACTOR
 - F. NAME OF SUPPLIER
 - G. NAME OF MANUFACTURER
 - H. DRAWING NUMBER AND DETAIL REFERENCES, AS APPROPRIATE
 - I. LOCATION INSIDE PRODUCT IS TO BE INSTALLED, AS APPROPRIATE.
- SUBMIT ELECTRONIC SUBMITTALS VIA EMAIL AS PDF ELECTRONIC FILES.
- PAPER SUBMITTALS: SUBMIT THREE PAPER COPIES OF EACH SUBMITTAL UNLESS OTHERWISE INDICATED. ENGINEER WILL RETURN TWO COPIES.
- COLLECT SUBMITTAL DATE INFORMATION INTO A SINGLE SUBMITTAL FOR EACH ELEMENT OF CONSTRUCTION AND TYPE OF PRODUCT OR EQUIPMENT. MARK EACH COPY OF EACH SUBMITTAL TO SHOW WHICH PRODUCTS AND OPTIONS ARE APPLICABLE. INCLUDE THE FOLLOWING INFORMATION AS APPLICABLE:
 - A. MANUFACTURER'S CATALOG CUTS
 - B. MANUFACTURER'S PRODUCT SPECIFICATIONS
 - C. STATEMENT OF COMPLIANCE WITH SPECIFIED REFERENCES/ STANDARDS
 - D. NOTATION OF COORDINATION REQUIREMENTS
 - E. WIRING DIAGRAMS SHOWING FACTORY INSTALLED WIRING
 - F. PRINTED PERFORMANCE CURVES
 - G. OPERATIONAL RANGE DIAGRAMS
 - H. CLEARANCES REQUIRED TO OTHER CONSTRUCTION, IF NOT INDICATED ON ACCOMPANYING SHOP DRAWINGS.
- CONTRACTOR SHALL REVIEW EACH SUBMITTAL AND CHECK FOR COORDINATION WITH OTHER WORK OF THE CONTRACT AND FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. NOTE CORRECTIONS AND FIELD DIMENSIONS. MARK WITH APPROVAL STAMP BEFORE SUBMITTING TO ARCHITECT. APPROVAL STAMP: STAMP SHALL STATE THAT SUBMITTAL HAS BEEN REVIEWED, CHECKED, AND APPROVED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS AND INSTALLED AND DATED BY CONTRACTOR.
- ENGINEER WILL REVIEW EACH SUBMITTAL. MAKE MARKS TO INDICATE CORRECTIONS OR REVISIONS REQUIRED, AND RETURN IT. ENGINEER WILL STAMP EACH SUBMITTAL WITH AN ACTION STAMP AND WILL MARK STAMP APPROPRIATELY TO INDICATE ACTION.
- ENGINEER WILL NOT REVIEW SUBMITTALS THAT DO NOT BEAR CONTRACTORS APPROVAL STAMP AND INITIALS AND WILL RETURN THEM WITHOUT ACTION. INCOMPLETE SUBMITTALS ARE UNACCEPTABLE. WILL BE CONSIDERED NONRESPONSIVE, AND WILL BE RETURNED FOR RESUBMITTAL WITHOUT REVIEW. SUBMITTALS NOT REQUIRED BY THE CONTRACT DOCUMENTS MAY NOT BE REVIEWED AND MAY BE DISCARDED.
- SUBSTITUTIONS
 - A. SUBSTITUTION OFFERS OWNER A SUBSTANTIAL ADVANTAGE IN COST, TIME, ENERGY CONSERVATION, OR OTHER CONSIDERATIONS.
 - B. SUBSTITUTION DOES NOT REQUIRE EXTENSIVE REVISIONS TO THE CONTRACT DOCUMENTS. CONTRACTOR SHALL COMPENSATE ENGINEER FOR ANY REDESIGN AND EVALUATION SERVICES INCLUDING DESIGN CHANGES REQUIRED BY AUTHORITY HAVING JURISDICTION.
 - C. SUBSTITUTION WILL NOT ADVERSELY AFFECT CONSTRUCTION SCHEDULE.
 - D. SUBSTITUTION HAS RECEIVED NECESSARY APPROVALS OF AUTHORITY HAVING JURISDICTION.
 - E. SUBSTITUTION HAS BEEN COORDINATED WITH OTHER PORTIONS OF THE WORK.
 - F. SUBSTITUTION PROVIDES SPECIFIED WARRANTY.
 - G. SUBSTITUTION HAS BEEN COORDINATED WITH OTHER PORTIONS OF THE WORK, AND IS ACCEPTABLE TO ALL CONTRACTORS INVOLVED.
 - H. CONTRACTOR SHALL ASSUME ANY ADDITIONAL CONSTRUCTION COSTS AS A RESULT OF THE SUBSTITUTION.

DUCT CONSTRUCTION NOTES

- SUPPLY AIR, RETURN AIR, OUTSIDE AIR, AND EXHAUST AIR DUCTWORK SHALL BE GALVANIZED SHEET METAL, EXCEPT WHERE INDICATED. METALLIC DUCTS SHALL BE CONSTRUCTED AND INSTALLED PER THE FLORIDA BUILDING CODE SEVENTH EDITION 2020, MECHANICAL, AND THE 2005 EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE MANUAL.
- METAL DUCT STATIC PRESSURE CLASSIFICATION:
SUPPLY AIR DUCT: 2" W.G.
RETURN AIR DUCT: 2" W.G. (NEGATIVE)
EXHAUST AIR DUCT: 2" W.G. (NEGATIVE)
- SEAL ALL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS PER THE FLORIDA BUILDING CODE SEVENTH EDITION 2020, ENERGY CONSERVATION TABLE CH24.2.8.2 AND THE 2005 EDITION OF SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE.
- CROSS-BREAK DUCT SURFACES 19" THROUGH 60" USE ANGLE REINFORCING FOR DUCT SIZES OVER 60".
- ALL METAL LONGITUDINAL SEAMS SHALL BE PITTSBURGH OR OTHER SMACNA LISTED SEAMS. DO NOT USE BUTT PUNCH SNAPBACK SEAMS.
- SUPPLEMENT METAL DUCTWORK NOT EXCEEDING 30" LONGEST SIDE, AT EVERY JOINT, UNTIL TO EXCEED 30" (3") USING 1/4" GAUGE 30" LONGEST STRIPS ATTACHED TO BOTTOM AND SIDE OF DUCT.
- SUPEND METAL DUCTWORK, EXCEEDING 30" LONGEST SIDE, AT MAXIMUM 8'-0" INTERVALS USING ANGLES AND RODS.
- SUPPORT DUCTWORK AND EQUIPMENT FROM STRUCTURAL MEMBER. ATTACHMENT TO ROOF DECK IS NOT ACCEPTABLE.
- DUCT SIZES MUST BE VERIFIED FOR CLEARANCES AT THE JOB SITE PRIOR TO FABRICATION. DIMENSIONS MAY BE CHANGED TO ACCOMMODATE CONSTRUCTION. SUBMIT ALL MODIFICATION TO DESIGN ENGINEER FOR APPROVAL.
- DUCT TRANSITIONS MUST BE CONSTRUCTED WITH SLOPE OF 1/4".
- TURNING VANES SHALL BE PROVIDED IN ALL SUPPLY DUCT RECTANGULAR ELBOWS WITH AN ANGLES BETWEEN 15 DEGREES AND LESS THAN 90 DEGREES FOR THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS MANUAL.
- DUCT DIMENSIONS SHOWN ON DRAWING ARE CLEAR INSIDE DIMENSIONS, WHERE DUCT LINER IS SHOWN INCREASE METAL DUCT SIZE TO ALLOW FOR DUCT LINER.
- UNLESS OTHERWISE NOTED, INSTALL DUCTWORK AS HIGH AS POSSIBLE, TIGHT TO BOTTOM OF STRUCTURE. COORDINATE DUCT ELEVATION WITH OTHER LEADERS, WATER PIPING, SANITARY DRAINS, MAJOR ELECTRICAL CONDUIT, LIGHTING FIXTURES, ETC.



ARCHITECT:



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EOR: J. Matthew Lowe FL PE: 59027

CONSULTANTS:		
REV #	ISSUES / REVISIONS	DATE
1	SCHEMATIC DESIGN	5.18.2020
2	PROGRESS SET	8.14.2020
3	BID SET	1.25.2021
4		
5		
6		
7		
8		
9		
10		

DRAWN BY: KMO
DESIGNED BY: KMO
REVIEWED BY: MNO

PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
176 DIVISION AVE.
ORMOND BEACH, FL. 32174

SHEET TITLE
MECHANICAL
GENERAL INFORMATION

SHEET #
MO.1

MINDY N. O'NEAL
FL# 69779

PROJECT # 020005 DATE: 12.09.2019

AIR DEVICE SCHEDULE							
TAG	MFG. CAT.#	TYPE	NECK	SEAM	FINISH	NOTES	
A	PRICE: 620	SAR	SEAL PLANS	SEAL PLANS	SAK, WHIT, ENAMEL	1.24	
B	PRICE: 90	NAR	SEAL PLANS	SEAL PLANS	SAK, WHIT, ENAMEL	1.2	

DEVICE TYPE LEGEND:

- CD = CEILING DIFFUSER
- RAH = RETURN AIR REGISTER
- EAR = EXHAUST AIR REGISTER
- SAR = SUPPLY AIR REGISTER

NOTES:

1. PROVIDE CEILING DEVICES WITH PROPER FRAME STYLE TO MATCH CEILING TYPE AS CALLED FOR BY ARCHITECT.
2. CEILING DEVICES SHALL BE IN HAND TRUCK UNLESS NOTED OTHERWISE OR SHOWN ON PLANS WITH DIRECTIONAL ARROWS.)
3. IF NECESSARY, PROVIDE TOP FOR GRILLS AND REGISTERS OR DOWN DRAINS ON PLANS.
4. PROVIDE EQUALIZING GRID (PRICE MODEL FR) FOR DIFFUSERS TAPPED DIRECTLY FROM BOTTOM OF DUCT. PROVIDE OPPOSED GRILLS FOR DIFFUSERS.
5. PROVIDE OPPOSED BLADE DAMPER ON EXHAUSTS.

[illegible]

P.O. BOX 530267
DeBary, FL 32753



EOR: J. Matthew Lowe FL PE: 59027

REV #	ISSUES / REVISIONS	DATE
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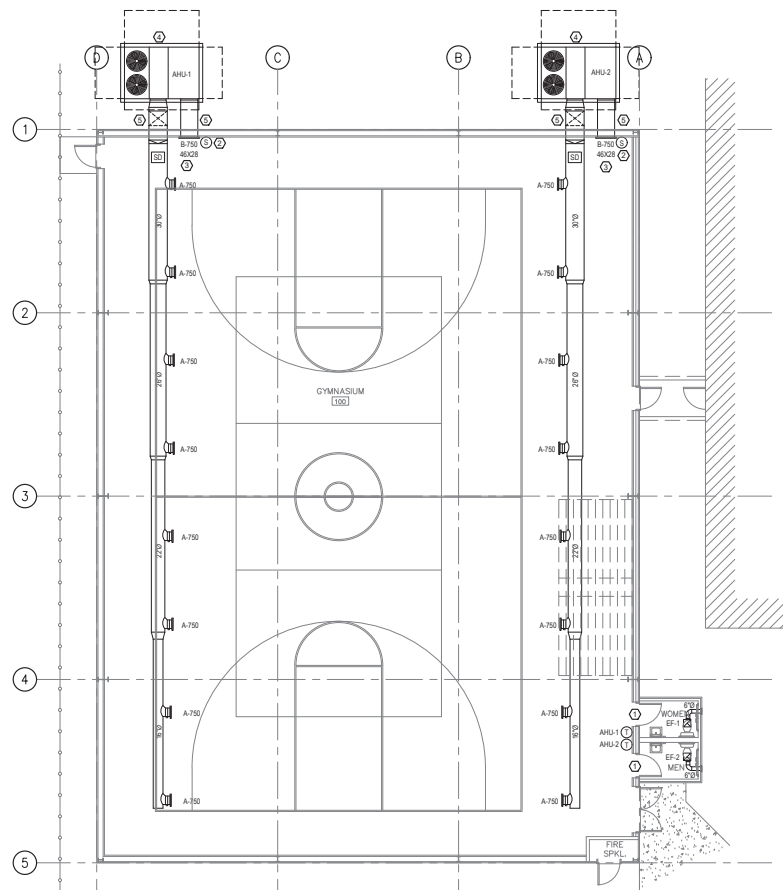
[illegible]

PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
176 DIVISION AVE.
ORMOND BEACH, FL. 32174

SHEET TITLE
MECHANICAL
FIRST FLOOR PLAN

MINDY N. O'NEAL
FL# 69779

PROJECT #	020005	DATE: 12.09.2019
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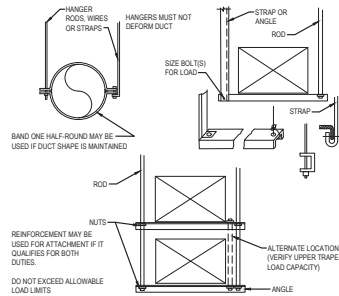


MECHANICAL FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"



1. COORDINATE EXACT LOCATIONS OF MECHANICAL EQUIPMENT WITH ALL DISCIPLINES AND MAINTAIN REQUIRED CLEARANCES.
2. INSTALL FLEXIBLE CONNECTIONS BETWEEN ALL DUCTWORK AND MECHANICAL UNITS.
3. DUCTWORK CONNECTIONS TO EQUIPMENT TO BE SIZE OF UNIT OPENING.
4. PROVIDE BRANCH DUCT CONNECTIONS PER DETAIL ON SHEET MS.1.

- 1 UNDERCUT DOOR 1" TO ALLOW FOR TRANSFER OF AIR.
- 2 PROVIDE REMOTE SENSOR IN RETURN DUCT.
- 3 HEAVY DUTY STEEL LOW WALL RETURN GRILLE. PROVIDE WITH WIRE MESH PROTECTIVE CAGE GUARD.
- 4 6" CONCRETE PAD.
- 5 PROVIDE DOUBLE WALL, INSULATED, WEATHERTIGHT, EXTERIOR DUCT. PROVIDE 3" R-8.3 MINIMUM CLOSED CELL INSULATION.



1 Rectangular/Round Duct Hanger Detail
SCALE: NOT TO SCALE

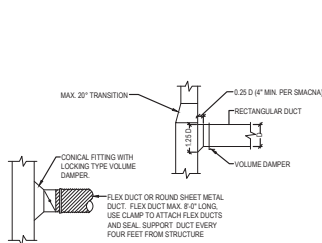
SMACNA TABLE 5-1
RECTANGULAR DUCT HANGERS (MIN. SIZE)

MAX. HALF OF DUCT PERMITTER	PAB AT 8 FT SPACING	
	STRAP	WIRE (ROD)
PG = 30"	1" x 12 ga.	10 ga. (1.585)
PG = 12"	1" x 12 ga.	14"
PG = 90"	1" x 18 ga.	38"
PG = 120"	1" x 18 ga.	38"
PG = 180"	1 1/2" x 18 ga.	15"
PG = 180"	1 1/2" x 18 ga.	15"
PG = 180" UP	SPECIAL ANALYSIS REQUIRED	

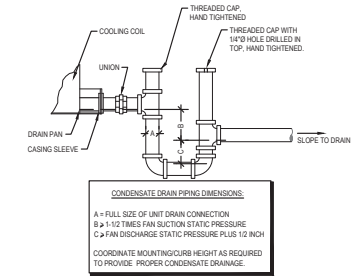
WHEN STRAPS ARE LAP JOINED USE THESE MINIMUM FASTENERS:
1" x 18 ga. Strap - TWO (2) OR ONE (1) BOLT
1" x 18 ga. - TWO (2) OR ONE (1) BOLT
1 1/2" x 18 ga. - TWO (2) OR ONE (1) BOLT
1 1/2" x 18 ga. - TWO (2) OR ONE (1) BOLT
PLACE FASTENERS IN SERIES, NOT SIDE BY SIDE

NOTES:
1. DIMENSIONS OTHER THAN GAGE ARE IN INCHES.
2. TABLE ALLOWS FOR DUCT WEIGHT, 1 LB/SF INSULATION WEIGHT AND NORMAL REINFORCEMENT AND TRAPEZOID WEIGHT, BUT NO EXTERNAL LOADS.
a. FOR CUSTOM DESIGN OF HANGERS, DESIGNERS MAY CONSULT SMACNA'S RECTANGULAR INDUSTRIAL DUCT STANDARDS, THE AISI COLD FORMED STEEL DESIGN MANUAL AND THE AISI STEEL CONSTRUCTION MANUAL.
b. STRAPS ARE GALVANIZED STEEL; OTHER MATERIALS ARE UNCOATED STEEL.
c. ALLOWABLE LOADS FOR PG ASSUME THAT DUCTS ARE 16 GA. MAXIMUM, EXCEPT THAT WHEN MAXIMUM DUCT DIMENSION (H) IS OVER 60" THEN PG MAXIMUM IS 1.25 w.
d. 12, 10 OR 8 GA. WIRE IS STEEL OF BLACK ANNEALED, BRIGHT BASIC OR GALVANIZED TYPE.

2 Rectangular Duct Hangers
SCALE: NOT TO SCALE



5 Branch Duct Detail
SCALE: NOT TO SCALE



6 AHU Condensate Drain Trap Detail
SCALE: NOT TO SCALE

SMACNA TABLE 5-2

ROUND DUCT HANGERS (MIN. SIZE)

DN	MAXIMUM SPACING	WIRE DIA.	ROD	STRAP
12" DN	12"	(1) 12 ga.	1/4"	1" x 22 ga.
11" - 18"	12"	(2) 12 ga. OR (1) 8 ga.	1/4"	1" x 22 ga.
18" - 24"	12"	(2) 12 ga.	1/4"	1" x 22 ga.
25" - 30"	12"	(2) 8 ga.	3/8"	1" x 20 ga.
31" - 50"	12"	-	(2) 3/8"	1" x 20 ga.
51" - 60"	12"	-	(2) 3/8"	1" x 18 ga.
61" - 66"	12"	-	(2) 3/8"	1" x 16 ga.

	1	2	3	4	5	6	7	8.H.a																															
A	GENERAL REQUIREMENTS A. GENERAL 1. CONFORM TO ALL GENERAL AND SPECIAL CONDITIONS OF CONTRACT AS SPECIFIED BY ENGINEER AND/OR OWNER. 2. VISIT SITE, CHECK FACILITIES AND CONDITIONS AND MAKE ALL NECESSARY OBSERVATIONS AND MEASUREMENTS. NOTE CONDITIONS UNDER WHICH WORK IS TO BE COMPLETED AND TAKE ALL ITEMS INTO CONSIDERATION IN BID. 3. SYSTEMS ARE TO BE COMPLETE AND WORKABLE IN ALL RESPECTS, PLACED IN OPERATION AND PROPERLY ADJUSTED. 4. CONTRACTOR SHALL PROVIDE THEIR OWN CLEAN-UP, REMOVAL AND LEGAL DISPOSAL OF ALL RUBBISH DAILY. 5. CONTRACTOR SHALL PROTECT THEIR WORK, THEIR EXISTING AND ADJACENT PROPERTY AGAINST WEATHER. 6. CONTRACTOR SHALL PROTECT THEIR WORK, MATERIALS, APPARATUS AND FIXTURES FROM DAMAGE. ANY WORK DAMAGED BY FAILURE TO PROVIDE PROTECTION REQUIRED, SHALL BE REMOVED AND REPAIRED WITH NEW MATERIAL AT THE CONTRACTOR'S EXPENSE. 7. ARRANGE FOR AND OBTAIN OWNERS AND INSURANCE REPRESENTATIVES PERMISSION FOR ANY SERVICE SHUTDOWNS. 8. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, SEQUENCES OF CONSTRUCTION AND THE SAFETY OF WORKERS. 9. NO PIPING, DUCTWORK, WIRING, ETC. SHALL BE INSTALLED OR ROUTED ABOVE ELECTRICAL PANELS AND EQUIPMENT. 10. THE CONTRACTOR SHALL COORDINATE AND OBTAIN A WRITTEN APPROVAL, IDENTIFYING THE ELECTRICAL CHARACTERISTICS OF ALL MECHANICAL EQUIPMENT PRIOR TO ORDERING OF EQUIPMENT. NO ADDITIONAL PAYMENT WILL BE MADE FOR LACK OF CONTRACTOR COORDINATION OF ELECTRICAL CHARACTERISTICS. 11. DURING CONSTRUCTION THE CONTRACTOR MAY UNCOVER AN EXISTING CONDITION THAT WILL HAVE TO BE MODIFIED. ANY SUCH WORK WHICH COMES UNDER THE JURISDICTION OF THE CONTRACTOR SHALL BE DONE BY THIS CONTRACTOR WITHOUT EXTRA COST TO THE OWNER, AS THOUGH FULLY DETAILED ON PLANS AND/OR DESCRIBED IN THE SPECIFICATIONS. 12. ALL DIMENSIONS, MEASUREMENTS AND PROTECT CONDITIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR. REFER ALL DIFFERENCES, IN WRITING, TO THE OWNER'S REPRESENTATIVE FOR CONSIDERATION PRIOR TO PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BEAR THE COST OF RECTIFYING WORK NOT APPROVED BY THE OWNERS REPRESENTATIVE, CAUSED BY LACK OF COORDINATION AND/OR NOTIFICATION. 13. INSTALL ALL EQUIPMENT IN FULL ACCORDANCE WITH LOCAL CODE REQUIREMENTS, OTHER SPECIFICATION SECTION REQUIREMENTS, AND MANUFACTURERS RECOMMENDATIONS. B. CODES, PERMITS, STANDARDS AND REGULATIONS 1. CONFORM TO ALL APPLICABLE CODES (LOCAL, STATE, NATIONAL CODES, NFPA, OSHA, ETC.) GOVERNMENT REGULATIONS, UTILITY COMPANY REQUIREMENTS, AND APPLICABLE STANDARDS. 2. OBTAIN PERMITS AND PAY ALL FEES. ARRANGE FOR ALL REQUIRED INSPECTIONS AND APPROVALS. C. DRAWINGS 1. THE SYSTEMS AS SHOWN ON DRAWINGS ARE DIAGRAMMATIC. CONFIRM ALL DIMENSIONS BY FIELD MEASUREMENT. 2. THE EXACT LOCATIONS FOR FIXTURES, EQUIPMENT AND PIPING WHICH IS NOT COVERED BY DRAWINGS, SHALL BE OBTAINED FROM THE ENGINEER OR ENGINEERS REPRESENTATIVE IN THE FIELD AND THE WORK SHALL BE DONE ACCORDINGLY. D. BASE EQUIPMENT, MATERIALS AND SUBSTITUTIONS 1. ALL EQUIPMENT AND MATERIALS SHALL BE NEW, FREE OF DEFECTS AND U/L LABELED. 2. BASE BID MANUFACTURERS ARE INCLUDED IN THE SPECIFICATIONS OR LISTED IN THE NAME OR MAKE OF ANY ARTICLE, DEVICE, MATERIAL, FORM OF CONSTRUCTION, FIXTURE, ETC. STATED IN THIS SPECIFICATIONS, WHETHER OR NOT THE WORDS "OR APPROVED EQUAL" ARE USED. SHALL BE KNOWN AS A "STANDARD". 3. ALL PROPOSALS SHALL BE BASED ON "STANDARDS" SPECIFIED. 4. THE EQUIPMENT SCHEDULES ON THE DRAWINGS INDICATE MANUFACTURERS EQUIPMENT MODEL NUMBERS THAT THIS DESIGN HAS BEEN BASED ON. THE USE OF OTHER MANUFACTURES EQUIPMENT THAT IS LISTED AS SUBSTITUTED IN THIS DESIGN HAS BEEN BASED ON. THE USE OF SUCH CHANGES SHALL BE PAID BY THE CONTRACTOR. 5. SUBSTITUTIONS ARE SUBJECT TO THE APPROVAL OF THE OWNER. IF A SUBSTITUTION IS SUBMITTED, IT IS THE CONTRACTORS RESPONSIBILITY TO EVALUATE IT AND CERTIFY THAT THE SUBSTITUTION IS EQUIVALENT IN ALL RESPECTS TO THE BASE SPECIFICATIONS. 6. COORDINATE ALL APPROVED SUBSTITUTIONS. ANY COSTS RESULTING FROM SUBSTITUTION SHALL BE THE RESPONSIBILITY OF AND PAID FOR BY THE CONTRACTOR. APPROVED SHOP DRAWINGS DO NOT ASSUME THIS CONTRACTOR FROM THIS RESPONSIBILITY. E. ALL EQUIPMENT SHALL BE INSTALLED IN FULL ACCORDANCE WITH THE MANUFACTURERS DATA AND INSTALLATION INSTRUCTIONS. CONTRACTOR SHALL CONFIRM THESE REQUIREMENTS PRIOR TO STARTING WORK. F. WARRANTY 1. FULLY WARRANT ALL MATERIALS, EQUIPMENT AND WORKMANSHIP FOR (1) YEAR FROM DATE OF ACCEPTANCE. 2. EXTEND ALL MANUFACTURERS WARRANTIES TO OWNER. 3. REPAIR OR REPLACE WITHOUT CHARGE TO THE OWNER ALL ITEMS FOUND DEFECTIVE DURING THE WARRANTY PERIOD. IN THE CASE OF REPLACEMENT OR REPAIR DUE TO FAILURE WITHIN THE WARRANTY PERIOD, THE WARRANTY ON THAT PORTION OF THE WORK SHALL BE EXTENDED FOR A MINIMUM PERIOD OF ONE (1) YEAR FROM THE DATE OF SUCH REPLACEMENT OR REPAIR. G. SHOP DRAWING SUBMITTALS 1. SUBMIT SHOP DRAWINGS FOR MECHANICAL AND PLUMBING SYSTEMS, INCLUDING BUT NOT LIMITED TO SHEET METAL AND EQUIPMENT WITH ADEQUATE DETAILS AND SCALES TO CLEARLY SHOW CONSTRUCTION. INDICATE THE OPERATING CHARACTERISTICS FOR EACH REQUIRED ITEM. CLEARLY IDENTIFY EACH ITEM ON THE SUBMITTAL AS TO MAKE, LOCATION AND USE, USING SAME IDENTIFICATION AS PROVIDED ON THE CONSTRUCTION DOCUMENTS. 2. SHEET METAL DRAWINGS SHALL BE FULLY DIMENSIONED AND COORDINATED BASED ON FIELD VERIFIED BUILDING CLEARANCES AND ARCHITECTS CEILING LAYOUTS. INDICATE STRUCTURAL, LIGHTING, DUCTWORK AND PIPING AT ALL CRITICAL LOCATIONS. 3. CONTRACTOR SHALL REVIEW AND INDICATE THEIR APPROVAL OF EACH SHOP DRAWINGS PRIOR TO SUBMITTAL FOR REVIEW. SHOP DRAWINGS WILL NOT BE REVIEWED BY THE ENGINEER UNLESS THE CONTRACTORS APPROVAL IS NOTED. DO NOT START WORK OR FABRICATION UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED BY THE ENGINEER AND RETURNED TO THE CONTRACTOR. 4. SUBMITTALS WILL BE REVIEWED ONLY FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS AND NOT FOR DIMENSIONS OR QUANTITIES. THE SUBMITTAL REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PURCHASE OF ANY ITEM IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS OR ITS COMPLETE AND PROPER INSTALLATION. 5. WHERE SUBMITTALS VARY FROM THE CONTRACT REQUIREMENTS, THE CONTRACTOR SHALL CLEARLY INDICATE ON SUBMITTAL OR ACCOMPANYING DOCUMENTS THE NATURE AND REASON FOR THE VARIATIONS. 6. EACH MANUFACTURER OR MANUFACTURERS REPRESENTATIVE MUST CHECK THE APPLICATION OF THEIR EQUIPMENT AND CERTIFY AT TIME OF SHOP DRAWING SUBMITTAL THAT THE EQUIPMENT SPECIFIED HAS BEEN PROPERLY APPLIED AND CAN BE INSTALLED, SERVICED AND MAINTAINED WHERE INDICATED ON THE DRAWINGS. ADVISE ENGINEER IN WRITING WITH SUBMITTAL DRAWINGS OF ANY POTENTIAL PROBLEMS. THE MANUFACTURER SHALL BE RESPONSIBLE FOR ANY CHANGES THAT MIGHT BE NECESSARY BECAUSE OF PHYSICAL CHARACTERISTICS OF EQUIPMENT THAT HAVE NOT BEEN CALLED TO THE ENGINEERS ATTENTION AT THE TIME OF SUBMITTAL.	INSULATION A. PLUMBING INSULATION (AS MANUFACTURED BY OVENS CORNING, KNAUF, SCHULLER OR CERTAINTEED) 1. INSULATE ALL ABOVE GRADE HOT AND COLD WATER PIPING WITH MOLDED FIBER GLASS HAVING AN ALL SERVICE JACKET. 2. INCLUDE INSULATION OF FITTINGS AND VALVES. KEEP VAPOR BARRIERS INTACT. APPLY PER MANUFACTURERS RECOMMENDATIONS. PIPING AND VALVES A. GENERAL 1. LABEL ALL PIPING AND SHOW DIRECTION OF FLOW EVERY 20 FEET ON CENTER. B. CONNECTIONS TO EQUIPMENT 1. PROVIDE VALVED WATER CONNECTION FOR EQUIPMENT. 2. INCLUDE ACCESSORIES REQUIRED BY CODE, DRAWINGS, OR MANUFACTURERS INSTRUCTIONS. C. SANITARY AND VENT MATERIAL SHALL BE AS FOLLOWS: 1. PVC-DWV PLASTIC ASTM D1185 WITH ASTM D2685 DWV SOLVENT WELD SOCKET FITTINGS. D. DOMESTIC WATER PIPING 1. INSTALL DOMESTIC WATER PIPING AS INDICATED ON DRAWINGS. INCLUDE ALL FITTINGS, VALVES, HANGERS AND OTHER ACCESSORIES INCLUDING WATER METER AND BACKFLOW PREVENTER. EXTEND DOMESTIC WATER PIPING TO ALL FIXTURES AND EQUIPMENT REQUIRED FOR COMPLETE INSTALLATION. 2. INCLUDE UNIONS, OR OTHER DISCONNECT MEANS, STOPS OR VALVES FOR ISOLATION OF FIXTURES AND EQUIPMENT. VALVES TO BE FULLY COMPATIBLE WITH PIPING FOR SERVICE INTENDED. 3. PROVIDE WATER HAMMER ARRESTERS OF TYPE AS INDICATED ON THE DOMESTIC WATER RISER DIAGRAM. THESE SHALL BE ASSE 100# OR PDS W/SPST. PISTON TYPE WITH PRESSURIZED METAL TUBE CUSHIONING CHAMBER AS MANUFACTURED BY SOUX CHIEF, AMTRAC, JOSEPH OR ZURN. HANGERS ON INSULATED PIPE TO BE OUTSIDE OF INSULATION, SIZED ACCORDENTLY AND WITH A SUFFICIENT SADDLE TO PROTECT INSULATION. 4. DOMESTIC WATER PIPING SHALL BE AS FOLLOWS: a. ABOVE GRADE - TYPE 1" HARD COPPER ASTM B88-832 WITH WROUGHT COPPER FITTINGS ASTM B16.22 1980 AND NON-LEAD OR ANTIMONY SOLDER JOINTS. b. BELOW GRADE - TYPE "K" SOFT COPPER WITHOUT JOINTS. c. FLUSH, VENT AND SANITIZE ALL WATER PIPING WITH CHLORINE AS REQUIRED PER AWWA, LOCAL BUILDING DEPARTMENT AND HEALTH DEPARTMENT CODES. d. DOMESTIC HOT AND COLD WATER PIPING UNDER CONCRETE FLOOR TO BE COVERED WITH SAND SO THAT PIPING WILL NOT BECOME EMBEDDED IN THE FLOOR SLAB.	CLEANING: A. THE REQUIREMENTS IN THIS SECTION PERTAIN WITH ONE EXCEPTION: IF REFRIGERATION GRADE PIPING IS UTILIZED, THESE CLEANING REQUIREMENTS ARE LIMITED TO GAS SYSTEMS. 1. BEFORE INSTALLATION: ALL PIPING, TUBING VALVES AND FITTINGS ARE TO BE THOROUGHLY CLEANED AS FOLLOWS: COPPER LINES (UNLESS FURNISHED PRECLEANED AND CAPPED) SHALL BE WASHED IN A SOLUTION OF TRI-SODIUM PHOSPHATE (POUND TO 3 GALLONS OF WATER. RUBBER GLOVES REQUIRED). SCRUBBING TO BE EMPLOYED AS REQUIRED TO ASSURE REMOVAL OF OIL, METAL FLUXES, OIL AND LUBRIASE. AFTER WASHING, MATERIALS TO BE RINSED IN CLEAR, HOT WATER. AFTER DRYING, MATERIALS SHALL BE PLUMBED OR CAPPED UNTIL ASSEMBLY. TESTING: A. ALL PIPING, EQUIPMENT, AND ACCESSORIES INSTALLED UNDER THIS CONTRACT SHALL BE INSPECTED AND TESTED BY THE CONTRACTOR IN THE PRESENCE OF THE INSPECTOR, AND APPROVED BEFORE ACCEPTANCE. ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRESFOR TESTING SHALL BE FURNISHED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS AND RETESTING AS REQUIRED. ALL INSTRUMENTS AND OTHER EQUIPMENT WHOSE SAFE PRESSURE RANGE IS BELOW THAT OF THE TEST PRESSURE SHALL BE REMOVED FROM THE LINE OR BLANKED OFF BEFORE APPLYING THE TEST.	ARCHITECT:  DELOSE O'NEAL ENGINEERING P.O. BOX 530247 DeBary, FL 32753 P (407) 766-2913 C (321) 277-4128 CONSULTANTS:  LOWE STRUCTURES, INC. 11651 Central Parkway, Suite 106 Jacksonville, FL 32224 (904) 992-0377 FL Cert of Auth: 28261 EOR: J. Matthew Lowe FL PE: 59027 CONSULTANTS: <table><tr><th>REV #</th><th>ISSUES / REVISIONS</th><th>DATE</th></tr><tr><td></td><td>SCHEMATIC DESIGN</td><td>5.18.2020</td></tr><tr><td></td><td>PROGRESS SET</td><td>8.14.2020</td></tr><tr><td></td><td>BID SET</td><td>1.25.2021</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table> DRAWN BY: KMO DESIGNED BY: KMO REVIEWED BY: MNO PROJECT TITLE AND ADDRESS BUILDING PLANS FOR: SOUTH ORMOND NEIGHBORHOOD CENTER 176 DIVISION AVE. ORMOND BEACH, FL. 32174 SHEET TITLE PLUMBING SPECIFICATIONS SHEET # P.O.O MINDY N. O'NEAL FL# 69779 PROJECT # 020005 DATE: 12.09.2019	REV #	ISSUES / REVISIONS	DATE		SCHEMATIC DESIGN	5.18.2020		PROGRESS SET	8.14.2020		BID SET	1.25.2021																			A	B	C	D	E
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DRAWING INDEX	
SHEET NUMBER	TITLE
P0.0	Plumbing Specifications
P0.1	Plumbing General Information
P0.2	Plumbing Schedules, Details & Risers
P1.0	Plumbing First Floor Plan

SYMBOLS AND ABBREVIATIONS		
DESCRIPTION	ABBR.	SYMBOL
SANITARY PIPE ABOVE GRADE	SAN	—
SANITARY PIPE BELOW GRADE	SB	---
FORCE MAIN BELOW GRADE	FM	---
RAINWATER PIPE	RW	---
STORM WATER BELOW	ST	---
FILTERED WATER	FW	---
SOFT WATER	SW	---
COLD WATER PIPE	CW	---
HOT WATER PIPE	HW	---
HOT WATER RETURN	HWR	---
CONDENSATE PIPE	C	---
VENT PIPE	V	---
GAS (NATURAL) PIPE	G	---
CLEANOUT	CO	---
EXTERIOR CLEANOUT	ECO	---
FLOOR CLEANOUT	FCO	---
BACKWATER VALVE	BNV	---
VENT THRU ROOF	VTR	---
DIRECTION OF FLOW		---
CAP	-	---
TEE UP	-	---
TEE DOWN	-	---
ELBOW UP	-	---
ELBOW DOWN	-	---
REVISION REFERENCE	-	---
NEW CONNECTION TO EXISTING	-	---
HOSE BIBB	-	---
CHECK VALVE	-	---
FLOOR DRAIN	-	---
FLOOR DRAIN OR FLOOR SINK	-	---
SHUT-OFF VALVE	-	---
BALANCING VALVE	-	---
UNION	-	---
RECIRCULATING PUMP	-	---
ROOF DRAIN	-	---

*SOME SYMBOLS SHOWN MAY NOT PERTAIN TO THIS PROJECT

PLUMBING GENERAL NOTES

- CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND GOVERNING AUTHORITIES. I.E. FLORIDA BUILDING CODE SEVENTH EDITION 2020 PLUMBING
- ALL SANITARY PIPING 2"10" OR LESS SHALL HAVE A 1/4" PER FOOT SLOPE. ALL SANITARY PIPING 3" OR LARGER SHALL HAVE A 1/8" PER FOOT SLOPE UNLESS OTHERWISE NOTED. ALL STORM WATER PIPING 2"10" OR LESS SHALL HAVE A 1/4" PER FOOT MINIMUM HORIZONTAL SLOPE. ALL STORM WATER PIPING 3" OR LARGER SHALL HAVE A 1/8" PER FOOT MINIMUM HORIZONTAL SLOPE UNLESS OTHERWISE NOTED.
- VALVES AND FITTINGS SHALL BE OF SAME SIZE OF PIPE ON WHICH THEY ARE LOCATED UNLESS OTHERWISE INDICATED ON DRAWINGS.
- INSTALL WATER HAMMER SHOCK ARRESTORS AT EACH FIXTURE OR BATTERY OF FIXTURES WHERE REQUIRED. ARRESTORS SHALL BE FACTORY FABRICATED. INSTALL ARRESTORS AND SIZE PER PLUMBING AND DRAINAGE INSTITUTE STANDARD P.D.I. W-101. ACCEPTABLE MANUFACTURERS: JOSEAL, WATTS AND SIOUX CHIEF. AIR CHAMBERS SHALL NOT BE CONSIDERED AN EQUAL TO WATER ARRESTORS AS SPECIFIED.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING FIRE RATING AND WEATHERPROOFING INTEGRITY OF ALL PIPE PENETRATIONS.
- ALL WATER SUPPLY AND SANITARY LINES SHALL RUN AS CLOSE TO PLUMB AS POSSIBLE WITH NO CHANGES IN SIZING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY SUPPORTING DEVICES FOR FIXTURES.
- CHANGES IN THE DIRECTION OF SANITARY AND STORM DRAINAGE PIPING SHALL NOT BE MADE WITH FITTINGS WHICH WILL CAUSE EXCESSIVE REDUCTION IN THE VELOCITY OF FLOW OR CREATE ANY OTHER ADVERSE EFFECT. I.E. USE OF SANITARY TEE IN A HORIZONTAL CONNECTION, USE OF A DOUBLE SANITARY TEE IN A VERTICAL STACK, USE OF SHORT RADIUS FITTINGS FOR BRANCH TO HOUSE DRAIN OR STACK CONNECTION.
- CONTRACTOR SHALL GIVE 24 HOURS NOTICE TO APPLICABLE UTILITY COMPANY PRIOR TO PERFORMING WORK INVOLVING UTILITIES.
- WHERE SANITARY SEWER LINES CROSS UNDERGROUND WATER SUPPLY LINES THE INSTALLATION SHALL COMPLY WITH THE FLORIDA BUILDING CODE SEVENTH EDITION 2020 PLUMBING.
- ALL FLOOR DRAINS SHALL BE PROVIDED WITH A TRAP PRIMER VALVE AND FITTINGS UNLESS NOTED OTHERWISE.
- THE PLUMBING CONTRACTOR MAY BE REQUIRED TO DROP PIPE OUTSIDE OF BUILDING TO REQUIRED DEPTH TO PROVIDE CONNECTION TO AREA DEVELOPMENT UTILITY STUD. ALL DROPS IN DEPTH SHALL BE MADE WITH THE USE OF 45° FITTINGS.
- ROUTE ALL PIPING CONCEALED ABOVE CEILING, WITHIN WALLS, OR IN CHASES. EXPOSED PIPING SHALL BE SLOPED AND PAINTED TO MATCH ARCHITECTURAL FINISHES. PIPING IN MECHANICAL ROOMS MAY BE EXPOSED.
- SLEEVE AND FIRE STOP PENETRATIONS OF RATED WALLS, FLOORS, CEILING, ETC. IN ACCORDANCE WITH THE FLORIDA BUILDING CODE SEVENTH EDITION 2020 AND LOCAL CODES TO MAINTAIN RATINGS. REFER TO ARCHITECTURAL DRAWINGS FOR APPLICABLE U.L. STANDARDS AND LOCATIONS OF RATED WALLS, CEILING, FLOORS, ETC.
- ALL WATER PIPING INSTALLED IN EXTERIOR WALLS SHALL BE PLACED ON THE INTERIOR SIDE OF THE WALL. THE WALL INSULATION SHALL BE PLACED ON THE EXTERIOR SIDE OF THE PIPE.
- SEE RISER DIAGRAMS FOR BRANCH PIPING DETAILS AND SIZES NOT SHOWN ON PLANS.
- COLD AND HOT WATER PIPING SHALL BE CHLORINATED POLYVINYL CHLORIDE (CPVC) SCHEDULE 40 PLASTIC PIPE AND TUBING (ASTM F441) WITH CPVC SCHEDULE 40 FITTINGS (ASTM F481) SOCKET TYPE. DISINFECT WATER PIPING AFTER PRESSURE TEST. DISINFECTION PROCEDURE SHALL COMPLY WITH THE LOCAL HEALTH AUTHORITY, LOCAL WATER PURVEYOR. FLORIDA BUILDING CODE SEVENTH EDITION 2020 PLUMBING SECTION 610 DISINFECTION OF POTABLE WATER SYSTEMS.
- SOIL, WASTE, VENT PIPING AND FITTINGS SHALL BE PVC: ASTM D2689 SCHEDULE 40. JOINTS SHALL BE SOLVENT CEMENT. PROVIDE CAST IRON PIPE AND FITTINGS FOR SOIL, WASTE, AND VENT PIPING LOCATED IN CEILING RUNS OR IN LOCATIONS OF HIGH TEMPERATURE. WATER DISCHARGE IN THE KITCHEN AND LAUNDRY.
- PROVIDE CLEANOUTS FOR SANITARY AND STORM PIPING AT BASE OF EACH VERTICAL STACK, AT EACH CHANGE OF DIRECTION OF HORIZONTAL PIPE RUNS AND AT 100 FOOT INTERVALS OF HORIZONTAL RUNS FOR SANITARY AND STORM PIPING.
- PROVIDE ACCESS PANELS TO VALVES WITHIN CHASES, WALLS, OR ABOVE NON ACCESSIBLE CEILING. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES. SEE SPECIFICATION SECTION 22050 IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT FOR ENGRAVED LABELS FOR ALL ACCESS PANELS, VALVES, PLUMBING EQUIPMENT, ETC. PROVIDE ENGRAVED LABEL ON CEILING GRID AT EQUIPMENT LOCATION.
- SITE UTILITY CONNECTIONS SHOWN ON CIVIL DRAWINGS. ALL SERVICES SHOWN ON THIS SET OF PLANS TERMINATE 9" FROM BUILDING UNLESS SHOWN OTHERWISE ON DRAWINGS.
- FURNISH AND INSTALL HOSE BIBBS AND/OR WALL HYDRANTS 24" ABOVE FINISHED GRADE/FLOOR (UNLESS OTHERWISE NOTED) AND PROVIDE VACUUM BREAKERS.
- SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ROOF DRAINS. PLUMBING FIXTURE MOUNTING HEIGHTS AND DIMENSIONS.
- CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF EXISTING SEWERS IN WHICH NEW SEWER LINES ARE TO BE CONNECTED PRIOR TO STARTING WORK.
- CONTRACTOR SHALL INSTALL DIELECTRIC UNIONS AT CONNECTIONS OF DISSIMILAR METALS.
- CONTRACTOR SHALL ROUGH IN ALL WASTE AND SUPPLIES TO SPECIAL EQUIPMENT ACCORDING TO MANUFACTURERS SHOP DRAWINGS AND MAKE FINAL CONNECTIONS AS NOTED. ALL SUPPLIES SHALL BE VALVED. INSTALL VACUUM BREAKERS WHERE REQUIRED BY CODE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (INCLUDING PIPE ROUTING AND EQUIPMENT LOCATIONS) TO ARCHITECT/ENGINEER FOR REVIEW PRIOR TO THE INSTALLATION OR PURCHASING OF ANY PIPING AND/OR EQUIPMENT.
- PROVIDE REDUCED PRESSURE BACKFLOW PREVENTERS FOR DOMESTIC WATER SUPPLY CONNECTIONS AS REQUIRED BY CODE.
- ALL BELOW GRADE/SLAB COPPER PIPE SHALL BE PLACED WITH COPPER PIPE SLEEVE (10 MIL) POLYETHYLENE PLASTIC SLEEVING. EXTEND SLEEVING ABOVE GRADE/SLAB.
- CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF FLOOR DRAINS LOCATED IN TOILET ROOMS. PLUMBING CONTRACTOR SHALL COORDINATE EXACT LOCATION OF FLOOR DRAINS SERVING MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
- PRESSURE REDUCING VALVES SHALL BE INSTALLED ON BRANCH LINES SERVING FIXTURES AND/OR EQUIPMENT WHEN THE PRESSURE IN THE LINE EXCEEDS 80 P.S.I.
- COORDINATE ROUTING OF ALL PLUMBING SYSTEMS TO AVOID CONFLICTS WITH OTHER DISCIPLINES WITHIN INTERSTITIAL SPACE AND ROUTE TIGHT TO STRUCTURE WHERE POSSIBLE. PIPING SHALL NOT ENTER OR PASS THROUGH ELECTRICAL AND COMMUNICATION ROOMS.
- IF THE INTENT OF THE DRAWINGS AND/OR SPECIFICATIONS IS UNCLEAR OR HAS MORE THAN ONE INTERPRETATION, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER IN WRITING BEFORE THE SUBMISSION OF BIDS. THE ARCHITECT/ENGINEER SHALL MAKE CORRECTIONS AND/OR PROVIDE EXPLANATION IN WRITING.
- PLANS AND SPECIFICATIONS ARE INTENDED AS A GENERAL DESCRIPTION OF THE WORK TO BE PERFORMED. ALL ITEMS NOT SPECIFICALLY MENTIONED OR SHOWN, BUT NECESSARY FOR THE COMPLETION OF THE INSTALLATION, SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR. THE CONTRACTOR SHALL ACQUAINT HIMSELF WITH THE MECHANICAL, ELECTRICAL, STRUCTURAL AND ELECTRICAL PLANS PRIOR TO SUBMITTING HIS FINAL BID. NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO CONTRACTORS FAILURE TO FAMILIARIZE HIMSELF WITH THE PLANS.
- THE CONTRACTOR SHALL BASE HIS PROPOSAL UPON THE EQUIPMENT AS SCHEDULED OR SPECIFIED. USING THE MANUFACTURERS EQUIPMENT SPECIFIED ON THE DRAWINGS. IF MORE THAN ONE MANUFACTURER IS SPECIFIED FOR ONE ITEM, ANY ONE OF THE MANUFACTURERS LISTED MAY BE USED IN THIS CONTRACTORS PROPOSAL. IF THIS CONTRACTOR WISHES TO USE EQUIPMENT NOT SPECIFIED, HE MUST AT THE TIME OF BIDDING SUBMIT SEPARATELY ON LETTERHEAD STATIONARY OF THE BIDS. THE EQUIPMENT HE WOULD SUBSTITUTE AND THE COST TO BE ADDED OR TO BE DEDUCTED FROM HIS PROPOSAL. CONTRACTORS PROPOSED SUBSTITUTES SHALL BE SUBMITTED TO ARCHITECT AND APPROVED BY OWNER.
- THE CONTRACTOR IS EXPECTED TO ORDER ALL MATERIALS IN SUFFICIENT TIME TO AVOID DELAYING THE COMPLETION OF THE PROJECT. DELAY IN DELIVERY WILL NOT BE CONSIDERED A JUSTIFIABLE REASON FOR SUBSTITUTION OF MATERIALS.
- DO NOT PENETRATE WALL FOOTINGS WITH PIPING. COORDINATE PENETRATION LOCATION WITH GENERAL CONTRACTOR. PIPE PENETRATING A BEARING WALL OR FOOTING MUST BE SLEEVED AND LOCATION APPROVED BY STRUCTURAL ENGINEER.
- REFER TO PLANS FOR VENT THRU ROOF VTR PIPE SIZES AND LOCATIONS. LOCATE VTR A MINIMUM OF 24" OF HORIZONTAL DISTANCE FROM ANY BUILDING OPENING OR FRESH AIR INTAKE. EXTEND VTR 12" ABOVE ROOF SURFACE. PROVIDE 1" FIBERGLASS INSULATION WITH ALL-SERVICE JACKET ON VENT PIPE INSIDE BUILDING WITHIN 6' OF VTR LOCATION. VERIFY FLASHING AND COUNTERFLASHING AND COORDINATE INSTALLATION WITH ROOFING CONTRACTOR.
- COORDINATION CONTRACTOR SHALL COORDINATE ITS CONSTRUCTION OPERATIONS WITH THOSE OF OTHER CONTRACTORS AND ENTITIES TO ENSURE EFFICIENT AND ORDERLY INSTALLATION OF EACH PART OF THE WORK. CONTRACTOR SHALL COORDINATE ITS OPERATIONS WITH OTHER CONTRACTORS OPERATIONS, THAT DEPEND ON EACH OTHER FOR PROPER INSTALLATION, CONNECTION AND OPERATION.
- HEAT-TRACED PIPING SHALL MEET INSULATION THICKNESS REQUIREMENTS PER FLORIDA BUILDING CODE SEVENTH EDITION 2020 ENERGY CONSERVATION.

SUBMITTALS AND SUBSTITUTIONS

- CONTRACTOR SHALL SUBMIT THE FOLLOWING EQUIPMENT FOR REVIEW PRIOR TO ORDERING AND INSTALLING:
 - PLUMBING FIXTURES
 - WATER HEATERS
 - PIPING
- PROCESSING TIME: ALLOW 10 WORKING DAYS FOR REVIEW OF EACH SUBMITTAL. ALLOW ADDITIONAL TIME IF COORDINATION WITH SUBSEQUENT SUBMITTALS IS REQUIRED. ENGINEER WILL ADVISE CONTRACTOR WHEN A SUBMITTAL BEING PROCESSED MUST BE DELAYED FOR COORDINATION.
- SUBMITTALS: PLACE A PERMANENT LABEL OR TITLE BLOCK ON EACH SUBMITTAL ITEM FOR IDENTIFICATION. INDICATE NAME OF FIRM OR ENTITY THAT PREPARED EACH SUBMITTAL ON LABEL OR TITLE BLOCK. PROVIDE A SPACE BESIDE TITLE BLOCK TO RECORD CONTRACTORS REVIEW AND APPROVAL. MARKINGS AND ACTION TAKEN BY ENGINEER. INCLUDE THE FOLLOWING INFORMATION FOR PROCESSING AND RECORDING ACTION TAKEN:
 - PROJECT NAME:
 - DATE:
 - NAME OF ENGINEER
 - NAME OF CONTRACTOR
 - NAME OF SUB-CONTRACTOR
 - NAME OF SUPPLIER
 - NAME OF MANUFACTURER
 - DRAWING NUMBER AND DETAIL REFERENCES, AS APPROPRIATE
 - LOCATION WHERE PRODUCT IS TO BE INSTALLED, AS APPROPRIATE
- SUBMIT ELECTRONIC SUBMITTALS VIA EMAIL AS PDF ELECTRONIC FILES.
- PAPER SUBMITTALS: SUBMIT THREE PAPER COPIES OF EACH SUBMITTAL UNLESS OTHERWISE INDICATED. ENGINEER WILL RETURN TWO COPIES. IF APPLICABLE.
 - MANUFACTURERS CATALOGS/OUTS
 - MANUFACTURERS PRODUCT SPECIFICATIONS
 - STATEMENT OF COMPLIANCE WITH SPECIFIED REFERENCED STANDARDS
 - NOTATION OF COORDINATION REQUIREMENTS
 - WIRING DIAGRAMS SHOWING FACTORY INSTALLED WIRING
 - PRINTED PERFORMANCE CURVES
 - OPERATIONAL RANGE DIAGRAMS
 - CLEARANCES REQUIRED TO OTHER CONSTRUCTION, IF NOT INDICATED ON ACCOMPANYING SHOP DRAWINGS
- CONTRACTOR SHALL REVIEW EACH SUBMITTAL AND CHECK FOR COORDINATION WITH OTHER WORK OF THE CONTRACT AND FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. NOTE CORRECTIONS AND FIELD DIMENSIONS. MARK WITH APPROVAL STAMP BEFORE SUBMITTING TO ENGINEER. APPROVAL STAMP: STAMP SHALL STATE THAT SUBMITTAL HAS BEEN REVIEWED, CHECKED, AND APPROVED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS AND INSTALLED AND DATED BY CONTRACTOR.
- ENGINEER WILL REVIEW EACH SUBMITTAL. MAKE MARKS TO INDICATE CORRECTIONS OR REVISIONS REQUIRED, AND RETURN IT. ENGINEER WILL STAMP EACH SUBMITTAL WITH AN ACTION STAMP AND WILL MARK STAMP APPROPRIATELY TO INDICATE ACTION.
- ENGINEER WILL NOT REVIEW SUBMITTALS THAT DO NOT BEAR CONTRACTORS APPROVAL STAMP AND INITIALS AND WILL RETURN THEM WITHOUT ACTION. INCOMPLETE SUBMITTALS ARE UNACCEPTABLE, WILL BE CONSIDERED NONRESPONSIVE, AND WILL BE RETURNED FOR RESUBMITTAL WITHOUT REVIEW. SUBMITTALS NOT REQUIRED BY THE CONTRACT DOCUMENTS MAY NOT BE REVIEWED AND MAY BE DISCARDED.
- SUBSTITUTIONS
 - SUBSTITUTION OFFERS OWNER A SUBSTANTIAL ADVANTAGE IN COST, TIME, ENERGY CONSERVATION, OR OTHER CONSIDERATIONS.
 - SUBSTITUTION DOES NOT REQUIRE EXTENSIVE REVISIONS TO THE CONTRACT DOCUMENTS. CONTRACTOR SHALL COMPENSATE ENGINEER FOR ANY REVISION AND EVALUATION SERVICES INCLUDING CHANGES REQUIRED BY AUTHORITY HAVING JURISDICTION.
 - SUBSTITUTION WILL NOT ADVERSELY AFFECT CONSTRUCTION SCHEDULE.
 - SUBSTITUTION HAS RECEIVED NECESSARY APPROVALS OF AUTHORITIES HAVING JURISDICTION.
 - SUBSTITUTION HAS BEEN COORDINATED WITH OTHER PORTIONS OF THE WORK.
 - SUBSTITUTION PROVIDES SPECIFIED WARRANTY.
 - SUBSTITUTION HAS BEEN COORDINATED WITH OTHER PORTIONS OF THE WORK, AND IS ACCEPTABLE TO ALL CONTRACTORS INVOLVED.
 - CONTRACTOR SHALL ASSUME ANY ADDITIONAL CONSTRUCTION COSTS AS A RESULT OF THE SUBSTITUTION.

FLORIDA BUILDING CODE SEVENTH EDITION (2020) ENERGY CONSERVATION COMPLIANCE

THE DESIGN COMPLIES WITH SECTION C401.2 APPLICATION ITEM 3:

THE REQUIREMENTS OF SECTION C401.2, C401.3, C401.4, C401.5, C401.6, C401.7, C401.8, C401.9, C401.10, C401.11, C401.12, C401.13, C401.14, C401.15, C401.16, C401.17, C401.18, C401.19, C401.20, C401.21, C401.22, C401.23, C401.24, C401.25, C401.26, C401.27, C401.28, C401.29, C401.30, C401.31, C401.32, C401.33, C401.34, C401.35, C401.36, C401.37, C401.38, C401.39, C401.40, C401.41, C401.42, C401.43, C401.44, C401.45, C401.46, C401.47, C401.48, C401.49, C401.50, C401.51, C401.52, C401.53, C401.54, C401.55, C401.56, C401.57, C401.58, C401.59, C401.60, C401.61, C401.62, C401.63, C401.64, C401.65, C401.66, C401.67, C401.68, C401.69, C401.70, C401.71, C401.72, C401.73, C401.74, C401.75, C401.76, C401.77, C401.78, C401.79, C401.80, C401.81, C401.82, C401.83, C401.84, C401.85, C401.86, C401.87, C401.88, C401.89, C401.90, C401.91, C401.92, C401.93, C401.94, C401.95, C401.96, C401.97, C401.98, C401.99, C401.100, C401.101, C401.102, C401.103, C401.104, C401.105, C401.106, C401.107, C401.108, 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C401.8

SERVICE	SIZE	MATERIAL	SCHEDULE/TYPE	INSULATION			REMARKS
				FG	THICKNESS		
COLD WATER	ALL	OPVC	SDH 40	YES	1"		SEE NOTE 2
HOT WATER	ALL	OPVC	SDH 40	YES			SEE NOTE 2
SANITARY	ALL	CJ, R PVC	NOTE 3	NONE	-		NCHUB
VENT	ALL	PVC	SDH 40	NONE	-		SEE NOTE 1

NOTES:

1. WASTE AND VENT PIPING IN PLENUM SPACE SHALL BE SERVICE WEIGHT CAST IRON, NO HUB.
2. FIBERGLASS PIPE INSULATION: MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN. SEMIRIGID BOARD MATERIAL, WITH JOINTS APPLIED AS RECOMMENDED WITH ACTIC R 188; OR MINERAL OR GLASS FIBERS TO ACTIC R 18; NOMINAL DENSITY (P = 5 LB/CF); FT OR MORE. THERMAL CONDUCTIVITY (K VALUES) AT 75 DEGS F: 0.025 (C) IS 0.29 (X) H IN 5.0 (X) T DEG F; 0.024 (M X) OR 0.025 (S) SERVICE JACKET (ASU) WITH JOINTS TAPED. FIBERGLASS REINFORCED PIPE WITH ALLOWABLE BENDING, SNAKING, COMPLYING WITH ASTM C118; TYPE MANUFACTURER: A. CERTAINTED CORP., B. JOHNS MANVILLE, C. INNOV INSULATION, D. OMENS CONCRETE.
3. FOR PVC ONLY: 40 SCHEDULE 40 DWV; FORM CODE PVC NOT ALLOWED.
4. POLYPROPYLENE (PP) PIPE SYSTEM BY AQUATHERM IS AN ACCEPTABLE BID ALTERNATE FOR THE DOMESTIC WATER SYSTEM.



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DeBary, FL 32753



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EOR: J. Matthew Lowe FL PE: 59027

REV #	ISSUES / REVISIONS	DATE
	SCHEMATIC DESIGN	5.18.2020
	PROGRESS SET	8.14.2020
	BID SET	1.25.2021

REV #	ISSUES / REVISIONS	DATE
	SCHEMATIC DESIGN	5.18.2020
	PROGRESS SET	8.14.2020
	BID SET	1.25.2021

PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
176 DIVISION AVE.
ORMOND BEACH, FL. 32174

PROJECT # 020005	DATE: 12.09.2015
MINDY N. O'NEAL FL# 69779	SHEET # P1.0

PROJECT #	020005	DATE: 12.09.2019
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PROJECT #	02454	DATE: 12.09.2019
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Page 29 of 37

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Page 31 of 37

dj DESIGN INC.
913 NORTH NOVA RD. #3211
HOLLY HILLS, FL 32111
PHONE (386) 255-6969
FAX (386) 255-6969

ARCHITECT:



DELOSE O'NEAL ENGINEERING
P.O. BOX 304 Goldenrod, FL 32733
P (407) 744-2913
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CONSULTANTS:



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CONSULTANTS:

REV #	ISSUES / REVISIONS	DATE
1	SCHEMATIC DESIGN	05.18.2020
2	PROGRESS SET	08.14.2020
3	CONSTRUCTION DOCUMENTS	10.05.2020
4	PERMIT SET	01.25.2021

DRAWN BY: BKW
DESIGNED BY: BKW
REVIEWED BY: BKW

PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
176 DIVISION AVE.
ORMOND BEACH, FL. 32174

SHEET TITLE
ELECTRICAL
SITE PLAN

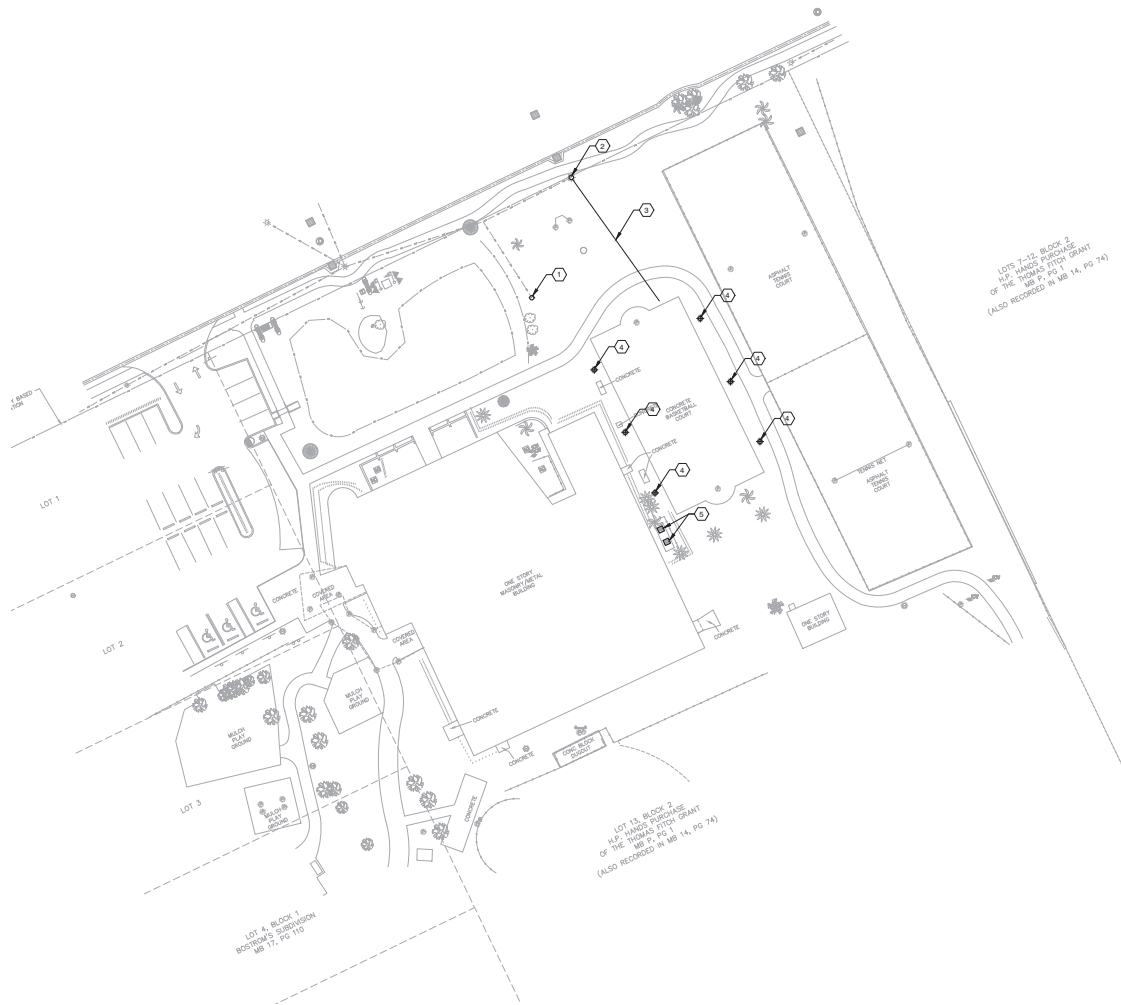
BRIAN K. WILLIAMS
FL PE# 81306

PROJECT # 02454 DATE: 12.09.2019

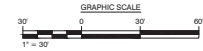
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KEY NOTES:

- EXISTING POLE MOUNTED UTILITY TRANSFORMER WITH 1-PHASE, HIGH LEG SERVICE.
- EXISTING UTILITY POLE WITH 3-PHASE TRANSMISSION LINES. NEW SERVICE SHALL BE 208/120V, 3-PHASE. COORDINATE WITH UTILITY COMPANY FOR NEW SERVICE.
- UNDERGROUND ELECTRICAL SERVICE FEED.
- EXISTING POLE MOUNTED LIGHT FIXTURE, FED FROM PANEL LOCATED IN EXISTING SOUTH ORMOND NEIGHBORHOOD CENTER, TO BE REMOVED. CONTRACTOR SHALL TRACE CIRCUIT BACK TO SOURCE PRIOR TO DEMOLITION. REMOVE CONDUIT AND WIRE BACK TO SOURCE.
- EXISTING CONDENSING UNIT TO BE RELOCATED NORTH TO AVOID NEW BUILDING CONSTRUCTION. EXTEND CONDUIT AND WIRE TO NEW LOCATION.



