City of Ormond Beach

City Commission Meeting

City Hall Commission Chambers

22 South Beach St., Ormond Beach FL 32174

March 13, 2026, 6:00 PM

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

Agenda

1. CALL TO ORDER

2. INVOCATION

3. PLEDGE OF ALLEGIANCE

4. PUBLIC HEARINGS

A. Tomoka Reserve, Issuance of a Development Order

ORDINANCE NO. 2023-55: AN ORDINANCE AUTHORIZING THE EXECUTION AND ISSUANCE OF A DEVELOPMENT ORDER FOR A PLANNED RESIDENTIAL DEVELOPMENT LOCATED AT 20 TOMOKA OAKS BOULEVARD, TO BE KNOWN AS THE "TOMOKA RESERVE" RESIDENTIAL SUBDIVISION; AUTHORIZING THE DEVELOPMENT OF 254 SINGLE-FAMILY DETACHED LOTS; ESTABLISHING CONDITIONS AND EXPIRATION OF APPROVAL; AND SETTING FORTH AN EFFECTIVE DATE.

5. ADJOURNMENT

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: 386-610-0400

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 386-610-0400 for information regarding available aids and services.

City of Ormond Beach

City Commission Agenda

Staff Report

Agenda Date	March 13, 2026	**Item No**	4.A.
Section	PUBLIC HEARINGS	**Category**	Public Hearing - Ordinances
Subject	Tomoka Reserve, Issuance of a Development Order		
Recommended Action	It is recommended that the City Commission **APPROVE** the issuance of a development order for 254 single-family lots on approximately 147.94 acres under certain conditions and associated subdivision improvements located at 20 Tomoka Oaks Boulevard as more fully described in the attached ordinance and development order.		
Strategic Goal	Transportation & Community Development - Other		
Department Staff Contact	Planning & Building Steven Spraker, Planning Director		

Summary

The application of Triumph Oaks of Ormond Beach I, LLC, seeks to allow the issuance of a development order for 254 single-family lots on approximately 147.94 acres, subject to certain conditions and associated subdivision improvements. The subject property is currently zoned as Planned Residential Development and is located at 20 Tomoka Oaks Boulevard. The applicant submitted an application in 2023 for the issuance of a Planned Residential Development (PRD) development order for 272 single-family lots. The Planning Board held public hearings on July 13, August 16, and September 26, 2023. After a public hearing on November 7, 2023, the City Commission remanded the matter to the Planning Board. The city commission should rescind the remand and consider the revised development plan.

The applicant seeks the issuance of a development order for 254 single-family lots on approximately 147.94 acres, subject to certain conditions and associated subdivision improvements. The updated site plan and project conditions includes a concept plan for 254 single-family lots that includes a 50-foot vegetative buffer and lots that are a minimum 80'X120' abutting the existing Tomoka Oaks lots. As part of the updated site plan and project conditions, only the site plan has been updated, dated February 25, 2026. This application also contains the 2023 application information and site plans. If approved, the 2023 site plans would be updated to be consistent with the February 25, 2026, updated site plan. The project includes specific project conditions that include:

1. The maximum number of single-family lots is 254. The subdivision density is proposed at 1.72 units per acre.
2. Lots sizes are 80’ X 120’ abutting the vegetative buffer that abuts the existing Tomoka Oaks subdivision and 60’ X 120’ internal to the subdivision.
3. The project will provide a vegetative 50-foot buffer of natural and planted vegetation around the perimeter of the property. The vegetative buffer would be irrigated with reclaimed water.
4. The subdivision will have at least twenty percent of the property within its natural state.
5. Sidewalks within the development shall be installed on both sides of the streets located within the subdivision. Additionally, off-site sidewalks would be constructed along both sides of Tomoka Oaks Boulevard from the proposed subdivision to Nova Road.
6. Fencing and architectural standards are within the project conditions.
7. There is a requirement for a new traffic signal at Nova Road and Tomoka Oaks Boulevard.
8. Correction of the diamond intersection of Saint Andrews Drive and Tomoka Oaks Boulevard.
9. The applicant would receive roadway impact fee credit to construct the new traffic signal and “diamond” intersection improvements.

Financial Impact

The issuance of a development order is a zoning action that allows the submittal of a preliminary plat. As part of the preliminary plat, the applicant would be required to prepare and submit detailed engineering plans for the subdivision. Subdivision construction costs would be the responsibility of the applicant.

Citizen Impact

The revised application and site plan seek to address issues related to density, the 50-foot landscape buffer, traffic and pedestrian safety, and compatibility with existing neighborhoods, among other features.

Attachments

1. FINAL Amended Ord 2023-55 (Tomoka Reserve) 03-05-26
2. FINAL, March 2026 CC Tomoka Reserve Staff Report
3. Tomoka Reserve Attachments
4. Ordinance BIE, Tomoka Reserve

ORDINANCE NO. 2023-55

AN ORDINANCE AUTHORIZING THE EXECUTION AND ISSUANCE OF A DEVELOPMENT ORDER FOR A PLANNED RESIDENTIAL DEVELOPMENT LOCATED AT 20 TOMOKA OAKS BOULEVARD, TO BE KNOWN AS THE "TOMOKA RESERVE" RESIDENTIAL SUBDIVISION; AUTHORIZING THE DEVELOPMENT OF 254 SINGLE-FAMILY DETACHED LOTS; ESTABLISHING CONDITIONS AND EXPIRATION OF APPROVAL; AND SETTING FORTH AN EFFECTIVE DATE.

WHEREAS, Triumph Oaks of Ormond Beach I, LLC, a Florida Limited Liability Company (the "Applicant/Property Owner") is the owner of real property comprised of approximately 147.94 acres and located at 20 Tomoka Oaks Boulevard, Volusia County parcel number 3242-07-00-0010 (the "Property"), as more particularly described and depicted in the legal description and location map attached hereto as Exhibit "A" and incorporated by reference herein; and

WHEREAS, the Applicant is seeking approval of this Ordinance for the issuance of a Development Order for a Planned Residential Development to include 254 lots for development of single-family detached dwelling units and associated site improvements on the Property, to be known as the "Tomoka Reserve" residential subdivision, as described and depicted in the PRD Development Order attached hereto and incorporated by reference herein; and

WHEREAS, on October 17, 2006, by adoption of Ordinance 2006-17, the City Commission authorized (a) a zoning map amendment for the Property from R-2, Single Family Low Density, to PRD, Planned Residential Development, and (b) a PRD Development Order for a re-configured golf course, 119 multi-family units (townhomes and condominiums) and three single family lots, under certain conditions, which development order expired on October 17, 2014; and

WHEREAS, the Planning Board held public hearings regarding the Applicant's request for a new PRD Development Order on July 13, 2023, August 21, 2023, and September 26, 2023, as required by Chapter 1, Article II, Section 1-15(d)(2), of the *Land Development Code*, and recommended denial of the Applicant's request; and

WHEREAS, the City Commission held a public hearing regarding the Applicant's request for a new PRD Development Order on November 7, 2023, and remanded the matter to the Planning Board; and

WHEREAS, the City Commission desires to consider the Applicant's request for the issuance of a Development Order for a Planned Residential Development to include 254 lots for development of single-family detached dwelling units and associated site improvements on the Property, to be known as the "Tomoka Reserve" residential subdivision, as described and depicted in the PRD Development Order attached hereto and incorporated by reference herein; and

WHEREAS, the City Commission has held a public hearing in accordance with Section 166.041(3)(c)(2), *Florida Statutes,* and after voting to rescind its November 7, 2023 remand to the Planning Board, has considered the following:

(1) The report and recommendations of the Planning Board;

(2) The report and recommendations of the Site Plan Review Committee;

(3) The comments of governmental agencies, utility corporations and individuals, as received; and

(4) The testimony of the City's planning staff, the Applicant, expert witnesses, persons that may be affected as a result of the application, and documentary evidence pertaining thereto; and

WHEREAS, the City Commission further finds with respect to the application for the issuance of a development order, that there is competent substantial evidence to support the

following:

(1) The proposed development conforms to the standards and requirements of the *Land Development Code* and will not create undue crowding beyond the conditions normally permitted in the zoning district, or adversely affect the public health, safety, welfare or quality of life;

(2) The proposed development is consistent with the Comprehensive Plan;

(3) The proposed development will not adversely impact environmentally sensitive lands or natural resources, including but not limited to waterbodies, wetlands, xeric communities, wildlife habitats, endangered or threatened plants and animal species or species of special concern, wellfields, and individual wells;

(4) The proposed use will not substantially or permanently depreciate the value of surrounding property; create a nuisance; or deprive adjoining properties of adequate light and air; create excessive noise, odor, glare, or visual impacts on the neighborhood and adjoining properties;

(5) There are adequate public facilities to serve the development, including but not limited to roads, sidewalks, bike paths, potable water, wastewater treatment, drainage, fire and police safety, parks and recreation facilities, schools, and playgrounds;

(6) Ingress and egress to the property and traffic patterns are designed to protect and promote motorized vehicle and pedestrian/bicycle safety and convenience, allow for desirable traffic flow and control, and provide adequate access in case of fire or catastrophe;

(7) The proposed development is functional in the use of space and aesthetically acceptable;

(8) The proposed development provides for the safety of occupants and visitors; and

(9) The proposed use of materials and architectural features will not adversely impact the neighborhood and aesthetics of the area; now therefore,

BE IT ENACTED BY THE PEOPLE OF THE CITY OF ORMOND BEACH, FLORIDA, THAT:

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

SECTION TWO. The application of the Property Owner for the issuance of a PRD Development Order for the "Tomoka Reserve" residential subdivision, authorizing the development of 254 lots for construction of single-family detached dwelling units and associated site improvements, is hereby approved. The Mayor and the City Manager are authorized and directed to execute and issue the attached PRD Development Order for the "Tomoka Reserve" Planned Residential Development, authorizing the development of 254 lots for construction of single-family detached dwelling units and associated site improvements on the Property, in accordance with those certain conditions set forth in the PRD Development Order.

SECTION THREE. Prior to the issuance of any site construction permit, the Property Owner shall submit detailed engineering plans and an application for administrative review and approval of a Preliminary Plat in accordance with directives of Section 177.071-.073, Florida Statutes. The Preliminary Plat application shall include a subdivision phasing schedule, which may be subsequently modified by administrative review and approval of the Site Plan Review Committee.

SECTION FOUR. The Applicant's proposal for providing additional outdoor recreational area in lieu of providing indoor recreation area exceeds the requirements of the *Land Development Code* and is hereby accepted and approved.

SECTION FIVE. The Applicant, including the Applicant's successor and assigns,

shall at all times fully comply with the terms and conditions of the approved PRD Development Order.

SECTION SIX. All Ordinances or parts of Ordinances in conflict herewith are hereby repealed to the extent of such conflict.

SECTION SEVEN. This Ordinance shall take effect immediately upon its adoption.

PASSED UPON at the first reading of this Ordinance by the City Commission on the 13th of March, 2026.

PASSED UPON at the second and final reading of this Ordinance by the City Commission on the 24th day of March, 2026.

_____
JASON LESLIE
Mayor

ATTEST:

_____
SUSAN CARROLL DAUDERIS
City Clerk

BEFORE THE
CITY COMMISSION
OF THE
CITY OF ORMOND BEACH

IN RE:	**Application of:**	Triumph Oaks of Ormond Beach I, LLC, a Florida Limited Liability Company
	Planned Residential Development	PRD 2022-043
	Project Name:	Tomoka Reserve
	Property Address:	20 Tomoka Oaks Boulevard
	Parcel ID Nos.	3242-07-00-0010

PLANNED RESIDENTIAL DEVELOPMENT (PRD) DEVELOPMENT ORDER

This matter came to be heard before the City Commission of the City of Ormond Beach upon the duly noticed public hearings before the City Commission on March 13, 2026 and March 24, 2026, for consideration of the application of Triumph Oaks of Ormond Beach I, LLC, for a PRD Development Order to establish defined development rights for its real property located at 20 Tomoka Oaks Boulevard (Parcel ID # 3242-07-00-0010). Having considered the criteria for issuance of a development order as required by Section 1-18(e) of the *Land Development Code*, as well as testimony and evidence from all affected persons, the City Commission hereby finds and concludes as follows:

1. The proposed development conforms to the standards and requirements of the *Land Development Code* and will not create undue crowding beyond the conditions normally permitted in the zoning district, or adversely affect the public health, safety, welfare or quality of life;

2. The proposed development is consistent with the Comprehensive Plan;

3. The proposed development will not adversely impact environmentally sensitive lands or natural resources, including but not limited to waterbodies, wetlands, xeric communities, wildlife habitats, endangered or threatened plants and animal species or species of special concern, wellfields, and individual wells;

4. The proposed use will not substantially or permanently depreciate the value of surrounding property; create a nuisance; or deprive adjoining properties of adequate light and air; create excessive noise, odor, glare, or visual impacts on the neighborhood and adjoining properties;

5. There are adequate public facilities to serve the development, including but not limited to roads, sidewalks, bike paths, potable water, wastewater treatment, drainage, fire and police safety, parks and recreation facilities, schools, and playgrounds;

6. Ingress and egress to the property and traffic patterns are designed to protect and promote motorized vehicle and pedestrian/bicycle safety and convenience, allow for desirable traffic flow and control, and provide adequate access in case of fire or catastrophe;

7. The proposed development is functional in the use of space and aesthetically acceptable;

8. The proposed development provides for the safety of occupants and visitors; and

9. The proposed use of materials and architectural features will not adversely impact the neighborhood and aesthetics of the area.

NOW, THEREFORE, in consideration of the findings set forth herein, the City Commission hereby concludes and orders that:

A. The application of Triumph Oaks of Ormond Beach I, LLC, seeking approval of a Development Order for a Planned Residential Development to be known as "Tomoka Reserve" for that certain real property located at 20 Tomoka Oaks Boulevard (Parcel ID #3242-07-00-0010), as more particularly described and depicted in *Exhibit "A"*, attached hereto and incorporated by reference herein, is hereby granted to allow for the development of a residential subdivision of up to 254 lots on said property, as generally depicted on the conceptual site plan attached hereto as *Exhibit "B"*, subject to the following conditions:

1. Compliance with the PRD Project Terms and Conditions, attached hereto as *Exhibit "C"* and incorporated by reference herein; and

2. Submittal of a preliminary plat application for administrative review and approval, consistent with the PRD Project Terms and Conditions;

3. Compliance with the Tomoka Reserve PRD Buffer Planting and Maintenance Plan, attached hereto as *Exhibit "D"* and incorporated by reference herein;

4. Final architectural elevations for the single-family homes will be consistent with those depicted on the Tomoka Reserve Architectural Exhibit, attached hereto as *Exhibit "E"* and incorporated by reference herein; and

5. Compliance with all applicable provisions of Chapter 2, District and General Regulations, Article II, District Regulations, Section 2-35, PRD, Planned Residential Development District, of the City of Ormond Beach *Land Development Code*, except as otherwise modified by the attachments hereto.

B. If construction has not begun or a final plat recorded within five (5) years from the date of City Commission approval of this PRD Development Order, it shall lapse and be of no further effect upon the filing of a notice of final plan revocation by the City Commission in

accordance with the provisions of Section 1-14(3)(b) of the *Land Development Code* . Before any development order permit can be re-established, a new development order permit application shall be reviewed and approved by the City Commission, as per Section 1-14(3)(b) of the *Land Development Code*.

C. In the event the use of the land approved by this PRD Development Order is abandoned for a period of two (2) years, any permit issued hereunder shall be deemed void and a notice of revocation filed, as per the provisions of Section 1-14(3)(b)(2) of the *Land Development Code*.

D. This PRD Development Order shall be recorded in the public records of Volusia County, Florida, shall run with title to the real property described in *Exhibit "A"*, attached hereto, and shall be binding upon the Property Owner and its successors and assigns.

[Remainder of page intentionally left blank]

ORDERED this 24th day of March, 2026.

CITY COMMISSION
CITY OF ORMOND BEACH, a Florida municipal corporation

By: _____
JASON LESLIE
Mayor

(CITY SEAL)

Attest: _____
JOYCE A. SHANAHAN
City Manager

EXHIBIT "A"

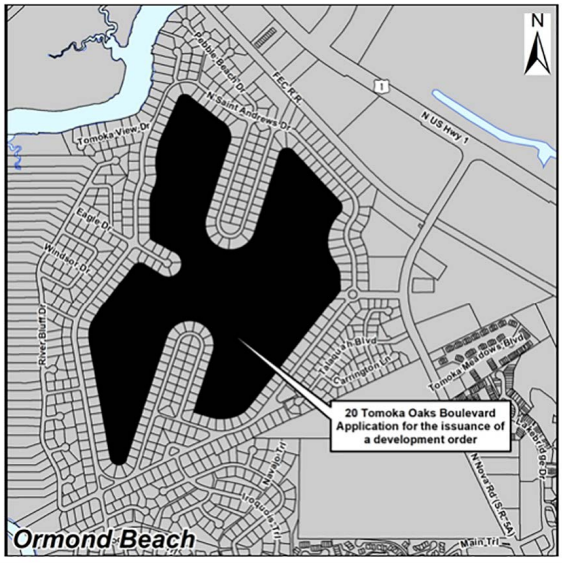
LEGAL DESCRIPTION

(from Sliger & Associates, Inc. survey – survey date April 15, 2021)

PROPERTY DESCRIPTION:

SAM SNEAD GOLF AND COUNTRY CLUB, A PART OF THE THOMAS FITCH GRANT, LYING WESTERLY OF THE FLORIDA EAST COAST RAILWAY, SECTION 39, TOWNSHIP 14 SOUTH, RANGE 32 EAST, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN MAP BOOK 25, PAGE 61, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.

LOCATION MAP



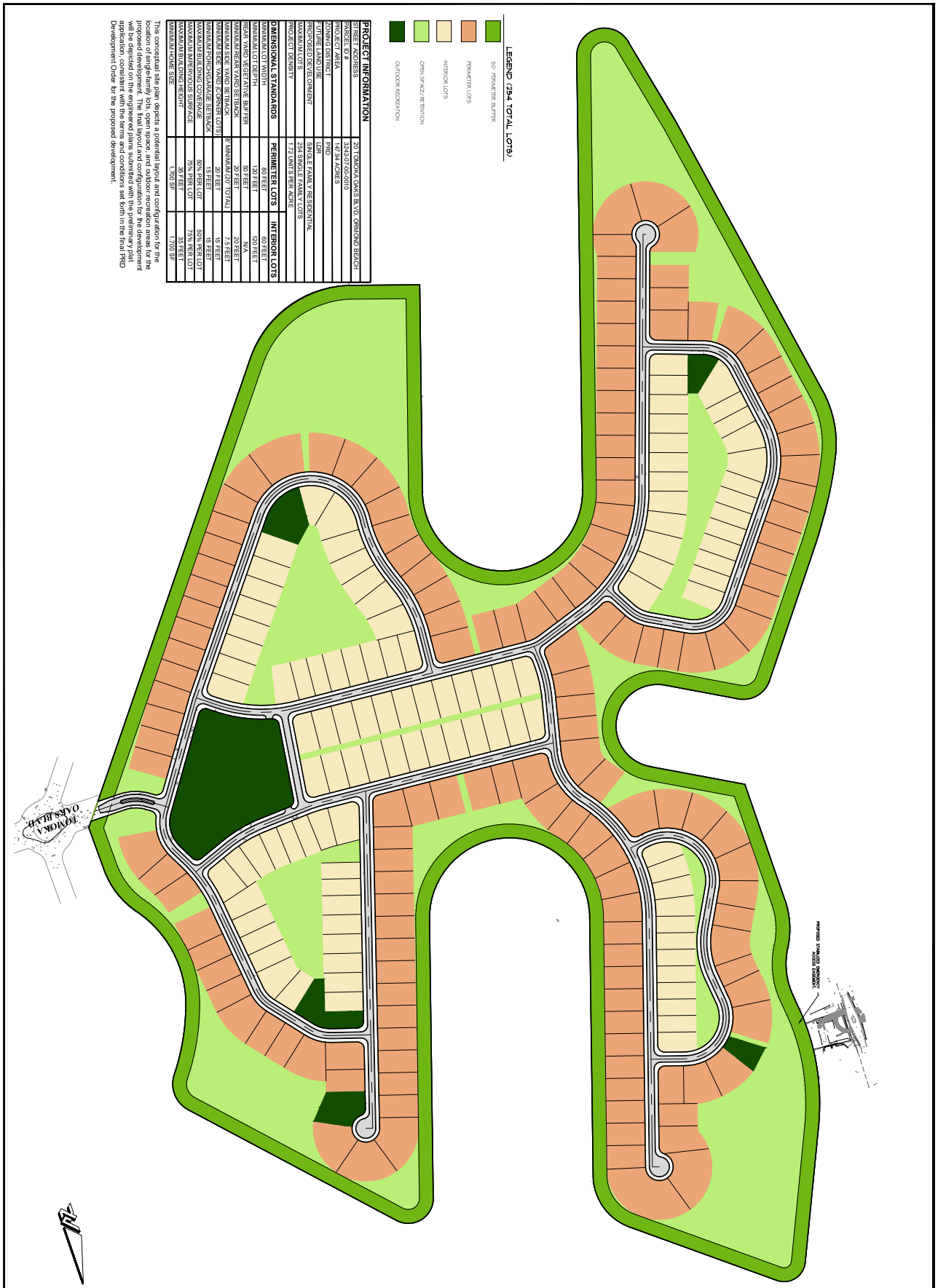
PARCEL ID: 3242-07-00-0010

OWNER: TRIUMPH OAKS OF ORMOND BEACH I LLC

APPLICANT: TRIUMPH OAKS OF ORMOND BEACH I LLC

ADDRESS OF DEVELOPMENT ORDER: 20 TOMOKA OAKS BOULEVARD, ORMOND BEACH, FL 32174

EXHIBIT "B"



PROJECT INFORMATION	
STREET ADDRESS	201 TOMOKA OAKS BLVD, ORMOND BEACH
PARCEL ID #	3242-07-00-0010
PROJECT AREA	147.84 ACRES
ZONING DISTRICT	PRD
FUTURE LAND USE	LDR
PROPOSED DEVELOPMENT	SINGLE FAMILY RESIDENTIAL
MAXIMUM LOTS	254 SINGLE FAMILY LOTS
PROJECT DENSITY	1.72 UNITS PER ACRE

DIMENSIONAL STANDARDS	PERIMETER LOTS	INTERIOR LOTS
MINIMUM LOT WIDTH	60 FEET	50 FEET
MINIMUM LOT DEPTH	120 FEET	120 FEET
REAR YARD VEGETATIVE BUFFER	50 FEET	N/A
MINIMUM REAR YARD SETBACK	20 FEET	20 FEET
MINIMUM SIDE YARD SETBACK @ MINIMUM (10' TOTAL)	7.5 FEET	7.5 FEET
MINIMUM SIDE YARD (CORNER LOTS)	20 FEET	15 FEET
MINIMUM PORCH/GARAGE SETBACK	15 FEET	15 FEET
MAXIMUM BUILDING COVERAGE	50% PER LOT	50% PER LOT
MAXIMUM IMPERVIOUS SURFACE	75% PER LOT	75% PER LOT
MAXIMUM BUILDING HEIGHT	35 FEET	35 FEET
MINIMUM HOME SIZE	1,700 SF	1,700 SF

This conceptual site plan depicts a potential layout and configuration for the location of single-family lots, open space, and outdoor recreation areas for the proposed development. The final layout and configuration for the development will be established by the approved PRD Development Order and may vary from this application, consistent with the terms and conditions set forth in the final PRD Development Order for the proposed development.

TOMOKA RESERVE
CONCEPTUAL
SITE PLAN

CITY OF ORMOND BEACH — VOLUSIA COUNTY, FLORIDA

NO	DATE	BY	SUBMITTALS / REVISIONS

CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

ZEV COHEN & ASSOCIATES, INC.
300 INTERCHANGE BLVD., STE C
ORMOND BEACH, FL 32174
WWW.ZEVCOHEN.COM

PROJECT NO: 22-1997
DESIGNED BY: KR
DRAFTED BY: ASAMI
CHECKED BY: JS
DATE: 2/25/26
SHEET: EX1 OF 01

Project Terms and Conditions – Tomoka Reserve PRD Development Order

(1) ***Permitted Uses:*** Single-family detached dwellings and accessory uses that are customarily associated with development of a single-family residential subdivision.

(2) ***Maximum Number of Lots:*** 254

(3) ***Permitted Density:*** 1.72 units/per acre (i.e., 254 lots/147.94 acres)

(4) ***Dimensional Standards***

(a) ***Perimeter Lots***

- Minimum Lot Size: 80' wide by 120' deep
- Minimum Rear Yard: 20'
- Minimum Rear Yard (accessory structures): 5'
- Minimum Side Yard: 8' (to total 20' for both yards)
- Minimum Side Yard (accessory structures): 5'
- Minimum Side Yard (corner lots): 20'
- Minimum Front Yard: 25'
- Minimum Porch/Garage Setback: 15'
- Maximum Building Lot Coverage: 50%
- Maximum Impervious Surface: 75%
- Maximum Building Height: 35'
- Minimum Home Size: 1,700 square feet

(b) ***Interior Lots***

- Minimum Lot Size: 60' wide by 120' deep
- Minimum Rear Yard: 20'
- Minimum Rear Yard (accessory structures): 5'
- Minimum Side Yard: 7.5'
- Minimum Side Yard (accessory structures): 5'
- Minimum Side Yard (corner lots): 15'
- Minimum Front Yard: 25'
- Minimum Porch/Garage Setback: 15'
- Maximum Building Lot Coverage: 50%
- Maximum Impervious Surface: 75%
- Maximum Building Height: 35'
- Minimum Home Size: 1,700 square feet

(5) ***Phasing:*** Prior to the issuance of any site construction permits, the Property Owner shall submit detailed engineering plans and a complete application for administrative review and approval of a preliminary plat by City Staff in accordance with the mandatory directives and expedited approval procedures set forth in Chapter 177.071-.073, Part I, Florida Statutes, including any subsequent legislative amendments thereto. The preliminary plat application shall include a subdivision phasing schedule, which schedule may be subsequently modified and administratively approved by the Site Plan Review Committee as a minor amendment.

(6) ***Model Homes:*** A maximum of 16 model homes shall be allowed within the new development. Model homes are allowed to be started after a stabilized road is constructed and water and sewer clearances have been obtained, which may be before final plat acceptance.

(7) ***Gated Community:*** The project is proposed to have a gated access point for vehicles and to allow pedestrian access into the subdivision. Private, gated subdivisions are required to provide easements to the City through the platting process for access and maintenance of the utilities servicing the proposed development. The streets, sidewalks, and stormwater system would be privately owned and maintained by the homeowner's association created for the subdivision. Changing from a gated to non-gated (public) subdivision would be considered a minor amendment.

(8) ***Emergency Access Easement:*** Emergency access to the residential subdivision will be provided via the easement access area across that certain lot owned by the Property Owner located at 100 N. St. Andrews Drive (Parcel ID 3242-10-20-0150), and it shall have a stabilized base and a grass surface for emergency vehicular access only. Construction details for the emergency access connection point will be finalized during the preliminary plat process.

(9) ***Perimeter Buffer:*** A 50-foot vegetative buffer shall be established around the perimeter of the Property (i.e., those areas abutting existing lots in the surrounding Tomoka Oaks subdivision). The perimeter buffer area will include five (5) trees and fifty (50) shrubs per every 100 linear feet of open space, as more fully set forth in the Tomoka Reserve PRD Buffer Planting and Maintenance Plan, and existing vegetation in this buffer area shall count towards the minimum landscaping requirements. In exchange for the Property Owner's agreement to these conditions, the City agrees to waive any mitigation assessments for removal of specimen trees on individual lots that the Property Owner deems necessary for construction of single-family homes authorized for its proposed development. The Property Owner will ensure that irrigation is installed for the expanded vegetative buffer area, and the City of Ormond Beach shall provide an irrigation source of reclaimed water for same.

(10) ***Natural Preservation Area:*** At least twenty (20) percent of the Property shall be left in a natural state, without any improvements other than new plantings or stormwater

retention areas. This natural preservation area may include the perimeter buffer area, stormwater retention and designated conservation areas within individual lots or common areas, but it shall not include any classified wetlands.

(11) ***Recreational Area:*** No indoor recreation areas shall be required, provided that the final development plan includes an additional thirty (30) square feet per unit of outdoor active recreation space, the final design of which shall be depicted on the preliminary plat.

(12) ***Sidewalks:*** Sidewalks within the development shall be installed on both sides of the streets located within the subdivision. Additionally, prior to receiving a certificate of occupancy for the first home, sidewalks shall be constructed along both sides of Tomoka Oaks Boulevard from the proposed subdivision to Nova Road, provided that there is existing right-of-way sufficient to install same.

(13) ***Stormwater:*** Final stormwater design shall be depicted on the preliminary plat, the location of which may be included in the required natural preservation areas for the development, as more fully set forth herein.

(14) ***Fences:*** Fencing requirements for the single-family homes in the new subdivision shall be as follows:

- The following fence materials are permitted: Wood, black wrought iron, high-quality aluminum, and white PVC.
- Perimeter fencing along rear or side (from front of the house to rear property line shall be a maximum height of 6 feet.
- Fencing along the front property line or side property lines from the front of the house to the front property line shall have a maximum height of 4 feet. This "front-yard" fencing must be decorative (*i.e.,* no solid fences) and, if wood is utilized, it must be painted.

(15) ***Architecture:*** Final architectural elevations for the single-family homes will be consistent with the Tomoka Reserve Architectural Exhibit submitted in connection with the PRD Development Order application. An architectural review committee will be established by the Property Owner for the governing homeowner's association for the residential subdivision to ensure that final architectural elevations of all homes and any modifications to same are consistent with the permitted architectural styles and exterior materials. The submittal of building permit applications for the construction of new homes or exterior modifications to existing homes shall include written documentation from the architectural review committee that all architectural conditions have been satisfied.

(16) ***Off-Site Transportation Improvements & Impact Fee Credits***

(a) ***New Traffic Signal (Nova Road & Tomoka Oaks Blvd.):*** Within forty-five (45) days after approval of the preliminary plat for the first phase, the Property Owner

will apply for permits to install a new traffic signal at the intersection of Nova Road and Tomoka Oaks Boulevard, subject to the review and approval of the Florida Department of Transportation. Prior to the issuance of the first certificate of occupancy within the development, the traffic signal at Nova Road and Tomoka Oaks Boulevard must be completed and functioning, or otherwise fully bonded, and the full cost of constructing said traffic signal system must be deposited with the City of Ormond Beach and held in escrow for the payment of said construction costs.

(b) ***"Diamond" Intersection (St. Andrews Dr. & Tomoka Oaks Blvd.):*** The Property Owner will construct roadway improvements to modify the existing drive aisle at the "diamond" intersection of St. Andrews Drive and Tomoka Oaks Boulevard for the purpose of resolving turning radius conflicts for emergency vehicles at the intersection, provided that the City provides sufficient right-of-way for "softening" the corners of the "diamond." The Property Owner will also install additional landscaping, of its own choosing, adjacent to the right-of-way for the drive aisle after construction of the proposed roadway improvements. Subject to the City's provision of sufficient-right-of-way for the proposed improvements, the Property Owner shall depict same on its application for administrative review and approval of the preliminary plat, consistent with the terms herein.

(c) ***Impact Fee Credits:*** The City of Ormond Beach shall provide roadway impact fee credits to the Property Owner in the amount of $864.59 per home in exchange for its agreement to construct the new traffic signal and "diamond" intersection improvements, as detailed above.

(17) ***Hours of Construction:*** On-site construction activities shall be from 7:00 a.m. to 7:00 p.m., Monday through Saturday, with no outside construction activities on Sundays.

(18) ***Utilities:*** Detailed water and sewer connections shall be provided at the time of the Preliminary plat application submittal. The Property Owner shall be permitted to use reclaimed water for irrigation, as available, with a supplemental well as needed.

Tomoka Reserve PRD Buffer Planting & Maintenance Plan

I. PERIMETER BUFFER AREA AND PLANTING OBJECTIVES

Tomoka Reserve is a 147.94-acre site that is surrounded by existing single-family lots located in the Tomoka Oaks residential subdivision. A significant component of the Tomoka Reserve development plan is the establishment of a 50-foot vegetative buffer around the perimeter of the site, which spans approximately 3.3 miles. Today, much of the existing perimeter buffer area contains native trees and shrubs which provide screening between the existing homes and the proposed development.

The Tomoka Reserve development calls for significant enhancements to the perimeter buffer areas, including new plantings of native trees and shrubs in those areas where the buffer is sparse or where no existing vegetation is present. The purpose of the Tomoka Reserve Buffer Planting and Maintenance Plan is to describe how the new plantings in the perimeter buffer area will be installed and maintained to create a visual screen between the existing homes and the new ones planned for development pursuant to the terms of the final development order for the Tomoka Reserve PRD.

II. PLANTING PLAN DESCRIPTION AND DESIGN

In areas where trees and shrubs will be installed, this Buffer Planting Plan for the Tomoka Reserve PRD follows the best management practices outlined in the American National Standards Institute, including ANSI A300 Part 6 (Planting and Transplanting Standards) and ANSI Z60.1 (Nursery Stock Standards). Additionally, the plantings will follow the Tree Protection and Planting Details set forth in *Appendix D-1* and will incorporate native plants identified in *Appendix D-2*.

III. BUFFER AREA PLANTING REQUIREMENTS

The Tomoka Reserve PRD will use a modified buffer as the guideline for the planting requirements in the perimeter buffer area, which shall include at least five trees and 50 shrubs for every 100 linear feet of the perimeter buffer area.

Perimeter Buffer Trees

Where there are less than five existing trees (with a DBH of at least 6 inches) in the buffer area, new trees will be installed to meet the minimum buffer requirements. Where gaps of 50 feet or more occur between existing trees, additional trees will be planted. The total number of buffer trees needed to meet the intent of the Tomoka Reserve buffer planting plan is projected to be 396.

Where appropriate, native palms (sabal and palmetto) may be used as part of the overall planting requirements. All native palms that will be retained will count towards the tree requirement for each 100-foot buffer section. Over the length of a buffer zone, three palms will equal one hardwood tree. There are 110 existing palms within the buffer, which equates to 36 trees. Overall, the total number of required trees will be reduced by 36 to represent the contribution of palms to the buffer tree planting requirements. Palms shall have a minimum overall height of ten feet (10') at the time of planting.

Perimeter Buffer Shrubs

For each 100 linear feet of buffer, 50 shrubs will be installed where no shrubs are present. For each 100-foot section where shrubs exist in the buffer, existing shrubs will be assessed, and shrubs will be planted so that the number of shrubs in each 100-foot section will meet the required number for that buffer section.

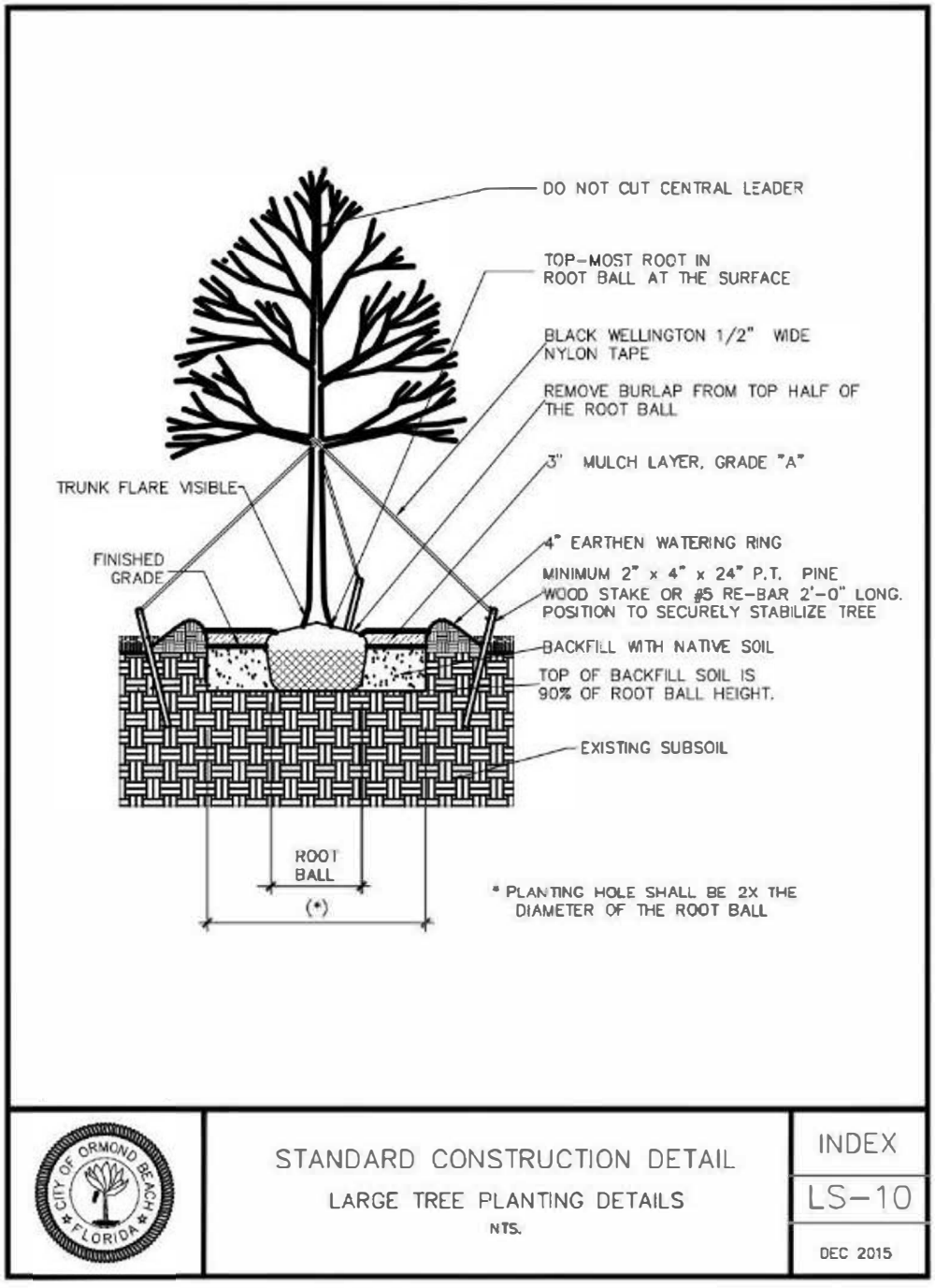
Perimeter Buffer Ground Cover

Given that ground cover plants already exist in the perimeter buffer area, there will not be any new plantings of any species of ground covers as part of the Buffer Planting Plan; however, native wildflower seed will be purchased from the Florida Wildflower Cooperative and spread by hand in select areas of the buffer.

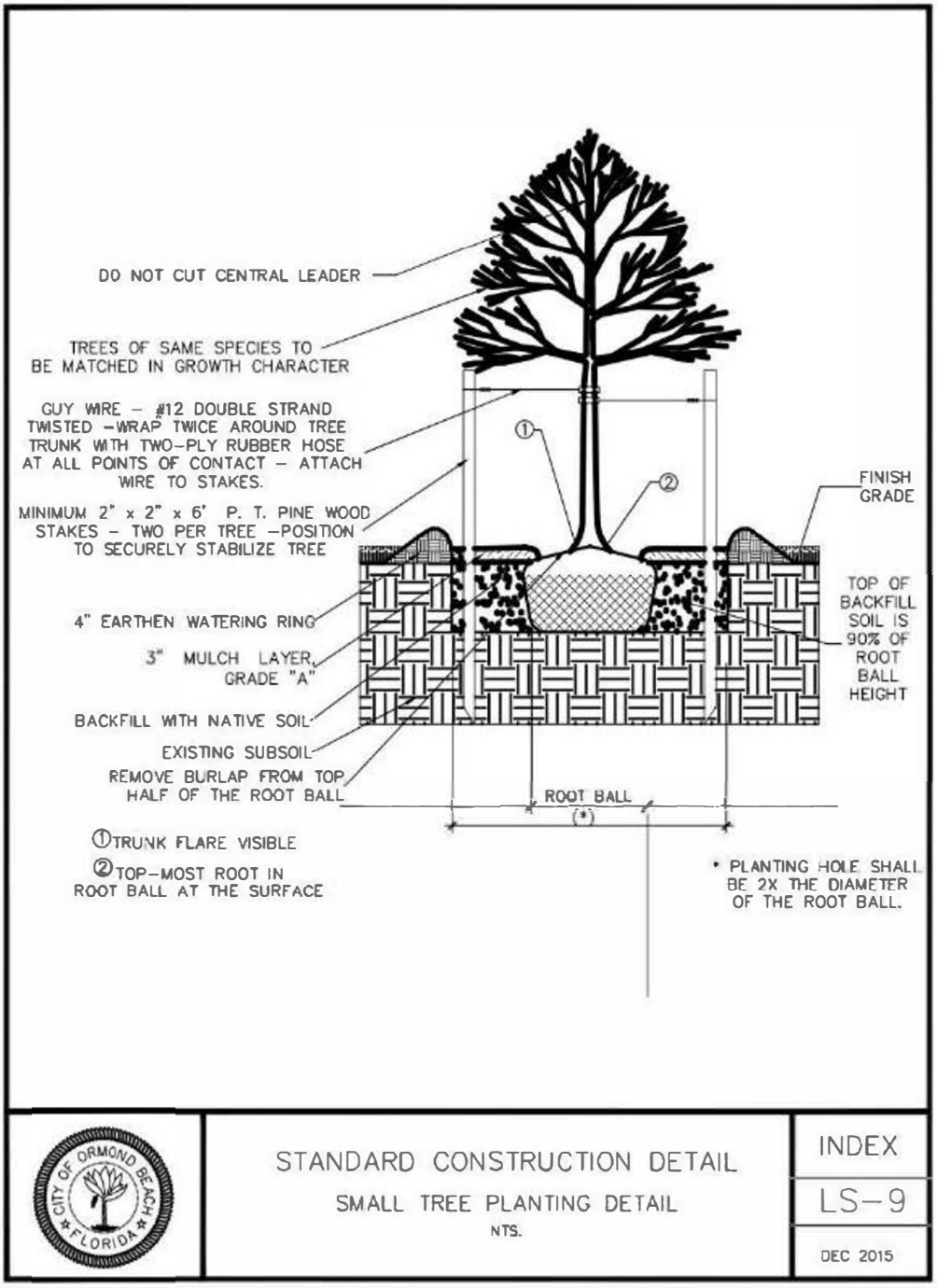
APPENDIX D-1

Tree Protection and Planting Details

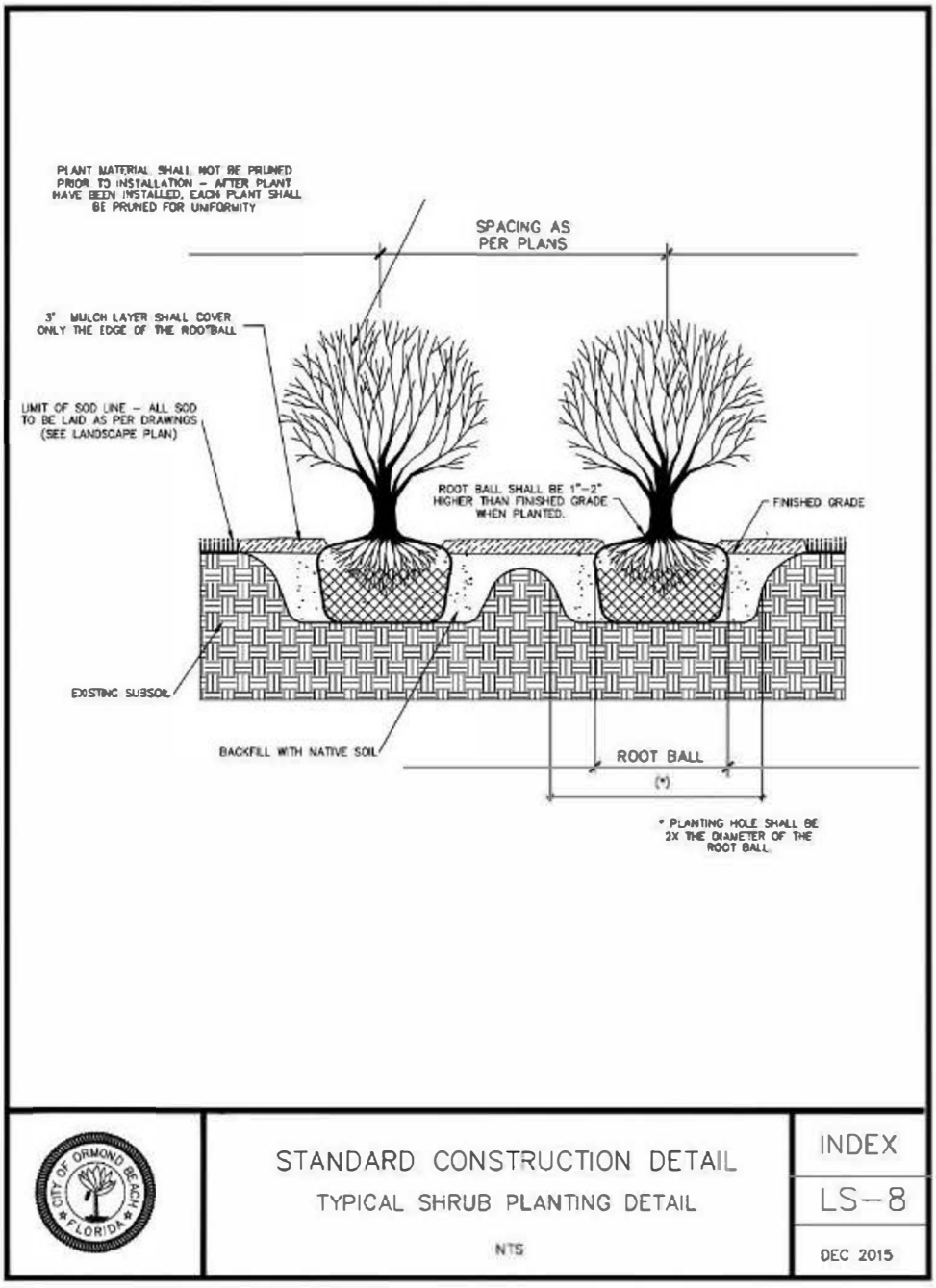
LARGE TREE PLANTING DETAIL



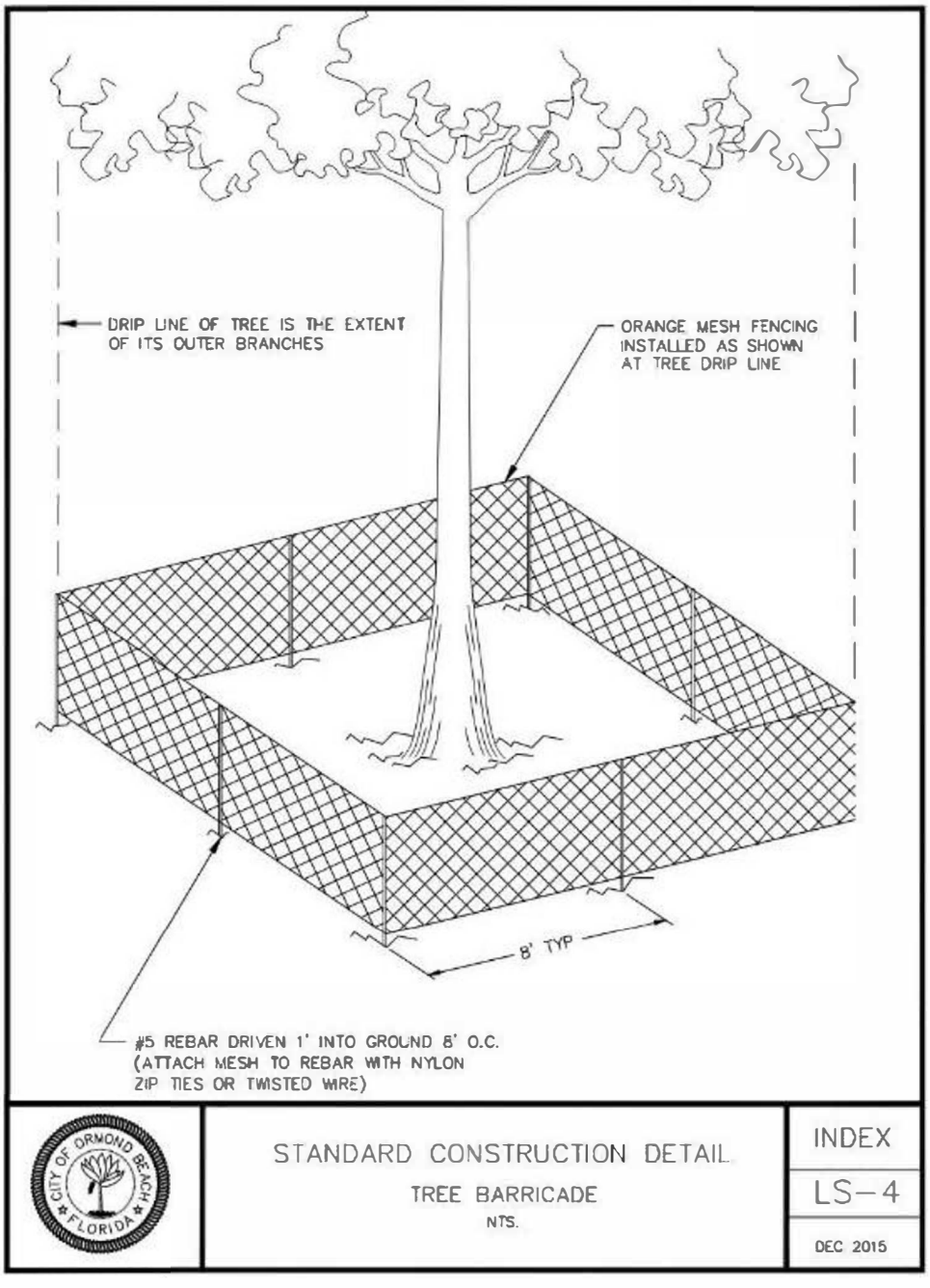
SMALL TREE PLANTING DETAIL



SHRUB PLANTING DETAIL



TREE PRESERVATION DETAIL



APPENDIX D-2

Native Plant List

Tomoka Reserve Buffer Planting List

TREES Scientific name	Common name	Growth habit (height & width) ft	Comments Habit & Size
Cartrema americana	American olive	25' x 15'	Evergreen – Medium
Carpinus caroliniana	American hornbeam	25' x 15'	Evergreen – Medium
Carya glabra	Hickory	80' x 35'	Deciduous – Large
Celtis laevigata	Hackberry/sugarberry	60' x 50'	Deciduous – Large
Cercis canadensis	Redbud	30' x 30'	Deciduous – Medium
Ilex x attenuata	Savannah holly	30' x 15'	Evergreen – Medium
Ilex opaca	American holly	10' x 15'	Evergreen – Medium
Magnolia grandiflora	Southern magnolia	80' x 40'	Evergreen – Large
Juniperus virginiana	Red cedar	60' x 30'	Evergreen – Large
Prunus angustifolia	Chickasaw plum	20' x 20'	Deciduous – Medium
Quercus austrina	Bluff oak	40' x 30'	Deciduous – Medium
Quercus geminate	Sand live oak	40' x 80'	Evergreen – Large
Quercus chapmanii	Chapman's oak	10' x 10'	Evergreen – Medium
Quercus virginiana	Live oak	80' x 150'	Evergreen – Large
SHRUBS			
Forestiera segregata	Florida privet	15' x 8'	Evergreen
Ilex vomitoria	Yaupon holly	15' x 10'	Evergreen
Lantana involucrata	Buttonsage	2.5' x 4'	Evergreen
Myrcianthes fragrans	Simpson's stopper	20' x 10'	Evergreen
Myrica cerifera	Wax myrtle	20' x 20'	Evergreen
Psychotria nervosa	Wild coffee	3' x 4'	Evergreen
Serenoa repens	Saw palmetto	20' x 10'	Evergreen
GRASSES			
Muhlenbergia capillaris	Muhly grass	3' x 3'	Evergreen
Spartina bakeri	Smooth cordgrass	3' x 4'	Evergreen
Tripsacum dactyloides	Fakahatchee grass	5' x 6'	Evergreen
WILDFLOWERS			
Baptisia albescens	Spiked wild indigo		Perennial
Coreopsis lanceolarta	Tickseed		Perennial
Coreopsis tinctoria	Plains coreopsis		Perennial
Galliardia pulchella	Blanket flower		Annual
Helianthus debilis	Beach sunflower		Biennial
Salvia coccinea	Scarlet Sage		Perennial
Solidago altissima	Tall goldenrod		Perennial
Solidago sempervirens	Seaside goldenrod		Perennial

* This plant list is not all-inclusive, additional native and Florida Friendly plants may be used based on the recommendcation of the landscape architect and arborist.

All plants listed are species native to Florida and commonly found in Volusia County.

Tomoka Reserve Architectural Standards

I. PREFERRED ARCHITECTURAL THEMES

A. The overall architectural vision for Tomoka Reserve has been established to create a community embodying a "timeless" quality. Such a vision will be realized through a variety of classical and regional architectural styles, combined with authentic detailing and use of high-quality materials.

B. Permitted architectural styles include but are not limited to contemporary, Modern, Postmodern, coastal themed styles, Mediterranean, Mission, Cracker, Craftsman, Ranch and Tuscan styles.

II. PROHIBITED ARCHITECTURAL STYLES

A. While diversity and creativity in the design of the homes at Tomoka Reserve is encouraged, certain architectural styles are not considered appropriate. These include, but are not limited to Art Deco, A-frame, Adobe, Cabin design style, Gothic, or Southwestern/Pueblo. Buildings and their accessory structures shall be consistent with a common architectural theme.

B. The architectural themeshall be established by harmoniously coordinating the general appearance of all buildings andrelated structures.

III. EXTERIOR MATERIALS/ELEVATIONS

A. Architectural variation and variety of housing types and designswithin the neighborhood is encouraged. To facilitate this diversity the adjacent homes (the 2 adjacent homes on the same side of the street as well as the house across the street and its two adjacent homes) have to have a minimum of three different design elements of the following 10 elements

1. Roof color/materials
2. Roof pitchroof type (cable vs hip)
3. Skin/exterior finish materials
4. Color
5. Garage orientation/size
6. Porch size/location
7. Numberof stories
8. Window sizes/shapes
9. Window locations
10. Decorative elements

B. The front facade should include four to six individual design elements and blank walls shall be discouraged unless adequately landscaped. Front elevation walls cannot be all one material and/or allone color.

C. A mixtureof one-story and two-story homes willbe encouraged to vary the streetscapes.

D. PERMITTED EXTERIOR MATERIALS INCLUDE:

1. Stucco (cement-based or synthetic) -smooth or textured finished (including tabby finish)
2. masonry-stone, brick, split rock and a ceramic concrete block is permitted but must be finished with material that covers the concrete block and grout lines with a minimum of 3/8" thick material; Stone can be Manufactured, Natural, or Cast
3. Wood/fiber cement-timbers, boards, board and batten, tongue and groove solid wood siding and rough sawn lumber; Hardie board or other similar fiber cement products emulatingwood finishes
4. Other textures and materials will be evaluated on their own merit by the ARB. Artificial, simulated or imitation materials (e. g. aluminum siding, simulated brick from stucco, Masonite or composite board, etc.) are NOT permitted on the exteriors of a residence.

IV. ROOF

A. Acceptable roof materials for consideration include, heavy weight (30 year) composition shingles with significant dimensional texture, flat tile, "S" tile, slate tile, cedar wood shake, solar shingles and a high-quality standing seam metal roof. Copper and other metal roof products acceptable to the ARB are permitted for limited applications such as bay windows, process, cupolas, and dormers, or in accordance with specific architectural styles. Thermoplastic Polyolefin, PVC membrane or other similar roofing materials/roofing systems will be considered by the ARB on a case-by-case basis for properties developed with ultramodern or contemporary homes that incorporate a flat roof.

B. Roof lines will be variable using varied roof styles, pitches, projections, gables, and hips. Roof pitches shall be between 0 to 6:12. Dormers may have a roof pitch outside the above range. Flat roofs or flat roof with a parapet may be approved if it is a part of an integral design element such as with ultra-modern or contemporary designs. The roof pitch for primary structures should reflect the selected architectural style forthe home.

C. Roof structures may be conventionally framed or constructed of prefabricatedtrusses.

V. WALL PLATES

A. The minimum wall plate heights shall be 9'-0" in main living areas on the first floor. The second-floor wall plate height must be no less than 9'-0" above the first-floor wall plate. Garages must have a minimum plate height of 8'-0".

VI. DRIVEWAYS

A. Driveways shall be stone, paver style materials, or concrete. Asphalt is NOT permitted.

VII. GARAGES

A. Three types of garages are permitted: front-entry, side entry, and accessory garage buildings.

VIII. FENCES

A. The following fence materials are permitted: wood, black wrought iron, high-quality aluminum, and white PVC. Perimeter fencing along rear or side (from front of house to rear property line shall be a maximum height of 6 feet. Fencing along the front property line or side property lines from the front of the house to the front property line shall have a maximum height of 4 feet. This "front yard" fencing must be decorative (no solid fences) and if a wood fence is utilized it must be painted.

IX. LANDSCAPE

A. All disturbed areas on the lot must be irrigated (unless xeric plantings are utilized), and landscaped with either trees, plants or sod including to the back of curb along the street and to the edge of clearing for natural areas and the water's edgefor lots along pondbanks. All landscaped bedsshall be mulched.

X. MODIFICATIONS

A. All modifications to the above shall be submitted to the ARB for consideration of approval. The above are general guidelines. Tomoka Reserve development will have an enhanced focus on the environment, climate changeand sustainability, along withprotectingand enhancingfuturevalues.

A MODERN ARCHITECTURAL ELEVATIONS

B FARMHOUSE ARCHITECTURAL ELEVATIONS

C MEDITERRANEAN ARCHITECTURAL ELEVATIONS

ZEV COHEN & ASSOCIATES, INC.
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CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

NO.	DATE	BY	SUBMITTALS / REVISIONS

TOMOKA RESERVE
PLANNED DEVELOPMENT
ARCHITECTURAL EXHIBIT

VOLUSIA COUNTY, FLORIDA
CITY OF ORMOND BEACH

PROJECT NO: ZC 21087
DESIGNED BY: NR
DRAFTED BY: —
CHECKED BY: RH
DRAWING FILE: P02-P08_21087 ODP
XREF'S: 21087_BASE.DWG
XREF'S: 21087_SURV.DWG

SHEET: PD8 OF 10

CITY COMMISSION STAFF REPORT
Issuance of a Development Order
Tomoka Reserve
Planned Residential Development
Project Number: PRD 2022-043

CITY COMMISSION DATE:	March 13, 2026 (1st reading) March 24, 2026 (2nd reading)
APPLICANT:	Triumph Oaks of Ormond Beach I, LLC
PROPERTY OWNER:	Triumph Oaks of Ormond Beach I, LLC
LOCATION:	20 Tomoka Oaks Boulevard
REQUEST:	Issuance of a development order for 254 single-family lots on approximately 147.94 acres under certain conditions and associated subdivision improvements.
MAP OF PROJECT AREA:	

SECTION 1, INTRODUCTION:

This is an application for the issuance of a development order for the Tomoka Reserve subdivision. The application seeks to allow the issuance of a development order for 254 single-family lots on approximately 147.94 acres under certain conditions and associated subdivision improvements. The subject property is currently zoned as Planned Residential Development and is located at 20 Tomoka Oaks Boulevard.

SECTION 2, BACKGROUND:

The subject property has a land use designation of "Low Density Residential" (LDR) and the zoning classification of Planned Residential Development.

The uses around the subject property are as follows:

EXHIBIT 1: Land uses and zoning

Direction	Current Land Uses	Future Land Use Designation	Zoning
North	Single-Family Residential	"Low Density Residential"	R-2, Single-Family Low Density
South	Single-Family Residential	"Low Density Residential"	R-2, Single-Family Low Density
East	Single-Family Residential	"Low Density Residential"	R-2, Single-Family Low Density
West	Single-Family Residential	"Low Density Residential"	R-2, Single-Family Low Density

Maps of the subject property are included in Attachment 1. The land area for the application was platted in 1961 as the Sam Snead Golf and Country Club.

On September 19, 2006, the City Commission approved Ordinance 2006-17 that authorized the following:

A. Zoning map amendment from R-2, Single-Family Low Density to PRD, Planned Residential Development;

B. The Tomoka Oaks Golf Village development order;

C. Development of 119 multi-family units (townhomes and condominiums) and 3 single-family homes, along with a redesigned golf course; and

D. A phasing plan for site development.

The project development order expired in 2014 due to a lack of permit activity. Because there was no construction, none of the development order conditions were implemented. The applicant purchased the property in 2021 and has sought to implement a new development order to provide development entitlements for the property.

The applicant submitted a Planned Residential Development site plan in April of 2022. The site plan was reviewed by the Site Plan Review Committee, and the applicant conducted a neighborhood meeting. The site plan initially proposed 276 lots, which were reduced to 272 lots of various dimensions. The Planning Board conducted public hearings on July 13, August 16, and September 26, 2023 and recommended the application be

denied. At a public hearing on November 7, 2023, the City Commission voted to remand the matter to the Planning Board to address concerns related to density, traffic, compatibility with surrounding neighborhoods, lot sizes, and the natural buffer.

SECTION 3, PROJECT PROCESS:

The Applicant has revised the application and is seeking the issuance of a development order for 254 lots for the development of single-family residences and associated site improvements. Public hearings will be held on March 13, 2026 (6:00 PM) and March 24, 2026 (7:00 PM).

Planned Residential Development (PRD) Development Order

The Planned Residential Development (PRD) development order process requires the applicant to provide a holding capacity analysis, flood zone information, proposed lot layout, recreation areas, generalized stormwater areas, road layouts, and landscaping buffers. The PRD development order does not require the applicant to provide detailed engineering information regarding the application. Detailed engineering work is not completed until the preliminary plat approval process. The application for a development order is reviewed against the criteria in the analysis section. The PRD development order becomes a contract between the developer and the city and identifies the overall development concept, the number and size of lots, and the location of the lots.

Subdivisions with an approved Planned Residential Development (PRD) development order would proceed to preliminary and final platting. A preliminary plat provides the detailed subdivision construction site plans prepared by the applicant's engineer and would include stormwater management plan, utilities, lot grading, roadway design, and landscape plans. The final plat is a legal document that is reviewed by an independent City Surveyor and the City's Legal Department to ensure compliance with State Statutes. Both preliminary and final plats are reviewed and acted upon by the Site Plan Review Committee.

SECTION 4, PROJECT DESCRIPTION:

The application seeks to allow the issuance of a development order for 254 single-family lots on approximately 147.94 acres under certain conditions and associated subdivision improvements. The project is summarized below:

1. **Project Size.** The total project size is 147.94 acres.
2. **Conceptual Site Plan.** The Applicant has submitted a conceptual site plan, dated February 25, 2026, to depict a potential configuration of the subdivision, including the proposed location of the single-family lots, along with the perimeter buffer areas and site-access points, subject to the terms and conditions of the final PRD development order.
3. **Use**. The subdivision shall consist of dwelling, single-family, detached.
4. **Units and Density**. The maximum number of single-family lots is 254. The subdivision density is proposed at 1.72 units per acre.
5. **Preliminary Plat.** The project shall be required to obtain a preliminary plat and provide detailed engineering plans for review by the Site Plan Review Committee.

6. **Lots and Dimensional Standards**. The subdivision would contain "perimeter lots" that abut the existing Tomoka Oaks subdivision (separated by a 50-foot buffer) and "interior lots" that are internal to the Tomoka Reserve subdivision.

   (a) *Perimeter Lots*

   1. Minimum Lot Size: 80' wide by 120' deep
   2. Minimum Lot Area: 9,600 square feet
   3. Minimum Rear Yard: 20'
   4. Minimum Rear Yard (accessory structures): 5'
   5. Minimum Side Yard: 8' (to total 20' for both yards)
   6. Minimum Side Yard (accessory structures): 5'
   7. Minimum Side Yard (corner lots): 20'
   8. Minimum Front Yard: 25'
   9. Minimum Porch/Garage Setback: 15'
   10. Maximum Building Lot Coverage: 50%
   11. Maximum Impervious Surface: 75%
   12. Maximum Building Height: 35'
   13. Minimum Home Size: 1,700 square feet

   (b) *Interior Lots*

   1. Minimum Lot Size: 60' wide by 120' deep
   2. Minimum Lot Area: 7,200 square feet
   3. Minimum Rear Yard: 20'
   4. Minimum Rear Yard (accessory structures): 5'
   5. Minimum Side Yard: 7.5'
   6. Minimum Side Yard (accessory structures): 5'
   7. Minimum Side Yard (corner lots): 15'
   8. Minimum Front Yard: 25'
   9. Minimum Porch/Garage Setback: 15'
   10. Maximum Building Lot Coverage: 50%
   11. Maximum Impervious Surface: 75%
   12. Maximum Building Height: 35'
   13. Minimum Home Size: 1,700 square feet

7. **Phasing.** The preliminary plat application shall include a subdivision phasing schedule, which schedule may be subsequently modified and administratively approved by the Site Plan Review Committee as a minor amendment.

8. **Model Homes**. A maximum of 16 model homes shall be allowed within the new development. Model homes are allowed to be started after a stabilized road is

constructed and water and sewer clearances have been obtained, which may be before final plat acceptance.

9. **Gated Community**. The project is proposed to have a gated access point for vehicles and to allow pedestrian access into the subdivision. Private, gated subdivisions are required to provide easements to the city through the platting process for access and maintenance of the utilities servicing the proposed development. The streets, sidewalks, and stormwater system would be privately owned and maintained by the homeowner's association created for the subdivision. Changing from a gated to non-gated (public) subdivision would be considered a minor amendment reviewed and acted upon by the Site Plan Review Committee.

10. **Emergency Access Easement**. Emergency access to the residential subdivision will be provided via the easement access area across that certain lot owned by the applicant located at 100 N. St. Andrews Drive (Parcel ID: 3242-10-20-0150), as depicted on the conceptual plan for the updated site plan, and it shall have a stabilized base and a grass surface for emergency vehicular access only. Construction details for the emergency access connection point will be finalized during the preliminary plat process.

11. **Perimeter Buffer**. A 50-foot vegetative buffer shall be established around the perimeter of the Property (i.e., those areas abutting existing lots in the surrounding Tomoka Oaks subdivision). The perimeter buffer area will include five (5) trees and fifty (50) shrubs per every 100 linear feet of open space, as more fully set forth in the Buffer Planting Plan set forth in Section III of the Tomoka Reserve Buffer Planting and Maintenance Plan, dated September 6, 2023, and existing vegetation in this buffer area shall count towards the minimum landscaping requirements. There shall be no mitigation assessments for removal of specimen trees on individual lots that is necessary for construction of single-family homes authorized for the proposed development. The project will ensure that irrigation is installed for the expanded vegetative buffer area, and the City of Ormond Beach shall provide an irrigation source of reclaimed water for the 50-foot vegetative buffer.

12. **Natural Preservation Area**. At least twenty (20) percent of the Property shall be left in a natural state, without any improvements other than new plantings or stormwater retention areas. This natural preservation area may include the perimeter buffer area, stormwater retention and designated conservation areas within individual lots or common areas, but it shall not include any classified wetlands.

13. **Recreational Area**. No indoor recreation areas shall be required, provided that the final development plan includes an additional thirty (30) square feet per unit of outdoor active recreation space, the final design of which shall be depicted on the preliminary plat.

14. **Sidewalks**. Sidewalks within the development shall be installed on both sides of the streets located within the subdivision. Additionally, prior to receiving a certificate of occupancy for the first home, sidewalks shall be constructed along both sides of Tomoka Oaks Boulevard from the proposed subdivision to Nova

Road, provided that there is existing right-of-way that is sufficient to install the sidewalks.

15. **Stormwater**. Final stormwater design shall be depicted on the preliminary plat, the location of which may be included in the required natural preservation areas for the development, as more fully set forth herein.

16. **Fences**. Fencing requirements for the single-family homes in the new subdivision shall be as follows:

    - The following fence materials are permitted: Wood, black wrought iron, high-quality aluminum, and white PVC.
    - Perimeter fencing along rear or side (from front of the house to rear property line shall be a maximum height of 6 feet.
    - Fencing along the front property line or side property lines from the front of the house to the front property line shall have a maximum height of 4 feet. This "front-yard" fencing must be decorative (*i.e.,* no solid fences) and, if wood is utilized, it must be painted.

17. **Architecture**. Final architectural elevations for the single-family homes will be consistent with those depicted on page 8 of Exhibit C to the 2023 PRD Development Order (which elevations shall be included as part of the Revised PRD Development Order). An architectural review committee will be established by the applicant for the governing homeowner's association for the residential subdivision to ensure that final architectural elevations of all homes and any modifications are consistent with the permitted architectural styles and exterior materials. The submittal of building permit applications for the construction of new homes or exterior modifications to existing homes shall include written documentation from the architectural review committee that all architectural conditions have been satisfied

18. **Off-Site Transportation Improvements & Impact Fee Credits**.

    (a) ***New Traffic Signal (Nova Road & Tomoka Oaks Blvd.):*** Within forty-five (45) days after approval of the preliminary plat for the first phase, the applicant will apply for permits to install a new traffic signal at the intersection of Nova Road and Tomoka Oaks Boulevard, subject to the review and approval of the Florida Department of Transportation. Prior to the issuance of the first certificate of occupancy within the development, the traffic signal at Nova Road and Tomoka Oaks Boulevard must be completed and functioning, or otherwise fully bonded, and the full cost of constructing said traffic signal system must be deposited with the City of Ormond Beach and held in escrow for the payment of said construction costs.

    (b) ***"Diamond" Intersection (St. Andrews Dr. & Tomoka Oaks Blvd.):*** The applicant will construct roadway improvements to modify the existing drive aisle at the "diamond" intersection of St. Andrews Drive and Tomoka Oaks Boulevard for the purpose of resolving turning radius conflicts for emergency vehicles at the intersection, provided that the City provides sufficient right-of-

way for "softening" the corners of the "diamond." The applicant will also install additional landscaping, of its own choosing, adjacent to the right-of-way for the drive aisle after construction of the proposed roadway improvements. Subject to the City's provision of sufficient right-of-way for the proposed improvements.

(c) ***Impact Fee Credits:*** The City of Ormond Beach shall provide roadway impact fee credits to the applicant in the amount of $864.59 per home in exchange for its agreement to construct the new traffic signal and "diamond" intersection improvements, as detailed above.

19. **Hours of construction**. On-site construction activities shall be from 7:00 a.m. to 7:00 p.m., Monday through Saturday, with no outside construction activities on Sundays.
20. **Utilities**. Detailed water and sewer connections shall be provided at the time of the Preliminary plat application submittal. The applicant shall be permitted to use re-use irrigation, as available, with a supplemental well as needed.
21. **Flood Zone.** The property lies within Flood Zone X (area of minimal flood hazard).
22. **Historic Trees.** The project narrative letter states that 16 historic trees within the property will be saved.
23. **Expiration Date.** The development order expiration would be five (5) years from the date of City Commission approval. If the development order were to expire, a zoning map amendment would need to occur to ensure the property had a city zoning designation.

SECTION 4, CRITERIA FOR REVIEW:

The following are the review criteria from the Land Development Code:

Planned Residential Development Criteria

Section 2-35, Chapter 2, Article II of the Land Development Code details the requirements of a Planned Residential Development:

1. Section 2-35(d)(3) of the Land Development Code states: "All structures shall be set back a minimum of forty feet (40') from the project's perimeter boundaries unless natural or manmade features, such as lakes, creeks, wooded or conservation areas are present. Where a project abuts a collector or arterial street, the setback requirement may be increased if an effective buffering treatment cannot be provided between the street and residential use."

   The project has established a 50' vegetative buffer around the entire perimeter of the property and meets this requirement.

2. Section 2-35(h)(3) of the Land Development Code states, "Thirty (30) square feet of indoor recreation floor area, including exercise rooms, all-purpose space, dining areas and similar uses shall be provided for each dwelling unit, unless waived by the city commission and replaced at a minimum as follows:

   a. Sixty (60) square feet per unit of outdoor active recreation space in compliance with this section in lieu of the indoor recreation floor area requirement;

   b. The open space and/or additional outdoor facilities must be compatible with adjacent

properties and the recreational facilities must be consistent with the needs of the project; and

c. The planning board and city commission determine, after reviewing the proposed development plan, that the preservation of natural resources and/or provision of additional recreation facilities is appropriate and that indoor recreational facilities can be waived."

The applicant is providing additional square footage as outdoor recreation as permitted under Subsection 3a (above) in lieu of the indoor recreation requirement. The conversion of required indoor recreation to outdoor recreation has been permitted in other Planned Residential Developments such as Creekside, Southern Pines, Pineland, Tattersall, and RidgeHaven.

3. Section 2-35(h)(4) of the Land Development Code states, "Sixty (60) square feet of outdoor active recreation space (exclusive of parking, landscaping, retention/detention ponds and other site features), including pools, pool decks, shuffleboard courts, tennis courts and fishing piers and similar uses, shall be provided for each dwelling unit. Impact fee credits for any specific outdoor recreation site shall be limited to three hundred (300) dwelling units."

   The updated site plan project is required to provide a total of 30,480 square feet of outdoor recreation area. The project is proposing recreational area throughout the project that meets the requirements of this section. The recreational amenities shown from the 2023 site plan are a multi-purpose field, pickle-ball courts, playgrounds, pavilions, an outdoor exercise area, and picnic tables with the final design occurring at the preliminary plat.

4. Section 2-35(h)(7) of the Land Development Code states, "Thirty (30) square feet of common accessible, open space shall be provided for each dwelling unit.

   a. Common open space shall be available to all the residents of the development. At the option of the developer, subject to the approval of the City Commission, common open space may be dedicated to the use of the general public.

   b. Common open space must be adequately landscaped and irrigated.

   c. Natural features worthy of preservation shall be left in a natural state;

   d. Water bodies may be utilized to meet twenty-five percent (25%) of the available open space requirement, provided significant recreational use of the waterbody can be demonstrated. Water retention and wetlands areas may not be included in this calculation;"

   The project is required to provide 7,620 square feet of common space. The applicant has provided the common open space throughout the project.

5. Section 2-35(h)(8) of the Land Development Code states: "Twenty percent (20%) of the project shall be left in a natural state. This may include designated conservation areas within lots or common areas."

   As shown on the 2023 site plan, the project is proposing that 34 acres of the site remain in a natural state where the Land Development Code requirement is 29.6

acres. The project proposes a 50-foot natural buffer around the boundary of the site.

6. Other Uses. Section 2-35(b)(2) of the Land Development Code allows other uses within planned residential developments.

   The only use proposed is single-family residential. No other uses are proposed.

Section 2-35(j)(4) of the Land Development Code states:

> "In considering an application for a PRD, the planning board may recommend approval, approval with conditions, or disapproval and the city commission may base its conditions of approval or denial of the issuance of a development order on the extent to which the development offers site amenities above that normally found for permitted uses in the district with regard to the following:"

a) Innovative Site Design

The applicant submittal states: "In designing the proposed redevelopment plan, the Applicant took great measures to ensure the project would complement the surrounding area and integrate with the surrounding residential neighborhood." The proposed application provides additional site amenities beyond those of a standard subdivision, including open space, recreational facilities, and architectural and landscape design for the lots.

The updated site plan and conditions provide a 50-foot vegetative buffer that would be irrigated and traffic improvements that include sidewalks, work to the "diamond" intersection (St. Andrews Drive & Tomoka Oaks Boulevard), and a traffic signal at Nova Road and Tomoka Oaks Boulevard. The site design and conditions within the application provide a higher level of amenities than normally found for permitted uses in traditional zoning districts.

b) Coordinated Architectural Design

The Tomoka Reserve project shall have an Architectural Control Committee tasked with enforcing the architectural design guidelines detailed in the proposed ordinance.

c) Open Space, Recreation, Common Areas

The project has exceeded the space required for open space, recreation, and common areas. The project has preserved 23% of the land area, as detailed in the 2023 site plan submittal. The applicant is providing a recreation area and common open space. The total area for open space, recreation, and stormwater is 67.84 acres or 46% of the overall property.

d) Coordinated Streetscape Elements

The site plan submittal shows the subdivision entry feature. The project would be required to provide streetscape elements such as street tree plantings.

City Commission Criteria

Section 1-18(e) of the Land Development Code provides the criteria for the issuance of a development order (criteria in bold):

1. **The proposed development conforms to the standards and requirements of this Code and will not create undue crowding beyond the conditions normally permitted in the zoning district, or adversely affect the public health, safety, welfare, or quality of life.**

   The applicant has provided the required information regarding lot sizes and layout, street locations, buffer requirements, traffic impacts, stormwater planning, and Planned Residential Development requirements. Please note that site-specific information (stormwater, lighting details, and landscaping details) shall be provided with preliminary and final plat applications. The application exceeds the requirements of site buffering, recreational amenities, and common space. Planning staff concludes that the application would not create undue crowding beyond the conditions normally permitted in the zoning district, or adversely affect the public health, safety, welfare, or quality of life.

2. **The proposed development is consistent with the Comprehensive Plan.**

   The property is designated “Low Density Residential” on the City’s Future Land Use Map. The Future Land Use Element of the Comprehensive Plan states:

   Low Density Residential (LDR)

   Purpose: To protect and encourage the continued development of typical single-family residential areas and stabilize and protect the character of such neighborhoods. Institutional uses may be permitted in accordance with the maximum floor area ratio.

   Density: up to 4.3 units per acre

   Maximum FAR: 0.2

   The following is a list of the Comprehensive Plan Objectives and Policies pertaining to the proposed PRD:

   Future Land Use Element

   GOAL 1. LAND USE DISTRIBUTION

   FUTURE DEVELOPMENT AND REDEVELOPMENT ACTIVITIES SHOULD BE DIRECTED IN APPROPRIATE AREAS AS DEPICTED ON THE FUTURE LAND USE MAP TO MEET THE LAND USE NEEDS OF THE ANTICIPATED POPULATION, IN A MANNER CONSISTENT WITH SOUND PLANNING PRINCIPLES, THE GOALS, OBJECTIVES AND POLICIES CONTAINED HEREIN, AND THE DESIRED COMMUNITY CHARACTER.

   THE FUTURE LAND USE ELEMENT SHOULD ALLOW LIMITED COMMERCIAL EXPANSION, PROMOTE INDUSTRIAL USE, AND MAINTAIN CURRENT RESIDENTIAL DENSITIES IN THE CORE AREA WHILE ESTABLISHING LOWER DENSITIES IN THE PERIMETER AREAS, FOCUSING REDEVELOPMENT IN THE DOWNTOWN COMMUNITY REDEVELOPMENT AREA, US1, AND SRA1A, AND PROVIDING FOR A CONTINUED HIGH LEVEL OF OPEN SPACE. FUTURE GROWTH

SHALL BE TIMED AND LOCATED TO MAXIMIZE EXISTING PUBLIC INFRASTRUCTURE.

OBJECTIVE 1.1. RESIDENTIAL LAND USE

Ensure the availability of adequate lands to meet the residential land use needs of the community.

POLICY 1.1.3.

Preserve the character of existing neighborhoods by not allowing intrusion of land uses that would threaten to alter the neighborhood character and by encouraging voluntary rehabilitation and sound maintenance programs in viable neighborhoods which are capable of self-renewal and establishing code enforcement or public redevelopment activities in areas not capable of self-renewal.

POLICY 1.1.5.

Encourage innovative design measures for new residential developments and ensure that adequate provision is made for neighborhood facilities suitable to the type of development proposed.

POLICY 1.1.6.

Provide the opportunity, through zoning and other land use controls, for the development of a variety of housing types (i.e., single-family, duplex, townhouse, multi-family) in both conventional, planned unit and cluster type developments, that will meet the varied needs of the citizens of Ormond Beach.

POLICY 1.1.14.

Enhance community livability in the central core and older sections of the City by encouraging infill as appropriate, transit-oriented development, and walkable residential areas.

POLICY 2.4.7.

Encourage cluster development which promotes the efficient use of open space and reduces development costs, in areas where services and facilities exist or are planned.

Housing Element

GOAL 1. HOUSING SUPPLY

ENSURE THE AVAILABILITY OF SAFE AND ADEQUATE HOUSING UNITS OF DIFFERENT TYPES, SIZES, AND PRICE RANGES TO MEET THE NEEDS OF ALL CURRENT AND FUTURE RESIDENTS.

OBJECTIVE 1.1. HOUSING SUPPLY

The City shall continue to facilitate the private production of a housing supply, including adequate sites for mobile homes or manufactured housing and low and moderate-income housing, which will meet future community needs and offset housing deficiencies as noted in this Element.

OBJECTIVE 1.2. PROVISION OF ADEQUATE SERVICES AND FACILITIES

Each existing housing development and residential neighborhood along with all new housing development shall meet the existing adopted level of service standards.

POLICY 1.2.1.

The general residential development pattern in the city should be in accord with the community's growth strategy for residential densities, as stipulated within the Future Land Use Element.

The Comprehensive Plan contains policies that can support the proposed project or be used to deny the project. It is important to note that the land use density allows 4.3 units per acre and the proposed density is 1.72 units per acre. Planning staff concludes that the proposed development, as conditioned, is consistent with the Comprehensive Plan.

3. **The proposed development will not adversely impact environmentally sensitive lands or natural resources, including but not limited to waterbodies, wetlands, xeric communities, wildlife habitats, endangered or threatened plants and animal species or species of special concern, wellfields, and individual wells.**

   The project has prepared an environmental summary. The property would be subject to environmental remediation of the former golf course, which would be monitored by the Florida Department of Environmental Protection. The subject property has no on-site wetlands or floodplains. The updated site plan authorizes the use of reuse water for irrigation for the 50-foot natural buffer.

4. **The proposed use will not substantially or permanently depreciate the value of surrounding property; create a nuisance; deprive adjoining properties of adequate light and air; or create excessive noise, odor, glare, or visual impacts on the neighborhood and adjoining properties.**

   The updated site plan and project conditions provides open space, natural areas, buffers, stormwater management, and a recreational area that exceed the requirements of subdivisions with traditional zoning designations. The project is providing off-site improvements including a sidewalk, re-construction of the St. Andrews Drive and Tomoka Oaks Boulevard diamond, and the construction of a new traffic signal at Nova Road and Tomoka Oaks Boulevard. Single-family houses abutting single-family houses should be considered similar uses and would not depreciate surrounding property values.

5. **There are adequate public facilities to serve the development, including but not limited to roads, sidewalks, bike paths, potable water, wastewater treatment, drainage, fire and police safety, parks and recreation facilities, schools, and playgrounds.**

   There are adequate public facilities to serve the development. Traffic and sidewalks were analyzed with the 2023 site plan submittal. The applicant agreed to sidewalks on both sides of Tomoka Oaks Boulevard and the reworking of the intersection of Tomoka Oaks Boulevard and Saint Andrews Street. Based on traffic study data and analysis, it was concluded that roadways and the intersection operate at an acceptable level of service at build-out. Based on state statutes, any impact of the project above the adopted level of service would require a proportionate fair share agreement. There is adequate water and wastewater capacity to serve the project. Finally, the project was reviewed by the Volusia County School Board, and school concurrency was approved for the zoning application.

6. **Ingress and egress to the property and traffic patterns are designed to protect and promote motorized vehicle and pedestrian/bicycle safety and convenience, allow for desirable traffic flow, and control, and provide adequate access in case of fire or catastrophe. This finding shall be based on a traffic report where available, prepared by a qualified traffic consultant, engineer, or planner which details the anticipated or projected effect of the project on adjacent roads and the impact on public safety.**

   Attachment 5 includes a (1) Traffic Impact Analysis, (2) Response to comments, dated 06-07-2023, and (3) a technical memorandum, dated 06-07-2023. The technical memorandum summarizes the traffic analysis for the project. It is important to note that the subject property has a land use that allows residential use at 4.3 units per acre. Traffic analysis is focused on the impacts of traffic on intersections and roadways. Where intersections and roadway segments fail as a result of project trips, state law allows the project to pay its proportionate fair share to mitigate the project impacts. The analysis seeks to review and determine if a project diminishes the adopted level of services below the level of services adopted in the city's Comprehensive Plan. An independent traffic engineer, employed by the city, has reviewed and provided comments on the traffic impact analysis. The traffic analysis went above the city requirements and analyzed the local road traffic impact of the proposed development.

   It is understood that traffic and its impacts are a large part of any development. A professional traffic engineer has prepared an analysis of the project impacts that have been reviewed by a professional traffic engineer hired by the city. The analysis shows certain required improvements and a responsibility to pay a proportionate share for project impacts as required by state law. The analysis does not state that there will not be an increase in traffic impacts as the result of the Tomoka Reserve proposed subdivision. The analysis states that the increased impacts of the Tomoka Reserve subdivision are within the Level of Service standards allowed by the city and the payment of a proportionate share as allowed by state law.

7. **The proposed development is functional in the use of space and aesthetically acceptable.**

   Natural and landscaped areas are provided around the entire perimeter of the project. The project is using a low-impact development technique of berming around the stormwater area. The site design is functional and uses the land area effectively.

8. **The proposed development provides for the safety of occupants and visitors.**

   The overall design indicates safe movement on the site. The proposed road and access layouts would be reviewed during the construction drawings of the preliminary plat.

9. **The proposed use of materials and architectural features will not adversely impact the neighborhood and aesthetics of the area.**

   The project is required to utilize a Homeowners' Association (HOA), which will institute an Architectural Control Committee to review construction plans within the development. The site plan outlines regulations governing the construction of

buildings and landscaping on individual lots to encourage aesthetics and harmony within the development.

10. **The testimony provided at public hearings**.

    There has been extensive testimony at past public hearings. There have been no public hearings regarding the updated February 25, 2026 site plan. The issuance of the development order has been scheduled for City Commission public hearings on March 13, 2026 (6:00 PM) and March 24, 2026 (7:00 PM).

SECTION 5, RECOMMENDATION:

It is recommended the City Commission **APPROVE** the issuance of a development order authorizing the development of up to 254 single-family lots on approximately 147.94 acres under certain conditions and associated subdivision improvements located at 20 Tomoka Oaks Boulevard.

Attachments:

Attachment 1:	Location, land use, and zoning maps
Attachment 2:	2026 updated site plan
Attachment 3:	2023 site plans
Attachment 4:	2023 applicant information
Attachment 5:	2023 Traffic Impact Analysis
Attachment 6:	2023 Planning Board minutes

ATTACHMENT 1

Location, land use and zoning maps

AERIAL MAP
20 TOMOKA OAKS BLVD
(324207000010)

Prepared By: The City of Ormond Beach
GIS Department - February 26, 2026

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W E
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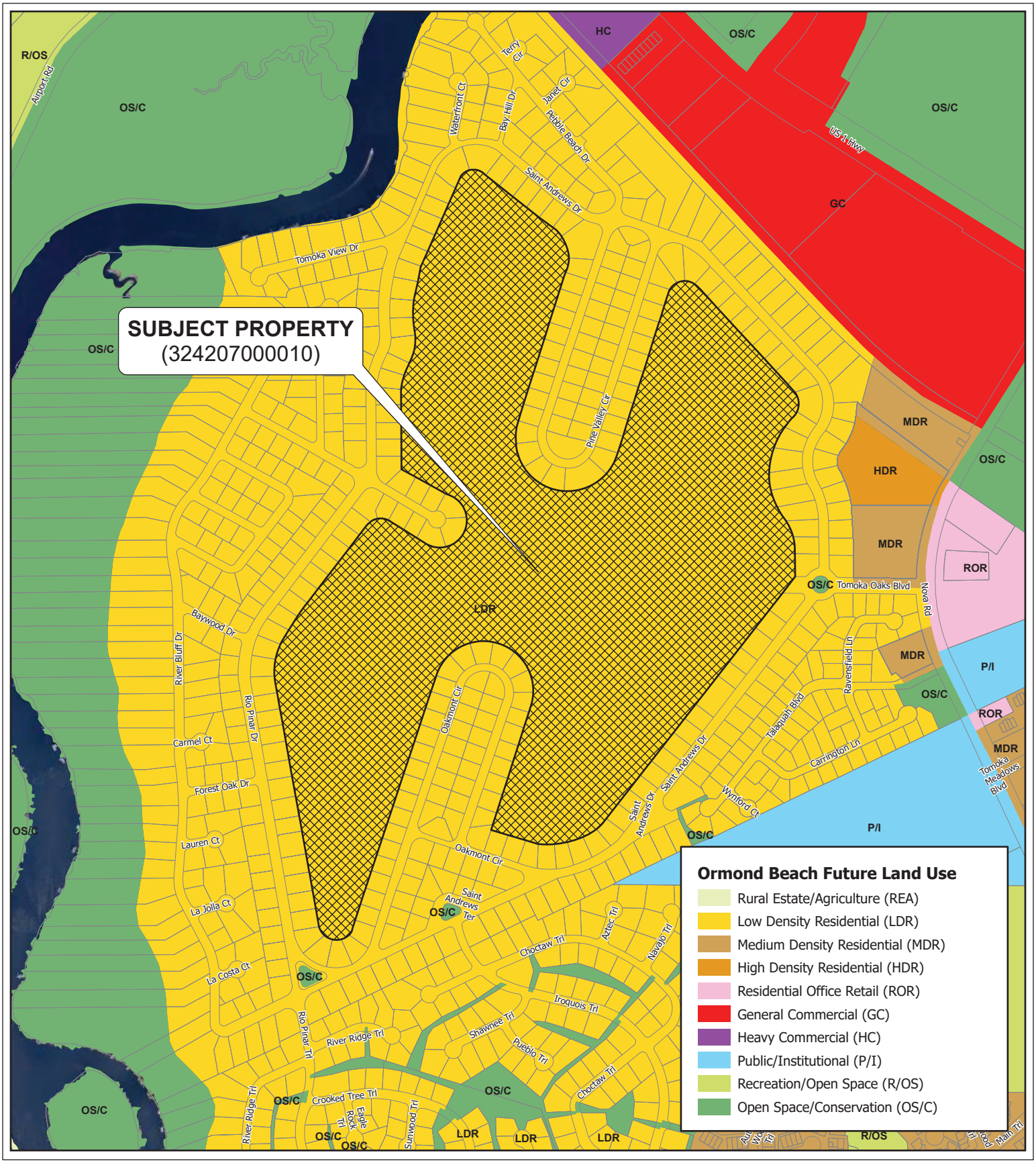
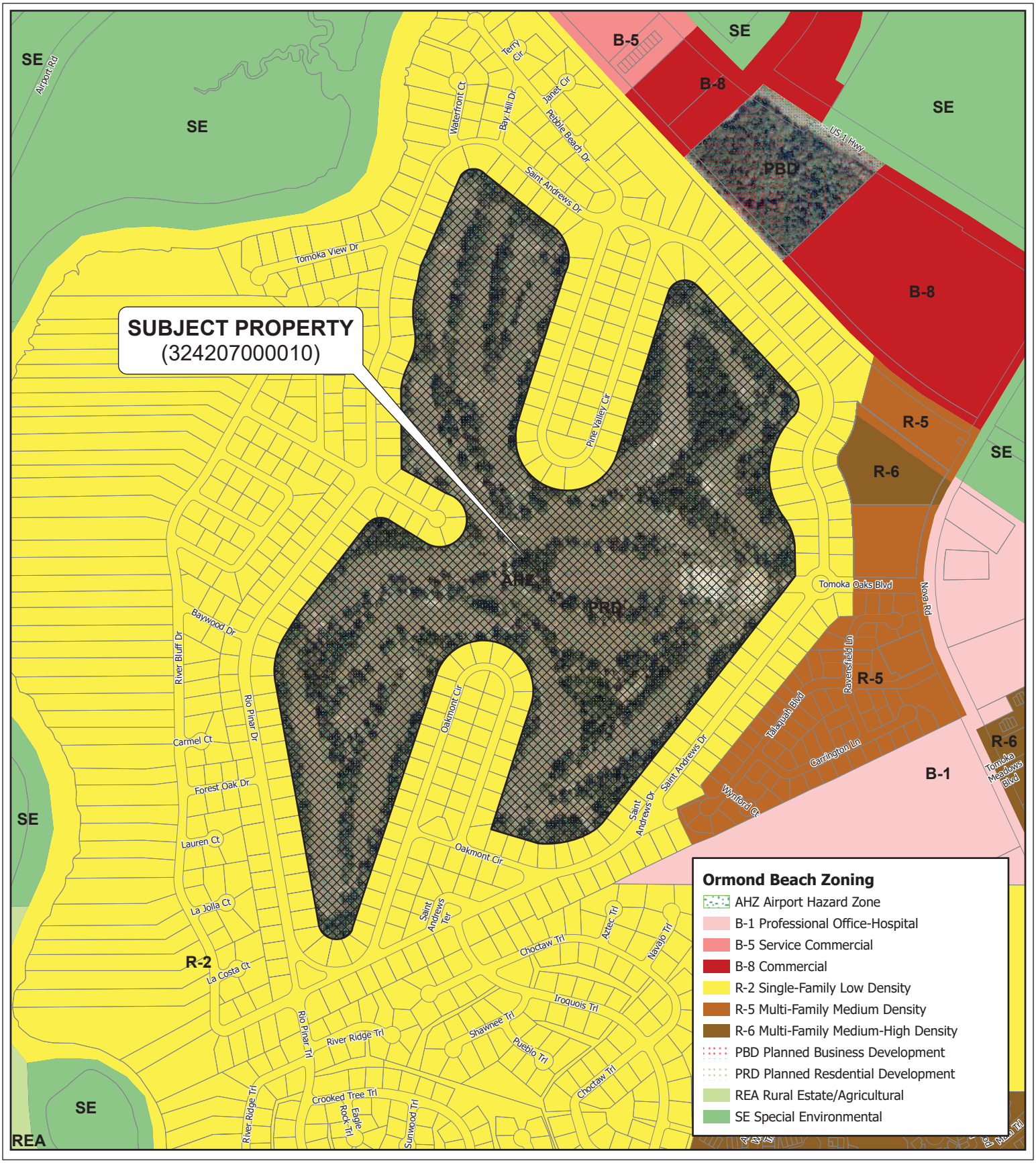


FUTURE LAND USE MAP
20 TOMOKA OAKS BLVD
(324207000010)

Prepared By: The City of Ormond Beach
GIS Department - February 26, 2026



ZONING MAP
20 TOMOKA OAKS BLVD
(324207000010)

Prepared By: The City of Ormond Beach
GIS Department - February 26, 2026

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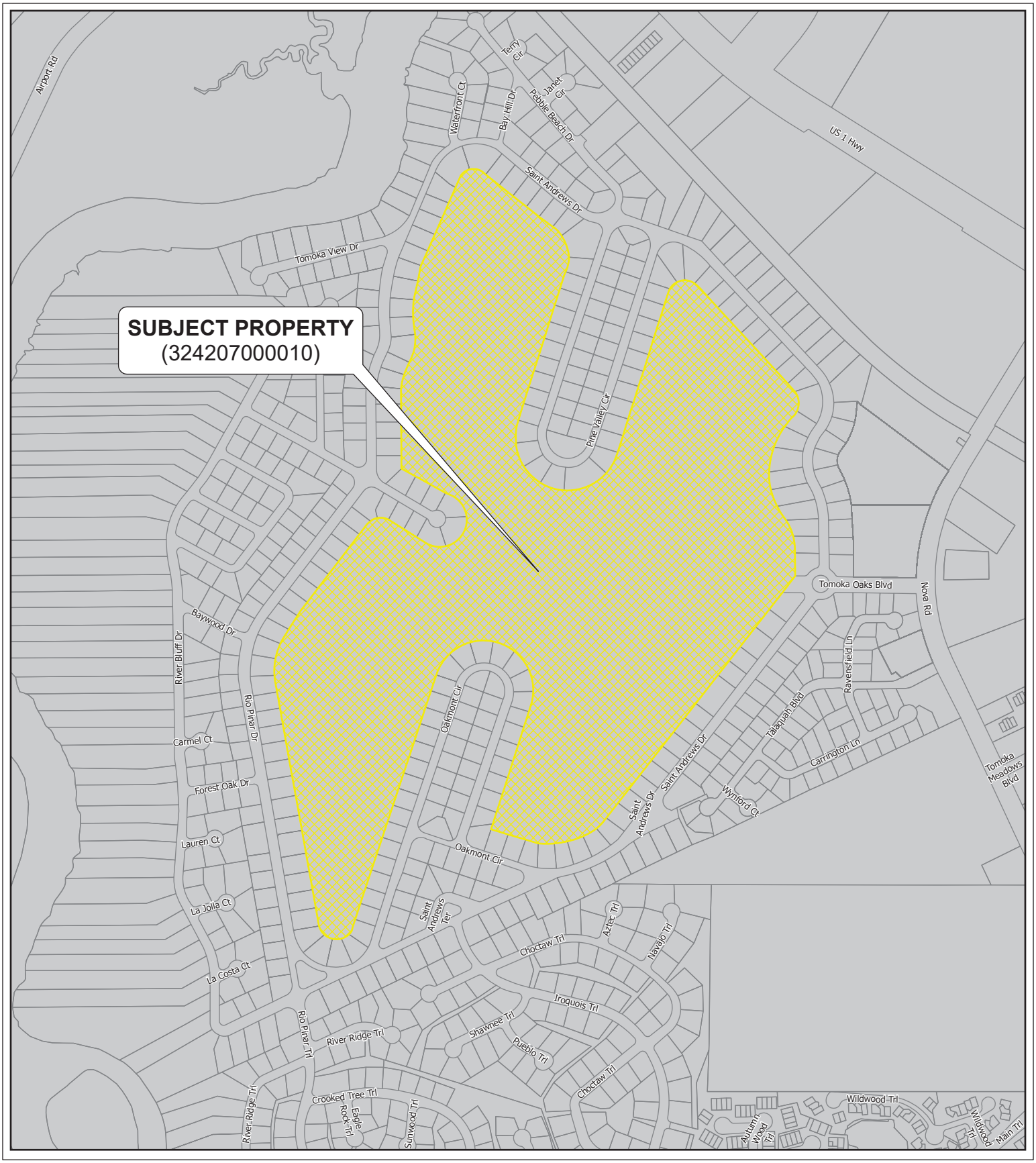


LOCATION MAP
20 TOMOKA OAKS BLVD
(324207000010)

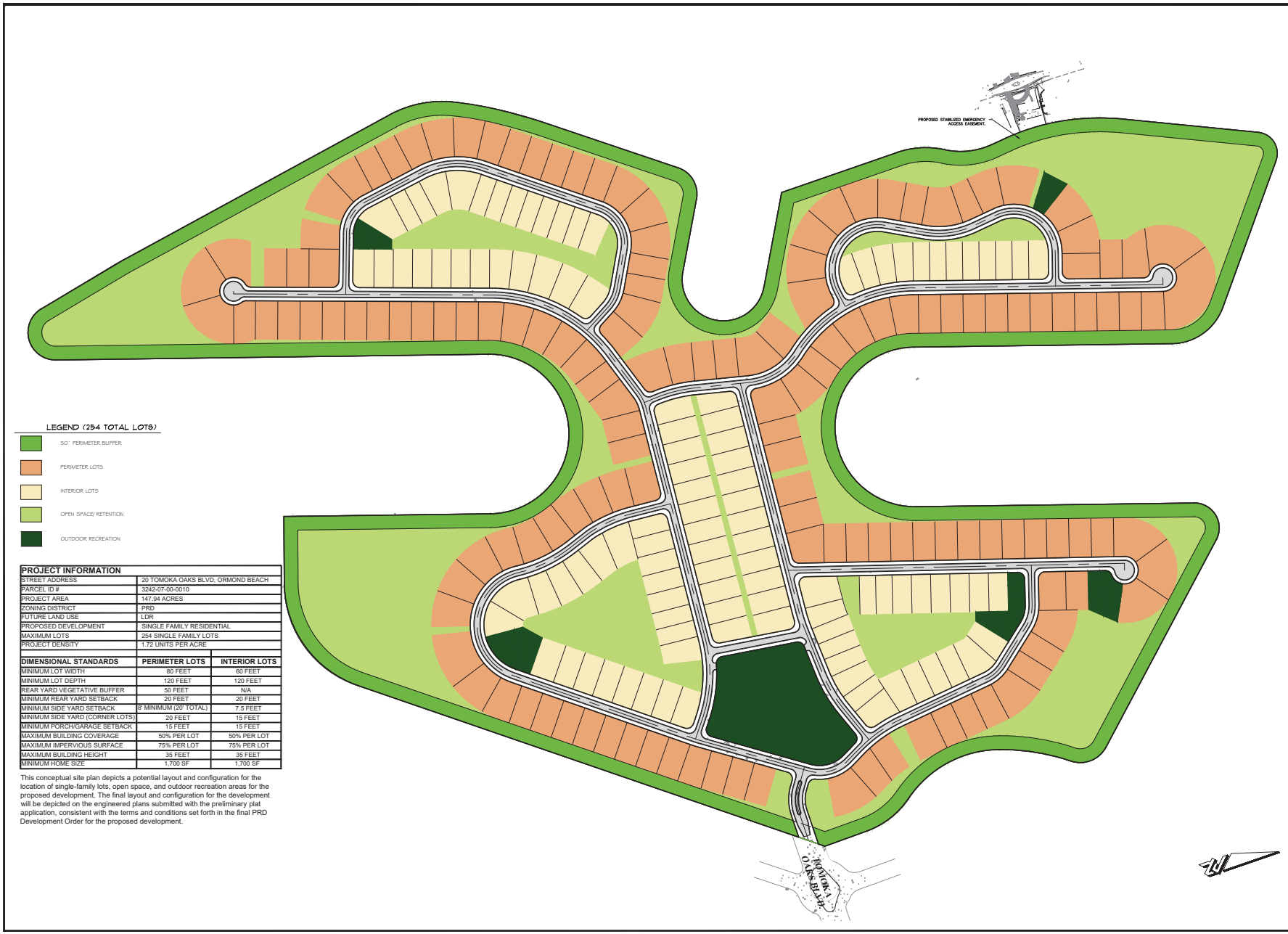
Prepared By: The City of Ormond Beach
GIS Department - February 26, 2026

N
W E
S

ATTACHMENT 2

Updated Site Plan

February 25, 2026



LEGEND (254 TOTAL LOTS)

- 50' PERIMETER BUFFER
- PERIMETER LOTS
- INTERIOR LOTS
- OPEN SPACE/ RETENTION
- OUTDOOR RECREATION

PROJECT INFORMATION		
STREET ADDRESS	20 TOMOKA OAKS BLVD, ORMOND BEACH	
PARCEL ID #	3242-07-00-0010	
PROJECT AREA	147.94 ACRES	
ZONING DISTRICT	PRD	
FUTURE LAND USE	LDR	
PROPOSED DEVELOPMENT	SINGLE FAMILY RESIDENTIAL	
MAXIMUM LOTS	254 SINGLE FAMILY LOTS	
PROJECT DENSITY	1.72 UNITS PER ACRE	
DIMENSIONAL STANDARDS	**PERIMETER LOTS**	**INTERIOR LOTS**
MINIMUM LOT WIDTH	80 FEET	60 FEET
MINIMUM LOT DEPTH	120 FEET	120 FEET
REAR YARD VEGETATIVE BUFFER	50 FEET	N/A
MINIMUM REAR YARD SETBACK	20 FEET	20 FEET
MINIMUM SIDE YARD SETBACK	8' MINIMUM (20' TOTAL)	7.5 FEET
MINIMUM SIDE YARD (CORNER LOTS)	20 FEET	15 FEET
MINIMUM PORCH/GARAGE SETBACK	15 FEET	15 FEET
MAXIMUM BUILDING COVERAGE	50% PER LOT	50% PER LOT
MAXIMUM IMPERVIOUS SURFACE	75% PER LOT	75% PER LOT
MAXIMUM BUILDING HEIGHT	35 FEET	35 FEET
MINIMUM HOME SIZE	1,700 SF	1,700 SF

This conceptual site plan depicts a potential layout and configuration for the location of single-family lots, open space, and outdoor recreation areas for the proposed development. The final layout and configuration for the development will be depicted on the engineered plans submitted with the preliminary plat application, consistent with the terms and conditions set forth in the final PRD Development Order for the proposed development.

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OCOEE, FLORIDA 34761
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LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION
LC #

NO. | DATE | BY | SUBMITTALS / REVISIONS

TOMOKA RESERVE CONCEPTUAL SITE PLAN

VOLUSIA COUNTY, FLORIDA
CITY OF ORMOND BEACH

PROJECT NO: ZC 21067
DESIGNED BY: KR
DRAFTED BY: JS/MM
CHECKED BY: JS
DRAWING FILE: 07_21067 EXHIBIT-LITIGATION
XREF'S: XXXXX.DWG
XREF'S: XXXXX.DWG

2/25/26

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SHEET: EX1 OF 01

ATTACHMENT 3

2023 PRD site plan submittal

TOMOKA RESERVE

CITY OF ORMOND BEACH - VOLUSIA COUNTY, FL

PLANNED DEVELOPMENT

OWNER:
TRIUMPH OAKS OF ORMOND BEACH I, LLC
7765 LAKE WORTH ROAD, BOX 320
LAKE WORTH, FL 33467
PHONE NUMBER: (561) 704-1959
FAX NUMBER
CONTACT PERSON: SHELDON RUBIN
e-mail: sheldonwrubin@gmail.com

CIVIL ENGINEER:
ZEV COHEN & ASSOCIATES, INC.
300 INTERCHANGE BLVD, SUITE C
ORMOND BEACH, FL 32174
PHONE NUMBER: (386) 677-2482
FAX NUMBER: (386) 677-2505
CONTACT PERSON: KRIS ROWLEY, P.E.
e-mail: krowley@zevcohen.com

SURVEYOR:
SLIGER & ASSOCIATES, INC.
3921 NOVA ROAD
PORT ORANGE, FL 32127
PHONE NUMBER: (386) 761-5385
FAX NUMBER
CONTACT PERSON: JOE ZAPERT
e-mail: Jzapert@sligerassociates.com

GEOTECHNICAL ENGINEER:
UNIVERSAL ENGINEERING SCIENCES
911 BEVILLE RD
SOUTH DAYTONA, FL 32119
PHONE NUMBER: (386) 756-1105
FAX NUMBER: (386) 760-4067
CONTACT PERSON: BRIAN POHL
e-mail: Bpohl@universalengineering.com

LANDSCAPE ARCHITECT:
ZEV COHEN & ASSOCIATES, INC.
300 INTERCHANGE BLVD, SUITE C
ORMOND BEACH, FL 32174
PHONE NUMBER: (386) 677-2482
FAX NUMBER: (386) 677-2505
CONTACT PERSON: JAKE STEHR, R.L.A.
e-mail: jstehr@zevcohen.com

ATTORNEY:
COBB COLE
149 S. RIDGEWOOD AVENUE, SUITE 700
DAYTONA BEACH, FL 32114
PHONE NUMBER: (386) 255-1811
FAX NUMBER: (386) 253-1746
CONTACT PERSON: ROB MERRELL
e-mail: rob.merrell@cobbcole.com

PROJECT DESCRIPTION:

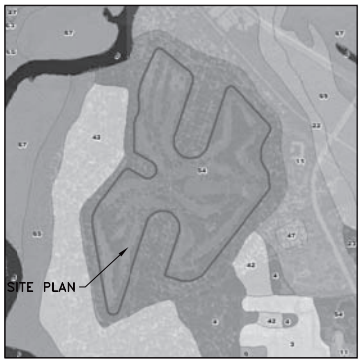
ISSUANCE OF A DEVELOPMENT ORDER TO ALLOW 272 SINGLE-FAMILY LOTS AND ASSOCIATED SITE IMPROVEMENTS.

SITE INFORMATION:	
SITE ADDRESS:	20 TOMOKA OAKS BLVD., ORMOND BEACH, FL 32174
PROJECT AREA:	147.94 ACRES
TAX PARCEL I.D. #:	324207000010
ADJACENT ZONING	R2
EXISTING ZONING:	PRD-EXPIRED
PROPOSED ZONING:	PRD
EXISTING LAND USE:	VACANT
PROPOSED LAND USE:	RESIDENTIAL FAMILY
EXISTING FUTURE LAND USE:	LDR
MAXIMUM UNIT/LOT COUNT:	272
MAXIMUM MODEL HOME COUNT:	16
UNIT/LOT DENSITY:	1.83 PER ACRE
LOT TYPE	VARIES
REQUIRED LANDSCAPE BUFFER(S):	50 FT. MINIMUM
MINIMUM LOT DEPTH:	120 FT.
MINIMUM LOT WIDTH:	60 FT.
MAXIMUM BUILDING HEIGHT	35 FT.
UTILITIES:	PROVIDED BY CITY OF ORMOND BEACH

NOTES:
1. PROJECT MAY BE PHASED. PHASING PLAN WILL BE PROVIDED AT SITE PLAN APPROVAL.
2. ALL CONSTRUCTION TRAFFIC SHALL UTILIZE TOMOKA BLVD. AND NOVA ROAD ONLY.
3. CONSTRUCTION ACTIVITIES SHALL ONLY BE ALLOWED ON MONDAY THROUGH SATURDAY BETWEEN THE HOURS OF 7:00 A.M. TO 7:00 P.M.
4. PEDESTRIAN ACCESS THROUGH THE SECONDARY ACCESS MAY BE PROVIDED BUT SHALL NOT BE REQUIRED. FINAL DESIGN AND LAYOUT TO BE COORDINATED DURING SUBDIVISION REVIEW
5. THE PERIMETER BUILDING SETBACK SHALL BE NO LESS THAN 50' FROM THE PROJECT BOUNDARY PER L.D.C.
6. MODEL HOMES INCLUDED IN 272 TOTAL PROPOSED UNITS
7. TYPE 6 BUFFER AS MODIFIED PER TOMOKA RESERVE BUFFER PLANTING AND MAINTENANCE PLAN SEP. 6, 2023.
8. EXISTING VEGETATION NATURAL VEGETATION WITHIN THE BUFFER WILL BE UTILIZED TO MEET THE MINIMUM STANDARDS. AT TIME OF CONSTRUCTION IF EXISTING NATURALLY OCCURRING LANDSCAPE IS INSUFFICIENT (BY CITY OF ORMOND BEACH LANDSCAPE ARCHITECT) SUPPLEMENTAL PLANTINGS WILL BE PROVIDED.
9. PROPOSED ENTRANCE WILL BE GATED TO VEHICULAR ACCESS. PEDESTRIAN ACCESS IS STILL PROVIDED THROUGH MAIN ENTRANCE AND EMERGENCY ACCESS.