ELECTRICAL SITE PLAN
SCALE: 1"=30'-0"



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CONSULTANTS:

REV #	ISSUES / REVISIONS	DATE
1	SCHEMATIC DESIGN	05.18.2020
2	PROGRESS SET	08.14.2020
3	CONSTRUCTION DOCUMENTS	10.05.2020
4	PERMIT SET	01.25.2021
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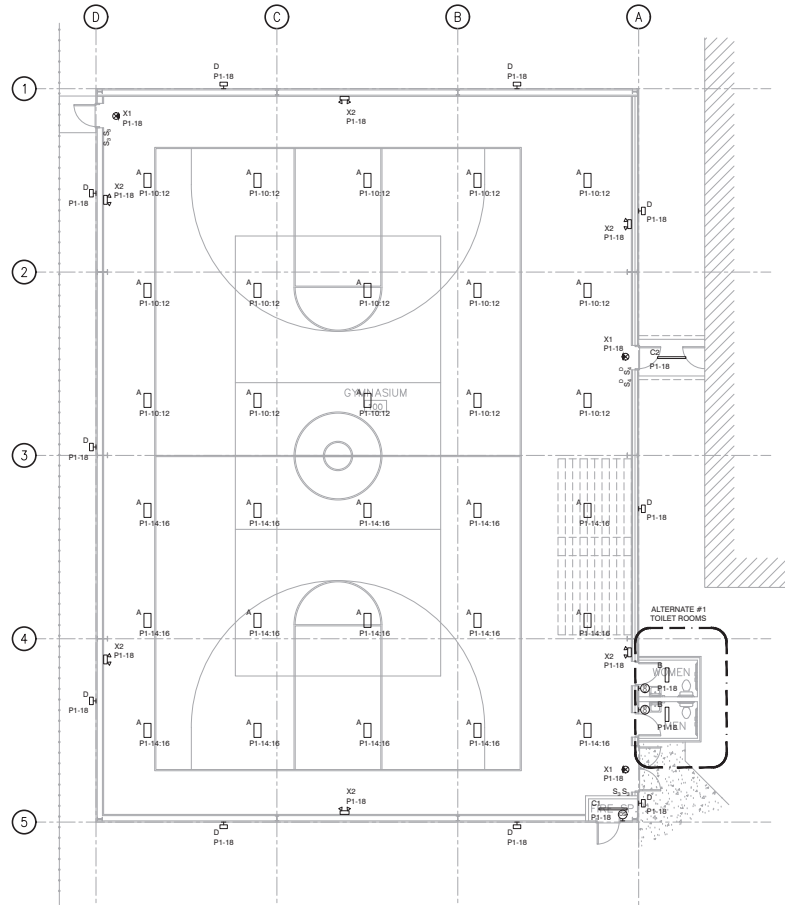
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 DESIGNED BY: BKW
 REVIEWED BY: BKW

PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
 176 DIVISION AVE.
 ORMOND BEACH, FL. 32174

SHEET TITLE
FIRST FLOOR -
LIGHTING PLAN

PROJECT # 02454 DATE: 12.09.2019

SHEET #
E1.0

BRIAN K. WILLIAMS
FL REG #13365

FIRST FLOOR - LIGHTING PLAN

SCALE: 1/8"=1'-0"



GRAPHIC SCALE
 0 4 8 16 24
 1/8" = 1'-0"



ARCHITECT:



DELOE O'NEAL ENGINEERING

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CONSULTANTS:

REV #	ISSUES / REVISIONS	DATE
1	SCHEMATIC DESIGN	05.18.2020
2	PROGRESS SET	08.14.2020
3	CONSTRUCTION DOCUMENTS	10.05.2020
4	PERMIT SET	01.25.2021
5		
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7		
8		
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10		

 DRAWN BY: BKW
 DESIGNED BY: BKW
 REVIEWED BY: BKW

 PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
 176 DIVISION AVE.
 ORMOND BEACH, FL. 32174

 SHEET TITLE
FIRST FLOOR -
POWER PLAN
BRIAN K. WILLIAMS
FL P.E.# 81306SHEET #
E2.0

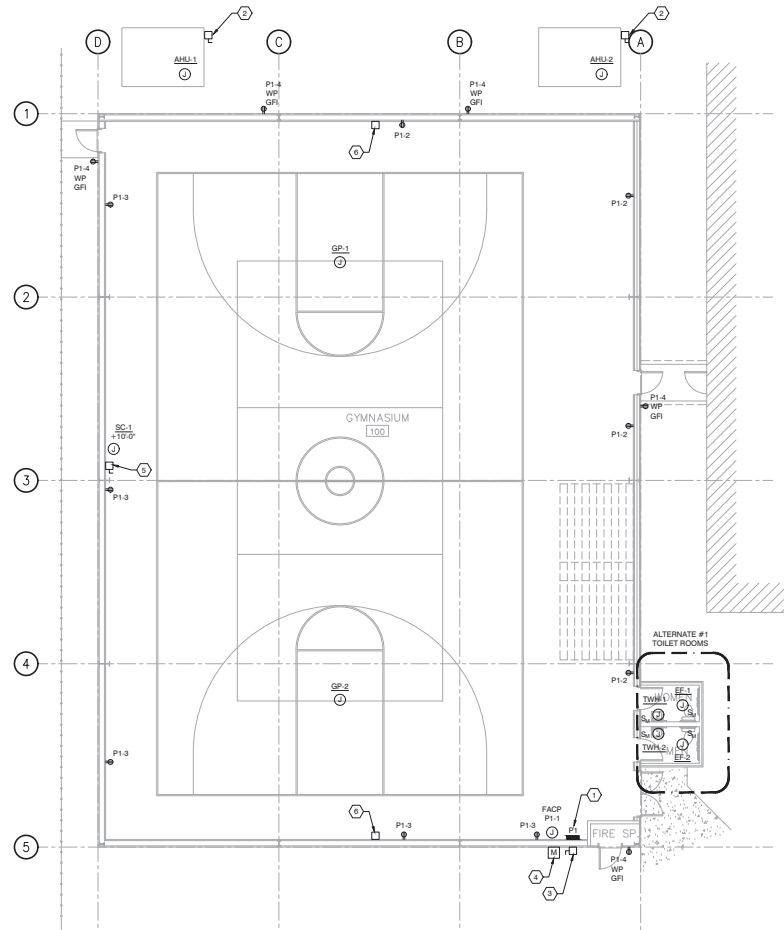
PROJECT # 02454 DATE: 12.09.2019

GENERAL NOTES:

1. PROVIDE TOGGLE TYPE DISCONNECT SWITCH FOR TANKLESS WATER HEATERS.
2. PROVIDE MOTOR RATED TOGGLE SWITCH FOR EXHAUST FANS.
3. EXHAUST FAN CONTROLLED VIA OCCUPANCY SENSOR.
4. PROVIDE 2#10, 1#100, 3/4"C FOR ALL RECEPTACLE, TANKLESS WATER HEATER, GOAL POST, AND SCOREBOARD CIRCUITS.
5. PROVIDE 2#12, 1#120, 3/4"C FOR EXHAUST FAN CIRCUITS.
6. PROVIDE 3#3, 1#80, 1-1/2"C FOR AHU CIRCUITS.

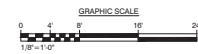
KEY NOTES:

- ① PROVIDE WIRE TYPE GUARD FOR ELECTRICAL PANEL.
- ② FACTORY MOUNTED DISCONNECT SWITCH.
- ③ PROVIDE SERVICE ENTRANCE DISCONNECT SWITCH.
- ④ PROVIDE ELECTRICAL METER SOCKET AND BASE.
- ⑤ PROVIDE DISCONNECT SWITCH FOR SCOREBOARD.
- ⑥ PROVIDE GOAL POST CONTROLLER WITH DISCONNECT SWITCH.



FIRST FLOOR - POWER PLAN

SCALE: 1/8"=1'-0"



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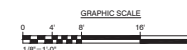
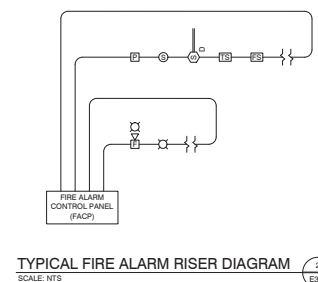
REV #	ISSUES / REVISIONS	DATE
	SCHEMATIC DESIGN	05.18.2020
	PROGRESS SET	06.14.2020
	CONSTRUCTION DOCUMENTS	10.05.2020
	PERMIT SET	01.25.2021

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PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
176 DIVISION AVE.
ORMOND BEACH, FL. 32174

SHEET #
E3.0

PROJECT #	02454	DATE: 12.09.2019
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EQUIPMENT CONNECTION SCHEDULE

DESCRIPTION	TAG	VOLTAGE	PHASES	SIZE		FED FROM	NOTES
				KW/HP	MCA		
AIR HANDLING UNIT	AHU-1	208V	3Ø		66	90	P1-7-9-11
AIR HANDLING UNIT	AHU-2	208V	3Ø		66	90	P1-13-15-17
EXHAUST FAN	EF-1	120V	1Ø	0.128		20	P1-5
EXHAUST FAN	EF-2	120V	1Ø	0.128		20	P1-5
TANKLESS WATER HEATER	TWH-1	120V	1Ø	2.4		25	P1-6
TANKLESS WATER HEATER	TWH-2	120V	1Ø	2.4		25	P1-8
SCOREBOARD	SC-1	120V	1Ø	1.2		20	P1-20
GOAL POST	GP-1	120V	1Ø		12.25	20	P1-19
GOAL POST	GP-2	120V	1Ø		12.25	20	P1-21

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	CATALOG	LAMP	VOLTAGE	REMARKS
A	HIGH BAY, HIGH ABUSE, PENDANT MOUNTED LED FIXTURE. IMPACT RATING IK10, 80 CRI, 4000K CCT, 24,620 LUMEN OUTPUT.	LUX #LUX-IK10P-L-2-SA-H03-840-2-U10-WP2	163W LED	208	MOUNT AT 22' ABOVE FINISHED FLOOR TO BOTTOM OF FIXTURE.
B	25" SURFACE MOUNTED, VANDAL RESISTANT LED FIXTURE. 4000K CCT, EMERGENCY BATTERY BACKUP. WHITE FINISH.	LUMINAIRE LED #CLF72-25W-4000K-120-DIM-OP-WHT-EMB310	25W LED	120	
C1	49" SURFACE MOUNTED, VANDAL RESISTANT, GASKETED AND ENCLOSED, LED FIXTURE. 4000K CCT. BLACK FINISH.	LUMINAIRE LED #VPF44-25W-4000K-DIM-120-CP-BLK	25W LED	120	
C2	49" SURFACE MOUNTED, VANDAL RESISTANT, GASKETED AND ENCLOSED, LED FIXTURE. 4000K CCT. BLACK FINISH. PHOTOCELL CONTROLLED.	LUMINAIRE LED #VPF44-25W-4000K-DIM-120-CP-BLK-PC	25W LED	120	
D	EXTERIOR ARCHITECTURAL WALL SCONCE. 4000K CCT, 80 CRI, DARK BRONZE FINISH. PHOTOCELL CONTROLLED.	LITHONIA #WDE2-LED-P2-40K-80CRI-VF-PE	10W LED	120	MOUNT AT 20' ABOVE FINISHED GRADE TO BOTTOM OF FIXTURE.
X1	VANDAL RESISTANT LED EXIT SIGN, RED LETTERS, WHITE FACEPLATE, WHITE HOUSING. BATTERY BACKUP	LITHONIA #LV-S-W-1-R-120/277-EL-N	4W LED	120	PROVIDE WIRE GUARD.
X2	EMERGENCY LIGHTING FIXTURE, WHITE HOUSING, 1100 LUMEN OUTPUT, BATTERY BACKUP.	LITHONIA #ELM6L-UVOLT-LTP-EHO	11W LED	120	PROVIDE WIRE GUARD. MOUNT AT 12' ABOVE FINISHED FLOOR TO BOTTOM OF FIXTURE.

PANELBOARD: P1

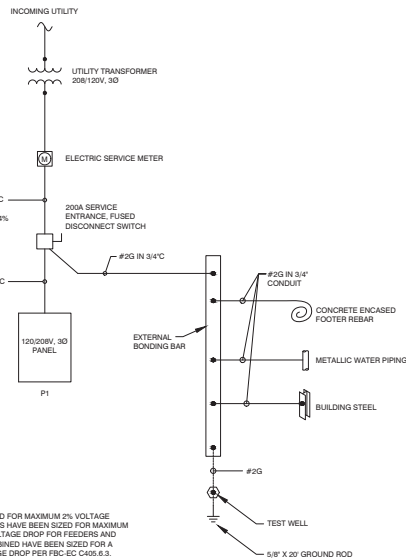
V.P.W:208/120.3Ø.4W				RATING: 200A				MOUNTING: SURFACE							
BUS MATERIAL: COPPER				TYPE: 200A M.C.B.				ENCLOSURE: NEMA 1							
REMARKS: 100% RATED				BREAKER TYPE: BOLT-ON				LOCATION:							
				INT. RATING: 25 KAIC											
CKT	#	LOAD DESCRIPTION	CB		PHASE LOAD (VA)				CB		LOAD DESCRIPTION	CKT	#		
			P	TRIP	A	B	C	TRIP	P						
1		EQUIP - FACP	1	20	600	720				20	1	2		RECEPTACLES	
3		RECEPTACLES	1	20			720	900		20	1	3		RECEPTACLES - EXTERIOR	
5		HVAC - EXHAUST FANS	1	20					256	2400	25	1	6		EQUIP - TWH-1
7					6600	2400					25	1	8		EQUIP - TWH-2
9		HVAC - AHU-1	3	90			6600	1225			20	2	10		LTG - GYM
11									6600	1225			12		
13					6600	1225					20	2	14		LTG - GYM
15		HVAC - AHU-2	3	90			6600	1225					16		
17									6600	278	20	1	17		LTG - EXTERIOR, RESTROOMS
19		EQUIP - GOAL POST GP-1	1	20	1200	1200					20	1	20		LTG - SCOREBOARD
21		EQUIP - GOAL POST GP-2	1	20		1200					20	1	21		SPARE
23		SPARE	1	20							20	1	22		SPARE
25		SPARE	1	20							20	1	23		SPARE
27		SPARE	1	20							20	1	24		SPARE
29		SPARE	1	20							20	1	25		SPARE
31		SPARE	1	20							20	1	26		SPARE
33		SPARE	1	20							20	1	27		SPARE
35		SPARE	1	20							20	1	28		SPARE
37		SPARE	1	20							20	1	29		SPARE
39		SPARE	1	20							20	1	30		SPARE
41		SPARE	1	20							20	1	31		SPARE
CONNECTED LOAD=			56374	VA	20545	18470	17359	DEMAND LOAD=			49397	VA			

NOTES:

SERVICE HAS BEEN SIZED FOR MAXIMUM 2% VOLTAGE DROP. BRANCH CIRCUITS HAVE BEEN SIZED FOR MAXIMUM 3% VOLTAGE DROP. VOLTAGE DROP FOR FEEDERS AND BRANCH CIRCUITS COMBINED HAVE BEEN SIZED FOR A MAXIMUM OF 5% VOLTAGE DROP PER FBC-EC C405.6.3.

SINGLE LINE DIAGRAM

SCALE: NTS



PANEL: P1	REC	LTG	HVAC	EQUIP
CONNECTED VA	7140	6378	39856	3090
DEMAND FACTOR	NEC	125%	80%	80%
DEMAND VA	7140	7973	31885	2400
TOTAL CONNECTED AMPS:	156 A			
TOTAL DEMAND AMPS:	137 A			
25% FUTURE CAPACITY:	34 A			
TOTAL DEMAND LOAD:	171 A			



ARCHITECT:



DELOE O'NEAL ENGINEERING

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CONSULTANTS:



LOWE STRUCTURES, INC.

11651 Central Parkway, Suite 106 Jacksonville, FL 32224 (904) 992-0377 FL Cert of Auth: 28261 EOR: J. Matthew Lowe FL PE: 59027

CONSULTANTS:

REV #	ISSUES / REVISIONS	DATE
1	SCHEMATIC DESIGN	05.18.2020
2	PROGRESS SET	08.14.2020
3	CONSTRUCTION DOCUMENTS	10.05.2020
4	PERMIT SET	01.25.2021
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DRAWN BY: BKW
DESIGNED BY: BKW
REVIEWED BY: BKW

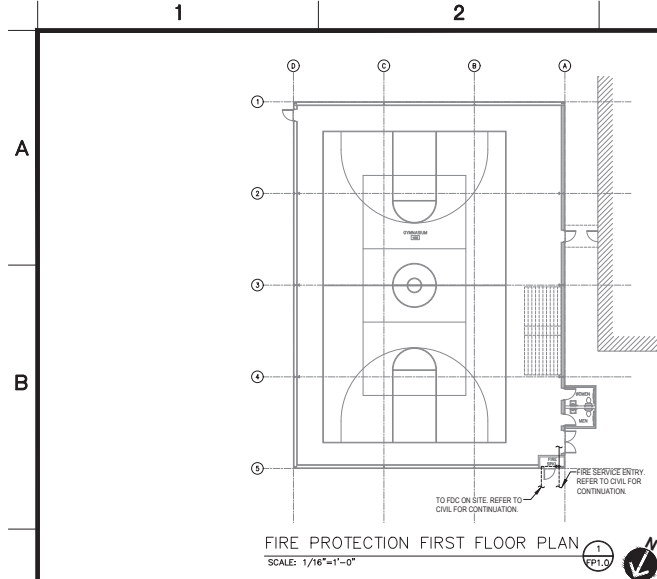
PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
176 DIVISION AVE.
ORMOND BEACH, FL 32174

SHEET TITLE
SCHEDULES AND
SINGLE LINE DIAGRAM

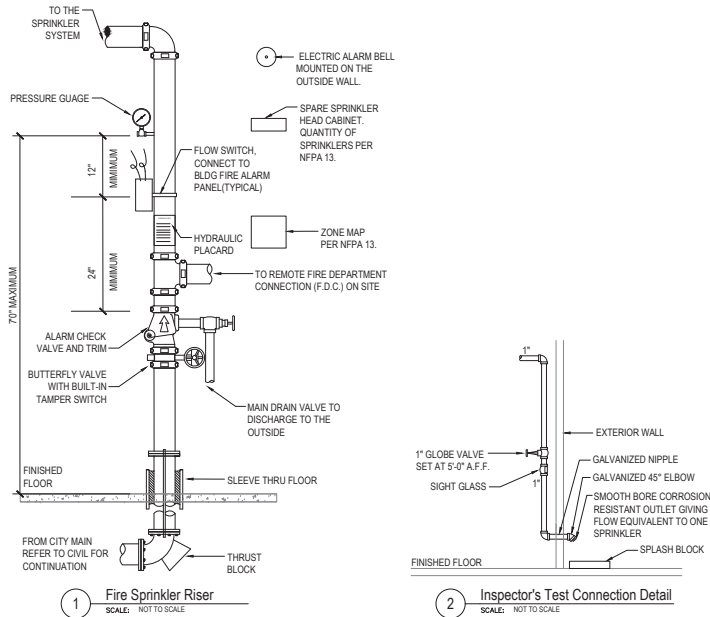
SHEET #
E4.0

BRIAN K. WILLIAMS
FL P.E.# 81306

PROJECT # 02454 DATE: 12.09.2019



COORDINATE WITH ELECTRICAL AND FIRE ALARM CONTRACTOR THE WIRING OF ALL APPLICABLE EQUIPMENT AND SWITCHES



FIRE PROTECTION 61G

SCOPE OF WORK INVOLVES A COMPLETE AUTOMATIC FIRE SPRINKLER SYSTEM FOR A NEW GYMNASIUM. FIRE SERVICE RISER TO BE LOCATED AT FIRE SPRINKLER ROOM WITH REMOTE FDC ON SITE. THIS PROJECT MUST MEET REQUIREMENTS IN ACCORDANCE WITH THE FLORIDA FIRE PREVENTION CODE, CHAPTER 43. REFER TO PLAN FOR MORE INFORMATION.

FAC 61G15-32.003

32.003(1) THE FIRE SPRINKLER CONTRACTOR SHALL PREPARE DETAILED WORKING PLANS IN ACCORDANCE WITH NFPA 13, CHAPTER 22. THE FIRE PROTECTION SYSTEM LAYOUT SHALL FOLLOW THE DESIGN GUIDELINES SET FORTH IN THESE FIRE PROTECTION ENGINEERING DOCUMENTS. THE FIRE PROTECTION SYSTEM SHOW THE DESIGN INTENT OF THE ENGINEER OF RECORD, IN ACCORDANCE WITH STATE REGULATION 61G15-32. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE INSTALLATION WITH ALL OTHER TRADES. THE CONTRACTOR SHALL PROVIDE COMPLETE SPRINKLER SYSTEM LAYOUT DRAWINGS WITH ANY ADDITIONAL OFFSETS, SPRINKLERS OR SYSTEM COMPONENTS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM AND TO AVOID CONFLICTS WITH OTHER TRADES.

32.003(2) THE FIRE SPRINKLER CONTRACTOR SHALL OBTAIN THE ACCEPTANCE TESTS FROM THE LOCAL AUTHORITY. THE ACCEPTANCE TEST FOR THE OVERHEAD SPRINKLER SYSTEM PIPING SHALL BE IN ACCORDANCE WITH NFPA 13, CHAPTER 24, SECTION 24.1 USING THE MATERIAL AND TEST CERTIFICATE FOR ABOVEGROUND PIPING IN FIGURE 24.1. THE ACCEPTANCE TEST FOR THE UNDERGROUND PIPING SHALL BE IN ACCORDANCE WITH NFPA 13, CHAPTER 10, SECTION 10.10 USING THE MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING IN FIGURE 10.10.1.

32.003(4) THE APPLICABLE CODE AND STANDARD TO BE USED IN THE PREPARATION OF THE FIRE PROTECTION SYSTEM LAYOUT DOCUMENTS SHALL BE SHOWN ON THE FIRE PROTECTION SYSTEM ENGINEERING DOCUMENTS. WHEN CODES AND STANDARDS ARE NOT AVAILABLE OR APPLICABLE, AND SAID LAYOUT DOCUMENTS ARE TO BE BASED ON ENGINEERING JUDGMENT, ANY REASONS AND ASSUMPTIONS MADE TO DEVELOP THE FIRE PROTECTION CONCEPT SHALL BE IDENTIFIED ON THE FIRE PROTECTION SYSTEM ENGINEERING DOCUMENTS.

32.003(5) STRUCTURAL SUPPORT AND STRUCTURAL OPENINGS REQUIRED BY THE FIRE PROTECTION SYSTEM SHALL BE SHOWN ON THE FIRE PROTECTION SYSTEM ENGINEERING DOCUMENTS AND ARE REFERENCED ON STRUCTURAL ENGINEERING DOCUMENTS.

FAC 61G15-32.004

32.004(2)(a) THE POINT OF SERVICE IS INDICATED AT THE BACKFLOW PREVENTER. AT THIS POINT, THE SYSTEM IS DEDICATED SOLELY FOR FIRE PROTECTION PURPOSES. NO DOMESTIC WATER SHALL BE TAKEN FROM THE SYSTEM BEYOND THIS POINT FOR OTHER PURPOSES.

32.004(2)(b) THE FOLLOWING ARE APPLICABLE STANDARDS:

2020 FLORIDA FIRE PREVENTION CODE, SEVENTH EDITION.

2020 FLORIDA BUILDING CODE, SEVENTH EDITION.

NFPA 13, 2013 EDITION, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS.

NFPA 24 STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES.

NFPA 25 INSPECTION, TESTING AND MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS.

32.004(2)(c) CLASSIFICATIONS OF HAZARD OCCUPANCIES FOR THE AREAS OF DESIGN SHALL BE AS FOLLOWS: ASSEMBLY - A-3 (CANOPY, CORRIDORS, RESTROOMS, AND OTHER SIMILAR OCCUPANCIES) LIGHT HAZARD OCCUPANCY PER NFPA 13, (MECHANICAL, ELECTRICAL, STORAGE ROOMS AND OTHER SIMILAR OCCUPANCIES) ORDINARY HAZARD GROUP 2 PER NFPA 13.

32.004(2)(d) THE SPRINKLER SYSTEM SHALL BE WET PIPE FOR THE LIGHT HAZARD OCCUPANCY AND SHALL BE HYDRAULICALLY CALCULATED PER NFPA 13, 0.10 GPM/SQ.FT. OVER THE MOST REMOTE 1500 SQ.FT. SPRINKLERS SHALL HAVE A TEMPERATURE RATING OF 155°F AND THE SPACING SHALL BE 225 SQ.FT. INCLUDE A FIRE HOSE ALLOWANCE OF 100 GPM. HOSE STREAM TO MEET OR EXCEED THE REQUIREMENTS OF NFPA 13 AND LOCAL AUTHORITIES.

THE SPRINKLER SYSTEM SHALL BE WET PIPE FOR THE ORDINARY HAZARD GROUP 2 OCCUPANCY AND SHALL BE HYDRAULICALLY CALCULATED PER NFPA 13, 0.20 GPM/SQ.FT. OVER THE MOST REMOTE 1500 SQ.FT. SPRINKLERS SHALL HAVE A TEMPERATURE RATING OF 155°F AND THE SPACING SHALL BE 130 SQ.FT. INCLUDE A FIRE HOSE ALLOWANCE OF 250 GPM. HOSE STREAM TO MEET OR EXCEED THE REQUIREMENTS OF NFPA 13 AND LOCAL AUTHORITIES.

IF QUICK RESPONSE OR EXTENDED COVERAGE SPRINKLERS ARE USED, THE SPRINKLERS SHALL BE DESIGNED, HYDRAULICALLY CALCULATED AND INSTALLED PER NFPA 13 AND THE MANUFACTURER'S LISTINGS AND REQUIREMENTS.

32.004(2)(e) WATER SUPPLY: THIS BUILDING WILL BE SUPPLIED BY AN UNDERGROUND FIRE MAIN WHICH CONNECTS TO AN EXISTING 6" WATER MAIN LOCATED AT DIVISION AVE.

32.004(2)(f) FIRE SPRINKLER CONTRACTOR SHALL PERFORM THE FLOW TEST WITHIN REQUIRED TIMEFRAME TO MEET THE CRITERIA OF CHAPTER 32.004(2)(f).

32.004(2)(g) VALVE AND ALARM REQUIREMENTS: ALL CONTROL VALVES ON SPRINKLER RISERS AND FIRE PROTECTION BACKFLOW PREVENTERS SHALL HAVE A TAMPER SWITCH. THE FLOW SWITCH SHALL BE SET TO NOT ALARM WITH MINOR CITY WATER PRESSURE FLUCTUATIONS. HOWEVER, THE FLOW OF ONE SPRINKLER HEAD SHALL PRODUCE AN ALARM CONDITION BY TRIPPING THE FLOW SWITCH. ALL FLOW AND TAMPER SWITCHES SHALL BE CONNECTED TO THE BUILDING FIRE ALARM PANEL. FLOW SWITCHES SHALL ALSO SOUND THE ELECTRIC ALARM BELL ON THE OUTSIDE WALL. FIRE SPRINKLER CONTRACTOR SHALL VERIFY AND TEST PER NFPA 13.

32.004(2)(h) THE LOCAL WATER PURVEYOR IS REQUESTED TO ADVISE THE ENGINEER OF RECORD IF CONDITIONS EXIST IN THEIR WATER SUPPLY THAT COULD LEAD TO MIC, SO THAT THE ENGINEER CAN DESIGN CORRECTIVE MEASURES.

32.004(2)(i) BACKFLOW PREVENTER AND METERING SPECIFICATIONS SHALL MEET OR EXCEED REQUIREMENTS OF LOCAL WATER PURVEYOR.

32.004(2)(j) YARD AND INTERIOR FIRE PROTECTION COMPONENTS: PRODUCT DATA SHEETS SHALL BE SUBMITTED BY THE SPRINKLER CONTRACTOR ALONG WITH THEIR SHOP DRAWINGS. ALL FIRE PROTECTION DEVICES AND COMPONENTS SHALL BE UL LISTED AND FM APPROVED.

32.004(2)(k) NO EXISTING FIRE PUMP IS LOCATED ON THIS SITE.

32.004(2)(l) NO FIREWATER STORAGE TANK IS REQUIRED ON SITE.

32.004(2)(m) NOT A STORAGE OCCUPANCY, NO OWNER'S INFORMATION CERTIFICATE IS REQUIRED.

FIRE PROTECTION GENERAL NOTES

1. WET PIPE SPRINKLER SYSTEM DESIGNED PER NFPA 13.
2. ALL FIRE SPRINKLERS SHALL BE IN ACCORDANCE WITH NFPA 13.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH NFPA 13.
4. ALL HANGERS & MATERIALS TO BE IN ACCORDANCE WITH NFPA 13.
5. ALL CROSS MAINS & RISERS TO BE SCHEDULE 10 BLACK PIPE, U.N.O. ALL BRANCH LINE PIPING TO BE SCHEDULE 10 OR 40 BLACK PIPE, U.N.O.
6. PIPE TO HANG AT APPROXIMATELY 12" ABOVE FINISHED CEILING. COORDINATE WITH ALL STRUCTURAL ELEMENTS, OTHER TRADES AND ABIDE BY ALL OBSTRUCTION RULES PER NFPA 13, AND FIRE SPRINKLER MANUFACTURER'S SPECIFICATIONS.
7. IF USED, UPRIGHT SPRINKLERS TO BE LOCATED BETWEEN 1" AND 12" BELOW ROOF DECK.
8. SPRINKLER HEAD SPACING IS PER NFPA 13. SPRINKLERS SHALL BE CENTERED IN CEILING TILES IN AREAS WITH LAY-IN TILES AND VISUALLY ALIGNED IN AREAS WITH SMOOTH CEILINGS.
9. THE GENERAL CONTRACTOR SHALL PROVIDE, OR HAVE PROVIDED, A SET OF COORDINATION DRAWINGS FOR ALL SYSTEMS AND FEATURES THAT OCCUR ABOVE THE CEILING PLANE. THE COORDINATION DRAWINGS SHALL INCLUDE, BUT NOT BE LIMITED TO, STRUCTURAL MEMBERS, HVAC DUCTWORK, HYDRO-PNEUMATIC SUPPLY AND WASTE PIPING, FIRE PROTECTION PIPING, ELECTRICAL POWER CONDUITS AND RACEWAYS, AND ELECTRICAL LOW VOLTAGE CONDUITS AND RACEWAYS. THE COORDINATION DRAWINGS SHALL PROVIDE, APPROPRIATE, AND COORDINATE SPACE FOR ALL SYSTEMS, HORIZONTALLY AND VERTICALLY ABOVE THE CEILING PLANE TO THE STRUCTURAL DECK ABOVE ALLOWING EACH TRADE CONTRACTOR THE SPACE TO PROPERLY EXECUTE HIS PORTION OF THE WORK.
10. ALL GROOVED FITTINGS TO BE "VICTAULIC" FITTINGS OR APPROVED EQUAL.
11. ALL PENETRATIONS THRU FIRE OR SMOKE RATED WALLS AND FLOORS ARE TO BE PATCHED AND SEALED PER THE APPLICABLE UL LISTED DETAIL THAT CORRESPONDS WITH THE RATING OF THE WALL OR FLOOR.
12. ALL DIMENSIONS TO BE VERIFIED DURING FIELD CHECK OF SPRINKLER SYSTEM.
13. THE FOLLOWING ARE ACCEPTABLE SPRINKLER HEAD MATERIAL MANUFACTURERS:
RELIABLE
TYCO
VICTAULIC
VIRING
14. SPRINKLER SYSTEMS, INCLUDING ALL ASSOCIATED FIRE PROTECTION SIGNALS, SHALL BE SUPERVISED BY AN APPROVED CENTRAL, PROPRIETARY, AUXILIARY, OR REMOTE STATION SYSTEM IN ACCORDANCE WITH NFPA.
15. COORDINATE PIPE ROUTING NEAR ELECTRICAL EQUIPMENT WITH NFPA 70 CLEARANCE REQUIREMENTS.
16. INFORMATION ON CONTRACT DOCUMENTS IS GENERAL INFORMATION AND FOR BID PURPOSES ONLY. FIRE SPRINKLER CONTRACTOR TO PROVIDE FIRE PROTECTION SHOP DRAWINGS, REQUIRED HYDRAULIC CALCULATIONS, AND MATERIAL DATA SUBMITTALS ARE TO BE SUBMITTED TO AUTHORITY HAVING JURISDICTION, ARCHITECT AND ENGINEER OF RECORD FOR REVIEW AND APPROVAL.
17. CORROSION PROTECTION FOR ALL UNDERGROUND BOLTED JOINT ACCESSORIES SHALL BE CLEANED AND THOROUGHLY COATED WITH ASPHALT OR OTHER CORROSION-RETARDING MATERIAL AFTER INSTALLATION IN ACCORDANCE WITH NFPA 13, SECTION 10.3.2.
18. THE UNDERGROUND MAIN STARTING AT THE PUBLIC WATER UTILITY POINT OF CONNECTION HAS BEEN DESIGNED TO NFPA 24. INSTALLATION AND TESTING SHALL BE IN ACCORDANCE WITH NFPA 24.
19. ALL FIRE SPRINKLER COMPONENTS ARE TO BE RATED FOR THE MAXIMUM SYSTEM WORKING PRESSURE TO WHICH THEY ARE EXPOSED IN ACCORDANCE WITH NFPA 13, SECTION 6.1.3.
20. THE COMPONENTS OF THE FIRE PROTECTION SYSTEM(S) FURNISHED UNDER THIS DIVISION OF THE SPECIFICATIONS SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE THEREOF, EITHER FOR BENEFICIAL USE OR FINAL ACCEPTANCE, WHICHEVER IS EARLIER, AGAINST DEFECTIVE MATERIALS, DESIGN, AND WORKMANSHIP. UPON RECEIPT OF NOTICE FROM THE ARCHITECT OF FAILURE OF ANY PART OF THE EQUIPMENT DURING THE GUARANTEE PERIOD, THE AFFECTED PART OR PARTS SHALL BE REPLACED PROMPTLY WHICH INCLUDES REMOVING THE DEFECTIVE PART OR PARTS, REPLACING AND INSTALLING THE NEW PART OR PARTS AND AT THE EXPENSE OF THE CONTRACTOR.
21. OPERATING AND MAINTENANCE INSTRUCTIONS, PRINTED AND BOUND IN HARD COVER THREE-RING LOOSE LEAF NOTEBOOKS, SHALL BE PROVIDED TO THE OWNER.
22. AS-BUILT DRAWINGS SHALL BE PROVIDED TO THE OWNER AND ENGINEER OF RECORD.

DRAWING INDEX	
SHEET NUMBER	TITLE
EPO.1	Fire Protection Plan and General Information



ARCHITECT:



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FL Cert of Auth: 28261
EOR: J. Matthew Lowe FL PE: 59027

CONSULTANTS:

REV #	ISSUES / REVISIONS	DATE
1	SCHEMATIC DESIGN	5.18.2020
2	PROGRESS SET	8.14.2020
3	BID SET	1.25.2021
4		
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DRAWN BY: KMO
DESIGNED BY: KMO
REVIEWED BY: MNO

PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
176 DIVISION AVE.
ORMOND BEACH, FL. 32174

SHEET TITLE
FIRE PROTECTION PLAN &
GENERAL INFORMATION



PROJECT # 020005 DATE: 12.09.2019

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF ORMOND BEACH LAND DEVELOPMENT CODE REQUIREMENTS, STANDARD CONSTRUCTION DETAILS & STANDARD SPECIFICATIONS, LATEST EDITIONS.
- ALL DRAINAGE STRUCTURES AND OTHER IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION.
- SHOP DRAWINGS AND CERTIFICATIONS FOR ALL MATERIALS AND STRUCTURES ARE REQUIRED. THE CONTRACTOR SHALL REVIEW AND SIGN SHOP DRAWINGS. THE CONTRACTOR SHALL SUBMIT REVISED SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE MATERIALS REQUIRED FOR CONSTRUCTION.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL REQUIRED PERMITS. THE CONTRACTOR SHALL MAINTAIN COPIES OF ALL RELEVANT PERMITS AND CONSTRUCTION DOCUMENTS AVAILABLE ON THE JOB SITE AT ALL TIMES.
- CONTRACTOR TO MAINTAIN THE SITE IN A SAFE AND SECURE MANNER TO PROTECT PUBLIC SAFETY AND THE CONDITIONS OF THE IMPROVEMENTS.
- THE CONTRACTOR SHALL MAINTAIN, AT THE JOB SITE, A RECORD COPY OF ALL CONSTRUCTION DRAWINGS AND SPECIFICATIONS ON WHICH ALL FIELD CHANGES ARE TO BE SHOWN. THESE CHANGES ARE TO BE INCORPORATED IN THE "AS-BUILT" SURVEY FURNISHED TO THE ENGINEER.
- SHOULD CONDITIONS VARY FROM THOSE SHOWN ON THESE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF RECORD PRIOR TO CONTINUING CONSTRUCTION.
- ANY FIELD MODIFICATIONS OR DEVIATIONS TO THESE CONSTRUCTION PLANS REQUIRES APPROVAL BY BOTH THE ENGINEER OF RECORD AND THE CITY OF ORMOND BEACH PRIOR TO PERFORMING THE WORK.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AN "AS-BUILT" SURVEY OF THE COMPLETED CONSTRUCTION. THE "AS-BUILT" SURVEY SHALL BE PREPARED IN ACCORDANCE WITH APPROPRIATE GOVERNMENTAL REGULATIONS AND ZCA REQUIREMENTS. THE "AS-BUILT" SURVEY SHALL BE PREPARED BY ZCA'S DESIGN/PERMITTED PLANS, ELECTRONIC AND PAPER COPIES OF THE "AS-BUILT" SURVEY SHALL BE PROVIDED TO THE ENGINEER OF RECORD. THE "AS-BUILT" SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL LAND SURVEYOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING VEHICULAR AND PEDESTRIAN TRAFFIC SAFELY THROUGH THE WORK ZONE AT ALL TIMES. IF APPLICABLE, ANY SIDEWALK, CURB AND/OR CLOSURE REQUIRES REVIEW AND APPROVAL IN ADVANCE AND A SEVEN (7) DAY MINIMUM NOTICE TO THE JURISDICTIONAL AGENCY/AGENCIES INVOLVED IN OPERATIONS (386-239-6535). THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REQUIRED COORDINATION.
- MAINTENANCE OF TRAFFIC WILL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS AND THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD PLANS, LATEST EDITIONS.
- CONTRACTOR TO NOTIFY THE REGULATORY AGENCIES FORTY EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL ADVISE ALL OF ALL TESTING REQUIRED TO THE REGULATORY AGENCIES AND THE ENGINEER OF RECORD.
- SURVEY INFORMATION PROVIDED BY ATLANTIC DRAFTING & SURVEYING, INC. DATED MARCH 24, 2020. ALL ELEVATIONS BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29) / NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND ARE SHOWN IN FEET. STATE PLANE COORDINATES ARE BASED UPON NAD 83.
- ALL PUBLIC LAND CORNERS AND MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED. THE CONTRACTOR SHALL EMPLOY A SURVEYOR, REGISTERED IN THE STATE OF FLORIDA, TO REPLACE, RESTORE ANY PROPERTY OR LAND MARKERS DISTURBED BY CONSTRUCTION ACTIVITIES FOR THE PROJECT.
- NO LAND SHALL BE CLEARED, EXCAVATED OR FILLED AND NO STRUCTURES SHALL BE ERRECTED, REPAIRED OR DEMOLISHED WITHOUT PROPER PERMITS(S).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS AS WELL AS THE REQUIREMENTS OF SET-BACK RIVER WATER MANAGEMENT DISTRICT AND E.P.A. (NPDES). CONTRACTOR SHALL ESTABLISH BEST MANAGEMENT PRACTICES AND EROSION CONTROL MEASURES PRIOR TO COMMENCING ANY SITE CLEARING OR DEMOLITION AND SHALL MAINTAIN THOSE BARRIERS UNTIL FINAL ACCEPTANCE OF THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROJECT'S NPDES PERMITTING, INSPECTION AND REPORTING, IF APPLICABLE.
- THE EROSION, SEDIMENT AND TURBIDITY CONTROL MEASURES DELINEATED HEREON ARE THE MINIMUM REQUIRED. ADDITIONAL CONTROLS MAY BE NEEDED, DEPENDING UPON THE ACTUAL SITE CONDITIONS. JURISDICTIONAL AGENCY PERMIT REQUIREMENTS MAY BE MORE STRINGENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROJECT'S NPDES PERMITTING, INSPECTION AND REPORTING, IF APPLICABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROJECT'S NPDES PERMITTING, INSPECTION AND REPORTING, IF APPLICABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROJECT'S NPDES PERMITTING, INSPECTION AND REPORTING, IF APPLICABLE.
- ALL UNDESIRABLE SOLIDS AND UNDESIRABLE MATERIALS (SUCH AS GLASS, ORGANICS, ROCK, CEMENTED COAGULA, DEBRIS, ETC.) SHALL BE REMOVED, DISPOSED OF IN A LEGAL MANNER AND REPLACED WITH DRY CLEANED GRAVEL/AGGREGATE. ALL UNDESIRABLE MATERIALS SHALL BE REMOVED AND REPLACED WITH DRY CLEANED GRAVEL/AGGREGATE. ALL UNDESIRABLE MATERIALS SHALL BE REMOVED AND REPLACED WITH DRY CLEANED GRAVEL/AGGREGATE. ALL UNDESIRABLE MATERIALS SHALL BE REMOVED AND REPLACED WITH DRY CLEANED GRAVEL/AGGREGATE.
- IN THE EVENT THAT WATER IS ENCOUNTERED DURING CONSTRUCTION, Dewatering shall be performed as needed. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, PERMITTING, INSTALLATION, OPERATION AND SUBSEQUENT REMOVAL OF Dewatering SYSTEMS AND THEIR SAFETY AND CONFORMITY WITH APPLICABLE CODES AND REGULATIONS.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE ELECTRIC, TELEPHONE, GAS, CABLE TELEVISION, COMMUNICATIONS, ETC. COMPANIES TO DETERMINE THE TYPE AND LOCATION OF ALL UNDERGROUND FACILITIES IN THE AREA OF CONSTRUCTION.
- ALL UNDERGROUND UTILITIES HAVE BEEN LOCATED HORIZONTALLY AND VERTICALLY BASED ON THE BEST INFORMATION AVAILABLE AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING ALL ELEVATIONS OF EXISTING UTILITIES (PUBLIC AND PRIVATE) SHOWN OR NOT SHOWN PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE VARIOUS UTILITY COMPANIES TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATION, DISRUPTION OF SERVICE OR CLARIFICATION OF ACTIVITY REGARDING SAID UTILITY. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING NEAR OR CROSSING A UTILITY, WHETHER SHOWN ON THESE PLANS OR FIELD LOCATED. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE AND NOTIFY THE UTILITY COMPANIES FOR UTILITIES WHICH NEED TO BE RELOCATED FOR THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PAY FOR ANY REPAIR, RELOCATION OR TEMPORARY MEASURES NEEDED FOR EXISTING OR PROPOSED UTILITIES.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND AVOID ALL UTILITIES, OTHER STRUCTURES AND OBSTRUCTIONS BOTH ABOVE AND BELOW GROUND. ALL DAMAGE RESULTING FROM THE CONTRACTOR'S FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITY PROVIDERS AT LEAST TWO (2) BUSINESS DAYS PRIOR TO ANY CONSTRUCTION.
- THE CONTRACTOR SHALL MAINTAIN UNINTERRUPTED SERVICE AT ALL SERVICE CONNECTIONS. THE MANNER IN WHICH THIS IS ACCOMPLISHED SHALL BE LEFT TO THE DISCRETION OF THE CONTRACTOR, SUBJECT TO THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS.
- ALL EXISTING DRAINAGE STRUCTURES AND UTILITIES WITHIN THE CONSTRUCTION LIMITS SHALL REMAIN, UNLESS OTHERWISE NOTED IN PLANS.
- ALL STATIONS AND OFFSETS REFER TO CENTERLINE CONSTRUCTION UNLESS OTHERWISE NOTED IN PLANS.
- THE LENGTH OF ALL DRAINAGE PIPES AND LOCATION OF ALL DRAINAGE STRUCTURES ARE APPROXIMATE. THE LOCATION OF THE DRAINAGE STRUCTURE SHALL DETERMINE THE LENGTH OF PIPE.
- THE TOP OF CASTING ELEVATIONS (TIC) OF ALL STRUCTURES ARE SHOWN. HOWEVER, THE CONTRACTOR SHALL INSTALL ALL FRAMES SO AS TO PROVIDE A SMOOTH SURFACE FOR VEHICULAR AND/OR PEDESTRIAN TRAFFIC.
- CONTRACTOR SHALL CONFORM PROPOSED TOP OF CASTING (TIC) ELEVATIONS WITH ALLOW POSITIVE DRAINAGE TO PROPOSED INLETS. IF POSITIVE DRAINAGE DOES NOT EXIST, CONTRACTOR TO COORDINATE WITH ENGINEER OF RECORD FOR SOLUTION AND ADJUST PROPOSED INLETS AS NECESSARY.
- CONTRACTOR SHALL CONFORM ELEVATION OF EXISTING GRADE PRIOR TO PLACING DRAINAGE OUTFALL STRUCTURES. CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD IF EXISTING GRADE DOES NOT MATCH PROPOSED OUTFALL INVERT. CONTRACTOR SHALL ADJUST OUTFALL STRUCTURE INVERT AND/OR STRUCTURE LOCATION AS DIRECTED BY ENGINEER OF RECORD.
- ANY DRAINAGE PROBLEMS CREATED BY CONSTRUCTION, OR EXISTING BEFORE CONSTRUCTION AND NOT ALLEVATED, SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD AT THE TIME OF DISCOVERY.
- ALL STORMWATER PIPES AND INLETS SHALL BE CLEARED OF DEBRIS AND ERODED MATERIALS AT LAST STAGES OF WORK PRIOR TO COMPLETION OF CONSTRUCTION.

GENERAL NOTES

- SPECIAL ATTENTION IS DIRECTED TO THE FACT THAT PORTIONS OF SOME DRAINAGE STRUCTURES MAY EXTEND INTO THE STABILIZED PORTION OF THE ROADBED. EXTREME CAUTION WILL BE NECESSARY DURING COMPACTION AND STABILIZATION OPERATIONS AT THESE LOCATIONS TO AVOID DAMAGE AND ACHIEVE THE REQUIRED COMPACTION.
- DURING CONSTRUCTION, AN ALL-WEATHER ACCESSIBLE ROADWAY SHALL BE MAINTAINED AT ALL TIMES FOR FIRE ACCESS.
- ALL REQUIRED FIRE LINES & HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL & STATE REQUIREMENTS FOR OPERATIONS PRIOR TO START OF VERTICAL CONSTRUCTION.
- NO ONE OF THE EXISTING LIMBOK BASE THAT IS REMOVED IS TO BE USED IN THE CONSTRUCTION OF THE NEW LIMBOK BASE UNLESS OTHERWISE NOTED ON PLANS.
- EXISTING DRIVEWAYS WITHIN THE LIMITS OF THIS PROJECT ARE TO BE REPLACED AT THE SAME LOCATION AND WIDTH WITH THE SAME TYPE OF MATERIAL, UNLESS OTHERWISE SHOWN IN THE PLANS.
- ALL RAMPS, SIDEWALKS AND ACCESSIBLE ROUTES ARE TO BE IN COMPLIANCE WITH CURRENT A.D.A. REQUIREMENTS.
- STOPS THAT ARE REMOVED AND ARE TO BE RELOCATED SHALL BE STOCK PILED BY THE CONTRACTOR. ANY EXISTING SIGN DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT HIS COST.
- ROADWAY AND PARKING DAMAGE AND MARKINGS SHALL BE IN CONFORMANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.
- GRADES SHOWN ARE FINISHED GRADES.
- OPERATION AND MAINTENANCE OF THE STORMWATER SYSTEM WILL BE PROVIDED BY THE OWNER OF PROPERTY. MAINTENANCE IS TO INCLUDE BI-WEEKLY MOWING OF SIDE SLOPES FOR VEGETATION CONTROL, AND MONTHLY INSPECTION/CLEANING OF CULVERTS & STORM SYSTEMS.
- ALL DISTURBED AREAS SHALL BE SOODED, UNLESS OTHERWISE SHOWN, AND SHALL HAVE SOO/VEGETATED COVER ESTABLISHED PRIOR TO THE INSPECTION FOR THE CERTIFICATE OF OCCUPANCY.
- INSTALLATION OF THE REQUIRED STREET SIGNS, TRAFFIC SIGNS, PAVEMENT STRIPING, STREET LIGHTS AND SIDEWALKS ALONG WITH THE PAINTING OF THE FIRE HYDRANTS MUST BE COMPLETED PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF COMPLETION.
- CONTRACTOR IS RESPONSIBLE FOR INSPECTING AND PRE-TESTING PRIOR TO SUBMITTING A TEST OR WALK-THROUGH WITH THE UTILITY REPRESENTATIVES, MUNICIPAL REPRESENTATIVES AND ENGINEER OF RECORD. THE COST ASSOCIATED WITH RETESTING SHALL BE FOR THE CONTRACTOR.
- THE ENGINEER OF RECORD AND LOCAL UTILITY SHALL BE GIVEN SEVENTY-TWO (72) HOURS NOTICE OF ALL REQUESTED MEETINGS AND/OR TESTING MEASURES.
- CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE REGULATORY REPRESENTATIVES TO INSPECTING AUTHORITIES BEFORE AND DURING CONSTRUCTION.

GENERAL NOTES

- 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 (SCDCS), AN ENGINEERING PERMIT AND TREE REMOVAL PERMIT IS REQUIRED PRIOR TO STARTING CONSTRUCTION.
- NO LAND SHALL BE CLEARED, EXCAVATED OR FILLED AND NO STRUCTURE SHALL BE ERRECTED, REPAIRED OR DEMOLISHED WITHOUT PROPER PERMIT(S) AS REQUIRED BY THE CITY OF ORMOND BEACH.
- NOTIFY THE CITY OF ORMOND BEACH'S ENGINEERING DIVISION AT 678-3269 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- ANY CONSTRUCTION CHANGES TO APPROVED PLANS SHALL BE SUBMITTED TO THE CITY OF ORMOND BEACH FOR APPROVAL PRIOR TO PERFORMING THE WORK.
- 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.
- A PRE-PAVING UTILITY INSPECTION MUST BE REQUESTED AND COMPLETED PRIOR TO THE PAVING OF ALL ROADS, STREETS, AND PARKING AREAS.
- 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'S ENGINEERING DIVISION 678-3269 WHEN REQUESTING A FINAL INSPECTION.
- 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.
- THE CITY HAS A CONTRACTOR FOR ROLL OFF SERVICE. NO OTHER CONTRACTOR SHALL BE PERMITTED TO PROVIDE THIS SERVICE.
- 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'S ENGINEERING DIVISION PRIOR TO CONSTRUCTION TO BE IN COMPLIANCE WITH THE PERMIT.
- CONTRACTOR WILL FOLLOW REQUIRED WASTE MANAGEMENT PRACTICES.
- SEEDING OR SOODING 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.
- ANY FIELD MODIFICATIONS OR DEVIATIONS TO THIS CONSTRUCTION PLAN REQUIRES WRITTEN APPROVAL BY BOTH THE ENGINEER OF RECORD AND THE CITY OF ORMOND BEACH ENGINEERING DIVISION.

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 PAVING AND DRAINAGE "AS-BUILT" DRAWINGS:

- PAVEMENT AND CURB WIDTHS SHALL BE VERIFIED AND DIMENSIONED FOR EACH STREET AT EACH BLOCK. ALL RAMP AT INTERSECTIONS SHALL BE VERIFIED AND DIMENSIONED. THIS INFORMATION TO CLEARLY INDICATE IT AS "AS-BUILT" INFORMATION.
- 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 TO IT MAY BE COMPARED TO THE EXISTING AND DESIGNED PROFILE GRADE LINES. ALL STREET CENTERLINES ON "AS-BUILT" SHALL BE LABELED WITH STREET NAME AND RIGHT-OF-WAY BOTH ON EVERY PAGE.
- STORM DRAINAGE PIPES SHALL BE LOCATED AND/OR DIMENSIONED FROM CENTERLINES OR LOT LINES AS APPROPRIATE.
- STORM DRAINAGE PIPE INVERT AND STRUCTURE TOP AND BOTTOM ELEVATIONS SHALL BE RECORDED AND CLEARLY IDENTIFIED AS "AS-BUILT" INFORMATION. DESIGN ELEVATIONS SHALL BE CROSSED OUT AND "AS-BUILT" INFORMATION WRITTEN NEXT TO IT.
- STORM DRAINAGE PIPE MATERIAL, LENGTH, AND SIZE SHALL BE MEASURED AND/OR VERIFIED. THIS INFORMATION TO CLEARLY INDICATE IT AS "AS-BUILT" INFORMATION.
- ALL APPLICABLE TOPOGRAPHIC INFORMATION PERTINENT TO THE ON SITE DRAINAGE SYSTEM SUCH AS OTHER 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 TIE OF SLOPE WILL BE REQUIRED. MEASUREMENTS SHALL BE TAKEN AND RECORDED IN ORDER TO ACCURATELY THE DOWN THESE FEATURES TO THE ROADWAY CENTERLINES AND TO PLAT LINES. WHICHEVER POSSIBLE, CENTER LINES SHALL BE UTILIZED TO GRAPHICALLY DESCRIBE THESE TOPOGRAPHIC FEATURES.
- RETENTION AREAS SHALL HAVE THEIR TOP-OF-BANK AND BOTTOM ELEVATIONS RECORDED. MEASUREMENTS SHALL BE TAKEN AND DIMENSIONED RECORDED. THE SIZE OF ALL RETENTION AREAS. MEASUREMENTS SHALL BE DONE FROM TOP-OF-BANK TO TOP-OF-BANK WITH SLOPES INDICATED. SEPARATE MEASUREMENTS SHALL BE SUBMITTED TO UTILITATE REQUIRED AND PROVIDED RETENTION VOLUMES.
- STORM DRAINAGE CENTERLINES SHALL BE LOCATED AND ELEVATIONS OF FLOW LINE SHALL BE RECORDED EVERY 100 FEET.
- ANY SPECIAL FEATURES SUCH AS CONCRETE FLOW LINES, BANKS, WALLS, FENCING, ETC., WHICH WERE A PART OF THE APPROVED CONSTRUCTION DRAWINGS SHOULD ALSO BE LOCATED AND DIMENSIONED.
- ALL MATERIALS USED AND ELEVATIONS AND DIMENSIONS OF OVERFLOW WEIR STRUCTURES AND SHIMMERS SHALL BE NOTED ON THE "AS-BUILT" INFORMATION.

THE FOLLOWING INFORMATION IS REQUIRED ON ALL WATER AND SEWER "AS-BUILT" DRAWINGS:

- SANITARY SEWER MANHOLES SHALL BE VERIFIED AND DIMENSIONED FROM STREET CENTERLINES OR LOT LINES AS APPROPRIATE. ALL R/W AND INVERT ELEVATIONS SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS "AS-BUILT" INFORMATION.
- SANITARY SEWER LINE LENGTHS, SIZES, MATERIAL, SLOPE, ETC., SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS "AS-BUILT" INFORMATION.

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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 DROP LINE OF EXISTING NATURAL 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 END OF THE EASEMENT 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 DROP 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, &/OR HAVE BEST MANAGEMENT PRACTICES (BMP'S) 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 CITY 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 THE FINAL APPROVED SITE DESIGN PREPARED BY THE ENGINEER OF RECORD. LINE WEIGHTS, LINE TYPES, AND ANNOTATION SHALL BE MAINTAINED IN A MANNER THAT CLEARLY DISTINGUISHES DESIGN INFORMATION FROM "AS-BUILT" INFORMATION.
- ALL "AS-BUILT" SHEETS SHALL INCLUDE A TITLE BLOCK AND CLEARLY STATE PROJECT NAME, PRELIMINARY DATE OF FIELD WORK, AS WELL AS PROJECT CREDITATION BLOCK FROM THE ENGINEER OF RECORD.
- ONCE AN AREA IS SEEDING OR SOODED, 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.

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STANDARD CONSTRUCTION DETAIL
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DEC 2015



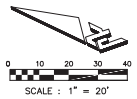
Know what's below.
Call before you dig.



SHEET C2 OF 7



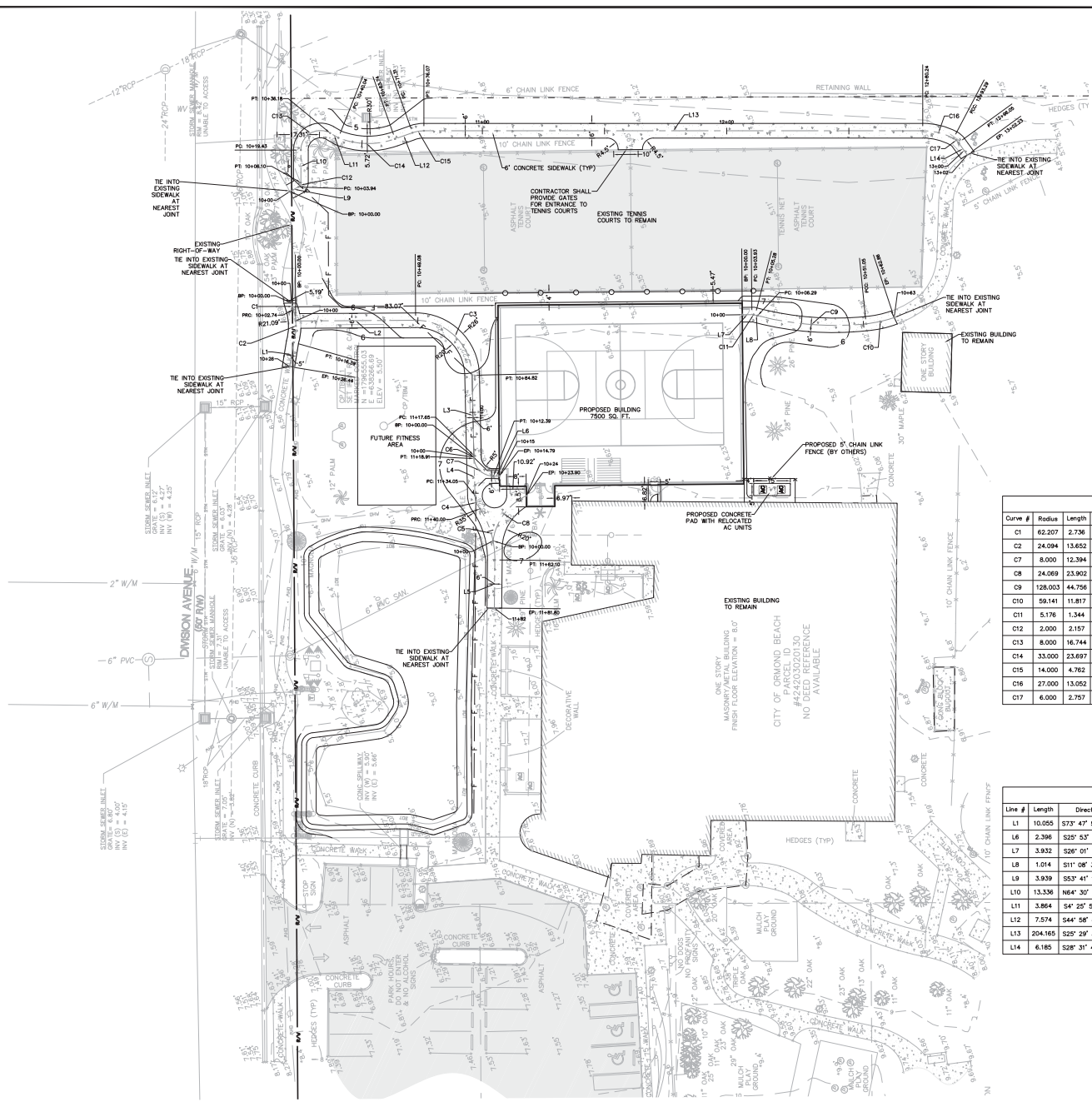
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION



LEGEND:

- EXISTING TENNIS COURT HATCH
- PROPOSED CONCRETE
- EXISTING STREET LIGHT

NOTES:
1. CONTRACTOR TO NOTIFY ENGINEER OF RECORD IF FIELD LAYOUT DIFFERS FROM FIELD CONDITIONS



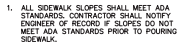
Curve Table: Alignments					
Curve #	Radius	Length	Chord Direction	Start Point	End Point
C1	62.207	2.736	S46° 59' 01.75"W	(638295.8326, 1796610.7654)	(638293.8327, 1796608.8993)
C2	24.094	13.652	S64° 07' 43.80"W	(638293.8327, 1796608.8993)	(638281.7128, 1796603.0218)
C7	8.000	12.394	S18° 29' 47.73"W	(638271.0923, 1796516.2541)	(638267.5419, 1796505.6410)
C8	24.069	23.902	S79° 05' 54.80"E	(638243.5233, 1796494.4224)	(638266.0412, 1796490.0855)
C9	128.003	44.756	S21° 09' 44.54"E	(638373.3108, 1796436.3770)	(638389.3862, 1796394.8518)
C10	59.141	11.817	S38° 05' 22.82"E	(638389.3862, 1796394.8518)	(638396.6642, 1796385.5864)
C11	5.178	1.344	S18° 34' 57.78"E	(638372.6877, 1796348.6428)	(638373.1148, 1796437.3723)
C12	2.000	2.157	S84° 35' 23.55"E	(638339.9578, 1796628.6965)	(638342.0028, 1796628.5028)
C13	8.000	16.744	S55° 31' 49.01"E	(638354.0410, 1796634.2428)	(638365.4601, 1796626.4033)
C14	33.000	23.697	S24° 24' 29.56"E	(638365.1616, 1796622.5511)	(638374.7451, 1796601.4325)
C15	14.000	4.762	S35° 14' 09.79"E	(638380.0986, 1796596.0750)	(638382.8329, 1796592.2043)
C16	27.000	13.052	S11° 38' 37.13"E	(638470.7022, 1796407.9156)	(638473.3107, 1796395.2566)
C17	6.000	2.757	S15° 22' 01.31"W	(638473.3107, 1796395.2566)	(638472.5866, 1796392.6218)

Line Table: Alignments				
Line #	Length	Direction	Start Point	End Point
L1	10.055	S73° 47' 59.87"W	(638281.7128, 1796603.0218)	(638272.0570, 1796600.2165)
L6	2.396	S25° 53' 11.90"E	(638267.5419, 1796505.6410)	(638268.0886, 1796503.4852)
L7	3.932	S28° 01' 20.11"E	(638370.9625, 1796442.7865)	(638372.6877, 1796438.6428)
L8	1.014	S11° 08' 35.45"E	(638373.1149, 1796437.3723)	(638373.3108, 1796436.3775)
L9	3.939	S53° 41' 16.25"E	(638356.7839, 1796631.0290)	(638359.9578, 1796628.6965)
L10	13.336	N64° 30' 29.15"E	(638342.0029, 1796628.5028)	(638354.0410, 1796634.2428)
L11	3.864	S4° 25' 52.84"W	(638365.4601, 1796626.4033)	(638365.1616, 1796622.5511)
L12	7.574	S44° 58' 48.74"E	(638374.7451, 1796601.4325)	(638380.0986, 1796596.0750)
L13	204.165	S25° 29' 30.85"E	(638382.8329, 1796592.2043)	(638470.7022, 1796407.9156)
L14	6.185	S28° 31' 46.04"W	(638472.5866, 1796392.6218)	(638469.6326, 1796387.1879)

SONC GYMNASIUM
100% ENGINEERING PLANS &
GEOMETRY, SIGNAGE &
STRIPING PLAN

PROJECT NO.: 20-18159
DESIGNED BY: KR
DRAWN BY: TR
CHECKED BY: MDG





STRUCTURES LABELED WITH A "" SHALL CONTAIN A EXTRA INVERT FOR THE CONNECTION TO THE ROOF DRAINS

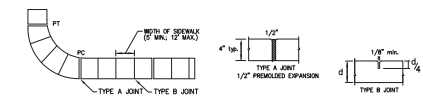
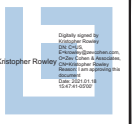


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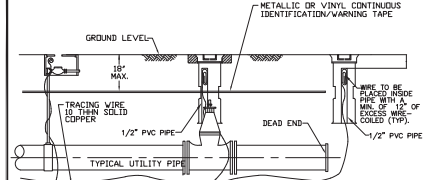
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SONC GYMNASIUM
100% ENGINEERING PLANS
CONSTRUCTION DETAILS

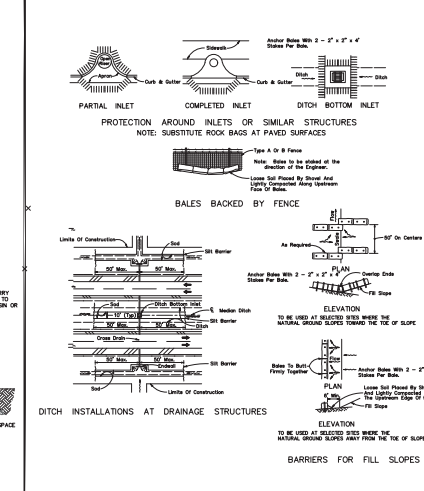
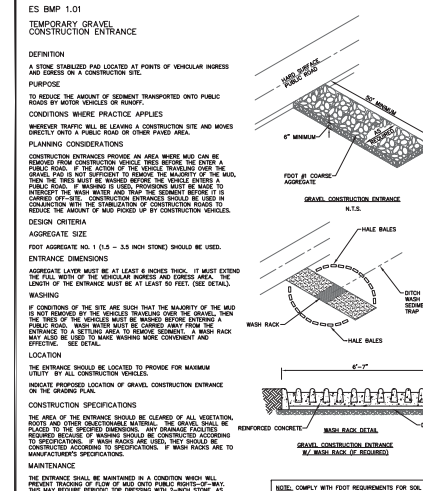
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DRAWN BY: TR
CHECKED BY: MD
DRAWING FILE: 06-07-19150 DET
USER: S. 11/10/2020 09:00
XREF: 19150000.DWG



1. SIDEWALKS, BIKERATHS, RAMPS, AND DRIVEWAY APRONS SHALL BE CONSTRUCTED OF PLAN PORTLAND CEMENT CONCRETE WITH A MINIMUM SLUMP OF 3 INCHES. A MINIMUM UNIFORM THICKNESS OF 4 INCHES SHALL BE MAINTAINED. SIDEWALKS SHALL BE 5 FEET WIDE UNLESS OTHERWISE SHOWN ON PLANS.
2. SIDEWALKS AND BIKERATHS SHALL BE PLACED PARALLEL TO, AND ONE FOOT WITHIN THE RIGHT-OF-WAY LINE EXCEPT THAT THE CITY MAY APPROVE DEVIATIONS TO SAVE SPECIMEN TREES PROVIDED THAT THE PAVEMENT REMAINS WITHIN THE RIGHT-OF-WAY. IS NOT DIMINISHED IN WIDTH, AND REMAINS AT LEAST 4 FEET FROM THE EDGE OF THE STREET PAVEMENT, UNLESS OTHERWISE APPROVED BY THE CITY.
3. THE TOP OF THE CONCRETE SHALL BE AT AN ELEVATION NO LOWER THAN THE CROWN OF THE ADJACENT ROADWAY, AND NO HIGHER THAN 8 INCHES ABOVE THE CROWN UNLESS APPROVED BY THE CITY TO MAKE A MORE NATURAL TRANSITION WITH THE ADJACENT LAND.
4. ALL WALKS SHALL HAVE A CROSS SLOPE OF 1/4 INCH PER FOOT AND SHALL NOT EXCEED A LONGITUDINAL SLOPE OF 1.5% EXCEPT AT DESIGNATED RAMPERS THAT SHALL NOT EXCEED 5.12% PROVIDE A TACTILE WARNING SURFACE AT ALL RAMPS PER A.D.A. THE CONTRACTOR SHALL INSURE THAT ALL PROVISIONS OF A.D.A. AND FLORIDA ACCESSIBILITY CODE ARE MET.
5. ISOLATION JOINTS (TYPE A JOINTS) SHALL BE PROVIDED BETWEEN EXISTING SLABS OR STRUCTURES AND FRESH CONCRETE. TO SEPARATE FRESH PLACEMENT FROM EXISTING. WHICH MAY BE MORE THAN 60 MINUTES, AND NO FARTHER APART THAN 100 FEET IN SIDEWALKS AND BIKERATHS. JOINT MATERIAL SHALL BE SET IN A FOOT STAMPERS AND JOINT MATERIALS SHALL BE REINFORCED PLASTIC OR OTHER APPROVED NON-BEADABLE ELASTOMERIC MATERIAL. JOINTS SHALL BE TO A DEPTH EQUAL TO 1/4 THE SLAB THICKNESS AND SPACED AT A DISTANCE EQUAL TO THE WIDTH OF THE SLAB, AT MINIMUM SPACING OF 5' MAX SPACING OF 12'.
7. THE SLAB SURFACE SHALL BE BROOM FINISH TO BE SLIP RESISTANT, AND SHALL MATCH AS CLOSELY AS POSSIBLE THE FINISH OF THE EXISTING ADJACENT SLABS AND ALL EDGES SHALL BE TOGGLED TO ELIMINATE SHARP CORNERS.
8. THE BEARING SUBSURFACE SHALL HAVE ALL ORGANIC, LOOSE, AND DELETERIOUS MATERIAL REMOVED, AND THE REMAINING CLEAN SOIL SHALL BE SMOOTH, SOUND, AND SOLID. ANY FILL MATERIAL SHALL BE COMPACTED WITH A VIBRATORY OR IMPACT COMPACTOR MACHINE IN MAXIMUM 12 INCH LIFTS OF 4 INCHES. IF THE TOTAL FILL SECTION IS MORE THAN 12 INCHES DEEP OR IF THE SUBSURFACE HAS BEEN DISTURBED MORE THAN 12 INCHES DEEP, MORE THOROUGH TESTING IS REQUIRED, THE RESULTS SHALL SHOW A MINIMUM PROCTOR FIELD DENSITY OF 90 PERCENT.
9. ALL CONCRETE WORK IN THE RIGHT-OF-WAY SHALL BE INSPECTED BY THE CITY AFTER THE SUBSOIL IS PREPARED AND THE FORMS ARE SET, BUT BEFORE THE CONCRETE PLACEMENT BEGINS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE FINISHED SLAB FROM ALL DAMAGE AND VANDALISM UNTIL THE CITY ACCEPTS OR APPROVES THE SLAB. AFTER WHICH TIME THE OWNER OF THE ADJUTING LAND SHALL BE RESPONSIBLE FOR THE SLAB IN ACCORDANCE WITH THE CITY CODE. ANY SLAB SECTION DAMAGED OR VANDALIZED PRIOR TO ACCEPTANCE OR APPROVAL, SHALL BE CUT OUT BETWEEN JOINTS AND REPLACED. REPAIRS ARE NOT ACCEPTABLE.
11. SIDEWALKS LOCATED WITHIN THE RIGHT-OF-WAY SHALL NOT BE TINTED, STAINED, COLORED, OR COATED.
12. ALL FORMS SHALL BE REMOVED PRIOR TO ACCEPTANCE OR APPROVAL AND THE DISTURBED GROUND SHALL BE REPAIRED, RESEED, AND SOILED SO THAT THE NEW SURFACE OF THE CONCRETE IS REASONABLY FLUSH WITH THE ADJACENT GRADE.