VICINITY MAP
SCALE: 1" = 2000'

ZONING MAP
SCALE: 1" = 1000'
CURRENT ZONING FOR THIS SITE IS: PRD



SOILS MAP
SCALE: 1" = 1000'

THE SITE LIES WITHIN THE FOLLOWING VOLUSIA COUNTY SOIL CLASSIFICATIONS: 0-WATER; 3-ARENTS; 4-ASTATULA FINE SAND, 0 TO 8 PERCENT SLOPES;11-BULOW SAND, 0 TO 5 PERCENT SLOPES; 22-ELECTRA FINE SAND, 0 TO 5 PERCENT SLOPES; 23-FARMTON FINE SAND;37-ORSINO FINE SAND, 0 TO 5 PERCENT SLOPES; 42-PAOLA FINE SAND, 0 TO 8 PERCENT SLOPES; 47-PITS; 54-QUARTZIPSAMMENTS, GENTLY SLOPING; 63-TAVARES FINE SAND, 0 TO 5 PERCENT SLOPES; 65-TERRA CEIA MUCK; 67-TURNBULL MUCK; 69-TUSCAWILLA FINE SAND

FLOOD ZONE MAP
SCALE: 1" = 1000'

THE PROPERTY LIES IN:
FLOOD ZONE AE PER FEMA MAPS 12127C0211K AND 12127C0212K FEE 9/29/2017

SHEET INDEX:

PD1	COVER SHEET
PD2	OVERALL DEVELOPMENT
PD3	OPEN SPACE PLAN
PD4	SIGN PLAN
PD5/PD6	NATURAL PRESERVATION + BUFFER PLAN
PD7	TYPICAL LOT LAYOUT
PD8	ARCHITECTURAL EXHIBIT
PD9	STORMWATER AND UTILITY PLAN
PD10	AMENITY PLAN
VT1	VEHICLE TURN PLAN

LEGAL DESCRIPTION:

SAN SNEAD GOLF AND COUNTRY CLUB, A PART OF THE THOMAS FITCH GRANT, LYING WESTERLY OF THE FLORIDA EAST COAST RAILWAY, SECTION 39, TOWNSHIP 14 SOUTH, RANGE 32 EAST, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN MAP BOOK 25, PAGE 61, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

ZEV COHEN & ASSOCIATES, INC.
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ORMOND BEACH, FL 32174
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CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

NO.	DATE	BY	SUBMITTALS/REVISIONS

TOMOKA RESERVE
FINAL ENGINEERING PLANS
COVER SHEET
CITY OF ORMOND BEACH VOLUSIA COUNTY, FLORIDA

PROJECT NO: ZC 21067 PD
DESIGNED BY: KTR
DRAFTED BY: MRM
CHECKED BY: KTR
DRAWING FILE: PD1_21067 COV

KRISTOPHER T. ROWLEY, P.E. NO. 84283
NOT VALID WITHOUT SEAL

SHEET: PD1 OF 10

LOT LEGEND (272 LOTS)

SYMBOL	MINIMUM LOT SIZES:	LOTS	LOT %
	60' X 120'	115	(42%)
	80' X 125'	157	(58%)

LAND USE LEGEND (147.94 ACRES)

SYMBOL	NOTES	ACRES	PERCENTAGE
	50' LANDSCAPE BUFFER	19.90	(13.45%)
	OPEN SPACE	23.04	(15.58%)
	DRAINAGE/HABITAT	15.56	(10.52%)
	OUTDOOR RECREATION/ COMMON OPEN SPACE	9.34	(6.31%)
	LOTS	62.46	(42.22%)
	ROW	17.64	(11.92%)

CONCEPT LEGEND

EMERGENCY ACCESS THRESHOLD

NOTE: THE LOT SIZES SHOWN WITHIN THIS PLAN ARE CONCEPTUAL AND WILL COMPLY TO THE WIDTH RANGES PROVIDED WITHIN LEGEND. THE MAXIMUM LOT COUNT SHALL NOT EXCEED 272 UNITS. THE LOT WIDTHS CAN DEVIATE FROM THE PROVIDED RANGES IF THEY INCREASE IN SIZE AND DEPTH.
NOTE: ADDITIONAL PEDESTRIAN ACCESS MAY BE PROVIDED TO TOMOKA OAKS LOTS WITH AN EASEMENT APPROVED BY THE INDIVIDUAL TOMOKA OAKS PROPERTY OWNER.
NOTE: TURN LANE SIZES SHALL BE DETERMINED AT THE TIME OF PERMITTING.
NOTE: SIDEWALK LOCATION IS SHOWN AS CONCEPTUAL, ACTUAL LOCATION TO BE DETERMINED AT SITE PLAN PERMTTING.

0 100 200 300 400
SCALE : 1" = 200'

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TRANSPORTATION

NO.	DATE	BY	SUBMITTALS REVISIONS

TOMOKA RESERVE
PLANNED DEVELOPMENT
OVERALL DEVELOPMENT

VOLUSIA COUNTY, FLORIDA
CITY OF ORMOND BEACH

PROJECT NO: ZC 21067
DESIGNED BY: KR
DRAFTED BY: JS/MM
CHECKED BY: JS
DRAWING FILE: PD2-PDR_21067 ODP
XREFS: 21067_BASE.DWG
XREFS: 21067_SURV.DWG

KRISTOPHER T. ROWLEY, P.E. #54069
NOT VALID WITHOUT SEAL

SHEET: PD2 OF 10

ZEV COHEN & ASSOCIATES, INC.
301 NORTH MAGNOLIA AVE., STE. C
ORLANDO, FL 32801 (407) 422-7711
WWW.ZEVCOHEN.COM

CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

NO.	DATE	BY	SUBMITTALS REVISIONS

TOMOKA RESERVE PLANNED DEVELOPMENT OPEN SPACE PLAN

CITY OF ORMOND BEACH VOLUSIA COUNTY, FLORIDA

PROJECT NO: ZC 21067
DESIGNED BY: KR
DRAFTED BY: JS/MM
CHECKED BY: JS
DRAWING FILE: PD2-PDR_21067 ODP
XREFS: 21067_BASE.DWG
XREFS: 21067_SURV.DWG

KRISTOPHER T. KOVALEY, P.E. #0048069
NOT VALID WITHOUT SEAL

SHEET: PD3 OF 10

A CONCEPTUAL ENTRANCE ELEVATION

NOTE: CONCEPT IS SHOWN TO DEPICT MINIMUM STANDARDS FINAL SIGN DESIGN WILL BE PROVIDED AT SITE PLAN.

DETAIL-FILE

0 100 200 300 400
SCALE : 1" = 200'

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CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

NO.	DATE	BY	SUBMITTALS REVISIONS

TOMOKA RESERVE
PLANNED DEVELOPMENT
SIGN PLAN

CITY OF ORMOND BEACH VOLUSIA COUNTY, FLORIDA

PROJECT NO: ZC 21067
DESIGNED BY: KR
DRAFTED BY: JS/MM
CHECKED BY: JS
DRAWING FILE: PD2-PDR_21067 ODP
XREFS: 21067_BASE.DWG
XREFS: 21067_SURV.DWG

KRISTOPHER T. KOVALEY, P.E. FL# 66263
NOT VALID WITHOUT SEAL

SHEET: PD4 OF 10

BUFFER LEGEND

SYMBOL	NOTES
	EXISTING SPECIMEN TREE
	EXISTING HISTORIC TREE
	DENOTES NATURAL PRESERVATION / CONSERVATION AREA TO REMAIN

20% NATURAL PRESERVATION

TOTAL SITE AREA	147.94 AC.
MINIMUM TREE COVERAGE AREA REQUIRED (CALCULATION: 147.94 AC. x 20%=29.6 AC.	29.6 AC.
TOTAL MINIMUM TREE COVERAGE PROVIDED	34 AC.

NOTE: APPLICANT MUST PROVIDE A NOTE ON THE SITE PLANS THAT ANY TREE NEEDED TO BE REMOVED DURING CONSTRUCTION, BEYOND WHAT CAN BE AUTOMATICALLY REMOVED BASED ON MINIMUMS CAN BE REPLACED AS FOLLOWS, WILL REQUIRE A ONE FOR ONE REPLACEMENT PENALTY; PROTECTED TREES WILL REQUIRE ONE 2.5" CALIPER VARIETY AND SPECIMEN TREES WILL REQUIRE ONE 4.5" CALIPER VARIETY TO SUIT ITS PLANTING LOCATION; REPLACEMENT TREES NEED TO BE FLORIDA #1 AT A MINIMUM HEIGHT OF TEN FEET (10').

ZEV COHEN & ASSOCIATES, INC.
301 METROMALL BLVD., STE. C
ORMOND BEACH, FL 32174
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CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

NO.	DATE	BY	SUBMITTALS REVISIONS

TOMOKA RESERVE
PLANNED DEVELOPMENT
NATURAL PRESERVATION & BUFFER PLAN

CITY OF ORMOND BEACH VOLUSIA COUNTY, FLORIDA

PROJECT NO: ZC 21067
DESIGNED BY: KR
DRAFTED BY: --
CHECKED BY: RH
DRAWING FILE: PD2-PD5_21067 ODP
XREFS: 21067_BASE.DWG
XREFS: 21067_SURV.DWG

KRISTOPHER T. KOVALEY, P.E. #0048069
NOT VALID WITHOUT SEAL

SHEET: PD5 OF 10

BUFFER LEGEND

SYMBOL	NOTES
	EXISTING SPECIMEN TREE
	EXISTING HISTORIC TREE
	DENOTES NATURAL PRESERVATION / CONSERVATION AREA TO REMAIN

20% NATURAL PRESERVATION

TOTAL SITE AREA	147.94 AC.
MINIMUM TREE COVERAGE AREA REQUIRED (CALCULATION: 147.94 AC. x 20%=29.6 AC.	29.6 AC.
TOTAL MINIMUM TREE COVERAGE PROVIDED	34 AC.

LOT SEPARATION TABLE

COLOR	WIDTH	HOMES	%
	50'	10	6
	+50'-75'	74	43
	+75'-125'	27	16
	125'	61	35
	TOTAL	172	100

NOTE: THE LOT SEPARATION WIDTH SHOWN ON THIS SHEET MAY BE SUBJECT TO CHANGE AT THE TIME OF PERMITTING. THE REPRESENTED DISTANCES ARE FROM EXISTING RESIDENTIAL LOTS IN TOMOKA OAKS NEIGHBORHOOD AND PROPOSED LOTS WITHIN TOMOKA RESERVE.

NOTE: THE 50' BUFFER ABUTTING THE TOMOKA OAKS EXISTING RESIDENTIAL LOTS AND AREAS CALLED OUT AS NATURAL PRESERVATION SHALL NOT BE MODIFIED AND SHALL ALWAYS BE VEGETATIVE AREAS.

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TRANSPORTATION

NO.	DATE	BY	SUBMITTALS / REVISIONS

TOMOKA RESERVE
PLANNED DEVELOPMENT
NATURAL PRESERVATION & BUFFER PLAN

CITY OF ORMOND BEACH VOLUSIA COUNTY, FLORIDA

PROJECT NO: ZC 21067
DESIGNED BY: KR
DRAFTED BY: MM
CHECKED BY: XX
DRAWING FILE: PD2-PDR_21067 ODP
XREFS: 21067_BASE.DWG
XREFS: 21067_SURV.DWG

KRISTOPHER T. KOVALEY, P.E. #54069
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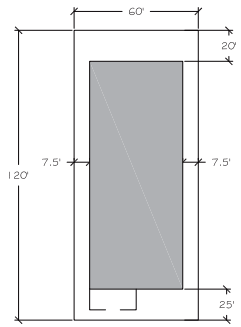
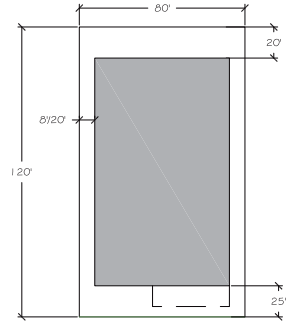
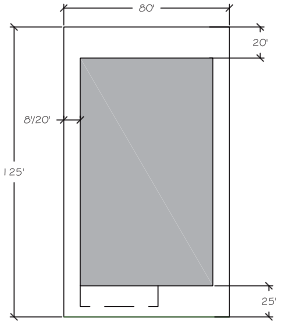
SHEET: PD6 OF 10

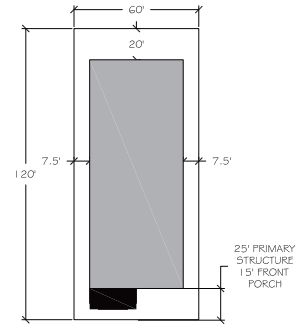
PUD Development Standards

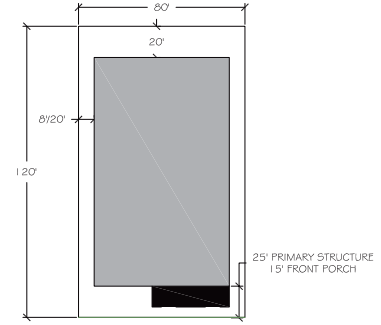
Lot Type	Minimum Lot Width or Range	Minimum Lot Depth	Minimum Square Foot Range	Required Parking Spaces	% Impervious	Maximum Height	Max Building coverage	Minimum Primary Structure Setbacks				Minimum Front Porch Setbacks			Minimum Garage Setbacks		
								Front	Rear	Side	Side Street	Front	Side	Rear	Front s	Side	Rear
Park House	60	120	1700	2	75%	35'	50%	25'	20'	7.5'	15'	15'	7.5'	20'	25'	7.5'	20'
Estate House	80	120	2000	2	75%	35'	50%	25'	20'	8'/20'	20'	15'	8'/20'	20'	25'	8'/20'	20'
Custom House	80	125	2200	2	75%	35'	50%	25'	20'	8'/20'	20'	15'	8'/20'	20'	25'	8'/20'	20'

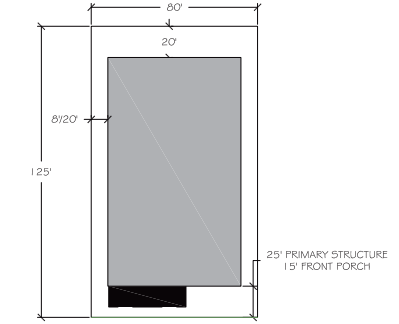


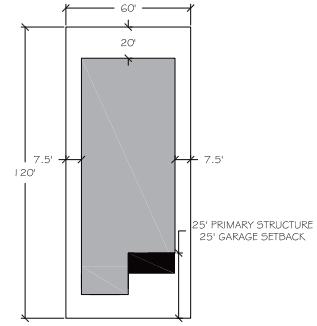




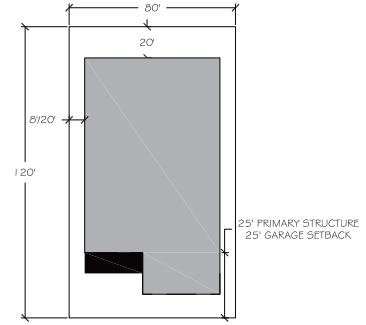




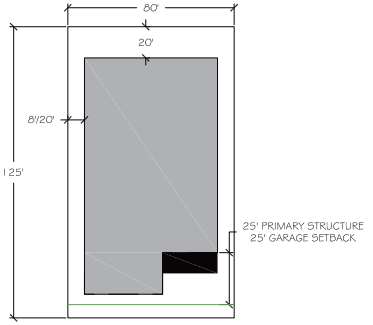




Ⓐ PARK HOUSE (60'x120')
N.T.S.



Ⓑ ESTATE HOUSE (80'x120')
N.T.S.
NOTE: ESTATE HOUSE LOTS MAY BE UTILIZED INTERNAL TO THE PERIMETER LOTS



Ⓒ CUSTOM HOUSE (80'x125')
N.T.S.

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NO.	DATE	BY	SUBMITTALS REVISIONS

TOMOKA RESERVE
PLANNED DEVELOPMENT
TYPICAL LOT LAYOUT

CITY OF ORMOND BEACH — VOLUSIA COUNTY, FLORIDA

PROJECT NO: ZC 21067
DESIGNED BY: KR
DRAWN BY: --
CHECKED BY: RH
DRAWING FILE: PD2-PDR_21067 ODP
XREFS: 21067_BASE.DWG
XREFS: 21067_SURV.DWG

KRISTOPHER T. ROWLEY, P.E. #0046069
NOT VALID WITHOUT SEAL

SHEET: PD7 OF 10

Tomoka Reserve Architectural Standards

I. PREFERRED ARCHITECTURAL THEMES

A. The overall architectural vision for Tomoka Reserve has been established to create a community embodying a "timeless" quality. Such a vision will be realized through a variety of classical and regional architectural styles, combined with authentic detailing and use of high-quality materials.

B. Permitted architectural styles include but are not limited to contemporary, Modern, Postmodern, coastal themed styles, Mediterranean, Mission, Cracker, Craftsman, Ranch and Tuscan styles.

II. PROHIBITED ARCHITECTURAL STYLES

A. While diversity and creativity in the design of the homes at Tomoka Reserve is encouraged, certain architectural styles are not considered appropriate. These include, but are not limited to Art Deco, A-frame, Adobe, Cabin design style, Gothic, or Southwestern/Pueblo. Buildings and their accessory structures shall be consistent with a common architectural theme.

B. The architectural theme shall be established by harmoniously coordinating the general appearance of all buildings and related structures.

III. EXTERIOR MATERIALS/ELEVATIONS

A. Architectural variation and variety of housing types and designs within the neighborhood is encouraged. To facilitate this diversity the adjacent homes (the 2 adjacent homes on the same side of the street as well as the house across the street and its two adjacent homes) have to have a minimum of three different design elements of the following 10 elements

1. Roof color/materials
2. Roof pitch roof type (cable vs hip)
3. Skin/exterior finish materials
4. Color
5. Garage orientation/size
6. Porch size/location
7. Number of stories
8. Window sizes/shapes
9. Window locations
10. Decorative elements

B. The front facade should include four to six individual design elements and blank walls shall be discouraged unless adequately landscaped. Front elevation walls cannot be all one material and/or all one color.

C. A mixture of one-story and two-story homes will be encouraged to vary the streetscapes.

D. PERMITTED EXTERIOR MATERIALS INCLUDE:

1. Stucco (cement-based or synthetic) -smooth or textured finished (including tabby finish)
2. masonry-stone, brick, split rock and a ceramic concrete block is permitted but must be finished with material that covers the concrete block and grout lines with a minimum of 3/8" thick material; Stone can be Manufactured, Natural, or Cast
3. Wood/fiber cement-timbers, boards, board and batten, tongue and groove solid wood siding and rough sawn lumber; Hardie board or other similar fiber cement products emulating wood finishes
4. Other textures and materials will be evaluated on their own merit by the ARB. Artificial, simulated or imitation materials (e.g. aluminum siding, simulated brick from stucco, Masonite or composite board, etc.) are NOT permitted on the exteriors of a residence.

IV. ROOF

A. Acceptable roof materials for consideration include, heavy weight (30 year) composition shingles with significant dimensional texture, flat tile, "S" tile, slate tile, cedar wood shake, solar shingles and a high-quality standing seam metal roof. Copper and other metal roof products acceptable to the ARB are permitted for limited applications such as bay windows, process, cupolas, and dormers, or in accordance with specific architectural styles. Thermoplastic Polyolefin, PVC membrane or other similar roofing materials/roofing systems will be considered by the ARB on a case-by-case basis for properties developed with ultramodern or contemporary homes that incorporate a flat roof.

B. Roof lines will be variable using varied roof styles, pitches, projections, gables, and hips. Roof pitches shall be between 0 to 6:12. Dormers may have a roof pitch outside the above range. Flat roofs or flat roof with a parapet may be approved if it is a part of an integral design element such as with ultra-modern or contemporary designs. The roof pitch for primary structures should reflect the selected architectural style for the home.

C. Roof structures may be conventionally framed or constructed of prefabricated trusses.

V. WALL PLATES

A. The minimum wall plate heights shall be 9'-0" in main living areas on the first floor. The second-floor wall plate height must be no less than 9'-0" above the first-floor wall plate. Garages must have a minimum plate height of 8'-0".

VI. DRIVEWAYS

A. Driveways shall be stone, paver style materials, or concrete. Asphalt is NOT permitted.

VII. GARAGES

A. Three types of garages are permitted: front-entry, side entry, and accessory garage buildings.

VIII. FENCES

A. The following fence materials are permitted: wood, black wrought iron, high-quality aluminum, and white PVC. Perimeter fencing along rear or side (from front of house to rear property line shall be a maximum height of 6 feet. Fencing along the front property line or side property lines from the front of the house to the front property line shall have a maximum height of 4 feet. This "front yard" fencing must be decorative (no solid fences) and if a wood fence is utilized it must be painted.

IX. LANDSCAPE

A. All disturbed areas on the lot must be irrigated (unless xeric plantings are utilized), and landscaped with either trees, plants or sod including to the back of curb along the street and to the edge of clearing for natural areas and the water's edge for lots along pond banks. All landscaped beds shall be mulched.

X. MODIFICATIONS

A. All modifications to the above shall be submitted to the ARB for consideration of approval. The above are general guidelines. Tomoka Reserve development will have an enhanced focus on the environment, climate change and sustainability, along with protecting and enhancing future values.

A MODERN ARCHITECTURAL ELEVATIONS

B FARMHOUSE ARCHITECTURAL ELEVATIONS

C MEDITERRANEAN ARCHITECTURAL ELEVATIONS

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CIVIL ENGINEERING
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ENVIRONMENTAL
PLANNING
TRANSPORTATION

NO.	DATE	BY	SUBMITTALS / REVISIONS

TOMOKA RESERVE
PLANNED DEVELOPMENT
ARCHITECTURAL EXHIBIT

CITY OF ORMOND BEACH VOLUSIA COUNTY, FLORIDA

PROJECT NO: ZC 21067
DESIGNED BY: KR
DRAFTED BY: --
CHECKED BY: RH

DRAWING FILE: PD2-PDR_21067.ODP
XREFS: 21067_BASE.DWG
XREFS: 21067_SURV.DWG

KRISTOPHER T. ASHLEY, P.E. FL# 84069
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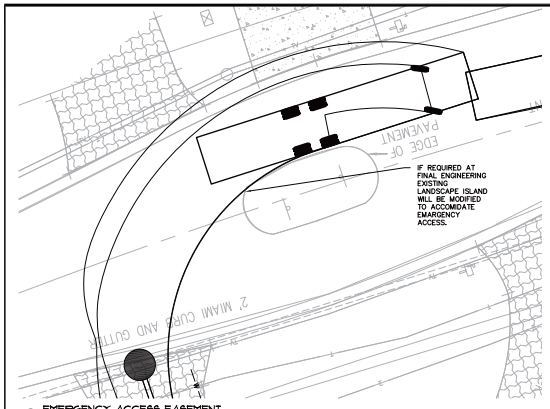
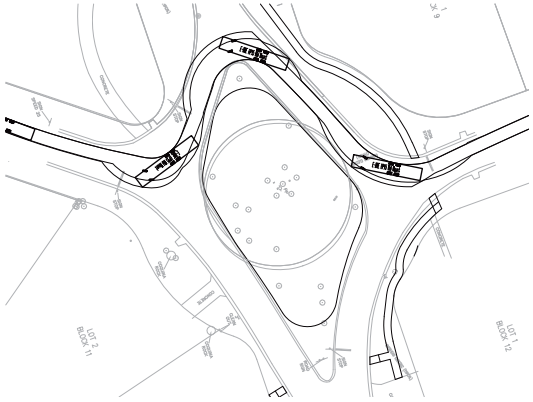
SHEET: PD8 OF 10



E EMERGENCY ACCESS EASEMENT

SCALE : 1" = 10'



E ENTRANCE ENLARGEMENT

SCALE : 1" = 30'

E-ONE HP95 Mid Mount	
Overall Length	47.750ft
Overall Width	8.333ft
Overall Body Height	11.000ft
Min Body Ground Clearance	1.393ft
Track Width	8.333ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°

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CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
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TRANSPORTATION

NO.	DATE	BY	SUBMITTALS REVISIONS

TOMOKA RESERVE
PLANNED DEVELOPMENT
VEHICLE TURN PLAN

VOLUSIA COUNTY, FLORIDA
CITY OF ORMOND BEACH

PROJECT NO: ZC 21067
DESIGNED BY: KR
DRAFTED BY: MM
CHECKED BY: RH
DRAWING FILE: P:\ZC+PDP\ZC_21067 ODP
XREFS: XXXXX.DWG
XREFS: XXXXX.DWG

KRISTOPHER T. ROWLEY, P.E. FL# 66083
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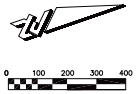
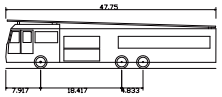
SHEET: VT1 OF 1





F-ONE HP95 Mid Mount

Overall Length	47.750ft
Overall Width	8.333ft
Overall Body Height	11.000ft
Min Body Ground Clearance	1.292ft
Track Width	8.333ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°

ZEV COHEN & ASSOCIATES, INC.
301 NORTH MAGNOLIA AVE., STE. C
ORLANDO, FLORIDA 32801
WWW.ZEVCOHEN.COM

CIVIL ENGINEERING
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NO.	DATE	BY	SUBMITTALS / REVISIONS

TOMOKA RESERVE
PLANNED DEVELOPMENT
VEHICLE TURN PLAN

VOLUSIA COUNTY, FLORIDA
CITY OF ORMOND BEACH

PROJECT NO: ZC 21067
DESIGNED BY: KR
DRAFTED BY: MM
CHECKED BY: RH
DRAWING FILE: P:\ZC+PDP_21067 ODP
XREFS: XXXXX.DWG
XREFS: XXXXX.DWG

CHRISTOPHER T. ASHLEY, P.E. FL# 84063
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SHEET: VT2 OF 2

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TRANSPORTATION

NO.	DATE	BY	SUBMITTALS REVISIONS

TOMOKA RESERVE
PLANNED DEVELOPMENT
VEHICLE TURN PLAN

VOLUSIA COUNTY, FLORIDA
CITY OF ORMOND BEACH

PROJECT NO: ZC 21067
DESIGNED BY: KR
DRAFTED BY: MM
CHECKED BY: RH
DRAWING FILE: P:\ZC+PDP_21067 ODP
XREFS: XXXXX.DWG
XREFS: XXXXX.DWG

CHRISTOPHER T. ASHLEY, P.E. #54083
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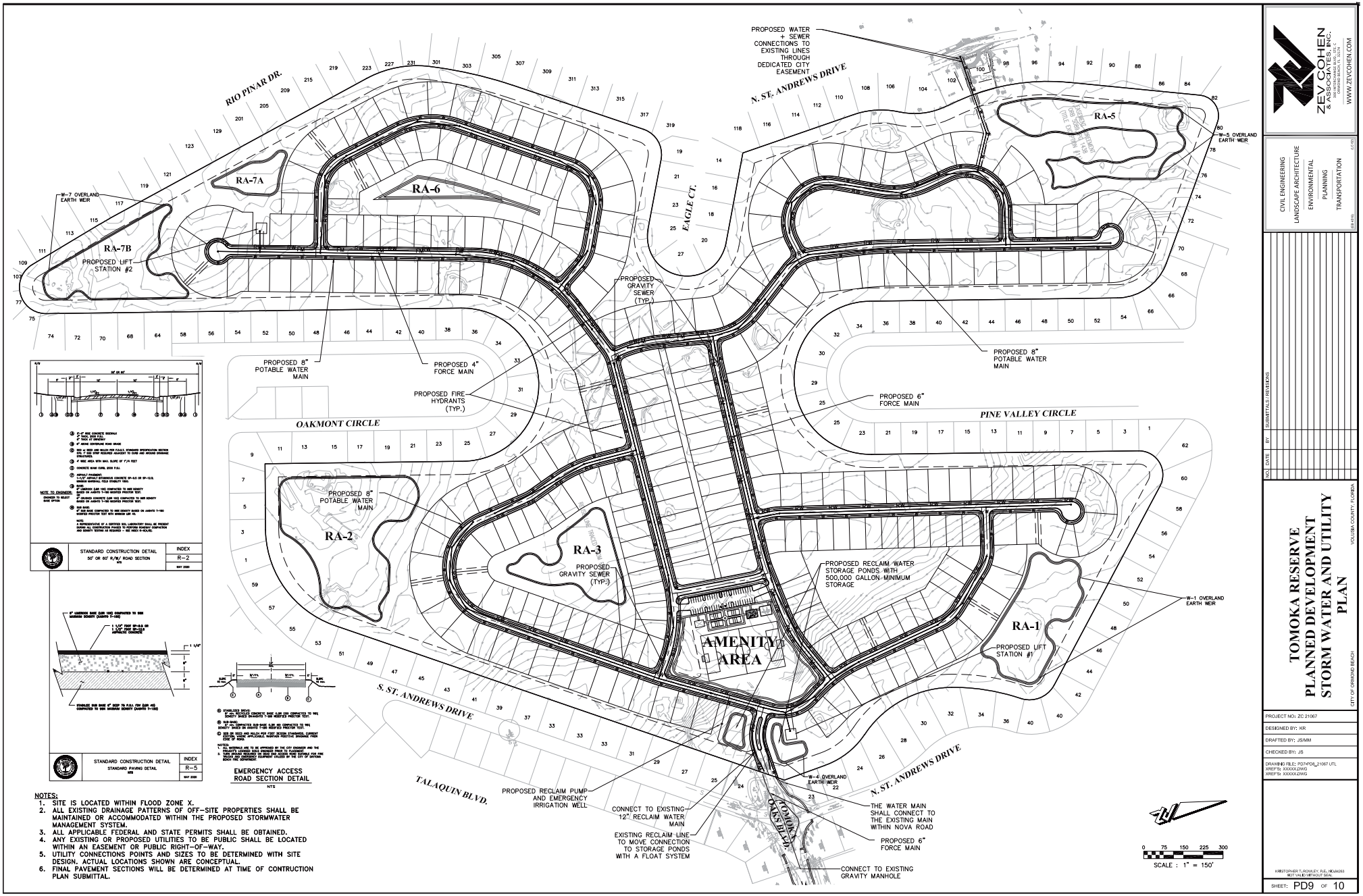
SHEET: VT3 OF 3



STANDARD CONSTRUCTION DETAIL — 50' OR 60' R/W ROAD SECTION — INDEX R-2 — MAY 2020

STANDARD CONSTRUCTION DETAIL — STANDARD PAVING DETAIL — INDEX R-5 — MAY 2020

EMERGENCY ACCESS ROAD SECTION DETAIL
NTS

NOTES:
1. SITE IS LOCATED WITHIN FLOOD ZONE X.
2. ALL EXISTING DRAINAGE PATTERNS OF OFF-SITE PROPERTIES SHALL BE MAINTAINED OR ACCOMMODATED WITHIN THE PROPOSED STORMWATER MANAGEMENT SYSTEM.
3. ALL APPLICABLE FEDERAL AND STATE PERMITS SHALL BE OBTAINED.
4. ANY EXISTING OR PROPOSED UTILITIES TO BE PUBLIC SHALL BE LOCATED WITHIN AN EASEMENT OR PUBLIC RIGHT-OF-WAY.
5. UTILITY CONNECTIONS POINTS AND SIZES TO BE DETERMINED WITH SITE DESIGN. ACTUAL LOCATIONS SHOWN ARE CONCEPTUAL.
6. FINAL PAVEMENT SECTIONS WILL BE DETERMINED AT TIME OF CONTRUCTION PLAN SUBMITTAL.

ZEV COHEN & ASSOCIATES, INC.
301 E. PINE STREET, SUITE 840, ORLANDO, FLORIDA 32801
TEL: 407.422.1330 FAX: 407.422.1330
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CIVIL ENGINEERING
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ENVIRONMENTAL
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TRANSPORTATION

NO.	DATE	BY	SUBMITTALS / REVISIONS

TOMOKA RESERVE
PLANNED DEVELOPMENT
STORM WATER AND UTILITY PLAN

VOLUSIA COUNTY, FLORIDA
CITY OF ORMOND BEACH

PROJECT NO: ZC 21067
DESIGNED BY: KR
DRAFTED BY: JS/MM
CHECKED BY: JS
DRAWING FILE: P:\21-PDS_21067 UTL
XREFS: XXXXX.DWG
XREFS: XXXXX.DWG

KRISTOPHER T. KOWALSKY, P.E. #0048069
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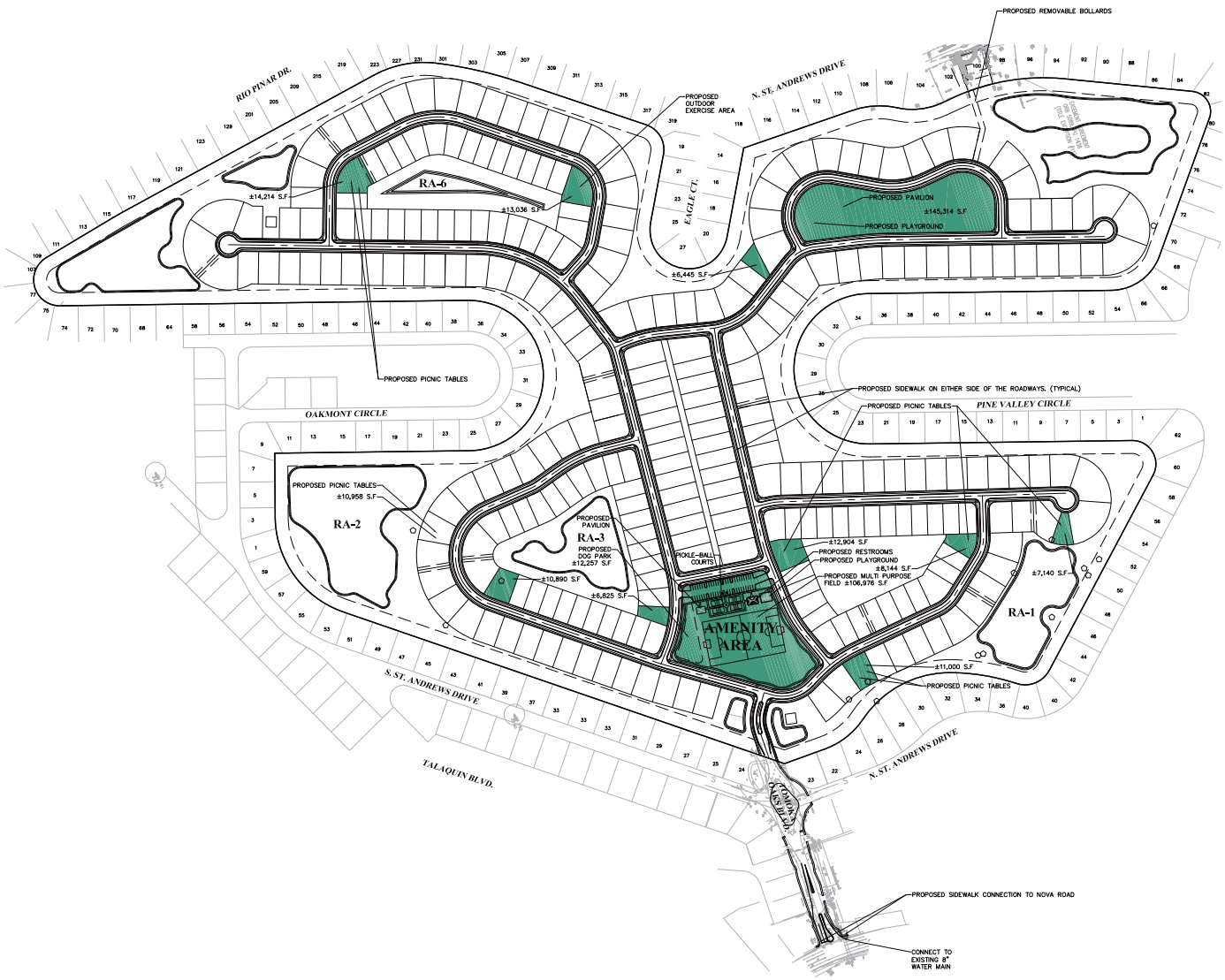
SHEET: PD9 OF 10



NOTES:
1. THE AMENITY TYPES AND LOCATIONS SHOWN ARE CONCEPTUAL AND CAN BE REVISED TO SIMILAR QUALITY AS LONG AS THE AMENITY MINIMUM SQUARE FOOTAGES AND AREAS ARE MET

0 100 200 300 400
SCALE : 1" = 200'

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CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

NO.	DATE	BY	SUBMITTALS REVISIONS

TOMOKA RESERVE
PLANNED DEVELOPMENT
AMENITY PLAN

CITY OF ORMOND BEACH VOLUSIA COUNTY, FLORIDA

PROJECT NO: ZC 21067
DESIGNED BY: KR
DRAFTED BY: --
CHECKED BY: RH
DRAWING FILE: PD7-PDB_21067 UTL
XREFS: XXXXX.DWG
XREFS: XXXXX.DWG

CHRISTOPHER T. ROWLEY, P.E. FL# 84069
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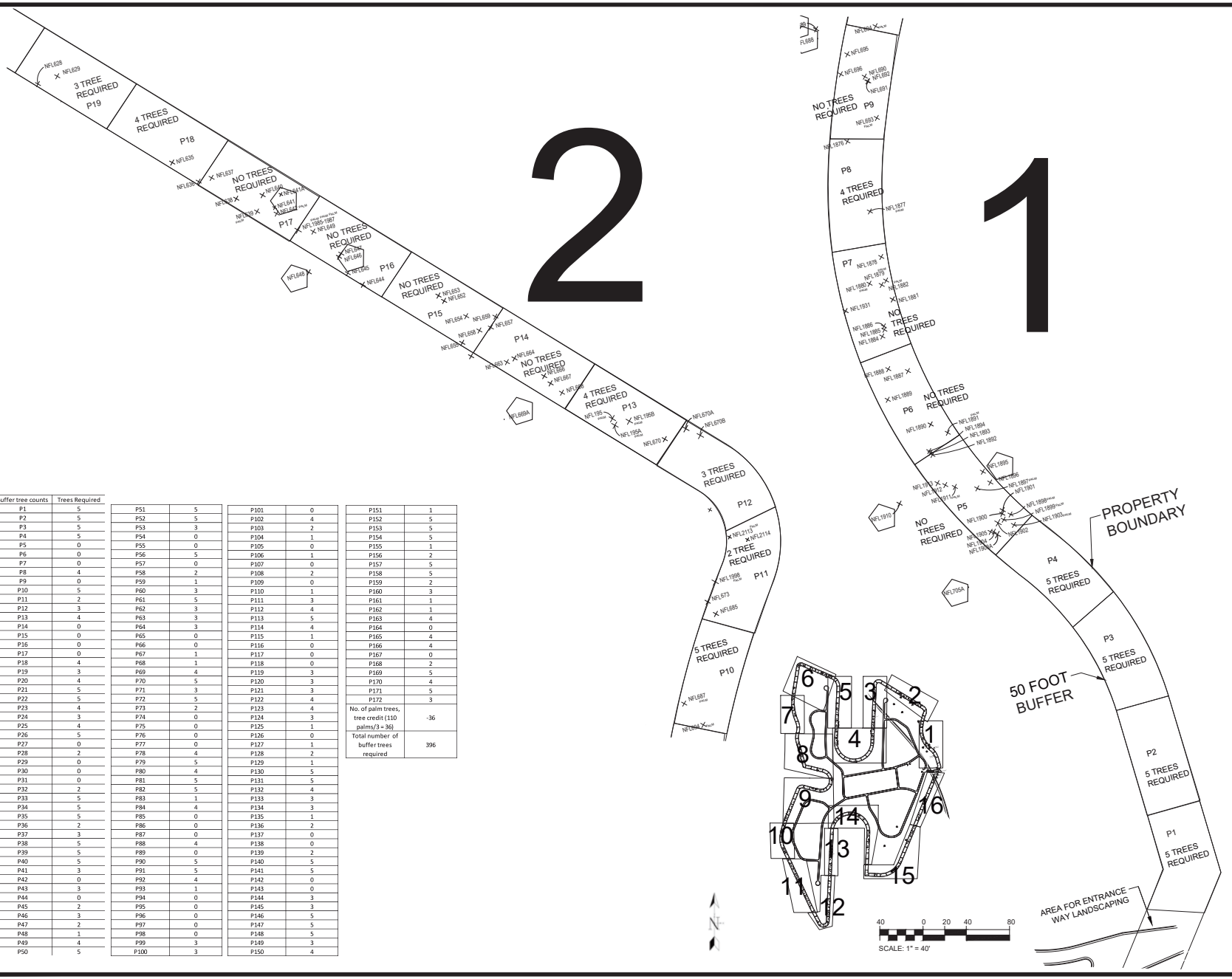
SHEET: PD10 OF 10



Buffer tree counts	Trees Required
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P2	5
P3	5
P4	5
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P6	0
P7	0
P8	4
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P13	4
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P16	0
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P19	3
P20	4
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P22	5
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P33	5
P34	5
P35	5
P36	2
P37	3
P38	5
P39	5
P40	5
P41	3
P42	0
P43	3
P44	0
P45	2
P46	3
P47	2
P48	1
P49	4
P50	5

P51	5
P52	5
P53	3
P54	0
P55	0
P56	5
P57	0
P58	2
P59	1
P60	3
P61	5
P62	3
P63	3
P64	3
P65	0
P66	0
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P68	1
P69	4
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P72	5
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P74	0
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P98	0
P99	3
P100	3

P101	0
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P128	2
P129	1
P130	5
P131	5
P132	4
P133	3
P134	3
P135	1
P136	2
P137	0
P138	0
P139	2
P140	5
P141	5
P142	0
P143	0
P144	3
P145	3
P146	5
P147	5
P148	5
P149	3
P150	4

P151	1
P152	5
P153	5
P154	5
P155	1
P156	2
P157	5
P158	5
P159	2
P160	3
P161	1
P162	1
P163	4
P164	0
P165	4
P166	4
P167	0
P168	2
P169	5
P170	4
P171	5
P172	3
No. of palm trees, tree credit (110 palms/3 = 36)	-36
Total number of buffer trees required	396

CLIENT:

Tomoka Reserve

30 Tomoka Oaks Blvd. Ormond Beach, FL.

PROJECT:

Buffer Planting plan

LOCATION:

30 Tomoka Oaks Blvd. Ormond Beach, FL.

CONSULTANT:

Native Florida Landscapes, LLC

P.O. Box 2905
Ormond Beach, FL 32175
386.235.0404

REVISIONS	DATE

DESIGNED BY: Don Spence, Ph.D.

DRAWN BY: Don Spence, Ph.D.

DATE: 09-01-2023

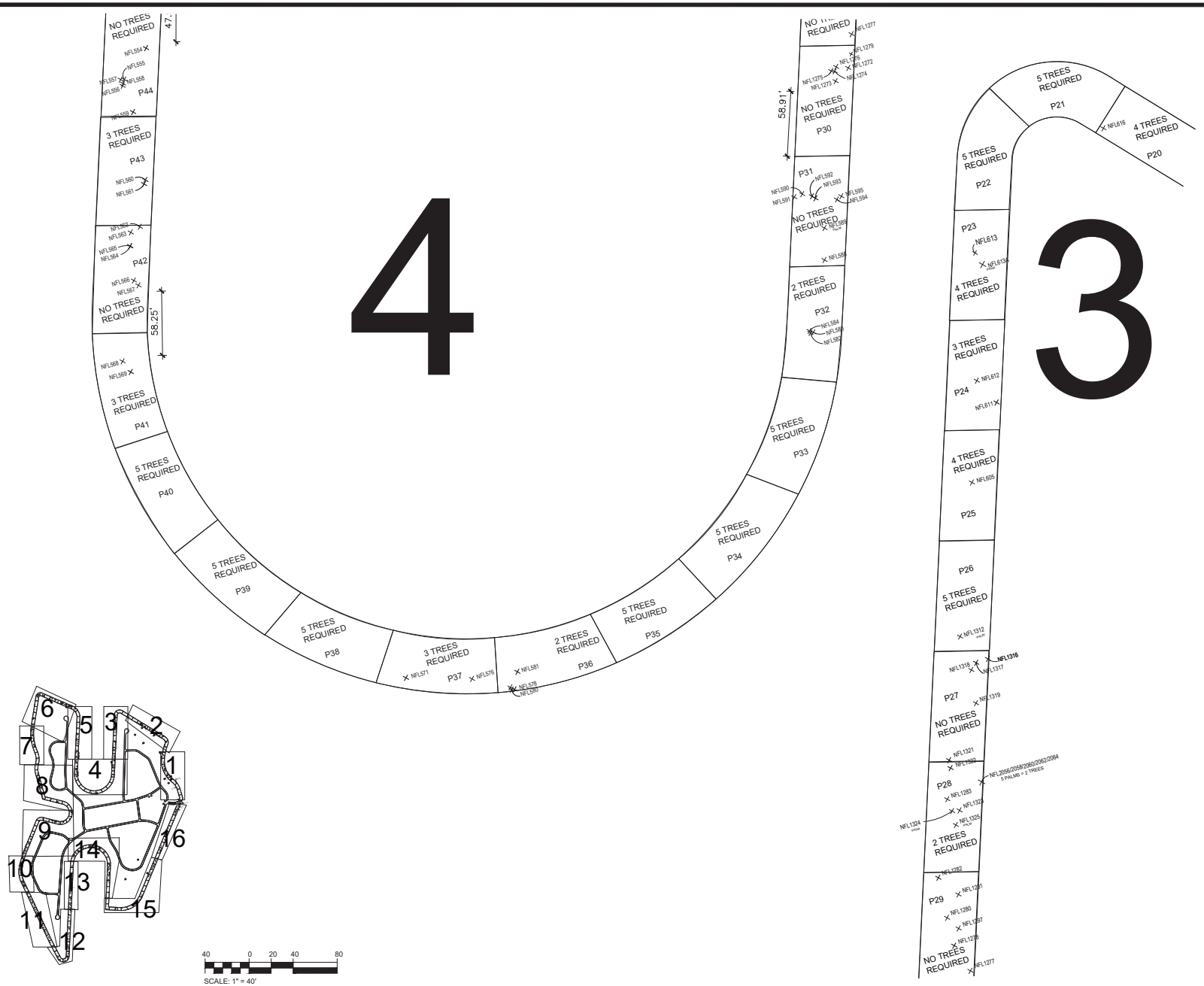
PROJECT NUMBER:

SHEET TITLE:

BUFFER TREE INSTALLATION LOCATIONS

SHEET NUMBER:

BT-100



CLIENT:

Tomoka Reserve

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

PROJECT:

Buffer Planting plan

LOCATION:

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

CONSULTANT:

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P.O. Box 2905
Ormond Beach, FL 32175
386.235.0404

REVISIONS DATE

DESIGNED BY: Don Spence, Ph.D.

DRAWN BY: Don Spence, Ph.D.

DATE: 09-01-2023

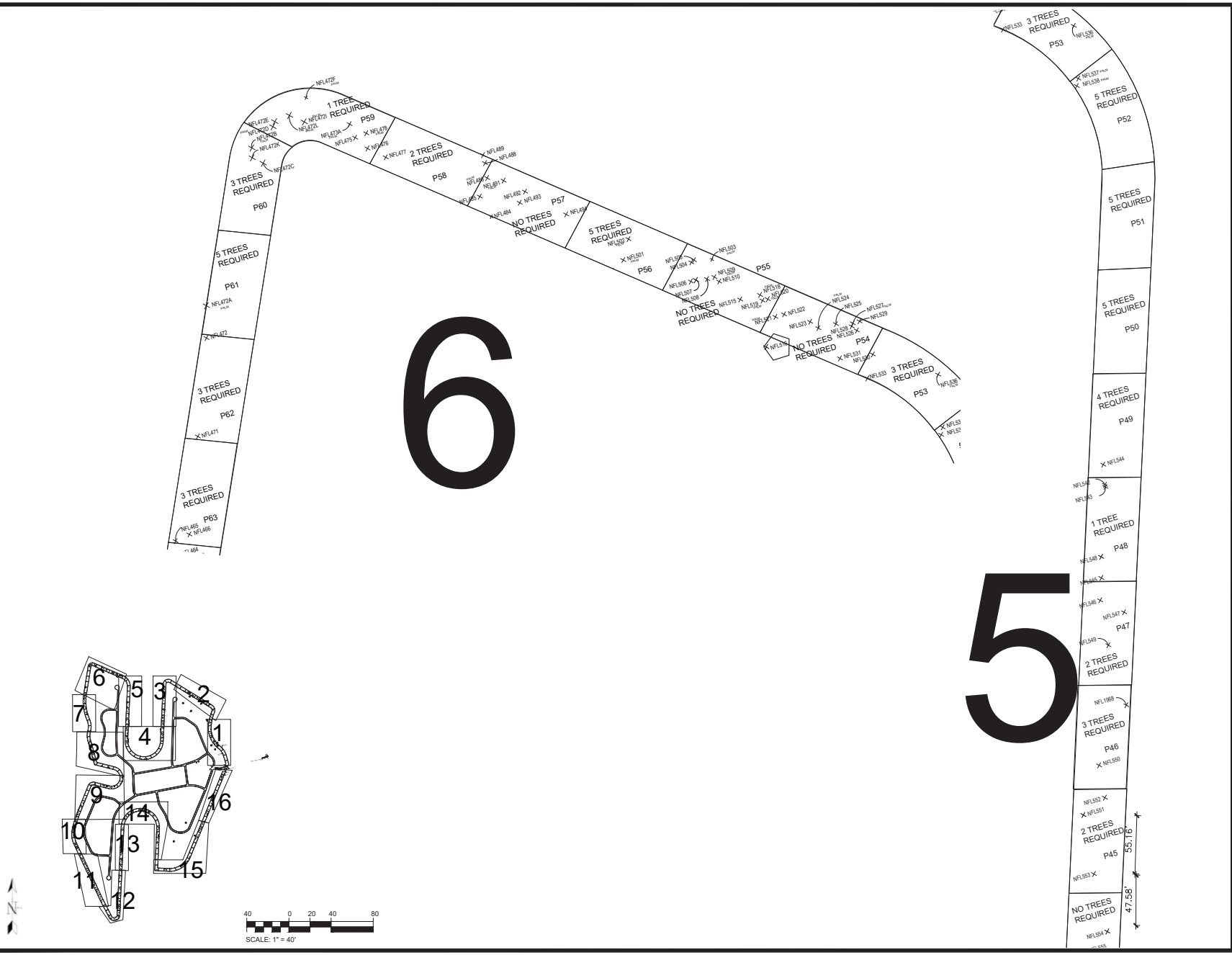
PROJECT NUMBER:

SHEET TITLE:

BUFFER TREE INSTALLATION LOCATIONS

SHEET NUMBER:

BT-101



CLIENT:

Tomoka Reserve

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

PROJECT:

Buffer Planting plan

LOCATION:

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

CONSULTANT:

Native Florida Landscapes, LLC

P.O. Box 2905
Ormond Beach, FL 32175
386.235.0404

REVISIONS	DATE

DESIGNED BY: Don Spence, Ph.D.
DRAWN BY: Don Spence, Ph.D.
DATE: 09-01-2023

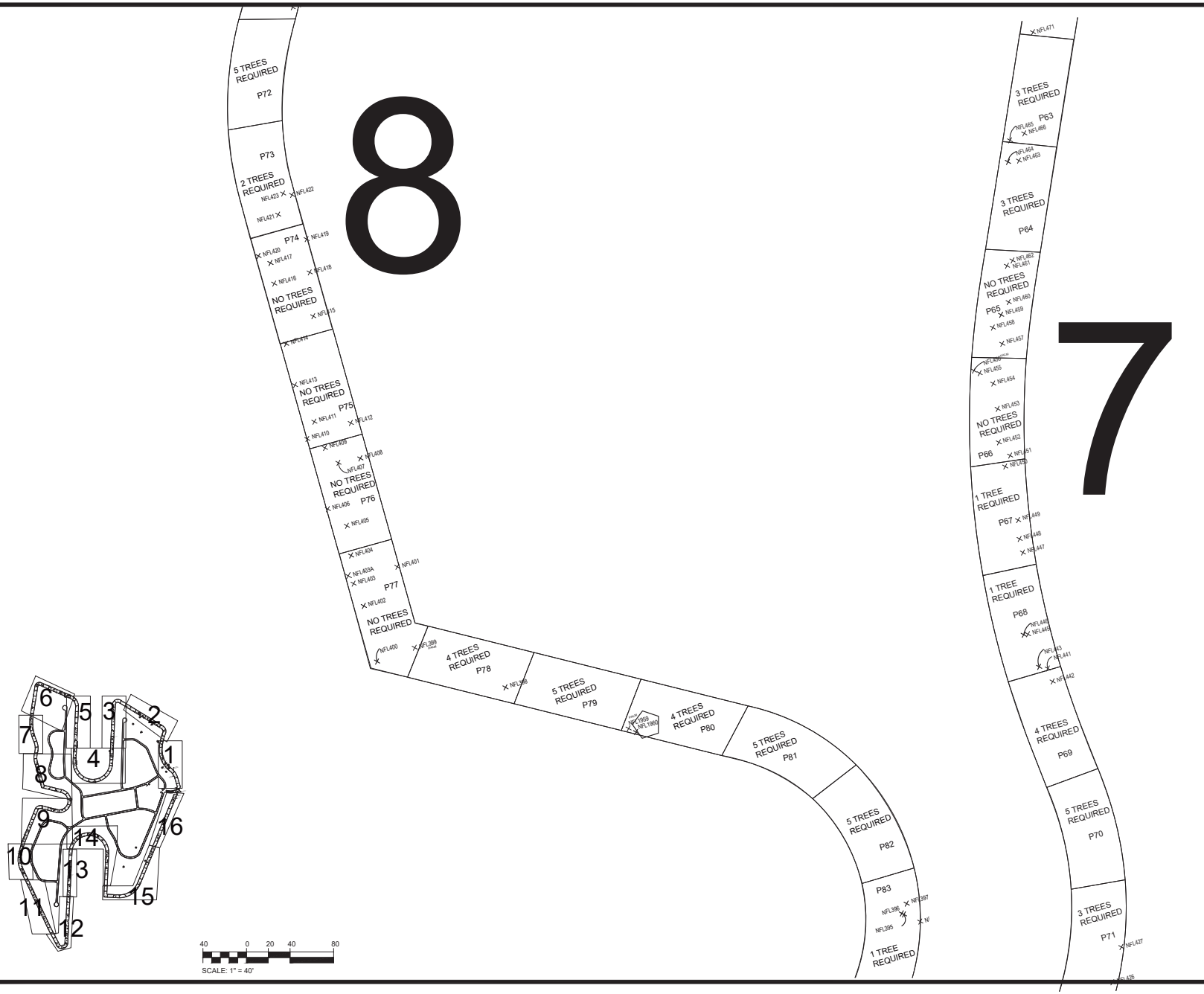
PROJECT NUMBER:

SHEET TITLE:

BUFFER TREE REQUIREMENTS

SHEET NUMBER:

BT-102



CLIENT:

Tomoka Reserve

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

PROJECT:

Buffer Planting plan

LOCATION:

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

CONSULTANT:

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P.O. Box 2905
Ormond Beach, FL 32175
386.235.0404

REVISIONS DATE

DESIGNED BY: Don Spence, Ph.D.

DRAWN BY: Don Spence, Ph.D.

DATE: 09-01-2023

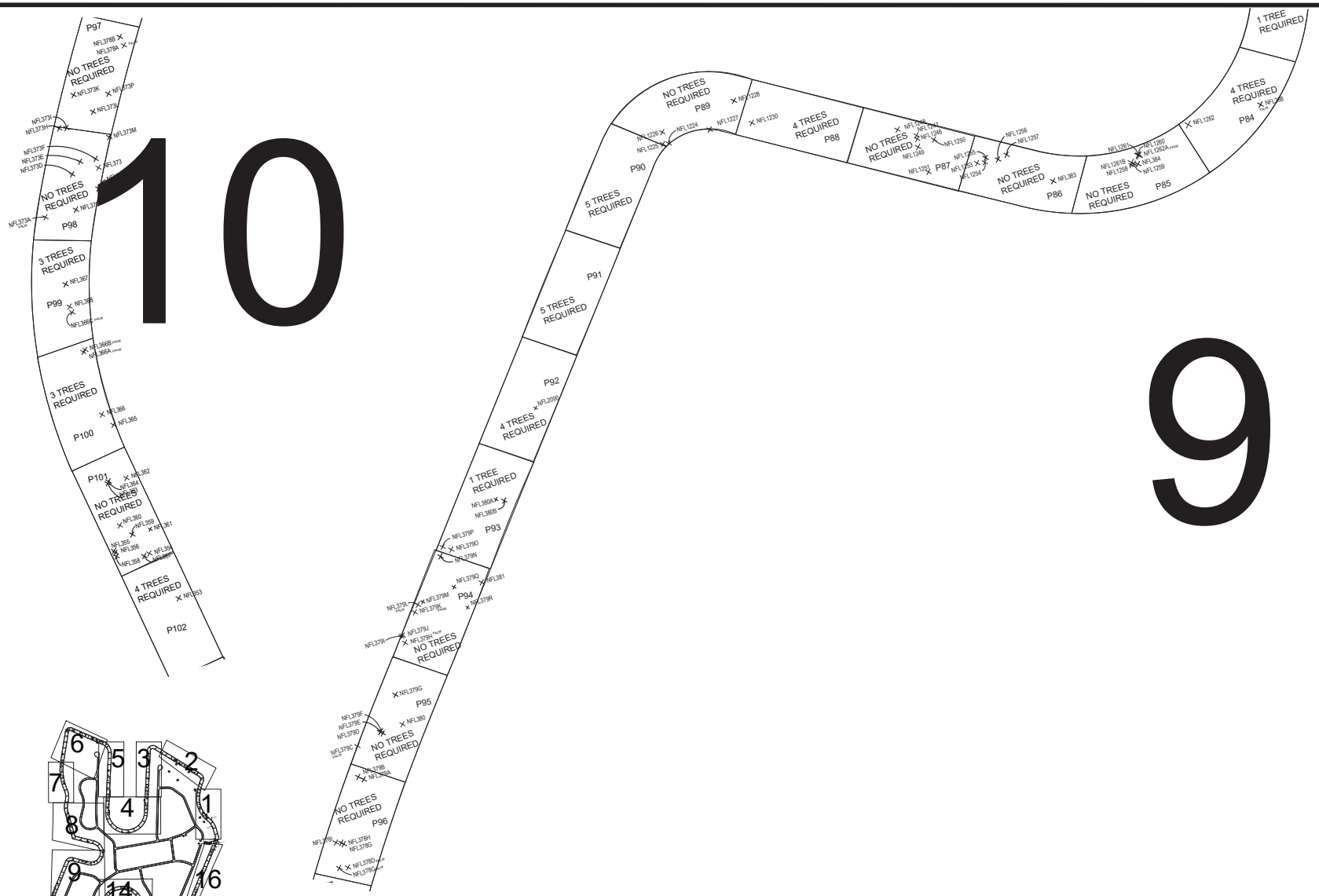
PROJECT NUMBER:

SHEET TITLE:

BUFFER TREE INSTALLATION LOCATIONS

SHEET NUMBER:

BT-103



CLIENT:

Tomoka Reserve

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

PROJECT:

Buffer Planting plan

LOCATION:

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

CONSULTANT:

Native Florida Landscapes, LLC

P.O. Box 2905
Ormond Beach, FL 32175
386.235.0404

REVISIONS	DATE

DESIGNED BY: Don Spence, Ph.D.
DRAWN BY: Don Spence, Ph.D.
DATE: 09-01-2023

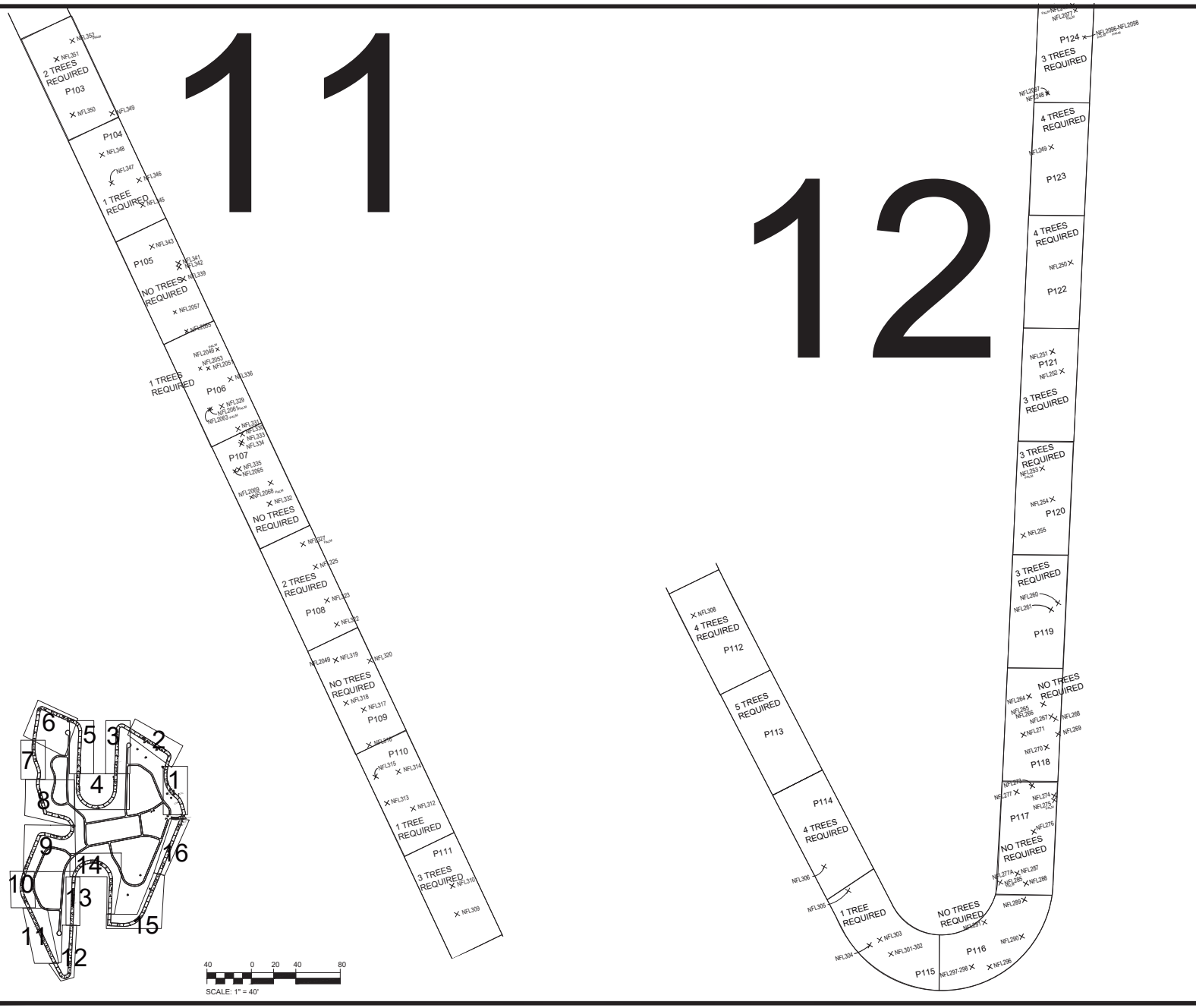
PROJECT NUMBER:

SHEET TITLE:

BUFFER TREE INSTALLATION LOCATIONS

SHEET NUMBER:

BT-104



CLIENT:

Tomoka Reserve

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

PROJECT:

Buffer Planting plan

LOCATION:

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

CONSULTANT:

Native Florida Landscapes, LLC

P.O. Box 2905
Ormond Beach, FL 32175
386.235.0404

REVISIONS	DATE

DESIGNED BY: Don Spence, Ph.D.

DRAWN BY: Don Spence, Ph.D.

DATE: 09-01-2023

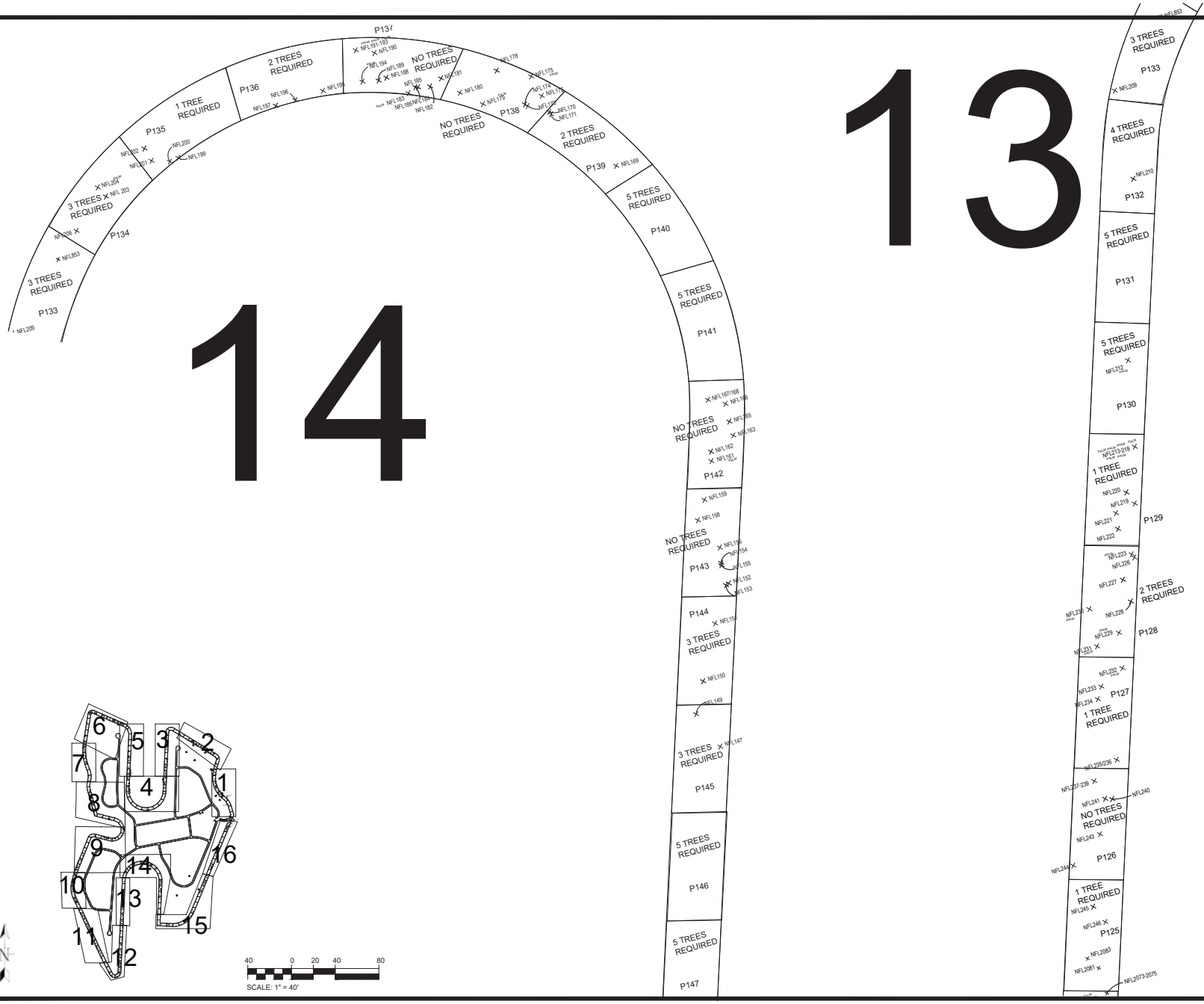
PROJECT NUMBER:

SHEET TITLE:

BUFFER TREE INSTALLATION LOCATIONS

SHEET NUMBER:

BT-105



CLIENT:

Tomoka Reserve

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

PROJECT:

Buffer Planting plan

LOCATION:

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

CONSULTANT:

Native Florida Landscapes, LLC

P.O. Box 2905
Ormond Beach, FL 32175
386.235.0404

REVISIONS DATE

DESIGNED BY: Don Spence, Ph.D.

DRAWN BY: Don Spence, Ph.D.

DATE: 09-01-2023

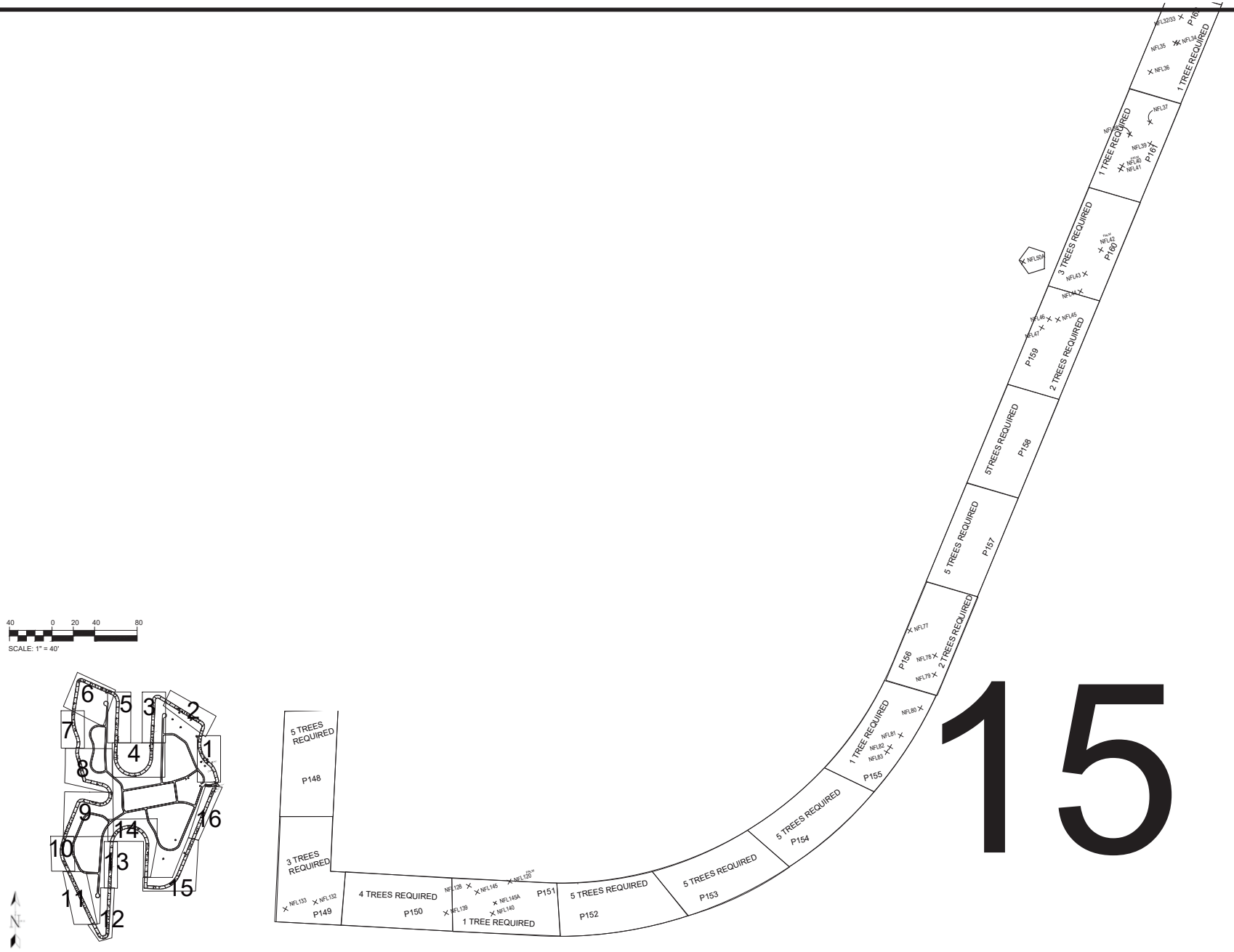
PROJECT NUMBER:

SHEET TITLE:

BUFFER TREE INSTALLATION LOCATIONS

SHEET NUMBER:

BT-106



CLIENT:

Tomoka Reserve

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

PROJECT:

Buffer Planting plan

LOCATION:

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

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Native Florida Landscapes, LLC

P.O. Box 2905
Ormond Beach, FL 32175
386.235.0404

REVISIONS DATE

DESIGNED BY: Don Spence, Ph.D.

DRAWN BY: Don Spence, Ph.D.

DATE: 09-01-2023

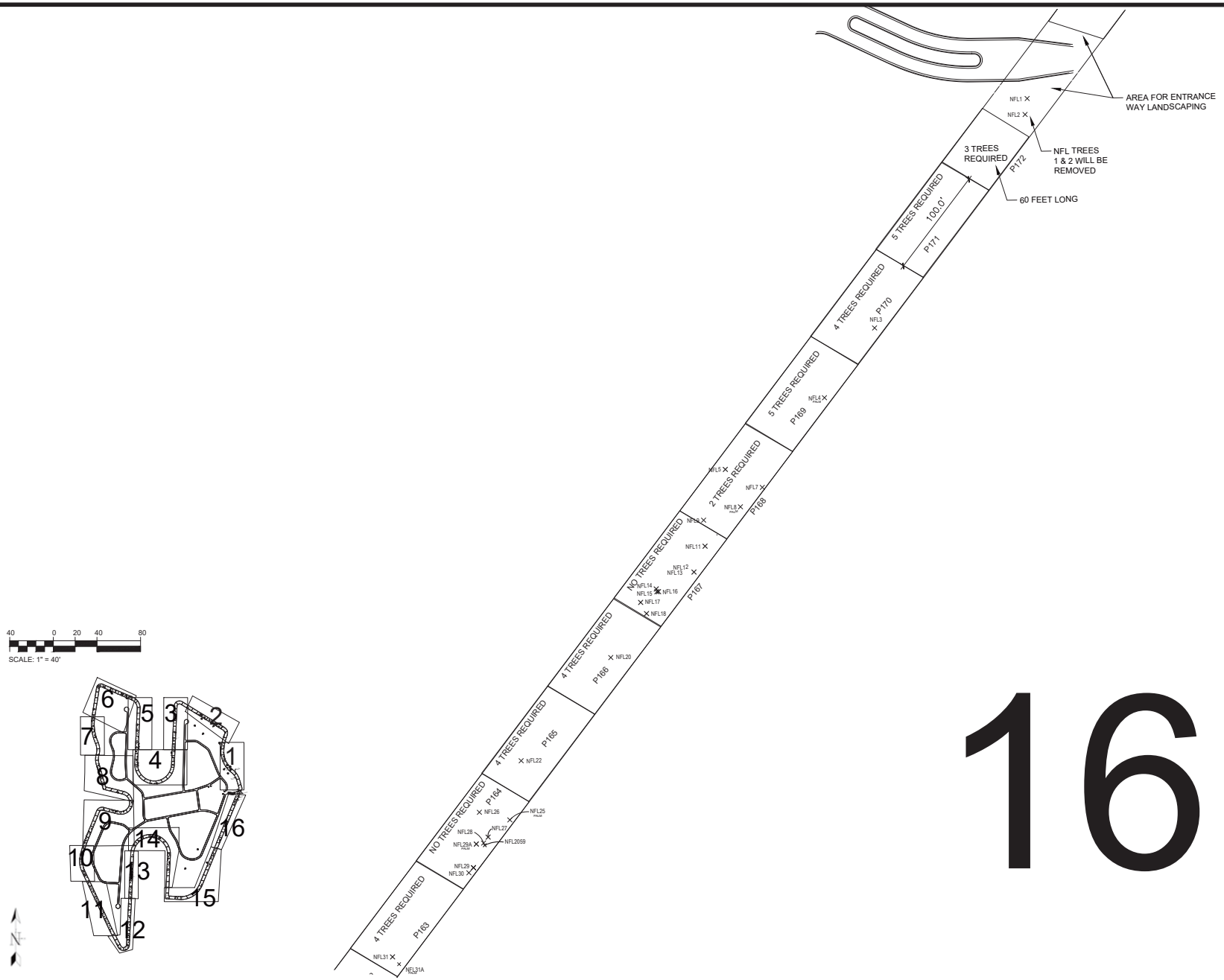
PROJECT NUMBER:

SHEET TITLE:

BUFFER TREE INSTALLATION LOCATIONS

SHEET NUMBER:

BT-107



16

CLIENT:

Tomoka Reserve

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

PROJECT:

Buffer Planting plan

LOCATION:

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

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P.O. Box 2905
Ormond Beach, FL 32175
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DESIGNED BY: Don Spence, Ph.D.
DRAWN BY: Don Spence, Ph.D.
DATE: 09-01-2023

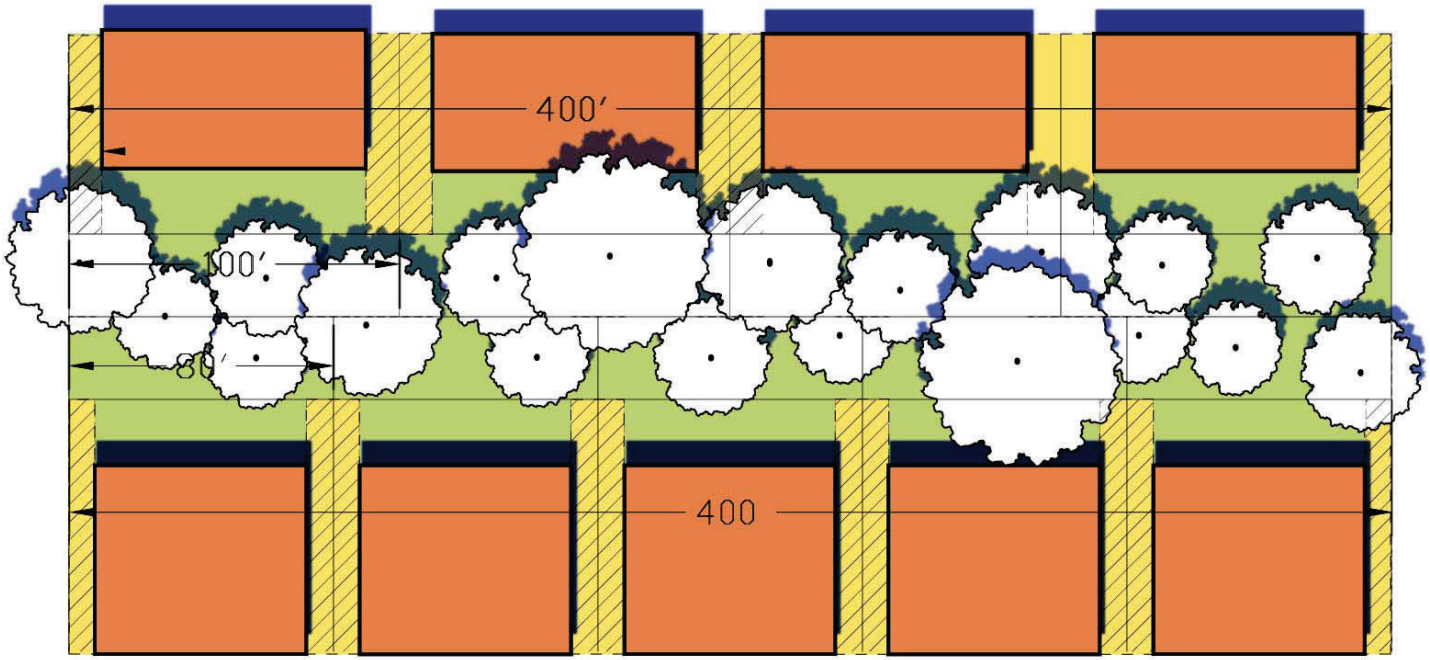
PROJECT NUMBER:

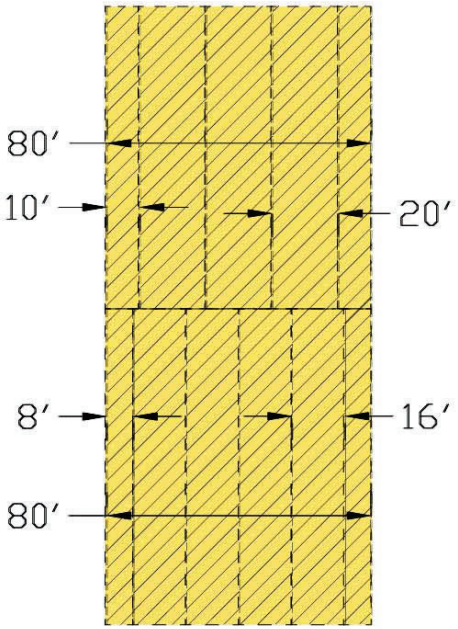
SHEET TITLE:

BUFFER TREE INSTALLATION LOCATIONS

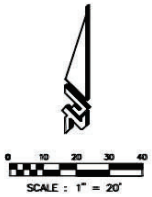
SHEET NUMBER:

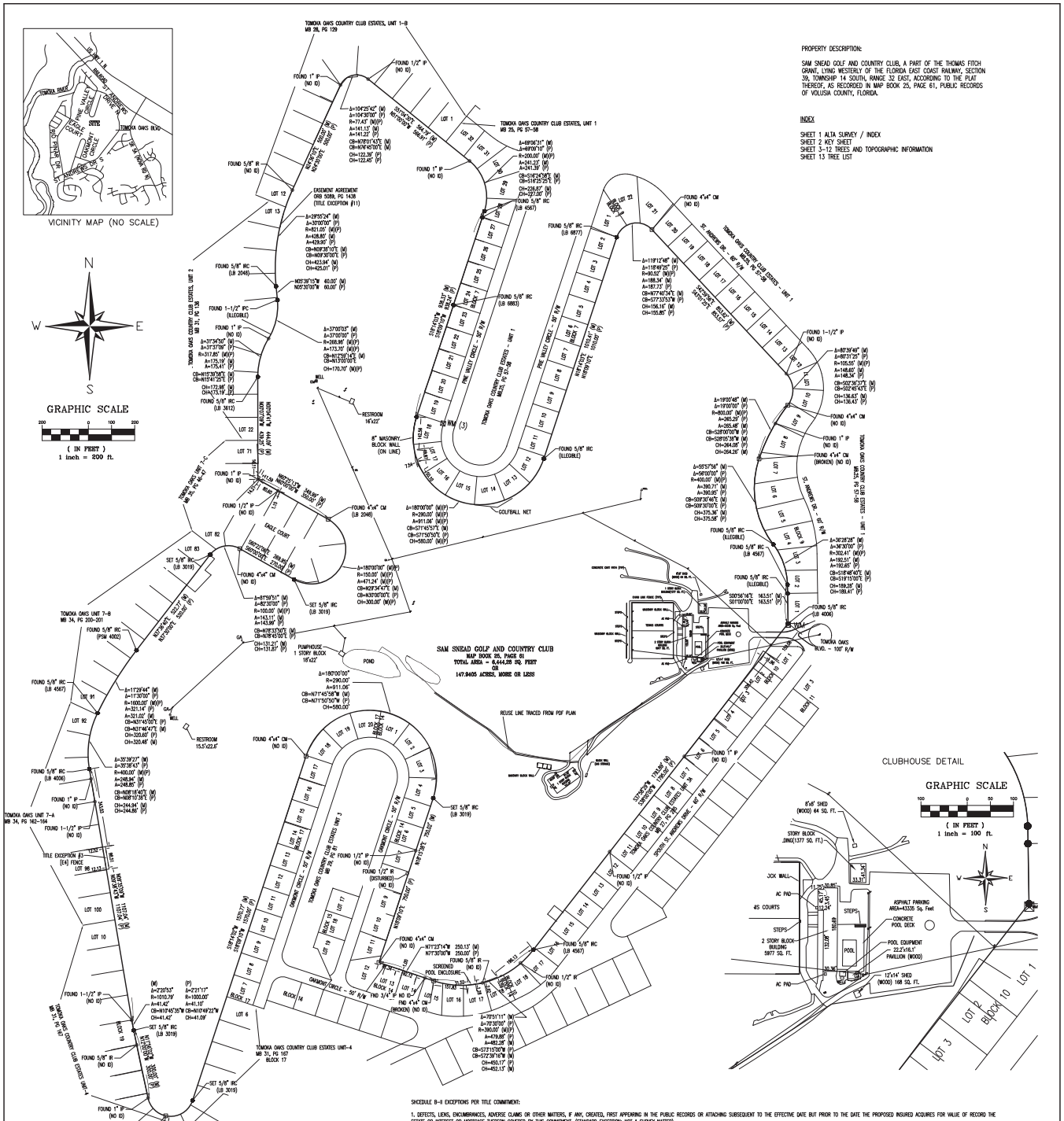
BT-108

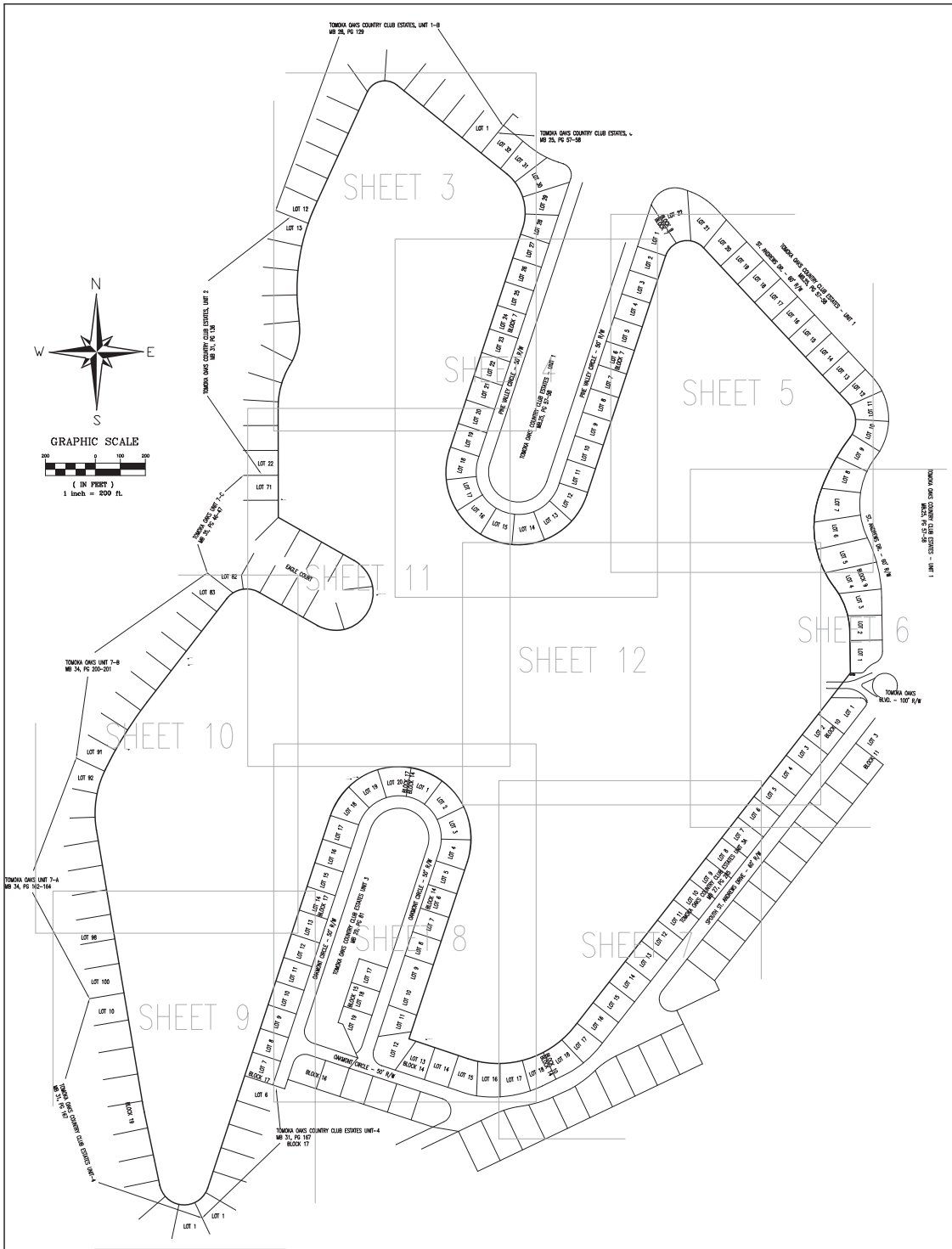




PER 400'
100' LOTS: 4 LOTS X 20' SETBACK = 80'
80' LOTS: 5 LOTS X 16' SETBACK = 80'




VICINITY MAP (NO SCALE)
SITE
TOMOKA OAKS BLVD
GRAPHIC SCALE
(IN FEET)
1 inch = 200 ft.
PROPERTY DESCRIPTION:
SAM SNEAD GOLF AND COUNTRY CLUB, A PART OF THE THOMAS FITCH GRANT, LYING WESTERLY OF THE FLORIDA EAST COAST RAILWAY, SECTION 39, TOWNSHIP 14 SOUTH, RANGE 32 EAST, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN MAP BOOK 25, PAGE 61, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
INDEX
SHEET 1 ALTA SURVEY / INDEX
SHEET 2 KEY SHEET
SHEET 3-12 TREES AND TOPOGRAPHIC INFORMATION
SHEET 13 TREE LIST
SAM SNEAD GOLF AND COUNTRY CLUB
MAP BOOK 25, PAGE 61
TOTAL AREA = 6,444,28 SQ. FEET
OR
147.9405 ACRES, MORE OR LESS
CLUBHOUSE DETAIL
GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.
TOMOKA OAKS BLVD. - 100' R/W
TOMOKA OAKS COUNTRY CLUB ESTATES, UNIT 1
MB 25, PG 57-58
TOMOKA OAKS COUNTRY CLUB ESTATES, UNIT 2
MB 31, PG 1-2
TOMOKA OAKS UNIT 7-B
MB 34, PG 200-201
TOMOKA OAKS UNIT 7-A
MB 34, PG 162-164
TOMOKA OAKS COUNTRY CLUB ESTATES UNIT-4
MB 31, PG 10
TOMOKA OAKS COUNTRY CLUB ESTATES UNIT 3
MB 29, PG 91
TOMOKA OAKS COUNTRY CLUB ESTATES UNIT 5
MB 25, PG 59
TOMOKA OAKS COUNTRY CLUB ESTATES UNIT 6
MB 25, PG 60
POND
PUMPHOUSE
1 STORY BLOCK
16'x22'
RESTROOM
16'x22'
RESTROOM
15.5'x23.6'
8" MASONRY BLOCK WALL (ON LINE)
GOLFBALL NET
REUSE LINE TRACED FROM PDF PLAN
SCREENED POOL ENCLOSURE
STORY BLOCK BLDG.(1377 SQ. FT.)
8'x6' SHED (WOOD) 64 SQ. FT.
JCK WALL
AC PAD
4/5 COURTS
STEPS
2 STORY BLOCK BUILDING 5977 SQ. FT.
ASPHALT PARKING AREA=43335 Sq. Feet
CONCRETE POOL DECK
POOL EQUIPMENT 22.2'x16.1' PAVILION (WOOD)
POOL
12'x14' SHED (WOOD) 168 SQ. FT.
SCHEDULE B-II EXCEPTIONS PER TITLE COMMITMENT:
1. DEFECTS, LIENS, ENCUMBRANCES, ADVERSE CLAIMS OR OTHER MATTERS, IF ANY, CREATED, FIRST APPEARING IN THE PUBLIC RECORDS OR ATTACHING SUBSEQUENT TO THE EFFECTIVE DATE BUT PRIOR TO THE DATE THE PROPOSED INSURED ACQUIRES FOR VALUE OF RECORD THE ESTATE OR INTEREST OR MORTGAGE THEREON COVERED BY THIS COMMITMENT. (STANDARD EXCEPTION; NOT A SURVEY MATTER)
2. ANY RIGHTS, INTERESTS, OR CLAIMS OF PARTIES IN POSSESSION OF THE LAND NOT SHOWN BY THE PUBLIC RECORDS. (STANDARD EXCEPTION; NOT A SURVEY MATTER)
3. ANY ENCROACHMENT, ENCUMBRANCE, VIOLATION, VARIATION OR ADVERSE CIRCUMSTANCE AFFECTING THE TITLE THAT WOULD BE DISCLOSED BY AN ACCURATE AND COMPLETE LAND SURVEY OF THE LAND. (AFFECTS SUBJECT PROPERTY AND SHOWN HEREON) [FENCES LABELED E1, E2, E3, E4, E5, E7, E8, E9]; [SCREENED POOL ENCLOSURE LABELLED E6]
4. ANY LIEN, FOR SERVICES, LABOR, OR MATERIALS IN CONNECTION WITH IMPROVEMENTS, REPAIRS OR RENOVATIONS PROVIDED BEFORE, ON, OR AFTER DATE OF POLICY, NOT SHOWN BY THE PUBLIC RECORDS. (STANDARD EXCEPTION; NOT A SURVEY MATTER)
5. ANY DISPUTE AS TO THE BOUNDARIES CAUSED BY A CHANGE IN THE LOCATION OF ANY WATER BODY WITHIN OR ADJACENT TO THE LAND PRIOR TO DATE OF POLICY, AND ANY ADVERSE CLAIM TO ALL OR PART OF THE LAND THAT IS, AT DATE OF POLICY, OR WAS PREVIOUSLY UNDER WATER. (STANDARD EXCEPTION; NOT A SURVEY MATTER)
6. TAXES OR SPECIAL ASSESSMENTS NOT SHOWN AS LIENS IN THE PUBLIC RECORDS OR IN THE RECORDS OF THE LOCAL TAX COLLECTING AUTHORITY, AT DATE OF POLICY. (STANDARD EXCEPTION; NOT A SURVEY MATTER)
7. ANY MINERALS OR MINERAL RIGHTS LEASED, GRANTED OR RETAINED BY CURRENT OR PRIOR OWNERS. (STANDARD EXCEPTION; NOT A SURVEY MATTER)
8. TAXES AND ASSESSMENTS FOR THE YEAR 2021 AND SUBSEQUENT YEARS, WHICH ARE NOT YET DUE AND PAYABLE. (STANDARD EXCEPTION; NOT A SURVEY MATTER)
9. RESTRICTIONS, DEDICATIONS, CONDITIONS, RESERVATIONS, EASEMENTS AND OTHER MATTERS SHOWN ON THE PLAT OF SAM SNEAD GOLF & COUNTRY CLUB, AS RECORDED IN PLAT BOOK 25, PAGE(S) 61, BUT DELETING ANY COVENANT, CONDITION OR RESTRICTION INDICATING A PREFERENCE, LIMITATION OR DISCRIMINATION BASED ON RACE, COLOR, RELIGION, SEX, HANDICAP, FAMILIAL STATUS OR NATIONAL ORIGIN TO THE EXTENT SUCH COVENANTS, CONDITIONS OR RESTRICTIONS VIOLATE 42 USC 3604(C). (AFFECTS SUBJECT PARCEL, CANNOT BE GRAPHICALLY DEPICTED)
10. DEVELOPMENT ORDER ISSUED BY CITY OF ORMOND BEACH RECORDED IN OFFICIAL RECORDS BOOK 5944, PAGE 2183. (AFFECTS SUBJECT PARCEL, CANNOT BE GRAPHICALLY DEPICTED)
11. EASEMENT AGREEMENT AS SET FORTH IN INSTRUMENT RECORDED IN OFFICIAL RECORDS BOOK 5089, PAGE 1438. (AFFECTS SUBJECT PROPERTY AND SHOWN HEREON)
12. PROVISIONS CONTAINED IN DEED RECORDED IN OFFICIAL RECORDS BOOK 2052, PAGE 1019, INCLUDING RIGHTS OF LIFE TIME MEMBERS. (AFFECTS SUBJECT PARCEL, CANNOT BE GRAPHICALLY DEPICTED)
13. TERMS AND CONDITIONS OF ANY EXISTING UNRECORDED LEASE(S), AND ALL RIGHTS OF LESSEE(S) AND ANY PARTIES CLAIMING THROUGH THE LESSEE(S) UNDER THE LEASE(S). (STANDARD EXCEPTION; NOT A SURVEY MATTER)
14. ANY MAP OR DIAGRAM NOW OR PREVIOUSLY PROVIDED IS FOR REFERENCE AND INFORMATIONAL PURPOSES ONLY. THE COMPANY AND ITS AGENTS EXPRESSLY DISCLAIM ANY LIABILITY FOR ALLEGED LOSS OR DAMAGE WHICH MAY RESULT FROM RELIANCE UPON SUCH MAP(S) OR DIAGRAM(S). THE FOREGOING DOES NOT LIMIT ANY EXPRESS COVERAGES PROVIDED BY THE TERMS AND PROVISIONS OF ANY TITLE INSURANCE POLICY FOR MATTERS WHICH MIGHT BE REVEALED BY A SURVEY PREPARED AND CERTIFIED IN ACCORD WITH FLORIDA STATUTES SECTION 472.027.
SURVEYORS NOTES
1. NOTICE: THIS SURVEY WAS PREPARED WITH BENEFIT OF ALTA COMMITMENT FOR TITLE INSURANCE ISSUED BY FIRST AMERICAN TITLE INSURANCE COMPANY UNDER FILE NO. 12071-2664415 WITH AN EFFECTIVE DATE OF DECEMBER 30, 2020 AT 8:00 A.M. AS UPDATED AND REVISED ON JANUARY 12, 2021. (ISSUING OFFICE REGISTRY ID: 1141339);
2. DIMENSIONS ARE SHOWN IN FEET AND DECIMALS THEREOF.
3. BEARING STRUCTURE BASED ON NAD 83, FLORIDA STATE PLANE, EAST ZONE, U.S. SURVEY FOOT WITH THE BEARING ON THE WESTERLY LINE OF TOMOKA OAKS COUNTRY CLUB ESTATES UNIT 3A BEING S37°58'29"W.
4. UNDERGROUND FOUNDATIONS, IF ANY, NOT LOCATED.
5. THIS PROPERTY IS LOCATED IN F.I.R.M. ZONE "X", THIS LOCATION IS DETERMINED BY SCALING FROM F.I.R.M. COMMUNITY PANEL 12127C0211 & 12127C0212, MAP EFFECTIVE DATE SEPTEMBER 29, 2017, APPROXIMATE SCALE 1"=500 FEET.
6. "NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR DIGITAL SIGNATURE OF A FLORIDA LICENSED SURVEYOR AND MAPPER."
7. "THE PROPERTY DESCRIBED HEREIN, CONTAINS NO GAPS OR GORES AND TAKEN AS A TRACT, CONSTITUTES ONE CONTIGUOUS PARCEL OF LAND".
8. THE LEGAL DESCRIPTION OF THE PROPERTY AS DESCRIBED IN SCHEDULE A AND ON THE SURVEY ARE IN FACT ONE AND THE SAME PARCEL OF LAND IRRESPECTIVE OF THE MINOR DISCREPANCIES IN THE COURSES AND/OR DISTANCES.
LEGEND
ABBREVIATIONS
ALTA/NSPS LAND TITLE SURVEY OF
SAM SNEAD GOLF & COUNTRY CLUB
20 TOMOKA OAKS BOULEVARD
ORMOND BEACH, FLORIDA 32174
FOR: TRIUMPH OAKS OF ORMOND BEACH 1, LLC
SCALE: 1"=200'
FIELD BOOK: 1454 PAGE(S): 20-31
SHEET 1 OF 13
TYPE OF SURVEY | DATE OF SURVEY | JOB NUMBER | PARTY CHIEF | DRAWN BY | CHECKED BY
SPECIFIC PURPOSE :
BOUNDARY SURVEY : 4-13-2021 – 21-0493 – J PENFIELD – D HITCHCOCK – J ZAPERT
TOPOGRAPHIC SURVEY : 4-13-2021 – 21-1257 – K HELMICK – J MOLLER – J ZAPERT
FOUNDATION SURVEY :
FINAL SURVEY :
RECERTIFICATION SURVEY :
SLIGER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS
3921 NOVA ROAD
PORT ORANGE, FL. 32127
(386) 761-5385
LICENSED BUSINESS CERTIFICATION NUMBER 3019
Copyright ©2021 Sliger & Associates, Inc. www.sligerassociates.com
TO: EJTS HOLDINGS, LLC, A FLORIDA LIMITED LIABILITY COMPANY; TRIUMPH OAKS OF ORMOND BEACH 1, LLC, A FLORIDA LIMITED LIABILITY COMPANY; AND FIRST AMERICAN TITLE INSURANCE COMPANY:
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 7, 7(B)(1), 7(B)(2), 8, 11(B), 14, 18, AND 19 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON APRIL 13, 2021. DATE OF PLAT OR MAP: APRIL 15, 2021
J.E. ZAPERT P.L.S. NO. 4046
SEAL



LEGEND

⊟	ELECTRIC SERVICE	⊞	TRAFFIC SIGNAL BOX
CMB	MAIL BOX	⊙ CO	CLEAN OUT
—	SIGN	□	CONCRETE MONUMENT (CM)
○	TREE	■	PERMANENT REFERENCE MONUMENT (PRM)
FH	FIRE HYDRANT	△	PERMANENT CONTROL POINT (PCP)
WM	WATER METER	(R)	RADIAL LINE
GA	GUY ANCHOR	(NR)	NON-RADIAL LINE
UP	UTILITY POLE	WV	WATER VALVE
ID	IRON ROD/PIPE WITH CAP (RC/PC)		
○	IRON ROD/PIPE NO ID (R/P)	EL × EX	EXISTING ELEVATION
TB	TELEPHONE BOX	TV	CABLE TELEVISION BOX

ALTA/NSPS LAND TITLE SURVEY OF SAM SNEAD GOLF & COUNTRY CLUB
20 TOMOKA OAKS BOULEVARD
ORMOND BEACH, FLORIDA 32174

FOR: TRIUMPH OAKS OF ORMOND BEACH 1, LLC
SCALE: 1"=200' FIELD BOOK: 1454 PAGE(S): 20-31 SHEET 2 OF 13

TYPE OF SURVEY	DATE OF SURVEY	JOB NUMBER	PARTY CHIEF	DRAWN BY	CHECKED BY
SPECIFIC PURPOSE	: –	–	–	–	–
BOUNDARY SURVEY	: 4-13-2021	– 21-0493	– J PENFIELD	– D HITCHCOCK	– J ZAPERT
TOPOGRAPHIC SURVEY	: 4-13-2021	– 21-1257	– K HELMICK	– J MOLLER	– J ZAPERT
FOUNDATION SURVEY	: –	–	–	–	–
FINAL SURVEY	: –	–	–	–	–
RECERTIFICATION SURVEY	: –	–	–	–	–

ABBREVIATIONS

CM	CONCRETE MONUMENT	WV	WATER VALVE	D	CENTRAL ANGLE	INV	INVERT	—FO—	BURIED FIBER OPTIC CABLE	MES	MITERED END SECTION
TOB	TOP OF BANK	TSB	TRAFFIC SIGNAL BOX	R	RADIUS	SEC	SECTION	— T —	BURIED TELEPHONE LINE	RCP	REINFORCED CONCRETE PIPE
TOE	TOE OF SLOPE	FH	FIRE HYDRANT	L	ARC LENGTH	TWP	TOWNSHIP	— W —	BURIED WATER LINE	CMP	CORRUGATED METAL PIPE
CLS	CENTERLINE OF SWALE	WM	WATER METER	CB	CHORD BEARING	RGE	RANGE	— E —	BURIED ELECTRIC LINE	MH	MANHOLE
CLD	CENTERLINE OF DITCH	LP	LIGHT POLE	CH	CHORD DISTANCE	R/W	RIGHT OF WAY	— G —	BURIED GAS LINE	MB	MAP BOOK
CO	CLEANOUT	PP	POWER POLE/UTILITY POLE	FP&L CO	FLORIDA POWER & LIGHT COMPANY	CONC	CONCRETE	—TV—	BURIED TELEVISION LINE	BK	BOOK
SAN	SANITARY	GA	GUY ANCHOR	NGVD	NATIONAL GEODETIC VERTICAL DATUM	EL	ELEVATION	—FM—	BURIED FORCE MAIN	OR	OFFICIAL RECORDS BOOK
ES	ELECTRIC SERVICE	OPP	CONCRETE POWER POLE	USC & GS	UNITED STATES COAST AND GEODETIC SURVEY	(NR)	NON RADIAL	— • —	AERIAL UTILITY LINE	PG	PAGE
RCP	REINFORCED CONCRETE PIPE	WPP	WOOD POWER POLE		CENTERLINE	(P)	PLAT	(R)	RADIAL	ID	IDENTIFICATION
VCP	VITREOUS CLAY PIPE	PVC	POLYVINYL CHLORIDE	℄		(M)	MEASURED	(D)	DEED	(TYP)	TYPICAL
INV	INVERT	CONC	CONCRETE					(DESC)	DESCRIPTION	MH	MANHOLE

SLIGER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS
3921 NOVA ROAD
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(386) 761-5385
LICENSED BUSINESS CERTIFICATION NUMBER 3019

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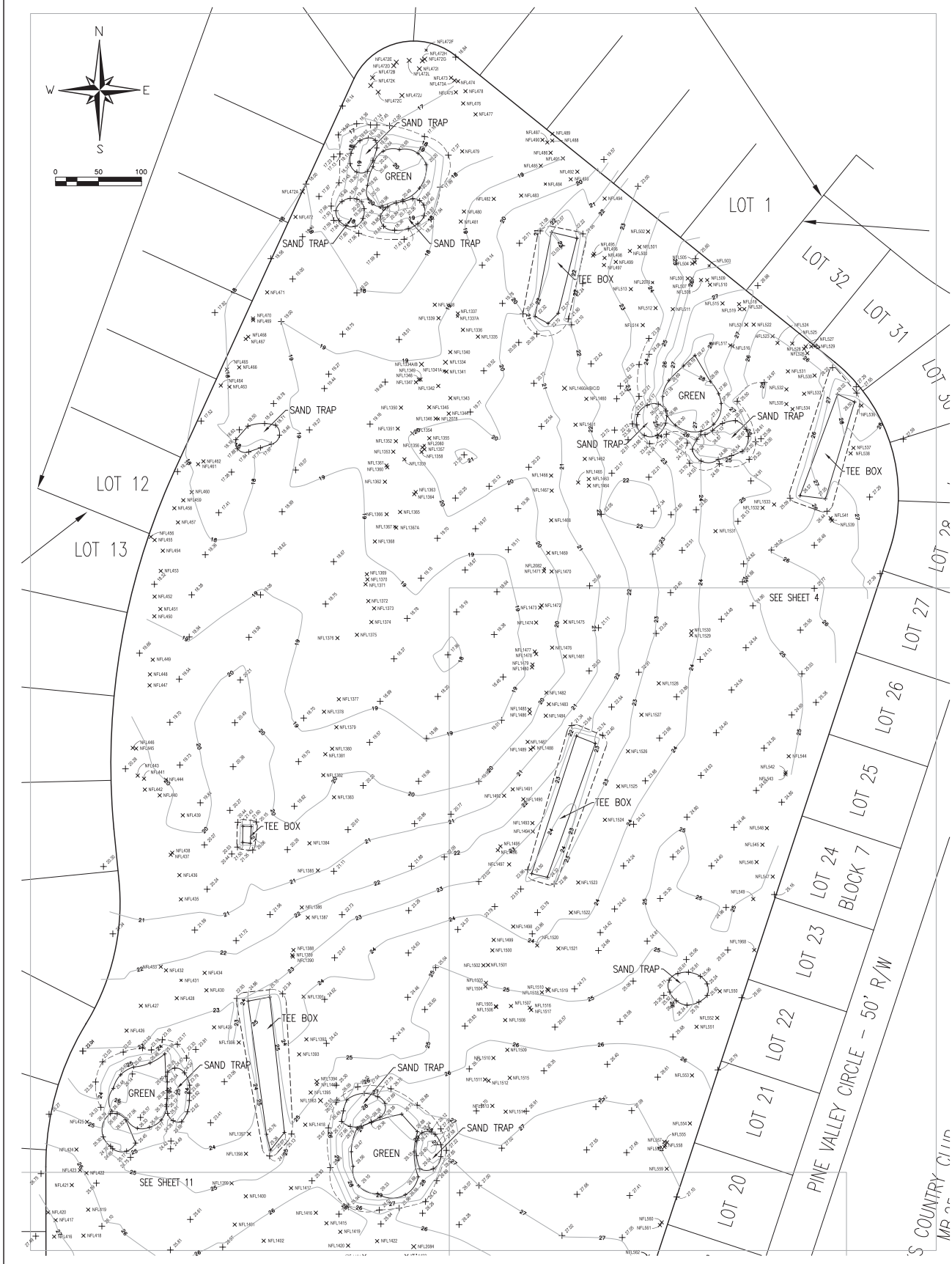
TO: EJTS HOLDINGS, LLC, A FLORIDA LIMITED LIABILITY COMPANY; TRIUMPH OAKS OF ORMOND BEACH 1, LLC, A FLORIDA LIMITED LIABILITY COMPANY; AND FIRST AMERICAN TITLE INSURANCE COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 7, 7(B)(1), 7(B)(2), 8, 11(B), 14, 18, AND 19 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON APRIL 13, 2021. DATE OF PLAT OR MAP: APRIL 15, 2021

J.E. ZAPERT P.L.S. NO. 4046 SEAL

SEE SHEET 1
FOR CERTIFICATIONS



LEGEND

⊞	ELECTRIC SERVICE	⊞	TRAFFIC SIGNAL BOX
CMB	MAIL BOX	⊙ CO	CLEAN OUT
— SGN	SIGN	□	CONCRETE MONUMENT (CM)
○ TREE		■	PERMANENT REFERENCE MONUMENT (PRM)
FH	FIRE HYDRANT	△	PERMANENT CONTROL POINT (PCP)
WM	WATER METER	(R)	RADIAL LINE
GA	GUY ANCHOR	(NR)	NON-RADIAL LINE
UP	UTILITY POLE	WV	WATER VALVE
ID	IRON ROD/PIPE WITH CAP (RIC/RPC)	○	EXISTING ELEVATION
○ ID	IRON ROD/PIPE NO ID (IR/IP)	TV	CABLE TELEVISION BOX
TB	TELEPHONE BOX		

ALTA/NSPS LAND TITLE SURVEY OF SAM SNEAD GOLF & COUNTRY CLUB
20 TOMOKA OAKS BOULEVARD
ORMOND BEACH, FLORIDA 32174

FOR: TRIUMPH OAKS OF ORMOND BEACH 1, LLC
SCALE: 1"=50' FIELD BOOK: 1454 PAGE(S): 20-31 SHEET 3 OF 13

TYPE OF SURVEY	DATE OF SURVEY	JOB NUMBER	PARTY CHIEF	DRAWN BY	CHECKED BY
SPECIFIC PURPOSE	–	–	–	–	–
BOUNDARY SURVEY	4-13-2021	21-0493	J PENFIELD	D HITCHCOCK	J ZAPERT
TOPOGRAPHIC SURVEY	4-13-2021	21-1257	K HELMICK	J MOLLER	J ZAPERT
FOUNDATION SURVEY	–	–	–	–	–
FINAL SURVEY	–	–	–	–	–
RECERTIFICATION SURVEY	–	–	–	–	–

ABBREVIATIONS

CM	CONCRETE MONUMENT	WV	WATER VALVE	D	CENTRAL ANGLE	INV	INVERT	—FO—	BURIED FIBER OPTIC CABLE
TOB	TOP OF BANK	TSB	TRAFFIC SIGNAL BOX	R	RADIUS	SEC	SECTION	— T —	BURIED TELEPHONE LINE
TOE	TOE OF SLOPE	FH	FIRE HYDRANT	L	ARC LENGTH	TWP	TOWNSHIP	— W —	BURIED WATER LINE
CLS	CENTERLINE OF SWALE	WM	WATER METER	CB	CHORD BEARING	RGE	RANGE	— E —	BURIED ELECTRIC LINE
CLD	CENTERLINE OF DITCH	LP	LIGHT POLE	CH	CHORD DISTANCE	R/W	RIGHT OF WAY	— G —	BURIED GAS LINE
CO	CLEANOUT	PP	POWER POLE/UTILITY POLE	FP&L CO	FLORIDA POWER & LIGHT COMPANY	CONC	CONCRETE	—TV—	BURIED TELEVISION LINE
SAN	SANITARY	GA	GUY ANCHOR	NGVD	NATIONAL GEODETIC VERTICAL DATUM	EL	ELEVATION	—FM—	BURIED FORCE MAIN
ES	ELECTRIC SERVICE	CPP	CONCRETE POWER POLE	USC & GS	UNITED STATES COAST AND GEODETIC SURVEY	(NR)	NON RADIAL	— • —	AERIAL UTILITY LINE
RCP	REINFORCED CONCRETE PIPE	WPP	WOOD POWER POLE			(P)	PLAT	(R)	RADIAL
VCP	VITREOUS CLAY PIPE	PVC	POLYVINYL CHLORIDE			(M)	MEASURED	(S)	SIDE
INV	INVERT	CONC	CONCRETE					(DESC)	DESCRIPTION

MES	MITERED END SECTION	CMP	CORRUGATED METAL PIPE	MH	MANHOLE
RCP	REINFORCED CONCRETE PIPE	MB	MAP BOOK	BK	BOOK
		OR	OFFICIAL RECORDS BOOK	PG	PAGE
		ID	IDENTIFICATION	(TYP)	TYPICAL
		MH	MANHOLE		