- ES BMP 1.01
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
- DEFINITION
A STONE STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND/OR EGRESS ON A CONSTRUCTION SITE.
- PURPOSE
TO REDUCE THE AMOUNT OF SEDIMENT TRANSPORTED ONTO PUBLIC ROADS BY WATER RUNOFF OR WIND.
- CONDITIONS WHERE PRACTICE APPLIES
WHENEVER TRAFFIC WILL BE LEAVING A CONSTRUCTION SITE AND MOVES DIRECTLY INTO A PUBLIC ROAD OR OTHER PAVED AREA.
- PLANNING CONSIDERATIONS
CONSTRUCTION ENTRANCES PROVIDE AN AREA WHERE MUD CAN BE REMOVED FROM CONSTRUCTION VEHICLES PRIOR TO ENTERING THE PUBLIC ROAD. THE GRAVEL PAD IS NOT SUPPORTED TO REMOVE THE MAJORITY OF THE MUD, BUT THE MUD MUST BE REMOVED BEFORE THE VEHICLE ENTERS TO PREVENT THE MUD FROM BEING SPREAD ONTO THE PUBLIC ROAD. THE GRAVEL PAD SHOULD BE DESIGNED TO BE REMOVED OR REPAIRED IN CONJUNCTION WITH THE STABILIZATION OF CONSTRUCTION ROADS TO REDUCE THE AMOUNT OF MUD PAVED OFF BY CONSTRUCTION VEHICLES.
- DESIGN CRITERIA
AGGREGATE SIZE NO. 1 (0.075 - 2.0 MM) SHOULD BE USED.
EXTRUSION DIMENSIONS
AGGREGATE LAYER MUST BE AT LEAST 6 INCHES THICK. IT MUST EXTEND THE FULL WIDTH OF THE VEHICULAR RUMBLE AND CROSS AREA. THE LENGTH OF THE ENTRANCE MUST BE AT LEAST 80 FEET. (SEE DETAILS).
- WASHING
IF CONDITIONS OF THE SITE ARE SUCH THAT THE MAJORITY OF THE MUD ON THE TIRES OF THE VEHICLES MUST BE REMOVED BEFORE ENTERING A PUBLIC ROAD, THE WASH RACK MUST BE CARRIED OVER THE ENTRANCE TO A SETTING AREA TO REMOVE SEDIMENT. A WASH RACK MUST BE USED TO MAKE WASHING MORE CONVENIENT AND LOCATION.
- CONSTRUCTION SPECIFICATIONS
THE AREA OF THE ENTRANCE SHOULD BE CLEARED OF ALL VEGETATION, AND THE AREA SHOULD BE CLEARED OF ALL DEBRIS. THE GRAVEL PAD SHOULD BE PLACED TO THE SPORED ENDWARDS. ANY DRAINAGE ENCOUNTERED BECAUSE OF MUDS SHOULD BE CONSIDERED ACCORDING TO SPECIFICATIONS. IF MUD RACKS ARE TO BE CONSIDERED ACCORDING TO SPECIFICATIONS, IF MUD RACKS ARE TO BE CONSIDERED ACCORDING TO SPECIFICATIONS, IF MUD RACKS ARE TO BE CONSIDERED ACCORDING TO SPECIFICATIONS.
- MAINTENANCE
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF FLOW OF MUD ONTO PUBLIC ROADS. THE GRAVEL PAD SHALL BE RESEED PERIODICALLY. THE GRAVEL PAD SHALL BE RESEED PERIODICALLY. THE GRAVEL PAD SHALL BE RESEED PERIODICALLY.

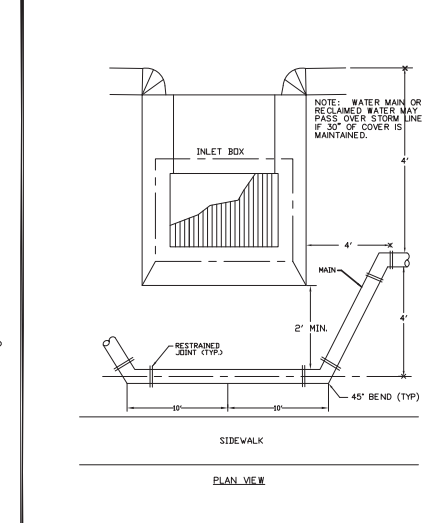
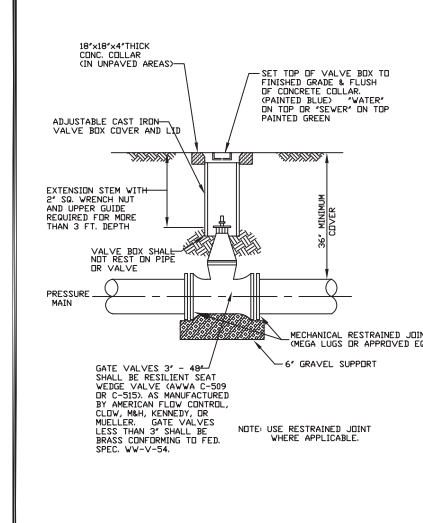
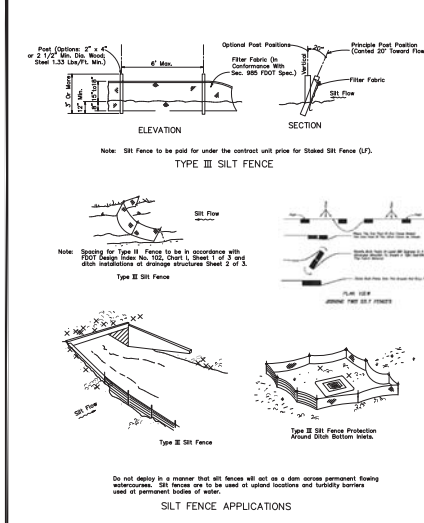
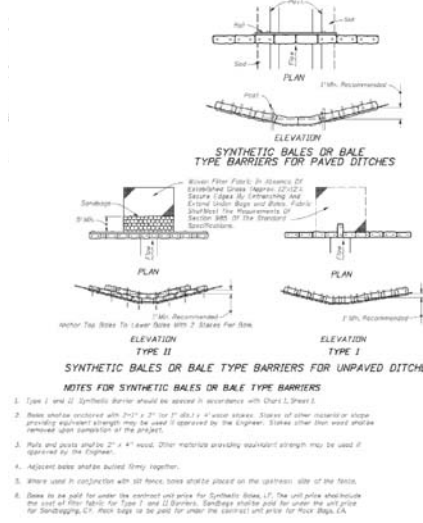


STANDARD CONSTRUCTION DETAIL	INDEX
SIDEWALK, RAMP, AND DRIVEWAY APRON CONSTRUCTION REQUIREMENTS	M-3
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EROSION CONTROL - SYNTHETIC BALES	M-14A
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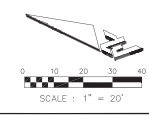
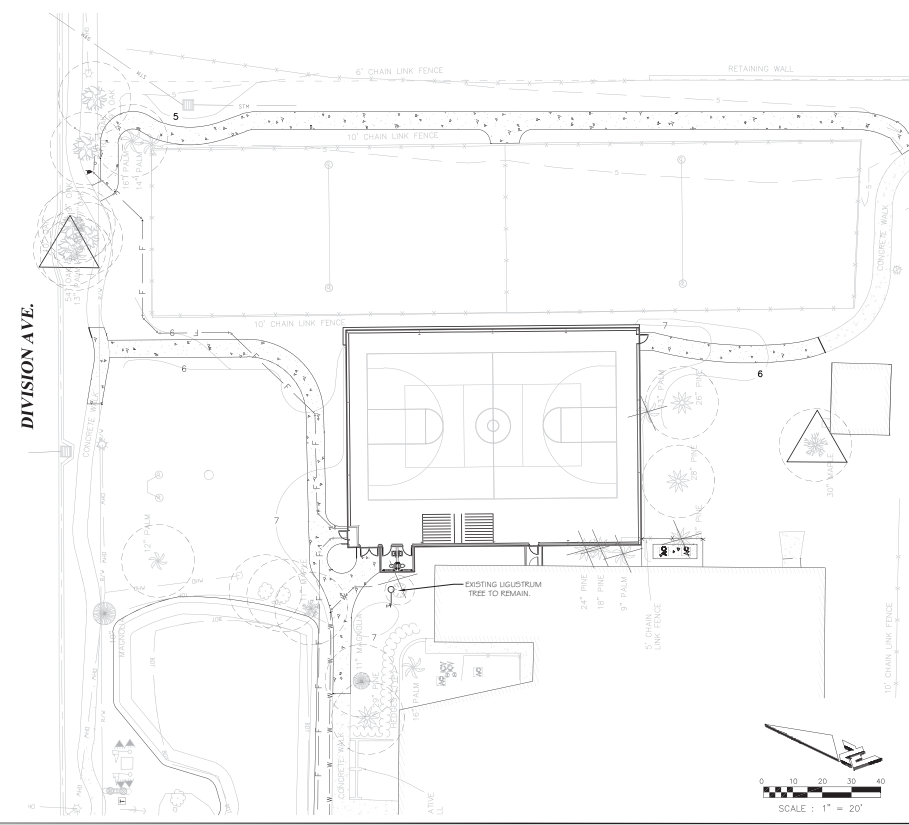
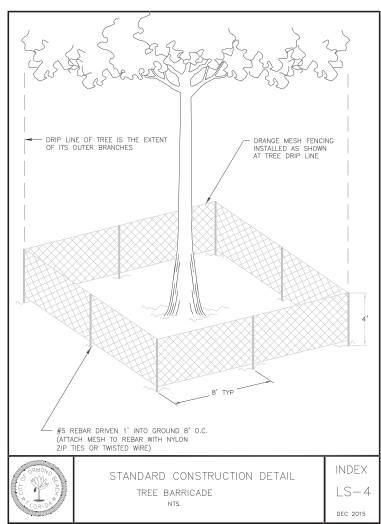
STANDARD CONSTRUCTION DETAIL	INDEX
EROSION CONTROL - SYNTHETIC BALES	M-14B
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LEGEND
○ EXISTING PROTECTED TREE TO REMAIN
✕ EXISTING PROTECTED TREE TO BE REMOVED
△ EXISTING SPECIMEN TREE TO REMAIN
○ DENOTES ROOT ZONE PROTECTION AREA
+ BARRICADE SEE TREE BARRICADE
DETAIL THIS SHEET.



LANDSCAPE SPECIFICATIONS

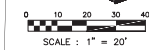
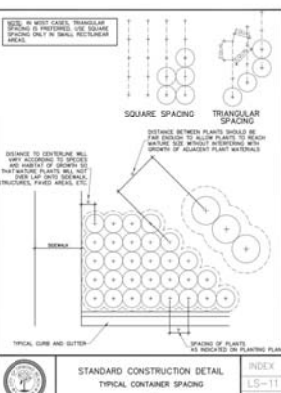
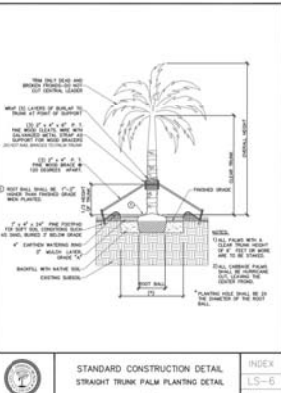
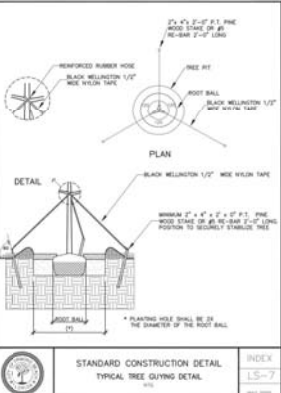
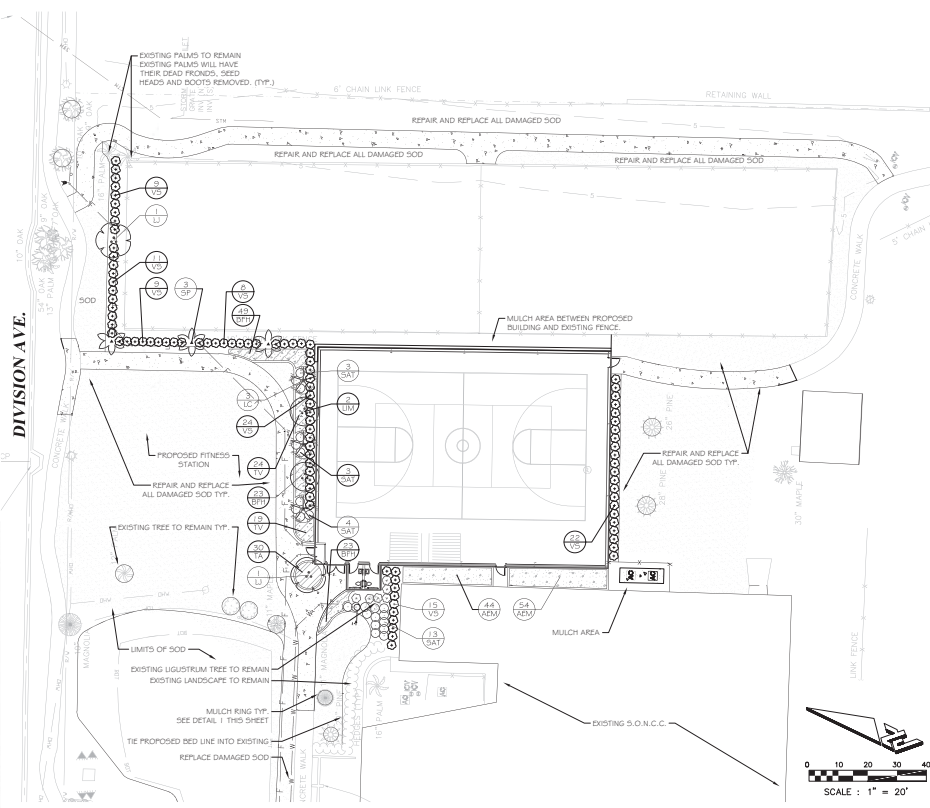
- FLORIDA #1:** ALL PLANT MATERIAL SHALL BE GRADE FLORIDA NO. 1 OR BETTER IN QUALITY AS DESIGNATED IN THE MOST RECENT EDITION OF "GRASSES AND STANDARDS FOR NURSERY PLANTS," PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES.
- EXISTING PLANTS:** IF EXISTING LANDSCAPING INTERFERES WITH PROPOSED PLANTINGS SHOWN ON PLAN, THE EXISTING LANDSCAPING IS TO BE REMOVED IN FAVOR OF THE NEW PLANTINGS, UNLESS OTHERWISE INDICATED. IF THE EXISTING VEGETATION IS INTENDED TO REMAIN, THE PROPOSED LANDSCAPING SHALL BE LOCATED AS CLOSE AS POSSIBLE TO ITS INTENDED LOCATION.
- MULCH:** ALL PLANTING BEDS SHALL BE TOP DRESSED WITH 3" FINE BARK MULCH, GRADE "B" OR APPROVED EQUAL. ALL TREES NOT IN BEDS SHALL HAVE A 5" DIAMETER MULCH RING. ALL PALMS NOT IN BEDS SHALL HAVE A 3" DIAMETER MULCH RING UNLESS OTHERWISE NOTED ON PLANS.
- SOD:** SOD SHALL BE FLOKATAM 500, UNLESS OTHERWISE SPECIFIED ON THE PLANS AS ARGENTINE BAHIA SOD. ALL SOD SHALL BE ROLLED UPON INSTALLATION. CONTRACTOR TO SOD ALL AREAS THAT ARE DISTURBED BY CONSTRUCTION RELATED ACTIVITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THE SOD IS FREE OF WEEDS & INSECTS UPON INSTALLATION AND FOR THE DURATION OF THE 90 DAY MAINTENANCE PERIOD. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE NO GAPS BETWEEN SOD. SOD QUANTITY TAKEOFFS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- QUANTITIES:** IN THE EVENT OF A VARIATION BETWEEN THE QUANTITIES SHOWN ON THE PLANT LIST AND THE QUANTITIES OF PLANTS SHOWN ON THE PLAN, THE PLAN SHALL CONTROL.
- UNFORESEEN CONFLICTS:** CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY PORTION OF THE LANDSCAPE PLAN AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNFORESEEN OBSTRUCTIONS, GRADE DIFFERENCES, STANDING WATER, SOIL CONDITIONS OR OTHER CONFLICTS EXIST. SUCH UNFORESEEN CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- SUBSTITUTIONS:** NO SUBSTITUTIONS OR VARIATIONS OF ANY PLANT MATERIAL OR ITS INSTALLED LOCATION SHALL BE PERMITTED WITHOUT THE PRIOR CONSENT OF THE LANDSCAPE ARCHITECT.
- CONTAINERS:** IF GALLONAGE FOR PLANTS OR TREES IS SHOWN THEY SHALL BE CONTAINER GROWN AND THE SIZE SHOWN SHALL REPRESENT THE MINIMUM ALLOWABLE GALLONAGE. IN ALL CASES THE PLANT SPECIFIED SIZE SHALL COVER OVER THE GALLONAGE INDICATED.
- PLANTING SOIL:** CONTRACTOR SHALL VERIFY THAT SOIL CONDITIONS ARE SUITABLE TO THE PLANT SPECIES SPECIFIED. IF SOIL CONDITIONS ARE DETERMINED UNSUITABLE FOR PROPER PLANT HEALTH, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT AND PROPER SUBSTITUTIONS SHALL BE SPECIFIED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. THE CONTRACTOR SHALL REMOVE LIME ROCK, CONCRETE AND OTHER DETERIOROUS DEBRIS FROM PLANTING BEDS. IF DEBRIS IS INTEGRATED IN THE SOIL, THE SOIL MUST BE EXCAVATED AND REPLACED WITH ACCEPTABLE SOIL. ALL FILL TO BE PLACED IN LANDSCAPE AREAS MUST HAVE A pH RANGE BETWEEN 5.8 AND 7.5, BE ORGANIC IN NATURE, AND BE FREE OF ROCKS AND DEBRIS.
- TOPSOIL:** TOPSOIL MATERIAL SHALL BE FREE FROM ALL HARD CLODS, WEEDS, STONES OVER 1" IN DIAMETER, CLAY, HARD PAN, NOXIOUS OR OTHER UNSUITABLE PLANTS, SOD, INSECTS, SEEDS, OR MATERIAL WHICH MAY BE HARMFUL FOR GROWTH.
- WEEDS:** IF PRESENT, THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE ANY WEEDS FROM PLANTING AND SOD AREAS PRIOR TO THE INSTALLATION OF PROPOSED PLANT MATERIAL AND MULCH COVER. CONTRACTOR SHALL BE RESPONSIBLE TO KEEP BEDS AND SOD FREE OF WEEDS FOR THE DURATION OF THE 90 DAY MAINTENANCE PERIOD.
- GRADING:** UNLESS OTHERWISE STATED ON THESE PLANS, THE LANDSCAPE CONTRACTOR SHALL FINE GRADE ALL AREAS TO BE PLANTED AND SODDED IN ORDER TO ELIMINATE BUMPS AND DEPRESSIONS. FINE GRADING SHALL BE DEFINED AS THE FINAL 2" OF GRADE TO BE ACHIEVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND RE-GRADING WITHOUT AREAS CAUSED BY EROSION UNTIL FINAL ACCEPTANCE OF THE PROJECT.
- STAKING:** ALL TREES AND PALMS ARE TO BE STAKED ACCORDING TO THE DETAILS IN THESE PLANS. IF THE CONTRACTOR PREFERENCES TO USE OTHER STAKING METHODS THAN SHOWN IN THE DETAILS, HE OR SHE MUST SUBMIT PROPOSED STAKING DETAILS TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. THE LANDSCAPE CONTRACTOR SHALL STRAIGHTEN, REPAIR, AND/OR REPLACE ANY PLANTS DAMAGED BY FAILURE TO PROPERLY STAKE OR GUY ANY TREES & PALMS ON SITE, AT THEIR OWN EXPENSE.
- BED LINES:** CONTRACTOR TO ENSURE CURVILINEAR LANDSCAPE BEDS ARE TO BE EDGED WITH SMOOTH FLOWING CURVES. STRAIGHT-LINE LANDSCAPE BEDS ARE TO BE EDGED IN A STRAIGHT LINE PARALLEL TO ADJACENT STRUCTURES UNLESS DESIGNED OTHERWISE.
- FERTILIZER:** OSMAKOTEC SLOW RELEASE FERTILIZER OR EQUIVALENT SHALL BE APPLIED TO ALL TREE, SHRUB, AND GROUNDCOVER PLANTING AREAS AT THE RATE OF THREE (3) TABLETS PER 2" P. OF PLANTING AREA.
- DRAINAGE:** THE LANDSCAPE CONTRACTOR SHALL ENSURE THAT THIS WORK DOES NOT INTERRUPT EXISTING OR PROPOSED DRAINAGE PATTERNS AND SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY SHALL A CONFLICT ARISE. CONTRACTOR IS RESPONSIBLE FOR ALL LANDSCAPESOD AREAS TO PROPERLY DRAIN AWAY FROM BUILDINGS/STRUCTURES.
- SPECIFICATIONS:** THE LANDSCAPE ARCHITECT SHALL BE PERMITTED THE RIGHT DURING INSTALLATION, TO REJECT ANY AND ALL PLANT MATERIAL AND WORKMANSHIP WHICH IN HIS OR HER OPINION DOES NOT MEET THE REQUIREMENTS OF THESE SPECIFICATIONS.
- PLANT SELECTION:** THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF THE NURSERY PLANT SOURCE LOCATION A MINIMUM OF 72 HOURS PRIOR TO PURCHASING THE MATERIAL. THE LANDSCAPE ARCHITECT SHALL ACCOMPANY THE CONTRACTOR AND THEIR DESIGNATED LANDSCAPE CONTRACTOR TO THE NURSERY TO REVIEW THE PLANT MATERIAL TAGGED BY THE CONTRACTOR. THE LANDSCAPE ARCHITECT WILL REVIEW THE TAGGED MATERIAL TO BE PURCHASED TO GENERALLY CONFIRM IT MEETS THE SPECIFICATION STANDARDS STATED IN NOTE #11. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE QUALITY, SPECIFICATION, INSTALLATION, AND SURVIVORSHIP OF THE PLANT MATERIAL.
- WILDLIFE NOTIFICATION:** THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT WHO SHALL PROPOSE PLANT SUBSTITUTIONS UPON WRITTEN NOTIFICATION OF RUSSIAN ANIMAL EXISTENCE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE ANNUAL INSTALLED PLANT MATERIAL DESTROYED/DAMAGED BY WILDLIFE WITHIN THE MAINTENANCE PERIOD.
- TURNOVER:** CONTRACTOR SHALL CONTACT OWNER'S REPRESENTATIVE FOR A TURNOVER DATE TO INCLUDE A WALK-THROUGH AND ACCEPTANCE OF WORK BY THE LANDSCAPE ARCHITECT OR OWNER. ANY WORK DEEMED UNACCEPTABLE SHALL BE CORRECTED IMMEDIATELY AND RE-INSPECTED AS SCHEDULED.
- MAINTENANCE:** CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE TO BEGIN AFTER EACH PLANT HAS BEEN INSTALLED AND SHALL CONTINUE 90 DAYS AFTER FINAL WRITTEN ACCEPTANCE BY THE OWNER. MAINTENANCE SHALL INCLUDE WATERING, PRUNING, WEEDING, MULCHING, MOWING, REPLACEMENT OF SICK OR DEAD PLANTS, AND ANY OTHER CARE NECESSARY IN ORDER TO MAINTAIN PROPER PLANT HEALTH AND SOIL MOISTURE CONTENT.
- GUARANTEE:** CONTRACTOR SHALL GUARANTEE AND REPLACE ALL INSTALLED PLANT MATERIAL FOR ONE (1) CALENDAR YEAR STARTING FROM THE TURNOVER DATE FOR WORK FOUND ACCEPTABLE. ANY CORRECTED WORKS SHALL HAVE A PROPORTIONAL EXTENSION OF WARRANTY ONCE APPROVED. ANY SICK OR DEAD MATERIAL SHALL BE REPLACED IMMEDIATELY. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO HONOR ANY WARRANTY FOR THE LOSS OF ANY PLANT MATERIAL CAUSED BY FLOODING, FIRE, ABNORMAL FREEZING TEMPERATURES, WINDS OVER 50 MPH, LIGHTNING, ANY OTHER NATURAL DISASTER, OR ANY LOSS/DAMAGE CAUSED BY VANDALISM OR NEGLIGENCE ON THE PART OF THE OWNER.
- CALL BEFORE YOU DIG:** CONTRACTOR SHALL NOTIFY SONC (811) AND HAVE UTILITIES LOCATED PRIOR TO DIGGING, BY CALLING 811. CONTRACTOR SHALL NOT PLANT TREES WITHIN 3' OF ALL UNDERGROUND UTILITY, OTHER AS LOCATED OR AS SHOWN ON THE PLAN, WITHOUT FIRST OBTAINING WRITTEN PERMISSION FROM OWNERS REPRESENTATIVE.
- RECORD DRAWINGS:** THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT REGULATED MARK-UPS OF THE LANDSCAPE AND IRRIGATION IMPROVEMENTS. THESE AS-BUILT REGULATED MARK-UPS SHALL BE REPRESENTED ON ZEVO COHEN & ASSOCIATES, INC. PLAN SHEETS AND PROVIDED TO THE LANDSCAPE ARCHITECT.

IRRIGATION NOTES

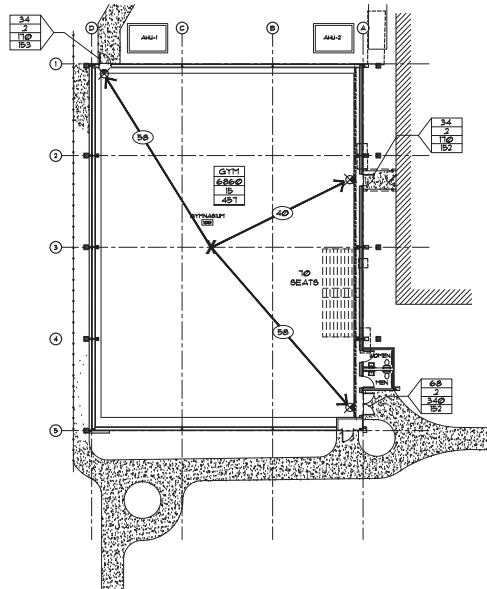
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING REDLINED MARK-UPS OF THE IRRIGATION IMPROVEMENTS AND PROVIDE TO THE LANDSCAPE ARCHITECT.
- AMEND EXISTING AUTOMATIC TIME CONTROLLED IRRIGATION SYSTEM TO PROVIDE 100% COVERAGE OF ALL NEW PLANTINGS.

PLANT SCHEDULE

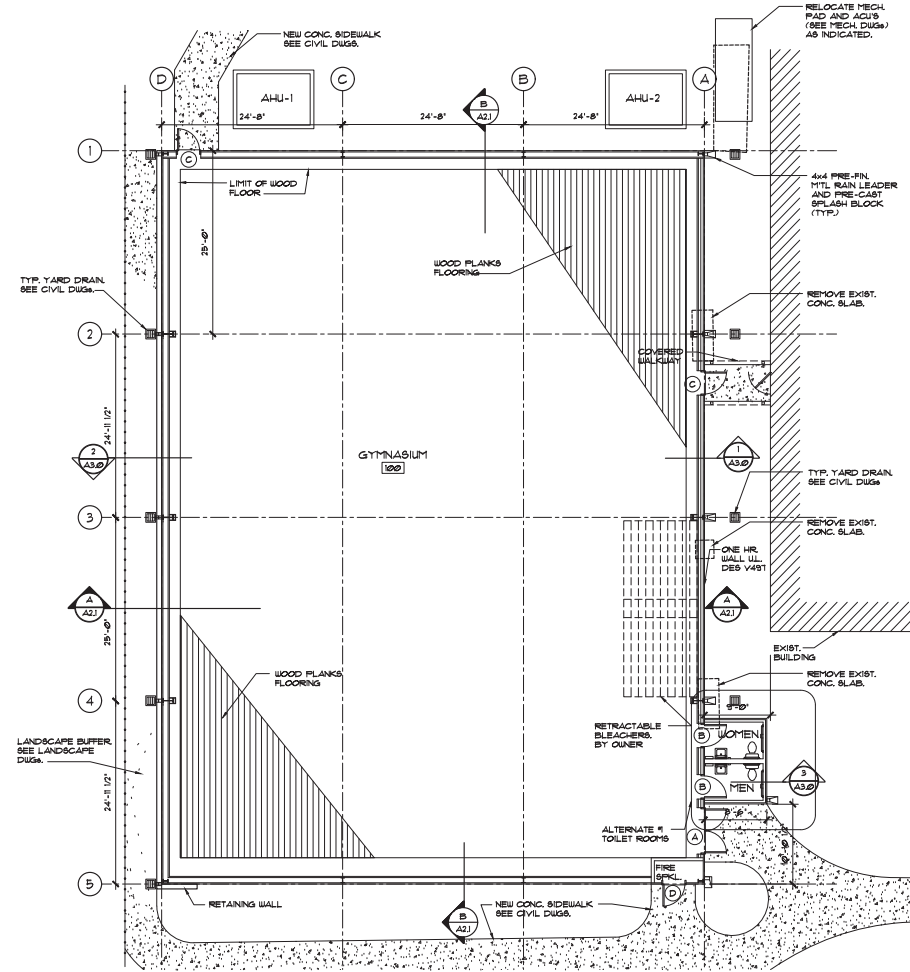
ITEMS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
1. MY	2	LAURUSNOMINICA "MUSKOGEE"	MUSKOGEE OAK MYRTLE	3" CAL., 10" HT., MIN.	10" HT.	
2. LY	2	UGUISTRUM JAPONICUM "TREE FORM"	UGUISTRUM TREE	10" HT.		M.T., 4" C.T. PRUNED, TRUNKS SHALL ADD UP TO 6" COMBINED CALIPER MIN.
3. PALM TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
4. IC	3	CHORODENDRON	CHORODENDRON	10" C.T.		
5. SH	3	SAGAL PALMETTO	SAGAL PALMETTO	8" - 10" HT. O.A.		
6. SH	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING
7. SAT	23	SCHOFFERIA ARBORESCENS "TRINETTE"	VAREGATED SCHOFFERIA	18" HT. X 15" SP.	3 GAL.	36" o.c.
8. VS	100	VERBURNUM SUSPENSUM	SANDWICHIA VERBURNUM	24" HT. X 18" SP.	3 GAL.	36" o.c.
9. GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING
10. AZH	35	ASPHODISTRA ELATIOR "MILKY WAY"	MILKY WAY CACTI IRON PLANT	4" GAL.	24" o.c.	
11. DPH	35	BULBINE PROFUSCENS "HALLMARK"	ORANGE BULBINE	12" HT. X 12" SP.	1 GAL.	18" o.c.
12. JA	30	TRACHYLOPERNUM AGASTHARK	DWARF AGASTH JASMINE	12" SP.	1 GAL.	18" o.c.
13. TV	43	TULAGHRA VIOLACEA	SOCIETY GARLIC	12" SP.	1 GAL.	18" o.c.
14. SOD	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING
15. ST	12,261 SF	STYCTATAPHRUM SECUNDATUM "FLORTAM"	ST. AGUSTINE GRASS	---	---	---



LIFE SAFETY PLAN LEGEND PARTITION SYMBOLS		
SYMBOL	DESCRIPTION	REMARKS
	1 HOUR FIRE RATING	
	4 HOUR FIRE RATING	
	FIRE DOOR / RATING (HOURS)	
	PATH OF EGRESS	
LIFE SAFETY SYMBOLS		
	FIRE EXTINGUISHER CABINET	
	EGRESS DOOR CAPACITY	
	A) DOOR SIZE OR STAIR WIDTH	
	B) EGRESS WIDTH	
	C) MAX ALLOWABLE LOAD	
	D) ACTUAL OCCUPANT LOAD	
	OCCUPANT LOAD	
	A) OCCUPANCY PER TABLE 1004.1.2	
	B) ACTUAL FLOOR AREA	
	C) OCCUPANT LOAD FACTOR PER TABLE 1004.1.2	
	D) ACTUAL LOAD	
	TRAVEL DISTANCE	
	DISTANCE FROM MOST REMOTE POINT IN OCCUPANT AREA	
	DIRECTION OF TRAVEL / PATH OF TRAVEL	
	START / FINISH OF TRAVEL DISTANCE	
	EMERGENCY EXIT LIGHTS	



LIFE SAFETY PLAN
SCALE: 1/16"=1'-0"



FIRST FLOOR PLAN
SCALE: 1/16"=1'-0"

ARCHITECT

DELOSE O'NEAL ENGINEERING

CONSULTANTS:

LOWE STRUCTURES, INC.

CONSULTANTS:

REV #	ISSUES / REVISIONS	DATE
1	FBC CHANGES	01-22-21

DRAWN BY: WCB
DESIGNED BY: DMS
REVIEWED BY: DMS

PROJECT TITLE AND ADDRESS
**BUILDING PLANS FOR
SOUTH ORMOND
NEIGHBORHOOD GYMNASIUM**
178 DIVISION AVE.
ORMOND BEACH, FL. 32174

SHEET TITLE
**FIRST FLOOR PLAN
LIFE SAFETY PLAN**

SEAL
DANA M. SMITH
APROOCG483

PROJECT # 02454 DATE: 12.09.2019

SHEET #
A1.0

985 NORTH NOVA RD.
HOLLY HILLS, FL 32117
PHONE (386) 265-6882
FAX (386) 265-6888

P.O. BOX 304
Goldenrod, FL 32733

P (407) 744-2913
C (321) 277-4128

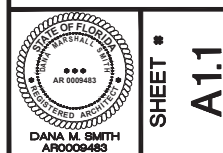
11651 Central Parkway, Suite 106
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(904) 992-0377
FL Cert of Auth: 28261
EOR: J. Matthew Lowe FL PE: 59027

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DRAWN BY.	WCB
DESIGNED BY.	DMS
REVIEWED BY.	DMS

PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR
SOUTH ORMOND
NEIGHBORHOOD GYMNASIUM
176 DIVISION AVE.
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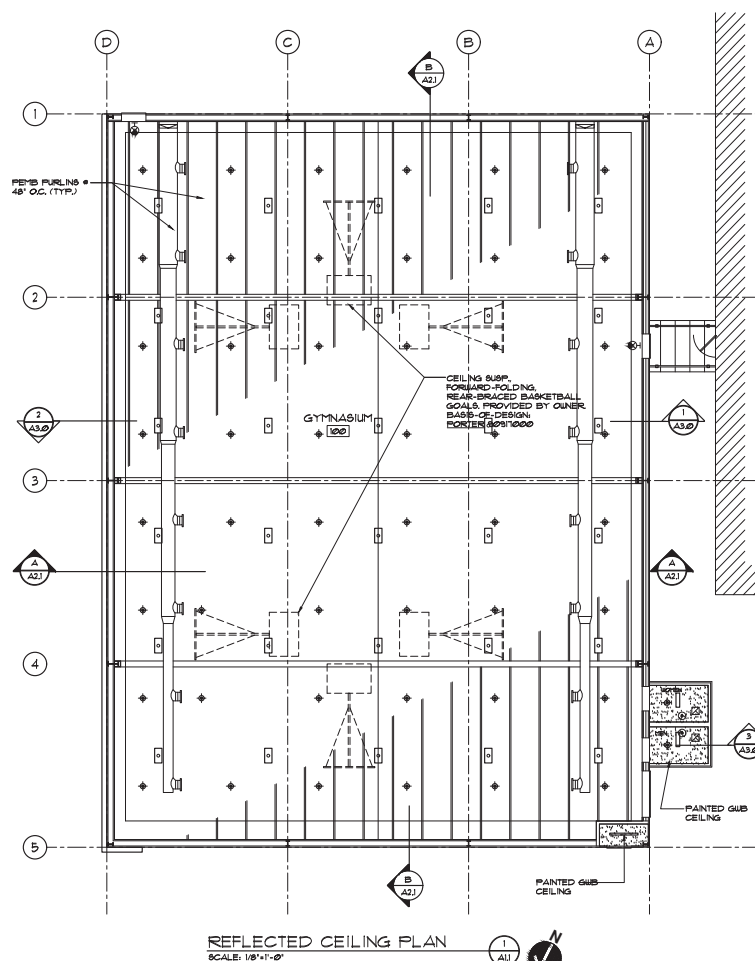
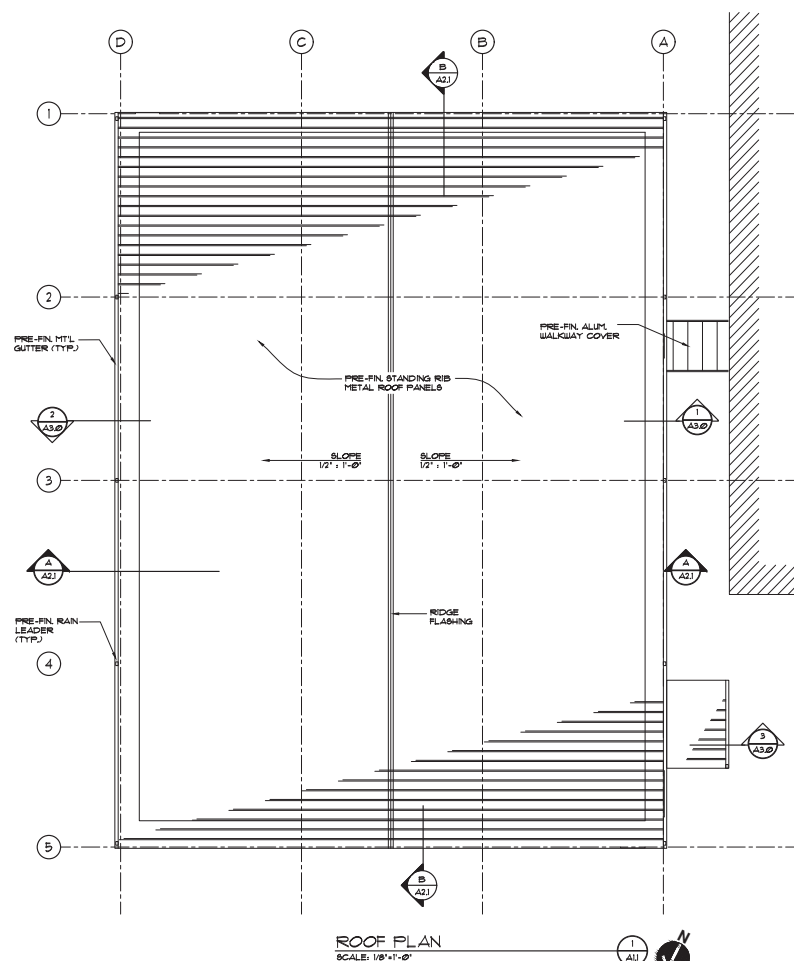
SHEET TITLE
REFLECTED CEILING
AND ROOF PLAN



PROJECT #	02454	DATE	12.09.2
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	ACOUSTICAL CEILING TILE
	GYPSUM WALL BOARD ATTACHED TO SUSPENDED SYSTEM
	STUCCO OVER 5/8" DIAMOND ATTACHED TO UNDERSIDE OF HTL FRAMING
	1' x 2' LED FIXTURE
	2' x 2' LED FIXTURE
	LED PAIR FIXTURE

	EXIT LIGHT
	HVAC SUPPLY
	HVAC RETURN
	EXHAUST FAN
	SMOKE DETECTOR
	FIRE SPRINKLER





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CONSULTANTS:

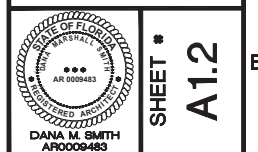
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EOR: J. Matthew Lowe PE No: 59027

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DRAWN BY: WCB
DESIGNED BY: DMS
REVIEWED BY: DMS

PROJECT TITLE AND ADDRESS
**BUILDING PLANS FOR
SOUTH ORMOND
NEIGHBORHOOD GYMNASIUM**
176 DIVISION AVE.
ORMOND BEACH, FL 32174

SHEET TITLE
STRIPING PLAN



PROJECT # 02454 DATE: 12.09.2019

SHEET #
A1.2

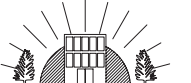
VOLLEYBALL & PICKLEBALL STRIPING PLAN
SCALE: 1/8"=1'-0"



BASKETBALL STRIPING PLAN
SCALE: 1/8"=1'-0"



dj DESIGN INC.
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 EOR: J. Matthew Lowe FL PE: 59027

REV #	ISSUES / REVISIONS	DATE
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DRAWN BY: WCB
DESIGNED BY: DMS
REVIEWED BY: DMS

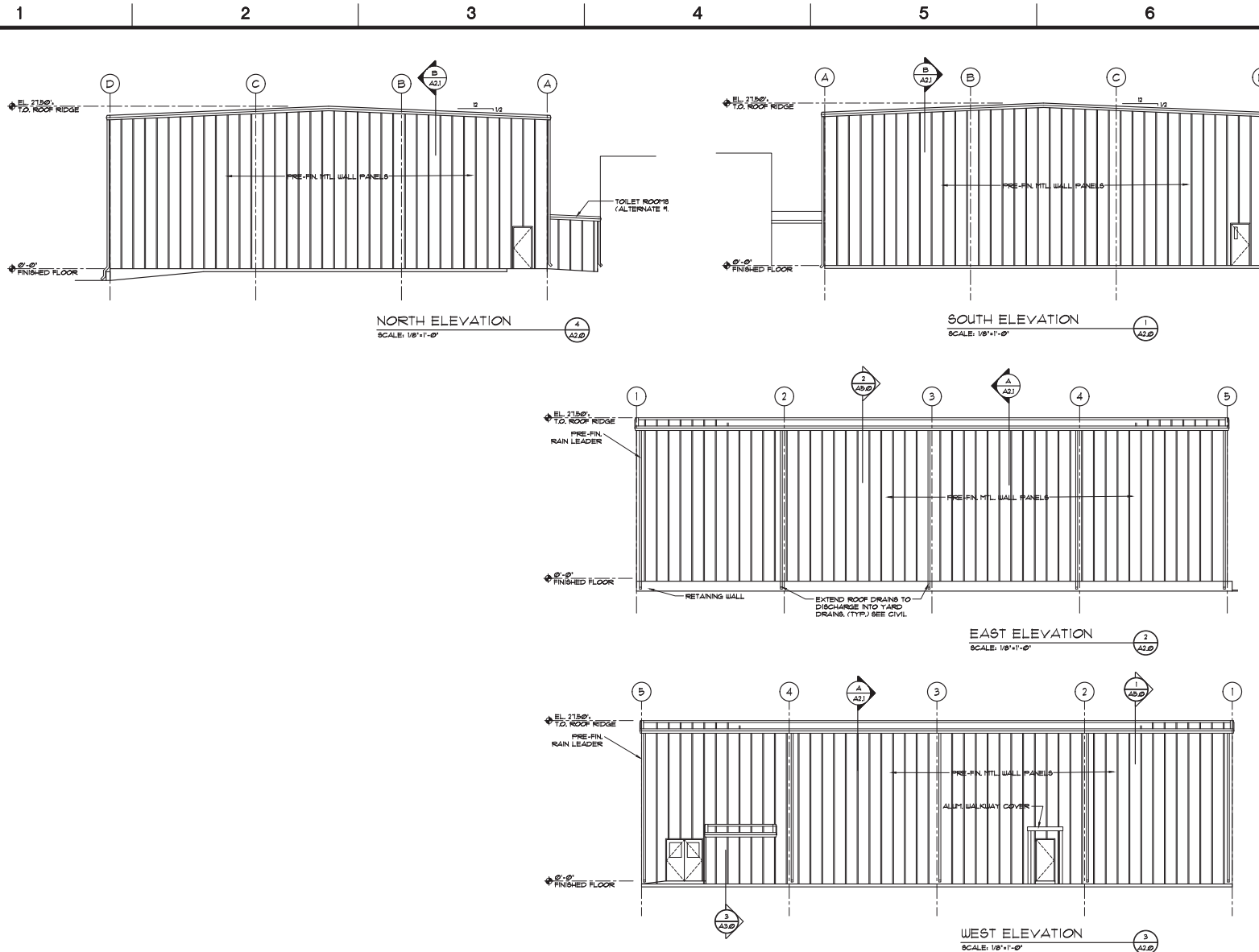
PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR
SOUTH ORMOND
NEIGHBORHOOD GYMNASIUM
 176 DIVISION AVE.
 ORMOND BEACH, FL. 32174

SHEET TITLE
ELEVATIONS


DANA M. SMITH
 APRO009483

PROJECT # 02454 **DATE** 12.09.2019

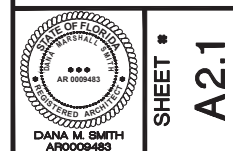
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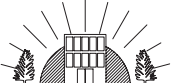
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DESIGNED BY. DMS
REVIEWED BY. DMS

SHEET TITLE
BUILDING SECTIONS



PROJECT #	02454	DATE: 12.09.2019
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 EOR: J. Matthew Lowe FL PE: 59027

REV #	ISSUES / REVISIONS	DATE
1	FBC CHANGES	01-22-21

DRAWN BY: WCB
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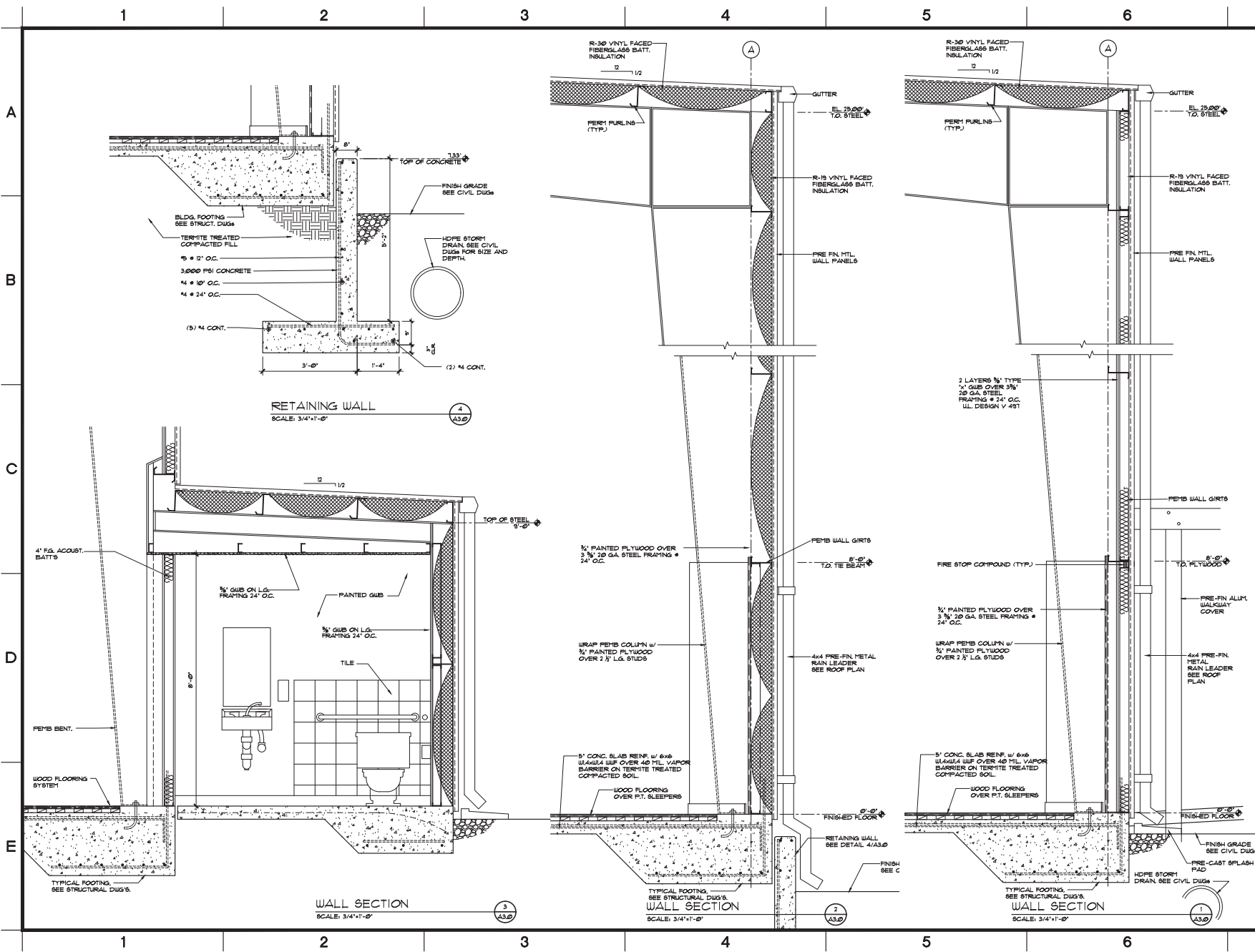
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SHEET TITLE
WALL SECTIONS


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 APRO009483

PROJECT # 02454 **DATE** 12.09.2019

SHEET #
A3.0



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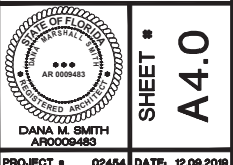
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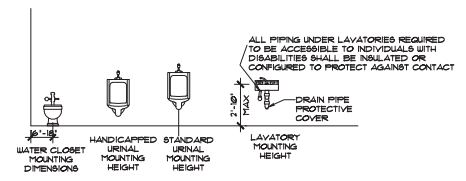
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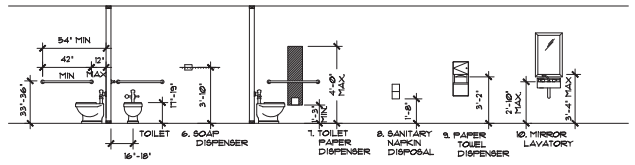
SHEET TITLE
ENLARGED TOILET RM.
PLAN AND ELEVATIONS



PROJECT # 02454 **DATE** 12.09.2019



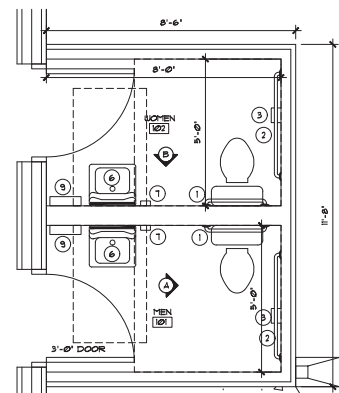
PLUMBING FIXTURE MOUNTING HEIGHTS



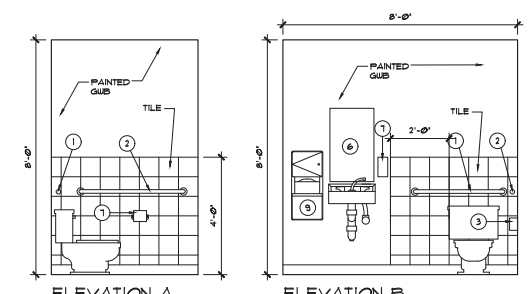
TOILET ACCESSORY MOUNTING HEIGHTS

TOILET ACCESSORIES LEGEND
 OWNER SUPPLIED AND CONTRACTOR INSTALLED.
 'BOBRICK' IS THE BASIS OF DESIGN. ALL NUMBERS REFER TO BOBRICK PRODUCTS

NO.	ACCESSORY	MODEL NO.
1	36" GRAB BAR	B-6606
2	42" GRAB BAR	B-6606
3	SURFACE-MOUNTED TOILET PAPER DISPENSER	B-26-4
4	SURFACE-MOUNTED SANITARY NAPKIN DISPENSER	B-270
5	SURFACE-MOUNTED PAPER TOWEL DISPENSER	B-26-2
6	TEMP. GLASS MIRROR & FRAME (18" X 36")	B-165 SERIES
7	SURFACE-MOUNTED SOAP DISPENSER	B-412
8	FULL WIDTH MIRROR - SEE PLANS	
9	60"x60" CLEAR SPACE	
10	30"x48" CLEAR SPACE	
11	BABY CHANGING STATION	
12	TOP SINK	



BATHROOM PLAN
 SCALE: 1/2"=1'-0"



BATHROOM ELEVATION
 SCALE: 1/2"=1'-0"

[illegible]

FLOOR

C - CARPET TILES:
BASIS OF DESIGN:
SHAW 'CONSTELLATION'

CT - CERAMIC TILE
BASIS OF DESIGN:
DAL TILE "CITYVIEW" PORCELAIN

E - EXISTING TO REMAIN
P - POLISHED
VCT - LUXURY VINYL TILE

BASE

CT - CERAMIC TILE
BASIS OF DESIGN:
DALTILE "CITYVIEW" PORCELAIN

E - EXISTING TO REMAIN
N - NONE
R - RUBBER BASE

1. PAINT ALL NEW AND EXISTING DOORS AND FRAMES ON ALL SIDES.
2. IN SMALL UNNUMBERED ROOMS SUCH AS CLOSETS, STORAGE AREAS AND NOOKS, EXTEND FLOOR, WALL, AND CEILING FINISHES OF THE CONTIGUOUS SPACES INTO THESE AREAS.

DOOR MARK	DOOR SIZE	DOOR THK	DOOR TYPE	DOOR MAT'L	FRM TYP	FRM MTL	GLAZING	FIRE RATING	HDW	NOTES
A	FR 3'-0" x 7'-0"	9 1/2"	G	HM	1	HM	1/4" TEMP	---	1-2-1	.
B	3'-0" x 7'-0"	9 1/2"	F	SCFW	1	HM	---	---	2-1-1	.
C	3'-0" x 7'-0"	9 1/2"	N	HM	1	HM	1/4" TEMP	3/4 HOUR	1-1-2	.
D	3'-0" x 7'-0"	9 1/2"	F	HM	1	HM	---	---	2-1-2	"

Diagram 1 shows a simple rectangular door frame. The horizontal dimension is labeled 'DOOR WIDTH' and the vertical dimension is labeled 'DOOR HT.'.

EXTERIOR DOORS

1-1-2 - 3 BUTT HINGES
ENTRANCE LOCKSET - ALWAYS OPENABLE FROM INT.
CLOSER
PANIC HARDWARE
THRESHOLD
WEATHERSTRIPPING

1-2-1 - 6 PR BUTT HINGES
LOCKSET-ALWAYS OPENABLE FROM INT.
MANUAL FLUSH BOLT
PANIC HARDWARE
THRESHOLD
WEATHERSTRIPPING

INTERIOR DOORS

- 2-1-1 - 3 BUTT HINGES
PRIVACY LOCKSET
- 2-1-2 - 3 BUTT HINGES
STOREFRONT LOCKSET
- 2-1-3 - 3 BUTT HINGES
PUSH / PULL
CLOSER
KICK PLATE BOTH FACES
- 2-1-4 - 3 BUTT HINGES
CLASSROOM LOCKSET
- 2-1-5 - 3 BUTT HINGES
ENTRANCE LOCKSET
ALWAYS OPERABLE FROM INT.
- 2-1-6 - 6 BUTT HINGES
STOREFRONT LOCKSET
ACTIVE LEAF / HEAD / FLOOR PIN
ACTIVE LEAF WITH SURFACE STRAGAL

ARCHITECT.



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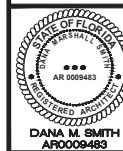
CONSULTANTS.

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DESIGNED BY: DMS
REVIEWED BY: DMS

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ORMOND BEACH, FL. 32174

SHEET TITLE
SCHEDULES



PROJECT ■	02454	DATE: 12.09.2019
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GENERAL REQUIREMENTS

- A. GENERAL
- CONFORM TO ALL GENERAL AND SPECIAL CONDITIONS OF CONTRACT AS SPECIFIED BY ENGINEER AND/OR OWNER.
 - VISIT SITE, CHECK FACILITIES AND CONDITIONS AND MAKE ALL NECESSARY OBSERVATIONS AND MEASUREMENTS. NOTE CONDITIONS WHICH HINDRANCE AND TAKE ALL TIME INTO CONSIDERATION IN BID.
 - SYSTEMS ARE TO BE COMPLETE AND WORKABLE IN ALL RESPECTS, PLACED IN OPERATION AND PROPERLY ADJUSTED.
 - CONTRACTOR SHALL PROVIDE THEIR OWN CLEAN-UP, REMOVAL AND LEGAL DISPOSAL OF ALL RUBBISH DAILY.
 - CONTRACTOR SHALL PROTECT THEIR WORK, MATERIALS, APPARATUS AND FUTURES FROM DAMAGE. ANY WORK DAMAGED BY FAILURE TO PROVIDE PROTECTION REQUIRED SHALL BE REMOVED AND NEW MATERIAL AT THE CONTRACTOR'S EXPENSE.
 - ARRANGE FOR AND OBTAIN OWNER'S AND INSURANCE REPRESENTATIVE'S PERMISSION FOR ANY SERVICE SHUTDOWNS.
 - THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, SEQUENCES OF CONSTRUCTION AND THE SAFETY OF WORKERS.
 - NO PIPING, DUCTWORK, WIRING, ETC. SHALL BE INSTALLED OR ROUTED ABOVE ELECTRICAL PANELS AND EQUIPMENT.
 - THE CONTRACTOR SHALL COORDINATE AND OBTAIN A WRITTEN APPROVAL IDENTIFYING THE ELECTRICAL CHARACTERISTICS OF ALL MECHANICAL EQUIPMENT PRIOR TO ORDERING OF EQUIPMENT. NO ADDITIONAL PAYMENT WILL BE MADE FOR LACK OF CONTRACTOR COORDINATION OF ELECTRICAL CHARACTERISTICS.
 - DURING CONSTRUCTION THE CONTRACTOR MAY UNCOVER AN EXISTING CONDITION THAT WILL HAVE TO BE MODIFIED. ANY SUCH WORK WHICH COMES UNDER THE JURISDICTION OF THIS CONTRACTOR SHALL BE DONE BY THIS CONTRACTOR WITHOUT EXTRA COST TO THE OWNER, AS THOUGH FULLY DETAILED ON PLANS AND/OR DESCRIBED IN THE SPECIFICATIONS.
 - ALL DIMENSIONS, MEASUREMENTS AND PROTECT CONDITIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR. REFER ALL DIFFERENCES, IN WRITING, TO THE OWNER'S REPRESENTATIVE FOR CONSIDERATION PRIOR TO PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BEAR THE COST OF RECTIFYING WORK NOT APPROVED BY THE OWNER'S REPRESENTATIVE, CAUSED BY LACK OF COORDINATION AND/OR NOTIFICATION.
 - INSTALL ALL EQUIPMENT IN FULL ACCORDANCE WITH LOCAL CODE REQUIREMENTS, OTHER SPECIFICATION SECTION REQUIREMENTS, AND MANUFACTURER'S RECOMMENDATIONS.

B. CODES, PERMITS, STANDARDS AND REGULATIONS

- CONFORM TO ALL APPLICABLE CODES, LOCAL, STATE, NATIONAL CODES, NFPA, OSHA, ETC.) GOVERNMENT REGULATIONS, UTILITY COMPANY REQUIREMENTS, AND APPLICABLE STANDARDS.
- OBTAIN PERMITS AND PAY ALL FEES, ARRANGE FOR ALL REQUIRED INSPECTIONS AND APPROVALS.

C. DRAWINGS

- THE SYSTEMS AS SHOWN ON DRAWINGS ARE DIAGRAMMATIC, CONFIRM ALL DIMENSIONS BY FIELD MEASUREMENT.
- THE EXACT LOCATIONS FOR FUTURES, EQUIPMENT AND PIPING WHICH NOT COVERED BY DRAWINGS, SHALL BE OBTAINED FROM THE ENGINEER OR ENGINEER'S REPRESENTATIVE IN THE FIELD AND THE WORK SHALL BE DONE BY ACCORDINGLY.

D. BASE EQUIPMENT, MATERIALS AND SUBSTITUTIONS

- ALL EQUIPMENT AND MATERIALS SHALL BE NEW, FREE OF DEFECTS AND U.L. LABELED.
- BASE BID MANUFACTURERS ARE INCLUDED IN THE SPECIFICATIONS OR LISTED IN THE NAME OR MAKE OF ANY ARTICLE, DEVICE, MATERIAL, FORM OF CONSTRUCTION, FUTURE, ETC. STATED IN THIS SPECIFICATIONS, WHETHER OR NOT THE WORDS "OR APPROVED EQUAL" ARE USED, SHALL BE KNOWN AS A "STANDARD".
- ALL PROPOSALS SHALL BE BASED ON "STANDARDS" SPECIFIED.
- THE EQUIPMENT SCHEDULES ON THE DRAWINGS INDICATE MANUFACTURER'S EQUIPMENT MODEL NUMBERS THAT THIS DESIGN HAS BEEN BASED ON THE USE OF OTHER MANUFACTURER'S EQUIPMENT THAT IS LISTED AS ALTERNATES AND REFLECTS ANY ADDITIONAL COST OF SUCH CHANGES SHALL BE PAID BY THE CONTRACTOR.
- SUBSTITUTIONS ARE SUBJECT TO THE APPROVAL OF THE OWNER. IF A SUBSTITUTION IS SUBMITTED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO EVALUATE IT AND CERTIFY THAT THE SUBSTITUTION IS EQUIVALENT IN ALL RESPECTS TO THE BASE SPECIFICATIONS.
- COORDINATE ALL APPROVED SUBSTITUTIONS, ANY COSTS RESULTING FROM SUBSTITUTION SHALL BE THE RESPONSIBILITY OF AND PAID FOR BY THE CONTRACTOR. APPROVED SHOP DRAWINGS DO NOT ASSUME THIS CONTRACTOR FROM THIS RESPONSIBILITY.