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PROFESSIONAL LAND SURVEYORS
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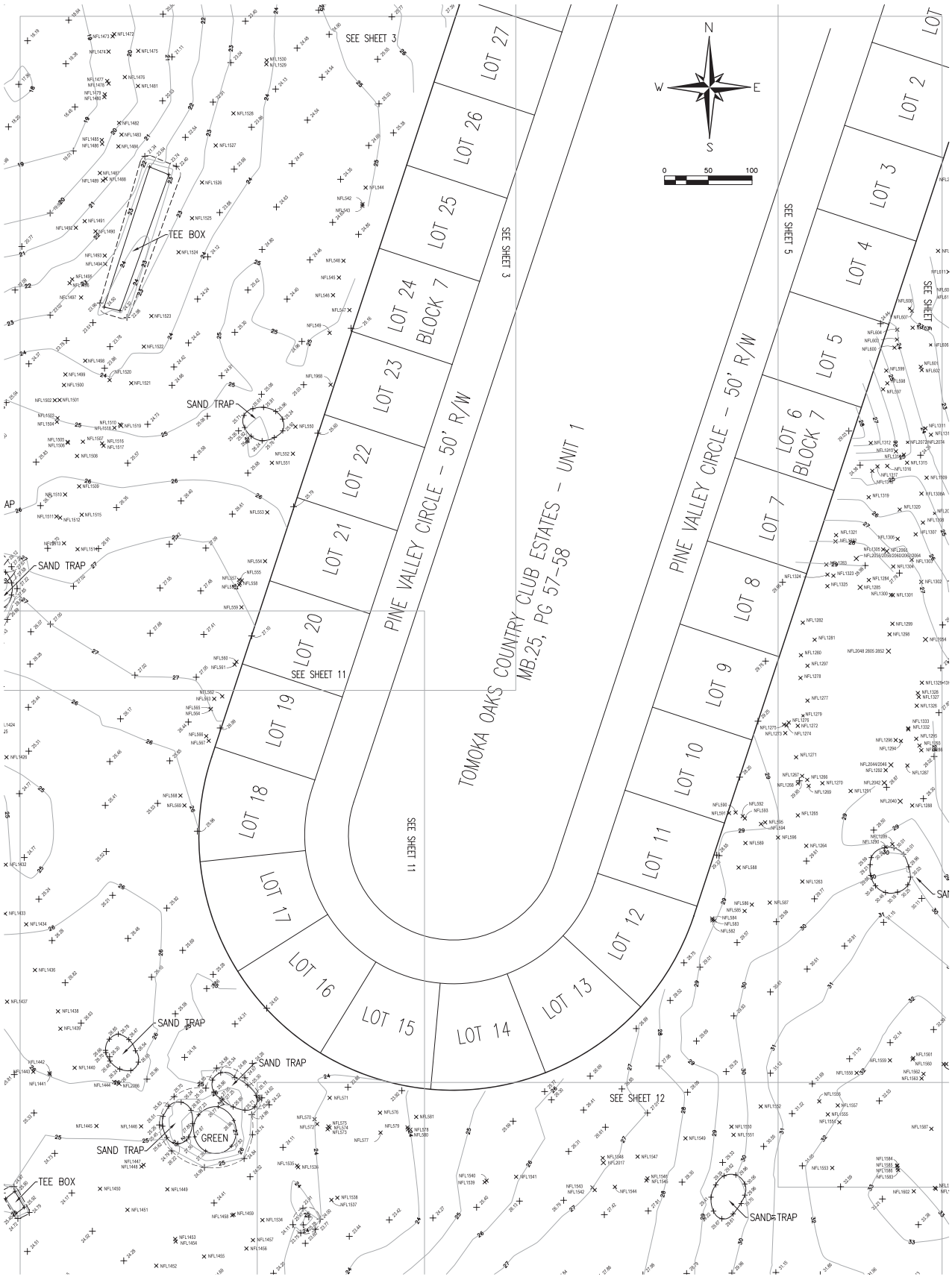

LEGEND

⊠	ELECTRIC SERVICE	⊠	TRAFFIC SIGNAL BOX
CMB	MAIL BOX	⊙ CO	CLEAN OUT
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ID	IRON RID./PIPE WITH CAP (RIC/RP)		EXISTING ELEVATION
○	IRON RID/PIPE NO ID (RI/P)	TV	CABLE TELEVISION BOX
TB	TELEPHONE BOX		

ALTA/NSPS LAND TITLE SURVEY OF SAM SNEAD GOLF & COUNTRY CLUB
20 TOMOKA OAKS BOULEVARD
ORMOND BEACH, FLORIDA 32174

FOR: TRIUMPH OAKS OF ORMOND BEACH 1, LLC
SCALE: 1"=50' FIELD BOOK: 1454 PAGE(S): 20-31 SHEET 4 OF 13

TYPE OF SURVEY	DATE OF SURVEY	JOB NUMBER	PARTY CHIEF	DRAWN BY	CHECKED BY
SPECIFIC PURPOSE	–	–	–	–	–
BOUNDARY SURVEY	4-13-2021	21-0493	J PENFIELD	D HITCHCOCK	J ZAPERT
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FOUNDATION SURVEY	–	–	–	–	–
FINAL SURVEY	–	–	–	–	–
RECERTIFICATION SURVEY	–	–	–	–	–

ABBREVIATIONS

CM	CONCRETE MONUMENT	WV	WATER VALVE	D	CENTRAL ANGLE	INV	INVERT	—FC—	BURIED FIBER OPTIC CABLE	MES	MITERED END SECTION
TOB	TOP OF BANK	TSB	TRAFFIC SIGNAL BOX	R	RADIUS	SEC	SECTION	— T —	BURIED TELEPHONE LINE	RCP	REINFORCED CONCRETE PIPE
TOE	TOE OF SLOPE	FH	FIRE HYDRANT	L	ARC LENGTH	TWP	TOWNSHIP	— W —	BURIED WATER LINE	CMP	CORRUGATED METAL PIPE
CLS	CENTERLINE OF SWALE	WM	WATER METER	CB	CHORD BEARING	RGE	RANGE	— E —	BURIED ELECTRIC LINE	MH	MANHOLE
CLD	CENTERLINE OF DITCH	LP	LIGHT POLE	CH	CHORD DISTANCE	R/W	RIGHT OF WAY	— G —	BURIED GAS LINE	MB	MAP BOOK
CO	CLEANOUT	PP	POWER POLE/UTILITY POLE	FP&L CO	FLORIDA POWER & LIGHT COMPANY	CONC	CONCRETE	—TV—	BURIED TELEVISION LINE	BK	BOOK
SAN	SANITARY	GA	GUY ANCHOR	NGVD	NATIONAL GEODETIC VERTICAL DATUM	EL	ELEVATION	—FM—	BURIED FORCE MAIN	OR	OFFICIAL RECORDS BOOK
ES	ELECTRIC SERVICE	OPP	CONCRETE POWER POLE	USC & GS	UNITED STATES COAST AND GEODETIC SURVEY	(NR)	NON RADIAL	— • —	AERIAL UTILITY LINE	PG	PAGE
RCP	REINFORCED CONCRETE PIPE	WPP	WOOD POWER POLE	℄	CENTERLINE	(P)	PLAT	(R)	RADIAL	ID	IDENTIFICATION
VCP	VITREOUS CLAY PIPE	PVC	POLYVINYL CHLORIDE			(M)	MEASURED	(D)	DEED	(TYP)	TYPICAL
INV	INVERT	CONC	CONCRETE					(DESC)	DESCRIPTION	MH	MANHOLE

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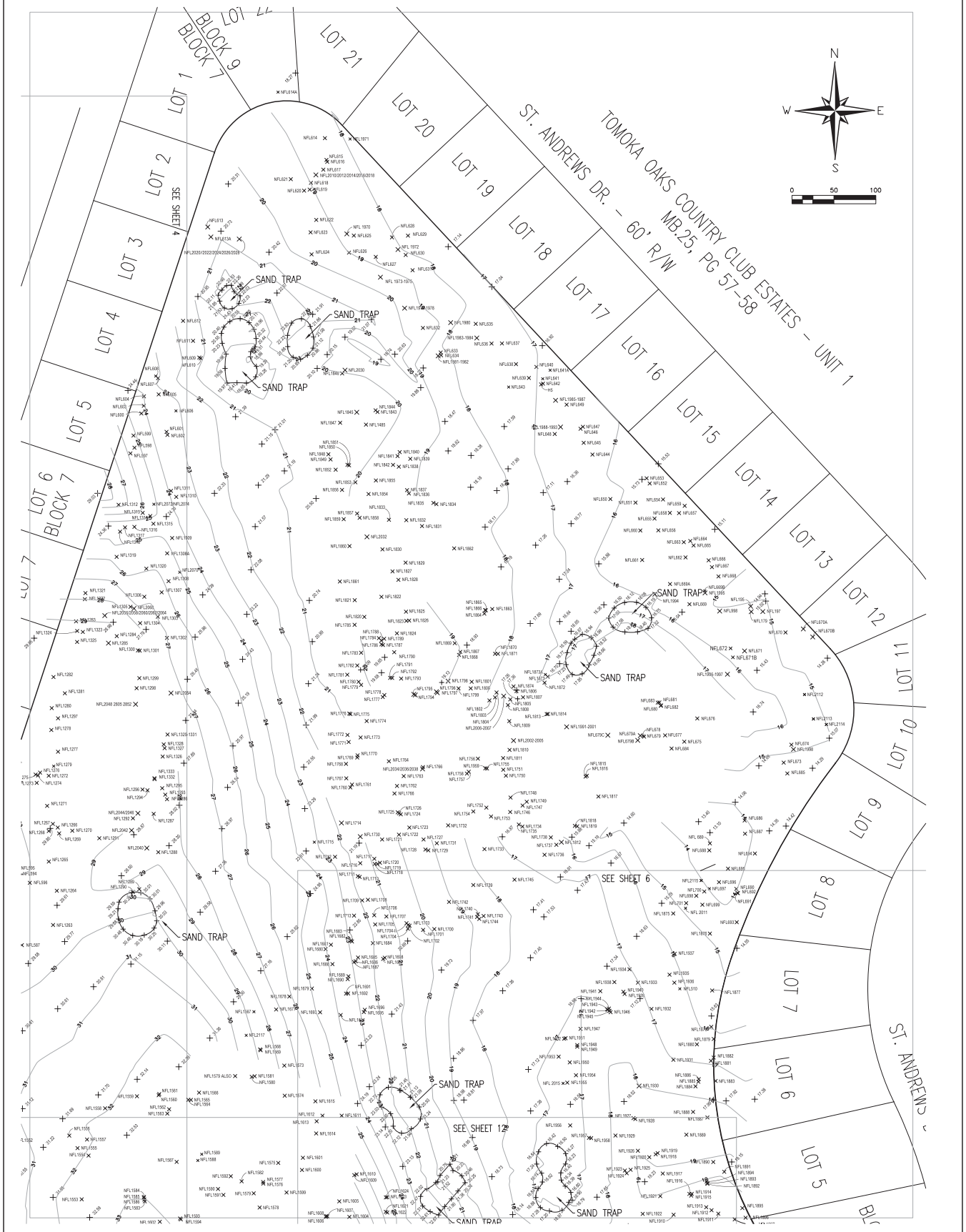

LEGEND

⊠	ELECTRIC SERVICE	⊠	TRAFFIC SIGNAL BOX
(CMB)	MAIL BOX	⊡ CO	CLEAN OUT
— SGN	SIGN	□	CONCRETE MONUMENT (CM)
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UP	UTILITY POLE	WV	WATER VALVE
ID	IRON ROD/PIPE WITH CAP (RIC/RP)	×	EXISTING ELEVATION
○	IRON ROD/PIPE NO ID (IR/P)	CATV	CABLE TELEVISION BOX
(TB)	TELEPHONE BOX		

ABBREVIATIONS

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BK	BOOK		
OR	OFFICIAL RECORDS BOOK		
PG	PAGE		
ID	IDENTIFICATION		
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ALTA/NSPS LAND TITLE SURVEY OF SAM SNEAD GOLF & COUNTRY CLUB 20 TOMOKA OAKS BOULEVARD ORMOND BEACH, FLORIDA 32174

FOR: TRIUMPH OAKS OF ORMOND BEACH 1, LLC
SCALE: 1"=50' FIELD BOOK: 1454 PAGE(S): 20-31 SHEET 5 OF 13

TYPE OF SURVEY	DATE OF SURVEY	JOB NUMBER	PARTY CHIEF	DRAWN BY	CHECKED BY
SPECIFIC PURPOSE	–	–	–	–	–
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FOUNDATION SURVEY	–	–	–	–	–
FINAL SURVEY	–	–	–	–	–
RECERTIFICATION SURVEY	–	–	–	–	–

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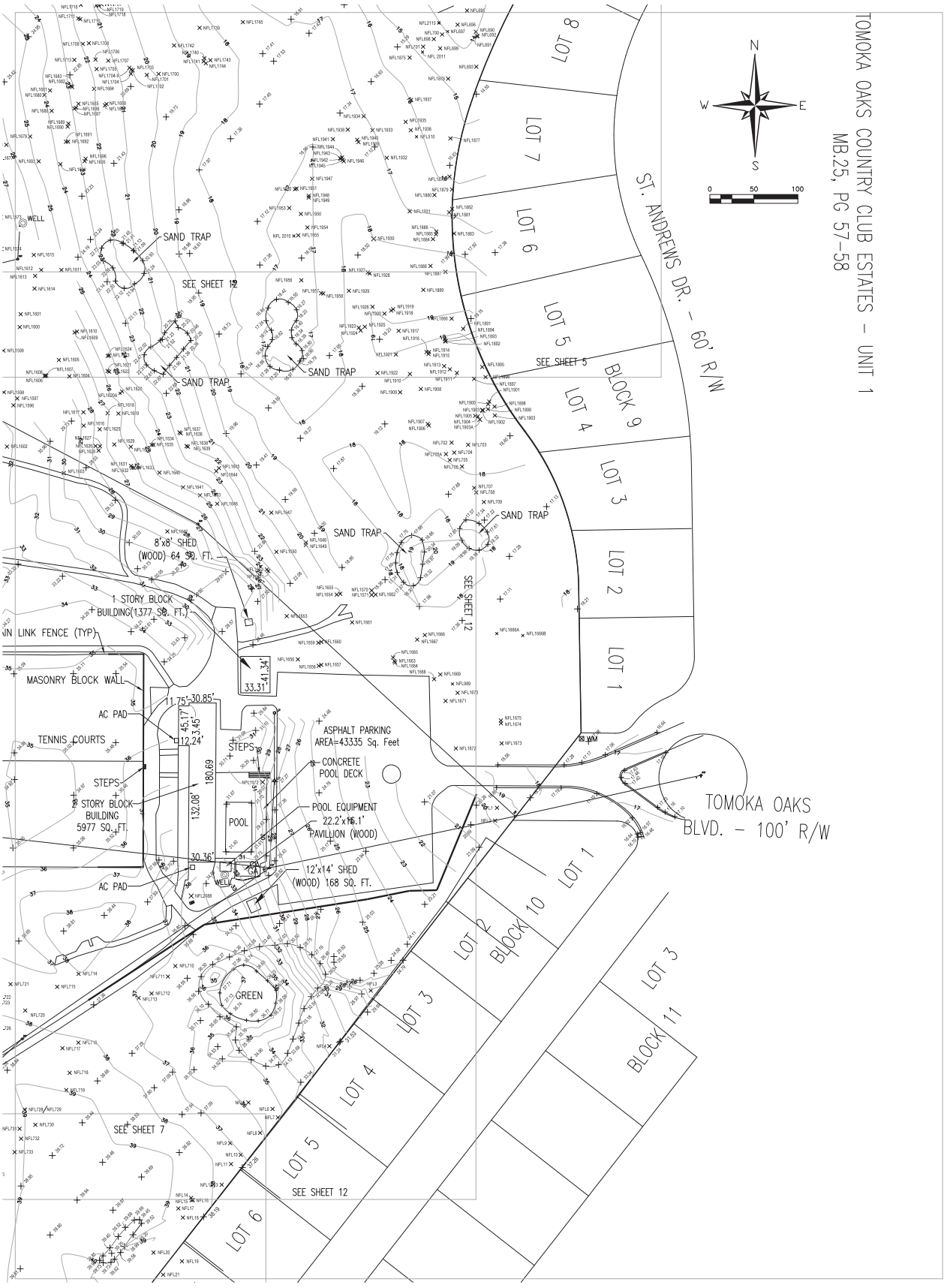

LEGEND

ELEC	ELECTRIC SERVICE	TSB	TRAFFIC SIGNAL BOX
CMB	MAIL BOX	CO	CLEAN OUT
	SIGN		CONCRETE MONUMENT (CM)
	TREE		PERMANENT REFERENCE MONUMENT (PRM)
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ALTA/NSPS LAND TITLE SURVEY OF
SAM SNEAD GOLF & COUNTRY CLUB
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CLD	CENTERLINE OF DITCH	LP	LIGHT POLE	CH	CHORD DISTANCE	R/W	RIGHT OF WAY	—G—	BURIED GAS LINE	MB	MAP BOOK
CO	CLEANOUT	PP	POWER POLE/UTILITY POLE	FP&L CO	FLORIDA POWER & LIGHT COMPANY	CONC	CONCRETE	—TV—	BURIED TELEVISION LINE	BK	BOOK
SAN	SANITARY	GA	GUY ANCHOR	NGVD	NATIONAL GEODETIC VERTICAL DATUM	EL	ELEVATION	—FM—	BURIED FORCE MAIN	OR	OFFICIAL RECORDS BOOK
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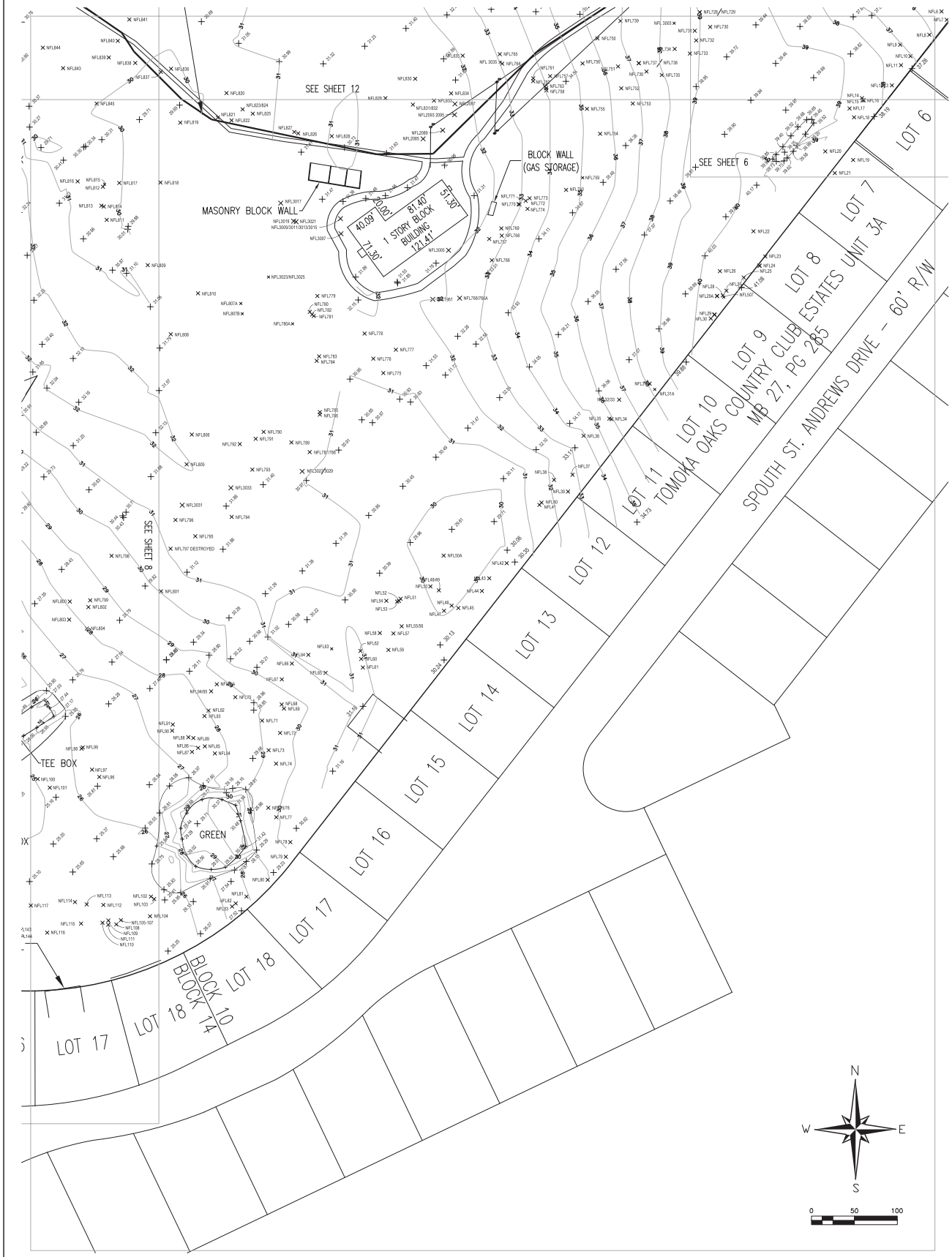

LEGEND

ELECTRIC SERVICE		TRAFFIC SIGNAL BOX	
MAIL BOX		CLEAN OUT	
SIGN		CONCRETE MONUMENT (CM)	
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INV	INVERT	CONC	CONCRETE					(DESC)	DESCRIPTION

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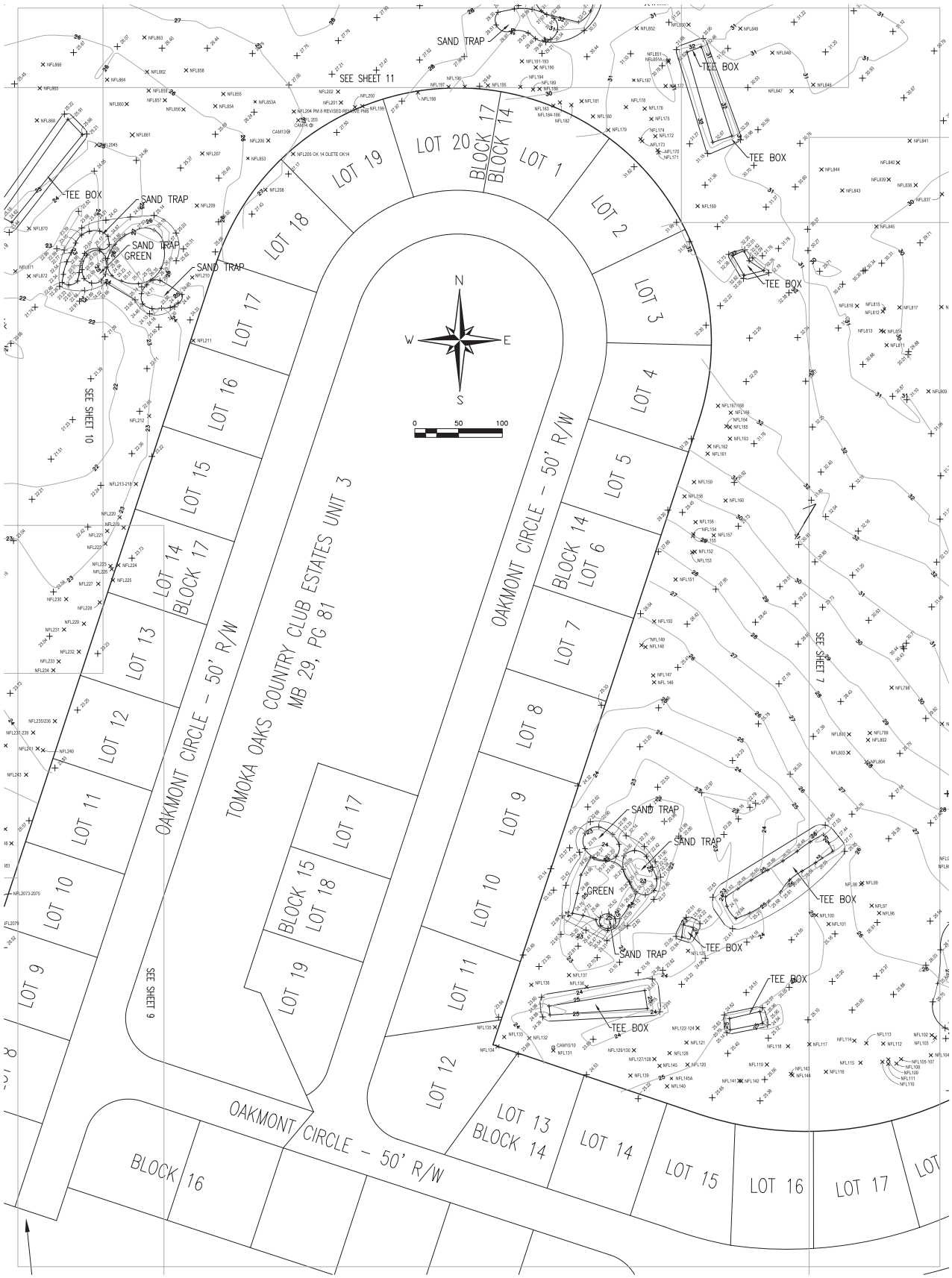

LEGEND

⊠	ELECTRIC SERVICE	⊠	TRAFFIC SIGNAL BOX
⊠MB	MAIL BOX	⊙ CO	CLEAN OUT
— SIGN		□	CONCRETE MONUMENT (CM)
○ TREE		■	PERMANENT REFERENCE MONUMENT (PRM)
FH	FIRE HYDRANT	△	PERMANENT CONTROL POINT (PCP)
WM	WATER METER	(R)	RADIAL LINE
GA	GUY ANCHOR	(NR)	NON-RADIAL LINE
UP	UTILITY POLE	WV	WATER VALVE
ID	IRON ROD/PIPE WITH CAP (RC/PC)		EXISTING ELEVATION
○	IRON ROD/PIPE NO ID (R/P)	TV	CABLE TELEVISION BOX
TB	TELEPHONE BOX		

ALTA/NSPS LAND TITLE SURVEY OF SAM SNEAD GOLF & COUNTRY CLUB
20 TOMOKA OAKS BOULEVARD
ORMOND BEACH, FLORIDA 32174

FOR: TRIUMPH OAKS OF ORMOND BEACH 1, LLC
SCALE: 1"=50' FIELD BOOK: 1454 PAGE(S): 20-31 SHEET 8 OF 13

TYPE OF SURVEY	DATE OF SURVEY	JOB NUMBER	PARTY CHIEF	DRAWN BY	CHECKED BY
SPECIFIC PURPOSE	–	–	–	–	–
BOUNDARY SURVEY	4-13-2021	21-0493	J PENFIELD	D HITCHCOCK	J ZAPERT
TOPOGRAPHIC SURVEY	4-13-2021	21-1257	K HELMICK	J MOLLER	J ZAPERT
FOUNDATION SURVEY	–	–	–	–	–
FINAL SURVEY	–	–	–	–	–
RECERTIFICATION SURVEY	–	–	–	–	–

ABBREVIATIONS

CM	CONCRETE MONUMENT	WV	WATER VALVE	D	CENTRAL ANGLE	INV	INVERT	—FC—	BURIED FIBER OPTIC CABLE	MES	MITERED END SECTION
TOB	TOP OF BANK	TSB	TRAFFIC SIGNAL BOX	R	RADIUS	SEC	SECTION	—T—	BURIED TELEPHONE LINE	RCP	REINFORCED CONCRETE PIPE
TOE	TOE OF SLOPE	FH	FIRE HYDRANT	L	ARC LENGTH	TWP	TOWNSHIP	—W—	BURIED WATER LINE	CMP	CORRUGATED METAL PIPE
CLS	CENTERLINE OF SWALE	WM	WATER METER	CB	CHORD BEARING	RGE	RANGE	—E—	BURIED ELECTRIC LINE	MH	MANHOLE
CLD	CENTERLINE OF DITCH	LP	LIGHT POLE	CH	CHORD DISTANCE	R/W	RIGHT OF WAY	—G—	BURIED GAS LINE	MB	MAP BOOK
CO	CLEANOUT	PP	POWER POLE/UTILITY POLE	FP&L CO	FLORIDA POWER & LIGHT COMPANY	CONC	CONCRETE	—TV—	BURIED TELEVISION LINE	BK	BOOK
SAN	SANITARY	GA	GUY ANCHOR	NGVD	NATIONAL GEODETIC VERTICAL DATUM	EL	ELEVATION	—FM—	BURIED FORCE MAIN	OR	OFFICIAL RECORDS BOOK
ES	ELECTRIC SERVICE	CPP	CONCRETE POWER POLE	USC & GS	UNITED STATES COAST AND GEODETIC SURVEY	(NR)	NON RADIAL	— • —	AERIAL UTILITY LINE	PG	PAGE
RCP	REINFORCED CONCRETE PIPE	WPP	WOOD POWER POLE			(P)	PLAT	(R)	RADIAL	ID	IDENTIFICATION
VCP	VITREOUS CLAY PIPE	PVC	POLYVINYL CHLORIDE			(M)	MEASURED	(D)	DEED	(TYP)	TYPICAL
INV	INVERT	CONC	CONCRETE	℄	CENTERLINE			(DESC)	DESCRIPTION	MH	MANHOLE

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(386) 761-5385
LICENSED BUSINESS CERTIFICATION NUMBER 3019

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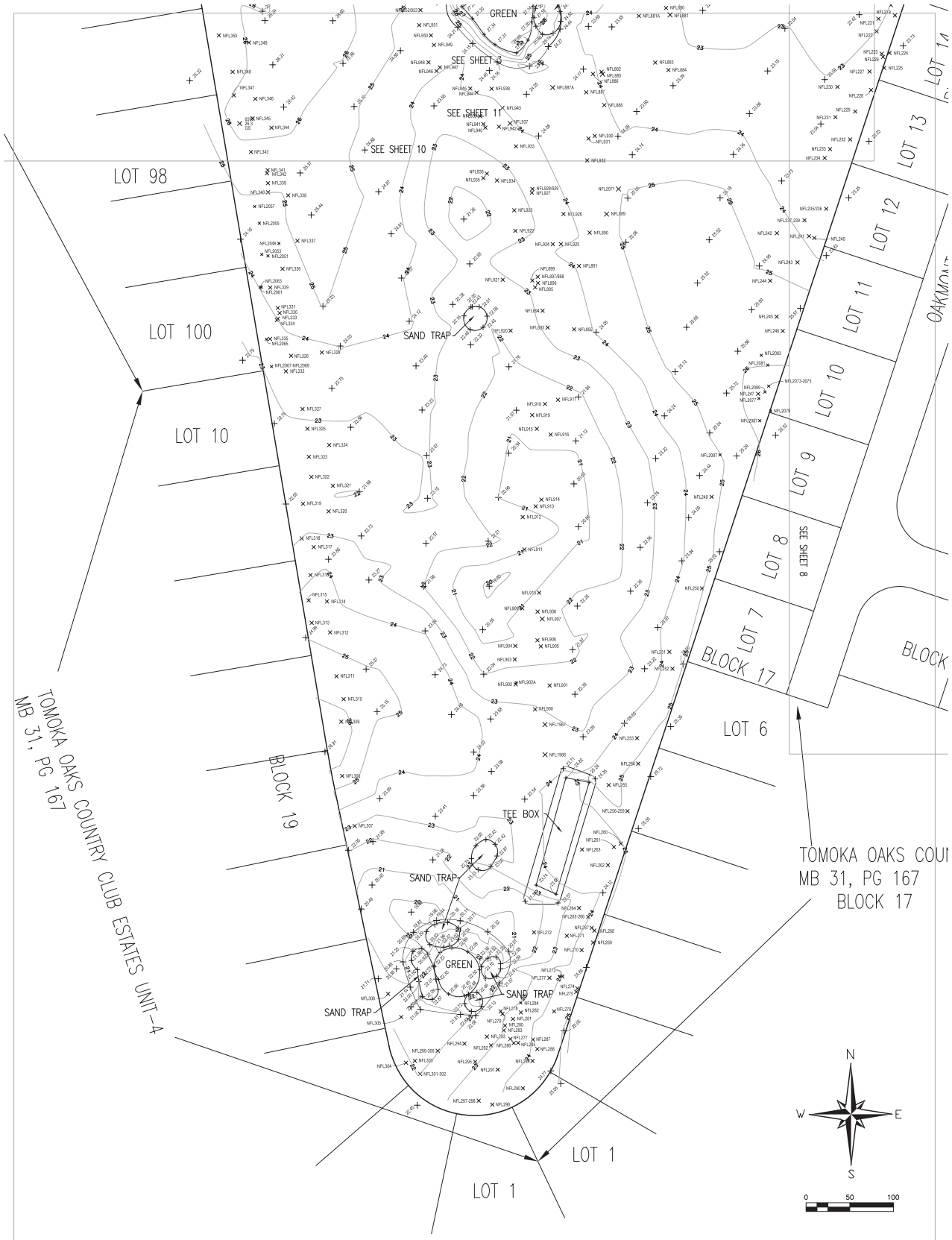
TO: EJTS HOLDINGS, LLC, A FLORIDA LIMITED LIABILITY COMPANY; TRIUMPH OAKS OF ORMOND BEACH 1, LLC, A FLORIDA LIMITED LIABILITY COMPANY; AND FIRST AMERICAN TITLE INSURANCE COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 7, 7(B)(1), 7(B)(2), 8, 11(B), 14, 18, AND 19 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON APRIL 13, 2021. DATE OF PLAT OR MAP: APRIL 15, 2021

J.E. ZAPERT P.L.S. NO. 4046 SEAL

SEE SHEET 1
FOR CERTIFICATIONS



LEGEND

ELECTRIC SERVICE		TRAFFIC SIGNAL BOX	
MAIL BOX		CLEAN OUT	
SIGN		CONCRETE MONUMENT (CM)	
TREE		PERMANENT REFERENCE MONUMENT (PRM)	
FIRE HYDRANT		PERMANENT CONTROL POINT (PCP)	
WATER METER		RADIAL LINE	
GUY ANCHOR		NON-RADIAL LINE	
UTILITY POLE		WATER VALVE	
IRON ROD/PIPE WITH CAP (RIC/RPC)		EXISTING ELEVATION	
IRON ROD/PIPE NO ID (IR/IP)		CABLE TELEVISION BOX	
TELEPHONE BOX			

ALTA/NSPS LAND TITLE SURVEY OF SAM SNEAD GOLF & COUNTRY CLUB
20 TOMOKA OAKS BOULEVARD
ORMOND BEACH, FLORIDA 32174

FOR: TRIUMPH OAKS OF ORMOND BEACH 1, LLC
SCALE: 1"=50' FIELD BOOK: 1454 PAGE(S): 20-31 SHEET 9 OF 13

TYPE OF SURVEY	DATE OF SURVEY	JOB NUMBER	PARTY CHIEF	DRAWN BY	CHECKED BY
SPECIFIC PURPOSE	:	–	–	–	–
BOUNDARY SURVEY	: 4-13-2021	– 21-0493	– J PENFIELD	– D HITCHCOCK	– J ZAPERT
TOPOGRAPHIC SURVEY	: 4-13-2021	– 21-1257	– K HELMICK	– J MOLLER	– J ZAPERT
FOUNDATION SURVEY	:	–	–	–	–
FINAL SURVEY	:	–	–	–	–
RECERTIFICATION SURVEY	:	–	–	–	–

ABBREVIATIONS

CM	CONCRETE MONUMENT	WV	WATER VALVE	D	CENTRAL ANGLE	INV	INVERT	—FC—	BURIED FIBER OPTIC CABLE	MES	MITERED END SECTION
TOB	TOP OF BANK	TSB	TRAFFIC SIGNAL BOX	R	RADIUS	SEC	SECTION	— T —	BURIED TELEPHONE LINE	RCP	REINFORCED CONCRETE PIPE
TOE	TOE OF SLOPE	FH	FIRE HYDRANT	L	ARC LENGTH	TWP	TOWNSHIP	— W —	BURIED WATER LINE	CMP	CORRUGATED METAL PIPE
CLS	CENTERLINE OF SWALE	WM	WATER METER	CB	CHORD BEARING	RGE	RANGE	— E —	BURIED ELECTRIC LINE	MH	MANHOLE
CLD	CENTERLINE OF DITCH	LP	LIGHT POLE	CH	CHORD DISTANCE	R/W	RIGHT OF WAY	— G —	BURIED GAS LINE	MB	MAP BOOK
CO	CLEANOUT	PP	POWER POLE/UTILITY POLE	FP&L CO	FLORIDA POWER & LIGHT COMPANY	CONC	CONCRETE	—TV—	BURIED TELEVISION LINE	BK	BOOK
SAN	SANITARY	GA	GUY ANCHOR	NGVD	NATIONAL GEODETIC VERTICAL DATUM	EL	ELEVATION	—FM—	BURIED FORCE MAIN	OR	OFFICIAL RECORDS BOOK
ES	ELECTRIC SERVICE	CPP	CONCRETE POWER POLE	USC & GS	UNITED STATES COAST AND GEODETIC SURVEY	(NR)	NON RADIAL	— • —	AERIAL UTILITY LINE	PG	PAGE
RCP	REINFORCED CONCRETE PIPE	WPP	WOOD POWER POLE			(P)	PLAT	(R)	RADIAL	ID	IDENTIFICATION
VCP	VITREOUS CLAY PIPE	PVC	POLYVINYL CHLORIDE			(M)	MEASURED	(D)	DEED	(TYP)	TYPICAL
INV	INVERT	CONC	CONCRETE	℄	CENTERLINE			(DESC)	DESCRIPTION	MH	MANHOLE

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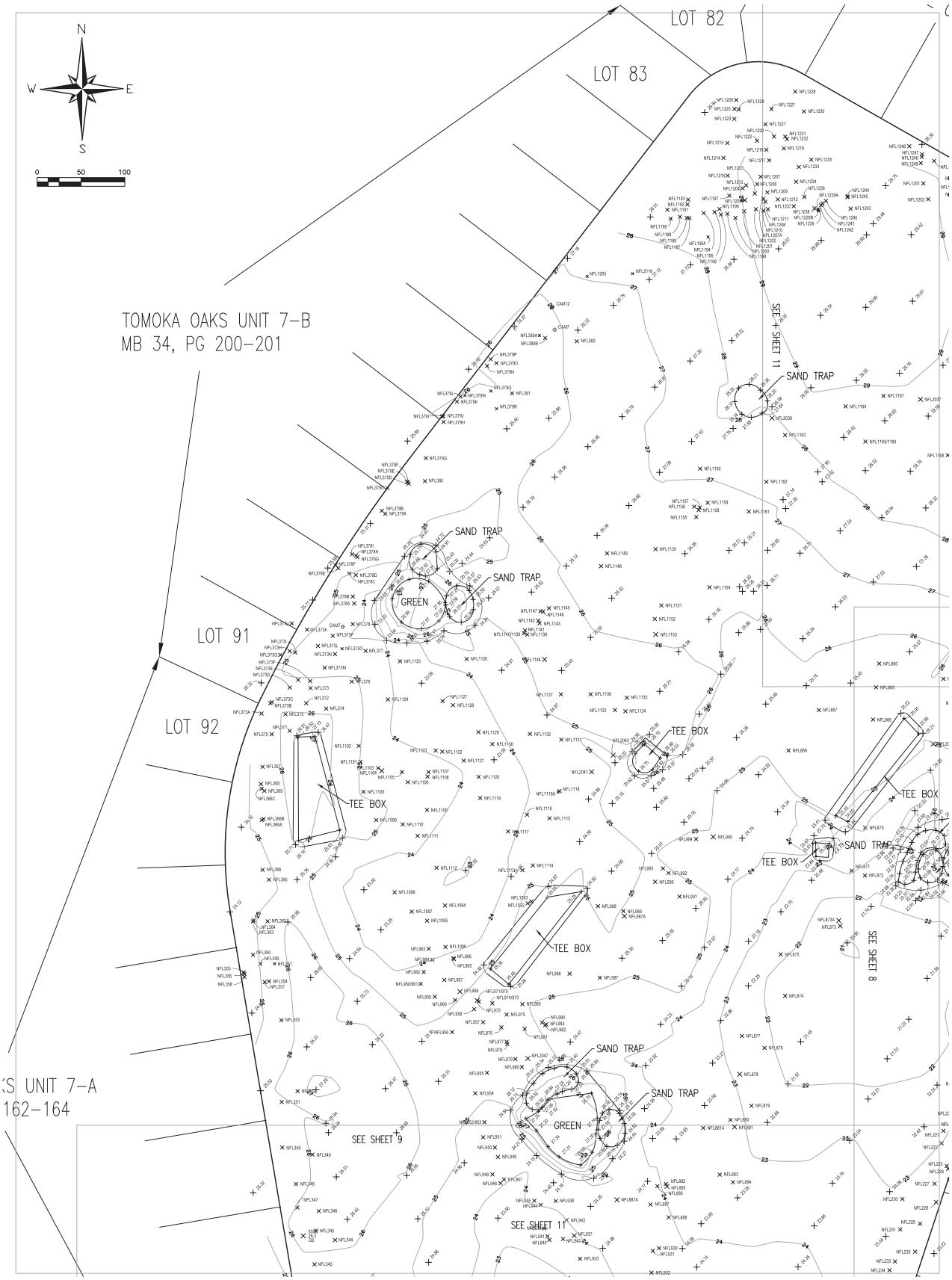
J.E. ZAPERT P.L.S. NO. 4046 SEAL

SEE SHEET 1 FOR CERTIFICATIONS



LEGEND

ELECTRIC SERVICE		TRAFFIC SIGNAL BOX	
MAIL BOX		CLEAN OUT	
SIGN		CONCRETE MONUMENT (CM)	
TREE		PERMANENT REFERENCE MONUMENT (PRM)	
FIRE HYDRANT		PERMANENT CONTROL POINT (PCP)	
WATER METER		RADIAL LINE	
GUY ANCHOR		NON-RADIAL LINE	
UTILITY POLE		WATER VALVE	
IRON ROD/PIPE WITH CAP (RIC/RIP)		EXISTING ELEVATION	
IRON ROD/PIPE NO ID (R/P)		CABLE TELEVISION BOX	
TELEPHONE BOX			

ALTA/NSPS LAND TITLE SURVEY OF SAM SNEAD GOLF & COUNTRY CLUB
20 TOMOKA OAKS BOULEVARD
ORMOND BEACH, FLORIDA 32174

FOR: TRIUMPH OAKS OF ORMOND BEACH 1, LLC
SCALE: 1"=50' FIELD BOOK: 1454 PAGE(S): 20-31 SHEET 10 OF 13

TYPE OF SURVEY	DATE OF SURVEY	JOB NUMBER	PARTY CHIEF	DRAWN BY	CHECKED BY
SPECIFIC PURPOSE	–	–	–	–	–
BOUNDARY SURVEY	4-13-2021	21-0493	J PENFIELD	D HITCHCOCK	J ZAPERT
TOPOGRAPHIC SURVEY	4-13-2021	21-1257	K HELMICK	J MOLLER	J ZAPERT
FOUNDATION SURVEY	–	–	–	–	–
FINAL SURVEY	–	–	–	–	–
RECERTIFICATION SURVEY	–	–	–	–	–

ABBREVIATIONS

CM	CONCRETE MONUMENT	WV	WATER VALVE	D	CENTRAL ANGLE	INV	INVERT	—FC—	BURIED FIBER OPTIC CABLE	MES	MITERED END SECTION
TOB	TOP OF BANK	TSB	TRAFFIC SIGNAL BOX	R	RADIUS	SEC	SECTION	— T —	BURIED TELEPHONE LINE	RCP	REINFORCED CONCRETE PIPE
TOE	TOE OF SLOPE	FH	FIRE HYDRANT	L	ARC LENGTH	TWP	TOWNSHIP	— W —	BURIED WATER LINE	CMP	CORRUGATED METAL PIPE
CLS	CENTERLINE OF SWALE	WM	WATER METER	CB	CHORD BEARING	RGE	RANGE	— E —	BURIED ELECTRIC LINE	MH	MANHOLE
CLD	CENTERLINE OF DITCH	LP	LIGHT POLE	CH	CHORD DISTANCE	R/W	RIGHT OF WAY	— G —	BURIED GAS LINE	MB	MAP BOOK
CO	CLEANOUT	PP	POWER POLE/UTILITY POLE	FP&L CO	FLORIDA POWER & LIGHT COMPANY	CONC	CONCRETE	—TV—	BURIED TELEVISION LINE	BK	BOOK
SAN	SANITARY	GA	GUY ANCHOR	NGVD	NATIONAL GEODETIC VERTICAL DATUM	EL	ELEVATION	—FM—	BURIED FORCE MAIN	OR	OFFICIAL RECORDS BOOK
ES	ELECTRIC SERVICE	CPP	CONCRETE POWER POLE	USC & GS	UNITED STATES COAST AND GEODETIC SURVEY	(NR)	NON RADIAL	— • —	AERIAL UTILITY LINE	PG	PAGE
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VCP	VITREOUS CLAY PIPE	PVC	POLYVINYL CHLORIDE			(M)	MEASURED	(D)	DEED	(TYP)	TYPICAL
INV	INVERT	CONC	CONCRETE	℄	CENTERLINE			(DESC)	DESCRIPTION	MH	MANHOLE

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SEE SHEET 1
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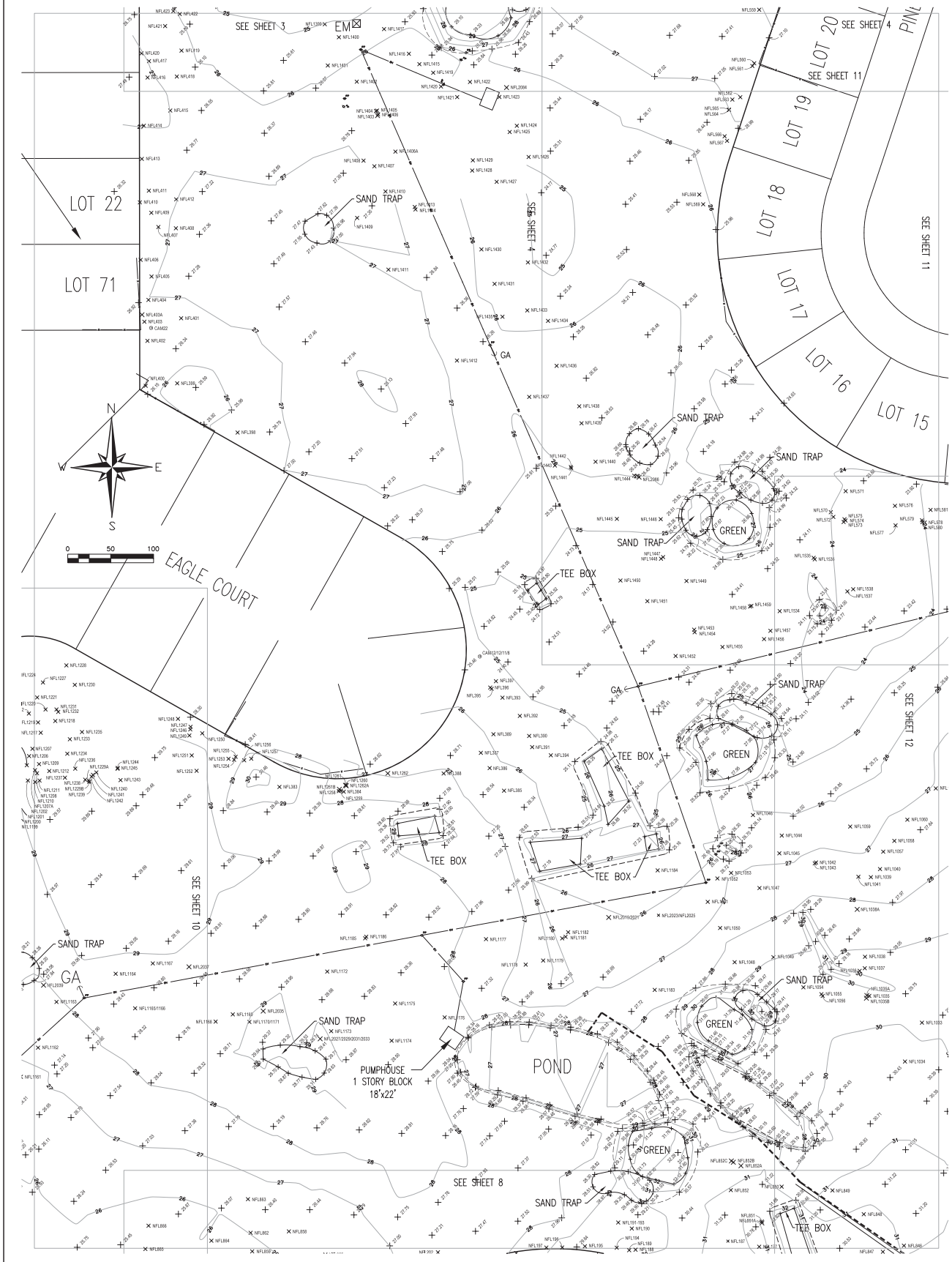

LEGEND

ELEC	ELECTRIC SERVICE	TS	TRAFFIC SIGNAL BOX
CMB	MAIL BOX	CO	CLEAN OUT
— SIGN		■	CONCRETE MONUMENT (CM)
TREE		■	PERMANENT REFERENCE MONUMENT (PRM)
FH	FIRE HYDRANT	△	PERMANENT CONTROL POINT (PCP)
WM	WATER METER	(R)	RADIAL LINE
GA	GUY ANCHOR	(NR)	NON-RADIAL LINE
UP	UTILITY POLE	WV	WATER VALVE
IR	IRON ROD/PIPE WITH CAP (RC/PC)	×EL	EXISTING ELEVATION
○	IRON ROD/PIPE NO ID (R/P)	CATV	CABLE TELEVISION BOX
TB	TELEPHONE BOX		

ALTA/NSPS LAND TITLE SURVEY OF SAM SNEAD GOLF & COUNTRY CLUB
20 TOMOKA OAKS BOULEVARD
ORMOND BEACH, FLORIDA 32174

FOR: TRIUMPH OAKS OF ORMOND BEACH 1, LLC
SCALE: 1"=50' FIELD BOOK: 1454 PAGE(S): 20-31 SHEET 11 OF 13

TYPE OF SURVEY	DATE OF SURVEY	JOB NUMBER	PARTY CHIEF	DRAWN BY	CHECKED BY
SPECIFIC PURPOSE	:	–	–	–	–
BOUNDARY SURVEY	: 4-13-2021	– 21-0493	– J PENFIELD	– D HITCHCOCK	– J ZAPERT
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FOUNDATION SURVEY	:	–	–	–	–
FINAL SURVEY	:	–	–	–	–
RECERTIFICATION SURVEY	:	–	–	–	–

ABBREVIATIONS

CM	CONCRETE MONUMENT	WV	WATER VALVE	D	CENTRAL ANGLE	INV	INVERT	—FC—	BURIED FIBER OPTIC CABLE	MES	MITERED END SECTION
TOB	TOP OF BANK	TSB	TRAFFIC SIGNAL BOX	R	RADIUS	SEC	SECTION	— T —	BURIED TELEPHONE LINE	RCP	REINFORCED CONCRETE PIPE
TOE	TOE OF SLOPE	FH	FIRE HYDRANT	L	ARC LENGTH	TWP	TOWNSHIP	—W—	BURIED WATER LINE	CMP	CORRUGATED METAL PIPE
CLS	CENTERLINE OF SWALE	WM	WATER METER	CB	CHORD BEARING	RGE	RANGE	—E—	BURIED ELECTRIC LINE	MH	MANHOLE
CLD	CENTERLINE OF DITCH	LP	LIGHT POLE	CH	CHORD DISTANCE	R/W	RIGHT OF WAY	— G —	BURIED GAS LINE	MB	MAP BOOK
CO	CLEANOUT	PP	POWER POLE/UTILITY POLE	FP&L CO	FLORIDA POWER & LIGHT COMPANY	CONC	CONCRETE	—TV—	BURIED TELEVISION LINE	BK	BOOK
SAN	SANITARY	GA	GUY ANCHOR	NGVD	NATIONAL GEODETIC VERTICAL DATUM	EL	ELEVATION	—FM—	BURIED FORCE MAIN	OR	OFFICIAL RECORDS BOOK
ES	ELECTRIC SERVICE	CPP	CONCRETE POWER POLE	USC & GS	UNITED STATES COAST AND GEODETIC SURVEY	(NR)	NON RADIAL	— • —	AERIAL UTILITY LINE	PG	PAGE
RCP	REINFORCED CONCRETE PIPE	WPP	WOOD POWER POLE		CENTERLINE	(P)	PLAT	(R)	RADIAL	ID	IDENTIFICATION
VCP	VITREOUS CLAY PIPE	PVC	POLYVINYL CHLORIDE	℄		(M)	MEASURED	(D)	DEED	(TYP)	TYPICAL
INV	INVERT	CONC	CONCRETE					(DESC)	DESCRIPTION	MH	MANHOLE

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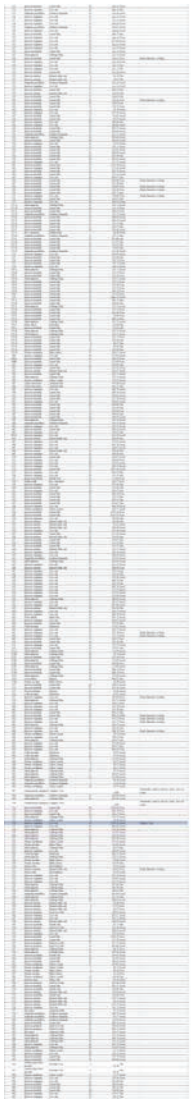
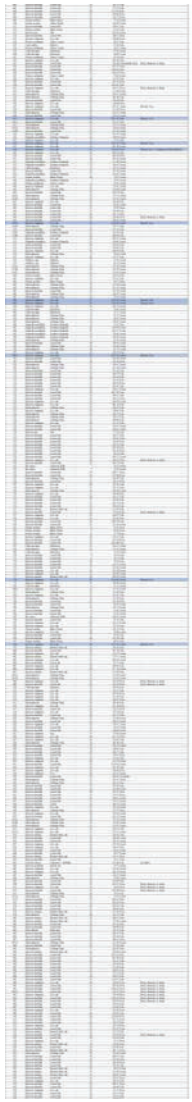
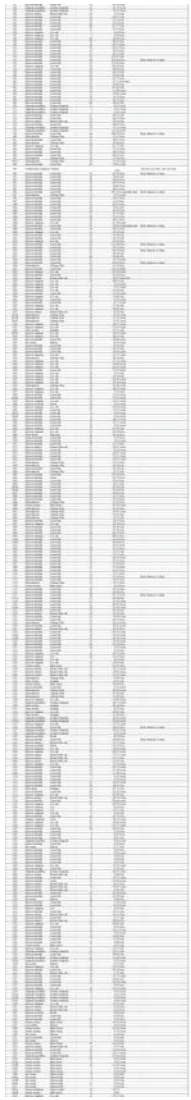

ABBREVIATIONS

CM	CONCRETE MONUMENT	WV	WATER VALVE	D	CENTRAL ANGLE	INV	INVERT	—FC—	BURIED FIBOR OPTIC CABLE	WES	MITERED END SECTION
TOB	TOP OF BANK	TSB	TRAFFIC SIGNAL BOX	R	RADIUS	SEC	SECTION	—T—	BURIED TELEPHONE LINE	RCP	REINFORCED CONCRETE PIPE
TOE	TOE OF SLOPE	FH	FIRE HYDRANT	L	ARC LENGTH	TWP	TOWNSHIP	—W—	BURIED WATER LINE	CMP	CORRUGATED METAL PIPE
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SAN	SANITARY	GA	GUY ANCHOR	NGVD	NATIONAL GEODETIC VERTICAL DATUM	EL	ELEVATION	—TN—	BURIED FORCE MAIN	OR	OFFICIAL RECORDS BOOK
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RCP	REINFORCED CONCRETE PIPE	WPP	WOOD POWER POLE	USC & GS	UNITED STATES COAST AND GEODETIC SURVEY	(P)	PLAT	(R)	RADIAL	ID	IDENTIFICATION
VCP	VITREOUS CLAY PIPE	PVC	POLYVINYL CHLORIDE			(M)	MEASURED	(D)	DEED	(TYP)	TYPICAL
INV	INVERT	CONC	CONCRETE	℄	CENTERLINE			(DESC)	DESCRIPTION	MH	MANHOLE

ALTA/NSPS LAND TITLE SURVEY OF SAM SNEAD GOLF & COUNTRY CLUB
20 TOMOKA OAKS BOULEVARD
ORMOND BEACH, FLORIDA 32174

LEGEND

ES	ELECTRIC SERVICE	TSB	TRAFFIC SIGNAL BOX
CMB	MAIL BOX	CO	CLEAN OUT
	SIGN		CONCRETE MONUMENT (CM)
	TREE		PERMANENT REFERENCE MONUMENT (PRM)
FH	FIRE HYDRANT		PERMANENT CONTROL POINT (PCP)
WM	WATER METER	(R)	RADIAL LINE
GA	GUY ANCHOR	(NR)	NON-RADIAL LINE
PP	UTILITY POLE	WV	WATER VALVE
	IRON ROD/PIPE WITH CAP (RR/PRM)		
	IRON ROD/PIPE NO ID (R/P)	EV	EXISTING ELEVATION
ETB	TELEPHONE BOX	CTV	CABLE TELEVISION BOX

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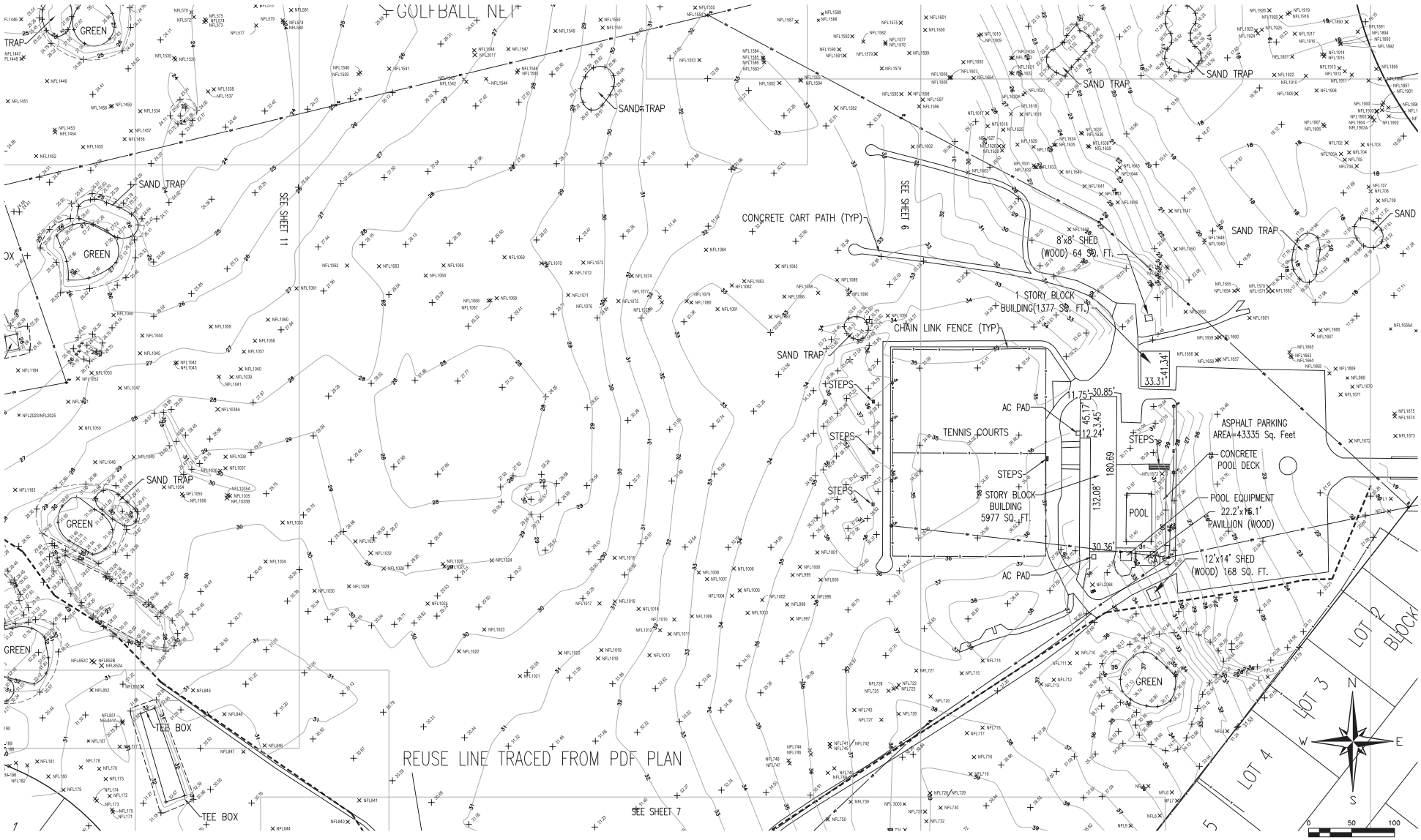

SCALE: 1"=50'

SHEET 12 OF 13

ABBREVIATIONS

CM	CONCRETE MONUMENT	WV	WATER VALVE	D	CENTRAL ANGLE	INV	INVERT	—FC—	BURIED FIBER OPTIC CABLE	WES	MITERED END SECTION
TOB	TOP OF BANK	TSB	TRAFFIC SIGNAL BOX	R	RADIUS	SEC	SECTION	—T—	BURIED TELEPHONE LINE	RCP	REINFORCED CONCRETE PIPE
TOE	TOE OF SLOPE	FH	FIRE HYDRANT	L	ARC LENGTH	TWP	TOWNSHIP	—W—	BURIED WATER LINE	CMP	CORRUGATED METAL PIPE
CLS	CENTERLINE OF SWALE	WM	WATER METER	CB	CHORD BEARING	RGE	RANGE	—E—	BURIED ELECTRIC LINE	MH	MANHOLE
CLD	CENTERLINE OF DITCH	LP	LIGHT POLE	CH	CHORD DISTANCE	R/W	RIGHT OF WAY	—G—	BURIED GAS LINE	MB	MAP BOOK
CO	CLEANOUT	PP	POWER POLE/UTILITY POLE	FP&L CO	FLORIDA POWER & LIGHT COMPANY	CONC	CONCRETE	—TV—	BURIED TELEVISION LINE	BK	BOOK
SAN	SANITARY	GA	GUY ANCHOR	NGVD	NATIONAL GEODETIC VERTICAL DATUM	EL	ELEVATION	—FM—	BURIED FORCE MAIN	OR	OFFICIAL RECORDS BOOK
ES	ELECTRIC SERVICE	CPP	CONCRETE POWER POLE			(NR)	NON RADIAL	— / —	AERIAL UTILITY LINE	PG	PAGE
RCP	REINFORCED CONCRETE PIPE	WPP	WOOD POWER POLE	USC & GS	UNITED STATES COAST AND GEODETIC SURVEY	(P)	PLAT	(R)	RADIAL	ID	IDENTIFICATION
VCP	VITREOUS CLAY PIPE	PVC	POLYVINYL CHLORIDE			(M)	MEASURED	(D)	DEED	(TYP)	TYPICAL
INV	INVERT	CONC	CONCRETE	℄	CENTERLINE			(DESC)	DESCRIPTION	MH	MANHOLE

LEGEND

ES	ELECTRIC SERVICE	TSB	TRAFFIC SIGNAL BOX
CMB	MAIL BOX	CO	CLEAN OUT
	SIGN		CONCRETE MONUMENT (CM)
	TREE		PERMANENT REFERENCE MONUMENT (PRM)
FH	FIRE HYDRANT		PERMANENT CONTROL POINT (PCP)
WM	WATER METER	(R)	RADIAL LINE
GA	GUY ANCHOR	(NR)	NON-RADIAL LINE
PP	UTILITY POLE	WV	WATER VALVE
	IRON ROD/PIPE WITH CAP (RC/PC)		
	IRON ROD/PIPE NO ID (R/P)	EV	EXISTING ELEVATION
ETB	TELEPHONE BOX	CTV	CABLE TELEVISION BOX

ALTA/NSPS LAND TITLE SURVEY OF SAM SNEAD GOLF & COUNTRY CLUB
20 TOMOKA OAKS BOULEVARD
ORMOND BEACH, FLORIDA 32174

SLIGER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS
3921 NOVA ROAD
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LICENSED BUSINESS CERTIFICATION NUMBER 3019

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TO: EJTS HOLDINGS, LLC, A FLORIDA LIMITED LIABILITY COMPANY; TRIUMPH OAKS OF ORMOND BEACH 1, LLC, A FLORIDA LIMITED LIABILITY COMPANY; AND FIRST AMERICAN TITLE INSURANCE COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 7, 7(b)(1), 7(b)(2), 8, 11(b), 14, 18, AND 19 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON APRIL 13, 2021. DATE OF PLAT OR MAP: APRIL 15, 2021

J.E. ZAPERT P.L.S. NO. 4046 SEAL

SEE SHEET 1 FOR CERTIFICATIONS

ATTACHMENT 4

Applicant provided information

- Project Narrative, dated June 7, 2023
- Tomoka Reserve Buffer Planting and Maintenance Plan, dated June 6, 2023
- Tomoka Reserve density study
- Bicycle & Pedestrian Analysis, dated December 19, 2022
- Biological Assessment and Environmental Site Assessment, dated August 12, 2021
- Holding Analysis, December 19, 2022

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June 7, 2023

VIA ELECTRONIC DELIVERY

Steven Spraker, AICP
Planning Director
City of Ormond Beach
22 South Beach Street, Room 104
Ormond Beach, FL 32174

Re: Tomoka Reserve Redevelopment - Rezoning/Planned Residential Development – Project Narrative

Dear Steven:

As you know, it is the Firm's pleasure to represent Triumph Oaks of Ormond Beach I, LLC (the "Applicant") with respect to the redevelopment and rezoning to Planned Residential Development of the property comprising the former Tomoka Oaks Golf Course. The proposed redevelopment of the site will rejuvenate the vacant golf course into residential homes that will complement the caliber of existing homes in the vicinity of the former golf course and provide additional housing opportunities to residents.

This project aims to redevelop the underutilized property, which was formerly a failed golf course, by providing a residential development that will promote growth and economic investment within the area. In designing the proposed redevelopment plan, the Applicant took great measures to ensure that project would complement the surrounding area and integrate with the surrounding residential neighborhood. The proposed development plan is comprised of a maximum of 276 residential units contained within the approximately 147 acres of land. The proposed unit count equates to a maximum density of 1.87 units/acre. The existing Tomoka Oaks neighborhood is comprised of 546 single family residential units across approximately 260 inclusive acres, for an average density of 2.09 units/acre. If the existing Escondido Condominiums are also included, comprising 40 units over 4.01 acres, the density of the existing neighborhood has a density of 2.21 units/acre. The proposed residential development was intentionally limited to ensure compatibility with the existing home sites surrounding the property. The proposed density is also well beneath the maximum density set forth in the City's Comprehensive Plan for Low Density Residential land uses, which provides for up to 4.3 units/acre, which would translate to 632 dwelling units.

The Applicant also understands the importance of both preserving landscaping within the site and providing adequate buffering between the proposed and existing residential uses. The Applicant has made all efforts possible to preserve the 16 historic trees within the property. The conceptual plan provided to the City illustrates a development pattern that will preserve all historic trees within the site, and meet all City requirements for preservation and mitigation of specimen trees. In the areas of the site abutting existing residential homes, the City's LDC provisions would require a six (6) foot landscaped area between uses. The Applicant has suggested that a minimum buffer of fifty (50) feet, planted to a Type 4 buffer under the City's LDC, is appropriate between the two residential developments. The current conceptual layout includes the provision of a minimum fifty (50) foot, and average one hundred twenty-nine (129) foot green area abutting existing residential uses. The project exceeds the required natural preservation area required by the City.

Design of the project is intended to promote a residential neighborhood featuring a variety of aesthetically pleasing home types and designs, in order to promote a diverse, architecturally rich neighborhood that will complement the existing variety demonstrated in the Tomoka Oaks neighborhood. The proposed development, located centrally to existing homes, is intended to promote pedestrian pathways throughout the neighborhood's sidewalk network that will provide additional opportunities for residents to walk and bike through the neighborhood, including the voluntary installation of a sidewalk network along one side of public roadways within the project that will provide a safe area for walking, exercise, and biking. The project will also include amenity areas for residents and pocket parks located throughout the property to ensure adequate recreational areas and green space. The project design also includes the extension of the sidewalk network out to Nova Road, and accommodation of space within the site to accommodate City reuse needs.

The property does not contain any wetland systems, and will be benefitted through the addition of stormwater treatment features, as outlined herein. Development of the property includes the design and use of modern stormwater treatment systems, which will facilitate the removal of phosphorus and nitrogen travelling into the Tomoka River, which is an impaired water body. Redeveloping the site through the use of dry ponds with existing vegetation will help promote the intake and filtration of stormwater and runoff from the property by retaining the water for treatment prior to its outflow into the river. The site is currently designed to store all water from a 25 year, 24-hour storm event without discharge, exceeding state and local requirements.

Redevelopment of the site for residential uses will also remediate environmental impacts from the property's former use as a golf course, which can result in impacts to soil from the abundant application of pesticides and fertilizers. Redevelopment of the site will be in accordance with a Soil Management Plan reviewed and approved by the Florida Department of Environmental Protection.

In addition to these benefits, the proposed project also promotes the following goals and objectives of the City's Comprehensive Plan:

POLICY 1.1.2. Continue to promote sound planning for the location and design of new residential developments including on-site common open space and recreation facilities.

Response: The proposed development will include the provision of a pedestrian sidewalk network throughout the project, including the installation of an eight (8) foot wide trail, as shown on the conceptual plan along one side of public roadway within the project, that may be used by residents for walking, exercising, and biking. The proposed development also includes a central amenity area, designed to include a playground, adult recreational facilities such as pickle ball courts and exercise equipment, and outdoor seating areas.

POLICY 1.1.6. Provide the opportunity, through zoning and other land use controls, for the development of a variety of housing types (i.e., single-family, duplex, townhouse, multi-family) in both conventional, planned unit and cluster type developments, that will meet the varied needs of the citizens of Ormond Beach.

Response: The proposed development is an infill project designed to create additional housing opportunities for residents in an area where urban services are readily available. The conceptual development plan includes the provision of a mix of both lot sizes and unit types to promote compatibility with surrounding home sites on the exterior of the property and allow for a mixture of housing opportunities throughout the core of the property.

POLICY 1.1.7. Continuously review and modify development and building regulations to provide for sound residential communities and quality housing.

Response: The proposed development will be designed and constructed in accordance with the latest development and building regulations at the local and state level, to ensure that the development is comprised of residential homes of a quality and character that will promote a long-lasting, aesthetically pleasing residential neighborhood in one of the City's core areas, with a community association that will ensure continued protection of the values and aesthetics of the existing and proposed homes.

POLICY 1.1.14. Enhance community livability in the central core and older sections of the City by encouraging infill as appropriate, transit oriented development and walkable residential areas.

Response: The proposed residential development is a residential infill project that repurposes a former golf course property into a walkable, compatible residential neighborhood that complements surrounding single family homes. The proposed mulituse path within the property will promote walkability and cluster residential uses in near proximity to existing urban services. The development project includes a range of lot sizes to promote infill opportunities – as we know, the County has recently discussed the importance of flexible lot sizes to encourage infill design, and has even removed minimum lot sizes entirely within their Planned Development process.

POLICY 2.2.1. The City shall limit urban sprawl by directing urban growth to those areas where public facilities and services are available.

Response: As noted herein, the proposed project is located in an area where existing services are in place to support the development.

POLICY 2.2.5. In order to protect natural resources, new development and redevelopment shall be encouraged to infill existing developed areas

Response: The proposed residential development is a residential infill project that repurposes a former golf course property into a walkable, compatible residential neighborhood that complements surrounding single family homes. The proposed pedestrian path within the property will promote walkability and cluster residential uses in near proximity to existing urban services.

POLICY 2.4.7. Encourage cluster development which promotes the efficient use of open space and reduces development costs, in areas were services and facilities exist or are planned.

Response: The conceptual development plan includes the provision of a mix of both lot sizes and unit types to promote compatibility with surrounding home sites on the exterior of the property and allow for a mixture of housing opportunities throughout the core of the property. The clustered residential uses will allow for additional open space through the planned amenity center illustrated on the conceptual plan for the site.

POLICY 2.4.10. Direct development towards existing residential communities and planned growth areas already served by infrastructure, to utilize resources that existing neighborhoods offer, thereby conserving open space and natural resources on the urban fringe.

Response: The proposed residential development is a residential infill project that repurposes a former golf course property into a walkable, compatible residential neighborhood that complements surrounding single family homes. The proposed pedestrian path within the property will promote walkability and cluster residential uses in near proximity to existing urban services.

We recognize the importance of the standards contained in the City's Land Development Code ("LDC") and have made every commercial reasonable effort to bring forward a project consistent with the LDC. However, in this case, the project requires certain minor LDC waivers which are balanced against many significant public benefits. An outline of the requested waivers are outlined below:

Development Standards

Existing development on the property does not have an underlying zoning designation for comparison, as the former Development Agreement for the property is no longer applicable. As such, for narrative purposes, the Applicant has provided an overview of the requested development criteria in comparison to the R-2 zoning district, which makes up the zoning for the existing single

family homes in the vicinity of the property. The Applicant is modifying the development standards from the R-2 zoning district as follows:

1. Lot width: conceptual development of the property includes the provision of a minimum of 80' rear lot lines where single family homes are located directly adjacent to the proposed 50' landscape buffer, as illustrated on the conceptual plan. The Applicant is requesting the ability to provide a minimum lot width of 50' for the residential homes types located within the core areas of the property.

    a. The proposed development includes the provision of a variety of unit types to provide for a wider range of housing options with the project. The conceptual plan is set up to ensure compatibility between use types so that existing residential homes are abutting residential unit types with larger lot widths or preserved green/open areas. The smaller lot widths are intended to be located centrally to the project, in the area comprising and surrounding the former clubhouse building, where they are appropriately screened from existing residences. This approach allows the provision of housing at different size and price points to support a diversity of housing options within Ormond Beach and allows for clustering of space to allow additional green space for buffering between the existing and proposed development, and the preservation of historic trees on site.

    b. The proposed development plan has a proposed minimum lot width of 80', with lot areas that are directly equivalent to the minimum required lot size within the existing neighborhood. The proposed design creates a small transitional area between the proposed homes along the perimeter of the site and the smaller lot footprint on the interior, which is proposed at a minimum of 50'. This transitional lot width will be of a lesser impact than pre-existing neighboring uses and intensities.

    c. Included with these materials is an exhibit showing the average setbacks included between lots – the exhibit illustrates that a layout of 80' lot widths along the perimeter creates the same amount of open space, or visibility corridor, as a 100' lot width would provide, which was a concern raised by the residents. Taking into account the voluntary landscaping buffer being provided by the Applicant, the visual impact of the site, when compared between 80' and 100' lots, should not result in any decrease of open space (i.e., the proposed 80' lot width will not result in an increase in visibility of linear feet of structure, when viewed from the existing neighborhood).

2. Lot coverage: the Applicant is requesting building coverage equal to 50% of the lot area. The shift to larger indoor living areas has become the market standard as individuals spend more time within their homes, from remote working to social activities. The impervious surface area for the site remains in line with general requirements.

3. Setbacks: the Applicant has provided a custom setback table that provides details on the requested setbacks depending on the lot size and unit type to be constructed. Typical lot details are also included for review. The proposed setback matrix is intended to provide the ability to design pedestrian friendly neighborhoods utilizing front porches and other design features that enhance social wellbeing and provide for a community feeling throughout the site. Included with these materials are examples of other areas within Ormond Beach that have utilized elements of a New Urbanism design standard to create walkable, livable front yard areas while ensuring compatibility with surrounding homes.

Indoor Recreation

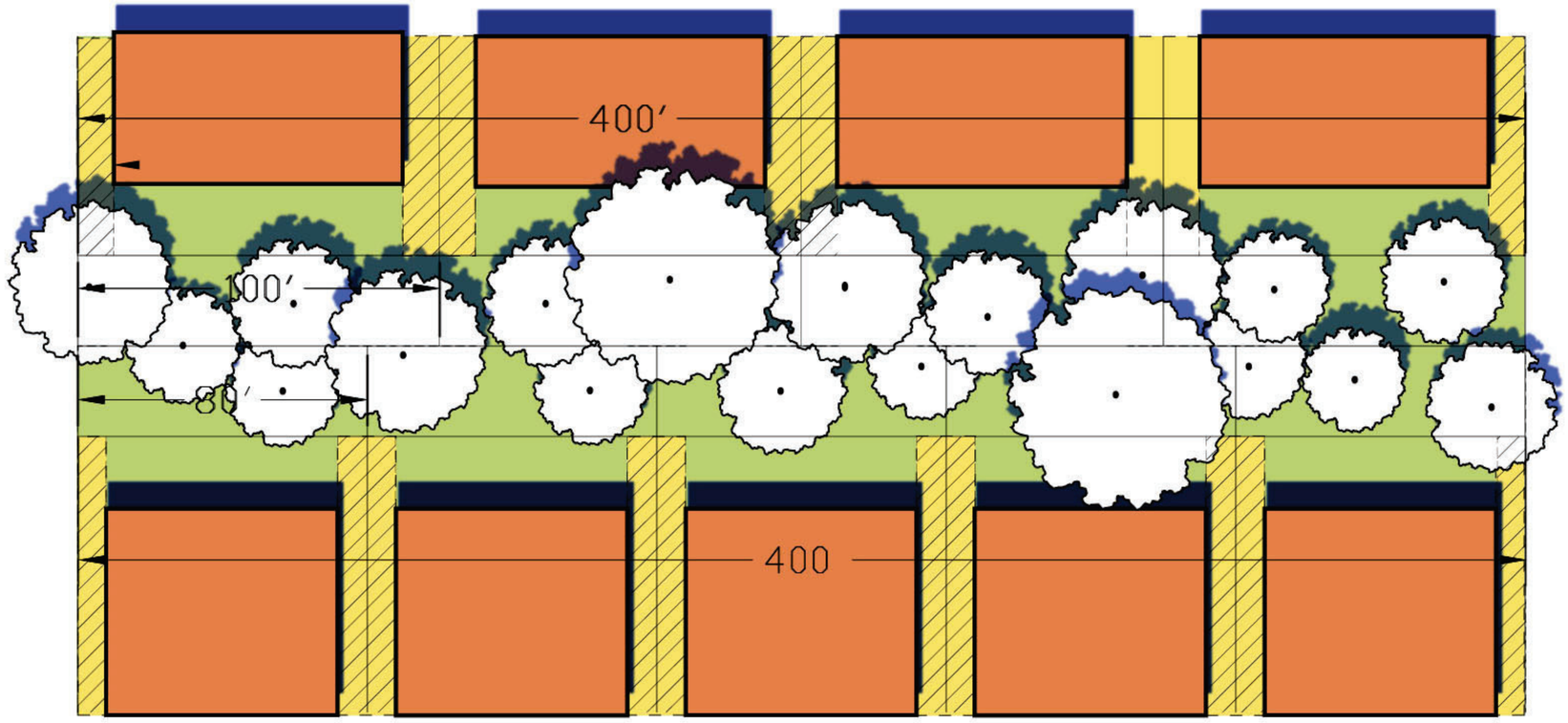
The Applicant is requesting a waiver from the requirement that indoor recreation be provided on site, so long as the square footage requirements for indoor recreation are met through additional outdoor recreational activities. Provided outdoor recreational facilities, which will comprise over 8 acres within the site, will allow for additional open space within the development and will allow for greater use of amenity areas by the existing and proposed residents.

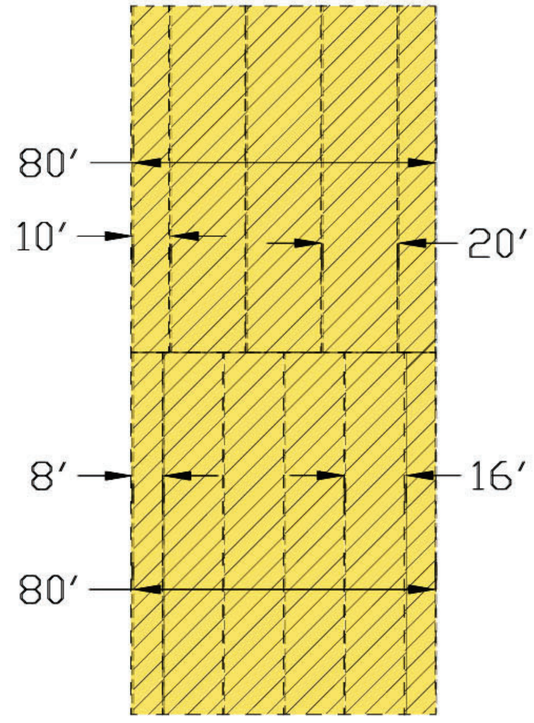
Landscaping – Voluntary Benefit

Section 3-06 of the LDC provides for an installation of a six (6) foot buffer between the existing and proposed residential uses. The Applicant is voluntarily committing to a minimum fifty (50) foot buffer between the proposed use and the existing single family homes. The Applicant is committing to the provision of a minimum of the planting requirements set forth for the Level 4 buffer type, as detailed in LDC Section 3-06(d). The Applicant is requesting that bermed areas are permitted within the landscape buffer in order to preserve existing vegetation. Due to the high permeability of the soils on site, we do not expect the runoff to remain in the proposed bermed areas for a large period of time. We are proposing a native planting regimen equivalent to a Type 4 buffer, utilizing temporary irrigation as recommended by the USGBC. The proposed natural buffer system will provide a more natural screening area between the proposed and existing residences that is intended to be left in its natural state. An overview of the landscaping proposed for the site, along with implementation, maintenance, and monitoring procedures, is included herein.

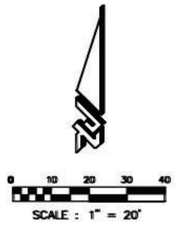
Sincerely,

Robert A. Merrell III
Direct Dial (386) 323-9263
Email Rob.Merrell@CobbCole.com
Fax (386) 323-9206





PER 400'
100' LOTS: 4 LOTS X 20' SETBACK = 80'
80' LOTS: 5 LOTS X 16' SETBACK = 80'



Tomoka Reserve Buffer Planting and Maintenance Plan

Ormond Beach, FL.
32174

Prepared for:

Triumph Oaks of Ormond Beach 1, LLC

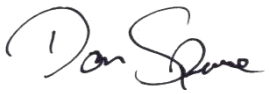
June 6, 2023

www.AyresAssociates.com

Tomoka Reserve Buffer Planting & Maintenance Plan

Ormond Beach, FL.

This report was prepared by:



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Ayres Project No. 51-0588.01

Contents

Page No.

I. Project Objectives 1
A. Title of Proposal 1
B. Location 1
C. Buffer Planting Plan and Maintenance Plan objectives 1
1. Description 1
2. Purpose and Need 1
II. Existing Conditions 1
A. Physical 1
B. Existing biotic conditions 2
III. Buffer Planting Plan 2
A. Planting plan description and design 2
B. Plant spacing 2
IV. Buffer Maintenance 3
A. Watering Schedule 3
B. Vegetation Maintenance 4

List of Appendices

Appendix A Typical Planting Layout ~ High density planting - no plants occur in front of homes ~
Appendix B Typical Planting Layout ~ Medium density planting where some buffer trees are missing ~
Appendix C Intact Buffer Enhancement ~ Shrub & bunch grass plantings where shrubs are absent ~
Appendix D Tree Planting Detail
Appendix E Shrub & Bunch Grass Planting Detail
Appendix F Native Plant List
Appendix G Soils Map

I. Project Objectives

A. Title of Proposal

Tomoka Reserve Buffer Planting and Maintenance Plan

B. Location

Tomoka Oaks Blvd., Ormond Beach, FL.

C. Buffer Planting Plan and Maintenance Plan objectives

1. Description

Tomoka Reserve is a 147.94-acre site with an approximate perimeter of 3.3 miles. As proposed, there is a 50-foot-wide vegetative buffer between the existing subdivisions and the perimeter lots in Tomoka Reserve that will be managed by the Tomoka Reserve's Homeowners Association. Today, much of the buffer contains trees and shrubs that provide screening between the existing homes and the proposed development. In areas where the buffer is sparce or where no vegetation is present, native trees, shrubs, bunch grasses, and wildflowers will be planted to enhance the native buffer.

2. Purpose and Need

The purpose of the Buffer Planting and Maintenance Plan is to describe how the buffer plants will be installed and maintained to maximize survivability. The overall objective of the buffer plantings will be to create a screen such that the existing homes and the new homes will have some level of visual screening so that each resident will have an obstructive view of the other.

The Tomoka Reserve development team is committed to keeping the ecology of the current buffer in place and increasing its integrity and diversity by using native vegetation. The existing and enhanced vegetative screen will also function as a resident and migratory bird refuge and provide habitat for small mammals and turtles. With our commitment to using a wide variety of native species, we will be increasing the biodiversity of this already important plant community.

Another important aspect of using native plants is their ability to tolerate drought once they are established. By using regionally appropriate species, we will also be removing the need for an in-ground irrigation system that would draw large volumes of water out of the aquifer. Using drought tolerant species also allows us to avoid digging irrigation trenches through the site, which would further damage the ecology of the buffer and potentially have negatively impact on nesting birds, damage gopher tortoise burrows, and disrupt small mammal habitat.

II. Existing Conditions

A. Physical

The physical ecology of this area is dominated by well drained soils, Appendix G. The entirety of the site, including the 50-foot buffer, is comprised of well-draining sandy soils such that there will be no long-term standing water. The topography of the site has gentile slopes where the eastern portion of the site is higher than the north, south, and western areas. There are no physical barriers present that would prohibit us from enhancing that existing vegetative buffer.

B. Existing biotic conditions

A tree survey was conducted in 2021 that determined that there are 1,971 trees on site that are made up of 21 species of trees. The site is also home to a wide variety of insects, reptiles, amphibians, and small mammals, all of which will benefit from the installation of more native trees, shrubs, grasses, and wildflowers. Around the entire site, approximately 70% of the 50-foot buffer has trees and shrubs that act as a visual screen. However, in many places beneath the canopy there are gaps in the understory that lack shrub screening.

III. Buffer Planting Plan

A. Planting plan description and design

In areas where we will plant trees and shrubs, we will follow the best management practices out lined in the American National Standards Institute (ANSI) 300 part 6 and Z60.1, and where the planting will follow the directions provided in Appendices D & E, Tree and Shrub Planting Details. The buffer design was created by a landscape designer that specialized in native plants (Appendix F) and approved by a landscape architect. For large trees, we will use plant material that has a minimum caliper of 2.5 inches and are between ten and twelve feet tall. Medium trees will be between six and eight feet tall and shrubs will range from one and a half to two feet tall.

In areas where there are no trees in the buffer, L-101 illustrates what the High Density buffer planting (Appendix A) will look like. Seven native trees will be placed 15 feet apart in a 20-foot wide strip that will be located in the center of the buffer. For the High Density areas, we will plant 3 large and 4 medium sized trees for each 100 linear foot area. The High Density area will also contain 30 shrubs and bunch grasses that will be evenly placed in front of the trees such they receive enough sunlight. Shrubs and bunch grasses will be spaced 3 feet apart.

Where there are vegetative gaps in the buffer, we have designed a Medium Density planting (Appendix B) arrangement that can be found on L-102. Where there are vegetative gaps, combinations of trees and shrubs will be used which will be determined by the size of the vegetative gap. For each 20-foot gap, we will use one large and one medium sized tree along with 10 shrubs and bunch grasses.

In areas where the tree line in the buffer is intact, we will target areas where the understory shrubs are absent and then add a mixture of shrubs and bunch grasses that will be planted three feet apart in the buffer gap, L-103 illustrates what the planting will resemble.

To install the trees, we will cut out a 4-foot diameter circle for each tree and we will remove a 2-foot diameter circle for each shrub and bunch grass. Once the plants are installed and watered, a ring of mulch will be placed around each tree, shrub, and bunch grass to aid in water-holding capacity of the soil. In addition, we will broadcast wildflower seeds in select areas associated with the buffer plantings. This will be a passive approach to increasing biodiversity with the intent of having native wildflowers eventually re-seed themselves each year.

B. Plant spacing

Trees and shrubs will be installed following the best management practices out lined in the American National Standards Institute (ANSI) 300 part 6 and Z60.1, Appendix D. Trees will be installed no closer than 15 feet on-center. Shrubs and bunch grasses will be spaced no closer than 3-feet on center, see Appendix E.

IV. Buffer Maintenance

Plants will be monitored and watered on a regular schedule, which is being developed by Don Spence, Ph.D., Board Certified Master Arborist. Over the short term, we anticipate a regular watering schedule that will require plants to be watered multiple times over a seven-day period. Over the long term, we have developed a watering plant that will span 26 weeks. Based on the recommendations from the arborist, we will extend watering if he determines it is needed for the plants to survive. Watering will be accomplished with a large water tank on a truck such that each plant will receive water by a person that will be able to confirm that enough water is provided. Since there are many species of wildlife that live in the buffer, we will not be installing above or below ground irrigation since the process of digging and trenching could displace, or harm protected species/existing flora.

Trees and shrubs will be inspected at a regular interval to assess their health and level of establishment. If trees or shrubs die during the watering period, they will be replaced following the guidelines in III.A. A key component to the success of the plantings will be to maintain soil moisture. To achieve maximum soil moisture, we will not remove large swaths of turfgrass; we will only remove enough grass to install the plant material and space to place a ring of mulch around the base of the trees, shrubs, and bunch grasses. If we were to remove all the grass in a planting area, the heat of the day will evaporate the latent moisture in the soil, further stressing the new plant material. We will only use native plants that are indigenous to east central Florida and are commonly found in Ormond Beach, Appendix F.

A. Watering Schedule

A watering schedule has been developed and provided below. Each watering event will be accomplished through the use of a truck and hand watering to ensure that each plant receives adequate water. If heavy rain events occur, the watering schedule will be modified so we are not over-watering or wasting water. The objective of each watering event will be to provide approximately 3 gallons of water to each tree through Phase II and then 2 gallons during Phase III. Shrubs and bunch grasses will be given approximately 2 gallons of water through Phase II and 1 gallon of water during Phase III.

Buffer Tree, Shrub, and Bunch Grass Watering Schedule

Plant Material Watering will span six-months (26 weeks)

Phase I – Water 5 times per week, once a day for **five weeks** if plants are installed in the fall and winter (water twice a day if plants are installed between May and September) and monitor plant establishment.
– Monday, Tuesday, Wednesday, Friday, & Saturday

Phase II – Water 3 times per week for **ten weeks** and monitor plant establishment.
– Monday, Wednesday, & Friday

Phase III – Water 2 times per week for **11 weeks** and monitor plant establishment.
– Monday & Thursday

* Watering frequency and volume of water may be adjusted depending on how well plants are becoming established, which will be determined by the arborist.

B. Vegetation Maintenance

The most important aspect of maintaining the newly installed trees, shrubs, and bunch grasses will be managing grass and weeds around the plants. Most of the buffer has an intact tree canopy and sparce ground cover due to the shade. Maintenance in areas where there is shade, maintenance will be less intense and will revolve around removing grass and weeds that are outcompeting the new plants. Most of the maintenance work will be accomplished through hand-pulling weeds and spraying the weeds with a mixture of vinegar, salt, soap, and water.

In areas where the buffer is largely absent, grass and weeds are prevalent. Due to the spacing between trees, shrubs, and bunch grasses, we will use a lawn mower to suppress the grass and weeds to limit competition. When necessary, we will use the vinegar solution to kill grasses and weeds that are encroaching into the plant material along with hand-pulling when necessary.

Appendix A

Typical Planting Layout

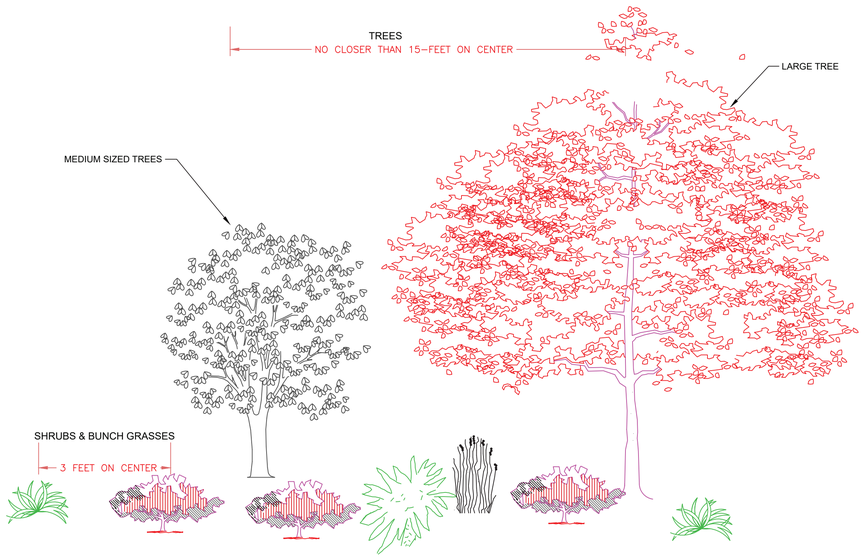
~ High density planting - no plants occur in front of homes ~

HIGH DENSITY BUFFER PLANTING - NO TREES PRESENT IN THE BUFFER

7 TREES AND 30 SHRUBS & GRASSES PER 100 LINEAR FEET. **HIGH DENSITY PLANTINGS** WILL OCCUR WHERE THERE IS LESS THAN 10% VEGETATIVE COVER IN FRONT PRIVATE PROPERTY.

- WITHIN THE 100-FOOT AREA, TREES WILL BE PLACED APPROXIMATELY 15-FEET APART WHILE SHRUBS AND BUNCH GRASS WILL BE PLACED APPROXIMATELY 3-FEET APART.
- FOR EACH 100-FOOT PLANTING AREA, THE PLANTING PATTERN WILL BE AS FOLLOWS:

  MED TREE - LG TREE - MED TREE - LG TREE - MED TREE - LG TREE - MED TREE
- FOR EACH 100-FOOT PLANTING AREA, SHRUBS & GRASSES WILL BE EVENLY SPACED.

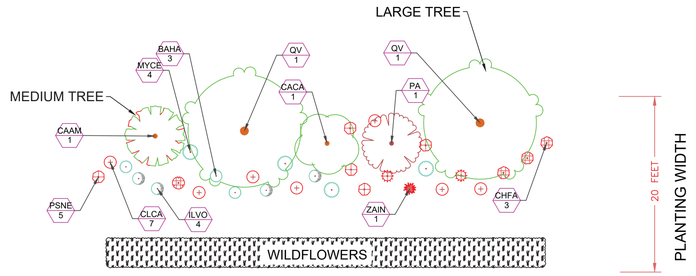


ELEVATION (FRONT) VIEW OF PLANTING - MEDIUM DENSITY PLANTING

TREE, SHRUB, AND GROUND COVER SPECIES WILL CONSIST OF A MIXTURE OF SPECIES TO INCREASE BIODIVERSITY. FOR TREES, EACH PLANTING AREA WILL CONSIST OF THREE DIFFERENT SPECIES. FOR SHRUB AND GROUND COVER AREAS, NO MORE THAN 20% OF THE TOTAL PLANTS FOR THAT BUFFER PLANTING WILL BE THE SAME SPECIES.

POTENTIAL MEDIUM DENSITY PLANTING ARRANGEMENT

TREE AND SHRUB PLANTINGS WILL BE CONCENTRATED ON THE AREAS WHERE EXISTING NATURAL VEGETATION DOES NOT EXIST.



PLAN VIEW - HIGH DENSITY PLANTING, NO TREES IN THE BUFFER

100-FEET

CLIENT:
Tomoka Reserve
30 Tomoka Oaks Blvd.
Ormond Beach, FL.

PROJECT:
Buffer Planting plan

LOCATION:
30 Tomoka Oaks Blvd.
Ormond Beach, FL.

CONSULTANT:
AYRES
PLANNING AND DEVELOPMENT
Tampa Office
8875 Hidden River Pkwy, Suite 200
Tampa, Florida, 33637-1035 (813) 978-8688
Eau Claire Office
3433 Oakwood Hills Pkwy
Eau Claire, Wisconsin, 54701 (715) 884-3161

REVISIONS DATE

DESIGNED BY: Don Spence, Ph.D.
DRAWN BY: Don Spence, Ph.D.
DATE: 09-16-2022

PROJECT NUMBER:

SHEET TITLE:
HIGH DENSITY BUFFER LAYOUT ELEVATION VIEW

SHEET NUMBER:
L-101

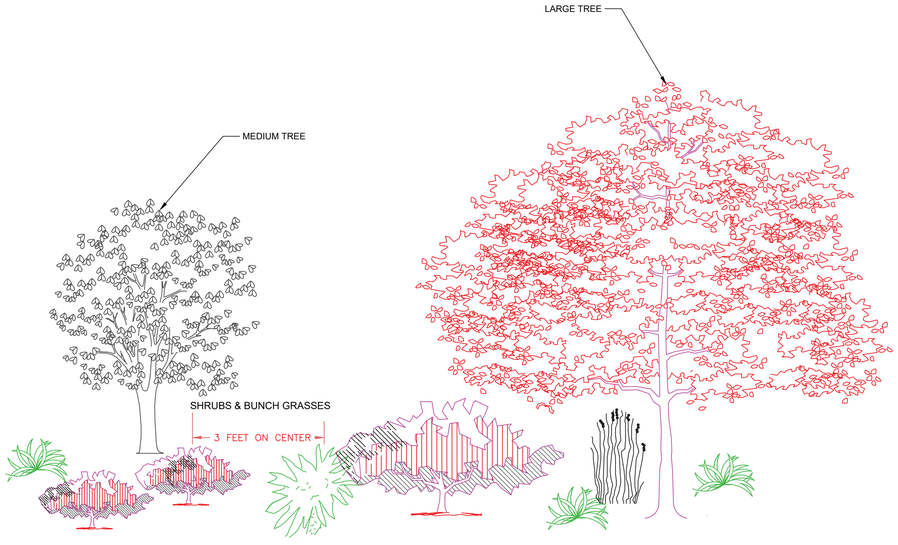
Appendix B

Typical Planting Layout

~ Medium density planting where some buffer trees are missing ~

MEDIUM DENSITY BUFFER PLANTING - TREES ARE PRESENT IN THE BUFFER

WITHIN THE TREE/BUFFER GAPS, TREES, SHRUBS, AND BUNCH GRASSES WILL BE USED IN GROUPINGS OF ONE LARGE TREE, ONE MEDIUM TREE, AND TEN SHRUBS FOR EACH 20-FOOT GAP, OR FRACTION THEREOF FOR EVERY 100-FOOT SECTION.

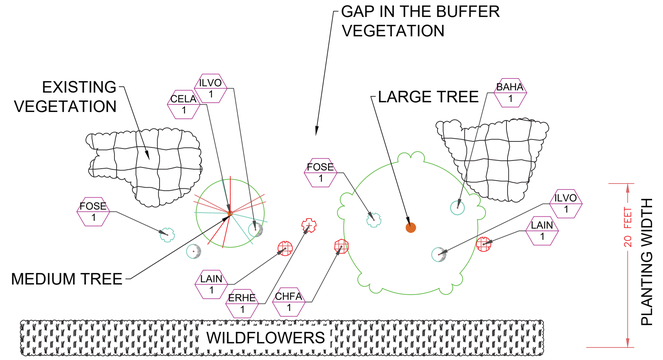


ELEVATION (FRONT) VIEW OF PLANTING - MEDIUM DENSITY PLANTING

TREE, SHRUB, AND GROUND COVER SPECIES WILL CONSIST OF A MIXTURE OF SPECIES TO INCREASE BIODIVERSITY. FOR TREES, EACH PLANTING AREA WILL CONSIST OF THREE DIFFERENT SPECIES. FOR SHRUB AND GROUND COVER AREAS, NO MORE THAN 20% OF THE TOTAL PLANTS FOR THAT BUFFER PLANTING WILL BE THE SAME SPECIES.

POTENTIAL MEDIUM DENSITY PLANTING ARRANGEMENT

TREE AND SHRUB PLANTINGS WILL BE CONCENTRATED ON THE AREAS WHERE EXISTING NATURAL VEGETATION DOES NOT EXIST.



PLAN VIEW - MEDIUM / LOW DENSITY PLANTING, WHERE GAPS OCCUR IN THE BUFFER

CLIENT:

Tomoka Reserve

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

PROJECT:

Buffer Planting plan

LOCATION:

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

CONSULTANT:

AYRES
PLANNING AND DEVELOPMENT

Tampa Office
8875 Hidden River Pkwy, Suite 200
Tampa, Florida, 33637-1035 (813) 978-8688

Eau Claire Office
3433 Oakwood Hills Pkwy
Eau Claire, Wisconsin, 54701 (715) 884-3161

REVISIONS DATE

DESIGNED BY: Don Spence, Ph.D.

DRAWN BY: Don Spence, Ph.D.

DATE: 09-16-2022

PROJECT NUMBER:

SHEET TITLE:

MEDIUM/LOW DENSITY BUFFER LAYOUT

SHEET NUMBER:

L-102

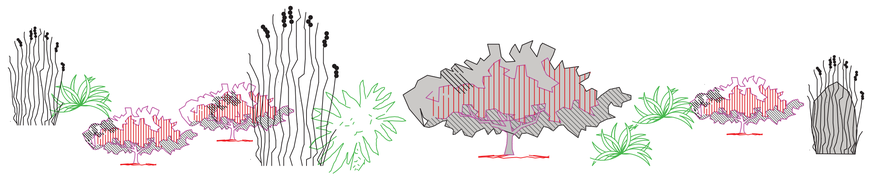
Appendix C

Intact Buffer Enhancement

~ Shrub & bunch grass plantings where shrubs are absent ~

BUFFER PLANTING WHEN TREES ARE PRESENT IN THE BUFFER - UNDERSTORY GAPS

WHEN 7 OR MORE TREES EXIST IN A CONTINUOUS LIINE OVER A 100 FOOT SECTION, ONLY SHRUBS, AND BUNCH GRASSES WILL BE USED WHEN UNDERSTORY GAPS OCCUR.

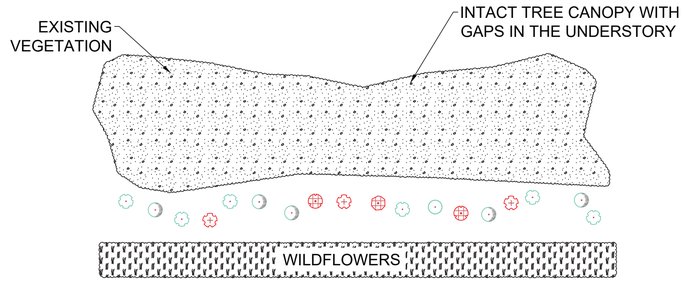


ELEVATION (FRONT) VIEW OF PLANTING - SHRUBS & GRASSES PLANTING

TREE, SHRUB, AND GROUND COVER SPECIES WILL CONSIST OF A MIXTURE OF SPECIES TO INCREASE BIODIVERSITY. FOR TREES, EACH PLANTING AREA WILL CONSIST OF THREE DIFFERENT SPECIES. FOR SHRUB AND GROUND COVER AREAS, NO MORE THAN 20% OF THE TOTAL PLANTS FOR THAT BUFFER PLANTING WILL BE THE SAME SPECIES.

POTENTIAL MEDIUM DENSITY PLANTING ARRANGEMENT

TREE AND SHRUB PLANTINGS WILL BE CONCENTRATED ON THE AREAS WHERE EXISTING NATURAL VEGETATION DOES NOT EXIST.



100--FEET

CLIENT:

Tomoka Reserve

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

PROJECT:

Buffer Planting plan

LOCATION:

30 Tomoka Oaks Blvd.
Ormond Beach, FL.

CONSULTANT:

AYRES
PLANNING AND DEVELOPMENT

Tampa Office
8875 Hidden River Pkwy, Suite 200
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Eau Claire Office
3433 Oakwood Hills Pkwy
Eau Claire, Wisconsin, 54701 (715) 884-3161

REVISIONS DATE

DESIGNED BY: Don Spence, Ph.D.

DRAWN BY: Don Spence, Ph.D.

DATE: 09-16-2022

PROJECT NUMBER:

SHEET TITLE:

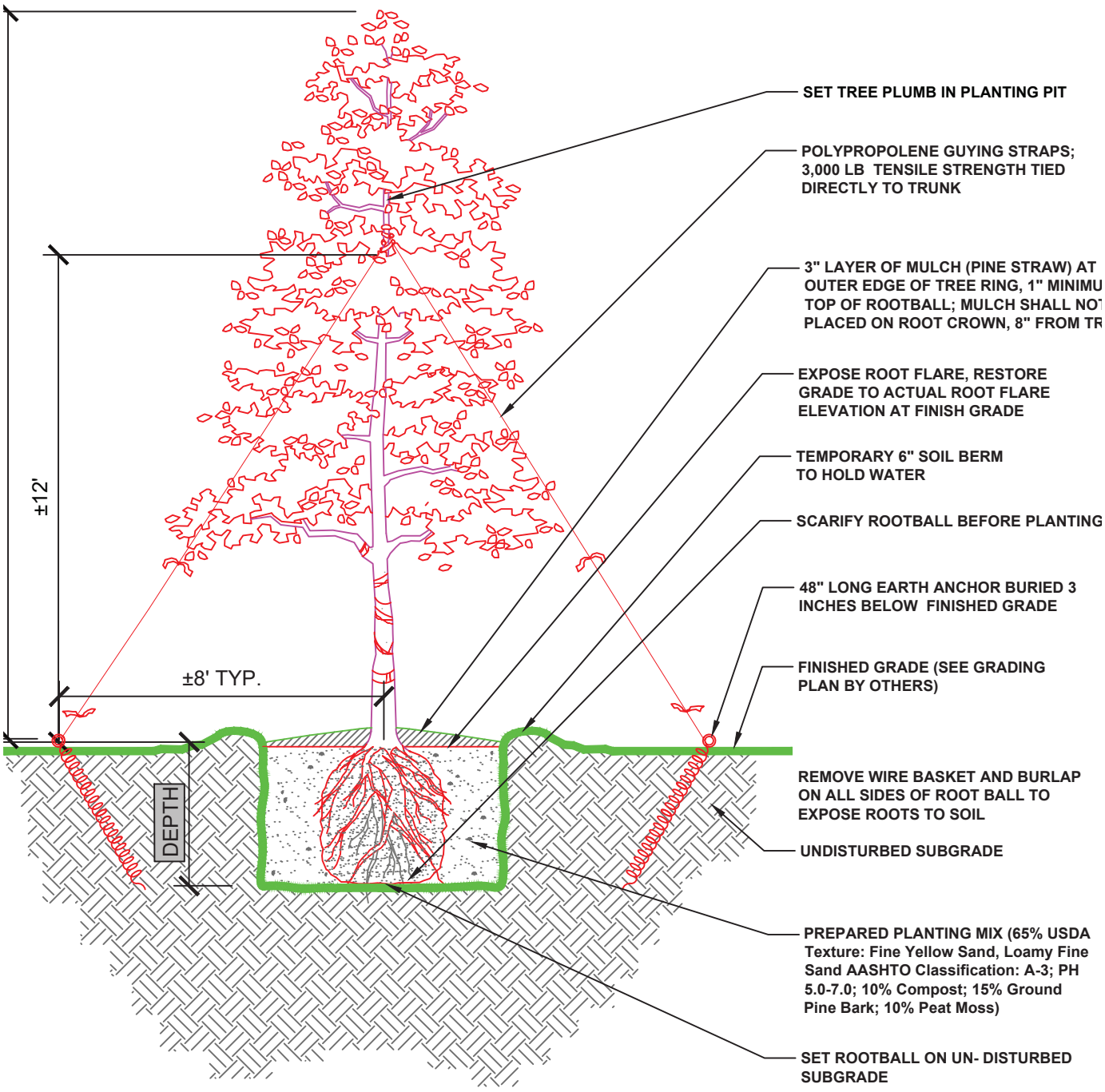
INTACT BUFFER ENHANCEMENT LAYOUT

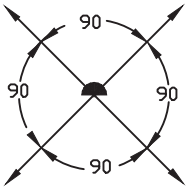
SHEET NUMBER:

L-103

Appendix D

Tree Planting Detail





STAKING DIAGRAM
PLAN VIEW

NOTES:

1. ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION. SEE LANDSCAPE NOTES ON SEPARATE SHEET.
2. WATERING REQUIREMENTS ARE DIFFERRENT FOR EACH TREE SPECIES AND SOIL CONDITION. CONSULT AN ARBORIST AS TO THE APPROPRIATE WATER REGIMEN.
3. DISCARD SUBGRADE REMOVED FROM PLANTING PIT AND REPLACE WITH PREPARED SOIL MIX, PER SPECIFICATIONS. PLACE NEW SOIL MIX AROUND ROOTBALL IN SIX-INCH LAYERS, FIRMLY TAMPING AND WATERING EACH LAYER UNTIL THE PLANTING PIT IS FILLED TO FINISHED GRADE LEVEL.
4. TREES UNDER 3 INCH CALIPER DO NOT REQUIRE TO BE GUYED; HOWEVER CONTRACTOR IS RESPONSIBLE TO ENSURE TREES DO NOT BLOW OVER DURING MAINTENANCE PERIOD.

NOTES FOR ALL PLANTINGS:

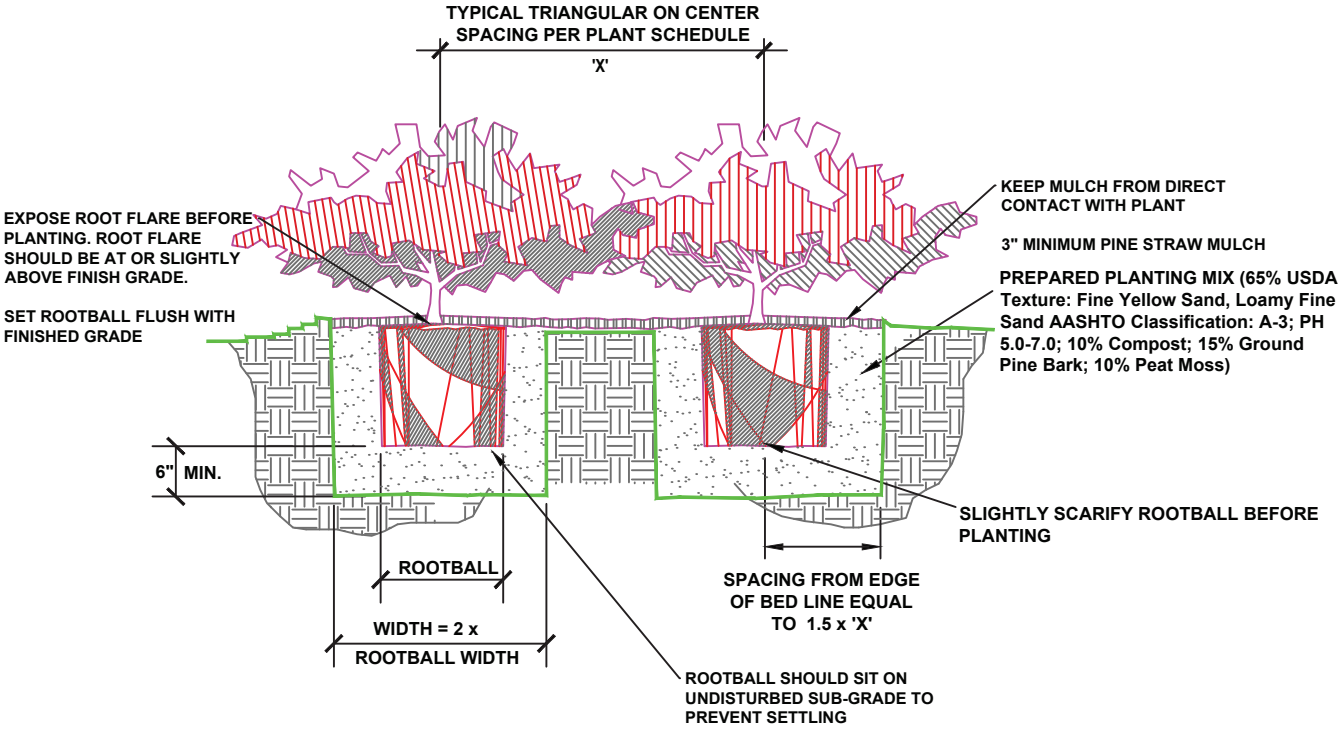
1. DO NOT MOUND OR INSTALL MULCH AGAINST THE TRUNK OR STEM OF TREES AND SHRUBS OR THE CROWN OF PERENNIALS AND GROUNDCOVERS. THERE SHOULD BE FREE AND OPEN AIR CIRCULATION AROUND THE TRUNK OF THE PLANT AND THE GROUND IN THE IMMEDIATE AREA AT THE BASE OF THE TRUNK.
2. CONTRACTOR TO REMOVE ALL WIRE BASKETS AND BURLAP FROM B&B PLANTS LEAVING ONLY THE FABRIC AND WIRE ON THE VERY BOTTOM OF BALL IF IMPOSSIBLE TO REMOVE.

LARGE TREE PLANTING & GUYING DETAIL

N.T.S.