- E. ALL EQUIPMENT SHALL BE INSTALLED IN FULL ACCORDANCE WITH THE MANUFACTURER'S DATA AND INSTALLATION INSTRUCTIONS. CONTRACTOR SHALL CONFIRM THESE REQUIREMENTS PRIOR TO STARTING WORK.

F. WARRANTY

- FULLY WARRANT ALL MATERIALS, EQUIPMENT AND WORKMANSHIP FOR (1) YEAR FROM DATE OF ACCEPTANCE.
- EXTEND ALL MANUFACTURER'S WARRANTIES TO OWNER.
- REPAIR OR REPLACE WITHOUT CHARGE TO THE OWNER ALL ITEMS FOUND DEFECTIVE DURING THE WARRANTY PERIOD. IN THE CASE OF REPLACEMENT OR REPAIR DUE TO FAILURE WITHIN THE WARRANTY PERIOD, THE WARRANTY ON THAT PORTION OF THE WORK SHALL BE EXTENDED FOR A MINIMUM PERIOD OF ONE (1) YEAR FROM THE DATE OF SUCH REPLACEMENT OR REPAIR.

G. SHOP DRAWING SUBMITTALS

- SUBMIT SHOP DRAWINGS FOR MECHANICAL AND PLUMBING SYSTEMS, INCLUDING BUT NOT LIMITED TO SHEET METAL AND EQUIPMENT WITH ADEQUATE DETAILS AND SCALES TO CLEARLY SHOW CONSTRUCTION, INDICATE THE OPERATING CHARACTERISTICS FOR EACH REQUIRED ITEM, CLEARLY IDENTIFY EACH ITEM ON THE SUBMITTAL AS TO MAKE, LOCATION AND USE, USING SAME IDENTIFICATION AS PROVIDED ON THE CONSTRUCTION DOCUMENTS.
- SHEET METAL DRAWINGS SHALL BE FULLY DIMENSIONED AND COORDINATED BASED ON FIELD VERIFIED BUILDING CLEARANCES AND ARCHITECT'S CEILING LAYOUTS. INDICATE STRUCTURAL, LIGHTING, DUCTWORK AND PIPING AT ALL CRITICAL LOCATIONS.
- CONTRACTOR SHALL REVIEW AND INDICATE THEIR APPROVAL OF EACH SHOP DRAWING PRIOR TO SUBMITTAL FOR REVIEW. SHOP DRAWINGS WILL NOT BE REVIEWED BY THE ENGINEER UNLESS THE CONTRACTOR APPROVAL IS NOTED. DO NOT START WORK OR FABRICATION UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED BY THE ENGINEER AND RETURNED TO THE CONTRACTOR.
- SUBMITTALS WILL BE REVIEWED ONLY FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS AND NOT FOR DIMENSIONS OR QUANTITIES. THE SUBMITTAL REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PURCHASE OF ANY ITEM IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS OR ITS COMPLETE AND PROPER INSTALLATION.
- WHERE SUBMITTALS VARY FROM THE CONTRACT REQUIREMENTS, THE CONTRACTOR SHALL CLEARLY INDICATE ON SUBMITTAL OR ACCOMPANYING DOCUMENTS THE NATURE AND REASON FOR THE VARIATIONS.
- EACH MANUFACTURER OR MANUFACTURER'S REPRESENTATIVE MUST CHECK THE APPLICATION OF THEIR EQUIPMENT AND CERTIFY AT TIME OF SHOP DRAWING SUBMITTAL THAT THE EQUIPMENT SPECIFIED HAS BEEN PROPERLY APPLIED AND CAN BE INSTALLED, SERVICED AND MAINTAINED WHERE INDICATED ON THE DRAWINGS. ADVISE ENGINEER IN WRITING WITH SUBMITTAL DRAWINGS OF ANY POTENTIAL PROBLEMS. THE MANUFACTURER SHALL BE RESPONSIBLE FOR ANY CHANGES THAT MIGHT BE NECESSARY BECAUSE OF PHYSICAL CHARACTERISTICS OF EQUIPMENT THAT HAVE NOT BEEN CALLED TO THE ENGINEER'S ATTENTION AT THE TIME OF SUBMITTAL.

BASIC MATERIALS AND METHODS

- A. GENERAL
- THIS SECTION INCLUDES BASIC MATERIALS AND METHODS TO COMPLEMENT OTHER SECTIONS IN THIS SPECIFICATION AND REQUIREMENTS INDICATED ON THE MECHANICAL DRAWINGS.
- B. SUPPORTS AND HANGERS
- INSTALL HANGERS, SUPPORTS, CLAMPS AND ATTACHMENTS AS REQUIRED TO PROPERLY SUPPORT PIPING FROM BUILDING STRUCTURE.
- C. ESCUTCHEONS
- FIT ALL PIPE PASSING THROUGH WALLS, FLOORS OR CEILINGS IN FINISHED ROOMS WITH STEEL OR BRASS ESCUTCHEONS, WHERE SURFACE IS TO RECEIVE A PAINT FINISH. MAKE ESCUTCHEONS PRIME PAINTED, OTHERWISE MAKE ESCUTCHEONS NICKEL OR CHROME PLATED. WHERE PIPING IS INSULATED, FIT ESCUTCHEONS OUTSIDE INSULATION.
- D. IDENTIFYING DEVICES AND LABELS
- PROVIDE METAL EQUIPMENT NAMEPLATES PERMANENTLY FASTENED TO EQUIPMENT WITH OPERATIONAL DATA ENGRAVED OR STAMPED.
 - IDENTIFY ALL PIPES AND VALVES IN EXPOSED AREAS, ABOVE ACCESSIBLE CEILINGS AND SHAFTS.
 - COLOR CODE IDENTIFICATION BANDS OR MARKER BACKGROUNDS TO IDENTIFY CONTENTS OF PIPE AND DIRECTION OF FLOW LOCATED NEAR EACH VALVE AND FITTING, ON BOTH SIDES OF PIPE PASSING THROUGH WALLS AND LONG RUNS AT NOT OVER 20 FOOT INTERVALS.

PIPING AND VALVES

- A. GENERAL
- LABEL ALL PIPING AND SHOW DIRECTION OF FLOW EVERY 20 FEET ON CENTER.
- B. CONNECTIONS TO EQUIPMENT
- PROVIDE ALL TESTED WATER AND GAS CONNECTION FOR EQUIPMENT.
 - INCLUDE ACCESSORIES REQUIRED BY CODE, DRAWING OR MANUFACTURER'S INSTRUCTIONS.
- C. CONDENSATE DRAIN PIPING
- INSTALL TYPE "M" COPPER CONDENSATE PIPING AT A MINIMUM 1% DOWNWARD SLOPE IN THE DIRECTION OF FLOW UNLESS OTHERWISE INDICATED. SCHEDULE 40 PVC PIPING SHALL BE AN ACCEPTABLE ALTERNATE.

HVAC SYSTEMS AND EQUIPMENT

- A. GENERAL
- CONTRACTORS BIDDING THIS PROJECT SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THEIR WORK. SUBMISSION OF A BID ON THIS PROJECT SHALL BE CONSIDERED AS HAVING SUCH KNOWLEDGE.
 - VERIFY EXACT CONDITIONS IN FIELD AND COORDINATE WITH THESE DRAWINGS AND OTHER TRADES BEFORE BEGINNING NEW WORK.
- B. SEE EQUIPMENT SCHEDULES ON MECHANICAL DRAWINGS.
- DETERMINE EXACT LOCATIONS FOR ALL EQUIPMENT, PIPING, CONDUCITS AND DUCTWORK IN FIELD.
 - COORDINATE WORK OF THIS CONTRACT WITH OTHER TRADES. CONFLICTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE SITE ENGINEER'S. SITE ENGINEER'S RESOLUTION TO CONFLICTS SHALL BE FINAL.
 - ANY DISCREPANCIES BETWEEN WHAT IS SHOWN ON DRAWINGS OR SPECIFIED AND THE ACTUAL CONDITIONS IN THE FIELD SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE SITE ENGINEER'S BEFORE PROCEEDING.
 - BUILDING AND SURFACES DAMAGED DURING INSTALLATION SHALL BE REPAIRED, REPLACED, AND/OR RESTORED TO ORIGINAL CONDITION AFTER COMPLETION OF WORK AND BEFORE ACCEPTANCE BY OWNER.
- B. EQUIPMENT
- MECHANICAL CONTRACTOR TO FURNISH ALL HVAC EQUIPMENT INDICATED AND/OR SCHEDULED ON THE DRAWINGS COMPLETE WITH BASES, ISOLATORS, SUPPORTS AND OTHER REQUIRED ACCESSORIES.
 - INSTALL COMPLETE AND PLACE IN PROPER OPERATION PER MANUFACTURER'S RECOMMENDATIONS, LUBRICATE AND ADJUST AS REQUIRED. FURNISH AND INSTALL CLEAN SET OF FILTERS PRIOR TO BALANCING.
 - EQUIPMENT TO BE MADE AND MODEL AS SCHEDULED UNLESS ALTERNATE EQUIPMENT OF EQUIVALENT QUALITY AND PERFORMANCE IS SUBMITTED AS A SUBSTITUTION PRIOR TO BIDDING. ALL SUBSTITUTIONS ARE SUBJECT TO ACCEPTANCE WITHOUT QUALIFICATION BY OWNER, ENGINEER AND SITE ENGINEER'S.
- C. COOLING COIL CONDENSATE DRAINS
- PROVIDE EACH AIR CONDITIONING UNIT WITH A TRAPPED CONDENSATE DRAIN.

AIR DISTRIBUTION SYSTEMS

- A. GENERAL
- CONTRACTORS BIDDING THIS PROJECT SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THEIR WORK. SUBMISSION OF A BID ON THIS PROJECT SHALL BE CONSIDERED AS HAVING SUCH KNOWLEDGE.
 - VERIFY EXACT CONDITIONS IN FIELD AND COORDINATE WITH THE DRAWINGS AND OTHER TRADES BEFORE BEGINNING NEW WORK. DETERMINE EXACT LOCATIONS FOR ALL NEW DUCTWORK AND ACCESSORIES IN THE FIELD.
 - COORDINATE WORK OF THIS CONTRACT WITH OTHER TRADES.
 - ANY DISCREPANCIES BETWEEN WHAT IS SHOWN ON DRAWINGS OR SPECIFIED AND THE ACTUAL CONDITIONS IN THE FIELD SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE SITE ENGINEER'S BEFORE PROCEEDING.
 - BUILDING AND SURFACES DAMAGED DURING INSTALLATION SHALL BE REPAIRED, REPLACED, AND/OR RESTORED TO ORIGINAL CONDITION AFTER COMPLETION OF WORK AND BEFORE ACCEPTANCE BY OWNER.
- B. DUCTWORK
- FABRICATE AND ERECT ALL DUCTWORK TO SMACNA STANDARDS FOR GALVANIZED STEEL. COMPLY WITH NFPA 90A REQUIREMENTS.
 - DUCTWORK SHALL BE SMACNA LOW PRESSURE CONSTRUCTION 7" STATIC PRESSURE RATING WITH SEAL CLASS B SEAMS AND JOINTS.
 - INCLUDE ALL ACOUSTIC, AIRPOL, SHAPED PERFORATED ALUMINUM TURNING VAINES, MANUAL DAMPERS, FLEXIBLE CONNECTORS, GRILLES AND DIFFUSERS, ACOUSTIC LINING, AND OTHER SHEET METAL ACCESSORIES FOR THE PROJECT.
 - ALL BRANCH CONNECTIONS SHALL BE AS PER THE DETAILS SHOWN ON THE DRAWINGS.
 - EXHAUST DUCT OUTLETS SHALL BE INSTALLED A MINIMUM OF 10 FEET FROM ALL OUTSIDE AIR INTAKES.
- C. HVAC INSULATION (AS MANUFACTURED BY OWENS CORNING, KNAUF, SKULLER, OR CERTAINTÉED)
- INSULATE ALL NON-LINED SUPPLY, RETURN, AND EXHAUST DUCTS WITH 1-2" THICK FOL FACED REINFORCED KRAFT JACKET. FIBERGLASS DUCT WRAP FULLY SECURED TO DUCT LAP AND TAPE SEAMS AND SECURE TIGHTLY TO THE DUCTS WITH WIRE OR STICK PINS.
 - INSULATE ALL SUPPLY AND RETURN DUCTS LOCATED IN UNCONDITIONED SPACES OR OUTSIDE OF BUILDING WITH 3" THICK FOL FACED REINFORCED KRAFT JACKET. FIBERGLASS DUCT WRAP FULLY SECURED TO DUCT.
 - INSTALL A PVC JACKET ON ALL INSULATED DUCTWORK LOCATED OUTSIDE OF BUILDING.
 - ALL INSULATION TO BE APPLIED IN FULL ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND COMPLY WITH 250B FLAME AND SMOKE HAZARD RATINGS PER ASTM E 84, NFPA 255 AND UL 723.
 - INSULATE AIR CONDITIONING CONDENSATE DRAIN PIPING WITH 1" THICK MOLDED FIBER GLASS INSULATION. INSULATE REPRESENTATIVE PIPING WITH 1" THICK ELASTOMERIC.
 - COVER ALL EXPOSED REFRIGERANT PIPING ON EXTERIOR OF BUILDING WITH 3/8" DUCT LINER.
 - DUCT LINER
 - DUCT DIMENSIONS INDICATED ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS (FREE AREA)
 - DUCT LINER SHALL COMPLY WITH NFPA 90A AND 90B REQUIREMENTS AND NAIMA 7700B GLASS DUCT LINER STANDARD.
- D. GRILLES, REGISTERS AND DIFFUSERS
- SUPPLY DIFFUSERS SHALL BE SQUARE 24x24" WITH THREE CONE AIR DISTRIBUTION.
 - SUPPLY GRILLES SHALL BE STEEL DOUBLE DEFLECTION OF THE SIZE AND MOUNTING SHOWN ON PLAN.
 - DEFLECTIONS BLADES SHALL BE SPACED ON 34 CENTERS AND HAVE STEEL FRICTION PIVOTS ON BOTH ENDS TO ALLOW INDIVIDUAL BLADE ADJUSTMENT WITHOUT LOOSENING OR RATTLING.
 - RETURN GRILLES SHALL BE SEGREGATE WITH 1/2"x1/2"x1/2" CONE ALUMINUM BORDER.
 - RETURN REGISTERS SHALL BE STEEL OF SIZE AND MOUNTING SHOWN ON PLANS.

F. EQUIPMENT TRAINING

- HVAC EQUIPMENT SUPPLIER TO PROVIDE OAM TRAINING OF EQUIPMENT TO OWNER. TRAINING SHALL BE A MINIMUM OF 3 HOURS.

HVAC INSTRUMENTS AND CONTROLS

- A. GENERAL
- PROVIDE NEW CONTROL DEVICES INCLUDING THERMOSTATS, STAGING RELAYS AND OTHER RELATED DEVICES FOR A COMPLETE OPERATIONAL SYSTEM PER THE OPERATING SEQUENCE AND INDUSTRY STANDARDS.
 - MOUNT ALL CONTROLS FURNISHED AS ACCESSORIES TO EQUIPMENT AND PROVIDE ALL CONTROL WIRING REQUIRED FOR PROPER OPERATION. ALL WIRING SHALL BE IN CONDUIT PER N.E.C. AND LOCAL CODE REQUIREMENTS.
 - FURNISH AND WIRE PHOTO-ELECTRIC DUCT SMOKE DETECTORS AT EACH UNIT TO SHUT DOWN FAN UPON ACTIVATION. DETECTOR SHALL BE LOCATED IN THE SUPPLY AIR DUCT OF THE UNIT CONNECTION. DETECTOR WILL HAVE MANUAL RESET AND WILL ACTIVATE A LOCAL ALARM PANEL.

START UP

- A. GENERAL
- AFTER INSTALLATION, CHECK ALL EQUIPMENT AND PERFORM START UP IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
 - ALL PIPING SHALL BE TESTED AND FREE OF LEAKS AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
 - WORK THAT IS SCHEDULED TO BE CONCEALED OR INSULATED SHALL REMAIN UNCOVERED UNTIL REQUIRED TESTS HAVE BEEN COMPLETED. IF THE CONSTRUCTION SCHEDULE REQUIRES, ARRANGE FOR TESTS ON SECTIONS OF THE SYSTEM AT A TIME.
 - BALANCE ALL SYSTEMS, CALIBRATE CONTROLS, CHECK FOR PROPER OPERATION AND SEQUENCE UNDER ALL CONDITIONS AND MAKE ALL NECESSARY ADJUSTMENTS.
 - INSTRUCT OWNER IN OPERATION OF SYSTEMS AND SUBMIT OPERATING AND MAINTENANCE MANUAL FOR ALL EQUIPMENT AND SYSTEMS.

TESTING, ADJUSTING, AND BALANCING

- A. BALANCING, START UP AND INSTRUCTIONS
- AFTER EQUIPMENT IS PLACED IN OPERATION, SYSTEMS SHALL BE BALANCED TO WITHIN 10% OF DESIGN FLOW WITH REPORT SUBMITTED TO OWNER. BALANCING SHALL BE PERFORMED BY AN INDEPENDENT AABC OR NEBB CERTIFIED CONTRACTOR.
 - BALANCE THE AIR SYSTEMS PRIOR TO BALANCING HYDRAONIC AND REFRIGERANT SYSTEMS.
 - TEST, ADJUST AND BALANCE COOLING SYSTEMS DURING SUMMER SEASON AND HEATING SYSTEMS DURING WINTER SEASON. BALANCE SYSTEMS WHEN THE OUTSIDE AIR CONDITIONS ARE WITHIN 5 DEGREES F WET BULB TEMPERATURE OF THE MINIMUM SUMMER DESIGN CONDITION AND WITHIN 10 DEGREES F DRY BULB TEMPERATURE OF THE MINIMUM WINTER DESIGN CONDITION.
 - START UP AND PLACE ALL SYSTEMS IN OPERATION AND TAG ALL SWITCHES AND CONTROLS WITH PERMANENT LABELS INSTRUCT OWNER ON PROPER OPERATION AND PREVENTATIVE MAINTENANCE OF SYSTEM.



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REV #	ISSUES / REVISIONS	DATE
	SCHEMATIC DESIGN	5.18.2020
	PROGRESS SET	8.14.2020
	BID SET	1.25.2021

DRAWN BY: KMO DESIGNED BY: KMO REVIEWED BY: MNO

PROJECT TITLE AND ADDRESS
**BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER**
176 DIVISION AVE.
ORMOND BEACH, FL. 32174

SHEET TITLE
**MECHANICAL
SPECIFICATIONS**

MINDY N. O'NEAL FL # 69779	SHEET # MO.0
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PROJECT # 020005 DATE: 12.09.2019

HVAC SYMBOLS	
SYMBOL	DESCRIPTION
	NEW DUCT WORK
	FLEXIBLE DUCT
	SUPPLY AIR DUCT WORK
	RETURN AIR OR EXHAUST DUCT WORK
	DUCT WORK TRANSITION
	90° ELBOW WITH TURNING VANES
	RADIUS ELBOW
	MANUAL AIR VOLUME CONTROL DAMPER
	SUPPLY AIR DEVICE
	RETURN AIR DEVICE
	EXHAUST AIR DEVICE
	WALL MOUNTED THERMOSTAT
	WALL MOUNTED TEMPERATURE SENSOR
	STATIC PRESSURE SENSOR
	ANSI SYSTEM PULL STATION
	DUCT SMOKE DETECTOR
	A-100 DIFFUSER DEVICE TYPE - AIR QUANTITY
	TYP. TYPICAL
	(E) EXISTING
	RTU-10 EQUIPMENT DESIGNATION TAG
	R REVISION REFERENCE
	CONDENSATE DRAIN PIPING ON ROOF
	CONDENSATE DRAIN PIPING
	FD FIRE DAMPER
	SD SMOKE DAMPER
	FSD FIRE/SMOKE DAMPER
	CO CLEANOUT
	AD ACCESS DOOR/PANEL

TESTING AND BALANCING NOTES	
1. CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE TESTING, ADJUSTING AND BALANCING FOR THIS PROJECT. TESTING, ADJUSTING AND BALANCING SHALL BE DONE IN ACCORDANCE WITH THESE NOTES.	
2. THE FOLLOWING MECHANICAL (HVAC) SYSTEMS SHALL BE TESTED, ADJUSTED AND BALANCED:	
A. ROOFTOP AIR CONDITIONING UNITS AND RELATED SUPPLY AND RETURN DUCTWORK, INCLUDING ALL AIR INLETS AND OUTLETS AND ROOFTOP UNIT OUTSIDE AIR.	
B. AIR HANDLING UNITS AND RELATED SUPPLY AND RETURN DUCTWORK, INCLUDING ALL AIR INLETS AND OUTLETS AND AIR HANDLING UNIT OUTSIDE AIR.	
C. EXHAUST FANS.	
D. COMMERCIAL KITCHEN HOODS, COMMERCIAL KITCHEN HOOD EXHAUST FANS, COMMERCIAL KITCHEN HOOD MAKEUP AIR FANS.	
E. PROVIDE A COMMERCIAL KITCHEN HOOD PERFORMANCE TEST AND CAPTURE AND CONTAINMENT TEST.	
3. PRIOR TO COMMENCING ANY WORK, REVIEW CONTRACT DOCUMENTS, TESTING/ADJUSTING AND BALANCING STRATEGIES AND STEP-BY-STEP PROCEDURES.	
4. CONTRACTOR PROVIDING TESTING, ADJUSTING AND BALANCING SHALL BE CERTIFIED BY EITHER ASBC OR NEBB.	
5. TESTING, ADJUSTING AND BALANCING REPORT FORMS SHALL BE STANDARD FORMS FROM EITHER ASBC OR NEBB.	
6. CONTRACTOR SHALL COORDINATE THE EFFORTS OF FACTORY AUTHORIZED SERVICE REPRESENTATIVES FOR SYSTEMS AND EQUIPMENT. HVAC CONTROLS INSTALLERS, AND OTHER MECHANICS TO OPERATE HVAC SYSTEMS AND EQUIPMENT TO SUPPORT AND ASSIST THE TESTING, ADJUSTING AND BALANCING ACTIVITIES.	
7. CONTRACTOR SHALL VERIFY QUANTITIES AND LOCATIONS OF BALANCING DEVICES. CONTRACTOR SHALL VERIFY THAT THESE BALANCING DEVICES ARE ACCESSIBLE AND APPROPRIATE FOR BALANCING AND FOR EFFICIENT SYSTEM EQUIPMENT OPERATION PRIOR TO COMMENCEMENT OF WORK.	
8. CONTRACTOR SHALL PERFORM TESTING AND BALANCING PROCEDURES IN EACH AIR AND WATER SYSTEM.	
9. HVAC SYSTEM AIR AND WATER FLOW RATES SHALL BE WITHIN THE FOLLOWING TOLERANCES:	
A. SUPPLY: PLUS 1% TO PLUS 10 PERCENT	
B. RETURN: PLUS 1% TO PLUS 10 PERCENT	
C. EXHAUST FANS: PLUS 9% TO PLUS 10 PERCENT	
D. EQUIPMENT WITH FANS: PLUS 1% TO PLUS 10 PERCENT	
E. AIR OUTLETS AND INLETS: 10 TO MINUS 10 PERCENT	
F. DOMESTIC HOT WATER RECIRCULATING FLOW RATE: 0 TO MINUS 10 PERCENT.	
10. FINAL BALANCING REPORT SHALL INCLUDE THE FOLLOWING:	
A. TEST CONDITIONS FOR FANS AND PUMPS	
B. SYSTEMS DIAGRAMS	
C. AIR CONDITIONING UNIT TEST REPORTS	
D. APPARATUS COIL TEST REPORTS	
E. GAS-FIRED HEAT APPARATUS TEST REPORTS	
F. ELECTRICAL COIL TEST REPORTS	
G. FAN TEST REPORTS	
H. DUCT TRANSVERSE REPORTS	
I. AIR TERMINAL DEVICE REPORTS	
J. SYSTEM COIL REPORTS	
K. PUMP TEST REPORTS	
11. ADDITIONAL TESTING AND BALANCING SHALL BE MADE AS DIRECTED BY THE DESIGN ENGINEER TO CORRECT UNUSUAL CONDITIONS. ADDITIONAL TESTING WILL NOT EXCEED THREE DAYS DURING THE FIRST SIX MONTHS OF OPERATION.	
12. IF INITIAL TESTING AND BALANCING PROCEDURES WERE NOT PERFORMED DURING THE NEAR PEAK SUMMER AND WINTER CONDITIONS, PERFORM ADDITIONAL TESTING, ADJUSTING DURING NEAR PEAK SUMMER AND WINTER CONDITIONS.	
13. CONTRACTOR TO PROVIDE THREE (3) COPIES OF THE TESTING, ADJUSTING AND BALANCING REPORT FOR REVIEW.	

FLORIDA BUILDING CODE SEVENTH EDITION (2020) ENERGY CONSERVATION COMPLIANCE

THE DESIGN COMPLIES WITH SECTION C402.2 APPLICATION ITEM 3:
THE REQUIREMENTS OF SECTION C402.5, C402.9, C404, C405.2, C405.3, C405.4, C405.6 AND C407. THE BUILDING ENERGY COST SHALL BE EQUAL TO OR LESS THAN 60 PERCENT OF THE STANDARD REFERENCE DESIGN BUILDING.

DRAWING INDEX	
SHEET NUMBER	TITLE
MO.0	Mechanical Specifications
MO.1	Mechanical General Information
MO.2	Mechanical Schedules
MO.0	Mechanical First Floor Plan
MO.1	Mechanical Details

SUBMITTALS AND SUBSTITUTIONS	
1.	CONTRACTOR SHALL SUBMIT THE FOLLOWING EQUIPMENT FOR REVIEW PRIOR TO ORDERING AND INSTALLING: A. AIR HANDLING UNITS AND AIR COOLED CONDENSERS B. DIFFUSERS AND REGISTERS C. EXHAUST FANS D. DUCT WORK E. DUCT CONSTRUCTION STANDARDS
2.	PROCESSING TIME: ALLOW 10 WORKING DAYS FOR REVIEW OF EACH SUBMITTAL. ALLOW ADDITIONAL TIME IF COORDINATION WITH SUBSEQUENT SUBMITTALS IS REQUIRED. ENGINEER WILL ADVISE CONTRACTOR WHEN A SUBMITTAL BEING PROCESSED MUST BE DELAYED FOR COORDINATION.
3.	SUBMITTALS PLACE A PERMANENT LABEL OR TITLE BLOCK ON EACH SUBMITTAL ITEM FOR IDENTIFICATION. INDICATE NAME OF FIRM OR ENTITY THAT PREPARED EACH SUBMITTAL ON LABEL OR TITLE BLOCK. PROVIDE A SPACE INSIDE TITLE BLOCK TO RECORD CONTRACTOR'S REVIEW AND APPROVAL MARKINGS AND ACTION TAKEN BY ENGINEER. INCLUDE THE FOLLOWING INFORMATION FOR PROCESSING AND RECORDING ACTION TAKEN: A. PROJECT NAME B. DATE C. NAME OF ENGINEER D. NAME OF CONTRACTOR E. NAME OF SUBCONTRACTOR F. NAME OF SUPPLIER G. NAME OF MANUFACTURER H. DRAWING NUMBER AND DETAIL REFERENCES, AS APPROPRIATE I. LOCATION INSIDE PRODUCT IS TO BE INSTALLED, AS APPROPRIATE.
4.	SUBMIT ELECTRONIC SUBMITTALS VIA EMAIL AS PDF ELECTRONIC FILES.
5.	PAPER SUBMITTALS: SUBMIT THREE PAPER COPIES OF EACH SUBMITTAL UNLESS OTHER WISE INDICATED. ENGINEER WILL RETURN TWO COPIES.
6.	COLLECT SUBMITTAL DATE INFORMATION INTO A SINGLE SUBMITTAL FOR EACH ELEMENT OF CONSTRUCTION AND TYPE OF PRODUCT OR EQUIPMENT. MARK EACH COPY OF EACH SUBMITTAL TO SHOW WHICH PRODUCTS AND OPTIONS ARE APPLICABLE. INCLUDE THE FOLLOWING INFORMATION, AS APPLICABLE: A. MANUFACTURER'S CATALOG CUTS B. MANUFACTURER'S PRODUCT SPECIFICATIONS C. STATEMENT OF COMPLIANCE WITH SPECIFIED REFERENCES/STANDARDS D. NOTATION OF COORDINATION REQUIREMENTS E. WIRING DIAGRAMS SHOWING FACTORY INSTALLED WIRING F. PRINTED PERFORMANCE CURVES G. OPERATIONAL RANGE DIAGRAM H. CLEARANCES REQUIRED TO OTHER CONSTRUCTION, IF NOT INDICATED ON ACCOMPANYING SHOP DRAWINGS.
7.	CONTRACTOR SHALL REVIEW EACH SUBMITTAL AND CHECK FOR COORDINATION WITH OTHER WORK OF THE CONTRACT AND FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. NOTE CORRECTIONS AND FIELD DIMENSIONS. MARK WITH APPROVAL STAMP BEFORE SUBMITTING TO DESIGNER. APPROVAL STAMP: STAMP SHALL STATE THAT SUBMITTAL HAS BEEN REVIEWED, CHECKED, AND APPROVED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS AND INSTALLED AND DATED BY CONTRACTOR.
8.	ENGINEER WILL REVIEW EACH SUBMITTAL. MAKE MARKS TO INDICATE CORRECTIONS OR REVISIONS REQUIRED, AND RETURN IT. ENGINEER WILL STAMP EACH SUBMITTAL WITH AN ACTION STAMP AND WILL MARK STAMP APPROPRIATELY TO INDICATE ACTION.
9.	ENGINEER WILL NOT REVIEW SUBMITTALS THAT DO NOT BEAR CONTRACTOR'S APPROVAL STAMP AND INITIALS AND RETURN THEM WITHOUT ACTION. INCOMPLETE SUBMITTALS ARE UNACCEPTABLE. WILL BE CONSIDERED NONRESPONSIVE, AND WILL BE RETURNED FOR RESUBMITTAL WITHOUT REVIEW. SUBMITTALS NOT REQUIRED BY THE CONTRACT DOCUMENTS MAY NOT BE REVIEWED AND MAY BE DISCARDED.
10.	SUBSTITUTIONS A. SUBSTITUTION OFFERS OWNER A SUBSTANTIAL ADVANTAGE IN COST, TIME, ENERGY CONSERVATION, OR OTHER CONSIDERATIONS. B. SUBSTITUTION DOES NOT REQUIRE EXTENSIVE REVISIONS TO THE CONTRACT DOCUMENTS. CONTRACTOR SHALL COMPENSATE ENGINEER FOR ANY REVISION AND EVALUATION SERVICES INCLUDING CHANGES REQUIRED BY AUTHORITY HAVING JURISDICTION. C. SUBSTITUTION WILL NOT ADVERSELY AFFECT CONSTRUCTION SCHEDULE. D. SUBSTITUTION HAS RECEIVED NECESSARY APPROVALS OF AUTHORITIES HAVING JURISDICTION. E. SUBSTITUTION HAS BEEN COORDINATED TO WITH OTHER PORTIONS OF THE WORK. F. SUBSTITUTION PROVIDES SPECIFIED WARRANTY. G. SUBSTITUTION HAS BEEN COORDINATED WITH OTHER PORTIONS OF THE WORK, AND IS ACCEPTABLE TO ALL CONTRACTORS INVOLVED. H. CONTRACTOR SHALL ASSUME ANY ADDITIONAL CONSTRUCTION COSTS AS A RESULT OF THE SUBSTITUTION.

DUCT CONSTRUCTION NOTES	
1.	SUPPLY AIR RETURN AIR, OUTSIDE AIR, AND EXHAUST AIR DUCTWORK SHALL BE GALVANIZED SHEET METAL, EXCEPT WHERE INDICATED. METALLIC DUCTS SHALL BE CONSTRUCTED AND INSTALLED PER THE FLORIDA BUILDING CODE SEVENTH EDITION 2020, MECHANICAL AND THE 2005 EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE.
2.	METAL DUCT STATIC PRESSURE CLASSIFICATION: SUPPLY AIR DUCT: 2" W.G. RETURN AIR DUCT: 2" W.G. (NEGATIVE) EXHAUST AIR DUCT: 2" W.G. (NEGATIVE)
3.	SEAL ALL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS PER THE FLORIDA BUILDING CODE SEVENTH EDITION 2020, ENERGY CONSERVATION TABLE C403.4.8.2 AND THE 2005 EDITION OF SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE.
4.	CROSS-BREAK DUCT SURFACES 18" THROUGH 60" USE ANGLE REINFORCING FOR DUCT SIZES OVER 60".
5.	ALL METAL LONGITUDINAL SEAMS SHALL BE PITTSBURGH OR OTHER SMACNA LISTED SEAMS. DO NOT USE BUTT-JOIN PUNCH SHAPED SEAMS.
6.	SUSPEND METAL DUCTWORK NOT EXCEEDING 30' LONGEST SIDE, AT EVERY JOINT (NOT TO EXCEED 24" O.C.) USING 1/4" TH GAUGE GALVANIZED STRAPS ATTACHED TO BOTTOM AND SIDE OF DUCT.
7.	SUSPEND METAL DUCTWORK, EXCEEDING 30' LONGEST SIDE, AT MAXIMUM 8' 0" INTERVALS USING ANGLES AND RODS.
8.	SUPPORT DUCTWORK AND EQUIPMENT FROM STRUCTURAL MEMBER. ATTACHMENT TO ROOF DECK IS NOT ACCEPTABLE.
9.	DUCT SIZES MUST BE VERIFIED FOR CLEARANCES AT THE JOB SITE PRIOR TO FABRICATION. DIMENSIONS MAY BE CHANGED TO ACCOMMODATE CONSTRUCTION. SUBMIT ALL MODIFICATION TO DESIGN ENGINEER FOR APPROVAL.
10.	DUCT TRANSITIONS MUST BE CONSTRUCTED WITH SLOPE OF 1/4".
11.	TURNING VANES SHALL BE PROVIDED IN ALL SUPPLY DUCT RECTANGULAR ELBOWS WITH AN ANGLES BETWEEN 15 DEGREES AND LESS THAN 90 DEGREES FOR THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS MANUAL.
12.	DUCT DIMENSIONS SHOWN ON DRAWING ARE CLEAR INSIDE DIMENSIONS, WHERE DUCT LINER IS SHOWN INCREASE METAL DUCT SIZE TO ALLOW FOR DUCT TIGHT.
13.	UNLESS OTHERWISE NOTED, INSTALL DUCTWORK AS HIGH AS POSSIBLE, TIGHT TO BOTTOM OF STRUCTURE. COORDINATE DUCT ELEVATION WITH OTHER LEADERS, WATER PIPING, SANITARY DRAINS, MAJOR ELECTRICAL CONDUIT, LIGHTING FIXTURES, ETC.

MECHANICAL GENERAL NOTES

- ALL MECHANICAL WORK SHALL MEET ALL THE REQUIREMENTS OF THE FLORIDA BUILDING CODE SEVENTH EDITION 2020, MECHANICAL.
- CONTRACTOR TO VISIT SITE AND VERIFY ALL CLEARANCES BEFORE FABRICATION OF DUCTWORK AND PROVIDE ADDITIONAL OFFSET AND/OR CHANGES IN DUCT SIZES TO MEET FIELD CONDITIONS AND COORDINATE WITH ELECTRICAL, PLUMBING, AND FIRE PROTECTION SUBCONTRACTOR BEFORE ANY CONSTRUCTION WORK.
- PROVIDE EQUIPMENT GUARDS AT ALL EQUIPMENT WITHIN 10 FEET OF A ROOF EDGE OR OPEN SIDE OF WALKING SURFACE THAT IS OVER 30" ABOVE FLOOR GRADE.
- OUTSIDE AIR INTAKES ROOFTOP UNITS, GRAVITY ROOF VENTS, LOUVERS) SHALL MAINTAIN A MINIMUM OF 20" FROM ANY EXHAUST OUTLET OR SANITARY VENT.
- PROVIDE ALL MECHANICAL EQUIPMENT WITH MANUFACTURER'S RECOMMENDED SERVICE AREA CLEARANCES.
- ALL ROOF TOP UNITS SHALL BE CONSTRUCTED AND INSTALLED TO WITHSTAND LOCAL WIND LOAD DESIGN.
- DUCT SMOKE DETECTORS SHALL BE FURNISHED BY THE FIRE ALARM CONTRACTOR. INSTALLED IN DUCT BY THE MECHANICAL CONTRACTOR AND WIRED BY THE FIRE ALARM CONTRACTOR. SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72, NATIONAL FIRE ALARM CODE NFPA 96A STANDARD FOR INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS, FLORIDA BUILDING CODE SEVENTH EDITION 2020, MECHANICAL AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. COORDINATE LOCATION OF SMOKE DETECTORS WITH FIRE ALARM CONTRACTOR. PROVIDE A VISIBLE/ACCESSIBLE NOTIFICATION PANEL. MAKE SYSTEM SENSITIVITY TESTS ON EQUAL, COMPATIBLE WITH BUILDING FIRE ALARM SYSTEM.
- PLANS AND DIAGRAM ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED.
- PROVIDE EXTERNAL DUCT INSULATION FOR SUPPLY, RETURN AND OUTSIDE AIR DUCTWORK. DUCTWORK INSULATION SHALL BE FOIL FACED FIBERGLASS DUCT WRAP WITH A MINIMUM THERMAL RESISTANCE (R) OF 6.0. INSULATION SHALL HAVE VAPOR BARRIER. INSTALL PER MFR. REQUIREMENTS.
- COORDINATE CEILING MOUNTED DIFFUSERS, REGISTERS, AND GRILLES AND OTHER CEILING MOUNTED EQUIPMENT WITH OTHER CEILING MOUNTED EQUIPMENT. (SEE REFLECTED CEILING PLAN)
- DUCTWORK, DIFFUSERS, REGISTERS, GRILLES, AND OTHER ITEMS OF THE AIR HANDLING SYSTEM SHALL NOT BE SUPPORTED BY THE CEILING OR CEILING SUSPENSION SYSTEM.
- CONTRACTOR TO PROVIDE ALL SUPPLEMENTARY STEEL REQUIRED TO SUSPEND MECHANICAL EQUIPMENT & MATERIALS. INSTALLATION OF EQUIPMENT SHALL COMPLY WITH MANUFACTURER'S SPECIFICATIONS AND CLEARANCE REQUIREMENTS FOR SERVICING OF EQUIPMENT.
- VERIFY VOLTAGE REQUIREMENTS WITH ELECTRICAL CONTRACTOR BEFORE ORDERING EQUIPMENT.
- PROVIDE A TRAP IN ALL CONDENSATE PIPING SERVING AIR HANDLING UNITS AND ROOFTOP UNITS. SLOPE CONDENSATE LINE 1/8" PER FOOT. ALL CONDENSATE DRAIN PIPING SHALL BE PROPERLY SUPPORTED.
- GUARANTEE FOR ONE YEAR AFTER DATE OF ACCEPTANCE BY THE OWNER. ALL EQUIPMENT, MATERIALS AND WORKMANSHIP TO BE FREE FROM DEFECT.
- DO NOT CUT STRUCTURAL MEMBERS WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
- FLEXIBLE AND RIGID ROUND DUCT TAKE-OFFS FOR DIFFUSERS SHALL BE THE SAME SIZE AS DIFFUSER NECK. MAXIMUM FLEXIBLE DUCT LENGTH SHALL BE 8' 0". FLEXIBLE DUCT SHALL BE THERMALLY STABLE AND OF EQUAL FLEXIBLE DUCT SHALL BE INSTALLED FIBERGLASS, IN A CLASS 1 ULBLS LISTED AND COMPLY WITH NFPA 96A AND NFPA 90B.
- ALL WALL MOUNTED THERMOSTATS AND HUMIDISTATS SHALL BE INSTALLED AT AN ELEVATION OF 54" ABOVE FINISHED FLOOR TO THE TOP UNLESS OTHERWISE NOTED ON DRAWINGS. LOCATION OF THE WALL MOUNTED THERMOSTAT SHALL BE COORDINATED WITH OTHER TRADES FOR A NEAT APPEARANCE. FINAL LOCATION OF THERMOSTAT SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER OR HIS REPRESENTATIVE IN THE FIELD.
- PROVIDE FLEXIBLE NEOPRENE DUCT CONNECTORS ON THE DISCHARGE AND ENTERING SIDES OF ROOFTOP UNITS, AIR HANDLING UNITS, FANS AND OTHER VIBRATING EQUIPMENT TO WHICH DUCTWORK IS ATTACHED.
- PROVIDE ACCESS DOORS IN HARD CEILINGS OR WALLS REQUIRING ACCESS TO VALVES, FIRE DAMPERS, BALANCING DAMPERS, VOLUME DAMPERS OR OTHER PARTS OF THE SYSTEM WHICH REQUIRE OPERATION OR MAINTENANCE AND ARE LOCATED AT UNACCESSIBLE AREAS. MAKE MILCOR MODEL C FOR CEILING LOCATION, MILCOR MODEL M FOR WALL LOCATION. INSTALL FOR DOWNWARD OPENING IN CEILING LOCATIONS.
- COORDINATION: CONTRACTOR SHALL COORDINATE ITS CONSTRUCTION OPERATIONS WITH THOSE OF OTHER CONTRACTORS AND SUBMITTALS TO ENSURE EFFICIENT AND ORDERLY INSTALLATION OF EACH PART OF THE WORK. CONTRACTOR SHALL COORDINATE ITS OPERATIONS WITH OTHER CONTRACTORS OPERATIONS, THAT DEPEND ON EACH OTHER FOR PROPER INSTALLATION, CONNECTION AND OPERATION.
- REFER TO ARCHITECTURAL DRAWINGS FOR ALL RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. CHASE AND WALL PENETRATIONS INTENDED FOR DUCTWORK AND PIPING SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION.
- MECHANICAL EQUIPMENT, DUCTWORK AND PIPING IS SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENT AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. FIELD VERIFY FINAL LOCATIONS TO INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
- WHEN THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS NOT CLEAR, OR IS CAPABLE OF MORE THAN ONE INTERPRETATION, SUCH MATTERS WILL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER IN WRITING BEFORE THE SUBMISSION OF BIDS. THE ARCHITECT/ENGINEER SHALL MAKE CORRECTION OR EXPLANATION IN WRITING.
- PLANS AND SPECIFICATIONS ARE INTENDED AS A GENERAL DESCRIPTION OF THE WORK TO BE PERFORMED. ALL ITEMS NOT SPECIFICALLY MENTIONED OR SHOWN, BUT NECESSARY FOR THE COMPLETION OF THE INSTALLATION, SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR. THIS CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE MECHANICAL, ARCHITECTURAL, STRUCTURAL AND ELECTRICAL PLANS BEFORE SUBMITTING HIS FINAL BID. NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO THE CONTRACTOR'S FAILURE TO FAMILIARIZE HIMSELF HERSELF WITH THE PLANS.
- CONTRACTOR SHALL ENGAGE A FACTORY AUTHORIZED SERVICE REPRESENTATIVE FOR START-UP TO INSPECT, TEST AND ADJUST FIELD ASSEMBLED COMPONENTS AND EQUIPMENT INSTALLATION, INCLUDING CORRECTIONS AND REPERFORM THE FOLLOWING FIELD TESTS AND INSPECTIONS:
 - LEAK TEST: AFTER INSTALLATION, CHARGE SYSTEM AND TEST FOR LEAKS. REPAIR LEAKS AND RETEST UNTIL NO LEAKS EXIST.
 - OPERATIONAL TEST: AFTER ELECTRICAL CHUTURY HAS BEEN ENERGIZED, START UNITS TO CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATION.
 - TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.
 - REPORT TESTING RESULTS IN WRITTEN REPORT.

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ISSUES / REVISIONS

REV #	ISSUES / REVISIONS	DATE
1	SCHEMATIC DESIGN	5.18.2020
2	PROGRESS SET	8.14.2020
3	BID SET	1.25.2021

DRAWN BY: KMO
DESIGNED BY: KMO
REVIEWED BY: MNO

PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
176 DIVISION AVE.
ORMOND BEACH, FL. 32174

SHEET TITLE
MECHANICAL
GENERAL INFORMATION

MINDY N. O'NEAL
FL# 69779

SHEET #
MO.1

PROJECT # 020005 DATE: 12.09.2019

[illegible]

PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
176 DIVISION AVE.
ORMOND BEACH, FL. 32174

MINDY N. O'NEAL FL# 69779	SHEET #	MO.2
	PROJECT # 020005	DATE: 12.09.2015

PIPING MATERIAL SCHEDULE						
SERVICE	SIZE	MATERIAL	SCHEDULE / TYPE	INSULATION		REMARKS
				TYPE	THICK	
AC CONDENSATE	ALL	PVC	SCH. 40	NONE		--
<u>NOTES:</u>						
1. FIBERGLASS PIPE INSULATION: MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN. SEMIRIGID BOARD MATERIAL WITH FACTORY-APPLIED AS COMPLYING WITH ASTM C 1293, OR OTHERS PROPERTIES SIMILAR TO ASTM C 672. NOMINAL DENSITY IS 2.5 LB/CU FT. OR MORE. THERMAL CONDUCTIVITY IS VALUED AT 0.026 @ 75 DEGREE C. IS 0.020 @ 180 W. R. Q. L. X 3/4 IN. X 3/4 IN. @ 0.042 W. R. Q. L. X 1/2 IN. OR LESS. ALL SERVICE RACKS (ASTM) WHITE, ART-PANVEL, FIBERGLASS REINFORCED CORNERS WITH ALUMINUM-ROCK. JACKING CORNERS CORNERS WITH ASTM C 1128. TYPE MANUFACTURERS: A. CERTAINTED CORP., B. JOHNS MANVILLE, C. KNAUF INSULATION, D. OWENS CORNING.						
2. FLEXIBLE ELASTOMERIC PIPE INSULATION: CLOSED CELL SPRING OR RUBBER. MATERIALS COMPLY WITH ASTM C 554. TYPE I FOR TUBULAR MATERIALS. PROVIDE SEALANT COMPATIBLE WITH MATERIAL. MANUFACTURERS: ARMAFLEX BY ARMACELL OR EQUAL.						

NOTES:	
1.	PROVIDE 5-MINUTE ANTI-SHORT CYCLE TIMER.
2.	PROVIDE SINGLE POINT ELECTRICAL CONNECTION.
3.	PROVIDE UNIT WITH FACTORY FILTERS.
4.	PROVIDE WITH REAR-REAR RETURN AIR TEMPERATURE SENSOR.
5.	PROVIDE WITH FACTORY INSTALLED NON-FUSED DISCONNECT.
6.	PROVIDE UNIT WITH HAIL GUARD.
7.	PROVIDE WITH FACTORY INSTALLED AIR-SEAL ECONOMIZER WITH DUAL ENTHALPY CONTROL.
8.	PROVIDE AUTOMATIC PROGRAMMABLE THERMOSTAT.
9.	PROVIDE HORIZONTAL DISCHARGE CONFIGURATION EQUIPMENT.
10.	PROVIDE MANUFACTURER'S MOTOR AND DRIVE PACKAGE AS REQUIRED TO MEET SCHEDULED AIR CAPACITIES AND PRESSURE DROP.
11.	PROVIDE UNITS WITH WATER-LEVEL MONITORING DEVICE.
12.	PROVIDE WITH HOT GAS RE-HEAT DEHUMIDIFICATION OPTION.

NOTES:

1. PROVIDE INTEGRAL DISCONNECT SWITCH.
2. PROVIDE MANUFACTURER'S SPEED CONTROL MOUNTED AT UNIT.
3. PROVIDE CONTROL BY MANUAL LIGHT WITH OCCUPANCY SENSOR. COORDINATE WITH ELECTRICAL DRAWINGS FOR LOCATION OF SWITCH.
4. PROVIDE WITH MANUFACTURER RECOMMENDED WALL CAP FOR TERMINATION.

AIR DEVICE SCHEDULE

TAG	MFG./CAT.#	TYPE	NECK	FRAME	FINISH	NOTE
A	PRICE - 620	SAR	SEE PLANS	SEE PLANS	BAK. WHT. ENAMEL	1.2.4
B	PRICE - 90	RAR	SEE PLANS	SEE PLANS	BAK. WHT. ENAMEL	1.2

DEVICE TYPE LEGEND:
 CD = CEILING DIFFUSER
 BR = RETURN AIR REGISTER
 SR = EXHAUST AIR REGISTER
 SAR = SUPPLY AIR REGISTER

NOTES:

1. PROVIDE CEILING DEVICES WITH PROPER FRAME STYLE TO MATCH CEILING TYPE AS CALLED FOR BY ARCHITECT
2. DEVICES SHALL BE PROVIDED WITH FACTORY FINISH
3. RETURN AIR REGISTERS SHALL BE 4-WAY THRU WALLS UNLESS OTHERWISE NOTED OR SHOWN ON PLANS WITH DIRECTIONAL AIRWAYS
4. IF NECESSARY, PROVIDE TOP TAP FOR GRILLES/REGISTERS AND DIFFUSERS
5. PROVIDE EQUIVULATING GRID (PRICE MODEL #19) FOR DIFFUSERS TAKEN OUT FROM BOTTOM OF DECK, PROVIDE OPPOSED BLADE DAMPER
6. AIRFLOW DIRECTED IN LINE WITH FLOW FOR GRILLES/REGISTERS

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FL Cert of Auth: 28261
EOR: J. Matthew Lowe FL PE: 59027

CONSULTANTS:

REV #	ISSUES / REVISIONS	DATE
1	SCHEMATIC DESIGN	5.18.2020
2	PROGRESS SET	8.14.2020
3	BID SET	1.25.2021

DRAWN BY: KMO
DESIGNED BY: KMO
REVIEWED BY: MNOPROJECT TITLE AND ADDRESS
**BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER**
176 DIVISION AVE.
ORMOND BEACH, FL. 32174SHEET TITLE
**MECHANICAL
FIRST FLOOR PLAN**MINDY N. O'NEAL
FL# 69779SHEET #
M1.0

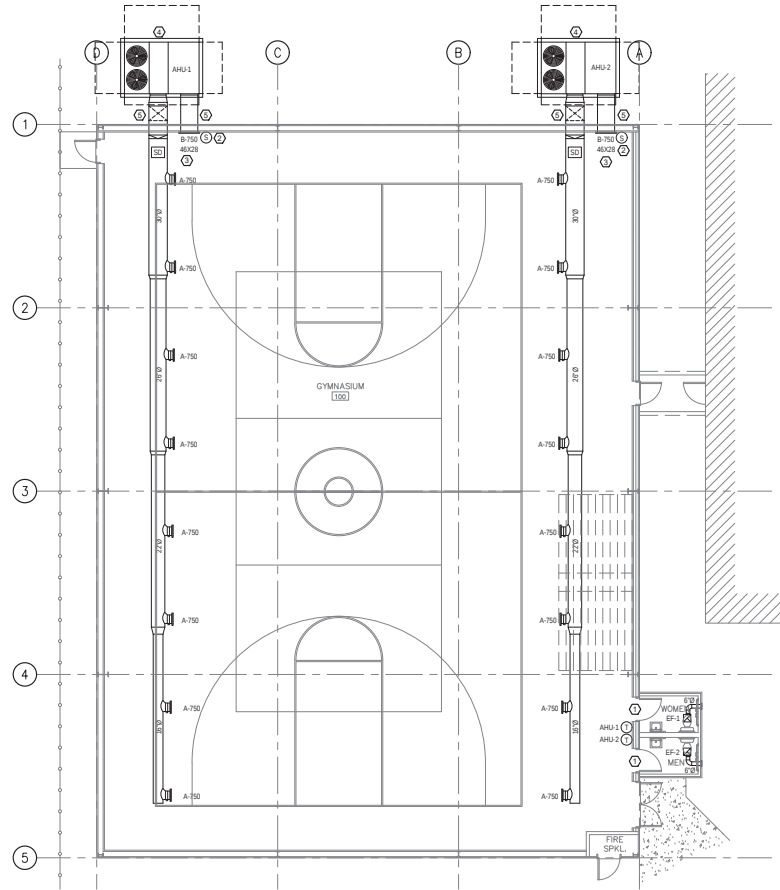
PROJECT # 020005 DATE: 12.09.2019

GENERAL PLAN NOTES:

- COORDINATE EXACT LOCATIONS OF MECHANICAL EQUIPMENT WITH ALL DISCIPLINES AND MAINTAIN REQUIRED CLEARANCES.
- INSTALL FLEXIBLE CONNECTIONS BETWEEN ALL DUCTWORK AND MECHANICAL UNITS.
- DUCTWORK CONNECTIONS TO EQUIPMENT TO BE SIZE OF UNIT OPENING.
- PROVIDE BRANCH DUCT CONNECTIONS PER DETAIL ON SHEET M1.1.

MECHANICAL PLAN KEY NOTES:

- UNDERCUT DOOR 2" TO ALLOW FOR TRANSFER OF AIR.
- PROVIDE REMOTE SENSOR IN RETURN DUCT.
- HEAVY DUTY STEEL LOW WALL RETURN GRILLE: PROVIDE WITH WIRE MESH PROTECTIVE CAGE GUARD.
- 6" CONCRETE PAD.
- PROVIDE DOUBLE WALL, INSULATED, WEATHERTIGHT, EXTERIOR DUCT. PROVIDE 7" R-8.3 MINIMUM CLOSED-CELL INSULATION.

MECHANICAL FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"



Page 24 of 37

SHEET 20.0

TANKLESS ELECTRIC WATER HEATER SCHEDULE								
MARK	AREA SERVED	TOTAL KW	VOLTS	PH	MANUFACTURER	MODEL	LOCATION	NOTES
TWH-1	TOILET ROOMS	2.4	120	1	EEMAX	SP2412	WOMEN	1
TWH-2	TOILET ROOMS	2.4	120	1	EEMAX	SP2412	MEN	1
NOTES: 1. PROVIDE WITH TOP PLUMBING CONFIGURATION.								

Diagram illustrating a two-way cleanout assembly. The assembly includes a bronze cleanout plug with a w/counter sunk head, a 16" square concrete pad, a finished grade, a PVC waste line (length to suit), a two-way cleanout, and a waste line.

Diagram illustrating the components of a wall cleanout assembly:

- MAY EXTEND AS WASTE OR VENT
- FOR WALL CONST. REB. ARCH. DINGS
- CLEANOUT TEE
- CLEANOUT PLUG
- COUNTERSINK SCREW
- POLISHED S.S. ACCESS COVER
- WASTE LINE LENGTH TO DIRT
- WYE FITTING
- 18" BEND AND END OF LINE CLEANOUT
- WASTE LINE, IF APPLICABLE
- FLOW

The diagram illustrates the plumbing and venting for a tankless water heater. Key components and connections include:

- Water Supply:** 1/2" TEMPERED WATER and 1/2" HOT WATER SUPPLY lines connect to the unit's inlets.
- Drainage:** A 1/2" COLD WATER SUPPLY line connects to the unit's outlet, which then leads to a 3/4" TUBED BRASS SITO (Sediment Inlet Trap).
- Gas Supply:** A 3/4" GAS LINE (FURNACE LINE) connects to the unit's gas inlet.
- Venting:** A TANKLESS WATER HEATER connects to a JUNCTION BOX AND CONDUIT FOR ELECTRICAL, which then leads to a TANKLESS WATER HEATER.
- Controls:** A MIXING VALVE (TMV-1) and SHUT OFF VALVE are shown on the water supply lines.
- Factory Provision:** A 5 GPM INLINE FLOW PROVISIONING LINE is shown on the gas line.
- Notes:**
 - PLUMBING CONTRACTOR SHALL INSURE WATER FLOW @ 1.5 GPM AND 125° WATER TEMPERATURE AT TAP.
 - FACTORY PROVIDES 5 GPM INLINE FLOW PROVISIONING LINE.

[illegible]

5 Domestic Water Riser Diagram
SCALE: NOT TO SCALE

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REVIEWED BY: MNOPROJECT TITLE AND ADDRESS
**BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER**
176 DIVISION AVE.
ORMOND BEACH, FL. 32174SHEET TITLE
**PLUMBING
FIRST FLOOR PLAN**SHEET #
P1.0MINDY N. O'NEAL
FL# 69779

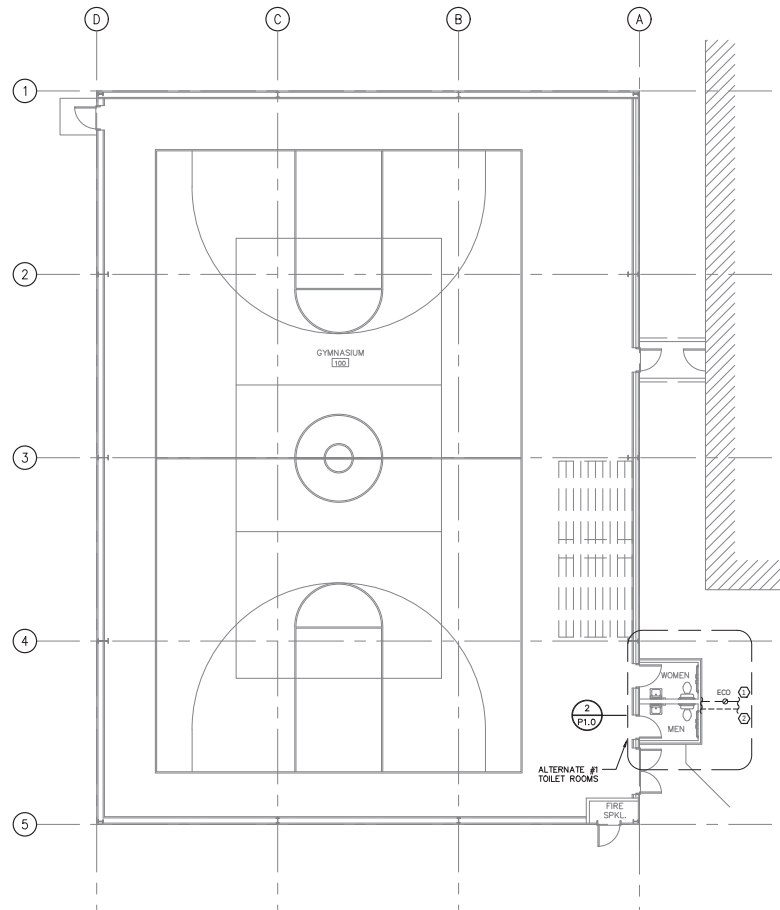
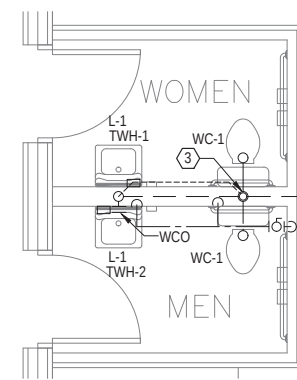
PROJECT # 020005 DATE: 12.09.2019

GENERAL PLAN NOTES:

1. REFER TO RISER DIAGRAMS FOR BRANCH PIPING DETAILS AND SIZES NOT SHOWN ON PLANS.

PLUMBING PLAN KEY NOTES:

1. 4" SANITARY BELOW GRADE. MINIMUM INVERT ELEVATION = 3.00' BELOW FINISHED FLOOR. REFER TO CIVIL DRAWINGS FOR CONTINUATION.
2. 2" DOMESTIC COLD WATER SERVICE BELOW GRADE. CONNECT TO NEAREST LOCATION ON EXISTING SITE DOWNSTREAM OF EXISTING BACKFLOW PREVENTER AND WATER METER.
3. 3" V UP TO 3" VTR.

PLUMBING FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"1
P1.0PLUMBING ENLARGED PLAN
SCALE: 1/2"=1'-0"2
P1.0

Page 30 of 37

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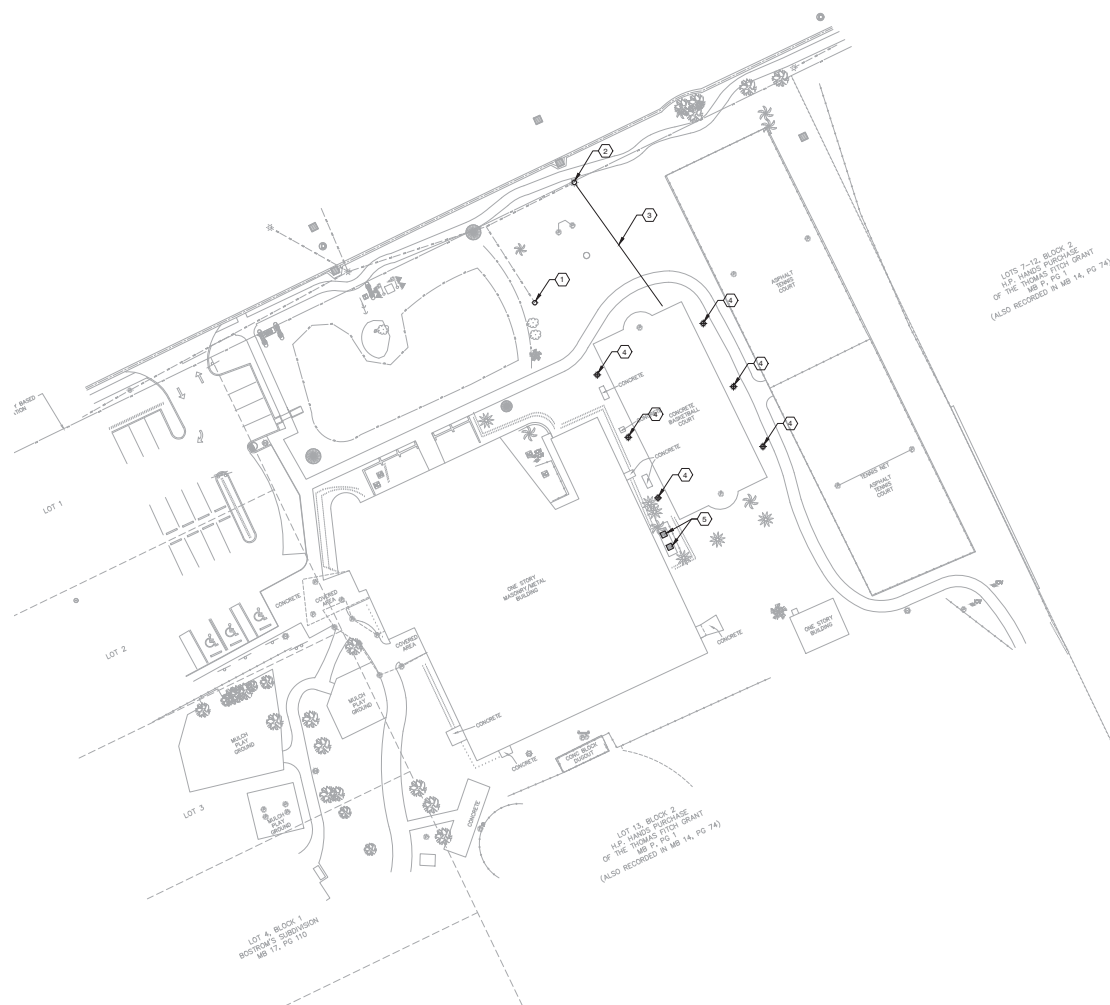
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SHEET TITLE
ELECTRICAL
SITE PLAN

SHEET #
F0.4

BRIAN K. WILLIAMS FL PE# 81366	07
PROJECT # 02454	DATE: 12.09.2019

Page 32 of 37



ELECTRICAL SITE PLAN
SCALE: 1"=30'-0"



GRAPHIC SCALE

30' 0 30'

1" = 30'

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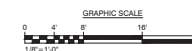
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FL Cert of Auth: 28261
EOR: J. Matthew Lowe FL PE: 59027

[illegible]

PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
176 DIVISION AVE.
ORMOND BEACH, FL. 32174

SHEET #
E1.0

BRIAN K. WILLIAMS FL PE# 81366	07
PROJECT # 02454	DATE: 12.09.2019





ARCHITECT:



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 EOR: J. Matthew Lowe FL PE: 59027

CONSULTANTS:

REV #	ISSUES / REVISIONS	DATE
1	SCHEMATIC DESIGN	05.18.2020
2	PROGRESS SET	08.14.2020
3	CONSTRUCTION DOCUMENTS	10.05.2020
4	PERMIT SET	01.25.2021

 DRAWN BY: BKW
 DESIGNED BY: BKW
 REVIEWED BY: BKW

 PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
 176 DIVISION AVE.
 ORMOND BEACH, FL. 32174

 SHEET TITLE
FIRST FLOOR -
POWER PLAN
BRIAN K. WILLIAMS
FL P.E.# 81306SHEET #
E2.0

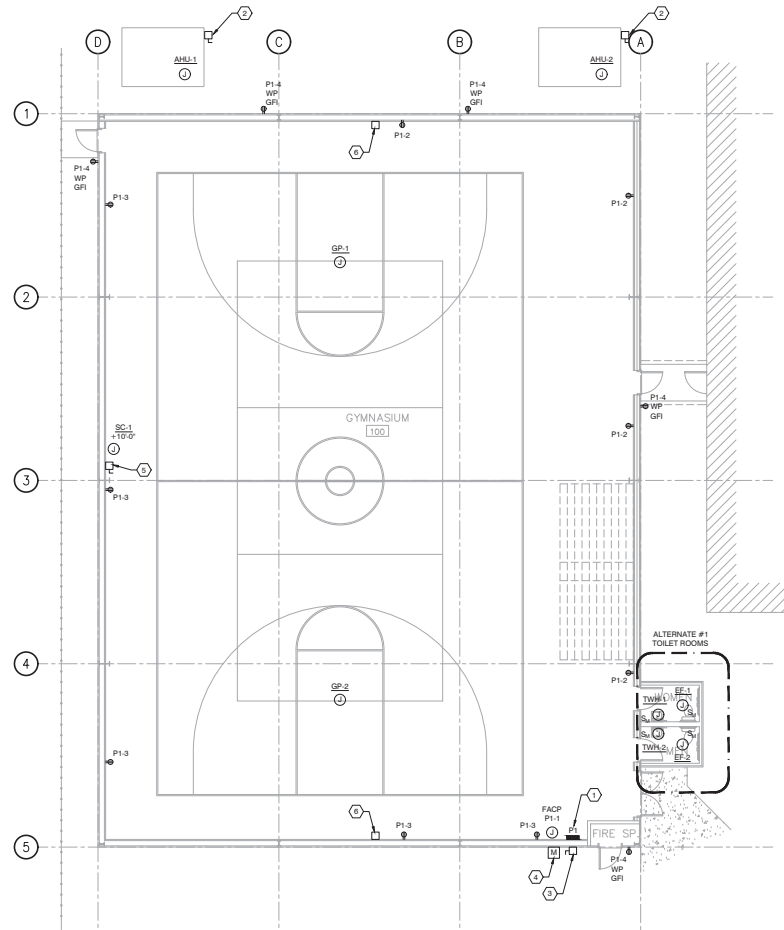
PROJECT # 02454 DATE: 12.09.2019

GENERAL NOTES:

1. PROVIDE TOGGLE TYPE DISCONNECT SWITCH FOR TANKLESS WATER HEATERS.
2. PROVIDE MOTOR RATED TOGGLE SWITCH FOR EXHAUST FANS.
3. EXHAUST FAN CONTROLLED VIA OCCUPANCY SENSOR.
4. PROVIDE 2#10, 1#100, 3/4"C FOR ALL RECEPTACLE, TANKLESS WATER HEATER, GOAL POST, AND SCOREBOARD CIRCUITS.
5. PROVIDE 2#12, 1#120, 3/4"C FOR EXHAUST FAN CIRCUITS.
6. PROVIDE 3#3, 1#80, 1-1/2"C FOR AHU CIRCUITS.