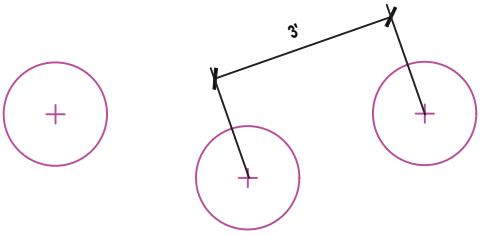
Appendix E

Shrub & Bunch Grass Planting Detail



NOTES:

1. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING BEDS / PITS PRIOR TO INSTALLATION.
2. PLACE A 6 INCH SOIL BERM TO HOLD WATER.



ALL SHRUBS & GROUNDCOVER MASSES TO USE TRIANGULAR SPACING EXCEPT WHERE NOTED. REFER TO PLANT SCHEDULE FOR INDIVIDUAL PLANT SPACING FOR A MINIMUM DISTANCE OF 24-INCHES.

TYPICAL SHRUB SPACING DETAIL

N.T.S.

Appendix F

Native Plant List

Tomoka Reserve Buffer Planting List

TREES			
Scientific name	Common name	Growth habit (height & width) ft	Comments Habit & Size
Cartrema americana	American olive	25’ x 15’	Evergreen – Medium
Carpinus caroliniana	American hornbeam	25’ x 15’	Evergreen – Medium
Carya glabra	Hickory	80’ x 35’	Deciduous – Large
Celtis laevigata	Hackberry/sugarberry	60’ x 50’	Deciduous – Large
Cercis canadensis	Redbud	30’ x 30’	Deciduous – Medium
Ilex x attenuata	Savannah holly	30’ x 15’	Evergreen – Medium
Ilex opaca	American holly	10’ x 15’	Evergreen – Medium
Magnolia grandiflora	Southern magnolia	80’ x 40’	Evergreen – Large
Juniperus virginiana	Red cedar	60’ x 30’	Evergreen – Large
Prunus angustifolia	Chickasaw plum	20’ x 20’	Deciduous – Medium
Quercus austrina	Bluff oak	40’ x 30’	Deciduous – Medium
Quercus geminate	Sand live oak	40’ x 80’	Evergreen – Large
Quercus chapmanii	Chapman’s oak	10’ x 10’	Evergreen – Medium
Quercus virginiana	Live oak	80’ x 150’	Evergreen – Large
SHRUBS			
Forestiera segregata	Florida privet	15’ x 8’	Evergreen
Ilex vomitoria	Yaupon holly	15’ x 10’	Evergreen
Lantana involucrata	Buttonsage	2.5’ x 4’	Evergreen
Myrcianthes fragrans	Simpson’s stopper	20’ x 10’	Evergreen
Myrica cerifera	Wax myrtle	20’ x 20’	Evergreen
Psychotria nervosa	Wild coffee	3’ x 4’	Evergreen
Serenoa repens	Saw palmetto	20’ x 10’	Evergreen
GRASSES			
Muhlenbergia capillaris	Muhly grass	3’ x 3’	Evergreen
Spartina bakeri	Smooth cordgrass	3’ x 4’	Evergreen
Tripsacum dactyloides	Fakahatchee grass	5’ x 6’	Evergreen
WILDFLOWERS			
Baptisia albescens	Spiked wild indigo		Perennial
Coreopsis lanceolarta	Tickseed		Perennial
Coreopsis tinctoria	Plains coreopsis		Perennial
Galliardia pulchella	Blanket flower		Annual
Helianthus debilis	Beach sunflower		Biennial
Salvia coccinea	Scarlet Sage		Perennial
Solidago altissima	Tall goldenrod		Perennial
Solidago sempervirens	Seaside goldenrod		Perennial

All plants listed are species native to Florida and commonly found in Voluisa County.

Appendix G

Soils Map

Map Scale: 1:8,890 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 400 800 1600 2400

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Arents	5.5	1.3%
4	Astatula fine sand, 0 to 8 percent slopes	15.7	3.7%
11	Bulow sand, 0 to 5 percent slopes	46.8	11.1%
22	Electra fine sand, 0 to 5 percent slopes	6.8	1.6%
42	Paola fine sand, 0 to 8 percent slopes	56.1	13.3%
47	Pits	1.4	0.3%
54	Quartzipsamments, gently sloping	262.8	62.3%
65	Terra Ceia muck, frequently ponded, 0 to 1 percent slopes	4.9	1.2%
67	Turnbull muck	10.4	2.5%
69	Tuscawilla fine sand, 0 to 2 percent slopes	3.0	0.7%
99	Water	8.9	2.1%
Totals for Area of Interest		**422.2**	**100.0%**

ZONING SCHEDULE

SYMBOL	NOTES	ACRES
	Pocket Park	0.81
	Existing Roadway	46.28

SYMBOL	NOTES	ACRES
	Existing Lot	212.98
	Escondido at Tomoka Condo	4.01
	Open Space/ Conservation	172.66

TOMOKA OAKS DENSITY STUDY

RESIDENTIAL DEVELOPMENT	NUMBER OF UNITS	AREA	DU
SINGLE FAMILY	546	260.0700	2.0900
MULTI-FAMILY	40	4.0100	9.9700
TOTAL	586	264.0800	2.2100

CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

(EB 4516) (LC 62)

21067 3-16-2023

TOMOKA RESERVE DENSITY STUDY

CITY OF ORMOND BEACH VOLUSIA COUNTY

ZEV COHEN & ASSOCIATES, INC.
300 INTERCHANGE BLVD., STE. C
ORMOND BEACH, FL 32174
WWW.ZEVCOHEN.COM

ZEVCOHEN & ASSOCIATES INC

300 Interchange Blvd., Suite C
Ormond Beach, FL 32174
386-677-2482 • Fax: 386-677-2505
www.ZevCohen.com

To: Steven Spraker, AICP
Planning Director

From: Mark P, Karet, AICP
Direct of Planning and Landscape Architecture

Date: 12-19-22

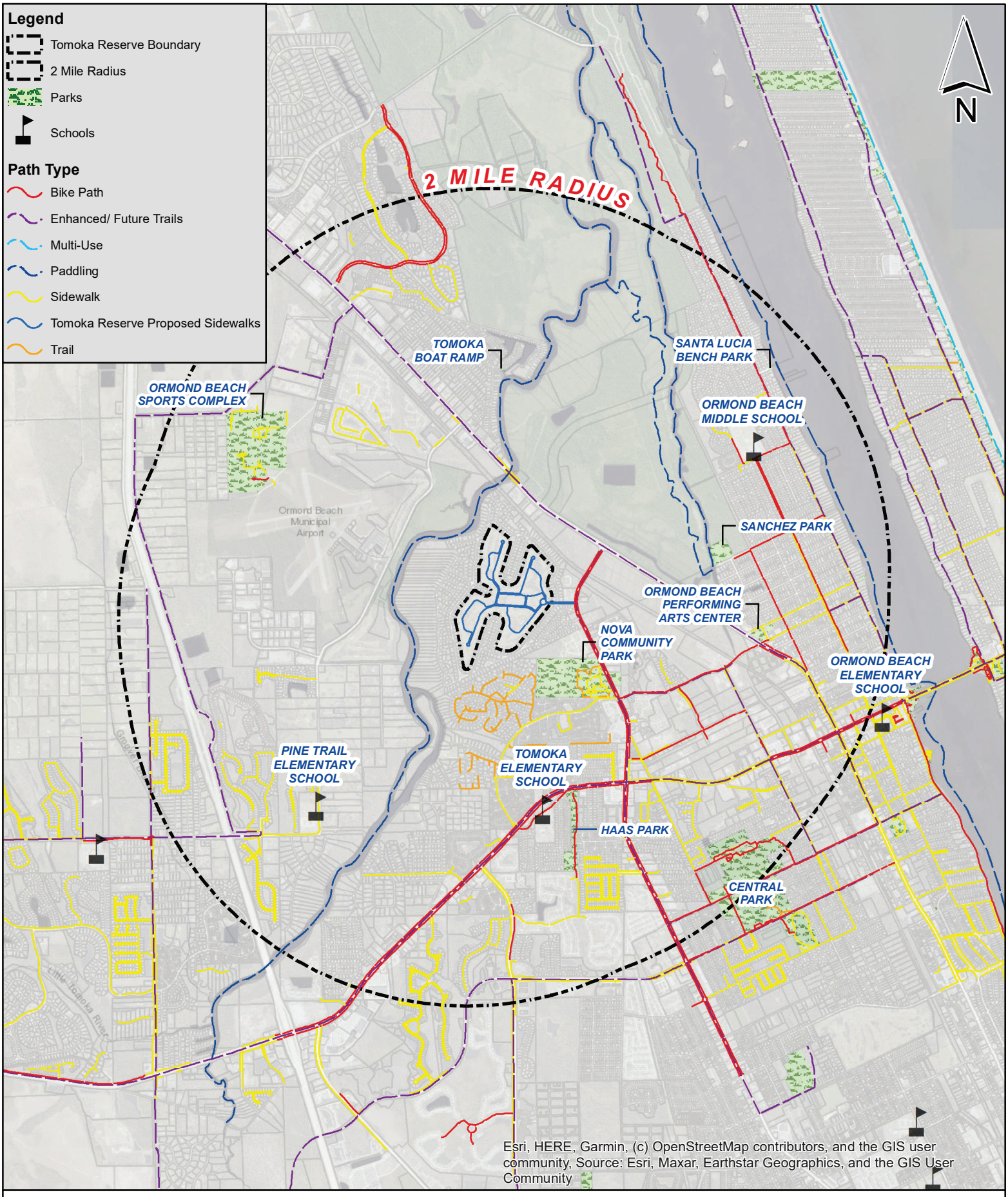
Subject: Bicycle & Pedestrian Analysis
Tomoka Reserve ZCA 21067

Tomoka Reserve is located west of the Nova Road/Tomoka Oaks Boulevard intersection in Ormond Beach. The proposed project consists of 300 single-family residences on the former site of the now closed Tomoka Oaks Golf Course. This one of the few remaining locations within the heart of Ormond Beach that can provide new residents with easy access to active transportation modes.

As new infill development within the Tomoka Oaks County Club Estates, Tomoka Reserve will feature sidewalks on both sides of its internal streets. The developer will install sidewalks along Tomoka Oaks Boulevard for the first time that will connect Tomoka Reserve to the existing sidewalks in Nova Road. Once on Nova Road pedestrians have easy access to a pedestrian network that has many connections and direct and convenient routing to public parks and commercial uses with few physical barriers.

Tomoka Reserve's bicyclists will have access to the project's newly constructed slow speed surface streets and the existing ones in Tomoka Oaks. Tomoka Oaks Blvd allows bicyclists a direct connection to Nova Road. Nova Road features shared lanes with no separate areas for bicycle traffic. However to the north Nova Road connects to US 1 which has a designated bike lane. To the south, Nova Road connects to Granada Blvd which has a designated bike lane as well. Once on these two roads there is connectivity to a well-developed bicycle network that provides safe access to community parks, community centers, schools and shopping.

The attached exhibit depicting active transportation facilities and the community amenities and resources located within a 2-mile radius of Tomoka Reserve was developed using data from the City's and Volusia County's geographic information system and the City's 2016-20216 Bicycle Master Plan. The exhibit illustrates that Tomoka Reserve's location allows it to leverage connections to the City's existing and planned pedestrian and bicycle network to serve its future residents active transportation needs.



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Tomoka Reserve Connectivity Map Ormond Beach, FL

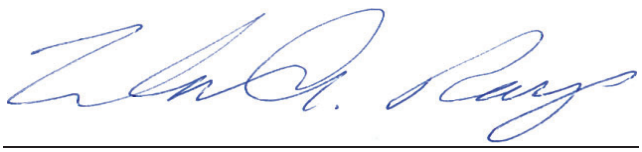
ZEVCOHEN & ASSOCIATES INC
300 Interchange Blvd
Ormond Beach, FL 32174
ph 386-677-2482

Biological Assessment
And Environmental Site Assessment

Prepared for
Triumph Oaks of Ormond Beach LLC

Prepared by
Ray and Associates
Planning and Environmental
William (Bill) A. Ray, AICP & Environmental Specialist
352-425-8881

wrayassoc@aol.com



William A. Ray, AICP, Senior Environmental Specialist

July 2nd, 2021
Update: August 12, 2021

Table of Contents

I. Project Description

II. Site Description

- A. Soils
- B. Topography
- C. Plant Communities and Florida Land Use, Cover and Forms Classification
- D. Wetlands
- E. Threatened & Endangered Species

III. Conclusion and Recommendation

EXHIBITS

1. Location
2. Site Aerial
3. Site Photos
4. Survey Transects
5. FLUCFCS
6. Soils
7. Topo
8. Wetlands
9. Bald Eagle Nest Locations
10. Volusia County Scrub Jay Habitat Maps
11. USFWS Concurrance: No Habitat / No Effect

I. Project Description

The subject 146.8$^{+/-}$ Acre Site is located in easter Volusia county in the City of Ormond Beach. The subject property is located in Section 42, Township 13 South, Range 32 East. The subject site is further identified by the Volusia County Property Appraiser as;

Parcel Number	Alt Key #	Acreage$^{+/-}$
324207000010	2998504	146.8
Total		**146.8$^{+/-}$**

(See Exhibit 1-Location Map and Exhibit 2-Site Aerial Map).

The total site area project consists of approximately 146.8$^{+/-}$ Acres. Starting in the early 1960s the lands was developed as a Golf course and country Club with surrounding residential development. The subject site is currently maintained as an inactive golf course. The area is continuing to develop in a Suburban manner.

The Landowner/Developer is currently maintaining the land as vacant urban land in accordance local regulations. The site has been altered extensively in the past. The owner is pursing development of the site for residential use.

Land Use surrounding and adjacent the project area is identified by FDEP as Medium density, 2>5 dwelling units per aces. The are no native or natural Land uses adjacent to the subject site. The project obtains primary access North Nova Road.

A "*Phase I Environmental Site Assessment"* may be completed by others. This report does not address CERCLA compliance or associated requirements.

Survey Methodology

Pedestrian Surveys were conducted based upon Transects parallel to the existing Fairways generally following a north-south orientation. Pedestrian Surveys were conducted on April 5th, 2021.

Surveys began on site in the early morning and continued to 4:00 PM. Temperature ranged from approximately 62° F to 78° F and in an acceptable range for wildlife observations. Skies were mostly clear.

The approximate location of the Pedestrian Transects can be seen on Exhibit 4.

Current photos of the Site and existing use can be seen on Exhibit 3.

II. Site Description

A. SOILS

Soil identified on site are per Volusia County Soils Report by the NRCS:

55 - Quartzipsamments, gently sloping
For a detailed report and description of these soils see Exhibit 6

B. PLANT COMMUNITETIES and FLORIDA LAND USE, COVER and FORMS CLASSIFICATION

Land use types located within the proposed Project Site were identified through a review of color aerials and site investigations. The on-site land use forms were classified using the Florida Land Use, Cover and Forms Classification System (FLUCFCS)) as defined by the Florida Department of Transportation (FDOT, 1999) and the Florida Land Use Cover Classification System (FLUCCS) as defined by the Florida Department of Environmental Protection (FDEP 2004-2011), see Exhibit 6 – FLUCCS Map.

General:
Site conditions are typical of those found in this region of Volusia County. The site was historically cleared, improved and developed as a Golf Course-Country Club. Through the process of normal Golf course maintenance various trees, shrubs and herbaceous vegetation have become established along the "rough", between fairways and property lines adjacent to neighboring residential lots.

The site is surrounded on the

East:	Medium density, 2>5 dwelling units per acre
South:	Medium density, 2>5 dwelling units per acre
West:	Medium density, 2>5 dwelling units per acre
North:	Medium density, 2>5 dwelling units per acre

The region is continuing to develop in a suburban/urban manner. There is One (1) Land Uses Cover identified on the subject site.

Based on information obtained from FDEP, field observations and aerial interpretation, the following land use classifications (FLUCCS) best describe the vegetative communities present on-site and adjacent to the subject site:

Subject site:

1. **FLUCCS – 1820, Golf course**
   Recreational areas are those areas whose physical structure indicates that active user-oriented recreation is or could be occurring within the given physical area. This category would include golf courses, parks, swimming beaches and shores, marinas, fairgrounds, etc. (Note: Swimming beaches are identifiable by such features as bath houses, picnic areas, service stands and large parking lots adjacent to the beach areas.) In order to make this recreational determination, supplemental information may often be required**.**

Surrounding and Adjacent Land Use:

1. FLUCCS – 1200: Medium density, 2>5 dwelling units per acre
This land use surrounds the subject site.

The site is located in a urbanized area of Volusia County. The biggest threat to the development of any high-quality wildlife habitat or sustainable natural ecosystem is primarily caused by fire exclusion. Vacant or Open lands become progressively less suitable for wildlife habitat as more non-fire resistant plants have established dominance over with time. In addition, the soil has been historically altered and compacted over time through management and normal site maintenance.

The subject has been uniformly established and maintained as a Golf course Bahia Grass and hybridized Bermuda grass are the dominant ground covers. Along fairway edges land external boundary occasional Oaks with limited shrubs and other vegetation typical of developed golf courses exhibit scatted dominance of the ca. The permitter property lines are well maintained and established.

Trees & Shrubs:

Trees and Shrubs comprise only 3.5 Acres or 1.7% of the Site

Live Oak	*(Q. virginiana)*,
Laurel Oak	*(Q. laurifolia)*
Red Oak	*(Q. falacata)*
Longleaf Pine	*(Pinis palustris)*
Slash Pine	*(Pinus elliottii)*
Carolina Laurel Cherry	*(Prunus caroliniana)*
Hercules Club	*(Zanthoxylum clava-herculis)*
Common Persimmon	(*Diospyros virginiana*)
Lantana	(*Lantana camara*),
Beautyberry	*(Callicarapa americana)*
Saw Palmetto	*(Serenoa repens)*

Groundcover:

A groundcover of improved golf course grasses covers the majority of the site;

Bahiagrass	(*Paspalum sp*.),
Bermudagrass	*(Cynodon sp.)*

<u>Common pasture weeds and fencelines;</u>

Centipedegrass	*(Eremochloa ophiuroides)*
Eastern Prickly Pear Cactus	*(Opuntia humifusa)*
Tickseeds	(*Coreopsis spp.*)
Smutgrass	*(Sporobolus indicus)*
Broomsedge	*(Andropogon virginicus)*
Greenbrier	(*Smilax* sp.)
Grapevine	(*Vitis* sp.),

Goldenrod	(*Solidago* sp.)
Bluestem	(*Schizachyrium sp*),
Blackberry	(*Rubus* spp.)
Dogfennel	(*Eupatorium capillifolium*)
Variable witchgrass	*(Dichanthelium commutatum),*
Hairy Indigo	(*Indigofera hirsute*)
Pusley	(*Richardia scabra* L.)
Poaceae	*(Saccharum alopecuroides*)

Non-Native / Invasive

Tropical Soda Apple	*(Solarum viarum)*
Chinaberry	(*Melia azedarach)*
Camphor	(*Cinnamomum camphora)*

This is not intended to be a 100% vegetative survey but rather provide a general acknowledgement of existing vegetation sufficient to provide a understanding of the existing site conditions.

In the natural condition for Florida, periodic fire is important in setting back plant succession and maintaining viable ecosystems. There was no evidence observed on site to indicate any periodic or previous fires.

The subject site is surrounded by existing development. The site is located in a urban area of Volusia County. The continual and consistent site management of the site and absence of periodic fires has prevented the establishment of native or natural ecosystems. The site contains no native habitat or scrub/shrub xeric plant communities.

Due to the Golf Course management of the site together with the adjacent residential lands and the fact that it is isolated from any other upland habitats, and not part of and regional upland wildlife corridor or ecosystem there is minimal ecological habitat value provided by the subject site. There are no other Land Uses associated with the subject site. The existing Land Cover is not Rare, Endangered or ecological unique to Central Florida or the Region.

C. TOPOPGRAPGY

The Topography of the subject site can be seen on Exhibit 7. Elevation on site is generally uniform sloping from the central eastern portion of the west and northwest. Information obtained from FDEP and Volusia County GIS indicates elevations between $40^{+/-}$ in the central southeast area to an elevation of approximately $15'^{+/-}$ in the northwest portion of the site.

D. WETLANDS

The subject site was evaluated for the presence of jurisdictional wetlands. General methodology detailed in Chapter 62-340 of the Florida Administrative Code and the 1987 US Army Corps of Engineers Wetland Delineation Manual was followed. Soils, Flood

Planes, Vegetation and other historical information was researched and analyzed during the site investigation.

A review FDEP and the National Wetlands Inventory (NWI) together with Volusia County's GIS data base do not indicate the presence of jurisdictional wetlands on the subject site. There are no hydric Soils identified on the subject site.
Site investigation and field evaluation identified two artificially created surface water features from upland soils, surrounded by uplands, each less than 0.5 acre and are associated with the Irrigation of the Golf course.

See Exhibit 8 for the general location of the jurisdictional wetlands within the region based upon NWI mapping.

E. THREANTEND and ENDANGERED SPECIES

A literature review as well as professional experience and knowledge of the region was utilized to identify federally, or state listed species most likely to be found within Volusia County, Florida. The Project Site was then evaluated for the presence of those listed species identified by the United States Fish and Wildlife Service (USFWS) and/or the Florida Fish and Wildlife Conservation Commission (FWC). Site reviews were conducted by a Ray and Associates biologist on April 5th to evaluate the property for potential presence of wildlife listed for protection.

The USFWS identifies the subject site as a Tier 5 Habitat. Tier 5 Habitats are those where we may have a measurable workload and little resource payoff. In the regulatory arena, these could be considered personnel "sinks". However, they may also present restoration opportunities to higher value habitats. These include:

- Agriculture
- Canal/Ditch
- Disturbed Transitional
- Urban/Developed

Based upon existing site conditions and observations the subject project does not propose development of any identified "higher value habitats" by the Florida Natural Area Inventory (FNAI) or Strategic Habitat Conservation Areas as identified by FDEP.

The observation of potential habitat for Three (3) species listed for protection, or their habitat, was identified on the subject site. These species and the results of regulatory analysis are found below.

Gopher Tortoise, *Gopherus polyphemus*

Active, Potentially Occupied and Abandoned, Gopher Tortoise burrows were observed on the project site. Gopher tortoises are a threatened wildlife species by the Florida Fish and Wildlife Conservation Commission (FWC) and are protected by state law, Chapter 68A–27, Florida Administrative Code. In accordance with the requirements of Rules

68A-25.002 and 68A-27.004 (F.A.C.), a permit for a gopher tortoise capture/relocation/release activity must be secured from FWC before initiating any relocation work. Gopher tortoises must be relocated or impacts to their burrows avoided in accordance with FWC Guidelines before any land clearing for development takes place. Property owners must obtain permits from the Florida Fish and Wildlife Conservation Commission before they can move or relocate any Gopher Tortoises.

It is recommended that 90 days prior to site development a physical survey for the Presence/Absence of Active, Inactive/Potential Occupied, or Abandoned Gopher Tortoise Borrows be completed in accordance with FWC Gopher Tortoise Guidelines. If Active or Potentially Active Gopher Tortoise Burrows are identified FWC regulations governing Gopher Tortoise protection, burrow excavation, relocation and mitigation are to be complied with.

USFWS CONSULTATION AREAS

The U.S. Fish and Wildlife Service establishes “consultation areas” for certain species listed for protection. As a general guideline consultation area only become an issue if USFWS consultation is required, which is typically associated with permitting through the U.S. Army Corps of Engineers. The is recognized that species presence and need for additional review may often determine to be unnecessary early in the permit review process due to lack of appropriate habitat or other conditions. However, the USFWS makes the final determination.

Consultation areas are typically regional in size, typically covering multiple counties where the species in question is known to exist. Consultation areas by themselves do not indicate the presence of a listed species. They only indicate an area where there is a potential for a listed species to occur and that additional review might be necessary to confirm or rule-out the presence of the species. The additional review typically includes the application of species-specific criteria to rule-out or confirm the presence of the species in question. Such criteria might consist of a simple review for critical habitat types. In other cases, the review might include the need for species-specific surveys using established methodologies that have been approved by the USFWS.

Florida Scrub-Jay (Aphelocoma coerulescens)

Currently the Florida Scrub-Jay is listed as threatened by the USFWS. The Florida scrub-jay has extremely specific habitat requirements. Florida Scrub Jays are largely restricted to scattered, often small and isolated patches of sand pine scrub, xeric oak, scrubby flatwoods, and scrubby coastal stands in peninsular Florida (Woolfenden 1978a, Fitzpatrick et al. 1991). They avoid wetlands and forests, including canopied sand pine stands. Optimal Scrub-Jay habitat is dominated by shrubby scrub, live oaks, myrtle oaks, or scrub oaks from 1 to 3 m (3 to 10 ft.) tall, covering 50% to 90 % of the area; bare ground or sparse vegetation less than 15 cm (6 in) tall covering 10% to 50% of the area; and scattered trees with no more than 20% canopy cover (Fitzpatrick et al. 1991).

No Scrub Jays were observed during the wildlife survey conducted by Ray and Associates. No suitable habitat was observed on the subject site. Uplands found on site contains a mixture of Oaks and Pines which of a size, height and density to not provide suitable habitat. The subject site is not mapped, or adjacent to areas mapped, by Volusia County as habitat potentially occupied by Shrub Jays. See Exhibit 10

As the site is in the Scrub Jay Consultation Area, a formal Scrub-Jay survey may be required by the USFWS to determine if Scrub Jays exist on the subject property. Formal surveys may be conducted between March 1 through October 31 and be conducted for five (5) consecutive days on calm, clear days about one hour after sunrise, and should terminate before midday heat or wind. Transects may be driven or walked and a broadcast of calls is required at each station for at least 1 minute in all four directions, emphasizing any direction in which low growing oak scrub is the predominant vegetation. A formal survey would also include a report detailing development implications and mitigation that will be required, in the event a presence was confirmed on the subject property.

Florida Bald Eagle, *Haliaeetus leucocephalus*

Information and data obtained by FWC was used to locate documented bald eagle nesting territories and to view their locations in map form.
(http://www.myfwc.com/eagle/eaglenests/nestlocator.aspx#search

No Bald Eagle Nest have been previously identified or documented by FWC within 1 mile of the subject site. During recent site investigations and ecological surveys, no Bald Eagle Nests were observed on or near the subject site.

The information contained within this database is current through the 2012-2013 nesting season; nests were surveyed by FWC from November 2012 to April 2013. Accuracy of the nest locations is estimated to be within 0.1 miles of the true location. Not all eagle nests in Florida have been documented by FWC. Non-documented nests receive the same level of protections as FWC documented nests. See Exhibit 9.

Additional protected species investigated for possible impact.

No other protected animal species were observed or identified on the subject site.

Florida Sandhill Crane	*Grus canadensis pratensis*	ST
Burrowing Owl	*Athene cuniculari*	ST
Little Blue Heron	*Egretta caerulea*	ST
Tricolored Heron	*Egretta tricolor*	ST
Wood Stork	*Mycteria americana*	FT/ST
Everglades Snail Kite	*Rostrhamus sociabilis plumbeus*	FE
Southeastern American	Kestrel *Falco sparverius Paulus*	ST
Florida mouse	*Peromyscus floridanus*	SSC
Sand Skink	*Neoseps reynoldsi*	FT

Eastern Indigo Snake	*Drymarchon corais couperi*	FT
Short-tailed snake	*Stilosome extenuatum*	ST
Florida Pine snake	*Pituophis melanoleucus mugitus*	SSC
Red Rat snake	*Elaphe guttata*	SSC
Red-cockaded woodpecker	*Picoides borealis*	FE

Plants

Britton's beargrass	*(Nolina brittoniana)*	FE
Florida bonamia	(Bonamia grandiflora)	FT
Lewton's polygala	(Polygala lewtonii)	FE
Papery whitlow-wort	(Paronychia chartacea)	FT
Pigeon Wings	(Ciltoria frangrans)	FE
Pygmy Fringe-tree	(Chionanthus pygmaeus)	FE
Scrub buckwheat	(Eriogonum longifolium var. gnaphalifolium)	FT
Scrub plum	(Prunus geniculata)	FE
Wide-leaf warea	(Warea amplexifolia)	FE

The location of Pedestrian Transects can be found on Exhibit 4

III. Conclusions and Recommendations

The Project Site is surrounded by existing Medium Density Single Family Residential development. The site was developed and mongered for over 55 years as a Golf course and Country Club. The golf course is continually maintained as open urban land in the City of Ormond Beach.

There are no areas of naturally occurring Native, Long leaf Pine Ecosystems, Scrub or Xeric plant communities, located on the subject site. There is no evidence of prescribed burning. Based upon the proximity of the surrounding residential development and the that the site is with an existing urban area of the City of Ormond Beach it is unlikely that Prescribed Burning will become an acceptable site management tool. There are no naturally occurring open sandy areas identified or observed on site. Open areas of disturbed soil are the remnants of Golf Corse sand traps and are becoming grassed over. Very minimal natural re-vegetation is occurring on site.

Potentially Occupied Gopher Tortoise burrows were observed on the subject site.

Due to the fact that Gopher Tortoises frequently move and occupy new habitat it is recommended that 90 days prior to site development a Gopher Tortoise Survey, Excavation, Capture and Relocation be completed in accordance with FWC regulations. All Active and Potentially Active Gopher tortoise burrows located in areas proposed for development should be excavated and all captured Gopher Tortoises be relocated in accordance with FWC guidelines.

The subject site is within the USFWS Scrub Jay consultation area which includes most all counties of peninsular Florida. Pre-Consultation is occurring with USFWS.

No Florida Scrub Jays were observed on the subject property.
No evidence of Florida Scrub Jays was observed.
No sustainable of higher quality Scrub Jay Habitat as observed on the subject site.
No evidence was obtained that would suggest sustainable Scrub Jay Habitat would develop in the future.

The absence of Florida scrub Jays could be due to;

- Complete lack of any site management involving Prescribed/Managed burning.
- Lack of Florida Scrub Jay's specific habitat requirements
- Site's location in an Urban/Sub-Urban Area surrounded by Single Family residential development it is highly unlikely that Prescribed-Managed Burning will be an allowed site management tool,
- Site was previously developed and managed as a Golf course-Country Club for approximately 50 years,
- Open Raptor Prey Areas and presence of Raptors, and competition with other bird species.

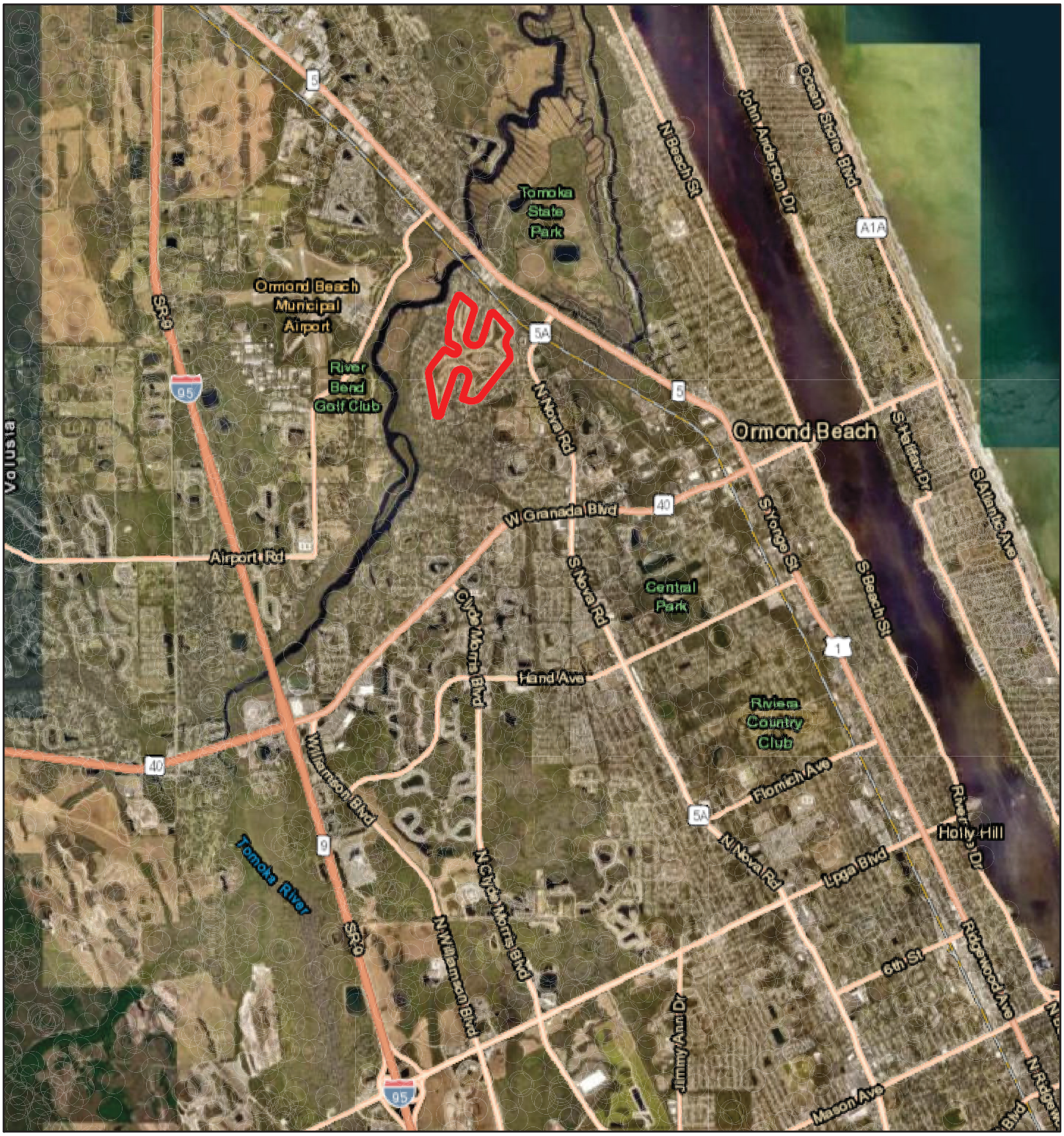
Updated: See Exhibit 11. On August 12th, 2021 USFWS Fish and Wildlife Biologist, Erin Gawera stated after review that the Service agrees with this Biological Assessment and Environmental Site Assessment that this site is not suitable habitat for scrub-jays and therefore scrub-jays will not be impacted by development of the site. The Service has no objection to development of the project area.

The subject site is not mapped by Volusia County as "Landcovers with Florida Scrub-jays and within Scrub Natural Communities. It is recommended that USFWS concur with the findings of this report that the site does not contain Scrub Jay Habitat and no further surveys are required.

The subject site development does not propose impact to or contain any unique or ecologically significant area of vegetation or habitat. No other protected species were observed or identified on the subject site.

It is the recommendation of Ray and Associates that the subject property prepared by be approved for development as proposed provided there is demonstration of compliance with Local, State and Federal regulations.

Exhibit 1: Location



May 31, 2021

1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Map created by Map Direct, powered by ESRI.

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Exhibit 2: Aerial

Tomoka River
Tomoka Oaks Golf & Country Club
Tomoka Oaks Blvd
Tomoka Oaks Dr
Windsor Dr
Nottingham Dr
Bentley Dr
Red Fox Run Dr
Red Fox Run Ct
Chestnut Ct
Chestnut Trl
Chestnut Dr
Cherokee Trl
Cherokee Ln
Cherokee Dr
Cherokee Rd
Cherokee Ct
Cherokee Cir
Cherokee Pl
Cherokee Way
Cherokee Ave
Cherokee Blvd
Cherokee Ter
Cherokee Path
Cherokee Run
Cherokee Crossing
Cherokee Creek
Cherokee Bend
Cherokee Bluff
Cherokee Hollow
Cherokee Meadow
Cherokee Valley
Cherokee Woods
Cherokee Park
Cherokee Hill
Cherokee Lake
Cherokee Forest
Cherokee Grove
Cherokee Point
Cherokee Shore
Cherokee Harbor
Cherokee Marina
Cherokee Yacht Club
Cherokee Country Club
Cherokee Golf Course
Cherokee Tennis Center
Cherokee Swimming Pool
Cherokee Fitness Center
Cherokee Spa
Cherokee Sauna
Cherokee Steam Room
Cherokee Locker Room
Cherokee Pro Shop
Cherokee Restaurant
Cherokee Bar
Cherokee Lounge
Cherokee Ballroom
Cherokee Conference Center
Cherokee Meeting Room
Cherokee Business Center
Cherokee Library
Cherokee Museum
Cherokee Art Gallery
Cherokee Theater
Cherokee Cinema
Cherokee Bowling Alley
Cherokee Arcade
Cherokee Mall
Cherokee Shopping Center
Cherokee Plaza
Cherokee Square
Cherokee Circle
Cherokee Boulevard
Cherokee Avenue
Cherokee Street
Cherokee Road
Cherokee Drive
Cherokee Lane
Cherokee Court
Cherokee Terrace
Cherokee Place
Cherokee Trail
Cherokee Way

Golf Club infrastructure; Typical

Fairway Edge Typical

View towards Club house: Typical

Typical internal Wooded Area adjacent between Fairways

Ray and Associates
Planning & Environmental
2712 SE 29th ST, Ocala, Florida 34471
352-425-8881
wrayassoc@aol.com

Exhibit 3: Site Photos 4.3.2021
Parcel ID#: 3242070010 / AltKey# 2998504
Tomoka Oaks Golf Course / 146.8+/- Acres / Sec 42, Tw 13S, Rng 32E
Volusia County, Florida.

West view: Typical

Northern Site Maintained Fairway: Typical

East Central Area: West View:Typical

Site Typical: Trees at edge of fairways

Central East: Trees and Maintained Golf Course area: Typical

Site Typical; Residences adjacent to Fairways

Site Typical

Typical Site: Prior use: Typical

Exhibit 4: Transects

May 31, 2021

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, FDEP

Map created by Map Direct, powered by ESRI.

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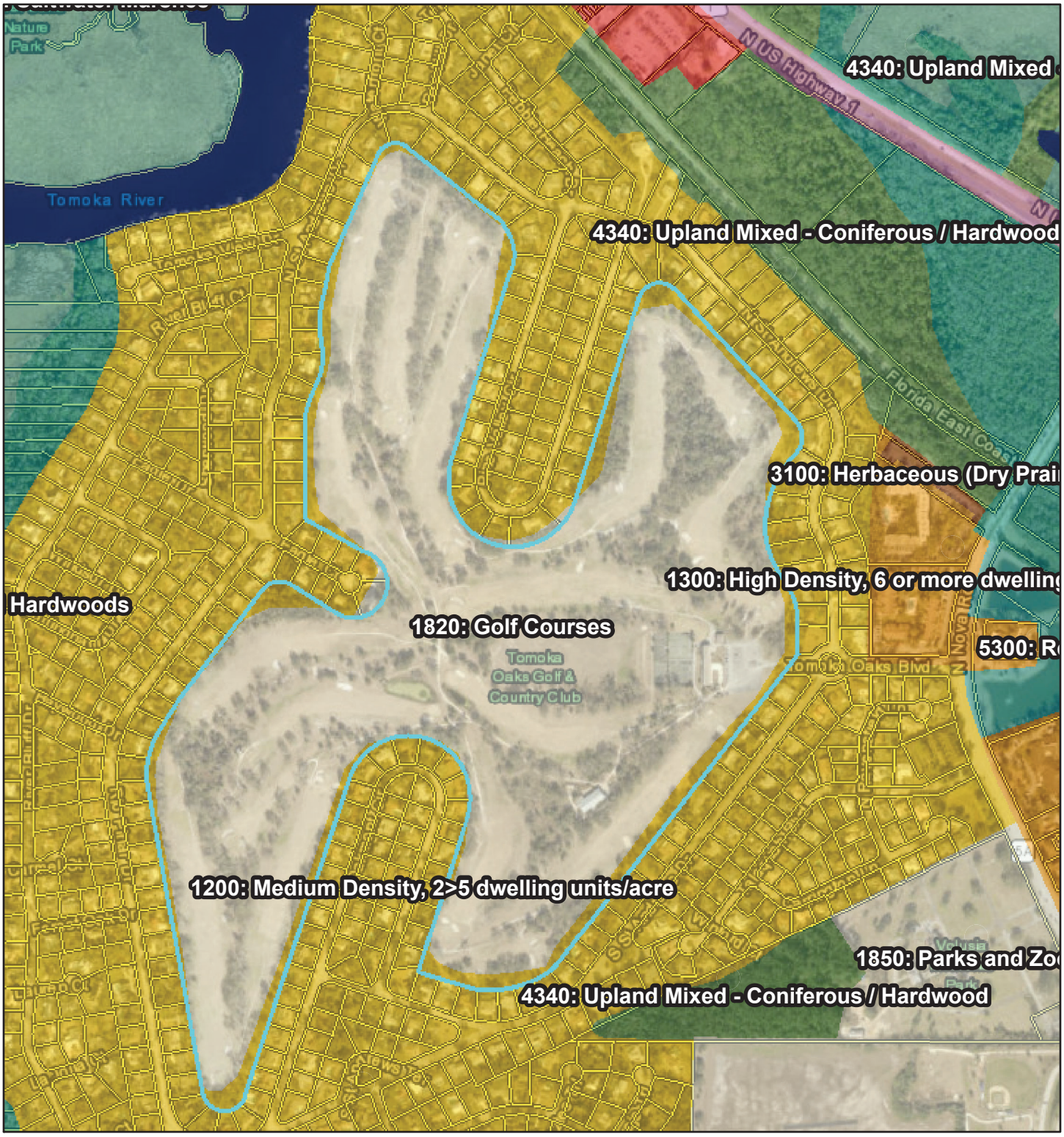
Exhibit 5 FLUCFCS



July 18, 2021

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Cadastral 2020 (Property Appraiser Parcels) - Public View

Statewide Land Use Land Cover

Residential Medium Density

Residential High Density

Commercial and Services

Recreational

Herbaceous

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, SRWMD, SJRWMD, SFWMD, SWFWMD, NWFWMD, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, FDEP

Map created by Map Direct, powered by ESRI. undefined

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United States Department of Agriculture

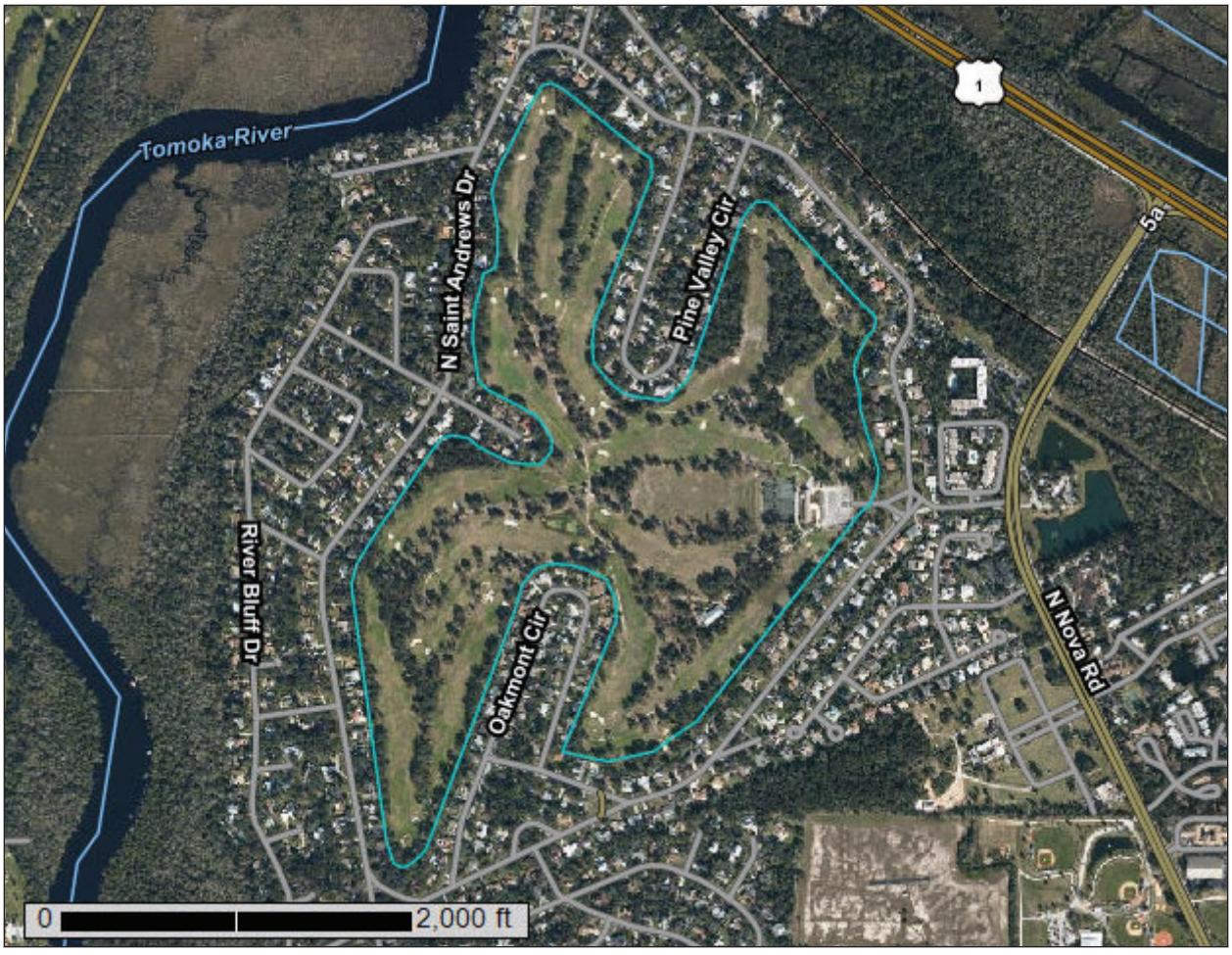
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Volusia County, Florida

Ray and Associates: Exhibit 6: Soils



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....11
Map Unit Descriptions.....11
Volusia County, Florida.....13
54—Quartzipsamments, gently sloping.....13
References.....14

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Map Scale: 1:7,940 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 350 700 1400 2100

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Volusia County, Florida
Survey Area Data: Version 19, Jun 10, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 6, 2019—Feb 25, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
54	Quartzipsamments, gently sloping	146.8	100.0%
Totals for Area of Interest		**146.8**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Volusia County, Florida

54—Quartzipsamments, gently sloping

Map Unit Setting

National map unit symbol: 1nttk
Elevation: 0 to 100 feet
Mean annual precipitation: 53 to 61 inches
Mean annual air temperature: 66 to 73 degrees F
Frost-free period: 285 to 315 days
Farmland classification: Not prime farmland

Map Unit Composition

Quartzipsamments and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Quartzipsamments

Setting

Landform: Rises on marine terraces
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

C - 0 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Forage suitability group: Forage suitability group not assigned (G155XB999FL)
Other vegetative classification: Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: No

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Exhibit 7: Topography

May 31, 2021

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Cadastral 2020 (Property Appraiser Parcels) - Public View

Elevation Contours and Depressions

- 0 - 10
- 10 - 20
- 20 - 30
- 30 - 40

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, FDEP, U.S. Geological Survey U.S. Geological Survey Sioux Falls, SD. QA and

Map created by Map Direct, powered by ESRI.

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Exhibit 8: Wetlands - FDEP/NWI Data Base

May 31, 2021

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

National Wetlands Inventory (areas)

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, FDEP

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Exhibit 9: FWC Bald Eagle Nest Data Base

May 31, 2021

1:36,112

FWC Eagle Nests - 660 Foot Buffer

0 0.25 0.5 1 mi

0 0.42 0.85 1.7 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, FDEP

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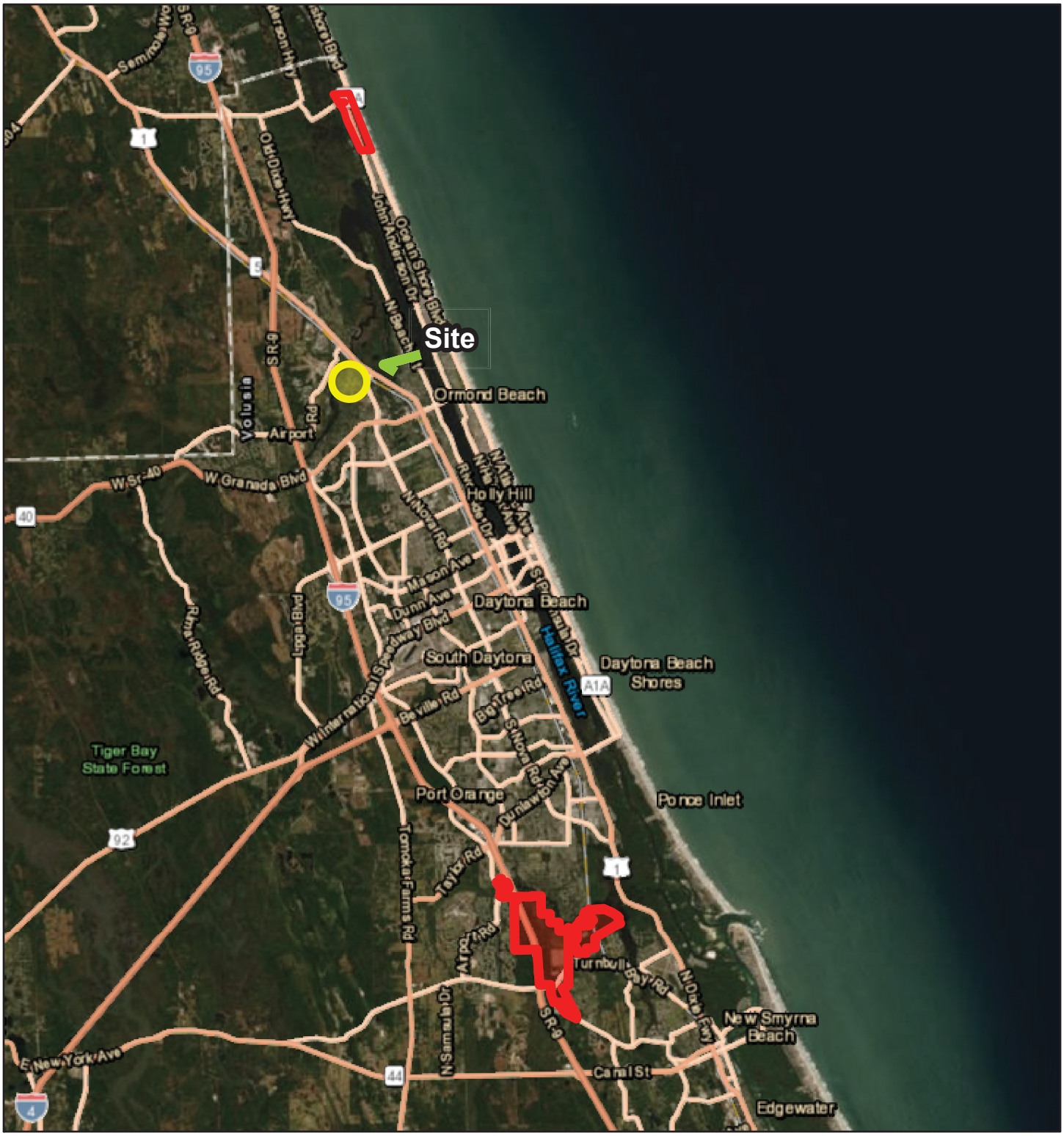
Exhibit 10: Volusia County Scrub Jay Habitat Map



May 31, 2021

1:288,895

0 2 4 8 mi

0 3.5 7 14 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Map created by Map Direct, powered by ESRI.

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From: erin_gawera@fws.gov,
To: wrayassoc@aol.com,
Subject: Re: [EXTERNAL] Tomoka Oaks Golf Course Scrub Jay Pre-Consultation
Date: Thu, Aug 12, 2021 1:24 pm

Hi Bill,

The Service agrees with your assessment that this site is not suitable habitat for scrub-jays and therefore scrub-jays will not be impacted by development of the site. The Service has no objection to development of the project area.

Have a great week!

Erin

log #04EF1000-2021-TA-1418 Tomoka Oaks_Volusia

****

Erin M. Gawera, Fish and Wildlife Biologist
US Fish and Wildlife Service
Email: erin_gawera@fws.gov
http://www.fws.gov/northflorida
Florida Ecological Services Field Office
7915 Baymeadows Way, Suite 200
Jacksonville, FL 32256-7517
904/731-3121 (direct)
904/731-3336 (main)
Fax: 904/731-3045 or 3048

From: Bill Ray <wrayassoc@aol.com>
Sent: Tuesday, July 20, 2021 9:59 AM
To: Gawera, Erin <erin_gawera@fws.gov>
Subject: [EXTERNAL] Tomoka Oaks Golf Course Scrub Jay Pre-Consultation

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Erin, attached please find the Biological / Environmental Site Assessment for the former 146.8 Acre - Tomoka Oaks Golf Course and Country Club in the City of Ormond Beach Volusia County.
This information is provided for Scrub Jay Pre-Consultation.

The total site area project consists of approximately $146.8^{+/-}$ Acres. Starting in the early 1960s the lands were developed as a Golf Course and Country Club with surrounding residential development. The subject site is currently maintained as an inactive golf course. The area is continuing to develop in an Urban manner.

The subject site is within the USFWS Scrub Jay consultation area which includes most all counties of peninsular Florida. The subject site is **not** mapped by Volusia County as “Landcovers with Florida Scrub-Jays and within Scrub Natural Communities".

No Florida Scrub Jays were observed on the subject property.

No evidence of Florida Scrub Jays was observed.
No sustainable of higher quality Scrub Jay Habitat as observed on the subject site.
No evidence was obtained that would suggest sustainable Scrub Jay Habitat would develop in the future.

The absence of Florida scrub Jays could be due to;

- Complete lack of any site management involving Prescribed/Managed burning.
- Lack of Florida Scrub Jay's specific habitat requirements
- Site's location in an Urban/Sub-Urban Area surrounded by Single Family residential development it is highly unlikely that Prescribed-Managed Burning will be an allowed site management tool,
- Site was previously developed and managed as a Golf course-Country Club for approximately 50 years,
- Open Raptor Prey Areas and presence of Raptors,

and competition with other bird species.

It is recommended that USFWS concur with the findings of this report that the site does not contain Scrub Jay Habitat and no further surveys are required.

Do not hesitate to contact me if you have any questions or require additional information.
Thank you for your help and assistance.

Bill

William (Bill) A. Ray, AICP
Ray and Associates
Planning and Environmental Services
2712 SE 29th Street,
Ocala, FL 34471
Office & Cell; 352-425-8881
Email: wrayassoc@aol.com

ZEV COHEN & ASSOCIATES INC
300 Interchange Blvd., Suite C
Ormond Beach, FL 32174
386-677-2482 • Fax: 386-677-2505
www.ZevCohen.com

TOMOKA RESERVE

HOLDING ANALYSIS

DECEMBER 19, 2022

ZEV COHEN & ASSOCIATES
21067

ZEVCOHEN & ASSOCIATES INC
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TABLE OF CONTENTS

A. SUMMERY
B. HOLDING ANALYSIS SPREADSHEET
C. FLOOD MAP
D. SOILS MAP
E. CITY OF ORMOND BEACH LDC SECTION 2-35.C.4.

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Summary of Subdivision Density

1. Holding capacity based on soils, flood plain and utilities (see information contained within the Report):
   Maximum number of units: 887.64
   Units per acre (147.94 total acres): 6

2. Gross density based on the number of project acres divided by the proposed number of lots:
   Maximum number of units: 300
   Units per acre (147.94 total acres): 2.02

3. Proposed Gross Density is 2.02 units per acre

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SOIL TYPE	AREA IN 100 YR FLOODPLAIN		AREA OUT OF 100 YEAR FLOODPLAIN		DEVELOPMENT POTENTIAL	DENSITY FACTOR W/IN FLOOD PLAIN	DENSITY FACTOR OUTSIDE FLOOD PLAIN	ALLOWABLE DENSITY (UNITS)	HIGH WATER TABLE ELEV. (IN. BELOW GROUND)
	SQ FT	ACRES	SQ FT	ACRES					
54	0	0	6,459,082.23	147.94	HIGH	0	6	887.64	24-42
Total:								**887.64**	

Info:

Date Saved: 5/25/2022 Created by: jdurant
Path: Z:\PROJECTS\2021\21067\FEMA Flood Map.mxd

550 275 0 550 Feet

FEMA Flood Map
Tomoka Oaks
Ormond Beach, FL

ZEVCOHEN & ASSOCIATES INC
300 Interchange Blvd
Ormond Beach, FL 32174
ph 386-677-2482

Info:

Date Saved: 5/25/2022 Created by: jdurant

Path: Z:\PROJECTS\2021\21067\Soils Map.mxd

550 275 0 550 Feet

Soils Map
Tomoka Oaks
Ormond Beach, FL

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300 Interchange Blvd
Ormond Beach, FL 32174
ph 386-677-2482

Holding capacity*; density.* Density determined in subsection (c)(1) of this section is for gross density purposes only. A more refined methodology for determining the holding capacity of a particular site proposed for development is derived from a three-tiered system based on soil characteristics related to the high seasonal groundwater tables (as derived from the SCS soil classification study); flooding potential as noted on the FEMA, FIRM maps; and the availability of central water and/or central sewer facilities. Table 2 illustrates the relationship between environmental constraints and water and sewer availability when calculating density. This table lists the coefficients for determining density in a matrix.