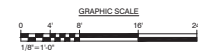
KEY NOTES:

- ① PROVIDE WIRE TYPE GUARD FOR ELECTRICAL PANEL.
- ② FACTORY MOUNTED DISCONNECT SWITCH.
- ③ PROVIDE SERVICE ENTRANCE DISCONNECT SWITCH.
- ④ PROVIDE ELECTRICAL METER SOCKET AND BASE.
- ⑤ PROVIDE DISCONNECT SWITCH FOR SCOREBOARD.
- ⑥ PROVIDE GOAL POST CONTROLLER WITH DISCONNECT SWITCH.



FIRST FLOOR - POWER PLAN

SCALE: 1/8"=1'-0"



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 DESIGNED BY: BKW
 REVIEWED BY: BKW

PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
 176 DIVISION AVE.
 ORMOND BEACH, FL 32174

SHEET TITLE
FIRST FLOOR -
FA & SYS PLAN

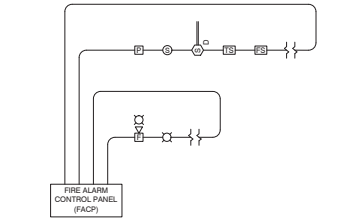
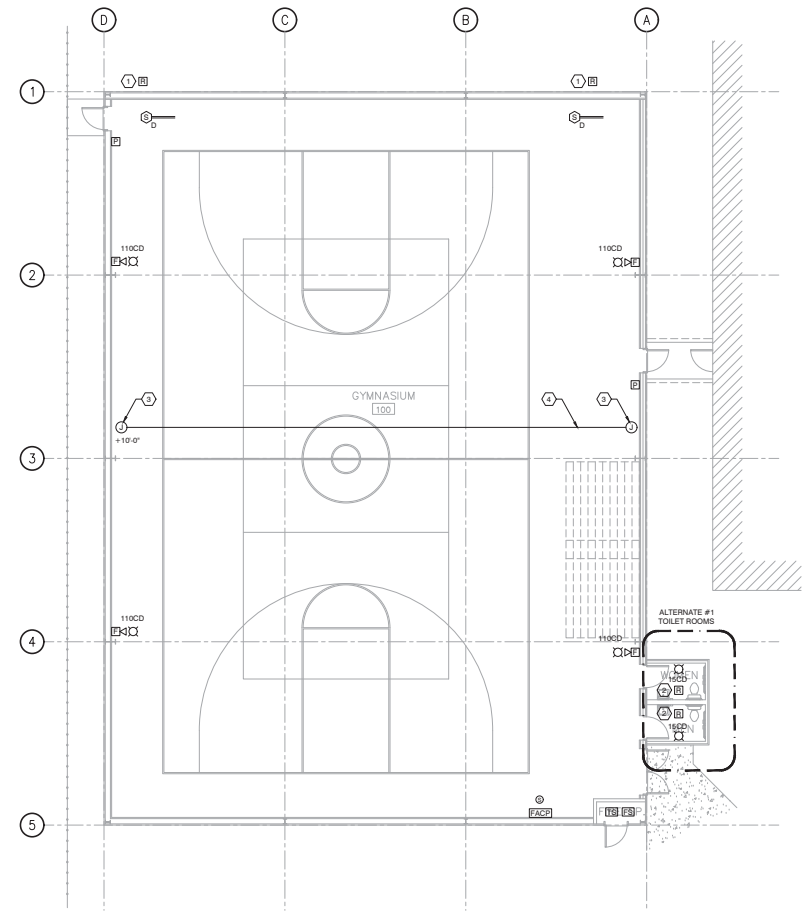
SHEET #
E3.0

BRIAN K. WILLIAMS
 FL P.E.# 81306

PROJECT # 02454 **DATE:** 12.09.2019

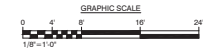
KEY NOTES:

- ① FIRE ALARM RELAY FOR AIR HANDLING UNIT SHUTDOWN.
- ② FIRE ALARM RELAY FOR EXHAUST FAN SHUTDOWN.
- ③ PROVIDE 4" SQUARE EMPTY JUNCTION BOX FOR SCOREBOARD CONTROL.
- ④ PROVIDE 1" EMPTY CONDUIT WITH PULL STRING BETWEEN JUNCTIONS BOXES FOR SCOREBOARD CONTROL WIRING.



TYPICAL FIRE ALARM RISER DIAGRAM
 SCALE: NTS

FIRST FLOOR - FIRE ALARM AND SYSTEMS PLAN
 SCALE: 1/8"=1'-0"



EQUIPMENT CONNECTION SCHEDULE

DESCRIPTION	TAG	VOLTAGE	PHASES	SIZE		FED FROM	NOTES
				KW/HP	MCA		
AIR HANDLING UNIT	AHU-1	208V	3Ø		66	90	P1-7-9-11
AIR HANDLING UNIT	AHU-2	208V	3Ø		66	90	P1-13-15-17
EXHAUST FAN	EF-1	120V	1Ø	0.128		20	P1-5
EXHAUST FAN	EF-2	120V	1Ø	0.128		20	P1-5
TANKLESS WATER HEATER	TWH-1	120V	1Ø	2.4		25	P1-6
TANKLESS WATER HEATER	TWH-2	120V	1Ø	2.4		25	P1-8
SCOREBOARD	SC-1	120V	1Ø	1.2		20	P1-20
GOAL POST	GP-1	120V	1Ø		12.25	20	P1-19
GOAL POST	GP-2	120V	1Ø		12.25	20	P1-21

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	CATALOG	LAMP	VOLTAGE	REMARKS
A	HIGH BAY, HIGH ABUSE, PENDANT MOUNTED LED FIXTURE. IMPACT RATING IK10, 80 CRI, 4000K CCT, 24,620 LUMEN OUTPUT.	LUX #LUX-IK10P-L-2-SA-H03-840-2-U10-WP2	163W LED	208	MOUNT AT 22' ABOVE FINISHED FLOOR TO BOTTOM OF FIXTURE.
B	25" SURFACE MOUNTED, VANDAL RESISTANT LED FIXTURE. 4000K CCT, EMERGENCY BATTERY BACKUP. WHITE FINISH.	LUMINAIRE LED #CLF72-25W-4000K-120-DIM-OP-WHT-EMB310	25W LED	120	
C1	49" SURFACE MOUNTED, VANDAL RESISTANT, GASKETED AND ENCLOSED, LED FIXTURE. 4000K CCT. BLACK FINISH.	LUMINAIRE LED #VPF44-25W-4000K-DIM-120-CP-BLK	25W LED	120	
C2	49" SURFACE MOUNTED, VANDAL RESISTANT, GASKETED AND ENCLOSED, LED FIXTURE. 4000K CCT. BLACK FINISH. PHOTOCELL CONTROLLED.	LUMINAIRE LED #VPF44-25W-4000K-DIM-120-CP-BLK-PC	25W LED	120	
D	EXTERIOR ARCHITECTURAL WALL SCONCE. 4000K CCT, 80 CRI, DARK BRONZE FINISH. PHOTOCELL CONTROLLED.	LITHONIA #WDE2-LED-P2-40K-80CRI-VF-PE	10W LED	120	MOUNT AT 20' ABOVE FINISHED GRADE TO BOTTOM OF FIXTURE.
X1	VANDAL RESISTANT LED EXIT SIGN, RED LETTERS, WHITE FACEPLATE, WHITE HOUSING. BATTERY BACKUP	LITHONIA #LV-S-W-1-R-120/277-EL-N	4W LED	120	PROVIDE WIRE GUARD.
X2	EMERGENCY LIGHTING FIXTURE, WHITE HOUSING, 1100 LUMEN OUTPUT, BATTERY BACKUP.	LITHONIA #ELM6L-UVOLT-LTP-EHO	11W LED	120	PROVIDE WIRE GUARD. MOUNT AT 12' ABOVE FINISHED FLOOR TO BOTTOM OF FIXTURE.

PANELBOARD: P1

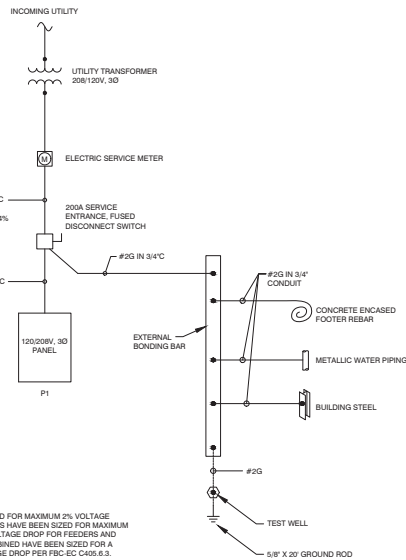
V.P.W:208/120,3Ø,4W				RATING: 200A								MOUNTING: SURFACE			
BUS MATERIAL: COPPER				TYPE: 200A M.C.B.								ENCLOSURE: NEMA 1			
REMARKS: 100% RATED				BREAKER TYPE: BOLT-ON								LOCATION:			
				INT. RATING: 25 KAIC											
CKT	#	LOAD DESCRIPTION	CB		PHASE LOAD (VA)						CB		LOAD DESCRIPTION	#	CKT
			P	TRIP	A		B		C		TRIP	P			
1		EQUIP - FACP	1	20	600	720					20	1	RECEPTACLES		2
3		RECEPTACLES	1	20			720	900			20	1	RECEPTACLES - EXTERIOR		4
5		HVAC - EXHAUST FANS	1	20					256	2400	25	1	EQUIP - TWH-1		6
7					6600	2400					25	1	EQUIP - TWH-2		8
9		HVAC - AHU-1	3	90			6600	1225			20	2			10
11									6600	1225			LTG - GYM		12
13					6600	1225					20	2			14
15		HVAC - AHU-2	3	90			6600	1225					LTG - GYM		16
17									6600	278	20	1	LTG - EXTERIOR, RESTROOMS		18
19		EQUIP - GOAL POST GP-1	1	20	1200	1200					20	1	LTG - SCOREBOARD		20
21		EQUIP - GOAL POST GP-2	1	20			1200				20	1	SPARE		22
23		SPARE	1	20							20	1	SPARE		24
25		SPARE	1	20							20	1	SPARE		26
27		SPARE	1	20							20	1	SPARE		28
29		SPARE	1	20							20	1	SPARE		30
31		SPARE	1	20							20	1	SPARE		32
33		SPARE	1	20							20	1	SPARE		34
35		SPARE	1	20							20	1	SPARE		36
37		SPARE	1	20							20	1	SPARE		38
39		SPARE	1	20							20	1	SPARE		40
41		SPARE	1	20							20	1	SPARE		42
CONNECTED LOAD=			56374 VA		20545		18470		17359		DEMAND LOAD=			49397 VA	

NOTES:

SERVICE HAS BEEN SIZED FOR MAXIMUM 2% VOLTAGE DROP. BRANCH CIRCUITS HAVE BEEN SIZED FOR MAXIMUM 3% VOLTAGE DROP. VOLTAGE DROP FOR FEEDERS AND BRANCH CIRCUITS COMBINED HAVE BEEN SIZED FOR A MAXIMUM OF 5% VOLTAGE DROP PER FBC-EC C405.6.3.

SINGLE LINE DIAGRAM

SCALE: NTS



PANEL: P1	REC	LTG	HVAC	EQUIP
CONNECTED VA	7140	6378	39856	3090
DEMAND FACTOR	NEC	125%	80%	80%
DEMAND VA	7140	7973	31885	2400
TOTAL CONNECTED AMPS:	156	A		
TOTAL DEMAND AMPS:	137	A		
25% FUTURE CAPACITY:	34	A		
TOTAL DEMAND LOAD:	171	A		



ARCHITECT:



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CONSULTANTS:



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REVIEWED BY: BKW

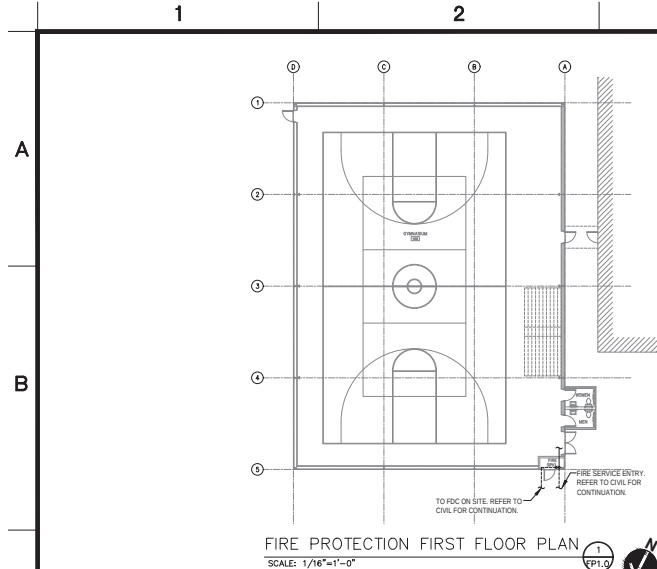
PROJECT TITLE AND ADDRESS
BUILDING PLANS FOR:
SOUTH ORMOND
NEIGHBORHOOD CENTER
176 DIVISION AVE.
ORMOND BEACH, FL 32174

SHEET TITLE
SCHEDULES AND
SINGLE LINE DIAGRAM

SHEET #
E4.0

BRIAN K. WILLIAMS
FL P.E.# 81306

PROJECT # 02454 DATE: 12.09.2019





CITY OF ORMOND BEACH

City Manager • 22 S. Beach Street • Ormond Beach • Florida • 32174 • (386) 676-3200 • Fax (386) 676-3384

CITY MANAGER MEMORANDUM

To: The Honorable Mayor Partington and City Commissioners

Through: Joyce A. Shanahan, City Manager

From: Brian Rademacher, Economic Development Director

Date: April 6, 2021

Subject: Advertisement for Bids - Taxiways Bravo & Delta Rehabilitation

Commission Goal: Economic Development - Other

Introduction

This is a disposition item providing notice of staff's intention to advertise for bids to provide construction services for the Taxiways Bravo and Delta Rehabilitation Project at the Ormond Beach Municipal Airport.

Background

The City submitted to the Federal Aviation Administration (FAA) a FY2020 Airport Improvement Program (AIP) Grant pre-application on November 14, 2019. The pre-application served as notice to the FAA of the City's intention to submit a formal grant application in 2020 to request federal funding assistance for a project to design the rehabilitation of Taxiways Bravo and Delta at the airport. The City submitted a formal grant application for this design project on May 6, 2020. On August 4, 2020 the FAA issued a grant offer to the City to fund the design of only the Taxiway Delta rehabilitation project as AIP Grant Number OMN-SOG-3-12-0059-023-2020. The City Commission approved execution of this grant via Resolution No. 2020-118.

Under the Coronavirus Aid, Relief, and Economic Security (CARES) Act, the City has been provided with Grant 3-12-0059-024-2020 by the Federal Aviation Administration in the amount of \$69,000 which will be used to reimburse design of the Taxiway Bravo rehabilitation project. This CARES Act grant was approved for execution by the City Commission via Resolution No. 2020-57. The Taxiway Bravo and Delta rehabilitation projects are part of the near-term capital improvement plan for the airport included in the Airport Master Plan Update that was approved by the City Commission in 2015. The project is also included in the City's approved Capital Improvement Program.

Discussion

This project will provide construction and construction administration services necessary

to mill and overlay the pavement of Taxiway Bravo and to mill, overlay and realign the pavement of Taxiway Delta. This project will also update the electrical and lighting systems for both taxiways.

According to the most recent Statewide Airfield Pavement Management Program report for the airport, Taxiway Bravo exhibits large quantities of medium severity block cracking along with longitudinal and transverse cracking. These medium severity distresses were accompanied with low severity longitudinal and transverse cracking, raveling, swelling and patching. The pavement management report indicates that Taxiway Bravo has a pavement condition that needs improvement. Rehabilitation of Taxiway Bravo will restore the pavement to an acceptable service level.

According to the most recent Statewide Airfield Pavement Management Program report for the airport, Taxiway Delta exhibits large quantities of medium severity block cracking along with longitudinal and transverse cracking. These medium severity distresses were accompanied with low severity longitudinal and transverse cracking, raveling, swelling and patching. High severity shoving was recorded in an isolated location where the asphalt pavement abutted Portland cement concrete pavement. The pavement management report indicates that Taxiway Delta has a pavement condition that needs improvement. Taxiway Delta also does not currently meet standard taxiway object free area (TOFA) standards due to the proximity of certain hangars adjacent to the taxiway. Rehabilitation and relocation of Taxiway Delta will restore the pavement to an acceptable service level and correct the current non-standard separation.

Taxiway Bravo intersects with Taxiway Delta and as such both taxiways exhibit a high level of service and criticality to operations in the southeast quadrant of the airport; together they provide one of the primary ingress and egress routes for aircraft taxiing to and from the airport's runways from the southeast quadrant.

Budget Impact

The construction phase of the Taxiways Bravo and Delta Rehabilitation Project is included in the FY2022-23 budget for Fund 108-Airport. Cost sharing for this project is anticipated to be FAA 100%.

The construction cost for this project is estimated to be \$1,800,000. The City will apply for an FAA grant based upon the actual project cost derived from bids received. The American Rescue Plan - a \$1.9 trillion coronavirus relief package that includes \$8 billion for aviation and airports, includes \$100 million for nonprimary commercial service and general aviation airports, with a 100 percent federal share for airport improvement projects that may be applied to the projects to rehabilitate Taxiways Bravo and Delta.

Citizen Impact

The Taxiways Bravo and Delta Rehabilitation Project pertains specifically to current and planned airport operations, and will have no impact upon the City's general population.

The rehabilitated taxiway pavement and lighting systems will serve as an operational safety enhancement for the flying public.

Recommendation

This item serves as public notification of staff's intent to advertise for bids to provide construction services for the Taxiways Bravo and Delta Rehabilitation Project at the Ormond Beach Municipal Airport; unless otherwise directed by the City Commission. Subsequent action will be requested for recommendation of a contract award for this project.

Attachments:

- BID 2021-18 Packet (PDF)
- Project Manual 90% (PDF)
- Bravo and Delta Illustration (PDF)

REVIEWED BY:


Kelly McGuire, Finance Director 3/31/2021


Claire Whitley, Assistant City Manager 3/31/2021

APPROVED BY:


Joyce A. Shanahan, City Manager 3/31/2021



City of Ormond Beach

22 South Beach Street
Ormond Beach, Florida 32174
Telephone (386) 676-3223
Fax (386) 676-3330

INVITATION TO BID

BIDDER ACKNOWLEDGEMENT FORM

THIS FORM MUST BE COMPLETED AND RETURNED WITH YOUR BID

BID TITLE: TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION

BID NUMBER: 2021-18

BID OPENING DATE & TIME: May 20, 2021 at 2:00 PM

BID OPENING LOCATION: City Hall Training Rm, Ormond Beach City Hall 22 S. Beach Street

PRE-BID MEETING DATE & TIME: May 6, 2021 at 11:00 AM

**PRE-BID MEETING LOCATION: City Hall Training Room
22 S. Beach Street, Ormond Beach, Florida 32174**

Bids Received After The Above Date And Time Will Not Be Accepted.

BIDDER'S NAME: _____

BIDDER'S MAILING ADDRESS: _____

CITY-STATE-ZIP: _____

F.E.I.N. or S.S. NUMBER: _____

PHONE NUMBER: _____

EMAIL: _____

If returning as a "No Bid", please state reason (s): _____

I certify that this Bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a Bid for the same materials, supplies, or equipment, and is in all respects fair and made without collusion or fraud. I agree to abide by all conditions of this Bid and certify that I am authorized to sign this Bid for the Bidder. In submitting a Bid to the City of Ormond Beach, the Bidder offers and agrees that if the Bid is accepted, the Bidder 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 Bidder.

X _____
AUTHORIZED SIGNATURE (MANUAL)

NAME (TYPED)

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 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.

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 10 days after bid opening, whichever occurs first. Section 119.071, F.S.

NOTIFICATION OF BIDS AND RFP'S: The City uses the services of DemandStar (www.demandstar.com) for notification of its Bids and RFP's on-line on the Internet. If you have received a copy of this Bid/RFP from any source other than DemandStar, please be aware that you may not have received the latest version of the Bid/RFP or any related addendums.

SUBMISSION OF BIDS: All Bids shall be submitted in a sealed envelope. The Invitation to Bid (ITB) number, title, and opening date shall be clearly displayed on the outside of the sealed envelope. The delivery of said Bid to the Purchasing Office on or before the specified opening date and time is solely and strictly the responsibility of the Bidder. Any Bid received by the Purchasing Office after the specified date and time will not be accepted. Bids must be submitted on forms provided by the City. No other forms will be accepted. Telephone, telefax and telegraph Bids will not be considered. No Bid may be modified after opening. **No Bid may be withdrawn after opening for a period of ninety (90) days unless otherwise specified.**

EXECUTION OF BID: Bid must contain a manual signature of authorized representative in the space(s) provided. Bids must be typed or printed in ink. Use of erasable ink is not permitted. All corrections made by Bidder to any Bid entry must be initialed. The company name and Federal Employer Identification Number (F.E.I.D.) or Social Security (S.S.) number shall appear in the space(s) provided.

BID OPENING: Bids shall be opened and the name of the Bidders and the bid amounts shall be read publicly. Bid amounts announced at the bid opening are subject to change due to math errors made by Bidders

BID TABULATION: Any Bidder wishing to receive a copy of the Bid tabulation is required to enclose a stamped, self-addressed envelope with their Bid response. Bid opening tabulations will be posted on DemandStar.com.

CLARIFICATION/CORRECTION OF BID 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 Bid will be furnished in writing to all prospective Bidders. 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 is responsible for obtaining all necessary permits and licenses to comply with all Federal, State, and Local laws, rules and regulations required to perform work in accordance with the specifications.

LOCAL VENDOR PREFERENCE: 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. A Local Vendor Affidavit of Eligibility shall accompany the bid submittal to be considered valid.

PRICING: Firm prices shall be proposed and include FOB DESTINATION, all packing, handling, shipping charges and delivery to any point within the City of Ormond Beach to a secure area or inside delivery. Prices shall be valid for ninety (90) days from date of Bid opening. In the event there is a discrepancy between the unit price and the extended amount, the unit price will prevail.

ADDITIONAL TERMS AND CONDITIONS: The City of Ormond Beach reserves the right to reject Bids 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.

DISCOUNTS: All discounts EXCEPT THOSE FOR PROMPT PAYMENT shall be considered in determining the lowest net cost for Bid evaluation purposes. If a Bidder offers a discount, it is understood that the discount time will be computed from the date of satisfactory delivery, at the place of acceptance, and receipt of correct invoice, at the office specified, whichever occurs last.

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 Bid 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 Bidder, 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 Bidder uses any design, device, or materials covered by letters, patent or copyright, it is mutually agreed and understood without exception that the Bid prices shall include all royalties or cost arising from the use of such design, device, or materials in any way involved in the work.

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 Bidder agrees that, unless otherwise specified, the services furnished under the Bid shall be covered by the most favorable commercial warranty for comparable 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 Bid.

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 or contractors; or to reject any and all Bids or waive any minor irregularity or technicality in the Bids received.

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.

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 32175.
(386)676-0311
CITYCLERK@ORMONDBEACH.ORG**

Ref: Fla. Stat. §119.0701(2016)

THE CITY OF ORMOND BEACH RESERVES THE RIGHT TO REJECT ANY OR ALL BIDS, AND TO WAIVE INFORMALITIES, AS MAY BE DEEMED TO BE IN THE BEST INTEREST OF THE CITY.

DEFINITIONS:

BIDDER - The term used herein refers to any individual, company or other entity submitting a Bid to the CITY in response to an Invitation to Bid (ITB).

CITY/OWNER - The terms CITY or OWNER herein refers to the City of Ormond Beach, Florida, and its duly authorized representatives.

CONTRACT MANAGER - The term refers to the CITY representative(s) who will be acting on the CITY's part to manage all the Contract actions.

FURNISH - The terms "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".

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.

PROJECT MANUAL - The term "Project Manual" includes Bid Requirements, General Conditions, Scope of Work, Specifications, Risk Management requirements and any associated attachments.

SPECIFICATIONS - The term refers to those portions of the Project Manual consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

SUPPLIER - The term used herein refers to any individual, company or other entity supplying services pursuant to the terms, conditions, and quotations of a Bid or Proposal.

VENDOR, CONTRACTOR, or VENDOR/CONTRACTOR - The term(s) used herein refers to any individual, company, or other entity that is awarded a contract by the CITY, pursuant to the terms, conditions, and quotations of a bid/proposal.

WORK - The entire, completed job or the various separately identifiable parts thereof, required to be furnished under the Contract Documents. Work is the result of providing goods and/or services, furnishing labor and/or furnishing and incorporating materials and equipment into the construction, as required by the Contract Documents.

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.

City of Ormond Beach
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
Bid No. 2021-18

GENERAL INSTRUCTIONS:

Bid Delivery: Submit one (1) signed and unbound original of the complete Bid packet and one (1) electronic file, with all required attachments, by the closing date and time. Deliver Bids to: Rob Hart, Purchasing Coordinator, Ormond Beach City Hall Room 101, 22 South Beach Street, Ormond Beach, Florida 32174. **Make sure the bid number is clearly visible on the outside of the delivery package. Bids delivered after the time and date specified will not be accepted.** For any question regarding bid delivery contact the purchasing office at 386-676-3223.

Technical Questions: Submit all technical questions regarding this Bid to the City's Purchasing Coordinator, Robert Hart, by e-mailing rob.hart@ormondbeach.org.

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 Bid 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 Bid at any time and to negotiate with any party prior to or after submittal of Bid.

Cost of Bid Preparation: No reimbursement will be made by the City of Ormond Beach for any costs incurred in the preparation of the Bid, proposal or presentation.

Bids to be in Effect: Each Bid shall state that it is valid for a period of not less than ninety (90) days from date of receipt.

Equipment: Contractor shall own and have in good repair all equipment necessary to perform the described services in particular and the equipment necessary to complete related tasks. The City will not provide any equipment to do this work.

Registration And Risk Management Requirements: Any Vendor delivering a product or Contractor doing work for the City of Ormond Beach, on City property shall be **registered** to do business in the City of Ormond Beach and shall provide **proof of**, abide by and maintain, for the entire life of the Contractual Agreement, including any and all approved time extensions, such **insurance** as is required by City ordinance, which shall be incorporated in and made part of the contract documents. A vendor using a common carrier is exempt from this requirement. This proof of insurance will be required prior to commencement of any **on-site** work. Refer to **Exhibit A** for the City's registration and risk management requirements.

TERM OF AGREEMENT:

Reference Section 00500 - Agreement Form.

SCOPE OF WORK:**GENERAL**

The City of Ormond Beach invites qualified contractors laboratories to submit Bid for Taxiway Delta and Taxiway Bravo Reconstruction Project. The work consists of **but is not limited to the following scope:**

Construct Taxiway Delta Reconstruction and Realignment

The project will include full depth pavement reconstruction of 1,775 linear feet of taxiway pavement and rehabilitation of the medium intensity edge light system. All associated marking, electrical, signage and turfing work is also included.

Construct Taxiway Bravo Reconstruction

The project will include full depth pavement reconstruction of 500 linear feet of taxiway pavement and rehabilitation of the medium intensity edge light system. All associated marking, electrical, and signage work is also included.

All elements to be completed in accordance with governing Federal Aviation Administration (FAA) and Florida Department of Transportation (FDOT) standards and specifications.

AWARD:

The City reserves the right to award any contract(s) to the bidder(s) which it deems to offer the best overall service; therefore, the City is not bound to award any contract(s) based solely on lowest quoted price. The City also reserves the right to negotiate separately with competing bidders as deemed to be in the City's best interest.

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 be four (4%) percent which will only apply to the future year, increases will not be retroactive. The adjusted rate, if approved shall take effect on October 1, of the year in which approved.

TAXES:

The Contractor is responsible for paying any and all taxes associated with this agreement.

OTHER AGENCIES:

Any bidder(s) awarded a contract resulting from this bid is/are given the privilege and is/are required to permit all public and governmental entities in the State of Florida to participate in the contract under the same terms and conditions.

It is understood that at no time will any agency be obligated for placing an order for any other agency. Each agency will only have the authority to obligate itself and will not be held responsible for bills incurred by any other agency. Further, it is understood that each agency will issue its own purchase order(s) or contract to successful bidder(s).

City of Ormond Beach
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
BID NO. 2021-18

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

TITLE

DATE

City of Ormond Beach
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
BID NO. 2021-18

BID RESPONSE FORM

THIS BID IS SUBMITTED TO:

(Name and Address of Owner)

Purchasing Coordinator
City of Ormond Beach
22 S. Beach Street
Ormond Beach, Florida 32174
Phone: (386) 676-3223

The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an Agreement with the CITY in the form included in the Bid Documents to complete all Work as specified or indicated in the Bid Documents for the Contract Price and within the Contract Time indicated in this Bid and in full accordance with the Bid Documents.

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.

BIDDER accepts all of the terms and conditions of the General Conditions. BIDDER will sign the Agreement (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 Bid, BIDDER represents, as more fully set forth in the Agreement, that:

BIDDER has examined copies of all the Bid Documents and of the following Addenda:

<u>Addendum Date</u>	<u>Addendum Number</u>
_____	_____
_____	_____
_____	_____

Receipt of all of which is hereby acknowledged.

BIDDER has examined the site and locality where the Work is to be performed, when applicable, 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.

BID RESPONSE FORM
(continued)

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 the CITY.

THIS BID IS SUBMITTED BY:

COMPANY NAME: _____

VENDOR/CONTRACTOR LICENSE NUMBER: _____

ADDRESS: _____

PHONE NO.: _____ EMAIL: _____

SUBMITTER'S NAME: _____
 (Typed or Printed in Ink)

TITLE: _____

AUTHORIZED SIGNATURE: I, _____ hereby
 (Original Signature)

declare that I have read and fully understand the Invitation to Bid, including the General Conditions, Specifications and Drawings (when applicable) and that I am duly authorized to sign and submit this bid.

The CITY reserves the right to reject any and all bids, to waive informalities, and to accept any bid or parts thereof as the CITY, in its sole discretion, determines to be in the best interest of the CITY.

City of Ormond Beach
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
BID NO. 2021-18

The BIDDER will complete the Work, as described herein, for the following price(s):

BID SCHEDULE A – REHABILITATE TAXIWAY DELTA PAVEMENT

Item No.	Spec Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
1	C-100-1	Contractor's Quality Control Program	1	LS		
2	C-102-1	Temporary Air and Water Pollution, Soil Erosion, and Siltation Control	1	LS		
3	C-105-1	Mobilization	1	LS		
4	C-105-2	Maintenance of Traffic	1	LS		
5	C-105-3	Engineer's/RPR Field Office	1	LS		
6	P-101-1	General Demolition	1	LS		
7	P-101-2	Milling – 2"	580	SY		
8	P-101-3	ACC Pavement Removal	18,920	SY		
9	P-152-1	Excavation, Subgrade, Embankment, & Fill	1	LS		
10	P-152-2	Stripping and Stockpiling 6" Depth	53	CY		
11	P-211-1	6" Limerock Base Course	1,971	CY		
12	P-401-1	Bituminous Asphalt Surface – Thickness Varies	2,664	TON		
13	P-602-1	Bituminous Prime Coat	2,660	GAL		
14	P-620-1	Runway/Taxiway Paint - White	517	SF		
15	P-620-2	Runway/Taxiway Paint - Yellow	714	SF		
16	P-620-3	Runway/Taxiway Paint - Black	11,981	SF		
17	P-620-4	Temporary Runway/Taxiway Paint – Yellow at 50% Application Rate	4,405	SF		
18	T-901-1	Hydroseed	33	KSF		
19	T-904-1	Solid Sodding	12,771	SY		
Total Bid Schedule A Cost						

**BID SCHEDULE B - REHABILITATE TAXIWAY DELTA MEDIUM INTENSITY
TAXIWAY EDGE LIGHTING AND SIGNAGE**

Item No.	Spec Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
1	C-105-1	Mobilization	1	LS		
2	L-108-1	No. 8, 5000 V., L-824 Type 'C' Conductor	9,904	LF		
3	L-108-2	#6 Bare Copper Counterpoise Wire in Trench	6,326	LF		
4	L-108-3	Cable Trench in Unpaved Area, 8" Deep, for Counterpoise Wire	1,505	LF		
5	L-108-4	10 FT, 3/4"DIA Copper Ground Rod with Connector	44	EA		
6	L-108-5	Cable/Duct Markers	27	EA		
7	L-110-1	Trench in Unpaved Area, 24" Depth, for Conduit	3,329	LF		
8	L-110-2	Trench in Paved Area, 24" Depth, for Conduit with Repair	434	LF		
9	L-110-3	2" PVC Sch. 40 Conduit, in Trench	6,326	LF		
10	L-110-4	1W2" Concrete-Encased Duct, Under Proposed Pavement	1,505	LF		
11	L-110-5	2W2" Concrete-Encased Duct, Under Proposed Pavement	81	LF		
12	L-110-6	2" HDPE Conduit Installed by Directional Boring	1,019	LF		
13	L-115-1	L-867 Junction Can	7	EA		
14	L-115-2	Pre-Cast Electrical Handhole 36"x36"	14	EA		
15	L-125-1	Base-Mounted Elevated Medium-Intensity Taxiway Edge Light, L.E.D. Type, in Unpaved Area	30	EA		
16	L-125-2	Flush-Mounted Elevated Medium-Intensity Taxiway Edge Light, L.E.D. Type, in Pavement	16	EA		
17	L-125-3	Relocate Existing Base-Mounted Elevated Medium-Intensity Taxiway Edge Light, L.E.D. Type, in Unpaved Area	3	EA		
18	L-125-4	2-Module Internally-Illuminated (L.E.D. Type) Size 2 Sign on Concrete Pad	5	EA		
19	L-125-5	3-Module Internally-Illuminated (L.E.D. Type) Size 2 Sign on Concrete Pad	7	EA		
20	L-125-6	4-Module Internally-Illuminated (L.E.D. Type) Size 2 Sign on Concrete Pad	1	EA		

21	L-125-7	All Work in Airfield Lighting Vault (Homerun Connections, ALCS Modifications, etc.)	1	LS		
22	P-101-4	Electrical Demolition	1	LS		
Total Bid Schedule B Cost						

BID SCHEDULE E – WEST APRON EXPANSION – NON-AIP ELIGIBLE

Item No.	Spec Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
1	P-101-2	Milling – 2”	1,751	SY		
2	P-101-3	ACC Pavement Removal	49	SY		
3	P-152-1	Excavation, Subgrade, Embankment, & Fill	1	LS		
4	P-152-2	Stripping and Stockpiling 6” Depth	354	CY		
5	P-211-1	6” Limerock Base Course	362	CY		
6	P-401-1	Bituminous Asphalt Surface – Thickness Varies	701	TON		
7	P-602-1	Bituminous Prime Coat	488	GAL		
8	P-620-2	Runway/Taxiway Paint - Yellow	232	SF		
9	P-620-3	Runway/Taxiway Paint - Black	541	SF		
Total Bid Schedule C Cost						

TOTAL BID FOR CONTRACT

\$_____

(Figures)

(Words)

City of Ormond Beach
TAXIWAY DELTA AND TAXIWAY BRAVO RECONSTRUCTION
AT ORMOND BEACH MUNICIPAL AIRPORT
BID NO. 2021-18

CITY OF 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

CITY OF ORMOND BEACH

DRUG-FREE WORKPLACE CERTIFICATION

IDENTICAL OR "TIE" BID: Preference shall be given to businesses with drug-free workplace programs. Whenever two or more Bids 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:

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.

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.

Give each employee that engages in providing the commodities or contractual services that are under proposal a copy of the statement specified in subsection (1).

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 proposal, 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.

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.

Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

COMPANY NAME

AUTHORIZED SIGNATURE

NAME (PRINT OR TYPE)

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

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.

VENDOR DO NOT COMPLETE BELOW

To be verified and completed by an authorized representative of the City of Ormond Beach's Purchasing Department:

Vendor Certified by: _____ Date: _____

**Attachment A
City of Ormond Beach
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) 740-5215 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) 676-3234.

Insurance Requirements

[From Ormond Beach Code of Ordinances establishing minimum requirements for risk management, commercial general liability insurance, and comprehensive general liability insurance, as amended by Resolution No. 2011-116 (8/16/11)]:

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 the following, or substantially similar, provisions:

1. Hold Harmless

(a) General

The City, its agents, employees, and officials, both elected and appointed, shall be held harmless from and against all claims for bodily injury, sickness, disease, death or personal injury or damage to property or loss of use resulting there from, arising out of the agreement, contract or lease unless such claims are a result of the City's sole negligence, as determined by the final arbiter of such claim.

(b) Professional Services Contracts

The City, its agents, employees, and officials, both elected and appointed shall be held harmless from and against all claims for bodily injury, sickness, disease, death or personal injury or damage to property or loss of use resulting there from arising out of performance of the agreement or contract, unless such claims are a result of the City's sole negligence, as determined by the final arbiter of such claim.

The City, its agents, employees, and officials, both elected and appointed shall also be held harmless from and against all claims for financial loss with respect to the provision of or failure to provide professional or other services resulting in professional, malpractice, or errors and omissions liability arising out of performance of the agreement or contract, unless such claims are a result of the City's sole negligence, as determined by the final arbiter of such claim.

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 there from, 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 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 88, or its successor form, including but not limited to the following coverage (any deviation shall be noted on the Certificates of Insurance):

- a. Premises and 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 than the following amounts for all tiers of Contractors and Subcontractors:

<u>Contract Value</u>	<u>Limits (not less than)</u>
0 - 25,000	\$300,000 Each Occurrence
	\$300,000 General Aggregate *
	\$300,000 Aggregate Products & Completed Operations
	\$ 25,000 Fire Damage (any one fire)

\$25,001 - \$250,000	\$500,000 Each Occurrence \$1 Million General Aggregate* \$1 Million Aggregate Products & Completed Operations \$ 50,000 Fire Damage (any one fire)
\$250,001 - \$3,000,000	\$1 Million Each Occurrence \$1 Million General Aggregate* \$1 Million Aggregate Products & Completed Operations \$ 50,000 Fire Damage (any one fire)
\$3,000,001 & over	20% of the Value of the Contract [Minimum \$1 Million Each Occurrence/\$2 Million General Aggregate]

* 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 for the operation, use, maintenance, loading or unloading of automobiles - ISO Symbol 1 (Any Auto) or alternatively a combination of Symbol 2 (Owned Autos), Symbol 8 (Hired Autos), and Symbol 9 (Non-Owned Autos).

<u>Contract Value</u>	<u>Limits (not less than)</u>
0 - \$25,000	\$300,000 Combined Single Limit
\$25,001 - \$250,000	\$500,000 Combined Single Limit
\$250,001 and over	\$1 Million Combined Single Limit

- (d) Excess Liability

For Contracts of \$250,000 or more, and 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 for occurrences insured in this Excess Policy not to exceed \$25,000 and a minimum limit of \$1 Million.

- (e) 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 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 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 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 carriers; 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 and Automobile Liability policies of insurance and certificates thereof.

ORMOND BEACH MUNICIPAL AIRPORT TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION

Bid No. 2021-18



City of Ormond Beach Project Manual

90% FOR REVIEW ONLY

PREPARED BY:

Hoyle, Tanner
& Associates, Inc.

**95 E. Mitchell Hammock Road, Suite 200
Oviedo, FL 32772**

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**ORMOND BEACH MUNICIPAL AIRPORT
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION**
Ormond Beach, Florida

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**ORMOND BEACH MUNICIPAL AIRPORT
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION**
Ormond Beach, Florida

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8 ft Airport Low-Profile Barricade
ICOM Radio Specification

Available for download at www.faa.gov: AC 150/5370-2G Operational Safety on Airports
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SECTION 00030
ADVERTISEMENT FOR BIDS

Sealed bids for furnishing all labor, materials and equipment necessary for constructing the **Ormond Beach Municipal Airport Taxiway Bravo and Delta Rehabilitation Project (Construction Phase), Bid No. 2021-18** for the City of Ormond Beach, Florida, will be received at the Office of the Purchasing Coordinator, City Hall, Ormond Beach, Florida, until **2:00 PM on Thursday, May 20, 2021**, 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 **but not limited to the following scope:**

Construct Taxiway Delta Reconstruction and Realignment

The project will include full depth pavement reconstruction of 1,775 linear feet of taxiway pavement and rehabilitation of the medium intensity edge light system. All associated marking, electrical, signage and turfing work is also included.

Construct Taxiway Bravo Reconstruction

The project will include full depth pavement reconstruction of 500 linear feet of taxiway pavement and rehabilitation of the medium intensity edge light system. All associated marking, electrical, signage and turfing work is also included.

All elements to be completed in accordance with governing Federal Aviation Administration (FAA) and Florida Department of Transportation (FDOT) standards and specifications.

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 (866) 273-1863. If you have difficulty obtaining these documents, please contact the City's purchasing office at (386) 676-3223.

A **non-mandatory pre-bid conference** to discuss the details and requirements of the contract will be held on **Thursday, May 6, 2021 at 11:00 AM, in the Ormond Beach City Training Room located in the breezeway of City Hall at 22 S. Beach Street, Ormond Beach, Florida.** All prospective bidders are strongly encouraged to attend. The deadline for submitting questions is **Wednesday, May 12, 2021**, at 3:00pm.

END OF SECTION

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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:

Hoyle, Tanner, & Associates, Inc.
Iryna S. Afong, P.E.
95 E. Mitchell Hammock Road, Ste, 200
Oviedo, FL 34772
Phone: 407-380-1919

00102. Copies of Bidding Documents

2.1 The City uses the services of DemandStar (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) 676-3331
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

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.

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

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**SECTION 00300
BID**

CONTRACTORS NAME _____ LICENSE NO. _____

PROJECT IDENTIFICATION:

**Taxiway Bravo and Taxiway Delta
Rehabilitation at Ormond Beach Municipal
Airport**

CONTRACT IDENTIFICATION AND NUMBER:

Bid No. 2021-18

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.)
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
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

BID SCHEDULE A: TAXIWAY DELTA REHABILITATION - PAVEMENT

Item No.	Spec Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
1	C-100-1	Contractor's Quality Control Program	1	LS		
2	C-102-1	Temporary Air and Water Pollution, Soil Erosion, and Siltation Control	1	LS		
3	C-105-1	Mobilization	1	LS		
4	C-105-2	Maintenance of Traffic	1	LS		
5	C-105-3	Engineer's/RPR Field Office	1	LS		
6	P-101-1	General Demolition	1	LS		
7	P-101-2	Milling – 2"	580	SY		
8	P-101-3	ACC Pavement Removal	18,920	SY		
9	P-152-1	Excavation, Subgrade, Embankment, & Fill	1	LS		
10	P-152-2	Stripping and Stockpiling 6" Depth	53	CY		
11	P-211-1	6" Limerock Base Course	1,971	CY		
12	P-401-1	Bituminous Asphalt Surface – Thickness Varies	2,664	TON		
13	P-602-1	Bituminous Prime Coat	2,660	GAL		
14	P-620-1	Runway/Taxiway Paint - White	517	SF		
15	P-620-2	Runway/Taxiway Paint - Yellow	714	SF		
16	P-620-3	Runway/Taxiway Paint - Black	11,981	SF		
17	P-620-4	Temporary Runway/Taxiway Paint – Yellow at 50% Application Rate	4,405	SF		
18	T-901-1	Hydroseed	33	KSF		

BID (Cont'd.)
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
ORMOND BEACH, FLORIDA

19	T-904-1	Solid Sodding	12,771	SY		
Total Bid Schedule A Cost						

BID SCHEDULE B: TAXIWAY DELTA REHABILITATION LIGHTING AND SIGNAGE

Item No.	Spec Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
1	C-105-1	Mobilization	1	LS		
2	L-108-1	No. 8, 5000 V., L-824 Type 'C' Conductor	9,904	LF		
3	L-108-2	#6 Bare Copper Counterpoise Wire in Trench	6,326	LF		
4	L-108-3	Cable Trench in Unpaved Area, 8" Deep, for Counterpoise Wire	1,505	LF		
5	L-108-4	10 FT, 3/4"DIA Copper Ground Rod with Connector	44	EA		
6	L-108-5	Cable/Duct Markers	27	EA		
7	L-110-1	Trench in Unpaved Area, 24" Depth, for Conduit	3,329	LF		
8	L-110-2	Trench in Paved Area, 24" Depth, for Conduit with Repair	434	LF		
9	L-110-3	2" PVC Sch. 40 Conduit, in Trench	6.326	LF		
10	L-110-4	1W2" Concrete-Encased Duct, Under Proposed Pavement	1,505	LF		
11	L-110-5	2W2" Concrete-Encased Duct, Under Proposed Pavement	81	LF		
12	L-110-6	2" HDPE Conduit Installed by Directional Boring	1,019	LF		
13	L-115-1	L-867 Junction Can	7	EA		
14	L-115-2	Pre-Cast Electrical Handhole 36"x36"	14	EA		
15	L-125-1	Base-Mounted Elevated Medium-Intensity Taxiway Edge Light, L.E.D. Type, in Unpaved Area	30	EA		
16	L-125-2	Flush-Mounted Elevated Medium-Intensity Taxiway Edge Light, L.E.D. Type, in Pavement	16	EA		
17	L-125-3	Relocate Existing Base-Mounted Elevated Medium-Intensity Taxiway Edge Light, L.E.D. Type, in Unpaved Area	3	EA		
18	L-125-4	2-Module Internally-Illuminated (L.E.D. Type) Size 2 Sign on Concrete Pad	5	EA		

BID (Cont'd.)
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
ORMOND BEACH, FLORIDA

19	L-125-5	3-Module Internally-Illuminated (L.E.D. Type) Size 2 Sign on Concrete Pad	7	EA		
20	L-125-6	4-Module Internally-Illuminated (L.E.D. Type) Size 2 Sign on Concrete Pad	1	EA		
21	L-125-7	All Work in Airfield Lighting Vault (Homerun Connections, ALCS Modifications, etc.)	1	LS		
22	P-101-4	Electrical Demolition	1	LS		
Total Bid Schedule B Cost						

BID SCHEDULE E – WEST APRON EXPANSION – NON-AIP ELIGIBLE

Item No.	Spec Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
1	P-101-2	Milling – 2”	1,751	SY		
2	P-101-3	ACC Pavement Removal	49	SY		
3	P-152-1	Excavation, Subgrade, Embankment, & Fill	1	LS		
4	P-152-2	Stripping and Stockpiling 6” Depth	354	CY		
5	P-211-1	6” Limerock Base Course	362	CY		
6	P-401-1	Bituminous Asphalt Surface – Thickness Varies	701	TON		
7	P-602-1	Bituminous Prime Coat	488	GAL		
8	P-620-2	Runway/Taxiway Paint - Yellow	232	SF		
9	P-620-3	Runway/Taxiway Paint - Black	541	SF		
Total Bid Schedule C Cost						

TOTAL BID

\$ _____
 (Figures)

 (Words)

BID (Cont'd.)
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
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 205 calendar days after the date when the Contract Time commences to run, and completed within 235 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 One Thousand, Six Hundred, and Ninety Dollars (\$ 1,690.00) 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

BID (Cont'd.)
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
ORMOND BEACH, FLORIDA

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)

_____ (SEAL)
 (Individual's Name - Typed or Printed)

doing business as _____

Business address: _____

Phone No.: _____

Fax No.: _____

BID (Cont'd.)
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
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.)
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
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.)
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
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.)
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
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>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Subcontractors:

Work Classification: _____

Name: _____

Address: _____

Phone Number: _____ Fax Number: _____

BID (Cont'd.)
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
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.)
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
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.)
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
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.)
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
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.)
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
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.

VENDOR DO NOT COMPLETE BELOW

To be verified and completed by an authorized representative of the City of Ormond Beach's Purchasing Department:

Vendor Certified by: _____ Date: _____

BID (Cont'd.)
TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
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

00300-16

**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 **Taxiway Bravo and Taxiway Delta Rehabilitation at Ormond Beach Municipal Airport (Bid No. 2021- 18)** 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**

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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 _____, 2021.

Article 1. WORK

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

Construct Taxiway Delta Reconstruction and Realignment

The project will include full depth pavement reconstruction of 1,775 linear feet of taxiway pavement and rehabilitation of the medium intensity edge light system. All associated marking, electrical, signage and turfing work is also included.

Construct Taxiway Bravo Reconstruction

The project will include full depth pavement reconstruction of 500 linear feet of taxiway pavement and rehabilitation of the medium intensity edge light system. All associated marking, electrical, and signage work is also included.

All elements to be completed in accordance with governing Federal Aviation Administration (FAA) and Florida Department of Transportation (FDOT) standards and specifications.

The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION AT ORMOND BEACH MUNICIPAL AIRPORT BID NUMBER 2021-18

Article 2. ENGINEER

The Project has been designed by Hoyle, Tanner & Associates, Inc., 95 East Mitchell Hammock Road, Suite 200, Oviedo, FL 32765, 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 205 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** 235 **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 **One Thousand, Six Hundred, and Ninety Dollars (\$ 1,690.00)** 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 **[unit price or 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 15th 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 6 , inclusive).
- 7.7 Specifications bearing the title:

**TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT**

and consisting of 2 divisions, as listed in table of contents thereof.

- 7.8 Drawings, consisting of 46 sheets numbered 1 through 46 inclusive and bearing the following general title:

**TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT**

- 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 _____, 2021

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

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**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:

**TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
Bid No. 2021-18**

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

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

**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:

**TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION
AT ORMOND BEACH MUNICIPAL AIRPORT
Bid No. 2021-18**

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

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.

Hold Harmless:

6.15. The OWNER, and its agents, employees, and officials, both elected and appointed, shall be **indemnified** and **held harmless** by CONTRACTOR from any and all claim(s) resulting in liabilities, damages, losses and costs, including but not limited to reasonable attorney's fees, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct in the performance of the construction Contract by the CONTRACTOR, including persons such as subcontractors employed or utilized by the Contractor, unless any such claim arises as a result of the OWNER's sole negligence, as determined by the final arbiter of such claim. Additionally, the OWNER expressly retains all rights, benefits, privileges and immunities provided to Municipalities by **Sovereign Immunity**.

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 the Hold Harmless paragraph. 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 execution 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:

Geotechnical Evaluation by Universal Engineering Sciences dated December 4, 2020.

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 2011-116 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 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. 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 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.)

- a. Premises and 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 than the following amounts for all tiers of Contractors and Subcontractors:

<u>Contract Value</u>	<u>Limits (not less than)</u>
0 - \$25,000	\$300,000 Each Occurrence \$300,000 General Aggregate* \$300,000 Aggregate Products & Completed Operations \$25,000 Fire Damage (any one fire)
\$25,001 - \$250,000	\$500,000 Each Occurrence \$1 Million General Aggregate* \$1 Million Aggregate Products & Completed Operations \$50,000 Fire Damage (any one fire)

\$250,001 - \$3,000,000	\$1 Million Each Occurrence \$1 Million General Aggregate* \$1 Million Aggregate Products & Completed Operations \$50,000 Fire Damage (any one fire)
\$3,000,001 & over	20% of the Value of the Contract [Minimum \$1 Million Each Occurrence/\$2 Million General Aggregate]

* 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 for the operation, use, maintenance, loading or unloading of automobiles - ISO Symbol 1 (Any Auto) or alternatively a combination of Symbol 2 (Owned Autos), Symbol 8 (Hired Autos), and Symbol 9 (Non-Owned Autos).

<u>Contract Value</u>	<u>Limits (not less than)</u>
0 - \$25,000	\$300,000 Combined Single Limit
\$25,001 - \$250,000	\$500,000 Combined Single Limit
\$250,001 and over	\$1 Million Combined Single Limit

- (d) Excess Liability

For Contracts of \$250,000 or more, and 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 for occurrences insured in this Excess Policy not to exceed \$25,000 and a minimum limit of \$1 Million.

C. Requirements for Certificates of Insurance

- (a) 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.

- (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 immediately 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 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.

D. Policies of Insurance

- (a) Except as otherwise provided in this Agreement, 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.
- (b) For Workers' Compensation coverage only, self-insurance programs are acceptable with a minimum A- rated reinsurance carriers; written confirmation is required.
- (c) All policies of insurance or certificates thereof referred to in this Agreement shall be deposited with the City Clerk.
- (d) The City shall be named an Additional Insured on General Liability and Automobile Liability policies of insurance and certificates thereof.

END OF SECTION

LIEN WAIVER

The undersigned does hereby certify that through _____, 2021, 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 _____, 2021.

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 _____, 2021.

Notary Public in and for
said County and State

INTENTIONALLY LEFT BLANK

DISADVANTAGED BUSINESS ENTERPRISE (DBE) STATEMENT

The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of the Sponsor to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. All firms qualifying under this solicitation are encouraged to submit proposals. Award of this contract will be conditioned upon satisfying the DBE requirements of this contract. These requirements apply to all bidders, including those who qualify as a DBE. A DBE contract goal of **5.60 percent** has been established for this contract. The bidder shall make good faith efforts, as defined in Appendix A, 49 CFR Part 26, to meet the contract goal for DBE participation in the performance of this contract.

The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR §26.53.

The successful Bidder or Offeror must provide written confirmation of participation from each of the DBE firms the Bidder or Offeror lists in its commitment within five days after bid opening.

- 1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
- 2) A description of the work that each DBE firm will perform;
- 3) The dollar amount of the participation of each DBE firm listed under (1)
- 4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal; and
- 5) If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR part 26.

Bidder: _____

DISADVANTAGED BUSINESS ENTERPRISE DATA

(must be completed and submitted within five days after Bid opening and prior to contract award)

Contractor's Required Submission. Each prospective Contractor shall complete and include, in his Bid, the following proposed DBE subcontract work. Prior to award of the Contract under this solicitation, the prospective Contractor shall confirm efforts made, to the best of the Contractor's ability, to obtain DBE subcontract participation in this Contract and shall submit the following information concerning proposed and final DBE participation in the Contract.

DBEs		
<u>DBE Subcontractors</u> <u>Names/Addresses/Identity*</u>	<u>Subcontract Work Item</u>	<u>Dollar Value of</u> <u>Subcontract Work</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

DBEs		
<u>DBE Suppliers</u> <u>Names/Addresses/Identity*</u>	<u>Subcontract Work Item</u>	<u>Dollar Value of</u> <u>Subcontract Work</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

DBEs		
<u>DBE Manufacturers</u> <u>Names/Addresses/Identity*</u>	<u>Subcontract Work Item</u>	<u>Dollar Value of</u> <u>Subcontract Work</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Total Dollar Value of Subcontract Work
 Total Dollar Value of Bid
 Total DBE percent

Bidder: _____

LIST OF PROPOSED NON-DBE SUBCONTRACTORS

(must be completed and submitted within five days after Bid opening and prior to contract award)

Responsible _____ for:

Name: _____

Address: _____

Responsible _____ for:

Name: _____

Address: _____

LIST OF PROPOSED NON-DBE SUPPLIERS

(must be completed and submitted within five days after Bid opening and prior to contract award)

Responsible _____ for:

Name: _____

Address: _____

Responsible _____ for:

Name: _____

Address: _____

LIST OF PROPOSED NON-DBE MANUFACTURERS

(must be completed and submitted within five days after Bid opening and prior to contract award)

Responsible _____ for:

Name: _____

Address: _____

Responsible _____ for:

Name: _____

Address: _____

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SWORN STATEMENT UNDER SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

8.1.b

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICER
AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to _____
(print name of the 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 bid 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 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 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, non-jury 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:
- a. A predecessor or successor of a person convicted of a public entity crime: or
 - b. 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 thirty-six (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, 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 is true in relation to the entity submitting this sworn statement (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 the 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.

8.1.b

_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 subsequent to July 1, 1989.

_The entity submitting this sworn statements 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 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.)

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR/VENDOR EXECUTING THIS PUBLIC ENTITY CRIME AFFIDAVIT TO VERIFY THAT NONE OF THE SUBCONTRACTORS/SUPPLIERS UTILIZED FOR THIS BID/QUOTE HAVE BEEN CONVICTED OF A PUBLIC ENTITY CRIME SUBSEQUENT TO JULY 1, 1989. IN THE EVENT IT IS LATER DISCOVERED THAT A SUBCONTRACTOR/SUPPLIER HAS BEEN CONVICTED OF A PUBLIC ENTITY CRIME, THE CONTRACTOR/VENDOR SHALL SUBSTITUTE THE SUBCONTRACTOR/SUPPLIER WITH ANOTHER WHO HAS NOT RECEIVED A CONVICTION. ANY COST ASSOCIATED WITH THIS SUBSTITUTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR/VENDOR.

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH I (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 FLORIDA

COUNTY OF _____

I HEREBY CERTIFY that on this day, before me, an officer duly authorized in the State aforesaid and in the County aforesaid, to take acknowledgments, personally appeared before me who is personally known to me or who has produced as identification and who acknowledged that he/she executed the foregoing instrument freely and voluntarily for the uses and purposes expressed herein.

WITNESS my hand and official seal in the County and State last aforesaid this ____ day of ____ 20__.

Signature of Notary_____

Printed Name of Notary_____

(S E A L)

Notary Public State of _____

My Commission Expires: _____

Commission Number: _____

NOTICE OF INTENT TO AWARD

DATE:

TO: _____

PROJECT: **ORMOND BEACH MUNICIPAL AIRPORT
TAXIWAY BRAVO AND TAXIWAY DELTA
REHABILITATION
BID NUMBER: 2021-18
FAA AIP NUMBER: TBD
FDOT FM NUMBER: TBD**

The Owner has reviewed the Bid submitted by your firm for the above described work in response to its Advertisement for Bids dated the _____ day of _____, 20____ and Instructions to Bidders.

You are hereby notified that your Bid is being considered for acceptance for the PROJECT, in the Total Amount _____, for the work, subject to the availability of federal and state funds.

You are required by the Instructions to Bidders to execute five (5) copies of the Contract Documents and furnish the required Contractor's Performance Bond, Payment Bond, evidences of all required insurance coverage and authority to execute plus satisfactory evidence of compliance with the Bid Conditions pertaining to the Disadvantaged Business Enterprise Program within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Contract Documents and to furnish said Bonds and other required documents and information within the time specified, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your Bid as abandoned and as a forfeiture of your Bid Bond. The Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Intent to Award to the Owner.

Dated this ____ day of _____ 20____.

City of Ormond Beach
Owner

By: _____
Steven Lichliter, Airport Manager

ACCEPTANCE OF NOTICE

Receipt of the above Notice of Intent
to Award is hereby acknowledged by:

_____ on this ____ day of _____ 20____.

Signed: _____
(name) (title)

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NOTICE TO PROCURE

DATE:

TO: _____

PROJECT: **ORMOND BEACH MUNICIPAL AIRPORT
TAXIWAY BRAVO AND TAXIWAY DELTA
REHABILITATION
BID NUMBER: 2021-18
FAA AIP NUMBER: TBD
FDOT FM NUMBER: TBD**

You are hereby given notice to commence procurement of materials in accordance with

the Contract Agreement dated the _____ for the contracted work. All materials necessary for the completion of the work shall be stored on site and/or immediately available for installation in-place within thirty (30) calendar days of this Notice to Procure, unless extension has been granted by Owner in writing.

You are required to return an acknowledged copy of this Notice to Procure to the Owner.

City of Ormond Beach
Owner

By: _____
Steven Lichliter

Title: Airport Manager

ACCEPTANCE OF NOTICE

Receipt of the above Notice to
Procure is hereby acknowledged by:

on this _____ day of _____ 20____.

Signed: _____

Title: _____

INTENTIONALLY LEFT BLANK

NOTICE TO PROCEED

DATE:

TO: _____

PROJECT: **ORMOND BEACH MUNICIPAL AIRPORT
TAXIWAY BRAVO AND TAXIWAY DELTA
REHABILITATION
BID NUMBER: 2021-18
FAA AIP NUMBER: TBD
FDOT FM NUMBER: TBD**

You are hereby given notice to commence Work on the Project in accordance with the Contract Agreement dated on the _____ **Day of** _____, on or before the _____ **Day of** _____, **20** _____ and you are to complete the Work within the times stipulated in the Special Provisions (**205** calendar days to substantial completion, plus **30** calendar days, final completion). The date of completion of all Work is therefore _____, **20** _____.

You are required to return an acknowledged copy of this Notice to Proceed to the Owner.

City of Ormond Beach
Owner

By: _____
Steven Lichliter

Title: Airport Manager

ACCEPTANCE OF NOTICE

Receipt of the above Notice to
Proceed is hereby acknowledged by:

on this _____ day of _____ 20____.

Signed: _____

Title: _____

INTENTIONALLY LEFT BLANK

FINAL RELEASE OF LIEN

CITY OF ORMOND BEACH

KNOW ALL MEN BY THESE PRESENTS, that the undersigned, for and in consideration of the payment of the sum of _____ Dollars (\$ _____), paid by the City of Ormond Beach, Florida, hereinafter referred to as "Owner", receipt of which is hereby acknowledged as total compensation for performance of the below-described Contract for the Project, does hereby fully and completely discharge and release the owner from and waives any and all debts, accounts, promises, damages, liens, encumbrances, causes of action, suits, bonds, judgments, claims and demands whatsoever, in law or in equity, which the undersigned ever had, now has or might hereafter have on account of labor performed, material furnished or services rendered, directly or indirectly, for the Contract between the parties dated _____, 20____, known as **ORMOND BEACH MUNICIPAL AIRPORT TAXIWAY BRAVO AND TAXIWAY DELTA REHABILITATION, BID NUMBER 2021-18, FAA AIP No. TBD, FDOT FM No. TBD** except for those claims, disputes and other matters arising out of or relating to said Contract which have been raised by written demand in accordance with the Contract Documents prior to this date and identified by the Contractor as unsettled in the final Application for Payment and are either in arbitration or court litigation, as the case may be, in accordance with the Contract Documents.

The undersigned further covenants that subcontractors, suppliers, and material suppliers, and any or all other persons supplying materials, supplies, service or labor used directly or indirectly in the prosecution of the work provided for in the Contract, have been paid in full for all work under this contract.

The undersigned agrees to maintain in full force and effect the provisions of the Contract Documents respecting the guaranty against defective work, and any other special guaranties required by the Contract Documents, for the terms provided in the Contract Documents, which terms shall begin to run from the date specified in the Contract Documents.

The undersigned represents and warrants that the statements contained in the foregoing Release are true and correct.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this _____ day of

_____, 20____,

WITNESSES:

CONTRACTOR

By: _____

STATE OF _____

Title: _____

COUNTY OF _____

Sworn to and subscribed before me this _____ day of _____ 20____.

(NOTARIAL SEAL)

NOTARY PUBLIC
My Commission Expires:

PROJECT CLOSEOUT

Project closeout is hereby 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 other sections. Time of closeout is directly related to substantial completion and, therefore, may be 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. The time variation, if any, shall be applicable to other provisions of this contract and the specifications.

PREREQUISITES TO FINAL ACCEPTANCE

A. General

Prior to requesting final payment, as required by General Conditions, complete the following and list known exceptions in request:

1. Submit final payment request with Final Release of Lien and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
2. Submit one year project warranty, equipment and materials-specific manufacturer's warranties, workmanship-maintenance bonds, maintenance agreements, final certifications, and similar documents. Certificate of Warranty form follows this page.
3. Submit lien waivers from all subcontractors and suppliers.
4. Submit consent of surety.
5. Submit red lined drawings and electronic as-built survey drawings on compact disc in AutoCAD version 2013 or later to the Engineer.

CERTIFICATE OF WARRANTY

Project Name: **ORMOND BEACH MUNICIPAL AIRPORT
TAXIWAY BRAVO AND TAXIWAY DELTA
REHABILITATION
BID NUMBER: 2021-18
FAA AIP NUMBER:
FDOT FM NUMBER:**

Contractor: _____

Date of Substantial Completion: _____

I, _____, being the _____
_____ of _____ do hereby certify that
the one (1) year warranty called for in the Contract Specifications is now in force and effect until
after such time one (1) year has passed after the date of Substantial Completion.

Signed: _____

Title: _____

STATE OF _____

COUNTY OF _____

Subscribed and sworn to before me, a Notary Public, in and for the County and State aforesaid by

_____ duly authorized so to sign this ____ day
of

_____, 20__.

Notary Public _____

My commission expires: _____



FAA
Airports

Contract Provision Guidelines for Obligated Sponsors and Airport Improvement Program Projects

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RECORD OF CHANGES

No.	Date	Item	Change
1	1/29/2016	Entire Document	Re-structured document to enhance user understanding of use and applicability; added suggested provisions for “Termination for Cause”, “Recovered Materials”, “Seismic Safety”.
2	6/10/2016	Table 1	Distracted Driving: Updated “Dollar Threshold” to \$3,500 to reflect current micro-purchase threshold.
3	6/10/2016	A2, Affirmative Action	Update the reference to the Department of Labor online document to be “Participation Goals for Minority and Females”
4	6/10/2016	A12, Disadvantaged Business Enterprise	A12.3: Changed Title to “Required Provisions” A12.3.1: Corrected starting timeframe for submitting written confirmation from “Owner Notice of Award” to “bid opening” A12.3.1: Provided two sets of last paragraphs to reflect change (7 days to 5 days) that occurs on December 31, 2016. A12.3.2: Moved Race/Gender Neutral language up and renamed heading to reflect text is solicitation language. A12.3.3: Moved and renamed contract clause information and clarified it is for prime contract covered by a DBE program.
5	12/12/2017	Cover	Change title of document for clarity
6	12/12/2017	1. Purpose of this Document	Added clarifying text addressing purpose and limitations of this guidance. 1.7-1.9: Added definitions of contract, applicant, bid
7	12/12/2017	2. Sponsor requirements	Added clarifying text addressing sponsor responsibilities.

No.	Date	Item	Change
8	12/12/2017	3. Typical Procurement Steps	Added clarifying text for typical procurement process steps.
9	12/12/2017	Table 1 – Applicability Matrix	Re-arranged table in alphabetic order. Added “Solicitation” column to address solicitation provisions Item 1, Seismic Safety: Added Limited Application Added note on Airport Concessions Disadvantaged Business Enterprises
10	12/12/2017	All Clauses	Clarifying revisions made to applicability section.
11	12/12/2017	A5, Civil Rights - General	Rephrased General Civil Rights Provision to simplify language and to clarify duration of obligation for tenant/concessionaire/lessee
12	12/12/2017	A6.3.1 Civil Rights – Solicitations	Added sponsor must select either DBE or ACDBE
12	12/12/2017	A12, Disadvantaged Business Enterprise	The deadline to submit DBE confirmation of participation is now 5 days after bid opening or as a matter of bid responsiveness. Updated DBE contract assurance (12.3.3) to match language of 49 CFR § 26.13
13	12/12/2017	A24, Tax Delinquency and Felony Conviction	New certification addressing contractor tax delinquency and felony conviction.
14	6/19/2018	6.2.1, Applicability of Title VI Solicitation Notice	For Title VI Clauses for Compliance with Nondiscrimination Requirements, change second sentence in second column to changed “are already subject to nondiscrimination requirements” to “are not already subject to nondiscrimination requirements”.
15	6/19/2018	A6.4.1, Title VI Clauses for Compliance with Nondiscrimination Requirements	In second item, changed “are already subject to nondiscrimination requirements” to “are not already subject to nondiscrimination requirements”.

CONTRACT GUIDANCE

1. Purpose of this Document

- 1) The purpose of this document is to establish a convenient resource for Sponsors that consolidates all possible provisions and clauses into one document that includes an applicability matrix. This document itself does not create, revise or delete requirements for participation in the Airport Improvement Program. The source of requirements addressed within this document are identified within the section for each individual clause.
- 2) Federal laws and regulations require that an sponsor (a recipient of federal assistance) include specific clauses in certain contracts, solicitations, or specifications regardless of whether or not the project is federally funded.
- 3) The term **sponsor** is used in this document to mean either an obligated sponsor on a project that is not federally funded, or a sponsor on an AIP funded project.
- 4) The term **Owner** is generally used in the solicitation or contract clauses because of its common use in public contracts.
- 5) An Owner becomes an obligated sponsor upon acceptance of the Airport Improvement Program (AIP) grant assurances associated with current or prior AIP grant funded projects.
- 6) For purposes of determining requirements for contract provisions, the term **contract** includes subcontracts and supplier contracts such as purchase orders.
- 7) For purpose of remaining compliant with its obligations, a sponsor must incorporate applicable contract provisions in all its procurements and contract documents. Unless otherwise stated, these provisions flow down to subcontracts and sub-tier agreements.
- 8) The term **contractor** is understood to mean a contractor, subcontractor, or consultant; and means one who participates, through a contract or subcontract (at any tier).
- 9) The term **bid** is understood to mean a bid, an offer, or a proposal.
- 10) **Applicant:**
 - a. For the Equal Employment Opportunity (EEO) clause, the term **applicant** means an applicant for employment (whether or not the phrase, *for employment*, follows the word applicant or applicants).
 - b. For all other clauses, the term **applicant** means a bidder, offeror, or proposer for a contract.

2. Sponsor Requirements

In general, the sponsor must take the following actions in order to remain consistent with its obligations:

- 1) Include in its procurements the provisions that are applicable to its project.
- 2) Not incorporate the entire contract provisions guidelines in its solicitation or contract documents, whether by reference or by inclusion in whole. Incorporation of this entire guidance document creates potential for ambiguous interpretation and may lead to improper application that

unnecessarily increases price. A sponsor that fails to properly incorporate applicable contract clauses may place themselves at risk for audit findings or denial of Federal funding.

- 3) Incorporate applicable contract provisions using mandatory language as required. The subheading entitled *Applicability* advises whether a particular clause or provision has mandatory language that a sponsor must use.
 - (a) Mandatory Language - Whenever a clause or provision has mandatory text, the sponsor must incorporate the text of the provision **without change**, except where specific adaptive input is necessary (e.g. such as the sponsor's name).
 - (b) No Mandatory Language Provided - For provisions without mandatory language, this guidance provides model language acceptable to the FAA. Some sponsors may already have standard procurement language that is equivalent to those federal provisions. In these cases, sponsors may use their existing standard procurement provision language provided the text meets the intent and purpose of the Federal law or regulation.
- 4) Require the contractor (including all subcontractors) to insert these contract provisions in each lower tier contract (e.g. subcontract or sub-agreement).
- 5) Require the contractor (including all subcontractors) to incorporate the applicable requirements of these contract provisions by reference for work done under any purchase orders, rental agreements and other agreements for supplies or services.
- 6) Require that the prime contractor be responsible for compliance with these contract provisions by any subcontractor, lower-tier subcontractor or service provider.
- 7) Verify that any required local or State provision does not conflict with or alter a Federal law or regulation.

3. Typical Procurement Steps

The usual procurement steps in a project are:

- 1) Solicitation, Request for Bids or Request for Proposals – This is also called the Advertisement or Notice to Bidders.
- 2) Bidding or Accepting Proposals – In this stage, the bidders receive a complete set of the procurement documents, also known as the project manual. The project manual will typically include a copy of the solicitation, instructions-to-bidders, bid forms, certifications and representations, general provisions, contract conditions, copy of contract, project drawings, technical specifications and related project documents.
- 3) Bid/Proposal Evaluation – Period when Sponsor tabulates and reviews all proposals for bid responsiveness and bidder responsibility.
- 4) Award – Point when the Sponsor formally awards the contract to the successful bidder.
- 5) Execution of Contract – Point at which the Sponsor formally enters into a legally binding agreement to perform services or provide goods.

4. Applicability Matrix for Contract Provisions

[Table 1](#) summarizes the applicability of contract provisions based upon the type of contract or agreement. The dollar threshold represents the value at which, when equal to or exceeded, the sponsor must incorporate the provision in the contract or agreement.

Supplemental information addressing applicability and use for each provision is located in Appendix A. Appendix A and the Matrix include notes indicating when the sponsor may incorporate references in the **solicitation** in lieu of including the entire text.

Meaning of cell values

- Info – Sponsor has discretion on whether to include clause in its contracts.
- Limited – Provision with limited applicability depending on circumstances of the procurement.
- n/a – Provision that is not applicable for that procurement type.
- NIS – Provision that does not need to be included or referenced in the solicitation document
- REF – Provision to be incorporated into the solicitation by reference.
- REQD - Provision the sponsor must incorporate into procurement documents.

Table 1 – Applicability of Provisions

Provisions/Clauses	Dollar Threshold	Solicitation	Professional Services	Construction	Equipment	Property (Land)	Non-AIP Contracts
Access to Records and Reports	\$ 0	NIS	REQD	REQD	REQD	REQD	n/a
Affirmative Action Requirement	\$10,000	REQD	Limited	REQD	Limited	Limited	n/a
Breach of Contract	\$150,000	NIS	REQD	REQD	REQD	REQD	n/a
Buy American Preferences	\$ 0	REF	Limited	REQD	REQD	Limited	n/a
(1) Buy American Statement	\$ 0	NIS	Limited	REQD	REQD	Limited	n/a
(2) BA – Total Facility	\$ 0	NIS	Limited	REQD	REQD	Limited	n/a
(3) B.A. – Manufactured Product	\$ 0	NIS	Limited	REQD	REQD	Limited	n/a
Civil Rights – General	\$ 0	NIS	REQD	REQD	REQD	REQD	REQD
Civil Rights - Title VI Assurances	\$ 0	REF	REQD	REQD	REQD	REQD	REQD
(1) Notice - Solicitation	\$ 0	REQD	REQD	REQD	REQD	REQD	REQD
(2) Clause - Contracts	\$ 0	NIS	REQD	REQD	REQD	REQD	REQD
(3) Clause – Transfer of U.S. Property	\$ 0	NIS	n/a	n/a	n/a	Limited	REQD
(4) Clause – Transfer of Real Property	\$ 0	NIS	n/a	n/a	n/a	REQD	REQD
(5) Clause - Construct/Use/Access to Real Property	\$ 0	NIS	n/a	n/a	n/a	REQD	REQD
(6) List – Pertinent Authorities	\$0	NIS	REQD	REQD	REQD	REQD	REQD
Clean Air/Water Pollution Control	\$150,000	NIS	REQD	REQD	REQD	REQD	n/a
Contract Work Hours and Safety Standards	\$100,000	NIS	Limited	REQD	Limited	Limited	n/a
Copeland Anti-Kickback	\$ 2,000	NIS	Limited	REQD	Limited	Limited	n/a
Davis Bacon Requirements	\$ 2,000	REF	Limited	REQD	Limited	Limited	n/a
Debarment and Suspension	\$25,000	REF	REQD	REQD	REQD	Limited	n/a
Disadvantaged Business Enterprise	\$ 0	REF	REQD	REQD	REQD	REQD	n/a
Distracted Driving	\$3,500	NIS	REQD	REQD	REQD	REQD	n/a
Energy Conservation Requirements	\$ 0	NIS	REQD	REQD	REQD	REQD	n/a
Equal Employment Opportunity	\$10,000	NIS	Limited	REQD	Limited	Limited	n/a
(1) EEO Contract Clause	\$10,000	NIS	Limited	REQD	Limited	Limited	n/a
(2) EEO Specification	\$10,000	NIS	Limited	REQD	Limited	Limited	n/a
Federal Fair Labor Standards Act	\$ 0	NIS	REQD	REQD	REQD	REQD	Info
Foreign Trade Restriction	\$ 0	REF	REQD	REQD	REQD	REQD	n/a
Lobbying Federal Employees	\$ 100,000	REF	REQD	REQD	REQD	REQD	n/a
Occupational Safety and Health Act	\$ 0	NIS	REQD	REQD	REQD	REQD	Info
Prohibition of Segregated Facilities	\$10,000	NIS	Limited	REQD	Limited	Limited	n/a
Recovered Materials	\$10,000	REF	Limited	REQD	REQD	Limited	n/a
Rights to Inventions	\$ 0	NIS	Limited	Limited	Limited	n/a	n/a
Seismic Safety	\$ 0	NIS	Limited	Limited	Limited	n/a	n/a
Tax Delinquency and Felony Conviction	\$ 0	NIS	REQD	REQD	REQD	REQD	n/a
Termination of Contract	\$10,000	NIS	REQD	REQD	REQD	REQD	n/a
Veteran's Preference	\$ 0	NIS	REQD	REQD	REQD	REQD	n/a

Airport Concessions Disadvantage Business Enterprise (ACDBE) Notes:

Guidelines for Contract Provisions for Obligated Sponsors and Airport Improvement Program Projects

1. Language relative to solicitation for ACDBEs does not need to be included in AIP funded solicitations, since in no case are concessions activities funded with federal funds.
2. Airport sponsors must include the appropriate Title VI language in their solicitation notices when they seek proposals for concessions.

APPENDIX A – CONTRACT PROVISIONS

A1 ACCESS TO RECORDS AND REPORTS

A1.1 SOURCE

2 CFR § 200.333

2 CFR § 200.336

FAA Order 5100.38

A1.2 APPLICABILITY

2 CFR § 200.333 requires a sponsor to retain records pertinent to a Federal award for a period of three years from submission of final closure documents. 2 CFR § 200.336 establishes that sponsors must provide Federal entities the right to access records pertinent to the Federal award. FAA policy extends these requirements to the sponsor's contracts and subcontracts of AIP funded projects.

Contract Types – The sponsor must include this provision in all contracts and subcontracts of AIP funded projects.

Use of Provision – No mandatory language provided. The following language is acceptable to the FAA with meeting the intent of this requirement. If the sponsor prefers to use different language, the sponsor's language must fully satisfy the requirements of §§ 200.333 and 200.336.

A1.3 CONTRACT CLAUSE

ACCESS TO RECORDS AND REPORTS

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the Owner, the Federal Aviation Administration and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

A2 AFFIRMATIVE ACTION REQUIREMENT

A 2.1 SOURCE

41 CFR part 60-4

Executive Order 11246

A 2.2 APPLICABILITY

Minority Participation. Sponsors are required to set goals for minority participation in AIP funded projects exceeding \$10,000. The goals for minority participation derive from Economic Area (EA) and Standard Metropolitan Statistical Area (SMSA) as established in Volume 45 of the Federal Register dated 10/3/80. Page 65984 contains a table of all EAs and SMSAs and the associated minority participation goals.

To find the goals for minority participation, a sponsor must either refer to the Federal Register Notice or to the Department of Labor online document, "[Participation Goals for Minorities and Females](#)". EAs and SMSAs span state boundaries. A sponsor may have to refer to entries for adjacent states in order to locate the goal for the project location.

Female Participation. Executive Order 11246 has set a goal of 6.9% nationally for female participation for all construction projects. This value remains constant for all counties and states.

Contract Types –

Construction – The sponsor must incorporate this notice in all solicitations for bids or requests for proposals for AIP funded construction work contracts and subcontracts that exceed \$10,000. Construction work means construction, rehabilitation, alteration, conversion, extension, demolition or repair of buildings, highways or other changes or improvements to real property, including facilities providing utility services. The term also includes the supervision, inspection and other onsite functions incidental to the actual construction.

Equipment – The sponsor must incorporate this notice in any equipment project exceeding \$10,000 that involves installation of equipment onsite (e.g. electrical vault equipment). This provision does not apply to equipment acquisition projects where the manufacture of the equipment takes place offsite at a manufacturer's plant (e.g. firefighting and snow removal vehicles).

Professional Services – The sponsor must incorporate this notice in any professional service agreement if the professional services agreement includes tasks that meet the definition of construction work [as defined by the U.S. Department of Labor (DOL)] and exceeds \$10,000. Examples include installation of monitoring systems (e.g. noise, environmental, etc.).

Property/Land – The sponsor must incorporate this notice in any agreement associated with land acquisition if the agreement includes construction work (defined above) that exceeds \$10,000. Examples include demolition of structures or installation of boundary fencing.

Use of Provision – MANDATORY TEXT. The sponsor must:

- (a) Incorporate the text of this provision in its solicitations without modification.

- (b) Incorporate the applicable minority participation goal and the covered area by geographic name.
- (c) Not simply insert a reference to the 1980 Federal Register Notice.

A 2 . 3 S O L I C I T A T I O N C L A U S E

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION to ENSURE EQUAL EMPLOYMENT OPPORTUNITY

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables

Goals for minority participation for each trade: 5.60%

These goals are applicable to all of the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a) and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is Florida, Volusia County, and the City of Ormond Beach.

A3 BREACH OF CONTRACT TERMS

A3.1 SOURCE

2 CFR § 200 Appendix II(A)

A3.2 APPLICABILITY

This provision requires sponsors to incorporate administrative, contractual or legal remedies if contractor violate or breach contract terms. The sponsor must also include appropriate sanctions and penalties.

Contract Types – This provision is required for all contracts that exceed the simplified acquisition threshold as stated in 2 CFR Part 200, Appendix II (A). This threshold is occasionally adjusted for inflation and is now equal to \$150,000.

Use of Provision – No mandatory language provided. The following language is acceptable to the FAA as meeting the intent of this requirement. If the sponsor uses different language, the sponsor’s language must fully satisfy the requirements of part 200. Select either “contractor” or “consultant” as applicable.

A3.3 CONTRACT CLAUSE

BREACH OF CONTRACT TERMS

Any violation or breach of terms of this contract on the part of the Contractor or Consultant or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement.

Owner will provide Contractor or Consultant written notice that describes the nature of the breach and corrective actions the Contractor or Consultant must undertake in order to avoid termination of the contract. Owner reserves the right to withhold payments to Contractor until such time the Contractor corrects the breach or the Owner elects to terminate the contract. The Owner’s notice will identify a specific date by which the Contractor or Consultant must correct the breach. Owner may proceed with termination of the contract if the Contractor or Consultant fails to correct the breach by the deadline indicated in the Owner’s notice.

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

A4 BUY AMERICAN PREFERENCE

A4.1 SOURCE

Title 49 USC § 50101

A4.2 APPLICABILITY

The Buy American Preference requirement in 49 USC § 50101 requires that all steel and manufactured goods used on AIP projects be produced in the United States. The statute gives the FAA the ability to issue a waiver to a sponsor to use non-domestic material on an AIP funded project subject to meeting certain conditions. A sponsor may request that the FAA issue a waiver from the Buy American Preference requirements if the FAA finds that:

- 1) Applying the provision is not in the public interest;
- 2) The steel or manufactured goods are not available in sufficient quantity or quality in the United States;
- 3) The cost of components and subcomponents produced in the United States is more than 60 percent of the total components of a facility or equipment, and final assembly has taken place in the United States. Items that have an FAA standard specification item number (such as specific airport lighting equipment) are considered the equipment.
- 4) Applying this provision would increase the cost of the overall project by more than 25 percent.

Timing of Waiver Requests. Sponsors desiring a Type 1 or Type 2 waiver must submit their waiver requests *before* issuing a solicitation for bids or a request for proposal for a project.

The sponsor must submit Type 3 or Type 4 waiver requests *prior* to executing the contract. The FAA will generally not consider waiver requests after execution of the contract except where extraordinary and extenuating circumstances exist. The FAA cannot review waiver requests with incomplete information. Sponsors must assess the adequacy of the waiver request and associated information prior to forwarding a waiver request to the FAA for action.

Buy American Conformance List. The FAA Office of Airports maintains a listing of equipment that has received a nationwide waiver from the Buy American Preference requirements or that fully meet the Buy American requirements. The Nationwide Buy American Waiver List is available online at www.faa.gov/airports/aip/buy_american/. Products listed on the Buy American Conformance list do not require additional submittal of domestic content information under a project specific Buy American Preference waiver.

Facility Waiver Requests. For construction of a facility, the sponsor may submit the waiver request after bid opening, but prior to contract execution. Examples of facility construction include terminal buildings, terminal renovation, and snow removal equipment buildings.

Contract Types –

Construction and Equipment – The sponsor must meet the Buy American Preference requirements of 49 USC § 50101 for all AIP funded projects that require steel or manufactured goods. The Buy America requirements flow down from the sponsor to first tier contractors, who are responsible for ensuring that lower tier contractors and subcontractors are also in compliance.

Note: The Buy American Preference does not apply to equipment a contractor uses as a tool of its trade and which does not remain as part of the project.

Professional Services – Professional service agreements (PSAs) do not normally result in a deliverable that meets the definition of a manufactured product. However, the emergence of various project delivery methods has created situations where task deliverables under a PSA may include a manufactured product. If a PSA includes providing a manufactured good as a deliverable under the contract, the sponsor must include the Buy American Preference provision in the agreement.

Property – Most land transactions do not involve acquiring a manufactured product. However, under certain circumstances, a property acquisition project could result in the installation of a manufactured product. For example, the installation of property fencing, gates, doors and locks, etc. represent manufactured products acquired under an AIP funded land project that must comply with Buy American Preferences.

Use of Provision – No mandatory language provided. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor’s revised language must fully comply with 49 USC § 50101.

There are two types of Buy American certifications. The sponsor must incorporate the appropriate “Certificate of Buy America Compliance” in the solicitation:

- Projects for a facility (buildings such as terminals, snow removal equipment (SRE) buildings, aircraft rescue and firefighting (ARFF) buildings, etc.) – Insert the Certificate of Compliance Based on Total Facility.
- Projects for non-facility development (non-building construction projects such as runway or roadway construction or equipment acquisition projects) – Insert the Certificate of Compliance Based on Equipment and Materials Used on the Project.

A 4 . 3 S O L I C I T A T I O N C L A U S E

A 4 . 3 . 1 Buy American Preference Statement

BUY AMERICAN PREFERENCE

The Contractor agrees to comply with 49 USC § 50101, which provides that Federal funds may not be obligated unless all steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

A bidder or offeror must complete and submit the Buy America certification included herein with their bid or offer. The Owner will reject as nonresponsive any bid or offer that does not include a completed Certificate of Buy American Compliance.

A 4 . 3 . 2 Certificate of Buy American Compliance – Total Facility

CERTIFICATE OF BUY AMERICAN COMPLIANCE FOR TOTAL FACILITY

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with its proposal. The bidder or offeror must indicate how it intends to comply with 49 USC § 50101 by selecting one of the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (i.e. not both) by inserting a checkmark (✓) or the letter “X”.

- ☐ Bidder or offeror hereby certifies that it will comply with 49 USC § 50101 by:
- a) Only installing steel and manufactured products produced in the United States; or
 - b) Installing manufactured products for which the Federal Aviation Administration (FAA) has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or
 - c) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

- To provide to the Owner evidence that documents the source and origin of the steel and manufactured product.
 - To faithfully comply with providing U.S. domestic products.
 - To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.
- ☐ The bidder or offeror hereby certifies it cannot comply with the 100 percent Buy American Preferences of 49 USC § 50101(a) but may qualify for either a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:
- a) To submit to the Owner within 15 calendar days of the bid opening, a formal waiver request and required documentation that supports the type of waiver being requested.
 - b) That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination that may result in rejection of the proposal.
 - c) To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.
 - d) To furnish U.S. domestic product for any waiver request that the FAA rejects.
 - e) To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 3 Waiver – The cost of components and subcomponents produced in the United States is more than 60 percent of the cost of all components and subcomponents of the “facility”. The required documentation for a Type 3 waiver is:

- a) Listing of all manufactured products that are not comprised of 100 percent U.S. domestic content (excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).

- b) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly and installation at project location.
- c) Percentage of non-domestic component and subcomponent cost as compared to total “facility” component and subcomponent costs, excluding labor costs associated with final assembly and installation at project location.

Type 4 Waiver – Total cost of project using U.S. domestic source product exceeds the total project cost using non-domestic product by 25 percent. The required documentation for a Type 4 of waiver is:

- a) Detailed cost information for total project using U.S. domestic product
- b) Detailed cost information for total project using non-domestic product

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date

Signature

Company Name

Title

A4.3.3 Certificate of Buy American Compliance – Manufactured Product

Certificate of Buy American Compliance for Manufactured Products

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with their proposal. The bidder or offeror must indicate how they intend to comply with 49 USC § 50101 by selecting one on the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (not both) by inserting a checkmark (✓) or the letter “X”.

- ☐ Bidder or offeror hereby certifies that it will comply with 49 USC § 50101 by:
- a) Only installing steel and manufactured products produced in the United States;
 - b) Installing manufactured products for which the Federal Aviation Administration (FAA) has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or
 - c) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

1. To provide to the Owner evidence that documents the source and origin of the steel and manufactured product.
2. To faithfully comply with providing U.S. domestic product.
3. To furnish U.S. domestic product for any waiver request that the FAA rejects
4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

- ☐ The bidder or offeror hereby certifies it cannot comply with the 100 percent Buy American Preferences of 49 USC § 50101(a) but may qualify for either a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:

1. To submit to the Owner within 15 calendar days of the bid opening, a formal waiver request and required documentation that supports the type of waiver being requested.
2. That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination may result in rejection of the proposal.
3. To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.
4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 3 Waiver – The cost of the item components and subcomponents produced in the United States is more than 60 percent of the cost of all components and subcomponents of the “item”. The required documentation for a Type 3 waiver is:

- a) Listing of all product components and subcomponents that are not comprised of 100 percent U.S. domestic content (Excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).
- b) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly at place of manufacture.
- c) Percentage of non-domestic component and subcomponent cost as compared to total “item” component and subcomponent costs, excluding labor costs associated with final assembly at place of manufacture.

Type 4 Waiver – Total cost of project using U.S. domestic source product exceeds the total project cost using non-domestic product by 25 percent. The required documentation for a Type 4 of waiver is:

- a) Detailed cost information for total project using U.S. domestic product
- b) Detailed cost information for total project using non-domestic product

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date

Signature

Company Name

Title

A5 CIVIL RIGHTS - GENERAL

A5.1 SOURCE

49 USC § 47123

A5.2 APPLICABILITY

There are two separate civil rights provisions that apply to projects:

1. FAA General Civil Rights Provision and,
2. Title VI provisions, which are addressed in Appendix A6.

Contract Types – The General Civil Rights Provisions found in 49 USC § 47123, derived from the Airport and Airway Improvement Act of 1982, Section 520, apply to all sponsor contracts *regardless* of funding source.

Use of Provision – MANDATORY TEXT. There are two separate general civil rights provisions—one that is used for contracts, and one that is used for lease agreements or transfer agreements. The sponsor must incorporate the text of the appropriate provision without modification into the contract, or the lease or transfer agreement.

A5.3 CONTRACT CLAUSE (Use the Correct Clause for the Situation)

A5.3.1 Clause that is used for Contracts

GENERAL CIVIL RIGHTS PROVISIONS

The Contractor agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

A5.3.2 Clause that is used for Lease Agreements or Transfer Agreements

GENERAL CIVIL RIGHTS PROVISIONS

The (tenant/concessionaire/lessee) agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance. If the (tenant/concessionaire/lessee) transfers its obligation to another, the transferee is obligated in the same manner as the (tenant/concessionaire/lessor).

This provision obligates the (tenant/concessionaire/lessee) for the period during which the property is owned, used or possessed by the (tenant/concessionaire/lessee) and the airport remains obligated to the

Federal Aviation Administration. This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

A6 CIVIL RIGHTS – TITLE VI ASSURANCE

A6.1 SOURCE

49 USC § 47123

FAA Order 1400.11

A6.2 APPLICABILITY

Title VI of the Civil Rights Act of 1964, as amended, (Title VI) prohibits discrimination on the grounds of race, color, or national origin under any program or activity receiving Federal financial assistance. Sponsors must include appropriate clauses from the Standard DOT Title VI Assurances in all contracts and solicitations.

The text of each individual clause comes from the U.S. Department of Transportation [Order DOT 1050.2](#), Standard Title VI Assurances and Nondiscrimination Provisions, effective April 24, 2013. These assurances require that the Recipient (the sponsor) insert the appropriate clauses in the form provided by the DOT. Where the clause refers to the applicable activity, project, or program, it means the AIP project.

The clauses are as follows:

A6.2.1 Applicability of Title VI Solicitation Notice

Contract Clause	The Sponsor must include the contract clause in:	Clause Text is Included in Paragraph
Title VI Solicitation Notice – - Assurance 2 of the DOT Standard Title VI Assurances and Nondiscrimination Clauses - Assurance 30d of the Airport Sponsor Assurances	1) All AIP funded solicitations for bids, requests for proposals, or any work subject to Title VI regulations; and 2) All sponsor proposals for negotiated agreements regardless of funding source.	A6.3.1
Title VI Clauses for Compliance with Nondiscrimination Requirements - Assurance 3 of the DOT Standard Title VI Assurances and Nondiscrimination Clauses - Assurance 30e.1 of the Airport Sponsor Assurances	Every contract or agreement (unless the sponsor has determined, and the FAA concurs, that the contract or agreement is not subject to the Nondiscrimination Acts and Authorities) It has been determined that service contracts with utility companies that are not already subject to nondiscrimination requirements must include this clause.	A6.4.1

Contract Clause	The Sponsor must include the contract clause in:	Clause Text is Included in Paragraph
Title VI Required Clause for Property Interests Transferred from the United States - Assurance 4 of the DOT Standard Title VI Assurances and Nondiscrimination Clauses - Assurance 30e.3 of the Airport Sponsor Assurances	As a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a sponsor. This is a rare occurrence and it will be the responsibility of the United States government to include the clause in the contract.	A6.4.2
Title VI Required Clause for Transfer of Real Property Acquired or Improved Under the Activity, Facility or Program – - Assurance 5 of the DOT Standard Title VI Assurances and Nondiscrimination Clauses - Assurance 30e.4a of the Airport Sponsor Assurances	As a covenant running with the land, in any future deeds, leases, licenses, permits, or similar instruments entered into by the sponsor with other parties for all transfers of real property acquired or improved under Airport Improvement Program This applies to agreements such as leases where a physical portion of the airport is transferred for use, for example a fuel farm, apron space, or a parking facility.	A6.4.3
Clause for Construction/Use/Access to Real Property Acquired Under the Activity, Facility or Program - Assurance 6 of the DOT Standard Title VI Assurances and Nondiscrimination Clauses - Assurance 30e.4b of the Airport Sponsor Assurances	In any future (deeds, leases, licenses, permits, or similar instruments) entered into by the sponsor with other parties for the construction or use of, or access to, space on, over, or under real property acquired or improved under Airport Improvement Program This applies to agreements such as leases of concession space in a terminal.	A6.4.4
Title VI List of Pertinent Nondiscrimination Acts and Authorities - Assurance 3 of the DOT Standard Title VI Assurances and Nondiscrimination Clauses - Assurance 30e.2 of the Airport Sponsor Assurances	Insert this list in every contract or agreement, unless the sponsor has determined, and the FAA concurs, that the contract or agreement is not subject to the Nondiscrimination Acts and Authorities. This list can be omitted if the FAA has determined that the contractor or company is already subject to nondiscrimination requirements.	A6.4.5

A 6.3 SOLICITATION CLAUSE

The sponsor must include this clause in:

- 1) All AIP funded solicitations for bids, requests for proposals, or any work subject to Title VI regulations; and
- 2) All sponsor proposals for negotiated agreements **regardless of funding source.**

A6.3.1 Title VI Solicitation Notice

Title VI Solicitation Notice:

The **(Name of Sponsor)**, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders or offerors that it will affirmatively ensure that any contract entered into pursuant to this advertisement, [select disadvantaged business enterprises or airport concession disadvantaged business enterprises] will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

A6.4 CONTRACT CLAUSES

A6.4.1 Title VI Clauses for Compliance with Nondiscrimination Requirements

The sponsor must include this contract clause in:

- 1) Every contract or agreement (unless the sponsor has determined, and the FAA concurs, that the contract or agreement is not subject to the Nondiscrimination Acts and Authorities); and
- 2) Service contracts with utility companies that are not already subject to nondiscrimination requirements.

Compliance with Nondiscrimination Requirements:

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “Contractor”), agrees as follows:

1. **Compliance with Regulations:** The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
3. **Solicitations for Subcontracts, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor’s obligations under this contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.
4. **Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a Contractor’s noncompliance with the non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:
 - a. Withholding payments to the Contractor under the contract until the Contractor complies; and/or

- b. Cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

A6.4.2 Title VI Clauses for Deeds Transferring United States Property

This is a rare occurrence, and it will be the responsibility of the United States government to include the clause in the contract. It will be included as a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a sponsor.

CLAUSES FOR DEEDS TRANSFERRING UNITED STATES PROPERTY

The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of the Airport Improvement Program grant assurances.

NOW, THEREFORE, the Federal Aviation Administration as authorized by law and upon the condition that the (*Title of Sponsor*) will accept title to the lands and maintain the project constructed thereon in accordance with (*Name of Appropriate Legislative Authority*), for the (**Airport Improvement Program or other program for which land is transferred**), and the policies and procedures prescribed by the Federal Aviation Administration of the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 USC § 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the (*Title of Sponsor*) all the right, title and interest of the U.S. Department of Transportation/Federal Aviation Administration in and to said lands described in (*Exhibit A attached hereto or other exhibit describing the transferred property*) and made a part hereof.

(HABENDUM CLAUSE)

TO HAVE AND TO HOLD said lands and interests therein unto (*Title of Sponsor*) and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on the (*Title of Sponsor*), its successors and assigns.

The (*Title of Sponsor*), in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located

wholly or in part on, over, or under such lands hereby conveyed [,] [and]* (2) that the (*Title of Sponsor*) will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended[, and (3) that in the event of breach of any of the above-mentioned nondiscrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the Federal Aviation Administration and its assigns as such interest existed prior to this instruction].*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

A6.4.3 Title VI Clauses for Transfer of Real Property Acquired or Improved Under the Activity, Facility, or Program

This applies to agreements such as leases where a physical portion of the airport is transferred for use—for example a fuel farm, apron space, or a parking facility—and will be included as a covenant running with the land, in any future deeds, leases, licenses, permits, or similar instruments entered into by the sponsor with other parties for all transfers of real property acquired or improved under the Airport Improvement Program.

CLAUSES FOR TRANSFER OF REAL PROPERTY ACQUIRED OR IMPROVED UNDER THE AIRPORT IMPROVEMENT PROGRAM

The following clauses will be included in (deeds, licenses, leases, permits, or similar instruments) entered into by the (*Title of Sponsor*) pursuant to the provisions of the Airport Improvement Program grant assurances.

- A. The (grantee, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add “as a covenant running with the land”] that:
 1. In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a Federal Aviation Administration activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Nondiscrimination Acts and Regulations listed in the Pertinent List of Nondiscrimination Authorities (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
- B. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Nondiscrimination covenants, (*Title of Sponsor*) will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued.*
- C. With respect to a deed, in the event of breach of any of the above Nondiscrimination covenants, the (*Title of Sponsor*) will have the right to enter or re-enter the lands and

facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the (*Title of Sponsor*) and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

A6.4.4 Title VI Clauses for Construction/Use/Access to Real Property Acquired Under the Activity, Facility or Program

This applies to agreements such as leases of concession space in a terminal and any future deeds, leases, licenses, permits, or similar instruments entered into by the sponsor with other parties for the construction or use of, or access to, space on, over, or under real property acquired or improved under the Airport Improvement Program.

CLAUSES FOR CONSTRUCTION/USE/ACCESS TO REAL PROPERTY ACQUIRED UNDER THE ACTIVITY, FACILITY OR PROGRAM

The following clauses will be included in deeds, licenses, permits, or similar instruments/agreements entered into by (*Title of Sponsor*) pursuant to the provisions of the Airport Improvement Program grant assurances.

- A. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, “as a covenant running with the land”) that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the List of discrimination Acts And Authorities.
- B. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above nondiscrimination covenants, (*Title of Sponsor*) will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued.*
- C. With respect to deeds, in the event of breach of any of the above nondiscrimination covenants, (*Title of Sponsor*) will there upon revert to and vest in and become the absolute property of (*Title of Sponsor*) and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

A6.4.5 Title VI List of Pertinent Nondiscrimination Acts and Authorities

Insert this list in every contract or agreement, unless the sponsor has determined and the FAA concurs, that the contract or agreement is not subject to the Nondiscrimination Acts and Authorities. This list can be omitted if the FAA has determined that the contractor or company is already subject to nondiscrimination requirements.

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “Contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 USC § 2000d *et seq.*, 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination in Federally-assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 *et seq.*), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq.*) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC § 471, Section 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-209) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 USC §§ 12131 – 12189) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration’s Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC 1681 et seq).

A7 CLEAN AIR AND WATER POLLUTION CONTROL**A7.1 SOURCE**

2 CFR § 200, Appendix II(G)

A7.2 APPLICABILITY

Contract Types – This provision is required for all contracts and lower tier contracts that exceed \$150,000.

Use of Provision – No mandatory language provided. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of Appendix II to 2 CFR §200.

A7.3 CONTRACT CLAUSE**CLEAN AIR AND WATER POLLUTION CONTROL**

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 USC § 740-7671q) and the Federal Water Pollution Control Act as amended (33 USC § 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

Contractor must include this requirement in all subcontracts that exceeds \$150,000.

A8 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

A8.1 SOURCE

2 CFR § 200, Appendix II(E)

A8.2 APPLICABILITY

Contract Workhours and Safety Standards Act Requirements (CWHSSA) requires contractors and subcontractors on covered contracts to pay laborers and mechanics employed in the performance of the contracts one and one-half times their basic rate of pay for all hours worked over 40 in a workweek. CWHSSA prohibits unsanitary, hazardous, or dangerous working conditions on federally assisted projects. The Wage and Hour Division (WHD) within the U.S. Department of Labor (DOL) enforces the compensation requirements of this Act, while DOL's Occupational Safety and Health Administration (OSHA) enforces the safety and health requirements

Contract Types –

Construction – This provision applies to all contracts and lower tier contracts that exceed \$100,000, and employ laborers, mechanics, watchmen, and guards.

Equipment – This provision applies to any equipment project exceeding \$100,000 that involves installation of equipment onsite (e.g. electrical vault equipment). This provision does not apply to equipment acquisition projects where the manufacture of the equipment takes place offsite at the vendor plant (e.g. ARFF and SRE vehicles).

Professional Services – This provision applies to professional service agreements that exceed \$100,000 and employs laborers, mechanics, watchmen, and guards. This includes members of survey crews and exploratory drilling operations.

Property – While most land transactions do not involve employment of laborers, mechanics, watchmen, and guards, under certain circumstances, a property acquisition project could require such employment. Examples include the installation of property fencing or testing for environmental contamination

Use of Provision – MANDATORY TEXT. Sponsors must incorporate this text without modification.

A8.3 CONTRACT CLAUSE

CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

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, including watchmen and guards, 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 (1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. 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 watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this clause, in the sum of \$10 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 (1) of this clause.

3. Withholding for Unpaid Wages and Liquidated Damages.

The Federal Aviation Administration (FAA) or the Owner shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or 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, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this clause.

4. Subcontractors.

The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this clause.

A9 COPELAND “ANTI-KICKBACK” ACT

A9.1 SOURCE

2 CFR § 200, Appendix II(D)

29 CFR Parts 3 and 5

A9.2 APPLICABILITY and PURPOSE

The Copeland (Anti-Kickback) Act (18 USC 874 and 40 USC 3145) makes it unlawful to induce by force, intimidation, threat of dismissal from employment, or by any other manner, any person employed in the construction or repair of public buildings or public works, financed in whole or in part by the United States, to give up any part of the compensation to which that person is entitled under a contract of employment. The Copeland Act also requires each contractor and subcontractor to furnish weekly a statement of compliance with respect to the wages paid each employee during the preceding week.

Contract Types –

Construction – This provision applies to all construction contracts and subcontracts financed under the AIP that exceed \$2,000.

Equipment – This provision applies to all equipment installation projects (e.g. electrical vault improvements) financed under the AIP that exceed \$2,000. This provision does not apply to equipment acquisitions where the equipment is manufactured at the vendor’s plant (e.g. SRE and ARFF vehicles).

Professional Services –The emergence of different project delivery methods has created situations where Professional Service Agreements (PSAs) include tasks that meet the definition of construction, alteration, or repair as defined in 29 CFR Part 5. If such tasks result in work that qualifies as construction, alteration, or repair and it exceeds \$2,000, the PSA must incorporate the Copeland Anti-kickback provision.

Property –Ordinarily, land acquisition projects would not involve employment of laborers or mechanics and thus the Copeland Anti-Kickback provision would not apply. However, land projects that involve installation of boundary fencing and demolition of structures would involve laborers and mechanics. The sponsor must include this provision if the land acquisition project involves employment of laborers or mechanics for a contract exceeding \$2,000.

Use of Provision – MANDATORY TEXT. 29 CFR Part 5 establishes specific language a sponsor must use in construction contracts. The sponsor may not make any modification to the standard language. Architectural/Engineering (A/E) firms that employ laborers and mechanics on a task that meets the definition of construction, alteration, or repair are acting as a contractor. The sponsor may not substitute the term “contractor” for “consultant” in such instances.

A9.3 CONTRACT CLAUSE

COPELAND “ANTI-KICKBACK” ACT

Contractor must comply with the requirements of the Copeland “Anti-Kickback” Act (18 USC 874 and 40 USC 3145), as supplemented by Department of Labor regulation 29 CFR part 3. Contractor and subcontractors are prohibited from inducing, by any means, any person employed on the project to give up any part of the compensation to which the employee is entitled. The Contractor and each Subcontractor must submit to the Owner, a weekly statement on the wages paid to each employee performing on covered work during the prior week. Owner must report any violations of the Act to the Federal Aviation Administration.

A10 DAVIS-BACON REQUIREMENTS

A10.1 SOURCE

2 CFR § 200, Appendix II(D)

29 CFR Part 5

A10.2 APPLICABILITY

The Davis-Bacon Act ensures that laborers and mechanics employed under the contract receive pay no less than the locally prevailing wages and fringe benefits as determined by the Department of Labor.

Contract Types –

Construction – Incorporate into all construction contracts and subcontracts that exceed \$2,000 and include funding from the AIP.

Equipment – This provision applies to all equipment installation projects (e.g. electrical vault improvements) financed under the AIP that exceed \$ 2, 000. This provision does not apply to equipment acquisitions where the equipment is manufactured at the vendor’s plant (e.g. SRE and ARFF vehicles)

Professional Services – The emergence of different project delivery methods has created situations where Professional Service Agreements (PSAs) includes tasks that meet the definition of construction, alteration, or repair as defined in 29 CFR Part 5. If such tasks result in work that qualifies as construction, alteration, or repair and it exceeds \$2,000, the PSA must incorporate this clause.

Property – Ordinarily, land acquisition projects would not involve employment of laborers or mechanics and thus the provision would not apply. However, land projects that involve installation of boundary fencing and demolition of structures would involve laborers and mechanics. The sponsor must include this provision if the land acquisition project involves employment of laborers or mechanics for a contract exceeding \$2,000.

Fencing Projects – Fencing projects that exceed \$2,000 must include this provision.

Use of Provision – MANDATORY TEXT. 29 CFR part 5 establishes specific language a sponsor must use. The sponsor may not make any modification to the standard language. A/E firms that employ laborers and mechanics on a task that meets the definition of construction, alteration, or repair are acting as a contractor. The sponsor may not substitute the term “Contractor” for “Consultant” in such instances.

A10.3 CONTRACT CLAUSE

DAVIS-BACON REQUIREMENTS

1. Minimum Wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent

thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided* that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination;
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the Contractor, the laborers, or mechanics to be employed in the classification, or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized

representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program: *Provided* that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding.

The Federal Aviation Administration or the sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the Contractor, Sponsor, Applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and Basic Records.

(i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records that show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and that show the costs anticipated or

the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit the payrolls to the applicant, Sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (*e.g.* the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at www.dol.gov/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the Contractor will submit them to the applicant, sponsor, or Owner, as the case may be, for transmission to the Federal Aviation Administration, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, Sponsor, or Owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (1) The payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i), and that such information is correct and complete;
- (2) Each laborer and mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations 29 CFR Part 3;
- (3) Each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The Contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the sponsor, the Federal Aviation Administration, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, Sponsor, applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination that provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal Employment Opportunity. The utilization of apprentices, trainees, and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act Requirements.

The Contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

The Contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR Part 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

- (i) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 USC 1001.

A11 DEBARMENT AND SUSPENSION

A11.1 SOURCE

2 CFR part 180 (Subpart C)

2 CFR part 1200

DOT Order 4200.5

A11.2 APPLICABILITY

The sponsor must verify that the firm or individual that it is entering into a contract with is not presently suspended, excluded, or debarred by any Federal department or agency from participating in federally assisted projects. The sponsor accomplishes this by:

- 1) Checking the System for Award Management (SAM.gov) to verify that the firm or individual is not listed in SAM.gov as being suspended, debarred, or excluded;
- 2) Collecting a certification from the firm or individual that it is not suspended, debarred, or excluded; and
- 3) Incorporating a clause in the contract that requires lower tier contracts to verify that no suspended, debarred, or excluded firm or individual is included in the project.

Contract Types – This requirement applies to *covered transactions*, which are defined in 2 CFR part 180. AIP funded contracts are non-procurement transactions, as defined by §180.970. Covered transactions include any AIP-funded contract, regardless of tier, that is awarded by a contractor, subcontractor, supplier, consultant, or its agent or representative in any transaction, if the amount of the contract is expected to equal or exceed \$25,000. This includes contracts associated with land acquisition projects.

Use of Provision – No mandatory language provided. The following language is acceptable to the FAA in meeting the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of 2 CFR part 180. For professional service agreements, sponsor may substitute bidder/offeror with consultant.

A11.3 SOLICITATION CLAUSE

A11.3.1 Bidder or Offeror Certification

CERTIFICATION OF OFFERER/BIDDER REGARDING DEBARMENT

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

A11.3.2 Lower Tier Contract Certification

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

The successful bidder, by administering each lower tier subcontract that exceeds \$25,000 as a “covered transaction”, must verify each lower tier participant of a “covered transaction” under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: <http://www.sam.gov>.
2. Collecting a certification statement similar to the Certification of Offerer /Bidder Regarding Debarment, above.
3. Inserting a clause or condition in the covered transaction with the lower tier contract.

If the Federal Aviation Administration later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

A12 DISADVANTAGED BUSINESS ENTERPRISE

A12.1 SOURCE

49 CFR part 26

A12.2 APPLICABILITY

A sponsor that anticipates awarding \$250,000 or more in AIP funded prime contracts in a federal fiscal year must have an approved Disadvantaged Business Enterprise (DBE) program on file with the FAA Office of Civil Rights (§ 26.21). The approved DBE program will identify a 3-year overall program goal that the sponsor bases on the availability of ready, willing, and able DBEs relative to all businesses ready, willing, and able to participate on the project (§ 26.45).

Contract Types – Sponsors with a DBE program on file with the FAA must include the three following provisions, if applicable:

- 1) Clause in all solicitations for proposals for which a contract goal has been established,
- 2) Clause in each prime contract, and
- 3) Clause in solicitations that are obtaining DBE participation through race/gender neutral means.

Use of Provision –

1. *Solicitations with a DBE Project Goal* – No mandatory language provided. 49 CFR §26.53 requires a sponsor's solicitation to address what a contractor must submit on proposed DBE participation. The language of A12.3.1 is acceptable to the FAA in meeting the intent of this requirement. If the sponsor uses different language, the sponsor's revised language must fully satisfy these requirements. The sponsor may require the contractor's submittal on proposed DBE participation either at bid opening as a matter of responsiveness or within five days of bid opening as a matter of responsibility.
2. *Solicitations Relying on Race-gender Neutral Means* – No mandatory language provided. The language of A12.3.2 is acceptable to the FAA in meeting the intent of this requirement. If the sponsor uses different language, the sponsor's revised language must fully satisfy requirements for a sponsor that is not applying a project specific contract goal but is covered by a DBE program on file with the FAA.
3. *Contracts Covered by DBE Program* – **MANDATORY TEXT PROVIDED.** Sponsors must incorporate this language if they have a DBE program on file with the FAA. This includes projects where DBE participation is obtained through race-gender neutral means (i.e. no project goal). Sections §26.13 and §26.29 establish mandatory language for contractor assurance and prompt payment. The sponsor must not modify the language.
4. Sponsors that are not required to have a DBE program on file with the FAA are not required to include DBE provisions and clauses.

A12.3 REQUIRED PROVISIONS

A12.3.1 Solicitation Language (Solicitations that include a Project Goal)

Information Submitted as a matter of bidder responsiveness:

The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR §26.53.

As a condition of bid responsiveness, the Bidder or Offeror must submit the following information with its proposal on the forms provided herein:

- 1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
- 2) A description of the work that each DBE firm will perform;
- 3) The dollar amount of the participation of each DBE firm listed under (1)
- 4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal; and
- 5) If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR part 26.

Information submitted as a matter of bidder responsibility:

The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR §26.53.

The successful Bidder or Offeror must provide written confirmation of participation from each of the DBE firms the Bidder or Offeror lists in its commitment within five days after bid opening.

- 1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
- 2) A description of the work that each DBE firm will perform;
- 3) The dollar amount of the participation of each DBE firm listed under (1)
- 4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal; and
- 5) If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR part 26.

A12.3.2 Solicitation Language (Race/Gender Neutral Means)

The requirements of 49 CFR part 26 apply to this contract. It is the policy of the [Insert Name of Owner] to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. The Owner encourages participation by all firms qualifying under this solicitation regardless of business size or ownership.

A12.3.3 Prime Contracts (Projects Covered by a DBE Program)

DISADVANTAGED BUSINESS ENTERPRISES

Contract Assurance (§ 26.13) –

The Contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of Department of Transportation-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the Owner deems appropriate, which may include, but is not limited to:

- 1) Withholding monthly progress payments;
- 2) Assessing sanctions;
- 3) Liquidated damages; and/or
- 4) Disqualifying the Contractor from future bidding as non-responsible.

Prompt Payment (§26.29) – The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 30 days from the receipt of each payment the prime contractor receives from The City of Ormond Beach. The prime contractor agrees further to return retainage payments to each subcontractor within 30 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of The City of Ormond Beach. This clause applies to both DBE and non-DBE subcontractors.

A13 DISTRACTED DRIVING

A13.1 SOURCE

Executive Order 13513

DOT Order 3902.10

A13.2 APPLICABILITY

The FAA encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or subgrant.

Contract Types – Sponsors must insert this provision in all AIP funded contracts that exceed the micro-purchase threshold of 2 CFR §200.67 (currently set at \$3,500).

Use of Provision – No mandatory text provided. The following language is acceptable to the FAA in meeting the intent of this requirement. If the sponsor uses different language, the sponsor’s revised language must fully satisfy these requirements.

A13.3 CONTRACT CLAUSE

TEXTING WHEN DRIVING

In accordance with Executive Order 13513, “Federal Leadership on Reducing Text Messaging While Driving”, (10/1/2009) and DOT Order 3902.10, “Text Messaging While Driving”, (12/30/2009), the Federal Aviation Administration encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or subgrant.

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding \$3,500 that involve driving a motor vehicle in performance of work activities associated with the project.

A14 ENERGY CONSERVATION REQUIREMENTS**A14.1 SOURCE**

2 CFR § 200, Appendix II(H)

A14.2 APPLICABILITY

The Energy Conservation Requirements of 2 CFR § 200 Appendix II(H) requires this provision on energy efficiency.

Contract Types – The sponsor must include this provision in all AIP funded contracts and lower-tier contracts.

Use of Provision – No mandatory text provided. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor’s revised language must fully satisfy these requirements. Sponsor may substitute “Contractor and subcontractor” with “Consultant and sub-consultant” for professional service agreements.

A14.3 CONTRACT CLAUSE**ENERGY CONSERVATION REQUIREMENTS**

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to energy efficiency as contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 USC 6201*et seq*).

A15 DRUG FREE WORKPLACE REQUIREMENTS**A15.1 SOURCE**

49 CFR part 32

Drug-Free Workplace Act of 1988 (41 U.S.C. 701 *et seq.*, as amended)

A15.2 APPLICABILITY

The Drug-Free Workplace Act of 1988 requires some Federal contractors and *all* Federal grantees to agree that they will provide drug-free workplaces as a condition of receiving a contract or grant from a Federal agency. The Act does *not* apply to contractors, subcontractors, or subgrantees, although the Federal grantees workplace may be where the contractors, subcontractors, or subgrantees are working.

Contract Types – This provision applies to all AIP funded projects, but not to the contracts between the grantee (the sponsor) and a contractor, subcontractors, suppliers, or subgrantees.

Use of Provision – No mandatory or recommended text provided because the requirements do not extend beyond the sponsor level.

A15.3 CONTRACT CLAUSE

None.

A16 EQUAL EMPLOYMENT OPPORTUNITY (EEO)

A16.1 SOURCE

2 CFR 200, Appendix II(C)

41 CFR § 60-1.4

41 CFR § 60-4.3

Executive Order 11246

A16.2 APPLICABILITY

The purpose of this provision is to provide equal opportunity for all persons, without regard to race, color, religion, sex, or national origin who are employed or seeking employment with contractors performing under a federally assisted construction contract. There are two provisions — a construction clause and a specification clause.

The equal opportunity contract clause must be included in any contract or subcontract when the amount exceeds \$10,000. Once the equal opportunity clause is determined to be applicable, the contract or subcontract must include the clause for the remainder of the year, regardless of the amount or the contract.

Contract Types –

Construction – The sponsor must incorporate contract and specification language in all construction contracts and subcontracts as required above.

Equipment – The sponsor must incorporate contract and specification language into all equipment contracts as required above that involves installation of equipment onsite (e.g. electrical vault equipment). This provision does not apply to equipment acquisition projects where the manufacture of the equipment takes place offsite at the vendor plant (e.g. ARFF and SRE vehicles).

Professional Services – The sponsor must include contract and specification language into all professional service agreements as required above.

Property – The sponsor must include contract and specification language into all land acquisition projects that include work that qualifies as construction work as defined by 41 CFR part 60 as required above. An example is installation of boundary fencing.

Use of Provision – MANDATORY TEXT. 41 CFR § 60-1.4 provides the mandatory *contract* language. 41 CFR § 60-4.3 provides the mandatory *specification* language. The sponsor must incorporate these clauses without modification.

A16.3 MANDATORY CONTRACT CLAUSE

A16.3.1 EEO Contract Clause

EQUAL OPPORTUNITY CLAUSE

During the performance of this contract, 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 it has a collective bargaining agreement or other contract 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 contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts 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 subcontract 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 subcontract 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.

A16.3.2 EEO Specification

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS

1. As used in these specifications:

- a. “Covered area” means the geographical area described in the solicitation from which this contract resulted;
- b. “Director” means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;
- c. “Employer identification number” means the Federal social security number used on the Employer’s Quarterly Federal Tax Return, U.S. Treasury Department Form 941;
- d. “Minority” includes:
 - (1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
 - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR part 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor’s or subcontractor’s failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in

which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the Contractor has a collective bargaining agreement to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the Contractor during the training period and the Contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:

- a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
- b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
- c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the Contractor may have taken.
- d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or female sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions, including specific review of these items, with onsite supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other contractors and subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and

employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the Contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally), the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the

implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR part 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g. those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

A17 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

A17.1 SOURCE

29 USC § 201, et seq

A17.2 APPLICABILITY

The U.S. Department of Labor (DOL) Wage and Hour Division administers the Fair Labor Standards Act (FLSA). This act prescribes federal standards for basic minimum wage, overtime pay, record keeping, and child labor standards.

Contract Types – Per the Department of Labor, all employees of certain enterprises having workers engaged in interstate commerce; producing goods for interstate commerce; or handling, selling, or otherwise working on goods or materials that have been moved in or produced for such commerce by any person are covered by the FLSA.

All consultants, sub-consultants, contractors, and subcontractors employed under this federally assisted project must comply with the FLSA.

Professional Services – 29 CFR § 213 exempts employees in a bona fide executive, administrative or professional capacity. Because professional firms employ individuals that are not covered by this exemption, the sponsor's agreement with a professional services firm must include the FLSA provision.

Use of Provision – No mandatory text provided. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of 29 USC § 201. The sponsor must select *contractor* or *consultant*, as appropriate for the contract.

A17.3 SOLICITATION CLAUSE

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part-time workers.

The [*Contractor* | *Consultant*] has full responsibility to monitor compliance to the referenced statute or regulation. The [*Contractor* | *Consultant*] must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

A18 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

A18.1 SOURCE

31 USC § 1352 – Byrd Anti-Lobbying Amendment

2 CFR part 200, Appendix II(J)

49 CFR part 20, Appendix A

A18.2 APPLICABILITY

Consultants and contractors that apply or bid for an award of \$100,000 or more must certify 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 another award covered by 31 USC 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award.

Contract Types – The sponsor must incorporate this provision into all contracts exceeding \$100,000.

Use of Provision – MANDATORY TEXT. Appendix A to 49 CFR Part 20 prescribes language the sponsor must use. The sponsor must incorporate this provision without modification.

A18.3 CONTRACT CLAUSE

CERTIFICATION REGARDING LOBBYING

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 contract, 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 subcontracts, subgrants, 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.

A19 PROHIBITION of SEGREGATED FACILITIES

A19.1 SOURCE

41 CFR § 60

A19.2 APPLICABILITY

The contractor must comply with the requirements of the EEO clause by ensuring that facilities they provide for employees are free of segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin. This clause must be included in all contracts that include the equal opportunity clause, regardless of the amount of the contract.

Contract Types – AIP sponsors must incorporate the Prohibition of Segregated Facilities clause in any contract containing the Equal Employment Opportunity clause of 41 CFR §60.1. This obligation flows down to subcontract and sub-tier purchase orders containing the Equal Employment Opportunity clause.

Construction – Construction work means construction, rehabilitation, alteration, conversion, extension, demolition or repair of buildings, highways, or other changes or improvements to real property, including facilities providing utility services. The term also includes the supervision, inspection, and other onsite functions incidental to the actual construction.

Equipment – On site installation of equipment such as airfield lighting control equipment meets the definition of construction and thus this provision would apply. This provision does not apply to equipment projects involving manufacture of the item at a vendor's manufacturing plant. An example would be the manufacture of a SRE or ARFF vehicle.

Professional Services – Professional services that include tasks that qualify as construction work as defined by 41 CFR part 60. Examples include the installation of noise monitoring equipment.

Property/Land – Land acquisition contracts that include tasks that qualify as construction work as defined by 41 CFR part 60. Examples include demolition of structures or installation of boundary fencing.

Use of Provision – No mandatory text provided. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of 41 CFR § 60.

A19.3 CONTRACT CLAUSE

PROHIBITION OF SEGREGATED FACILITIES

(a) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Employment Opportunity clause in this contract.

(b) "Segregated facilities," as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing

facilities provided for employees that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Employment Opportunity clause of this contract.

A20 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970**A20.1 SOURCE**

29 CFR part 1910

A20.2 APPLICABILITY

Contract Types – All contracts and subcontracts must comply with the Occupational Safety and Health Act of 1970 (OSH). The U.S. Department of Labor Occupational Safety and Health Administration (OSHA) oversees the workplace health and safety standards wage provisions from OSH.

Use of Provision – No mandatory text provided. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of 20 CFR part 1910.

A20.3 CONTRACT CLAUSE

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. The employer must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The employer retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (20 CFR Part 1910). The employer must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

A21 PROCUREMENT OF RECOVERED MATERIALS

A21.1 SOURCE

2 CFR § 200.322

40 CFR part 247

Solid Waste Disposal Act

A21.2 APPLICABILITY

Sponsors of AIP funded development and equipment projects must comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. Section 6002 emphasizes maximizing energy and resource recovery through use of affirmative procurement actions for recovered materials identified in the Environmental Protection Agency (EPA) guidelines codified at 40 CFR part 247. When acquiring items designated in the guidelines, the sponsor must procure items that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition.

Contract Types – This provision applies to any contracts that include procurement of products designated in subpart B of 40 CFR part 247 where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired by the preceding fiscal year exceeded \$10,000.

Construction and Equipment – Include this provision in all construction and equipment projects.

Professional Services and Property – Include this provision if the agreement includes procurement of a product that exceeds \$10,000.

Use of Provision – No mandatory text provided. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of 2 CFR § 200.

A21.3 CONTRACT CLAUSE

PROCUREMENT OF RECOVERED MATERIALS

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

- 1) The contract requires procurement of \$10,000 or more of a designated item during the fiscal year; or
- 2) The contractor has procured \$10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products.

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

- a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
- b) Fails to meet reasonable contract performance requirements; or
- c) Is only available at an unreasonable price.

A22 RIGHT TO INVENTIONS

A22.1 SOURCE

2 CFR § 200, Appendix II(F)

37 CFR §401

A22.2 APPLICABILITY

Contract Types – This provision applies to all contracts and subcontracts with small business firms or nonprofit organizations that include performance of *experimental, developmental, or research work*. This clause is not applicable to construction, equipment, or professional service contracts unless the contract includes *experimental, developmental, or research work*.

Use of Provision – No mandatory text provided. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of Appendix II to 2 CFR part 200.

A22.3 CONTRACT CLAUSE

RIGHTS TO INVENTIONS

Contracts or agreements that include the performance of experimental, developmental, or research work must provide for the rights of the Federal Government and the Owner in any resulting invention as established by 37 CFR part 401, Rights to Inventions Made by Non-profit Organizations and Small Business Firms under Government Grants, Contracts, and Cooperative Agreements. This contract incorporates by reference the patent and inventions rights as specified within 37 CFR §401.14. Contractor must include this requirement in all sub-tier contracts involving experimental, developmental, or research work.

A23 SEISMIC SAFETY

A23.1 SOURCE

49 CFR part 41

A23.2 APPLICABILITY

Contract Types – This provision applies to construction of new buildings and additions to existing buildings financed in whole or in part through the Airport Improvement Program.

Professional Services– Sponsor must incorporate this clause in any contract involved in the construction of new buildings or structural addition to existing buildings.

Construction – Sponsor must incorporate this clause in any contract involved in the construction of new buildings or structural addition to existing buildings.

Equipment – Sponsor must include the construction provision if the project involves construction or structural addition to a building such as an electrical vault project to accommodate or install equipment.

Land – This provision will not typically apply to a property/land project.

Use of Provision – No mandatory text provided. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor’s language must fully satisfy the requirements of 49 CFR part 41.

A23.3 CONTRACT CLAUSE

A23.3.1 Professional Service Agreements for Design

SEISMIC SAFETY

In the performance of design services, the Consultant agrees to furnish a building design and associated construction specification that conform to a building code standard that provides a level of seismic safety substantially equivalent to standards as established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their building code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety.

At the conclusion of the design services, the Consultant agrees to furnish the Owner a “certification of compliance” that attests conformance of the building design and the construction specifications with the seismic standards of NEHRP or an equivalent building code.

A23.3.2 Construction Contracts

SEISMIC SAFETY

The Contractor agrees to ensure that all work performed under this contract, including work performed by subcontractors, conforms to a building code standard that provides a level of seismic safety substantially equivalent to standards established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety.

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A24 TAX DELINQUENCY AND FELONY CONVICTIONS

A24.1 SOURCE

Sections 415 and 416 of Title IV, Division L of the Consolidated Appropriations Act, 2014 (Pub. L. 113-76), and similar provisions in subsequent appropriations acts.

DOT Order 4200.6 - Requirements for Procurement and Non-Procurement Regarding Tax Delinquency and Felony Convictions

A24.2 APPLICABILITY

The sponsor must ensure that no funding goes to any contractor who:

- Has been convicted of a Federal felony within the last 24 months; or
- Has any outstanding tax liability for which all judicial and administrative remedies have lapsed or been exhausted.

Contract Types – This provision applies to all contracts funded in whole or part with AIP.

Use of Provision – The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of DOT Order 4200.6.

A24.3 CONTRACT CLAUSE

CERTIFICATION OF OFFERER/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

The applicant must complete the following two certification statements. The applicant must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (✓) in the space following the applicable response. The applicant agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications

- 1) The applicant represents that it is () is not () a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.
- 2) The applicant represents that it is () is not () is not a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify

the FAA Airports District Office, which will then notify the agency's SDO to facilitate completion of the required considerations before award decisions are made.

Term Definitions

Felony conviction: Felony conviction means a conviction within the preceding twentyfour (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 U.S.C. § 3559.

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

A25 TERMINATION OF CONTRACT

A25.1 SOURCE

2 CFR § 200 Appendix II(B)

FAA Advisory Circular 150/5370-10, Section 80-09

A25.2 APPLICABILITY

Contract Types – All contracts and subcontracts in excess of \$10,000 must address *termination for cause* and *termination for convenience* by the sponsor. The provision must address the manner (i.e. notice, opportunity to cure, and effective date) by which the sponsor's contract will be affected and the basis for settlement (i.e. incurred expenses, completed work, profit, etc.).

Use of Provision –

Termination for Default – **MANDATORY TEXT.** Section 80-09 of FAA Advisory Circular 150/5370-10 establishes standard language for Termination for Default under a construction contract. The sponsor must not make any changes to this standard language.

Termination for Convenience – No mandatory text provided. The sponsor must include a clause for termination for convenience. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of Appendix II to 2 CFR part 200.

Equipment, Professional Services, and Property – No mandatory text provided. The sponsor may use their established clause language provided that it adequately addresses the intent of Appendix II(B) to Part 200, which addresses termination for fault and for convenience.

A25.3 CONTRACT CLAUSE

A25.3.1 Termination for Convenience

TERMINATION FOR CONVENIENCE (CONSTRUCTION & EQUIPMENT CONTRACTS)

The Owner may terminate this contract in whole or in part at any time by providing written notice to the Contractor. Such action may be without cause and without prejudice to any other right or remedy of Owner. Upon receipt of a written notice of termination, except as explicitly directed by the Owner, the Contractor shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

1. Contractor must immediately discontinue work as specified in the written notice.
2. Terminate all subcontracts to the extent they relate to the work terminated under the notice.
3. Discontinue orders for materials and services except as directed by the written notice.
4. Deliver to the Owner all fabricated and partially fabricated parts, completed and partially completed work, supplies, equipment and materials acquired prior to termination of the work, and as directed in the written notice.
5. Complete performance of the work not terminated by the notice.

6. Take action as directed by the Owner to protect and preserve property and work related to this contract that Owner will take possession.

Owner agrees to pay Contractor for:

- 1) completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;
- 2) documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;
- 3) reasonable and substantiated claims, costs, and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and
- 4) reasonable and substantiated expenses to the Contractor directly attributable to Owner's termination action.

Owner will not pay Contractor for loss of anticipated profits or revenue or other economic loss arising out of or resulting from the Owner's termination action.

The rights and remedies this clause provides are in addition to any other rights and remedies provided by law or under this contract.

TERMINATION FOR CONVENIENCE (PROFESSIONAL SERVICES)

The Owner may, by written notice to the Consultant, terminate this Agreement for its convenience and without cause or default on the part of Consultant. Upon receipt of the notice of termination, except as explicitly directed by the Owner, the Contractor must immediately discontinue all services affected.

Upon termination of the Agreement, the Consultant must deliver to the Owner all data, surveys, models, drawings, specifications, reports, maps, photographs, estimates, summaries, and other documents and materials prepared by the Engineer under this contract, whether complete or partially complete.

Owner agrees to make just and equitable compensation to the Consultant for satisfactory work completed up through the date the Consultant receives the termination notice. Compensation will not include anticipated profit on non-performed services.

Owner further agrees to hold Consultant harmless for errors or omissions in documents that are incomplete as a result of the termination action under this clause.

A25.3.2 Termination for Default

TERMINATION FOR DEFAULT (CONSTRUCTION)

Section 80-09 of FAA Advisory Circular 150/5370-10 establishes conditions, rights, and remedies associated with Owner termination of this contract due to default of the Contractor.

TERMINATION FOR DEFAULT (EQUIPMENT)

The Owner may, by written notice of default to the Contractor, terminate all or part of this Contract if the Contractor:

1. Fails to commence the Work under the Contract within the time specified in the Notice- to-Proceed;

2. Fails to make adequate progress as to endanger performance of this Contract in accordance with its terms;
3. Fails to make delivery of the equipment within the time specified in the Contract, including any Owner approved extensions;
4. Fails to comply with material provisions of the Contract;
5. Submits certifications made under the Contract and as part of their proposal that include false or fraudulent statements; or
6. Becomes insolvent or declares bankruptcy.

If one or more of the stated events occur, the Owner will give notice in writing to the Contractor and Surety of its intent to terminate the contract for cause. At the Owner's discretion, the notice may allow the Contractor and Surety an opportunity to cure the breach or default.

If within [10] days of the receipt of notice, the Contractor or Surety fails to remedy the breach or default to the satisfaction of the Owner, the Owner has authority to acquire equipment by other procurement action. The Contractor will be liable to the Owner for any excess costs the Owner incurs for acquiring such similar equipment.

Payment for completed equipment delivered to and accepted by the Owner shall be at the Contract price. The Owner may withhold from amounts otherwise due the Contractor for such completed equipment, such sum as the Owner determines to be necessary to protect the Owner against loss because of Contractor default.

Owner will not terminate the Contractor's right to proceed with the Work under this clause if the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such acceptable causes include: acts of God, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, and severe weather events that substantially exceed normal conditions for the location.

If, after termination of the Contractor's right to proceed, the Owner determines that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the Owner issued the termination for the convenience the Owner.

The rights and remedies of the Owner in this clause are in addition to any other rights and remedies provided by law or under this contract.

TERMINATION FOR DEFAULT (PROFESSIONAL SERVICES)

Either party may terminate this Agreement for cause if the other party fails to fulfill its obligations that are essential to the completion of the work per the terms and conditions of the Agreement. The party initiating the termination action must allow the breaching party an opportunity to dispute or cure the breach.

The terminating party must provide the breaching party [7] days advance written notice of its intent to terminate the Agreement. The notice must specify the nature and extent of the breach, the conditions necessary to cure the breach, and the effective date of the termination action. The rights and remedies in this clause are in addition to any other rights and remedies provided by law or under this agreement.

- a) **Termination by Owner:** The Owner may terminate this Agreement in whole or in part, for the failure of the Consultant to:
1. Perform the services within the time specified in this contract or by Owner approved extension;
 2. Make adequate progress so as to endanger satisfactory performance of the Project; or
 3. Fulfill the obligations of the Agreement that are essential to the completion of the Project.

Upon receipt of the notice of termination, the Consultant must immediately discontinue all services affected unless the notice directs otherwise. Upon termination of the Agreement, the Consultant must deliver to the Owner all data, surveys, models, drawings, specifications, reports, maps, photographs, estimates, summaries, and other documents and materials prepared by the Engineer under this contract, whether complete or partially complete.

Owner agrees to make just and equitable compensation to the Consultant for satisfactory work completed up through the date the Consultant receives the termination notice. Compensation will not include anticipated profit on non-performed services.

Owner further agrees to hold Consultant harmless for errors or omissions in documents that are incomplete as a result of the termination action under this clause.

If, after finalization of the termination action, the Owner determines the Consultant was not in default of the Agreement, the rights and obligations of the parties shall be the same as if the Owner issued the termination for the convenience of the Owner.

- b) **Termination by Consultant:** The Consultant may terminate this Agreement in whole or in part, if the Owner:
1. Defaults on its obligations under this Agreement;
 2. Fails to make payment to the Consultant in accordance with the terms of this Agreement;
 3. Suspends the Project for more than [180] days due to reasons beyond the control of the Consultant.

Upon receipt of a notice of termination from the Consultant, Owner agrees to cooperate with Consultant for the purpose of terminating the agreement or portion thereof, by mutual consent. If Owner and Consultant cannot reach mutual agreement on the termination settlement, the Consultant may, without prejudice to any rights and remedies it may have, proceed with terminating all or parts of this Agreement based upon the Owner's breach of the contract.

In the event of termination due to Owner breach, the Engineer is entitled to invoice Owner and to receive full payment for all services performed or furnished in accordance with this Agreement and all justified reimbursable expenses incurred by the Consultant through the effective date of termination action. Owner agrees to hold Consultant harmless for errors or omissions in documents that are incomplete as a result of the termination action under this clause.

A26 TRADE RESTRICTION CERTIFICATION

A26.1 SOURCE

49 USC § 50104

49 CFR part 30

A26.2 APPLICABILITY

Unless waived by the Secretary of Transportation, sponsors may not use AIP funds on a product or service from a foreign country included in the current list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (USTR).

Contract Types – The trade restriction certification and clause applies to all AIP funded projects.

Use of Provision – **MANDATORY TEXT.** 49 CFR part 30 prescribes the language for this model clause. The sponsor must include this certification language in all contracts and subcontracts without modification.

A26.3 SOLICITATION CLAUSE

TRADE RESTRICTION CERTIFICATION

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror –

- 1) is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (USTR);
- 2) has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the USTR; and
- 3) has not entered into any subcontract for any product to be used on the Federal project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18 USC Section 1001.

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to an Offeror or subcontractor:

- 1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR or
- 2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list or
- 3) who incorporates in the public works project any product of a foreign country on such USTR list.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The Contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by USTR, unless the Offeror has knowledge that the certification is erroneous.

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration (FAA) may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

A27 VETERAN'S PREFERENCE**A27.1 SOURCE**

49 USC § 47112(c)

A27.2 APPLICABILITY

Contract Types – This provision applies to all AIP funded projects that involve labor to carry out the project. This preference, which excludes executive, administrative, and supervisory positions, applies to covered veterans (as defined under § 47112(c)) only when they are readily available and qualified to accomplish the work required by the project.

Use of Provision – No mandatory text provided. The following language is acceptable to the FAA and meets the intent of this requirement. If the sponsor uses different language, the sponsor's language must fully satisfy the requirements of 49 USC § 47112.

A27.3 CONTRACT CLAUSE**VETERAN'S PREFERENCE**

In the employment of labor (excluding executive, administrative, and supervisory positions), the Contractor and all sub-tier contractors must give preference to covered veterans as defined within Title 49 United States Code Section 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by 15 USC 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

APPENDIX B
MINIMUM WAGE RATES BY TRADE IN COVERED AREA

"General Decision Number: FL20210191 01/01/2021

Superseded General Decision Number: FL20200191

State: Florida

Construction Type: Highway

County: Volusia County in Florida.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded

(and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/01/2021

* ELEC0915-004 12/01/2020

	Rates	Fringes
ELECTRICIAN.....	\$ 30.84	40%+\$0.35

SUFL2013-052 08/19/2013

	Rates	Fringes
CARPENTER.....	\$ 15.68	0.00
CEMENT MASON/CONCRETE FINISHER, Includes Form Work.....	\$ 13.97	0.00
HIGHWAY/PARKING LOT STRIPING: Operator (Striping Machine).....	\$ 15.57	0.00
HIGHWAY/PARKING LOT STRIPING: Painter.....	\$ 12.13	0.00
IRONWORKER, ORNAMENTAL.....	\$ 13.48	0.00
IRONWORKER, REINFORCING.....	\$ 15.38	0.00
IRONWORKER, STRUCTURAL.....	\$ 16.42	0.00
LABORER (Traffic Control Specialist).....	\$ 11.36	0.00
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor.....	\$ 14.05	0.00
LABORER: Common or General.....	\$ 10.55	0.00
LABORER: Flagger.....	\$ 13.09	0.00

LABORER: Grade Checker.....	\$ 14.66	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 12.58	0.00
LABORER: Pipelayer.....	\$ 13.46	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 14.96	0.00
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 12.88	0.00
OPERATOR: Broom/Sweeper.....	\$ 12.91	0.00
OPERATOR: Bulldozer.....	\$ 15.23	0.00
OPERATOR: Concrete Finishing Machine.....	\$ 15.44	0.00
OPERATOR: Crane.....	\$ 22.04	0.00
OPERATOR: Curb Machine.....	\$ 18.45	0.00
OPERATOR: Drill.....	\$ 13.04	0.00
OPERATOR: Forklift.....	\$ 10.43	0.00
OPERATOR: Gradall.....	\$ 14.71	0.00
OPERATOR: Grader/Blade.....	\$ 18.20	0.00
OPERATOR: Loader.....	\$ 14.01	0.00
OPERATOR: Mechanic.....	\$ 17.52	0.00
OPERATOR: Milling Machine.....	\$ 15.63	0.00
OPERATOR: Oiler.....	\$ 16.67	0.00
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 14.88	0.00

OPERATOR: Piledriver.....	\$ 17.23	0.00
OPERATOR: Post Driver (Guardrail/Fences).....	\$ 15.97	0.00
OPERATOR: Roller.....	\$ 13.01	0.00
OPERATOR: Scraper.....	\$ 12.21	0.00
OPERATOR: Screed.....	\$ 14.66	0.00
OPERATOR: Trencher.....	\$ 14.25	0.00
PAINTER: Spray.....	\$ 19.57	0.00
TRAFFIC SIGNALIZATION:		
Traffic Signal Installation.....	\$ 14.25	0.00
TRUCK DRIVER: Dump Truck.....	\$ 12.28	0.00
TRUCK DRIVER: Flatbed Truck.....	\$ 14.28	0.00
TRUCK DRIVER: Lowboy Truck.....	\$ 16.25	0.00
TRUCK DRIVER: Slurry Truck.....	\$ 11.96	0.00
TRUCK DRIVER: Water Truck.....	\$ 13.57	0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including

preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that

no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====
END OF GENERAL DECISION"

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Taxiway Bravo & Taxiway Delta Rehabilitation Projects





CITY OF ORMOND BEACH

City Manager • 22 S. Beach Street • Ormond Beach • Florida • 32174 • (386) 676-3200 • Fax (386) 676-3384

CITY MANAGER MEMORANDUM

To: The Honorable Mayor Partington and City Commissioners

Through: Joyce A. Shanahan, City Manager

From: Steven Spraker, Planning Director

Date: April 6, 2021

Subject: Right-of-way vacation - 5 foot portion of Flagler Road (1480 N US HWY 1)

Commission Goal: Community Development - Other

Introduction

This is a request by Jeff Gross, Gross Family Properties NG, LLC, for approval of a partial right-of-way (ROW) vacation of Flagler Road, containing approximately 1,950 square feet or 0.05 acres. The request seeks to vacate a five (5') foot portion of the unimproved sixty (60') foot Flagler Road Right-of-Way. The Notice of Intent Resolution for the partial right-of-way vacation was approved on March 16, 2021.

Background

The city has received a site plan application for the property at 1480 North U.S. Highway 1. The site plan seeks to construct a 16,852 square foot building, a 2,566 square foot garden center, and associated site improvements for Ace Hardware. As part of the site development, there are portions of two (2) rights-of-way that are sought for vacation. Each right-of-way vacation is being presented independently. Action on the right-of-way vacations does not obligate any additional action on the site plan that must meet the applicable portions of the Comprehensive Plan and Land Development Code.

The key consideration for street vacations is whether the platted right-of-way has a public use function, such as roads, utilities, or corridors for public utilities such as the power, telephone, or cable companies (attached). The plat for the land area under consideration was adopted on May 26, 1926. It is important to note that for plat dedications for public roads, the government does not own or have fee simple title to the dedicated property and cannot sell or barter it away as a condition of vacating it. The sole criterion for vacating a street right-of-way is the function for public use.

Discussion

As part of the application, the applicant has secured letters of no objection to the vacation from all franchise utilities, including Florida Power & Light (FPL),

Brighthouse/Spectrum, Teco Gas, and AT&T. The city Site Plan Review Committee, including the Utilities Division, has reviewed the request and has no objection to the request. The five (5') foot portion of Flagler Road is located abutting 1480 North U.S. Highway 1. In past applications, the city has approved right-of-way vacations designed to reduce the platted 60' Flagler Road right-of-way width to a 50' roadway width, consistent with the standard right-of-way way for a local street. The city Site Plan Review Committee has concluded that there is no public purpose of this section of Flagler Road.

Section 17-8 of the City Code of Ordinances details the process for a street right-of-way vacation (or partial vacation) as follows:

#	Approving Body	Action	Status
1.	Site Plan Review Committee	Provide evidence of no public use.	Completed on February 22, 2021. Determination of no public use.
2.	City Commission	Resolution - Notice of Intent to vacate.	Completed March 16, 2021
3.	City Commission	Ordinance for partial street vacation.	April 6, 2021 and April 20, 2021

In summary, the Site Plan Review Committee has reviewed the platted right-of-way and determined that there is no public purpose to maintaining the portion of Flagler Road sought for vacation.

Budget Impact

The current platted Flagler Road is not improved and there are no budget impacts of this request.

Citizen Impact

As stated earlier, the city does not own or have fee simple title to Flagler Road. The right-of-way was designed as part of the 1926 plat. The needed right-of-width for a local street is fifty (50') feet. The city has allowed abutting property owners in past applications to vacate five (5') feet on each side of the roadway to reduce the Flagler Road right-of-way to fifty (50') feet. It is not expected that the right-of-way would have a negative citizen impact.

Recommendation

It is recommended that the City Commission **APPROVE** the attached Ordinance for the partial right-of-way vacation of Flagler Road, containing approximately 1,950 square feet or 0.05 acres; based on the determination that the subject area has no current or future public use.

Attachments:

- 21-11 1480 N US 1-5ft Portion-Right of Way Vacation (P21-0030G) (PDF)
- Exhibit A - 5 FT Flagler ROW Sketch & Legal (PDF)
- Utility letters combined (PDF)
- Site plan submitted for 1480 North U.S. Highway 1 (PDF)

REVIEWED BY:


Kelly McGuire, Finance Director 3/8/2021


Claire Whitley, Assistant City Manager 3/29/2021

APPROVED BY:


Joyce A. Shanahan, City Manager 3/31/2021

ORDINANCE NO. 2021-11

AN ORDINANCE VACATING A PORTION OF FLAGLER ROAD, ABUTTING 1480 NORTH U.S. HIGHWAY 1; REPEALING ALL INCONSISTENT ORDINANCES OR PARTS THEREOF; PROVIDING FOR RECORDATION AND TRANSMITTAL; AND SETTING FORTH AN EFFECTIVE DATE.

WHEREAS, the City Commission of the City of Ormond Beach, Florida, did on March 16, 2021 adopt Resolution No. 2021-63, declaring its intention to consider adopting an ordinance vacating five (5') feet, approximately 1,950 square feet or 0.05 acre, portion of Flagler Road, a sixty (60') foot unimproved right-of-way abutting 1480 North U.S. Highway 1, Volusia County parcel number 3136-01-59-0010, being more particularly described and depicted in Exhibit "A" attached hereto and incorporated herein by reference, and

WHEREAS, the platted portion of the right-of-way to be vacated has never been constructed or used for right-of-way purposes, and

WHEREAS, the owners of all of the property that abuts the aforescribed portion of the said street affected by the proposed vacation, which owners are residents of the State of Florida, have been served with a copy of the aforesaid Resolution or have filed their waiver of the requirement of service thereof, and a copy of the aforesaid Resolution has been published once in a newspaper of general circulation in the City of Ormond Beach, Florida, and proof of publication thereof has been filed with the City, and

WHEREAS, based on the evidence presented at the public hearing, and based upon common knowledge of the area in question, the City Commission hereby finds that the subject vacation is in the overall public interest, now therefore,

BE IT ENACTED BY THE PEOPLE OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:

SECTION ONE. That portion of Flagler Road right-of-way abutting 1480 North U.S. Highway 1, Volusia County parcel number 3136-01-59-0010, to wit: the southwesterly five feet of Flagler Road, being more particularly described and depicted in Exhibit “A” attached hereto and incorporated herein by reference, is hereby vacated and forever freed of all rights of the public.

SECTION TWO. The said portion of Flagler Road right-of-way described and depicted in Exhibit “A” be and the same is hereby vacated, closed and abandoned as a right-of-way, and said property is hereby released and discharged of any and every public right, use, title and interest of the City of Ormond Beach, for right-of-way purposes and that said property shall revert to the abutting owner, if any.

SECTION THREE. The City Clerk is hereby directed to record a certified copy of this Ordinance in the public records of Volusia County, Florida.

SECTION FOUR. The City Clerk is further directed to transmit the recorded Ordinance to the Volusia County Property Appraiser.

SECTION FIVE. All Ordinances or parts of Ordinances in conflict herewith are hereby repealed to the extent of such conflict.

SECTION SIX. This Ordinance shall take effect immediately upon its adoption.

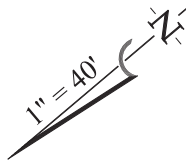
PASSED UPON at the first reading of the City Commission, this 6th day of April, 2021.

PASSED UPON, at the second and final reading of the City Commission, this 20th day of April, 2021.

BILL PARTINGTON
Mayor

ATTEST:

KATE SETTLE
City Clerk

**LEGAL DESCRIPTION:**

THE NORTHEASTERLY 5 FEET OF FLAGLER ROAD (A 60 FOOT RIGHT-OF-WAY AS PER PLAT), LYING SOUTHWESTERLY OF BLOCK 59, GOWER STREET AND FLAGLER ROAD (BOTH BEING 60 FOOT RIGHT-OF-WAY AS PER PLAT), NATIONAL GARDENS SUBDIVISION, AS RECORDED IN MAP BOOK 10, PAGE(S) 250-253, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA. BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT AN INTERSECTION POINT OF THE SOUTHEASTERLY RIGHT-OF-WAY LINE OF GOWER STREET (60 FOOT RIGHT-WAY), THE NORTHEASTERLY RIGHT-OF-WAY OF FLAGLER ROAD (A 60 FOOT RIGHT-OF-WAY AS PER PLAT), SAID POINT BEING THE NORTHWESTERLY CORNER OF LOT 12 PER SAID NATIONAL GARDENS SUBDIVISION; THENCE RUN SOUTH 49 DEGREES 51 MINUTES 35 SECONDS EAST ALONG THE SAID NORTHEASTERLY RIGHT-OF-WAY OF FLAGLER AVENUE A DISTANCE OF 390.00 FEET TO A INTERSECTION POINT ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF MAGNOLIA STREET (A 60 FOOT RIGHT-OF-WAY AS PER PLAT); THENCE DEPARTING SAID RIGHT-OF-WAY LINE SOUTH 40 DEGREES 08 MINUTES 25 SECONDS WEST, A DISTANCE OF 5.00 FEET; THENCE PARALLEL WITH SAID NORTHEASTERLY RIGHT-OF-WAY LINE OF SAID FLAGLER ROAD NORTH 49 DEGREES 51 MINUTES 35 SECONDS WEST, A DISTANCE OF 390.00 FEET TO A POINT ON THE AFORSAID GOWER STREET SOUTHEASTERLY RIGHT-OF-WAY LINE EXTENSION; THENCE NORTH 40 DEGREES 08 MINUTES 25 SECONDS EAST ALONG SAID EXTENSION LINE, A DISTANCE OF 5.00 FEET TO THE POINT OF BEGINNING.

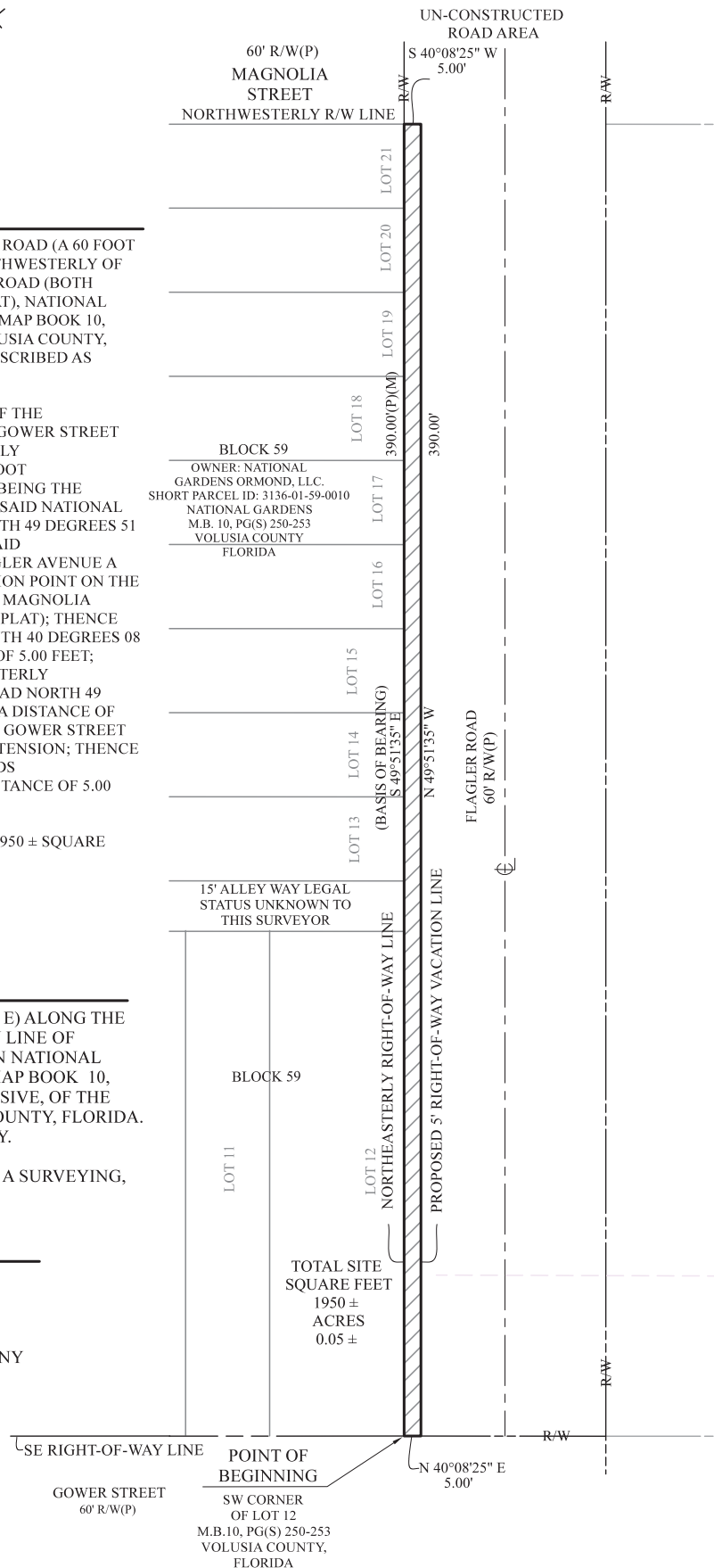
THE ABOVE DESCRIBED LAND CONTAINS 1950 ± SQUARE FEET OR 0.05 ACRES MORE OR LESS.

GENERAL NOTES:

1. BEARING STRUCTURE (S 49°51'53" E) ALONG THE NORTHEASTERLY RIGHT-OF-WAY LINE OF FLAGLER ROAD, AS RECORDED IN NATIONAL GARDENS SUBDIVISION AS PER MAP BOOK 10, PAGE(S) 250 THROUGH 253, INCLUSIVE, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA. FOR ANGLE MEASUREMENT ONLY.
2. LEGAL DESCRIPTION NEW PER A1A SURVEYING, INC.

LEGEND:

FD	FOUND
FL	FLORIDA
LB	LICENSED BUSINESS
LC	LICENSED CORPORATION
LLC	LIMITED LIABILITY COMPANY
LS	LICENSED SURVEYOR
NO.	NUMBER
OWB	OFFICE WORK BY
(P)	PLAT
(M)	MEASURED
M.B.	MAP BOOK
PG(S)	PAGES
R/W	RIGHT-OF-WAY
±	PLUS OR MINUS
CL	CENTERLINE

**THIS IS NOT A SURVEY**

REVISED DESCRIPTION 02/10/2021 KB
RIGHT-OF-WAY VACATION

THE FOREGOING PLAT IS CERTIFIED TO MEET THE STANDARDS OF PRACTICE SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS AS PER CHAPTER 5J17-6, FLORIDA ADMINISTRATIVE CODE, AS PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

David McMillen
David McMillen
NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER. 05-31-2019

OWB: BR
DATE: 05-30-2019
MAP SUBJECT: 1480 N. U.S. HWY 1 Ormond Beach
SCALE: 1" = 40'

TYPE OF SURVEY:
SKETCH AND DESCRIPTION
R/W
VACATION

A1A
SURVEYING
LAND SURVEYING CONSTRUCTION LAYOUT
244 Ridgewood Avenue, Daytona Beach, Florida 32117
Phone: 386.405.6797

LB # 8205

LS # 6378



January 25, 2021

Newkirk Engineering, INC.
1230 N US HWY 1
Suite 3
Ormond Beach, FL 32174

Re: ACE Hardware
1480 N US HWY 1: Ormond Beach, FL
ROW Vacationing

Dear Shamus Schroeder:

This letter is in response to a request submitted to AT&T, Inc. to vacate 5 FT of the ROW of Flagler Rd east of Gower St along the property line of the new ACE Hardware Store at 1480 N US HWY 1 in Volusia County Florida.

Please accept this letter as a notification that AT&T, Inc. has no objection to the vacationing of ROW referenced above.

If you have any questions regarding this response, please contact me at 386-281-6962.

Regards,

Thanks,

Nathan Stephenson

MGR OSP PLNG & ENGRG DESIGN, Wireline Access
Southeast , Florida Engineering
GEO Palm Coast, Bunnell, Flagler Beach, Ocean Shores & Ormond Beach

AT&T

268 Ridgewood Av, Daytona Beach, FL 32114
o 386-281-6962 c 386-212-5035 | ns6520@att.com

MOBILIZING YOUR WORLD



Stacy Stafford
Supervisor, Construction
Field Ops

December 23, 2020

Shamus Schroder
Newkirk Engineering, Inc

RE: Ace Hardware
1480 North U.S. Highway 1
Ormond Beach Fl. 32174
Parcel ID#:313601590010

To Whom It May Concern:

This letter is in response to a request to Charter Communications - Spectrum to vacate the above referenced "Easements" which is also described in the attached survey map.

Spectrum has "no objection" to the vacation of the utility easement of the above mentioned property as described in the attached "Exhibit A" and survey map.

If you have any questions regarding this, please contact me.

Sincerely,

A handwritten signature in blue ink that reads "Stacy R. Stafford".

Stacy R. Stafford
Charter Spectrum
Construction Supervisor
(407) 532-8614



February 4, 2021

Shamus Schroeder
Ace Hardware
1480 N US Highway 1
Ormond Beach FL, 32174

Re: No objection to the partial release of our rights in the Platted Utility Easement
Short Parcel ID 3136-01-59-0010, The Public Records of Volusia County
Map Book 10, Pages 250 through 253.

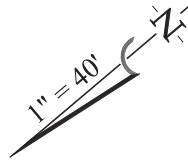
Please be advised that FPL does not object to the partial vacation of the utility easement as follows: the southwesterly 5 feet of Flagler RD as shown in the attached Exhibit A.

If you have any questions regarding this matter, please contact Nicholas Rockefeller, FPL's local representative at 386-586-6476.

Thank you,

A handwritten signature in blue ink, appearing to read "J. Zehnder", is written over a horizontal line.

Joshua Zehnder
Engineering Lead

**LEGAL DESCRIPTION:**

THE NORTHEASTERLY 5 FEET OF FLAGLER ROAD (A 60 FOOT RIGHT-OF-WAY AS PER PLAT), LYING SOUTHWESTERLY OF BLOCK 59, GOWER STREET AND FLAGLER ROAD (BOTH BEING 60 FOOT RIGHT-OF-WAY AS PER PLAT), NATIONAL GARDENS SUBDIVISION, AS RECORDED IN MAP BOOK 10, PAGE(S) 250-253, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA. BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT AN INTERSECTION POINT OF THE SOUTHEASTERLY RIGHT-OF-WAY LINE OF GOWER STREET (60 FOOT RIGHT-WAY), THE NORTHEASTERLY RIGHT-OF-WAY OF FLAGLER ROAD (A 60 FOOT RIGHT-OF-WAY AS PER PLAT), SAID POINT BEING THE NORTHWESTERLY CORNER OF LOT 12 PER SAID NATIONAL GARDENS SUBDIVISION; THENCE RUN SOUTH 49 DEGREES 51 MINUTES 35 SECONDS EAST ALONG THE SAID NORTHEASTERLY RIGHT-OF-WAY OF FLAGLER AVENUE A DISTANCE OF 390.00 FEET TO A INTERSECTION POINT ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF MAGNOLIA STREET (A 60 FOOT RIGHT-OF-WAY AS PER PLAT); THENCE DEPARTING SAID RIGHT-OF-WAY LINE SOUTH 40 DEGREES 08 MINUTES 25 SECONDS WEST, A DISTANCE OF 5.00 FEET; THENCE PARALLEL WITH SAID NORTHEASTERLY RIGHT-OF-WAY LINE OF SAID FLAGLER ROAD NORTH 49 DEGREES 51 MINUTES 35 SECONDS WEST, A DISTANCE OF 390.00 FEET TO A POINT ON THE AFORSAID GOWER STREET SOUTHEASTERLY RIGHT-OF-WAY LINE EXTENSION; THENCE NORTH 40 DEGREES 08 MINUTES 25 SECONDS EAST ALONG SAID EXTENSION LINE, A DISTANCE OF 5.00 FEET TO THE POINT OF BEGINNING.

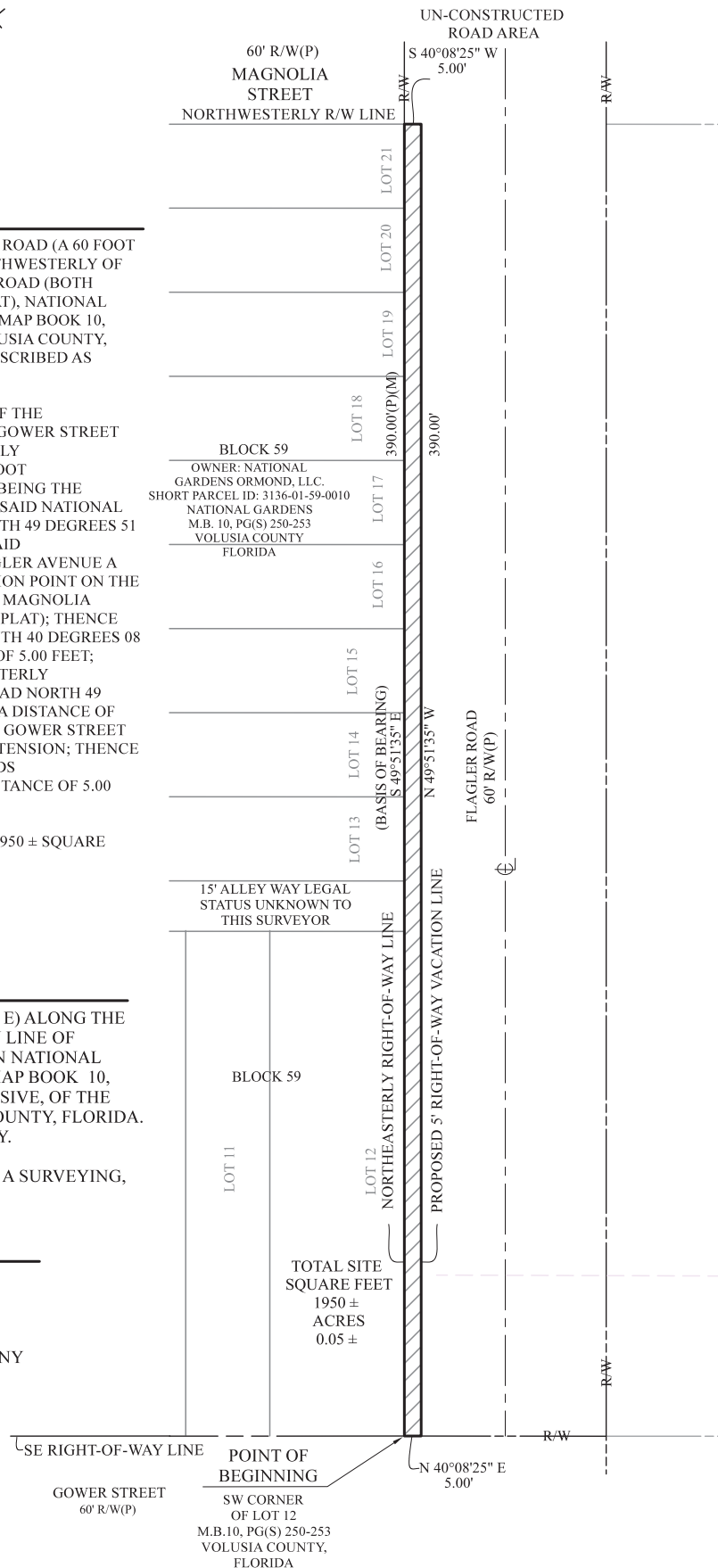
THE ABOVE DESCRIBED LAND CONTAINS 1950 ± SQUARE FEET OR 0.05 ACRES MORE OR LESS.

GENERAL NOTES:

1. BEARING STRUCTURE (S 49°51'53" E) ALONG THE NORTHEASTERLY RIGHT-OF-WAY LINE OF FLAGLER ROAD, AS RECORDED IN NATIONAL GARDENS SUBDIVISION AS PER MAP BOOK 10, PAGE(S) 250 THROUGH 253, INCLUSIVE, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA. FOR ANGLE MEASUREMENT ONLY.
2. LEGAL DESCRIPTION NEW PER A1A SURVEYING, INC.

LEGEND:

FD	FOUND
FL	FLORIDA
LB	LICENSED BUSINESS
LC	LICENSED CORPORATION
LLC	LIMITED LIABILITY COMPANY
LS	LICENSED SURVEYOR
NO.	NUMBER
OWB	OFFICE WORK BY
(P)	PLAT
(M)	MEASURED
M.B.	MAP BOOK
PG(S)	PAGES
R/W	RIGHT-OF-WAY
±	PLUS OR MINUS
CL	CENTERLINE

**THIS IS NOT A SURVEY**

REVISED DESCRIPTION 02/10/2021 KB
RIGHT-OF-WAY VACATION

THE FOREGOING PLAT IS CERTIFIED TO MEET THE STANDARDS OF PRACTICE SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS AS PER CHAPTER 5J17-6, FLORIDA ADMINISTRATIVE CODE, AS PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

David McMillen
 David McMillen
 NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER. 05-31-2019

OWB: BR
 DATE: 05-30-2019
 MAP SUBJECT: 1480 N. U.S. HWY 1 Ormond Beach
 SCALE: 1" = 40'

TYPE OF SURVEY:
 SKETCH AND DESCRIPTION
 R/W
 VACATION

A1A
 SURVEYING
 LAND SURVEYING CONSTRUCTION LAYOUT
 244 Ridgewood Avenue, Daytona Beach, Florida 32117
 Phone: 386.405.6797

LB # 8205

LS

Packet Pg. 973



1/22/2021

To: Shamus Schroeder
Newkirk Engineering, Inc.
1230 N Us Hwy 1 Suite 3
Ormond Beach, FL 32174

RE: Vacate of Easement-5' of Flagler Road ROW along 1480 North US Hwy 1 South-west property line
1480 North US Highway 1
Ormond Beach, FL 32174

From: TECO Peoples Gas

To Whom It May Concern:

Thank you for contacting TECO Peoples Gas Company regarding the vacate of easement at the above referenced location. After reviewing the documents provided, TECO-PGS has NO objection to this request.

If you have further questions, please do not hesitate to call.

Sincerely,

Joan Domning
Administrative Specialist, Senior
Peoples Gas-Distribution Engineering
8416 Palm River Road
Tampa, FL 33619
Office: 813-275-3783

NORTH U.S. HIGHWAY 1
(160' R/W)(55 MPH)



1. PAINTED PAVEMENT MARKINGS SHALL BE APPLIED AFTER PAVEMENT SURFACE IS CURSED. SURFACE SHALL BE FREE OF ICE AND DEBRIS PRIOR TO APPLICATIONS.
2. APPLY PAINTED PAVEMENT MARKINGS AT LAST STAGE OF CONSTRUCTION AFTER LANDSCAPE PLANTINGS ARE INSTALLED.
3. PAINT SHALL BE SHERWIN WILLIAMS LOW-VOC ACRYLIC PRO GRAF PAIN, APPLY PER MANUFACTURER'S RECOMMENDATIONS. REFER TO DRAWINGS FOR LOCATION OF SPECIFIC COLORS.
4. ALL EFFECTIVE PAVEMENT MARKINGS ARE TO BE PLACED IN ACCORDANCE WITH FOOT STANDARD INDEX NO. 700-051.
5. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH MDOT NO. 12765 AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".
6. LOCATION OF SIGNS IS APPROXIMATE ONLY AND IS SUBJECT TO CHANGE AS DIRECTED BY THE ENGINEER.
7. FOR ADDITIONAL DETAILS SEE MDOT 700-010, 700-101, 17344 AND 710-01.
8. ALL TRAFFIC CONTROL SIGNS SHALL BE FABRICATED USING 36" MAND "SCOTCHITE" SHEETING (ENHANCED GRADE ON DENVER OR 48" ALUMINUM BOLL) 36" SIGNS SHALL BE 36" MINIMUM AND SHALL BE INSTALLED USING P132" ROUND ALUMINUM POST. ALL STOP SIGNS SHALL BE 36" OCTAGON INSTALLED ON 12.5 ILLIP" TYP CHANNEL POST. ALL YIELD SIGNS OR 12.5 ILLIP" CHANNEL POST. ALL CHANNEL POSTS MAY BE 36" OR 48" SIGNS SHALL BE 36" OR 48" SIGNS SHALL BE 36" OR 48"

1. CITY OF GROMBO BENCH PLACING PERMITS ARE REQUIRED FOR BUILDING, DAMPSTER ENCLOSURE, LIGHT POLES, SCREEN WALLS AND MONUMENT SIGNS. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPROPRIATE INFORMATION (ENGINEERING, SPECIFICATIONS, SHOP DRAWINGS, ETC.)
2. ALL DIMENSIONS AND TIES ARE TO BE EDE OF PAVEMENT AND OUTSIDE FACE OF BUILDING.
3. ALL IMPROVEMENTS SHALL BE STAKED FOR CONSTRUCTION BY MEANS OF DIGITAL COORDINATES BY SURVEYOR UTILIZING GEODETIC TOTAL STATION OR GPS. SCALING OF PLANS FOR PURPOSES OF STAKING ARE AT THE SURVEYOR'S RISK.
4. THE CONTRACTOR SHALL COORDINATE WITH THE EXISTING ADJACENT BUSINESSES TO ENSURE THERE IS NO DISRUPTION TO THEIR RESPECTIVE OPERATIONS.
5. THE CONTRACTOR AT ITS OWN DISCRETION SHALL MAINTAIN THE CONSTRUCTION SITE SECURE FROM TRAFFIC.
6. SODD ALL DISTURBED AREAS IN RIGHT-OF-WAY WITH BANKA SOD.
7. ALL CONSTRUCTION IN THE FOOT ROW SHALL CONFORM TO THE LATEST EDITIONS OF THE FOOT BEDDING STANDARDS (INDEXES), THE FOOT STANDARD SPECIFICATIONS FOR ROAD AND CONSTRUCTION, AND THE FOOT USES AT THE CONTRACTOR'S RISK.

ASPHALT PAVEMENT		1" SP-95 A-1 (FL) WITH TACK COAT PER FOOT SPECIFICATIONS 6" CRUSHED CURBED PROCTOR (LBR-130) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO 1-180 (4" MIN LAFS) 12" STABILIZED SUBGRADE (BR 40 MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO 1-180 (TYPE B STABILIZATION)) *ALTERNATE 12" STABILIZED SUBGRADE: 6" CRUSHED CURBED PROCTOR (LBR-130) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO 1-180 (4" MIN LAFS) *ALTERNATE PAVEMENT TO ASPHALT IS CRUSHED CURBED PAVEMENT
CONCRETE PAVEMENT		6" CONCRETE (3,000 P.S.I. @ 28 DAYS) 12" STABILIZED SUBGRADE 8 BR 40 MIN OF 98% MODIFIED PROCTOR MAX DRY DENSITY PER ASTM D557, AASHTO 1-180 (8" LFTS) SEE DETAIL, SHEET NO. 13 AND CITY DETAIL R-11A ON SHEET 14
FOOT PAVEMENT		1" FC-5 OPEN GRADE FRICTION COURSE 2" SP-95 A-1 (FL) ASPHALT (FOOT SPEC) IF RECYCLED CURBED CRUSHED AGGREGATE LBR 150 12" STABILIZED SUB-GRADE (LBR-40) (SEE DETAIL, SHEET 13)
FOOT ASPHALT OVERLAY		MILL 1" AVERAGE DEPTH, OVERLAY WITH 1" FC-5 A-1 ASPHALT @ 10% 20% RECYCLED MATERIALS
GOWNS & FLAGLER ROW PAVEMENT		2" SP-95 A-1 (FL) WITH TACK COAT PER FOOT SPECIFICATIONS 6" CRUSHED CURBED PROCTOR (LBR-130) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO 1-180 (4" MIN LAFS) 12" STABILIZED SUBGRADE (BR 40 MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO 1-180 (TYPE B STABILIZATION))
CONCRETE SIDEWALK		4" THICK CONCRETE (3,000 P.S.I. @ 28 DAYS) SEE SIDEWALK DETAIL SHEET NO. 11

	TYPE "F1" CURB SEE DETAIL, SHEET No. 13
	1' ENVIRONMENTAL CURB SEE CITY DETAIL R-4
	F1 CURB TRANSITION TO FLAT SEE DETAIL, SHEET No. 13
	F1 CURB TRANSITION TO ENVIRONMENTAL CURB SEE DETAIL, SHEET No. 13
	PARKING BOLLARD SEE DETAIL, SHEET No. 13
	10' DECORATIVE FENCE (SEE ARCHITECTURAL PLANS)

1	6" SOLID WHITE LINE
2	6" SOLID DOUBLE YELLOW LINE
3	6" SOLID YELLOW LINE, 4" O.C. @ 45°
4	24" WHITE STOP BAR
5	WHITE DIRECTIONAL ARROW
6	STANDARD EMPHASIS CROSSWALK
7	24" DETECTABLE WARNING MAT PER FDOT INDEX 522-002

24/21 CITY COMMENTS

1230 North US1, Suite 3
 Miramar Beach, Florida 32174
 Phone (386) 872-7794
www.NewLink-Engineering.com
 C.A. # 30209
 L.C. # 260 00584
 © 2013



SITE LAYOUT PLAN

FACE HARDWARE

THIS DRAWING IS THE PROPERTY OF
ENGINEERING ANY USE OR REPRO-
DUCTION OF WHOLE OR PART IS PROHIBITED WITHOUT
EXPRESSED WRITTEN CONSENT OF
ENGINEERING COPYRIGHT 2013 A
RESERVED

HARRY NEWKIRK

PROJECT No: 2

DATE: NOVEMBER 1964

DESIGN BY:

DRAWN BY:

CHECKED BY:

SCALE:

DRAWING NUM

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

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CITY OF ORMOND BEACH

City Manager • 22 S. Beach Street • Ormond Beach • Florida • 32174 • (386) 676-3200 • Fax (386) 676-3384

CITY MANAGER MEMORANDUM

To: The Honorable Mayor Partington and City Commissioners

Through: Joyce A. Shanahan, City Manager

From: Steven Spraker, Planning Director

Date: April 6, 2021

Subject: Right-of-way vacation - two (2) 15 foot alleys (1480 N US HWY 1)

Commission Goal: Community Development - Other

Introduction

This is a request by Jeff Gross, Gross Family Properties NG, LLC, for approval of a right-of-way (ROW) vacation for two (2) un-named alleys lying between lot(s) 1-30, block 59, National Gardens subdivision as recorded in Map Book 10, Page 250-253, public records of Volusia County, Florida of approximately 7,810 square feet or 0.18 acres, within the property of 1480 North U.S. Highway 1, Volusia County parcel number 3136-01-59-0010. The Notice of Intent Resolution for the right-of-way vacation of the two (2) alleys were approved on March 16, 2021.

Background

The city has received a site plan application for the property at 1480 North U.S. Highway 1. The site plan seeks to construct a 16,852 square foot building, a 2,566 square foot garden center, and associated site improvements for Ace Hardware. As part of the site development there are two (2) rights-of-way that are sought for vacation. Each right-of-way vacation is being presented independently. Action on the right-of-way vacations does not obligate any additional action on the site plan that must meet the applicable portions of the Comprehensive Plan and Land Development Code.

The key consideration for street vacations is whether the platted right-of-way has a public use function, such as roads, utilities, or corridors for public utilities such as the power, telephone, or cable companies (attached). The plat for the land area under consideration was adopted on May 26, 1926. It is important to note that for plat dedications for public roads, the government does not own or have fee simple title to the dedicated property and cannot sell or barter it away as a condition of vacating it. The sole criterion for vacating a street right-of-way is the function for public use.

Discussion

As part of the application, the applicant has secured letters of no objection to the vacation from all franchise utilities, including Florida Power & Light (FPL), Brighthouse/Spectrum, Teco Gas, and AT&T. The city Site Plan Review Committee, including the Utilities Division, has reviewed the request and has no objection to the request. The two unnamed alleys are within the property at 1480 North U.S. Highway 1. The city Site Plan Review Committee has concluded that there is no public purpose of two (2) un-named alleys sought for vacation.

Section 17-8 of the City Code of Ordinances details the process for a street right-of-way vacation (or partial vacation) as follows:

#	Approving Body	Action	Status
1.	Site Plan Review Committee	Provide evidence of no public use.	Completed on February 22, 2021. Determination of no public use.
2.	City Commission	Resolution - Notice of Intent to vacate.	Completed March 16, 2021
3.	City Commission	Ordinance for partial street vacation.	April 6, 2021 and April 20, 2021

In summary, the Site Plan Review Committee has reviewed the platted right-of-way and determined that there is no public purpose to maintaining the two (2) un-named alleys sought for vacation.

Budget Impact

The current two (2) un-named alleys are not improved and there are no budget impacts of this request.

Citizen Impact

As stated earlier the city does not own or have fee simple title to the two (2) un-named alleys. The right-of-way was designed as part of the 1926 plat. It is not expected that the right-of-way vacation would have a negative citizen impact.

Recommendation

It is recommended that the City Commission **APPROVE** the attached Ordinance for the right-of-way vacation of two (2) un-named alleys lying between lot(s) 1-30, block 59, National Gardens subdivision as recorded in Map Book 10, Page 250-253, public records of Volusia County, Florida of approximately 7,810 square feet or 0.18 acres, within the property of 1480 North U.S. Highway 1, Volusia County parcel number 3136-01-59-0010 based on the determination that the subject area has no current or future public use.

Attachments:

- 21-12 1480 N US Hwy 1 - 15 ft Alley-Right of Way (P21-0032G) (PDF)
- Exhibit A- Ace Hardware 15 FT Alley Sketch & Legal (PDF)
- Utility letters combined (PDF)
- Site plan submitted for 1480 North U.S. Highway 1 (PDF)

REVIEWED BY:


Kelly McGuire, Finance Director 3/8/2021


Claire Whitley, Assistant City Manager 3/29/2021

APPROVED BY:


Joyce A. Shanahan, City Manager 3/31/2021

ORDINANCE NO. 2021-12

AN ORDINANCE VACATING TWO (2) UN-NAMED ALLEYS LYING BETWEEN LOT(S) 1-30, BLOCK 59, NATIONAL GARDENS SUBDIVISION, WITHIN THE PROPERTY AT 1480 NORTH U.S. HIGHWAY 1; REPEALING ALL INCONSISTENT ORDINANCES OR PARTS THEREOF; PROVIDING FOR RECORDATION AND TRANSMITTAL; AND SETTING FORTH AN EFFECTIVE DATE.

WHEREAS, the City Commission of the City of Ormond Beach, Florida, did on March 16, 2021 adopt Resolution No. 2021-64, declaring its intention to consider adopting an ordinance vacating two (2) un-named alleys lying between lot(s) 1-30, block 59, National Gardens subdivision as recorded in Map Book 10, Page 250-253, public records of Volusia County, Florida of approximately 7,810 square feet or 0.18 acres, within the property of 1480 North U.S. Highway 1, Volusia County parcel number 3136-01-59-0010, being more particularly described and depicted in Exhibit “A” attached hereto and incorporated herein by reference, and

WHEREAS, the platted right-of-way to be vacated has never been constructed or used for right-of-way purposes, and

WHEREAS, the owners of all of the property that abuts the aforescribed portion of the said street affected by the proposed vacation, which owners are residents of the State of Florida, have been served with a copy of the aforesaid Resolution or have filed their waiver of the requirement of service thereof, and a copy of the aforesaid Resolution has been published once in a newspaper of general circulation in the City of Ormond Beach, Florida, and proof of publication thereof has been filed with the City, and

WHEREAS, based on the evidence presented at the public hearing, and based upon common knowledge of the area in question, the City Commission hereby finds that the subject vacation is in the overall public interest, now therefore,

BE IT ENACTED BY THE PEOPLE OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:

SECTION ONE. The two (2) un-named alleys lying between lot(s) 1-30, block 59, National Gardens subdivision as recorded in Map Book 10, Page 250-253, public records of Volusia County, Florida consisting of approximately 7,810 square feet or 0.18 acres, within the property at 1480 North U.S. Highway 1, Volusia County parcel number 3136-01-59-0010, being more particularly described and depicted in Exhibit “A” attached hereto and incorporated herein by reference, is hereby vacated and forever freed of all rights of the public.

SECTION TWO. The said two (2) un-named alleys described and depicted in Exhibit “A”, are hereby vacated, closed and abandoned and said property is hereby released and discharged of any and every public right, use, title and interest of the City of Ormond Beach and that said property shall revert to the adjoining and abutting owner who has a reversionary interest.

SECTION THREE. The City Clerk is hereby directed to record a certified copy of this Ordinance in the public records of Volusia County, Florida.

SECTION FOUR. The City Clerk is further directed to transmit the recorded Ordinance to the Volusia County Property Appraiser.

SECTION FIVE. All Ordinances or parts of Ordinances in conflict herewith are hereby repealed to the extent of such conflict.

SECTION SIX. This Ordinance shall take effect immediately upon its adoption.

PASSED UPON at the first reading of the City Commission, this 6th day of April, 2021.

PASSED UPON, at the second and final reading of the City Commission, this 20th day of April, 2021.

BILL PARTINGTON
Mayor

ATTEST:

KATE SETTLE
City Clerk

ACE HARDWARE

1480 N. U.S. Highway 1

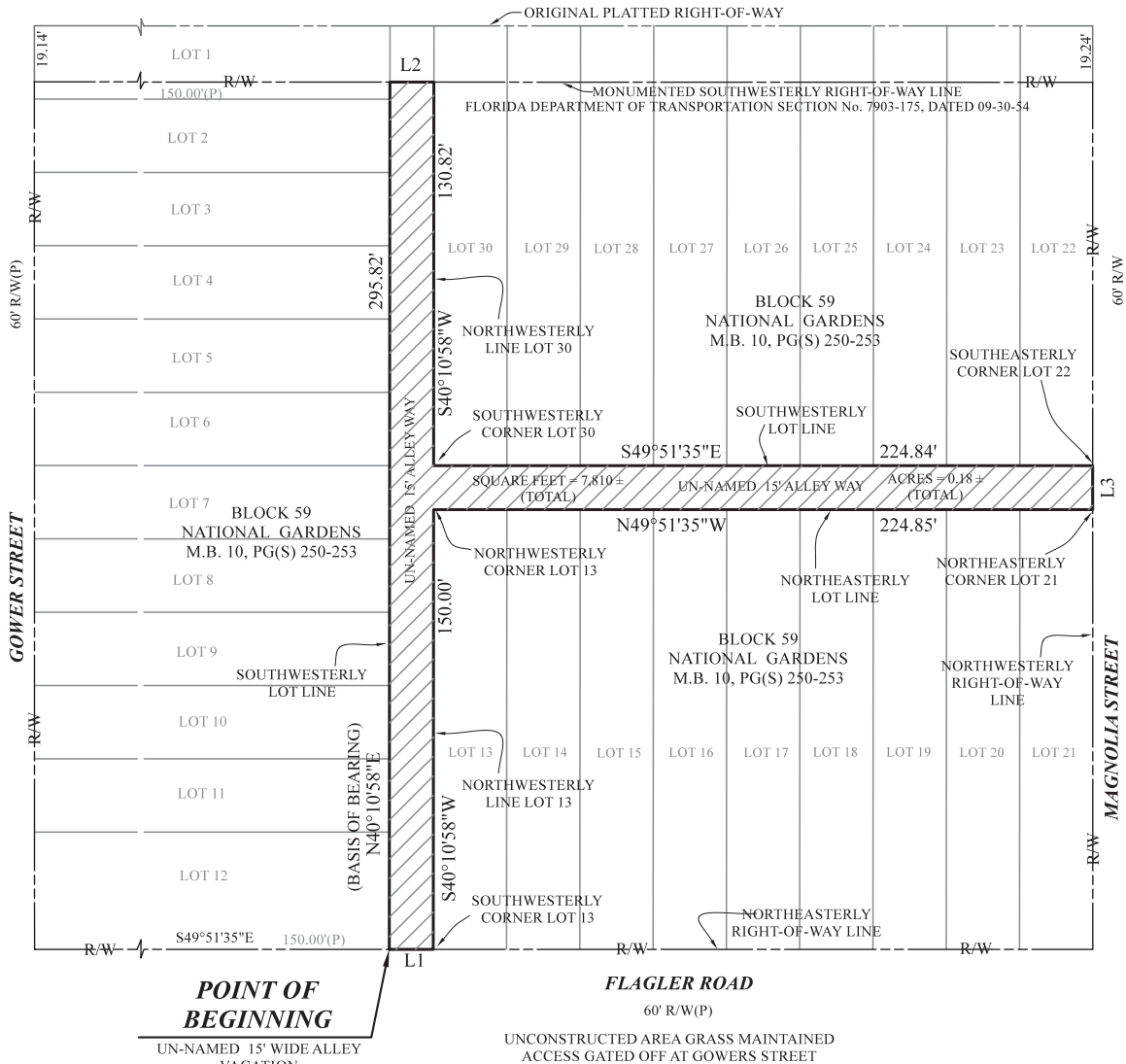
Ormond Beach

Florida

U.S. HIGHWAY No. 1

(STATE ROAD No. 5)

160' R/W

**LINE TABLE:**

LINE	BEARING	DISTANCE
L1	N 49°51'35" W	15.00'
L2	S 49°50'39" E	15.00'
L3	S 40°07'38" W	15.00'

REVISED DESCRIPTION 02/10/2021 KB

SHEET SL1 OF SL2

THIS IS NOT A SURVEY
SEE SHEET SL2 OF SL2 FOR
SURVEYOR'S SIGNATURE

OWB: BR
DATE:
01-01-21
MAP SUBJECT:
1480 N. U.S. HWY 1
Ormond Beach, FL
SCALE:
1" = 20'

TYPE OF SURVEY:

SKETCH
AND
DESCRIPTION


Professional Surveyor
S A 1 A
SURVEYING, INC.
Residential Commercial Construction
Phone: 386.216.5730
555 W Granada Blvd., Suite D7, Ormond Beach, Florida 32174 LB 8205

ACE HARDWARE
1480 N. U.S. Highway 1
Ormond Beach
Florida

LEGAL DESCRIPTION:

BEING THE UN-NAMED ALLEY'S LYING BETWEEN LOT(S) 1 THROUGH 30, BLOCK 59, NATIONAL GARDENS SUBDIVISION, AS RECORDED IN MAP BOOK 10, PAGE 250 THROUGH 253, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, ALL LYING NORTHEASTERLY OF FLAGLER ROAD (A 60 FOOT RIGHT-OF-WAY THATS UN-IMPROVED OR OPEN), LYING NORTHWESTERLY OF MAGNOLIA STREET (A 60 FOOT RIGHT-OF-WAY THATS UN-IMPROVED OR OPEN) AND SOUTHWESTERLY OF U.S. HIGHWAY NO. 1 (STATE ROAD NO. 5)(A 160 FOOT RIGHT-OF-WAY) PER FLORIDA DEPARTMENT OF TRANSPORTATION SECTION NUMBER 7903-175, DATED: 09-30-54.

BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE SOUTHWESTERLY CORNER OF LOT 12, BLOCK 59, NATIONAL GARDENS SUBDIVISION, AS RECORDED IN MAP BOOK 10, PAGE 250 TO 253, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA AND THE NORTHEASTERLY RIGHT-OF-WAY LINE OF FLAGLER ROAD (A 60 FOOT RIGHT-OF-WAY THATS UN-IMPROVED OR OPEN); THENCE DEPARTING SAID RIGHT-OF-WAY LINE NORTH 40 DEGREES 10 MINUTES 58 SECONDS EAST ALONG THE SOUTHWESTERLY LINE OF LOTS 1 THROUGH 12, OF SAID BLOCK 59, A DISTANCE OF 295.82 FEET TO A POINT ON THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF U.S. HIGHWAY NUMBER 1 (A 160 FOOT RIGHT-OF-WAY), ACCORDING TO FLORIDA DEPARTMENT OF TRANSPORTATION SECTION NUMBER 7903-175, DATED: 09-30-54; THENCE SOUTH 49 DEGREES 50 MINUTES 39 SECONDS EAST ALONG THE SAID SOUTHWESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 15.00 FEET TO A POINT ON THE NORTHWESTERLY LINE OF LOT 30 OF SAID BLOCK 59; THENCE DEPARTING SAID SOUTHWESTERLY RIGHT-OF-WAY LINE SOUTH 40 DEGREES 10 MINUTES 58 SECONDS WEST ALONG THE NORTHWESTERLY LINE OF SAID LOT 30, A DISTANCE OF 130.82 FEET TO THE SOUTHWESTERLY CORNER OF SAID LOT 30; THENCE SOUTH 49 DEGREES 51 MINUTES 35 SECONDS EAST ALONG THE SOUTHWESTERLY LINE OF LOTS 22 THROUGH 30 OF SAID BLOCK 59, A DISTANCE OF 224.84 FEET TO A POINT ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF MAGNOLIA STREET (A 60 FOOT RIGHT-OF-WAY THATS UN-IMPROVED OR OPEN), SAID POINT BEING THE SOUTHEASTERLY CORNER OF SAID LOT 22; THENCE SOUTH 40 DEGREES 07 MINUTES 38 SECONDS WEST ALONG SAID SOUTHWESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 15.00 FEET TO THE NORTHEASTERLY CORNER OF LOT 21, OF SAID BLOCK 59; THENCE DEPARTING SAID NORTHWESTERLY RIGHT-OF-WAY LINE NORTH 49 DEGREES 51 MINUTES 35 SECONDS WEST ALONG THE NORTHEASTERLY LINE OF LOTS 13 THROUGH 21 OF SAID BLOCK 59, A DISTANCE OF 224.85 FEET TO THE NORTHWESTERLY CORNER OF LOT 13 OF SAID BLOCK 59; THENCE SOUTH 40 DEGREES 10 MINUTES 58 SECONDS WEST ALONG THE NORTHWESTERLY LINE OF SAID LOT 13, A DISTANCE OF 150.00 FEET TO A POINT ON THE AFOREMENTIONED NORTHEASTERLY RIGHT-OF-WAY LINE OF FLAGLER ROAD; THENCE NORTH 49 DEGREES 51 MINUTES 35 SECONDS WEST ALONG SAID NORTHEASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 15.00 FEET TO THE POINT OF BEGINNING.

THE ABOVE DESCRIBED LAND CONTAINS 7,810 SQUARE FEET OR 0.18 ACRES MORE OR LESS.

GENERAL NOTES:

1. BEARING STRUCTURE ASSUMED (N 40°10'58" W) ALONG THE SOUTHWESTERLY LINE OF LOTS 1 THROUGH 12, BLOCK 59, NATIONAL GARDENS, FOR ANGLE MEASUREMENT ONLY.
2. LEGAL DESCRIPTION NEW PER A1A SURVEYING, INC..

LEGEND:

FL	FLORIDA	NO.	NUMBER
LB	LICENSED BUSINESS	OWB	OFFICE WORK BY
LC	LICENSED CORPORATION	P.B.	PLAT BOOK
LLC	LIMITED LIABILITY COMPANY	PG.	PAGE
LS	LICENSED SURVEYOR	PG(S)	PAGES
N/A	NOT AVAILABLE	R/W	RIGHT-OF-WAY

REVISED DESCRIPTION 02/10/2021 KB

SHEET SL2 OF SL2

THE FOREGOING PLAT IS CERTIFIED TO MEET THE STANDARDS OF PRACTICE SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS AS PER CHAPTER 5J17-6, FLORIDA ADMINISTRATIVE CODE, AS PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

David McMillen
 01-04-2021
 David McMillen
 LS # 6378
 NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

OWB: BR
 DATE: 01-01-21
 MAP SUBJECT: 1480 N. U.S. HWY 1 Ormond Beach, FL
 SCALE: N/A

TYPE OF SURVEY:
 SKETCH AND DESCRIPTION



Professional Surveyor



Phone: 386.216.5730 Residential Commercial Construction
 555 W Granada Blvd., Suite D7, Ormond Beach, Florida 32174 LB 8205



January 25, 2021

Newkirk Engineering, INC.
1230 N US HWY 1
Suite 3
Ormond Beach, FL 32174

Re: ACE Hardware
1480 N US HWY 1: Ormond Beach, FL
ROW Vacationing

Dear Shamus Schroeder:

This letter is in response to a request submitted to AT&T, Inc. to vacate 5 FT of the ROW of Flagler Rd east of Gower St along the property line of the new ACE Hardware Store at 1480 N US HWY 1 in Volusia County Florida.

Please accept this letter as a notification that AT&T, Inc. has no objection to the vacationing of ROW referenced above.

If you have any questions regarding this response, please contact me at 386-281-6962.

Regards,

Thanks,

Nathan Stephenson

MGR OSP PLNG & ENGRG DESIGN, Wireline Access

Southeast , Florida Engineering

GEO Palm Coast, Bunnell, Flagler Beach, Ocean Shores & Ormond Beach

AT&T

268 Ridgewood Av, Daytona Beach, FL 32114

o 386-281-6962 c 386-212-5035 | ns6520@att.com

MOBILIZING YOUR WORLD



Stacy Stafford
Supervisor, Construction
Field Ops

December 23, 2020

Shamus Schroder
Newkirk Engineering, Inc

RE: Ace Hardware
1480 North U.S. Highway 1
Ormond Beach Fl. 32174
Parcel ID#:313601590010

To Whom It May Concern:

This letter is in response to a request to Charter Communications - Spectrum to vacate the above referenced "Easements" which is also described in the attached survey map.

Spectrum has "no objection" to the vacation of the utility easement of the above mentioned property as described in the attached "Exhibit A" and survey map.

If you have any questions regarding this, please contact me.

Sincerely,

A handwritten signature in blue ink that reads "Stacy R. Stafford".

Stacy R. Stafford
Charter Spectrum
Construction Supervisor
(407) 532-8614



February 4, 2021

9.B.c

Shamus Schroeder
Ace Hardware
1480 N US Highway 1
Ormond Beach FL, 32174

Re: No objection to the partial release of our rights in the Platted Utility Easement
Short Parcel ID 3136-01-59-0010, The Public Records of Volusia County
Map Book 10, Pages 250 through 253.

Please be advised that FPL does not object to the partial vacation of the utility easement
as follows: the southwesterly 5 feet of Flagler RD as shown in the attached Exhibit A.

If you have any questions regarding this matter, please contact Nicholas Rockefeller,
FPL's local representative at 386-586-6476.

Thank you,

A handwritten signature in blue ink, appearing to read "J. Zehnder", is written over a horizontal line.

Joshua Zehnder
Engineering Lead

1" = 40' Exhibit A

LEGAL DESCRIPTION:

THE SOUTHWESTERLY 5 FEET OF FLAGLER ROAD (A 60 FOOT RIGHT-OF-WAY AS PER PLAT), LYING NORTHEASTERLY OF BLOCKS 70 AND 71, GOWER STREET AND MAGNOLIA STREET (BOTH BEING 60 FOOT RIGHT-OF-WAY AS PER PLAT), NATIONAL GARDENS SUBDIVISION, AS RECORDED IN MAP BOOK 10, PAGE(S) 250-253, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA. BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT AN INTERSECTION POINT OF THE SOUTHEASTERLY RIGHT-OF-WAY LINE OF BROADWAY ROAD (100 FOOT RIGHT-WAY), THE SOUTHWESTERLY RIGHT-OF-WAY OF FLAGLER ROAD (A 60 FOOT RIGHT-OF-WAY AS PER PLAT), SAID POINT BEING THE SOUTHWESTERLY CORNER OF LOT 12 PER SAID NATIONAL GARDENS SUBDIVISION; THENCE RUN SOUTH 49 DEGREES 51 MINUTES 53 SECONDS EAST ALONG THE SAID NORTHERLY RIGHT-OF-WAY OF FLAGLER AVENUE A DISTANCE OF 390.00 FEET TO A POINT ON THE NORTHEASTERLY RIGHT-OF-WAY OF SAID FLAGLER ROAD AND THE NORTHWESTERLY RIGHT-OF-WAY LINE OF MAGNOLIA STREET; THENCE DEPARTING SAID RIGHT-OF-WAY LINE SOUTH 40 DEGREES 08 MINUTES 25 SECONDS WEST, A DISTANCE OF 5.00 FEET; THENCE PARALLEL WITH SAID NORTHEASTERLY RIGHT-OF-WAY LINE OF SAID FLAGLER ROAD NORTH 49 DEGREES 51 MINUTES 53 SECONDS WEST, A DISTANCE OF 390.00 FEET TO A POINT ON THE SOUTHEASTERLY RIGHT-OF-WAY; THENCE NORTH 40 DEGREES 08 MINUTES 25 SECONDS EAST, A DISTANCE OF 5.00 FEET TO THE POINT OF BEGINNING.

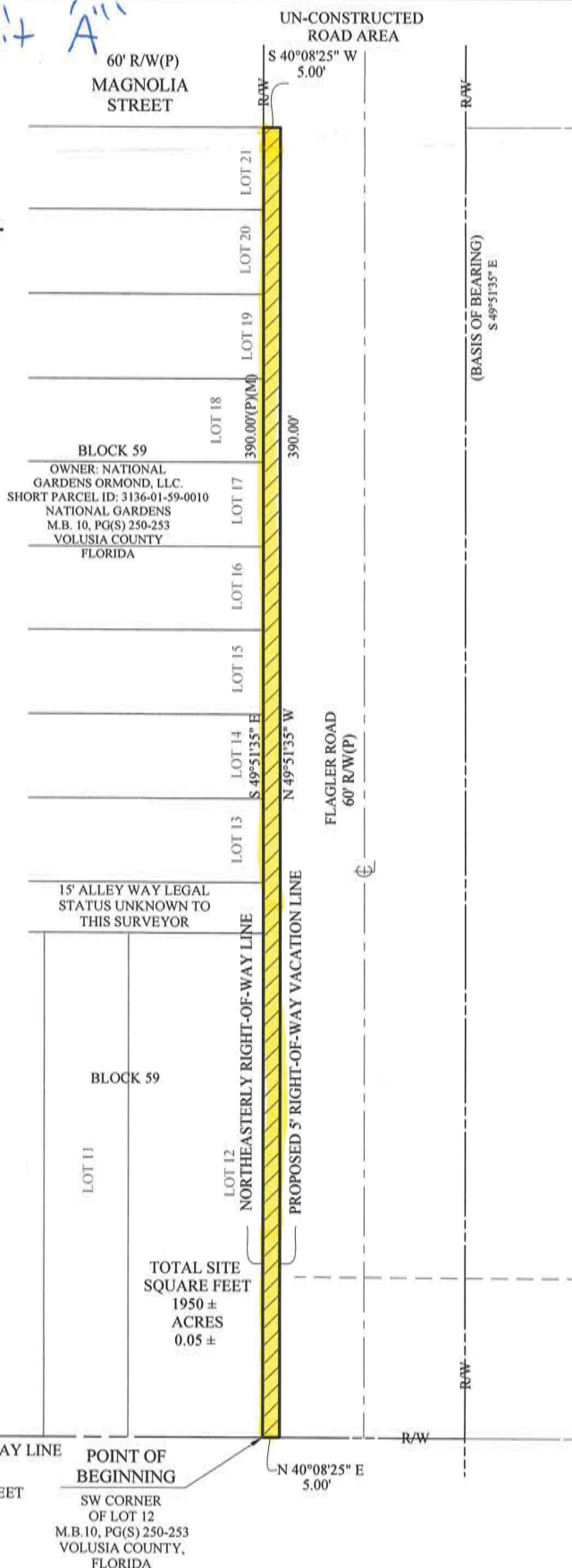
THE ABOVE DESCRIBED LAND CONTAINS 1950 ± SQUARE FEET OR 0.05 ACRES MORE OR LESS.

GENERAL NOTES:

- BEARING STRUCTURE (S 49°51'53" E) ALONG THE NORTHERLY RIGHT-OF-WAY LINE OF FLAGLER ROAD, AS RECORDED IN NATIONAL GARDENS SUBDIVISION AS PER MAP BOOK 10, PAGE(S) 250 THROUGH 253, INCLUSIVE, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA. FOR ANGLE MEASUREMENT ONLY.
- LEGAL DESCRIPTION NEW PER A1A SURVEYING, INC.

LEGEND:

FD FOUND
FL FLORIDA
LB LICENSED BUSINESS
LC LICENSED CORPORATION
LLC LIMITED LIABILITY COMPANY
LS LICENSED SURVEYOR
NO. NUMBER
OWB OFFICE WORK BY
(P) PLAT
(M) MEASURED
M.B. MAP BOOK
PG(S) PAGES
R/W RIGHT-OF-WAY
± PLUS OR MINUS
CL CENTERLINE



THIS IS NOT A SURVEY

RIGHT-OF-WAY VACATION

THE FOREGOING PLAT IS CERTIFIED TO MEET THE STANDARDS OF PRACTICE SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS AS PER CHAPTER 5J17-6, FLORIDA ADMINISTRATIVE CODE, AS PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

David McMillen
SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER, 05-31-2019

OWB: BR
DATE: 05-30-2019
MAP SUBJECT: 1480 N. U.S. HWY 1 Ormond Beach
SCALE: 1" = 40'

TYPE OF SURVEY: SKETCH AND DESCRIPTION R/W VACATION

A1A SURVEYING
LAND SURVEYING CONSTRUCTION LAYOUT
244 Ridgewood Avenue, Daytona Beach, Florida 32117
Phone: 386.405.6797

LB # 8205

LS # 6378



1/22/2021

To: Shamus Schroeder
Newkirk Engineering, Inc.
1230 N Us Hwy 1 Suite 3
Ormond Beach, FL 32174

RE: Vacate of Easement-5' of Flagler Road ROW along 1480 North US Hwy 1 South-west property line
1480 North US Highway 1
Ormond Beach, FL 32174

From: TECO Peoples Gas

To Whom It May Concern:

Thank you for contacting TECO Peoples Gas Company regarding the vacate of easement at the above referenced location. After reviewing the documents provided, TECO-PGS has NO objection to this request.

If you have further questions, please do not hesitate to call.

Sincerely,

Joan Domning
Administrative Specialist, Senior
Peoples Gas-Distribution Engineering
8416 Palm River Road
Tampa, FL 33619
Office: 813-275-3783

SITE PLAN SUBMITTED FEBRUARY 5, 2021 FOR 1480 NORTH U.S. HIGHWAY 1

NORTH U.S. HIGHWAY 1
(160' RW/55 MPH)

GRAPHIC SCALE
1"=20'

PAVEMENT MARKING NOTES:

1. PAINTED PAVEMENT MARKINGS SHALL BE APPLIED AFTER PAVEMENT SURFACE HAS CURED. SURFACE SHALL BE FREE OF FINE SAND AND DEBRIS PRIOR TO APPLICATIONS.
2. APPLY PAINTED PAVEMENT MARKINGS AT LAST STAGE OF CONSTRUCTION AFTER LANDSCAPE PLANTINGS ARE INSTALLED.
3. PAINT SHALL BE SHERWIN WILLIAMS LOW-VOC ACRYLIC PRO PARK PAINT, APPLY PER MANUFACTURER'S RECOMMENDATIONS. REFER TO DRAWINGS FOR LOCATIONS OF SPECIFIC COLORS.
4. ALL REFLECTIVE PAVEMENT MARKERS ARE TO BE PLACED IN ACCORDANCE WITH FOOT STANDARD INDEX NO. 706-001.
5. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH INDEX NO. 17361 AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".
6. LOCATION OF SIGNS IS APPROXIMATE ONLY AND IS SUBJECT TO CHANGE AS DIRECTED BY THE ENGINEER.
7. FOR ADDITIONAL DETAILS SEE INDEX NO. 700-010, 700-101, 17344 AND 711-001.
8. ALL TRAFFIC CONTROL SIGNS SHALL BE FABRICATED USING 3M BRAND "SCOTCHLOTE" SHEETING (ENGINEER GRADE) ON MINIMUM 8 GA ALUMINUM BLANKS. ALL 36"x48" SIGNS SHALL BE 300 GA MINIMUM AND SHALL BE INSTALLED USING 3"x12" ROUND ALUMINUM POST. ALL STOP SIGNS SHALL BE 36" OCTAGON INSTALLED ON 1/2" LIFT "1" CHANNEL POST RAIL STEEL ONLY OR 3"x12" ROUND ALUMINUM POSTS. "1" CHANNEL POSTS MAY BE USED FOR SIGNS SMALLER THAN 36"x36". ALL SPEED LIMIT SIGNS SHALL BE 24"x36".

GENERAL NOTES:

1. CITY OF ORMOND BEACH BUILDING PERMITS ARE REQUIRED FOR BUILDING, DUMPSTER ENCLOSURE, LIGHT POLES, SCREEN WALLS AND MONUMENT SIGNS. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING APPROPRIATE INFORMATION (ENGINEERING, SPECIFICATIONS, SHOP DRAWINGS, ETC.).
2. ALL DIMENSIONS AND TIES ARE TO THE EDGE OF PAVEMENT AND OUTSIDE FACE OF BUILDING.
3. ALL IMPROVEMENTS SHALL BE STAKED FOR CONSTRUCTION BY MEANS OF DIGITAL COORDINATES BY SURVEYOR UTILIZING GEODETIC TOTAL STATION OR GPS. SCALING OF DRAWINGS FOR PURPOSES OF STAKING ARE AT THE SURVEYOR'S RISK.
4. THE CONTRACTOR SHALL COORDINATE WITH THE EXISTING ADJACENT BUSINESSES TO ENSURE THERE IS NO DISRUPTION TO THEIR RESPECTIVE OPERATIONS.
5. THE CONTRACTOR AT ITS OWN DISCRETION SHALL MAINTAIN THE CONSTRUCTION SITE SECURE FROM TRESPASS.
6. SOO ALL DISTURBED AREAS IN RIGHT-OF-WAY WITH BAKHA 500.
7. ALL CONSTRUCTION IN THE FOOT ROW SHALL CONFORM TO THE LATEST EDITIONS OF THE FOOT DESIGN STANDARDS (INDEXES), THE FOOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE FOOT UTILITY ACCOMMODATION MANUAL.

PAVING LEGEND

ASPHALT PAVEMENT	1" SP-9.5 (TL-C) WITH TACK COAT PER FOOT SPECIFICATIONS 6" CRUSHED CONCRETE (LBR-130) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 (4" MAX. LIFTS) 12" STABILIZED SUBGRADE (LBR 40) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 (TYPES B STABILIZATION) *ALTERNATE 12" STABILIZED SUBGRADE: 6" CRUSHED CONCRETE (LBR-130) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 (4" MAX. LIFTS) *ALTERNATE PAVEMENT TO ASPHALT IS CONCRETE PAVEMENT
CONCRETE PAVEMENT	6" CONCRETE (3,500 P.S.I. @ 28 DAYS) 12" STABILIZED SUBGRADE (LBR 40) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER ASTM D1557, AASHTO T-180 (6" LIFTS) SEE DETAIL, SHEET NO. 13 AND CITY DETAIL R-1.1A ON SHEET 14
FOOT ROW PAVEMENT	1" FC-5 OPEN GRADED FRICTION COURSE 2" SP-9.5 TL-C ASPHALT FOOT SPEC) 6" RECYCLED CONCRETE AGGREGATE LBR 150 12" STABILIZED SUB-GRADE (LBR-40) (SEE DETAIL, SHEET 13)
FOOT ASPHALT OVERLAY	MULL 1" AVERAGE DEPTH, OVERLAY WITH 1" FC-5 TL-C ASPHALT @ MAX 20% RECYCLED MATERIALS
GOWERS & FLAGLER ROW PAVEMENT	2" SP-9.5 (TL-C) WITH TACK COAT PER FOOT SPECIFICATIONS 6" CRUSHED CONCRETE (LBR-130) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 (4" MAX. LIFTS) 12" STABILIZED SUBGRADE (LBR 40) MIN OF 98% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180 (TYPES B STABILIZATION)
CONCRETE SIDEWALK	4" THICK CONCRETE (3,000 P.S.I. @ 28 DAYS) SEE SIDEWALK DETAIL SHEET NO. 13

LEGEND

- TYPE "F1" CURB
SEE DETAIL, SHEET NO. 13
- "E" ENVIRONMENTAL CURB
SEE CITY DETAIL R-4
- F1 CURB TRANSITION TO FLAT
SEE DETAIL, SHEET NO. 13
- F1 CURB TRANSITION TO ENVIRONMENTAL CURB
SEE DETAIL, SHEET NO. 13
- PARKING BOLLARD
SEE DETAIL, SHEET NO. 13
- 10' DECORATIVE FENCE
(SEE ARCHITECTURAL PLANS)

STRIPING KEYNOTES:

1. 6" SOLID WHITE LINE
2. 6" SOLID DOUBLE YELLOW LINE
3. 6" SOLID YELLOW LINE, 4" O.C. @ 45'
4. 24" WHITE STOP BAR
5. WHITE DIRECTIONAL ARROW
6. STANDARD EMPHASIS CROSSWALK
7. 24" DETECTABLE WARNING MAT PER FOOT INDEX 522-002

9.B.d

2401 CITY COMMENTS

1230 North US1, Suite 3
Ormond Beach, Florida 32174
www.newkirk-engineering.com
C.A. # 20209
L.C. # 0033
Civil Engineering
Transportation, Civil &
Landscape Architecture

NEWKIRK ENGINEERING

ACE Hardware

SITE LAYOUT PLAN
ACE HARDWARE
1480 NORTH U.S. HIGHWAY 1
ORMOND BEACH, FLORIDA 32174

THIS DRAWING IS THE PROPERTY OF NEWKIRK ENGINEERING. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF NEWKIRK ENGINEERING.

PROJECT No: 2019-66
DATE: NOVEMBER 2020
DESIGN BY: HHN
DRAWN BY: BWV
CHECKED BY: HHN
SCALE: 1"=20'
DRAWING NUMBER

6



CITY OF ORMOND BEACH

City Manager • 22 S. Beach Street • Ormond Beach • Florida • 32174 • (386) 676-3200 • Fax (386) 676-3384

CITY MANAGER MEMORANDUM

To: The Honorable Mayor Partington and City Commissioners
Through: Joyce A. Shanahan, City Manager
From: Kelly McGuire, Finance Director
Date: April 6, 2021
Subject: General Employees Pension Ordinance
Commission Goal: N/A

Introduction

This item amends Section 16-17 of the General Employees' Pension Ordinance.

Background

The City's pension ordinances must comply with federal guidelines.

Discussion

The Setting Every Community Up for Retirement Enhancement Act (SECURE Act) provides provisions to enhance tax-advantaged retirement accounts. The SECURE Act increases the age for required minimum distribution of retirement accounts from 70 1/2 to 72 for those who reach age 70 1/2 on or after January 1, 2020. As such, the General Employees' Pension Ordinance is being amended to comply with revised minimum distribution age.

The ordinance amendment was reviewed by the General Employees' Pension Board at their February 19, 2021 meeting. The board recommended approval of the amendment by the City Commission.

Budget Impact

There is no financial impact to this ordinance change.

Citizen Impact

There is no citizen impact related to this ordinance change.

Recommendation

Staff recommends approval of the proposed ordinance amendment.

Attachments:

- 21-13 General Employees Pension (P21-0027G) (PDF)
- Exhibit A. (PDF)

REVIEWED BY:


Kelly McGuire, Finance Director 3/16/2021


Claire Whitley, Assistant City Manager 3/29/2021

APPROVED BY:


Joyce A. Shanahan, City Manager 3/31/2021

ORDINANCE NO. 2021-13

AN ORDINANCE OF THE CITY OF ORMOND BEACH, FLORIDA, AMENDING ARTICLE I, GENERAL EMPLOYEES' PENSION PLAN, OF CHAPTER 16, PENSIONS AND RETIREMENT, OF THE CODE OF ORDINANCES; AMENDING SECTION 16-6, BENEFIT AMOUNTS AND ELIGIBILITY; AMENDING SECTION 16-17, MINIMUM DISTRIBUTION OF BENEFITS; PROVIDING FOR COMPLIANCE WITH THE SECURE ACT; PROVIDING FOR SEVERABILITY OF PROVISIONS; REPEALING ALL ORDINANCES IN CONFLICT HERewith AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Setting Every Community Up for Retirement Enhancement ("SECURE") Act, signed into law on December 20, 2019, amended the definition of "Required Beginning Date" under Section 401(a)(9) of the Internal Revenue Code; and

WHEREAS, amendments to the Plan are necessary to conform the Pension Plan to the requirements of the SECURE Act; and

WHEREAS, the Board of Trustees of the City of Ormond Beach General Employees' Pension Plan has recommended an amendment to the Pension Plan to comply with the SECURE Act; and

WHEREAS, the Trustees of the City of Ormond Beach General Employees' Pension Plan have requested and approved the amendments provided herein as being in the best interests of the participants and beneficiaries and improving the administration of the Fund; and

WHEREAS, according to a letter dated February 19, 2021, from Foster & Foster, Actuaries and Consultants, a copy being attached hereto as Exhibit "A", the proposed amendments to the Plan do not require a formal actuarial impact statement; and

WHEREAS, the City Commission deems it to be in the public interest to provide this change to the Pension Plan for its General Employees; now therefore,

**BE IT ENACTED BY THE PEOPLE OF THE CITY OF ORMOND BEACH,
FLORIDA, THAT:**

SECTION ONE. Section 16-6, Benefit amounts and Eligibility of Article I, General Employees' Pension Plan, of Chapter 16, Pensions and Retirement, of the City of Ormond Beach, Florida, *Code of Ordinances*, is hereby amended by amending section (g), *Required distribution date*, to read as follows:

SECTION 16-6. Benefit amounts and eligibility.

(g) *Required distribution date.* The member's benefit under this section must begin to be distributed to the member no later than April 1 of the calendar year following the later of the calendar year in which the member attains age 70.5 or the calendar year in which the member terminates employment with the city as required by applicable Internal Revenue Code provisions as provided for in Sec. 16-17 of the Code.

SECTION TWO. Section 16-17, Minimum Distribution of Benefits, of Article I, General Employees' Pension Plan, of Chapter 16, Pensions and Retirement, of the City of Ormond Beach, Florida, *Code of Ordinances*, is hereby amended by amending subsection (b)(1), *Time and manner of distribution*, to read as follows:

Sec. 16-17. Minimum distribution of benefits.

(b) *Time and manner of distribution.*

~~(1) *Required beginning date.* The member's entire interest will be distributed, or begin to be distributed, to the member no later than the member's required beginning date which shall not be later than April 1 of the calendar year following the later of the calendar year in which the member attains age 70.5 or the calendar year in which the member terminates employment with the city.~~

(1) *Required beginning date.* The member's entire interest will be distributed, or begin to be distributed, to the member no later than:

a. With regard to distributions required to be made to a member who reaches age 70 ½ before January 1, 2020: April 1 of the calendar year following the later of the calendar year in

which the member attains age seventy and one-half (70 ½); or April 1 of the calendar year in which the member terminates employment with the city, whichever is later.

- b. With regard to distributions required to be made on or after January 1, 2020 to a member who reaches the age of 70 ½ on or after said date: April 1 of the calendar year that next follows the calendar year in which the member attains or will attain the age of 72 years, or April 1 of the calendar year that next follows the calendar year in which the member retires, whichever is later.

SECTION THREE. All ordinances or parts of ordinances in conflict herewith be and the same are hereby repealed to the extent of such conflict.

SECTION FOUR. If any section, subsection, sentence, clause, phrase of this ordinance, or the particular application thereof shall be held invalid by any court, administrative agency, or other body with appropriate jurisdiction, the remaining section, subsection, sentences, clauses, or phrases under application shall not be affected thereby.

SECTION FIVE. That this Ordinance shall be effective upon passage; however, the provisions of this Ordinance that are specified to take effect as of a date certain shall take effect as of the date specified herein.

PASSED UPON at the first reading of the City Commission, this 6th day of April, 2021.

PASSED UPON at the second and final reading of the City Commission, this 20th day of April, 2021.

BILL PARTINGTON
Mayor

ATTEST:

KATE SETTLE
City Clerk



February 19, 2021

VIA EMAIL

Board of Trustees
City of Ormond Beach
General Employees' Pension Plan

Re: City of Ormond Beach General Employees' Pension Plan

Dear Board:

In response to a request from Pedro Herrera, we have reviewed the proposed Ordinance to amend the plan to comply with the Setting Every Community Up for Retirement Enhancement ("SECURE") Act that increases the age at which distributions are required to commence from age 70 ½ to age 72.

We have determined that the adoption of these provisions will have no impact on the assumptions used in determining the funding requirements of the program. Because the changes do not result in a change in the valuation results, it is our opinion that a formal Actuarial Impact Statement is not required in support of its adoption. However, since the Division of Retirement must be aware of the current provisions of all public pension programs, it is recommended that you send a copy of this letter and a copy of the fully executed Ordinance to the following office:

Mr. Keith Brinkman
Bureau of Local Retirement Systems
Division of Retirement
P. O. Box 9000
Tallahassee, FL 32315-9000

The undersigned is familiar with the immediate and long-term aspects of pension valuations, and meets the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein.

If you have any questions, please let me know.

Sincerely,

A handwritten signature in black ink, appearing to read 'P.T. Donlan'.

Patrick T. Donlan

cc: Pedro Herrera, Board Attorney



CITY OF ORMOND BEACH

City Manager • 22 S. Beach Street • Ormond Beach • Florida • 32174 • (386) 676-3200 • Fax (386) 676-3384

CITY MANAGER MEMORANDUM

To: The Honorable Mayor Partington and City Commissioners

Through: Joyce A. Shanahan, City Manager

From: Kelly McGuire, Finance Director

Date: April 6, 2021

Subject: Firefighters' Pension Ordinance

Commission Goal: N/A

Introduction

This item amends Section 16-46 and 16-55 of the Firefighters' Pension Ordinance.

Background

The City's pension ordinances must comply with federal guidelines and the most current Collective Bargaining Agreement. This agenda item serves the administrative purpose of updating the ordinance to comply with a change in federal guidelines as well as a change agreed upon through the collective bargaining process between the City of Ormond Beach and the Firefighters union, International Association of Fire Fighters (IAFF).

Discussion

The Setting Every Community Up for Retirement Enhancement Act (SECURE Act) provides provisions to enhance tax-advantaged retirement accounts. The SECURE Act increases the age for required minimum distribution of retirement accounts from 70 1/2 to 72 for those who reach age 70 1/2 on or after January 1, 2020. As such, the Firefighters' Pension Ordinance is being amended to comply with revised minimum distribution age.

Additionally, the ordinance is being amended to incorporate a change negotiated as part of the October 1, 2019 to September 30, 2022 Firefighters Collective Bargaining Agreement (CBA), which provides a lifetime benefit to a beneficiary in the event of the pre-retirement death of the member. Previously, the beneficiary benefit was paid out for a maximum of ten years. The cost of this revised benefit is fully funded by the member through an increase in the employee contribution of 0.2%.

The ordinance amendment was reviewed by the Firefighters' Pension Board at their

February 19, 2021 meeting. The board recommended approval of the amendment by the City Commission.

Budget Impact

There is no financial impact to this ordinance change. The pension members will fund the pre-retirement death benefit change with an increase in their contributions from 8.4% to 8.6%. There is no cost to the increase in the required minimum distribution age.

Citizen Impact

There is no citizen impact related to this ordinance change.

Recommendation

Staff recommends approval of the proposed ordinance amendment.

Attachments:

- 21-14 Firefighters Pension (P21-0028G) (PDF)
- Ormond Beach Fire Actuarial Impact Statement 2-19-21(PDF)

REVIEWED BY:


Kelly McGuire, Finance Director 3/16/2021


Claire Whitley, Assistant City Manager 3/29/2021

APPROVED BY:


Joyce A. Shanahan, City Manager 3/31/2021

ORDINANCE NO. 2021-14

AN ORDINANCE OF THE CITY OF ORMOND BEACH, FLORIDA, AMENDING ARTICLE III, FIREFIGHTERS' PENSION TRUST FUND, OF CHAPTER 16, PENSIONS AND RETIREMENT, OF THE CODE OF ORDINANCES; AMENDING SECTION 16-44, CONTRIBUTIONS; AMENDING SECTION 16-45, BENEFIT AMOUNTS AND ELIGIBILITY; AMENDING SECTION 16-46, PRE- RETIREMENT DEATH; AMENDING SECTION 16-55, MINIMUM DISTRIBUTION OF BENEFITS; PROVIDING FOR COMPLIANCE WITH THE SECURE ACT; PROVIDING FOR SEVERABILITY OF PROVISIONS; REPEALING ALL ORDINANCES IN CONFLICT HEREWITH AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Setting Every Community Up for Retirement Enhancement (“SECURE”) Act, signed into law on December 20, 2019, amended the definition of “Required Beginning Date” under Section 401(a)(9) of the Internal Revenue Code; and

WHEREAS, amendments to the Plan are necessary to conform the Pension Trust Fund to the requirements of the SECURE Act; and

WHEREAS, an amendment to the plan is necessary to comply with existing collective bargaining agreements agreed upon benefit structure; and

WHEREAS, the Board of Trustees of the City of Ormond Beach Firefighters’ Pension Trust Fund has recommended an amendment to the Pension Trust Fund to comply with the SECURE Act; and

WHEREAS, the Trustees of the City of Ormond Beach Firefighters’ Pension Trust Fund have requested and approved the amendments provided herein as being in the best interests of the participants and beneficiaries and improving the administration of the Fund; and

WHEREAS, the City Commission has received and reviewed an actuarial impact statement related to this change and attached as such; and

WHEREAS, the City Commission deems it to be in the public interest to provide this change to the Pension Trust Fund for its Firefighters, now therefore,

BE IT ENACTED BY THE PEOPLE OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:

SECTION ONE. Section 16-44, Contributions, of Article III, Firefighters' Pension Trust Fund, of Chapter 16, Pensions and Retirement, of the City of Ormond Beach, Florida, Code of Ordinances, is hereby amended by amending subparagraph (a), *Member contributions*, subparagraph (1), *Amount*, to read as follows:

Sec. 16-44. Contributions.

(a) *Member contributions.*

- (1) *Amount.* Each member of the system shall be required to make regular contributions to the fund in the amount of ~~8.4~~ 8.6% percent of his salary. Member contributions withheld by the city on behalf of the member shall be deposited with the board immediately after each pay period. The contributions made by each member to the fund shall be designated as employer contributions pursuant to section 414(h) of the Code. Such designation is contingent upon the contributions being excluded from the members' gross income for federal income tax purposes. For all other purposes of the system, such contributions shall be considered to be member contributions.

SECTION TWO. Section 16-45, Benefit amounts and eligibility, of Article III, Firefighters' Pension Trust Fund, of Chapter 16, Pensions and Retirement, of the City of Ormond Beach, Florida, *Code of Ordinances*, is hereby amended by amending subparagraph (e), *Required distribution date*, to read as follows:

Sec. 16-45. Benefit amounts and eligibility.

- (e) *Required distribution date.* The member's benefit under this section must begin to be distributed to the member no later than as required by applicable

Internal Revenue Code provisions as provided for in Sec. 16-55 of the Code. April 1 of the calendar year following the later of the calendar year in which the member attains age 70.5 or the calendar year in which the member terminates employment with the city.

SECTION THREE. Section 16-46, Pre-retirement death, of Article III, Firefighters' Pension Trust Fund, of Chapter 16, Pensions and Retirement, of the City of Ormond Beach, Florida, *Code of Ordinances*, is hereby further amended by amending subparagraph (c), *Additional provisions for spouse as beneficiary*, and (d), *Additional provisions for non-spouse beneficiary*, to read as follows:

Sec. 16-46. Pre-retirement death.

- (c) *Additional provisions for spouse as beneficiary.* This subsection (c) applies only when the member's spouse is the sole designated beneficiary. The spouse beneficiary of any member who dies and who, at the date of his death was vested or eligible for early or normal retirement, shall be entitled to a benefit as follows:
 - (1) If the member was vested, but not eligible for normal or early retirement, the spouse beneficiary shall receive a benefit payable for ~~ten (10) years~~ the lifetime of the beneficiary, beginning on the date that the deceased member would have been eligible for early or normal retirement, at the option of the spouse beneficiary. The benefit shall be calculated as for normal retirement based on the deceased member's credited service and average final compensation as of the date of his death and reduced as for early retirement, if applicable. The spouse beneficiary may also elect to receive an immediate benefit, payable for ~~ten (10) years~~ the lifetime of the beneficiary, which is actuarially reduced to reflect the commencement of benefits prior to the early retirement date.
 - (2) If the deceased member was eligible for normal or early retirement, the spouse beneficiary shall receive a benefit payable for ~~ten (10) years~~ the lifetime of the beneficiary, beginning on the first day of the month following the member's death or at the deceased member's otherwise early or normal retirement date, at the option of the spouse beneficiary. The benefit shall be calculated as for normal retirement based on the deceased member's credited service and

average final compensation as of the date of his death and reduced as for early retirement, if applicable.

[No change to text in (3), (4), (5), (6)]

- (d) *Additional provisions for non-spouse beneficiary.* This subsection applies only when the member's spouse is not the designated beneficiary or is not the sole designated beneficiary, but there is a surviving beneficiary. The beneficiary of any member who dies and who, at the date of his death was vested or eligible for early or normal retirement, shall be entitled to a benefit as follows:
- (1) If the member was vested, but not eligible for normal or early retirement, the designated beneficiary will receive a benefit payable for ~~ten (10) years~~ the lifetime of the designated beneficiary. The benefit will begin by December 31 of the calendar year immediately following the calendar year in which the member died. The benefit will be calculated as for normal retirement based on the deceased member's credited service and average final compensation and actuarially reduced to reflect the commencement of benefits prior to the normal retirement date.
 - (2) If the deceased member was eligible for normal or early retirement, the beneficiary will receive a benefit payable for ~~ten (10) years~~ the lifetime of the designated beneficiary, beginning on the first day of the month following the member's death. The benefit will be calculated as for normal retirement based on the deceased member's credited service and average final compensation as of the date of his death and reduced for early retirement, if applicable.
 - (3) A designated beneficiary may not elect an optional form of benefit; however, the board may elect to make a lump sum payment pursuant to Sec. 16-49, subsection (g).
 - (4) A designated beneficiary, may, in lieu of any benefit provided for in (1) or (2) above, elect to receive a refund of the deceased member's accumulated contributions.
 - (5) If a surviving designated beneficiary commences receiving a benefit under subsection (1) or (2) above, but dies before all payments are made, the actuarial value of the remaining benefit will be paid to the surviving beneficiary's estate by December 31 of the calendar year of the beneficiary's death in a lump sum.

- (6) If there is no surviving designated beneficiary as of the member's death, and the estate is to receive the benefits, the actuarial equivalent of the member's entire interest must be distributed by December 31 of the calendar year containing the fifth anniversary of the member's death.
- (7) The Uniform Lifetime Table in Treasury Regulations § 1.401(a)(9)-9 shall determine the payment period for the calendar year benefits commence, if necessary, to satisfy the regulations.

SECTION FOUR. Section 16-55, Minimum Distribution of Benefits, of Article III, Firefighters' Pension Trust Fund, of Chapter 16, Pensions and Retirement, of the City of Ormond Beach, Florida, *Code of Ordinances*, is hereby amended by amending subsection (b), *Time and manner of distribution*, (1) *Required beginning date*, to read as follows:

Sec. 16-55. Minimum distribution of benefits.

(b) *Time and manner of distribution.*

- (4) ~~*Required beginning date.* The member's entire interest will be distributed, or begin to be distributed, to the member no later than the member's required beginning date which shall not be later than April 1 of the calendar year following the later of the calendar year in which the member attains age 70.5 or the calendar year in which the member terminates employment with the city.~~
- (1) *Required beginning date.* The member's entire interest will be distributed, or begin to be distributed, to the member no later than:
 - a. With regard to distributions required to be made to a member who reaches age 70 ½ before January 1, 2020: April 1 of the calendar year following the later of the calendar year in which the member attains age seventy and one-half (70 ½); or April 1 of the calendar year in which the member terminates employment with the city, whichever is later.
 - b. With regard to distributions required to be made on or after January 1, 2020 to a member who reaches the age of 70 ½ on or after said date: April 1 of the calendar year that next

follows the calendar year in which the member attains or will attain the age of 72 years, or April 1 of the calendar year that next follows the calendar year in which the member retires, whichever is later.

SECTION FIVE. All ordinances or parts of ordinances in conflict herewith be and the same are hereby repealed to the extent of such conflict.

SECTION SIX. If any section, subsection, sentence, clause, phrase of this ordinance, or the particular application thereof shall be held invalid by any court, administrative agency, or other body with appropriate jurisdiction, the remaining section, subsection, sentences, clauses, or phrases under application shall not be affected thereby.

SECTION SEVEN. That this Ordinance shall be effective upon passage; however, the provisions of this Ordinance that are specified to take effect as of a date certain shall take effect as of the date specified herein.

PASSED UPON at the first reading of the City Commission, this 6th day of April, 2021.

PASSED UPON at the second and final reading of the City Commission, this 20th day of April, 2021.

BILL PARTINGTON
Mayor

ATTEST:

KATE SETTLE
City Clerk

CITY OF ORMOND BEACH
FIREFIGHTERS' RETIREMENT TRUST FUND
ACTUARIAL IMPACT STATEMENT

February 19, 2021
(Page 1)

Attached hereto is a comparison of the impact on the Total Required Contribution (per Chapter 112, Florida Statutes) resulting from the implementation of the following benefit changes:

- 1.) Provide that the benefit payable to future pre-retirement death beneficiaries will be payable for the life of the beneficiary, rather than for a 10-year period.
- 2.) Increase the Member Contribution Rate from 8.4% to 8.6% of Salary.

The cost impact, determined as of October 1, 2019, as applicable for the fiscal year ending September 30, 2021, is as follows:

	<u>Proposed</u>	<u>Current</u>
Total Required Contribution % of Pensionable Payroll	58.9%	58.7%
Expected Member Contributions % of Pensionable Payroll	8.6%	8.4%
Required City & State % of Pensionable Payroll	50.3%	50.3%
Expected State Contribution ¹ % of Pensionable Payroll	306,261 10.4%	306,261 10.4%
Required City Contributions % of Pensionable Payroll	39.9%	39.9%

¹ Represents the amount received in calendar 2019. As per a Mutual Consent Agreement between the Membership and the City, State Monies received up to \$348,933.85 each year will be available to offset the City's required contribution.

CITY OF ORMOND BEACH
FIREFIGHTERS' RETIREMENT TRUST FUND

ACTUARIAL IMPACT STATEMENT

February 19, 2021
(Page 2)

The changes presented herein are in compliance with Part VII, Chapter 112, Florida Statutes and Section 14, Article X of the State Constitution. The undersigned is familiar with the immediate and long-term aspects of pension valuations, and meets the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report and the October 1, 2019 actuarial valuation report are considered an integral part of the actuarial opinions.



Patrick T. Donlan, ASA, MAAA
Enrolled Actuary #20-6595

STATEMENT OF PLAN ADMINISTRATOR

The prepared information presented herein reflects the estimated cost of each proposed change.

Board of Trustees

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	New Benefits <u>10/1/2019</u>	Old Benefits <u>10/1/2019</u>
A. Participant Data		
Actives	44	44
Service Retirees	40	40
DROP Retirees	2	2
Beneficiaries	2	2
Disability Retirees	2	2
Terminated Vested	<u>3</u>	<u>3</u>
Total	93	93
Total Annual Payroll	\$2,954,168	\$2,954,168
Payroll Under Assumed Ret. Age	2,954,168	2,954,168
Annual Rate of Payments to:		
Service Retirees	1,887,130	1,887,130
DROP Retirees	96,478	96,478
Beneficiaries	69,657	69,657
Disability Retirees	66,138	66,138
Terminated Vested	24,000	24,000
B. Assets		
Actuarial Value (AVA) ¹	31,638,559	31,638,559
Market Value (MVA) ¹	31,128,040	31,128,040
C. Liabilities		
Present Value of Benefits		
Actives		
Retirement Benefits	17,441,046	17,441,046
Disability Benefits	79,046	78,856
Death Benefits	92,744	51,768
Vested Benefits	718,204	718,205
Refund of Contributions	77,794	76,599
Service Retirees	21,594,718	21,594,718
DROP Retirees ¹	1,578,377	1,578,377
Beneficiaries	794,566	794,566
Disability Retirees	865,672	865,672
Terminated Vested	266,231	266,231
Share Plan Balances ¹	<u>175,652</u>	<u>175,652</u>
Total	43,684,050	43,641,690

C. Liabilities - (Continued)	New Benefits <u>10/1/2019</u>	Old Benefits <u>10/1/2019</u>
Present Value of Future Salaries	15,391,326	15,391,326
Present Value of Future Member Contributions	1,323,654	1,292,871
Normal Cost (Retirement)	682,192	682,192
Normal Cost (Disability)	13,477	13,446
Normal Cost (Death)	9,729	5,526
Normal Cost (Vesting)	61,852	61,853
Normal Cost (Refunds)	<u>11,123</u>	<u>10,971</u>
Total Normal Cost	778,373	773,988
Present Value of Future Normal Costs	3,662,747	3,643,614
Accrued Liability (Retirement)	14,296,191	14,296,191
Accrued Liability (Disability)	25,407	25,356
Accrued Liability (Death)	52,147	29,098
Accrued Liability (Vesting)	362,494	362,494
Accrued Liability (Refunds)	9,848	9,721
Accrued Liability (Inactives) ¹	25,099,564	25,099,564
Share Plan Balances ¹	<u>175,652</u>	<u>175,652</u>
Total Actuarial Accrued Liability (EAN AL)	40,021,303	39,998,076
Unfunded Actuarial Accrued Liability (UAAL)	8,382,744	8,359,517
Funded Ratio (AVA / EAN AL)	79.1%	79.1%

D. Actuarial Present Value of Accrued Benefits	New Benefits <u>10/1/2019</u>	Old Benefits <u>10/1/2019</u>
Vested Accrued Benefits		
Inactives + Share Plan Balances ¹	25,275,216	25,275,216
Actives	10,067,191	10,044,186
Member Contributions	<u>2,313,178</u>	<u>2,313,178</u>
Total	37,655,585	37,632,580
Non-vested Accrued Benefits	<u>314,522</u>	<u>312,904</u>
Total Present Value		
Accrued Benefits (PVAB)	37,970,107	37,945,484
Funded Ratio (MVA / PVAB)	82.0%	82.0%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:		
Plan Amendments	24,623	
Assumption Changes	0	
Plan Experience	0	
Benefits Paid	0	
Interest	0	
Other	<u>0</u>	
Total	24,623	

Valuation Date	New Benefits	Old Benefits
Applicable to Fiscal Year Ending	10/1/2019	10/1/2019
	<u>9/30/2021</u>	<u>9/30/2021</u>
E. Pension Cost		
Normal Cost (with interest)		
% of Total Annual Payroll ²	27.3	27.1
Administrative Expenses (with interest)		
% of Total Annual Payroll ²	1.6	1.6
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 30 years (as of 10/1/2019, with interest)		
% of Total Annual Payroll ²	30.0	30.0
Minimum Required Contribution		
% of Total Annual Payroll ²	58.9	58.7
Expected Member Contributions		
% of Total Annual Payroll ²	8.6	8.4
Expected City and State Contribution		
% of Total Annual Payroll ²	50.3	50.3

¹ The asset values and liabilities include accumulated DROP and Share Plan Balances as of 9/30/2019.

² Contributions developed as of 10/1/2019 are expressed as a percentage of total annual payroll at 10/1/2019 of \$2,954,168.

ACTUARIAL ASSUMPTIONS AND METHODS

Mortality Rate

Healthy Active Lives:

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB

Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB

Healthy Inactive Lives:

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB

Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB

Disabled Lives:

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale

Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2018 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

Interest Rate

7.00% 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.

Salary Increases

5.5% per year up to the assumed Pension age; see table on following page. Projected salary at Pension is increased individually to account for non-regular payments. This rate is consistent with similar Firefighter Plans across the State.

Payroll Growth

0.00% 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.

Administrative Expenses

\$46,694 annually, based on the average of actual expenses incurred in the prior two fiscal years.

Amortization Method

New UAAL amortization bases are established according to the following amortization periods:

Experience: 30 Years.

Assumption/Method Changes: 30 Years.

Benefit Changes: 30 Years.

Termination Rates

See tables below (1302). This assumption is supported by the results of an experience study dated August 10, 2011.

Disability Rates

See tables below (1201). This assumption is consistent with those used by other Florida municipal public safety plans.

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. We feel this is reasonable based on Plan provisions.

Early Pension

Commencing at the member's eligibility for Early Pension (age 50), members are assumed to retire with an immediate, subsidized benefit at the rate of 5% per year. We feel this is reasonable based on Plan provisions.

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 DROP and BACDROP benefits.

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 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.

% Terminating During the Year		% Becoming Disabled During the Year		Current Salary as a % of Salary at age 55	
Age	Rate	Age	Rate	Age	Rate
20	6.0%	20	0.03%	20	15.40%
30	5.0%	30	0.04%	30	26.20%
40	2.6%	40	0.07%	40	44.80%
50	0.8%	50	0.18%	50	76.50%

SUMMARY OF CURRENT PLAN
Through Ordinance No. 17-31

<u>Eligibility</u>	Employees who are classified as full-time Firefighters shall participate in the System as a condition of employment.
<u>Credited Service</u>	Total years and fractional parts of years of service with the City as a Firefighter.
<u>Salary</u>	Total compensation reportable on the member's W-2 form plus all tax deferred, tax sheltered, and tax exempt items of income. Overtime hours are limited to 300 hour per year and the maximum personal leave that can be included is the amount as of May 20, 2014.
<u>Average Final Compensation</u>	Average Salary for the best 5 years of Credited Service.
<u>Member Contributions</u>	8.4% of Salary.
<u>City and State Contributions</u>	Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, as provided in Part VII of Chapter 112, Florida Statutes.
<u>Normal Pension</u>	
Date	Earlier of Age 60, Age 55 and 10 years of Credited Service, or 20 years of Credited Service. For Members hired on or after May 20, 2014 the earlier of Age 60, Age 55 and 10 years of Credited Service, or Age 52 and the completion of 25 years of Credited Service.
Benefit	For Members hired before May 20, 2014, 3.37% of Average Final Compensation times Credited Service. For Members hired on or after May 20, 2014, 2.75% of Average Final Compensation times Credited Service.
Form of Benefit	Ten Year Certain and Life Annuity (options available). These options include a partial (up to 25%) lump sum of the full value of their Pension benefits in exchange for a monthly benefit that is reduced by that same percentage.

Early Pension

Eligibility	Age 50 and 10 Years of Credited Service.
Benefit	Accrued benefit, reduced 3% per year.

Vesting

Schedule	100% after 10 years of Credited Service.
Benefit Amount	Member will receive the vested portion of his (her) accrued benefit payable at the otherwise Normal Pension Date.

Disability

Eligibility	
Service Incurred	Covered from Date of Employment.
Non-Service Incurred	10 years of Credited Service.
Exclusions	Disability resulting from use of drugs, illegal participation in riots, service in military, etc.
Benefit	Benefit accrued to date of disability but not less than 42% of Average Final Compensation (Service Incurred).
Duration	Payable for life with ten years certain or until recovery (as determined by the Board). Options available.

Death Benefits

Pre-Pension	
Vested	Monthly accrued benefit payable to designated beneficiary for 10 years.
Non-Vested	Refund of accumulated contributions without interest.
Post-Pension	Benefits payable to beneficiary in accordance with option selected at Pension.

Board of Trustees

- a. Two Commission appointees,
- b. Two Members of the Department elected by the membership, and
- c. Fifth Member elected by other 4 appointed by Commission.

Deferred Pension Option Plan

Eligibility	Hired before May 20, 2014 and satisfaction of Normal Pension requirements (Earlier of Age 60, Age 55 and 10 years of Credited Service, or 20 years of Credited Service).
Participation	Not to exceed 60 months, or the date on which the Member completes 35 years of Service, if earlier.
Rate of Return	Rate of return earned by the fund with a minimum of 0% for each quarter.
Form of Distribution	Cash lump sum (options available) at termination of employment.

BAC-DROP

Eligibility	Hired before May 20, 2014 and satisfaction of Normal Pension requirements.
Participation	Upon election to retroactively enter DROP, the BAC-DROP period will not exceed 60 months, or the date on which the Member completes 35 years of Service, if earlier.
Rate of Return	Rate of return earned by the fund with a minimum of 0% for each quarter.
Form of Distribution	Cash lump sum (options available) at termination of employment.

Chapter 175 Share Accounts

Initial Allocation

As of September 30, 2015, the amount of any premium tax monies allocated to the share plan from 2006, 2007, 2008 and 2014 was allocated to individual share accounts for Members of the System still employed on December 9, 2015.

Subsequent Allocations

Available premium tax monies shall be allocated in a manner to be negotiated.

Investment Earnings

Net rate of investment return.

Distribution

Lump sum payment at retirement, termination, disability, or death.



CITY OF ORMOND BEACH

City Manager • 22 S. Beach Street • Ormond Beach • Florida • 32174 • (386) 676-3200 • Fax (386) 676-3384

CITY MANAGER MEMORANDUM

To: The Honorable Mayor Partington and City Commissioners

Through: Joyce A. Shanahan, City Manager

From: Kelly McGuire, Finance Director

Date: April 6, 2021

Subject: Police Officers' Pension Ordinance

Commission Goal: N/A

Introduction

This item amends Section 16-76 and 16-86 of the Police Officers' Pension Ordinance.

Background

The City's pension ordinances must comply with federal guidelines and the most current Collective Bargaining Agreement. This agenda item serves the administrative purpose of updating the ordinance to comply with a change in federal guidelines as well as changes agreed upon through the collective bargaining process between the City of Ormond Beach and the Police union, Fraternal Order of Police (FOP), and as required by the Florida Division of Retirement.

Discussion

The Setting Every Community Up for Retirement Enhancement Act (SECURE Act) provides provisions to enhance tax-advantaged retirement accounts. The SECURE Act increases the age for required minimum distribution of retirement accounts from 70 1/2 to 72 for those who reach age 70 1/2 on or after January 1, 2020. As such, the Police Officers' Pension Ordinance is being amended to comply with revised minimum distribution age.

Additionally, the ordinance amends language related to benefit eligibility. For employees hired on or after June 1, 2014, normal retirement age is the earlier of the attainment of age 60, the attainment of age 55 with 10 years of service, or the attainment of age 52 with 25 years of service. Retirement after 20 years of service with no age requirement is no longer available for those hired on or after June 1, 2014.

This provision was negotiated and enacted several years ago absent the language permitting retirement at age 52 with 25 years of service. However, the Florida Division

of Retirement indicated the additional language must be included in order to meet minimum benefit requirements for receiving state pension monies. Thus, the City had to renegotiate the additional language during the last bargaining session and incorporate the language in the current Collective Bargaining Agreement (CBA).

The ordinance amendment was reviewed by the Police Officers' Pension Board at their February 19, 2021 meeting. The board recommended approval of the amendment by the City Commission.

Budget Impact

There is no cost to the increase in the required minimum distribution age. The age and service requirement change **reduces** the City's contribution by an estimated 0.9% annually.

Citizen Impact

There is no citizen impact related to this ordinance change.

Recommendation

Staff recommends approval of the proposed ordinance amendment.

Attachments:

- 21-15 Police Officer Pension (P21-0029G)(PDF)
- 2021.02.19 Ormond Beach Police AIS (PDF)

REVIEWED BY:


Kelly McGuire, Finance Director 3/16/2021


Claire Whitley, Assistant City Manager 3/29/2021

APPROVED BY:


Joyce A. Shanahan, City Manager 3/31/2021

ORDINANCE NO. 2021-15

AN ORDINANCE OF THE CITY OF ORMOND BEACH, FLORIDA, AMENDING ARTICLE IV, POLICE OFFICERS' PENSION TRUST FUND, OF CHAPTER 16, PENSIONS AND RETIREMENT, OF THE CODE OF ORDINANCES; AMENDING SECTION 16-76, BENEFIT AMOUNTS AND ELIGIBILITY; AMENDING SECTION 16-86, MINIMUM DISTRIBUTION OF BENEFITS; PROVIDING FOR COMPLIANCE WITH THE SECURE ACT; PROVIDING FOR SEVERABILITY OF PROVISIONS; REPEALING ALL ORDINANCES IN CONFLICT HERewith AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Setting Every Community Up for Retirement Enhancement ("SECURE") Act, signed into law on December 20, 2019, amended the definition of "Required Beginning Date" under Section 401(a)(9) of the Internal Revenue Code; and

WHEREAS, amendments to the Plan are necessary to conform the Pension Trust Fund to the requirements of the SECURE Act; and

WHEREAS, an amendment to the plan is necessary to comply with existing collective bargaining agreements agreed upon benefit structure; and

WHEREAS, the Board of Trustees of the City of Ormond Beach Police Officers' Pension Trust Fund has recommended an amendment to the Pension Trust Fund to comply with the SECURE Act; and

WHEREAS, the Trustees of the City of Ormond Beach Police Officers' Pension Trust Fund have requested and approved the amendments provided herein as being in the best interests of the participants and beneficiaries and improving the administration of the Fund; and

WHEREAS, the City Commission has received and reviewed an actuarial impact statement related to this change and attached as such; and

WHEREAS, the City Commission deems it to be in the public interest to provide this change to the Pension Trust Fund for its Police Officers; now therefore,

BE IT ENACTED BY THE PEOPLE OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:

SECTION ONE. Section 16-76, Benefit amounts and eligibility, of Article IV, Police Officers' Pension Trust Fund, of Chapter 16, Pensions and Retirement, of the City of Ormond Beach, Florida, *Code of Ordinances*, is hereby amended by amending subparagraphs (a) *Normal retirement age and date*, and (f) *Required distribution date*, to read as follows:

Sec. 16-76. Benefit amounts and eligibility.

- (a) *Normal retirement age and date.* A member's normal retirement age is the earlier of the attainment of age 60, the attainment of age 55 and the completion of ten years of credited service or the completion of 20 years of credited service. Normal retirement age for members hired on or after June 1, 2014 shall be the earlier of either the attainment of age 55 and the completion of ten years of credited service, or age 52 and the completion of 25 years of credited service, or age 60. Each member shall become 100 percent vested in his accrued benefit at normal retirement age. A member's normal retirement date shall be the first day of the month coincident with or next following the date the member retires from the city after attaining normal retirement age.
- (f) *Required distribution date.* The member's benefit under this section must begin to be distributed to the member no later than as required by applicable Internal Revenue Code provisions as provided for in Sec. 16-86 of the Code. ~~April 1 of the calendar year following the later of the calendar year in which the member attains age 70.5 or the calendar year in which the member terminates employment with the city.~~

SECTION TWO. Section 16-86, Minimum Distribution of Benefits, of Article IV, Police Officers' Pension Trust Fund, of Chapter 16, Pensions and Retirement, of the City of Ormond Beach, Florida, *Code of Ordinances*, is hereby amended by amending subsection (b)(1), *Time and manner of distribution*, to read as follows:

Sec. 16-86. Minimum distribution of benefits.

(b) *Time and manner of distribution.*

~~(1) *Required beginning date.* The member's entire interest will be distributed, or begin to be distributed, to the member no later than the member's required beginning date which shall not be later than April 1 of the calendar year following the later of the calendar year in which the member attains age 70.5 or the calendar year in which the member terminated employment with the city.~~

(1) *Required beginning date.* The member's entire interest will be distributed, or begin to be distributed, to the member no later than:

a. With regard to distributions required to be made to a member who reaches age 70 ½ before January 1, 2020: April 1 of the calendar year following the later of the calendar year in which the member attains age seventy and one-half (70 ½); or April 1 of the calendar year in which the member terminates employment with the city, whichever is later.

b. With regard to distributions required to be made on or after January 1, 2020 to a member who reaches the age of 70 ½ on or after said date: April 1 of the calendar year that next follows the calendar year in which the member attains or will attain the age of 72 years, or April 1 of the calendar year that next follows the calendar year in which the member retires, whichever is later.

SECTION THREE. All ordinances or parts of ordinances in conflict herewith be and the same are hereby repealed to the extent of such conflict.

SECTION FOUR. If any section, subsection, sentence, clause, phrase of this ordinance, or the particular application thereof shall be held invalid by any court, administrative agency, or other body with appropriate jurisdiction, the remaining section, subsection, sentences, clauses, or phrases under application shall not be affected thereby.

SECTION FIVE. That this Ordinance shall be effective upon passage; however, the provisions of this Ordinance that are specified to take effect as of a date certain shall take effect as of the date specified herein.

PASSED UPON at the first reading of the City Commission, this 6th day of April, 2021.

PASSED UPON at the second and final reading of the City Commission, this 20th day of April, 2021.

BILL PARTINGTON
Mayor

ATTEST:

KATE SETTLE
City Clerk

CITY OF ORMOND BEACH
POLICE OFFICERS' TRUST FUND

ACTUARIAL IMPACT STATEMENT

February 19, 2021
(Page 1)

Attached hereto is a comparison of the impact on the Minimum Required Contribution (per Chapter 112, Florida Statutes) and the Required City Contribution, resulting from the implementation of the following changes:

The Normal Retirement eligibility for members hired after May 31, 2014 will be the earlier of Age 60, Age 55 with 10 years of Credited Service, or Age 52 with 25 years of Credited Service.

The cost impact, determined as of October 1, 2019, applicable to the fiscal year ending September 30, 2021, is as follows:

	<u>Proposed</u>	<u>Current</u>
Minimum Required Contribution % of Projected Annual Payroll	52.1%	53.0%
Member Contributions (Est.) % of Projected Annual Payroll	9.0%	9.0%
City And State Required Contribution % of Projected Annual Payroll	43.1%	44.0%
State Contribution (Est.) ¹ % of Projected Annual Payroll	\$411,220 9.8%	\$411,220 9.8%
City Required Contribution ² % of Projected Annual Payroll	33.3%	34.2%

¹ Represents the amount received in calendar 2020. As per a Mutual Consent Agreement between the Membership and the City, State Monies received each year up to \$544,533.32 will be available to offset the City's required contribution.

CITY OF ORMOND BEACH
POLICE OFFICERS' TRUST FUND

ACTUARIAL IMPACT STATEMENT

February 19, 2021
(Page 2)

The changes presented herein are in compliance with Part VII, Chapter 112, Florida Statutes and Section 14, Article X of the State Constitution. The undersigned is familiar with the immediate and long-term aspects of pension valuations and meets the Qualification Standards of the American Academy of Actuaries necessary to render the opinions contained herein.

All assumptions and methods used are the same as described in the October 1, 2019 actuarial valuation report unless otherwise indicated. All of the sections of this report are considered an integral part of the actuarial opinions.



Patrick T. Donlan, ASA, EA, MAAA
Enrolled Actuary #20-6595

STATEMENT OF PLAN ADMINISTRATOR

The prepared information presented herein reflects the estimated impact of the proposed amendment.

Chairman, Board of Trustees

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	New Benefits <u>10/1/2019</u>	Old Benefits <u>10/1/2019</u>
A. Participant Data		
Actives	70	70
Service Retirees	59	59
DROP Retirees	1	1
Beneficiaries	0	0
Disability Retirees	3	3
Terminated Vested	<u>7</u>	<u>7</u>
Total	140	140
Total Annual Payroll	\$4,181,889	\$4,181,889
Payroll Under Assumed Ret. Age	4,181,889	4,181,889
Annual Rate of Payments to:		
Service Retirees	2,407,593	2,407,593
DROP Retirees	34,940	34,940
Beneficiaries	0	0
Disability Retirees	50,994	50,994
Terminated Vested	33,159	33,159
B. Assets		
Actuarial Value (AVA) ¹	36,604,888	36,604,888
Market Value (MVA) ¹	35,915,981	35,915,981
C. Liabilities		
Present Value of Benefits		
Actives		
Retirement Benefits	19,978,945	19,861,924
Disability Benefits	107,238	95,668
Death Benefits	84,011	71,655
Vested Benefits	1,553,693	1,777,517
Refund of Contributions	261,323	261,323
Service Retirees	31,117,205	31,117,205
DROP Retirees ¹	714,213	714,213
Beneficiaries	0	0
Disability Retirees	631,943	631,943
Terminated Vested	<u>361,620</u>	<u>361,620</u>
Total	54,810,191	54,893,068

C. Liabilities - (Continued)	New Benefits <u>10/1/2019</u>	Old Benefits <u>10/1/2019</u>
Present Value of Future Salaries	29,821,719	28,199,260
Present Value of Future Member Contributions	2,683,955	2,537,933
Normal Cost (Retirement)	942,208	956,012
Normal Cost (Disability)	12,586	11,899
Normal Cost (Death)	6,828	5,976
Normal Cost (Vesting)	96,330	116,062
Normal Cost (Refunds)	<u>39,222</u>	<u>39,222</u>
Total Normal Cost	1,097,174	1,129,171
Present Value of Future Normal Costs	7,266,224	7,285,911
Accrued Liability (Retirement)	13,710,109	13,727,997
Accrued Liability (Disability)	23,061	22,157
Accrued Liability (Death)	36,908	35,795
Accrued Liability (Vesting)	895,276	942,595
Accrued Liability (Refunds)	53,632	53,632
Accrued Liability (Inactives) ¹	<u>32,824,981</u>	<u>32,824,981</u>
Total Actuarial Accrued Liability (EAN AL)	47,543,967	47,607,157
Unfunded Actuarial Accrued Liability (UAAL)	10,939,079	11,002,269
Funded Ratio (AVA / EAN AL)	77.0%	76.9%

D. Actuarial Present Value of Accrued Benefits	New Benefits <u>10/1/2019</u>	Old Benefits <u>10/1/2019</u>
Vested Accrued Benefits		
Inactives ¹	32,824,981	32,824,981
Actives	7,254,823	7,256,517
Member Contributions	<u>2,409,597</u>	<u>2,409,597</u>
Total	42,489,401	42,491,095
Non-vested Accrued Benefits	<u>1,544,783</u>	<u>1,596,673</u>
Total Present Value		
Accrued Benefits (PVAB)	44,034,184	44,087,768
Funded Ratio (MVA / PVAB)	81.6%	81.5%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:		
Plan Amendments	(53,584)	
Assumption Changes	0	
Plan Experience	0	
Benefits Paid	0	
Interest	0	
Other	<u>0</u>	
Total	(53,584)	

Valuation Date	New Benefits 10/1/2019	Old Benefits 10/1/2019
Applicable to Fiscal Year Ending	<u>9/30/2021</u>	<u>9/30/2021</u>
E. Pension Cost		
Normal Cost (with interest)		
% of Total Annual Payroll ²	27.1	27.9
Administrative Expenses (with interest)		
% of Total Annual Payroll ²	1.0	1.0
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 30 years (as of 10/1/2019, with interest)		
% of Total Annual Payroll ²	24.0	24.1
Minimum Required Contribution		
% of Total Annual Payroll ²	52.1	53.0
Expected Member Contributions		
% of Total Annual Payroll ²	9.0	9.0
Expected City and State Contribution		
% of Total Annual Payroll ²	43.1	44.0

¹ The asset values and liabilities include accumulated DROP Plan Balances as of 9/30/2019.

² Contributions developed as of 10/1/2019 are expressed as a percentage of total annual payroll at 10/1/2019 of \$4,181,889.

ACTUARIAL ASSUMPTIONS AND METHODS

Mortality Rate

Healthy Active Lives:

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB

Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB

Healthy Inactive Lives:

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB

Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB

Disabled Lives:

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale

Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2018 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

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.

Salary Increases

5.50% per year up to the assumed retirement age; see Table below. Projected salary at retirement is increased individually to account for non-regular payments. This is based on the results of an actuarial experience study for the period 1987 - 2010.

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.

Administrative Expenses

\$42,289 annually, based on the average of actual expenses incurred in the prior two fiscal years.

Amortization Method

New UAAL amortization bases are established according to the following amortization periods:

Experience: 30 Years.

Assumption/Method Changes: 30 Years.

Benefit Changes: 30 Years.

Termination Rates

See Tables below. This is based on the results of an actuarial experience study for the period 2002 - 2010.

Disability Rates

See Tables below (1201). It is assumed that 75% of disablements and active member deaths are service related.

Retirement Age

Upon attainment of Normal Retirement Eligibility. We feel this is reasonable based upon the plan provisions.

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.

Salary Increases

5.50% per year up to the assumed retirement age; see Table below. Projected salary at retirement is increased individually to account for non-regular payments. This is based on the results of an actuarial experience study for the period 1987 - 2010.

Funding Method

Entry Age Normal Actuarial Cost Method.

Asset Valuation

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.

% Terminating During the Year		% Becoming Disabled During the Year		Current Salary Scale as a % of Salary at age 50	
Age	Rate	Age	Rate	Age	Rate
20	9.0%	20	0.03%	20	20.10%
30	7.5%	30	0.04%	30	34.30%
40	3.9%	40	0.07%	40	58.50%
50	1.2%	50	0.18%	50	100.00%

SUMMARY OF CURRENT PLAN
(Through Ordinance No. 2017-11)

<u>Eligibility</u>	Full-time employees who are classified as full-time sworn officers participate in the System as a condition of employment.
<u>Credited Service</u>	Total years and fractional parts of years of service with the City as a Police Officer.
<u>Salary</u>	Prior to August 21, 2012: Total Compensation. For service earned on or after August 21, 2012 salary shall not include more than 300 hours of overtime per fiscal year. Unused personal leave time accrued prior to August 21, 2012 or the amount accrued on August 21, 2013 if less and not restored prior to August 21, 2013 shall be included in Salary at retirement. Personal leave time accrued on or after August 21, 2013 cannot be restored.
<u>Average Final Compensation</u>	Average Salary for the best 5 years during the 10 years immediately preceding termination.
<u>Member Contributions</u>	9.00% of Salary
<u>City and State Contributions</u>	Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, as provided in Part VII of Chapter 112, F.S.
<u>Normal Retirement</u>	
Date	Earlier of age 60, age 55 and 10 years of Credited Service, or 20 years of Credited Service. (Earlier of age 60, age 55 and 10 years of Credited Service, or age 52 and 25 years of Credited Service if hired after May 31, 2014.) 3.30% of Average Final Compensation times Credited Service (2.75% if hired on or after August 21, 2012).
Form of Benefit	Ten Year Certain and Life Annuity (options available).
<u>Early Retirement</u>	
Eligibility	Age 45 and 10 Years of Credited Service.
Benefit	Accrued benefit, reduced 3.00% per year.
<u>Cost-of-Living Adjustment</u>	Beginning the first October 1st following one year of retirement, annual adjustments of 1.00%.

Vesting

Schedule	100% after 10 years of Credited Service.
Benefit Amount	Member will receive the vested portion of his (her) accrued benefit payable at the otherwise Normal Retirement Date.

Disability

Eligibility

Service Incurred	Covered from Date of Employment.
Non-Service Incurred	10 years of Credited Service.

Exclusions	Disability resulting from use of drugs, illegal participation in riots, service in military, etc.
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Benefit	Benefit accrued to date of disability but not less than 42% of Average Final Compensation (Service Incurred).
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Duration	Payable for life and ten years certain (options available) or until recovery (as determined by the Board).
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Death Benefits

Pre-Retirement

Vested	Monthly accrued benefit payable to designated beneficiary for 10 years.
Non-Vested	Refund of accumulated contributions without interest.

Post-Retirement	Benefits payable to beneficiary in accordance with option selected at retirement.
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Chapter 185 Share Plan

Established by Ordinance No. 2017-11. The Share Plan is not currently funded.

Board of Trustees

- a. Two Commission appointees,
- b. Two Members of the Department elected by the membership, and
- c. Fifth Member elected by other 4 and appointed by Commission.

Deferred Retirement Option Plan

Eligibility	Satisfaction of Normal Retirement requirements (Earlier of age 60, age 55 and 10 years of Credited Service, or 20 years of Credited Service). Members hired on or after August 21, 2012 are not eligible.
Participation	Not to exceed 60 months, or the date on which the Member completes 30 years of Service, if earlier.
Rate of Return	Participants election: - a.) 6.50% annually for Members who enter DROP prior to August 21, 2012 and 2.00% annually for those who enter DROP on and after August 21, 2012, or - b.) actual net rate of investment return (total return net of brokerage commissions, transaction costs and management fees) credited each fiscal quarter.
Form of Distribution	Cash lump sum (options available) at termination of employment.