The procedure for determining holding capacity is as follows:

Step 1: Applicant prepares environmental constraints map for the parcel proposed for development;

Step 2: Calculate the acreage of property within each particular environmental constraints category;

Step 3: Multiply the acreage in each category by a coefficient determined by site-specific environmental constraints and availability of water and sewer as noted in table 2.

Step 4: Sum the totals for each category to achieve the holding capacity for the parcel in terms of maximum potential density.

Once the holding capacity is determined, the developer must prepare plans that are consistent with the holding capacity and environmental constraints of the subject property.

Five (5) distinct environmental constraint categories have been identified and are described below, together with their density allocations.

a.

Very Low. Areas that lie within the 100-year floodplain and where the seasonal high water table is at or above the surface or areas outside of the 100-year floodplain where the seasonal high water table is six inches (6") or more above the surface. Here, the constraints are seen as being severe, with associated environmental impacts too damaging for community development. Areas in this category are, for the most part, the riverine wetlands and cypress swamps interspersed among the pine flatwoods. Representative soils include the various mucks associated with the wetlands and more established cypress systems. A nominal standard of 0.2 units to the acre (one (1) unit per five (5) acres) is assigned as the maximum achievable density for this category, regardless of the availability of central utilities (facilities are not planned for these areas). In some cases, it is conceivable that a single development site could be located within a five-acre parcel classified entirely as "very low." However, a more likely scenario, particularly for larger parcels, would be the transfer of the density allocation to the more buildable areas of the site.

b.

Low. Includes soil types with a seasonally high water table that, at times, will reach and exceed the surface. This category includes land that falls within designated 100-year

floodprone areas and has a seasonal high water table that does not reach the surface and is not greater than six inches (6") below the surface, or lands where the water table will occasionally be at or above the surface (zero (0) to six inches (6") above) but, for various reasons, is not designated as a 100-year floodprone area. The low category encompasses the more subtle depressional features among the flatwoods. The pine/cypress vegetative community and the depressional variety of the Pomona, Immokalee, and Myakka soil series commonly occur in this category. These lands can tolerate a certain amount of mitigated modification without irreversible environmental damage. The maximum density value for this category is 0.5 units per acre (one (1) unit per two (2) acres) regardless of the availability of utilities. As with the very low category, these levels of development can be achieved only under the ideal circumstances consistent with the criteria for protection of wetlands that typically occur within this soil category. Therefore, development is not likely to occur at assigned densities within these areas but will probably be transferred to other more suitable on-site uplands.

c.

Medium Low. These are areas that are within the 100-year floodplain and the seasonal high water table is greater than six inches (6") to twenty-four inches (24") below the surface or those areas that are outside of the floodplain and the seasonal high water table does not reach the surface and is not greater than six inches (6") below the surface. Density ranges in this category are one (1) unit per two (2) acres without infrastructure; one (1) unit per acre with central water only; and three (3) units per acre with both central water and sewer. Depending upon actual vegetative system conditions, these areas may be suitable for limited development or for open space uses with on-site density transfer to more suitable areas.

d.

Medium. The criteria for designating lands in the medium category is the seasonal high water table greater than six inches (6") below the surface to twenty-four inches (24") below and outside of floodprone areas or is twenty-four inches (24") or greater below surface if in floodprone area. Extensive areas in the western and southern portion of the Pamlico Terrace are in this category. Due to the nearly level terrain in those areas within the floodplain, the water table hovers near the surface for two (2) to three (3) months a year. However, with proper drainage design and adequate infrastructure, development potential can reach up to four (4) units per acre with central water and sewer; one (1) unit per two (2) acres with no central utilities; and two (2) units per acre with central water only. Planned unit developments, with net densities in excess of one (1) unit per acre utilizing either well or septic or one (1) unit per two (2) acres utilizing well and septic may be allowed provided that minimum lot size requirements are not reduced, to achieve maximum potential density. Instead, transfer of density to a portion of the site serviced by a central system will be allowed, provided the proposed development is consistent with the zoning district requirements, level-of-service standards, and compatible with the natural resources.

e.

High. This category includes lands that are not within a floodprone area and have a water table deeper than twenty-four inches (24") below the surface. These lands generally consist of deep sandy soils and are the most suited for community development. They are in relatively short supply due to the prevailing high water tables and floodprone conditions

in the undeveloped perimeter areas of the city and the early development of the deep, sandy ridge areas. Representative soils of this category include the Tavares, Daytona, and DeLand series. Up to six (6) units to the acre (roughly the equivalent of duplex or zero-lot-line development on five thousand (5,000) square foot lots) is achievable with central utilities. With central water only, the maximum density would be three (3) units per acre if that could be achieved under health department septic standards. The location of package plants is acceptable in the medium and high categories for planned unit developments at the higher densities (e.g., greater than one (1) unit per acre) on an interim basis only where it is not economically feasible (due to and/or sewer service at the time of development. In these cases, the development shall be dry-lined and impact fees paid in advance or bonded for. Without central sewer or water, the maximum density is one (1) unit per two (2) acres (project size in relation to line extension distances) to connect to central water.

Table 1. Density Determinations

EXPAND

Development Potential	None	Water Only*	Water and Sewer
Very Low	0.2	0.2	0.2
Low	0.5	0.5	0.5
Medium Low	0.5	1.0	3.0
Medium	0.5	1.0	4.0
High	0.5	1.0	6.0

* For purposes of computing maximum potential density only; a minimum lot size of 1 acre is required for any development utilizing septic tanks. Connection to central sewer will be required whenever line extensions and appurtenances thereto are deemed economically feasible.

Table 2. Characteristics of Environmental Constraint Categories

EXPAND

Environmental Constraints	100-Year Floodplain	Seasonal High Water Table
Very Low	N/A	At or above the surface
Low	IN	0.1" to 6" below surface
Medium Low	IN	6" to 24" below surface

Environmental Constraints	100-Year Floodplain	Seasonal High Water Table
	OUT	0.01" to 6" below surface
Medium	IN	24"+ below surface
	OUT	6" to 24" below surface
High	OUT	24" + below surface

ATTACHMENT 5

2023 Traffic Impact Analysis

Traffic Engineering Data Solutions, Inc.

Ref: 11472-4

TECHNICAL MEMORANDUM

To: Mr. Steve Spraker, AICP

From: Tanya N. King, P.E.

Subject: Traffic Impact Analysis Review – Tomoka Oaks Residential
Ormond Beach, Florida

Date: July 6, 2023

We have reviewed the Traffic Impact Analysis Study (Revised June 2023) as prepared by LTG, Inc. for the Tomoka Oaks Residential development in Ormond Beach, along with the associated Response Letter and Proportionate Fair Share calculations. We have no additional comments for the traffic impact study.

Should you have any questions, please contact me at (386) 753-7163.

80 Spring Vista Drive ● DeBary, Fl 32713 ● Phone 386.753.0558 ● Fax 386.753.0778
www.teds-fl.com

Via email (Steven.Spraker@ormondbeach.org)

Ref: 5361.05

June 7, 2023

Steven Spraker, AICP
Planning Director
City of Ormond Beach
22 S. Beach Street
Ormond Beach, 32174

Re: Tomoka Oaks Residential Traffic Analysis – Response to Comments
Ormond Beach, FL

Dear Mr. Spraker:

Thank you for your review of the Tomoka Oaks Residential Traffic Impact Analysis (TIA). LTG, Inc. is in receipt of separate comments provided by the City on May 5, 2023, regarding the updated TIA prepared for the project. The list of comments, sorted by each recipient, is presented below in plain text with our responses to those applicable topics in **bold** text.

Comments Received from Steven Spraker, AICP – City of Ormond Beach (05/05/2023):

1.) Comment: Please see the technical memorandum from Tanya N. King, P.E. of Traffic Engineering Data Solutions, Inc (TEDS).

Response: Understood. Our responses to the comments are in the following response letter.

2.) Comment: The previous site plan comments suggested a brief non-technical memorandum to detail the traffic analysis and conclusions – particularly regarding the local traffic impacts (Escondido condo access, diamond intersection, and traffic into the Trails). Staff would still suggest this.

Response: A brief summary was included in the Response to Comments letter dated April 11, 2023, for items A-G with explanation also provided in the Updated TIA. A technical memorandum explaining the history and conclusions of the traffic analysis is attached as Exhibit A.

3.) Comment: Staff is unclear what the resolution of the "diamond" at Tomoka Oaks Boulevard and North and South Saint Andrews Street. The response comments (#2) from LTG provides an analysis of the intersection and appears to recommend a roundabout design. The analysis is not part of the traffic impact analysis or conclusion. What is the design option that is proposed to be implemented. The design option needs to be included in the traffic study or project submittal.

Response: The analysis comparison, including the roundabout, was provided as supplemental data to the TIA as requested by the City. Supplemental information on the comparison analysis has been added to the text of the report and summarized in Table 12 of the revised TIA report.

Based on the future buildout results, the existing diamond is expected to operate within the adopted level of service during the peak hours (all options operate within a level B or better). From a mitigation standpoint, no improvements or modifications are required for intersections that are not deficient. At this time, the existing configuration is proposed to remain.

4.) Comment: Regarding the tree along Nova Road and Tomoka Oaks Boulevard, staff will include a condition that this tree is to remain.

Response: Understood.

Comments Received from Tanya N. King, P.E. – TEDS (05/04/2023):

1.) Comment: The existing AM and PM traffic volumes at the Tomoka Oaks Blvd at N St Andrews intersection in Figure 2 differ from the traffic volumes in the count sheet. The synchro analysis will also need to be corrected.

Response: The A.M. and P.M. peak hour for the diamond intersections (S St. Andrews Drive, East Diamond, and West Diamond) and Escondido Multifamily Driveway are consistently from 8:00- 9:00 a.m. and from 5:00 -6:00 p.m. However, the volumes at Tomoka Oaks Blvd. at N. St. Andrews show a slightly different peak hour. In order evaluate the diamond system as one complete intersection, the volumes at this intersection were balanced/adjusted for the peak hours specified. The count data detail sheets are provided as Appendix C in the Updated TIA.

2.) Comment: The existing PM volumes for the Tomoka Oaks Blvd at Tomoka Oaks Blvd (west) intersection differ from what is shown in Figure 2.

Response: Please refer to the response provided for Comment #1 above. Also, note that this intersection was not included in the existing intersection analysis as it currently operates under free-flow conditions for all approaches.

3.) Comment: The roadway segment analysis peak hour two-way capacity is not correct for the SR 5A/Nova Rd and SR 40/Granada Blvd segments.

Response: The roadway segment peak hour two-way capacity for state-maintained facilities such as SR 5A/Nova Rd and SR 40/Granada Blvd. segments were derived from the 2023 Multimodal Quality/Level of Service Handbook and based on the Context Classification identified by the FDOT.

4.) Comment: The LOS presented in the LOS summary tables for Tomoka Oaks Blvd at S. St Andrews Dr is incorrect for all analysis scenarios.

Response: The adopted LOS has been revised from LOS "C" to LOS "D", in accordance with the City's Comprehensive Plan, as requested.

5.) Comment: Based on the traffic volume tables no vested traffic trips were applied to the intersection analysis. Only the segment analysis. Vested trips need to be applied to the intersection analysis.

Response: The vested data provided by the governing agencies is limited to roadway segments in the study area; No vested trips are recorded or documented at the intersections included in the study area. Therefore, historical annual growth rates were applied to the existing data at the intersections to determine future background volumes, consistent with the segment growth determination table.

6.) Comment: For the roadway segment analysis under background conditions, several roadway segments are mentioned that need to be widened to achieve acceptable LOS. There is no mention of any planned roadway improvements for these segments. This needs to be addressed along with proportionate fair share calculations towards these improvements. In addition, provide an ARTPLAN analysis for these segments.

Response: **The recommended improvements for those segments deficient due to background traffic are shown in Table 8. Hand Ave. and Williamson Blvd. widening projects are shown in the County's Long Range Transportation Plan. No segments are shown to be deficient due to project traffic.**

The draft proportionate share calculations for those segments shown deficient due to background traffic and the anticipated transportation impact fees for the project are attached as Exhibit B. In summary, the roadway segments and turn lane mitigation cost equates to approximately $758,145.32 and the total estimated transportation impact fee equates to approximately $1.68M. It is understood that these estimates are provided for reference information only, as the values are anticipated to vary slightly due to time between the rezoning and concurrency process.

7.) Comment: For the deficient turn lanes mentioned in the report under future conditions at the Nova Rd at US 1, Nova Rd at Tomoka Oaks Blvd, and Nova Rd at Wilmette Ave intersections, the developer will need to provide costs for these improvements as well and it needs to be stated in the report that the developer will extend these turn lanes to meet the queue requirement.

Response: **The proportionate share for the deficient turn lanes, based on the number of project trips anticipated for each movement, is included in the draft proportionate share calculations attached as Exhibit A. Please note the applicant will be mitigating these impacts through transportation impact fees and PS payment process.**

8.) Comment: The diamond intersection analysis needs to be provided in the report along with a comparison LOS table of the existing conditions versus the proposed roundabout.

Response: **The supplemental analysis, of the alternative comparison has been added as an Appendix to the report, as requested.**

9.) Comment: With the 70 project trips projected to make SBR turns at Tomoka Oaks Blvd intersection, this brings the total to 131 turns. Based on FDOT guidance, this warrants an exclusive right-turn lane. Based on posted speed of 50 mph, it should be approximately 400' long.

Response: **The FDOT guidance using NCHRP Report 457, and the Access Management Guidebook provide recommendations for unsignalized intersection conditions. The Tomoka Oaks Blvd. at Nova Rd. intersection is proposed to be signalized under future buildout conditions. Under these conditions, the intersection operates within the adopted LOS under a.m. and p.m. peak hours without the exclusive right-turn lane. It is understood that final lane geometry and timing parameters will be discussed with FDOT staff at the time of design, during the pre-application meeting required as part of the permit process.**

10.) Comment: The traffic impact analysis and new signal warrant analysis should be submitted to FDOT for review.

Response: **The Traffic Signal Warrant Study has been submitted to the FDOT for review and accepted verbally as an acceptable treatment option. Further discussion with FDOT on the design and layout of the proposed signal is forthcoming and pending concurrency approval.**

Thank you for your review of the updated TIA, and we appreciate your cooperation and assistance as we move through the traffic concurrency process. If you have any questions or comments, please feel free to call me at (386) 257-2571.

Sincerely,

LTG, INC.

Kady L Dearing, PE
Sr. Project Engineer

Attachments:

Exhibit A – Traffic Analysis Summary

Exhibit B – Draft Proportionate Share (PS) Calculations

EXHIBIT A

Traffic Analysis Summary

LTG Engineering & Planning

Via Email: (Steven.Spraker@ormondbeach.org)

Ref: 5361.05

TECHNICAL MEMORANDUM

To: Steven Spraker, AICP

From: Kady L. Dearing, P.E.

Date: June 7, 2023

Subject: Tomoka Oaks Residential – Traffic Analysis Summary
Ormond Beach, FL

INTRODUCTION

LTG, Inc. has been requested by the City of Ormond Beach Staff to prepare a brief summary of the traffic analyses and conclusions that have been prepared on behalf of the proposed project known as Tomoka Oaks Residential. The following documentation provides an overview of the anticipated project impact on the road network and results and conclusions developed from the transportation analyses conducted.

TRAFFIC ANALYSIS SUMMARY

- The original Traffic Impact Analysis (TIA) included data collected in May and June of 2021. Growth factors and Florida Department of Transportation (FDOT) Seasonal Factors (SF) were used to adjust the volume to estimate 2022 volumes for the analysis. As requested by the City's traffic consultant, new data was collected in March 2023. The updated volumes did not show a significant change from the original data used.

- The updated TIA, dated April 10, 2023, concluded that traffic operations at the existing diamond configuration are expected to continue to operate within the adopted service levels under future buildout conditions. Therefore, modifications or improvement to the configuration are not required to meet concurrency.

- However, the City requested that an additional, supplemental analysis, be provided at the internal diamond configuration to determine potential design alternatives. The two alternatives include an ALL-WAY STOP intersection and a single-lane roundabout.
    - All options, including the existing configuration, result in acceptable levels of service during the a.m. and p.m. peak hours (an overall intersection delay of 10 seconds or less).
    - 95th percentile vehicular queue (stacking) not expected exceed 50 ft. under all alternatives; vehicular stacking not shown to be a concern.
    - The roundabout design reduces the number of vehicular conflict points from 18 with the existing configuration to 8. The ALL-WAY STOP design results in 32 vehicular conflict points. Reducing the number of conflict points reduces the potential for vehicular crashes.
    - Crash data reports were requested from the Ormond Beach Police Department and through Signal 4 Analytics (an interactive web-based system used to track crash reports in the State of Florida). As a result, no crashes have been reported at the internal diamond configuration.

- Due to the proposed location of the project's access, peak hour data and transportation model results, it is anticipated that 96% of project trips will utilize Tomoka Oaks Boulevard and 4% will use Iroquois Trail for external access. 4% of traffic (111 total daily, 8 total AM, and 11 total PM) are expected to use this route to access SR 40.

- The buildout network condition includes installation of a traffic signal at the Tomoka Oaks Boulevard at Nova Road intersection.
    - Signalization helps to reduce the minor street delay and vehicular queue under a.m. and p.m. peak hour conditions.
    - The future signal will also include two eastbound/outbound lanes; one shared-through left and one right-turn lane.
    - The existing tree within the median is to remain under future signal control.
    - Exclusive southbound right-turn lane not shown warranted in the TIA. However, further discussions with the FDOT regarding the lane geometry, alignment, and signal timings will occur during the permitting application process.
- The Escondido Apartment driveway was also included in the Updated TIA, as requested by City staff.
    - The future buildout results of the analysis, under signal control at the Tomoka Oaks Blvd. at Nova Rd. intersection, show the driveway operating at acceptable levels of service during the a.m. and p.m. peak hours.
    - Additionally, under future improved conditions at the Nova Rd. at Tomoka Oaks Blvd. intersection, under signal control with two outbound lanes present, the maximum eastbound/outbound vehicle queue at the intersection is expected to extend 125 ft., avoiding blockage of the Escondido driveway.

EXHIBIT B

Draft Proportionate Share (PS) Calculations

LTG Engineering & Planning

Draft Print

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Tomoka Oaks Residential Proportionate Share (PS) Determination

Roadway	Segment From:	Segment To:	FDOT Cost per Mile Model[1]	Estimated Length (miles)	Improvement	Base Improvement Cost	Additional Cost[2]	Total Estimated Improvement Cost[3]	Project Volume (a)	Unimproved Capacity (b)	Improved Capacity (c)	PS (%) (d)=a/(c-b)	Proportionate Share Cost
SR 40/Granada Blvd.	I-95	Clyde Morris Blvd.	$6,551,618.80	1.58	Widen from 4 to 6 lanes (Urban)	$10,351,557.70	$0.00	$12,939,447.13	33	3,455	5,114	1.99%	$257,385.02
	Clyde Morris Blvd.	Nova Rd.	$6,551,618.80	1.06	Widen from 4 to 6 lanes (Urban)	$6,944,715.93	$0.00	$8,680,894.91	47	3,455	5,114	2.83%	$245,932.53
	US 1	Halifax Ave.	$6,551,618.80	1.11	Widen from 4 to 6 lanes (Urban)	$7,272,296.87	$0.00	$9,090,371.09	20	3,413	5,366	1.02%	$93,091.36
Hand Ave.	Clyde Morris Blvd.	Shangri La Dr.	Volusia County	0.71	Widen from 2 to 4 lanes (Rural)	$5,849,057.00	$0.00	$4,152,830.47	8	1,540	3,410	0.43%	$17,766.12
Williamson Blvd.	Hand Ave.	Strickland Range Rd.	Volusia County	1.12	Widen from 2 to 4 lanes (Rural)	-	-	$11,049,000.00	11	1,540	3,410	0.59%	$64,994.12
												Segment PS Subtotal:	**$679,169.15**

Turn Lane Length Extensions	FDOT Cost per 300 ft	Improvement	Additional Cost[2]	Total Estimated Improvement Cost[3] (a)	Build-out Queue Length (ft.) (b)	Background Queue Length (ft.) (c)	Proportionate Share Cost (d)=(b)-(c)/300*(a)
Nova Rd at US 1	$210,603.13	Extend northbound left-turn lane by 25-ft.	$0.00	$263,253.91	615	590	$21,937.83
Nova Rd at Tomoka Oaks Blvd	$210,603.13	Extend northbound left-turn lane by 50-ft.	$0.00	$263,253.91	315	265	$43,875.65
Nova Rd at Wilmette Ave	$210,603.13	Extend southbound left-turn lane by 15-ft.	$0.00	$263,253.91	315	300	$13,162.70
						Offsite Intersection PS Subtotal:	**$78,976.17**

PS GRAND TOTAL:	**$758,145.32**

[1] *Cost obtained from FDOT long Range Estimates (LRE) for improvement identified; unless otherwise stated.*

[2] *Additional costs pertain to site specific modifications associated with the improvement (examples include traffic signal updates, right-of-way, bridge modifications, etc.)*

[3] *Improvement includes Design & CEI (25%).*

[4] *Turn lanes are measured in feet and unit cost is based on 300 feet unless otherwise stated.*

[5] *Existing and Impoved Capacity on SR 40/Granada Blvd. obtained from FDOT 2023 Quality/Level of Service Handbook (includes 1.05 multiplier for exclusive left-turn lanes)*

Tomoka Oaks Residentail
Estimated Transportation Impact Fees

Land Use	Land Use Code	Quantity		Volusia County Impact Fee Rate (per unit)[1]	Volusia County Total Fee	City of Ormond Beach Impact Fee Rate (per unit)	City of Ormond Beach Total Fee
Single Family Residential	210	300	DU	$ 5,432.45	$ 1,629,735.00	$ 162.61	$ 48,783.00
Estimated Grand Total:				**$1,678,518.00**			

[1] *Volusia County Impact Fees rate as of January 2023*

Tomoka Oaks Residential
Ormond Beach, Florida

Traffic Impact Analysis

Prepared for: Triumph Oaks of Ormond Beach, LLC
By: LTG, Inc.
***Revised* June 2023**

LTG Engineering & Planning

PROFESSIONAL ENGINEERING CERTIFICATION

I hereby certify that I am a Professional Engineer properly registered in the State of Florida practicing with LTG, Inc., a corporation authorized to operate as an engineering business, EB 0009227, by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have prepared or approved the evaluations, findings, opinions, conclusions, or technical advice attached hereto for:

PROJECT: Tomoka Oaks Residential – Traffic Impact Analysis
LOCATION: Ormond Beach, Florida
CLIENT: Triumph Oaks of Ormond Beach I, LLC
JOB #: 5361.09

I hereby acknowledge that the procedures and references used to develop the results contained in these computations are standard to the professional practice of Transportation Engineering as applied through professional judgment and experience.

Prepared by:
LTG, Inc.
1450 W. Granada Blvd, Suite 2
Ormond Beach, FL 32174
Certificate of Authorization 9227
386/257-2571

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

LTG, Inc.
1450 W. GRANADA BLVD, SUITE 2
ORMOND BEACH, FL 32174
CERTIFICATE OF AUTHORIZATION 9227
KADY L. DEARING, P.E. NO. 84234

TABLE OF CONTENTS

LIST OF FIGURES ii
LIST OF TABLES ii
LIST OF APPENDICES ii
INTRODUCTION 1
Study Area 1
Study Procedures 1
Planned Roadway Improvements 1
EXISTING ROADWAY ANALYSIS 3
Unsignalized Intersection Analysis 3
Signalized Intersection Analysis 5
Roadway Segment Analysis 5
FUTURE TRAFFIC CONDITIONS 6
2028 Background Traffic 6
2028 BACKGROUND ROADWAY ANALYSIS 8
2028 Background – Unsignalized Intersection Analysis 8
2028 Background – Signalized Intersection Analysis 8
2028 Background – Roadway Segment Analysis 12
2028 BUILD-OUT - FUTURE ROADWAY ANALYSIS 12
Project Trip Generation 12
Project Trip Distribution 12
2028 Build-Out – Unsignalized Intersection Analysis 17
2028 Build-Out – Signalized Intersection Analysis 17
Site Access Analysis 17
2028 Build-Out – Roadway Segment Analysis 19
Queue Length and Turn Lane Analysis 19
Alternate Mode Analysis 21
Proportionate Share 21
CONCLUSIONS 22

LIST OF FIGURES

Figure 1: Site Location Map 2
Figure 2: Existing AM & PM Peak-Hour Traffic Volumes 4
Figure 3: Background AM & PM Peak-Hour Traffic Volumes 9
Figure 4A: Build-Out Project Trip Distribution 13
Figure 4B: Build-Out Project Trip Distribution 14
Figure 5: Build-Out AM Peak-Hour Traffic Volumes 15
Figure 6: Build-Out PM Peak-Hour Traffic Volumes 16

LIST OF TABLES

Table 1: Existing AM and PM Peak-Hour LOS – Unsignalized Intersections 3
Table 2: Existing AM and PM Peak-Hour LOS – Signalized Intersections 5
Table 3: Existing PM Peak-Hour LOS – Roadway Segments 5
Table 4: 2028 Historical Growth Rates and Vested Traffic 7
Table 5: 2028 Background AM and PM Peak-Hour LOS – Unsignalized Intersections 8
Table 6: 2028 Background AM and PM Peak-Hour LOS – Signalized Intersections 8
Table 7: 2028 Background PM Peak-Hour LOS – Roadway Segments 11
Table 8: 2028 Background PM Peak-Hour LOS – Roadway Segments Improved 11
Table 9: Trip Generation 12
Table 10: 2028 Build-Out AM and PM Peak-Hour LOS – Unsignalized Intersections 17
Table 11: 2028 Build-Out AM and PM Peak-Hour LOS – Unsignalized Intersection - Improved 17
Table 12: Alternative Scenario Comparison – Diamond Intersection 18
Table 13: 2028 Build-Out AM and PM Peak-Hour LOS – Signalized Intersections 19
Table 14: 2028 Build-Out PM Peak-Hour Two-Way LOS – Roadway Segments 20
Table 15: Queue Length and Turn Lane 20
Table 16: Recommended Improvements – Roadway Segments 22
Table 17: Recommended Improvements – Intersections 22

LIST OF APPENDICES

Appendix A- Site Plan
Appendix B- Approved Methodology Letter
Appendix C- Turning Movement Count Data & FDOT's Seasonal Factor
Appendix D- Intersections Summary Work Sheets – Existing Conditions
Appendix E- Signal Timings
Appendix F- Traffic Trends Analysis Sheets & Vested Traffic & Trip Assignments
Appendix G- Intersections Summary Work Sheets – 2028 Background Conditions
Appendix H- Intersections Summary Work Sheets – 2028 Buildout Conditions
Appendix I- Traffic Signal Warrant Study
Appendix J- Intersections Summary Work Sheets – 2028 Buildout Improvement Conditions
Appendix K- Intersections Summary Work Sheets – Alternative Scenario Comparison

1

INTRODUCTION

LTG, Inc. (LTG) has been retained by Triumph Oaks of Ormond Beach I, LLC to prepare a Traffic Impact Analysis (TIA) for the Tomoka Oaks Residential development, located west of the Nova Road/Tomoka Oaks Boulevard intersection in the City of Ormond Beach, Florida**. Figure 1** shows the location of the project relative to the surrounding road network. The development will consist of 300 single family dwelling units. Build-out of the proposed development is anticipated by 2028.

Access to the development will be provided at the western leg of the Tomoka Oaks Boulevard/St. Andrews Drive intersection with primary external access at the existing Tomoka Oaks Boulevard at Nova Road intersection. A preliminary site plan is attached as Appendix A.

Study Area

The following roadway segments and intersections are included in the analysis, per the approved methodology (Appendix B):

Intersections:

1. Nova Road at US 1
2. Nova Road at Wilmette Avenue
3. SR 40 at Main Trail
4. Tomoka Oaks Boulevard at Nova Road
5. Tomoka Oaks Boulevard at Escondido Multifamily Driveway
6. Tomoka Oaks Boulevard at N. St. Andrews Drive
7. Tomoka Oaks Boulevard at S. St. Andrews Drive
8. Tomoka Oaks Boulevard at West Diamond
9. Tomoka Oaks Boulevard at East Diamond
10. St. Andrew's Drive at W Rio Pinar Trail
11. St. Andrew's Drive at E Rio Pinar Trail
12. St. Andrew's Drive at Iroquois Trail

Roadway Segments:

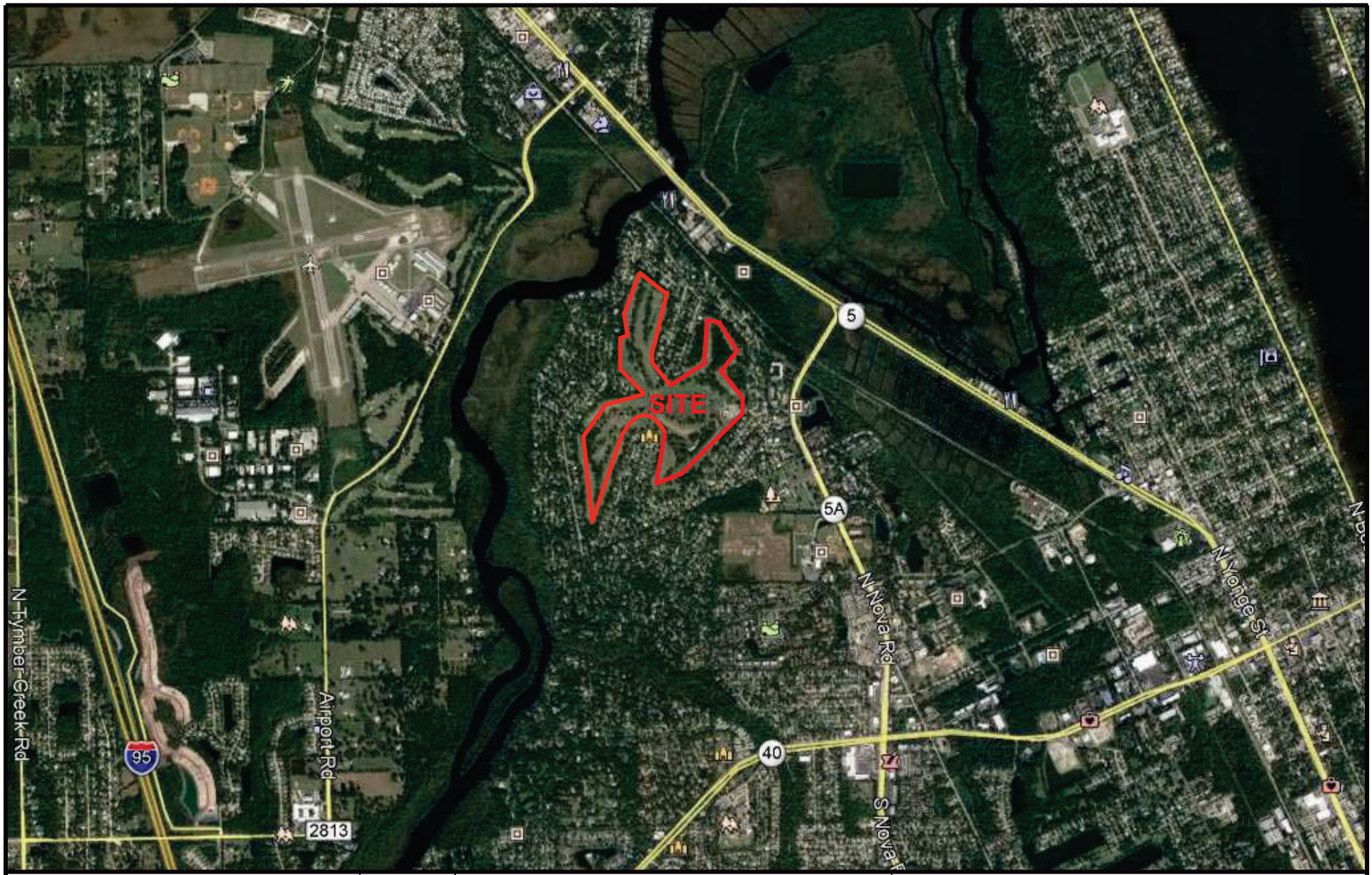
- Nova Road from US 1 to Wilmette Avenue (Significant)
- SR 40/Granada Boulevard from I-95 to Clyde Morris Boulevard (near critical)
- SR 40/Granada Boulevard from Clyde Morris Boulevard to Nova Road (near critical)
- SR 40/Granada Boulevard from US 1 to Halifax Avenue (critical)
- Hand Avenue from Clyde Morris Boulevard to Nova Road (vested near critical)
- Williamson Boulevard from Hand Avenue to Strickland Range Road (vested critical)

Study Procedures

Standard engineering and planning procedures were used to determine the impacts of the proposed project. Reference data was obtained from the Florida Department of Transportation (FDOT), the Volusia County Traffic Engineering Department, the City of Ormond Beach Planning Department, the Institute of Transportation Engineers (ITE), and the River to Sea Transportation Planning Organization (R2CTPO).

Planned Roadway Improvements

Information on programmed or planned roadway improvements in the area of interest was obtained from the FDOT Five-Year Work Program, Volusia County, the R2CTPO Long Range Transportation Plan, and previously approved projects. There are no capacity-enhancing programs currently planned within the study area.



Tomoka Oaks Residential	N NTS	**Project Location Map**	LTG Engineering & Planning
		Project No.: 5361.09 / Figure: 1	1450 W. Granada Blvd., Suite 2, Ormond Beach, Florida 32174 Telephone: 386.257.2571 Fax: 386.257.6996

2

EXISTING ROADWAY ANALYSIS

Turning movement counts (TMCs) were conducted during the AM and PM peak-hours on March 2nd, 2023, at the study area intersections (see Appendix C). FDOT's 2021 Seasonal Factors (SF) for the corresponding dates were applied to the existing counts. Please note, if the FDOT SF was less than 1.0, a minimum SF of 1.0 was applied to the counts. The turning movement counts during the AM and PM peak-hours for Tomoka Oaks Boulevard at N. St. Andrews Drive and Tomoka Oaks Boulevard at West Diamond during the PM peak-hours were calibrated to the same peak hour as Tomoka Oaks Boulevard at the study intersections to reflect the balancing turning movements. The existing AM and PM peak-hour traffic volumes used in the analysis are depicted in **Figure 2**.

Unsignalized Intersection Analysis

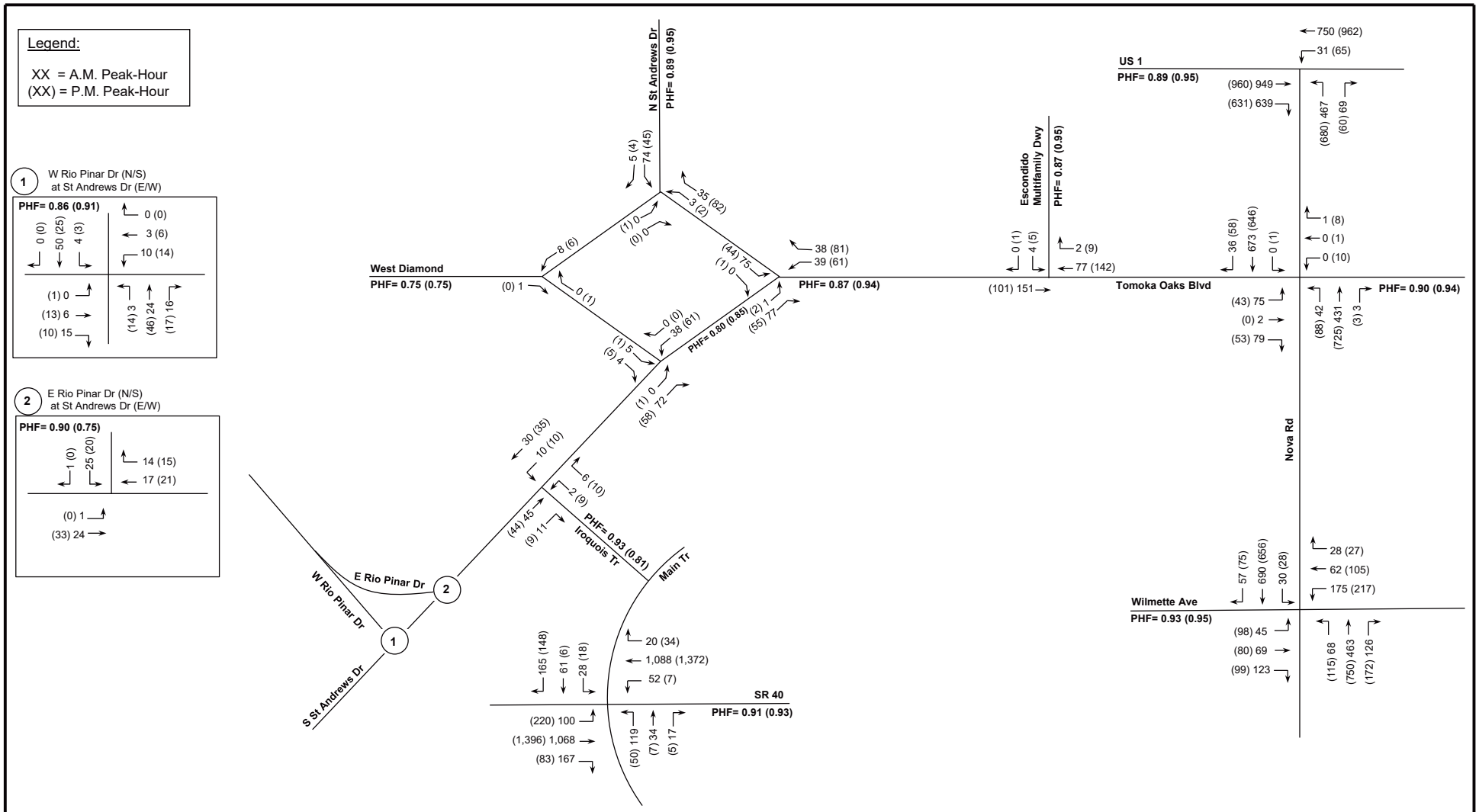
The existing operating conditions at the unsignalized intersections were analyzed using *HCS 2023 or Synchro 11* at the study area intersections. This software utilizes the procedures outlined in Chapter 20 of the Highway Capacity Manual (6th Edition) titled, "Two-Way Stop-Controlled Intersections". **Table 1** shows the existing AM and PM peak-hour level of service (LOS) at the study area intersections. The HCS and Synchro summary sheets are attached as Appendix D.

Table 1
Existing AM and PM Peak-Hour LOS - Unsignalized Intersections
Tomoka Oaks Residential

Intersection	Adopted LOS	Analysis Method	AM Peak-Hour			PM Peak-Hour		
			Critical Approach	Delay (sec.)	LOS	Critical Approach	Delay (sec.)	LOS
Nova Rd. at Tomoka Oaks Blvd.	D	Synchro	EB	23.4	C	EB	20.1	C
Tomoka Oaks Blvd at Escondido Multifamily Access	D	Synchro	SB	10.0	B	SB	10.0	B
Tomoka Oaks Blvd. at N. St. Andrews Dr.	D	Synchro	SB	9.0	A	SB	8.9	A
Tomoka Oaks Blvd. at S. St. Andrews Dr.[1]	D	Synchro	NB	8.6	A	NB	8.6	A
Tomoka Oaks Blvd. at West Diamond [2]	D	Synchro	N/A	-	-	N/A	-	-
Tomoka Oaks Blvd. at East Diamond	D	Synchro	SB	9.9	A	SB	9.7	A
St. Andrew's Dr. at W Rio Pinar Tr.	D	HCS	SB	7.8	A	EB	8.9	A
St. Andrew's Dr. at E Rio Pinar Tr.	D	HCS	SB	8.9	A	SB	9.1	A
St. Andrew's Dr. at Iroquois Tr.	D	HCS	NB	8.7	A	NB	9.0	A

[1]The HCM 6th methodology is not compatible with the geometry, therefore HCM 2000 was used to report the LOS.
[2]The intersection currently operates under free-flow conditions (no stop control present) with minimal peak hour volumes; therefore, no LOS is reported.

As indicated, all unsignalized intersections are currently operating within the adopted level of service under existing conditions.



Tomoka Oaks Residential

N

NTS

Existing A.M. & P.M. Turning Movement Counts

Project Number: 5361.09

Figure: 2

LTG Engineering & Planning
1450 W. Granada Blvd, Suite 2 – Ormond Beach, Florida 32174
Telephone: 386.257.2571 Fax: 386.257.6996 EB# 0009227

Signalized Intersection Analysis

The existing operating conditions at the signalized intersections were analyzed using *HCS 2023*, which utilizes the procedures outlined in Chapter 19 of the *Highway Capacity Manual 6th Edition*, titled "Signalized Intersections". **Table 2** shows the existing LOS and volume to capacity ratios (v/c) at the study area intersections. The signal timings are provided in Appendix E and the HCS summary sheets are provided in Appendix D.

Table 2
Existing AM and PM Peak-Hour LOS - Signalized Intersections
Tomoka Oaks Residential

Intersection	Adopted LOS	AM Peak-Hour			PM Peak-Hour		
		Delay (sec.)	LOS	V/C greater than 1.0?	Delay (sec.)	LOS	V/C greater than 1.0?
Nova Rd. at US 1	D	14.5	B	No	17.9	B	No
Nova Rd. at Wilmette Ave.	D	26.2	C	No	31.4	C	No
SR 40 at Main Trail	D	23.2	C	No	20.4	C	No

As indicated, all signalized intersections are currently operating within the adopted level of service under existing conditions.

Roadway Segment Analysis

Roadway LOS describes the operating condition determined from the number of vehicles passing over a given section of roadway during a specified time period. It is a qualitative measure of several factors which include speed, travel time, traffic interruptions, freedom to maneuver, driver comfort, convenience, safety, and vehicle operating costs. Six LOS categories have been established as standards by which to gauge roadway performance, designated by the letters A through F. The LOS categories are defined as follows:

Level of Service A: *Free flow, individual users virtually unaffected by the presence of others.*
Level of Service B: *Stable flow with a high degree of freedom to select operating conditions.*
Level of Service C: *Flow remains stable, but with significant interactions with others.*
Level of Service D: *High-density stable flow in which the freedom to maneuver is severely restricted.*
Level of Service E: *This condition represents the capacity level of the road.*
Level of Service F: *Forced flow in which the traffic exceeds the amount that can be served.*

The Average Annual Daily Traffic (AADT) for the study roadway segments was obtained from the FDOT *Traffic Online* database and Volusia County 2021 Average Annual Daily Traffic & Historical Counts spreadsheet. The existing LOS for the study area road segments during the peak-hour are provided in **Table 3**. As indicated, all roadway segments currently operate within the adopted LOS under peak hour two-way conditions.

Table 3
Existing PM Peak-Hour LOS - Roadway Segments
Tomoka Oaks Residential

Roadway	Segment		No. of Lanes	Adopted LOS	Peak-Hour Two-Way Capacity[1]	Count Source	2021 AADT	Existing Peak-Hour Two-Way Volume[2]	Existing PM Volume Exceed Adopted LOS?
SR 5A/Nova Rd.	US 1	Wilmette Ave.	4	D	3,455	FDOT	14,400	1,296	No
SR 40/Granada Blvd.	I-95	Clyde Morris Blvd.	4	D	3,455	FDOT	36,000	3,240	No
	Clyde Morris Blvd.	Nova Rd.	4	D	3,455	FDOT	35,500	3,195	No
	US 1	Halifax Ave.	4	D	3,413	FDOT	35,500	3,380	No
Hand Ave.	Clyde Morris Blvd.	Shangri La Dr.	2	E	1,540	Volusia	14,880	1,200	No
	Shangri La Dr.	Nova Rd.	4	E	3,410	Volusia	16,250	1,350	No
Williamson Blvd.	Hand Ave.	Strickland Range Rd.	2	E	1,540	Volusia	17,520	1,420	No

[1]Adopted LOS, capacity, existing AADT, and existing PM Peak-Hour Two-Way Volume obtained from the 2021 Volusia County Traffic Count Spreadsheet for County maintained facilities. FDOT Generalized Service Volume Tables, Context Classification, and adjustment factors used for FDOT roadways.
[2]Existing Peak Hour Two-Way Volume obtained from Volusia County Spreadsheet for County roadways and determined using a K-factor (0.09) for FDOT roadways.

3

FUTURE TRAFFIC CONDITIONS

Traffic in the area is expected to grow due to local government approvals. The following section documents the methods used to project future 2028 traffic conditions by using either historical growth rates and/or vested trip information and anticipated project traffic.

2028 Background Traffic

The growth rates for each study area roadway segment will be determined using the following method:

- Historic growth trends calculated based upon the last five years of historic count data to determine a roadway segment's applicable trend growth rate using the best fitted regression analysis.
- If the R^2 value is less than 0.70, then ten (10) years of historical traffic data will be used to determine the trends growth rate using the best fitted regressions analysis.
- If the R^2 is still less than 0.70, the R^2 for the adjoining northbound and southbound segments will be analyzed to determine the average growth rate of adjoining segments can be utilized.
- Then the growth rate shall be determined by the trend fitted curve. If the overall trend fitted curve is positive, 2% shall be used. If the overall trend fitted curve is negative, then a 1% growth rate will be applied.
- In no case shall the growth rate be negative.
- Vested trips will be applied in addition to growth rates where applicable.
- If the R^2 value is greater than 70%, and the growth rate is greater than 3%, the background growth will be determined using either vested trips or the growth rate, whichever is more conservative.
- If the R^2 value is greater than 70%, and the growth rate is greater than 3%, and there is a high number of vested trips to be applied by multiple vested projects with various land uses, a request may be made to reduce vested traffic by 30% if the vested traffic is 30% of the total background growth.
- Per County Directive, exponential regression will not be used to determine growth.

The growth comparison and applied growth used in the analysis are provided in **Table 4**. The FDOT *Traffic Trends* analysis worksheets, updated critical/near critical map and significant table, the vested trip information was obtained from the County's vested trip database and the spreadsheet used to develop the existing, background and build-out traffic volumes attached as Appendix F.

Table 4
Historical Growth Rates and Vested Traffic
Tomoka Oaks Residential

Roadway	Limits		5-Year			10-Year			Resulting Historical Annual Growth Rate	Applied Growth If Using Adjacent Segment	High Growth? Y/N	Vested Trips	Existing Peak-Hour Volume	Total Historical Growth (# of Trips)	Applied Growth Method	Total Growth Applied (# of Trips)	2028 Total Background Volume
	From	To	Best Fit Regression	R^2 Value	Historical Growth Rate	Best Fit Regression	R^2 Value	Historical Growth Rate									
SR 5A/Nova Rd.	US 1	Wilmette Ave.	Linear	43.4%	1.36%	Linear	85.9%	1.82%	1.82%	-	N	0	1,296	165	Historical Growth	165	1,461
SR 40/Granada Blvd.	I-95	Clyde Morris Blvd.	Linear	11.2%	-0.77%	Linear	38.5%	0.78%	Check adjacent	1.23%	N	77	3,240	279	Historical + Vested	356	3,596
	Clyde Morris Blvd.	Nova Rd.	Linear	47.1%	1.26%	Linear	70.9%	1.23%	1.23%	-	N	104	3,195	275	Historical + Vested	379	3,574
	US 1	Halifax Ave.	Linear	57.1%	-2.19%	Linear	43.0%	1.74%	Check adjacent	1.23%	N	46	3,380	291	Historical + Vested	337	3,717
Hand Ave.	Clyde Morris Blvd.	Shangri La Dr.	Linear	84.8%	-3.31%	-	-	-	1.00%	-	N	435	1,200	84	Historical + Vested	519	1,719
	Shangri La Dr.	Nova Rd.	Linear	57.5%	-2.26%	Decaying Exp	62.8%	0.41%	Check adjacent	1.00%	N	0	1,350	95	Historical Growth	95	1,445
Williamson Blvd.	Hand Ave.	Strickland Range Rd.	Linear	35.6%	3.53%	Linear	83.0%	4.05%	4.05%	-	Y	702	1,420	403	Vested	702	2,122

Growth Determination - Additional Segments for Intersection Analyses

Roadway	Limits		5-Year			10-Year			Resulting Historical Annual Growth Rate	Applied Growth If Using Adjacent Segment	High Growth? Y/N	Vested Trips	Existing Peak-Hour Volume	Total Historical Growth (# of Trips)	Applied Growth Method	Total Growth Applied (# of Trips)	2028 Total Background Volume
	From	To	Best Fit Regression	R^2 Value	Historical Growth Rate	Best Fit Regression	R^2 Value	Historical Growth Rate									
Nova Road	SR 40	Wilmette Ave	Linear	78.1%	-4.48%	-	-	-	1.00%	-	N	0	1,935	135	Historical Growth	135	2,070
US 1	Nova Rd	Airport Rd	Linear	43.2%	1.26%	Linear	89.2%	2.97%	2.97%	-	N	0	2,790	580	Historical Growth	580	3,370
US 1	SR 40	Nova Rd	Decaying Exp	27.0%	-0.22%	Linear	73.8%	1.77%	1.77%	-	N	0	1,755	217	Historical Growth	217	1,972

Note: A minimum 1% annual growth rate was used for local segments and intersections.

4

2028 BACKGROUND ROADWAY ANALYSIS

The study area intersections and roadway segments were analyzed based on the future roadway conditions to determine potential impacts and to investigate mitigation requirements. **Figure 3** graphically depicts the 2028 background volumes during a.m. and p.m. peak-hours. The results of the analysis are presented below.

2028 Background – Unsignalized Intersection Analysis

The unsignalized intersections were analyzed to determine the operating conditions under 2028 background conditions and the results are presented in **Table 5**. The HCS and Synchro summary sheets are included in Appendix G.

Table 5
2028 Background AM and PM Peak-Hour LOS - Unsignalized Intersections
Tomoka Oaks Residential

Intersection	Adopted LOS	Analysis Method	AM Peak-Hour			PM Peak-Hour		
			Critical Approach	Delay (sec.)	LOS	Critical Approach	Delay (sec.)	LOS
Nova Rd. at Tomoka Oaks Blvd.	D	Synchro	EB	26.3	D	EB	21.7	C
Tomoka Oaks Blvd at Escondido Multifamily Access	D	Synchro	SB	10.1	B	SB	10.1	B
Tomoka Oaks Blvd. at N. St. Andrews Dr.	D	Synchro	SB	9.0	A	SB	9.0	A
Tomoka Oaks Blvd. at S. St. Andrews Dr.	D	Synchro	NB	8.6	A	NB	8.6	A
Tomoka Oaks Blvd. at West Diamond [1]	D	Synchro	N/A	-	-	N/A	-	-
Tomoka Oaks Blvd. at East Diamond	D	Synchro	SB	9.9	A	SB	9.7	A
St. Andrew's Dr. at W Rio Pinar Tr.	D	HCS	SB	7.9	A	EB	8.9	A
St. Andrew's Dr. at E Rio Pinar Tr.	D	HCS	SB	8.9	A	SB	9.2	A
St. Andrew's Dr. at Iroquois Tr.	D	HCS	NB	8.7	A	NB	9.0	A

[1] Existing intersection is not currently under stop-control; no LOS reported in Synchro.

As indicated in Table 5, all unsignalized intersections are expected to operate within the adopted level of service under background conditions.

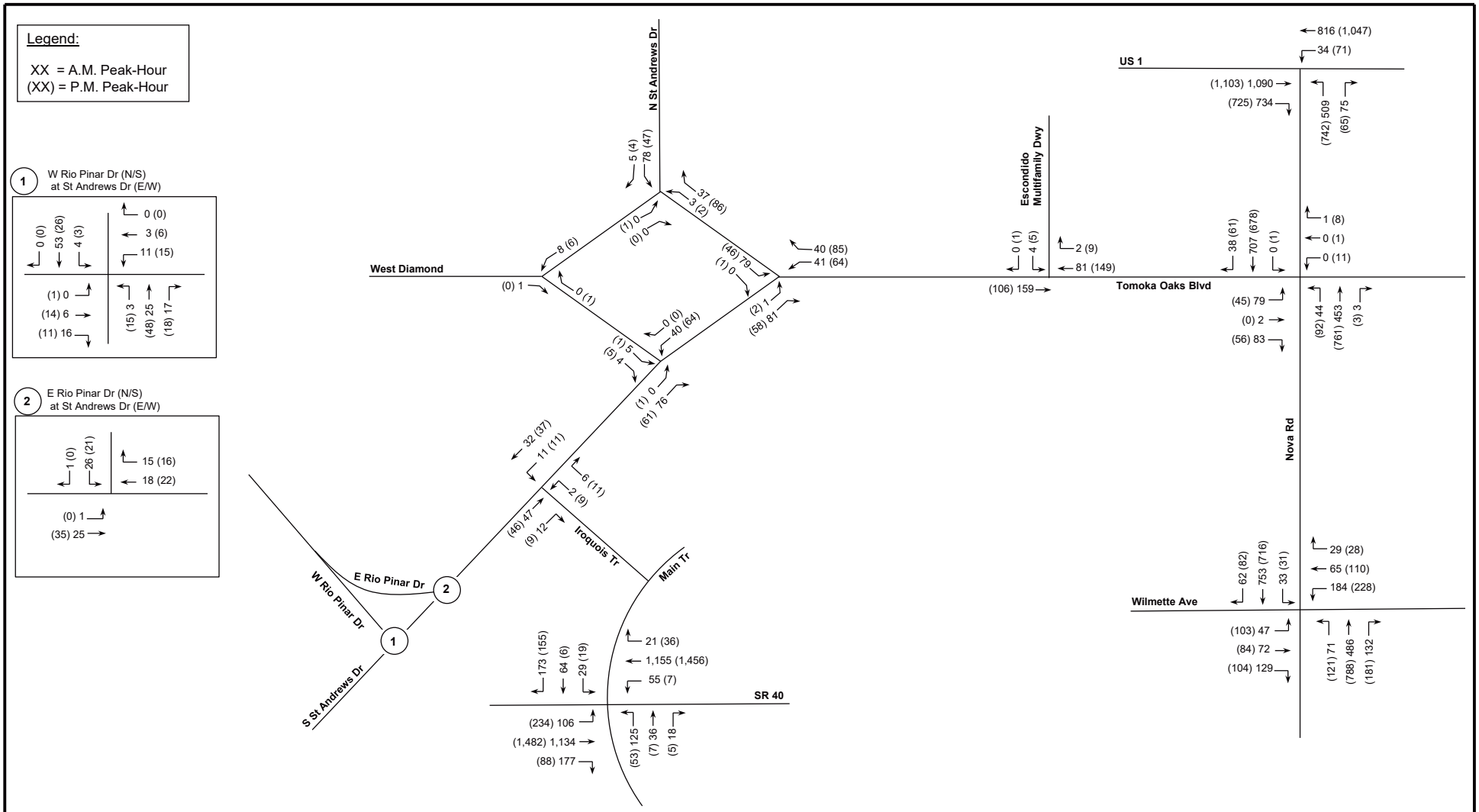
2028 Background – Signalized Intersection Analysis

The signalized intersections were analyzed to determine the operating conditions under 2028 background conditions and the results are presented in Table 6. The HCS summary sheets are included in Appendix G.

Table 6
2028 Background AM and PM Peak-Hour LOS - Signalized Intersections
Tomoka Oaks Residential

Intersection	Adopted LOS	AM Peak-Hour			PM Peak-Hour		
		Delay (sec.)	LOS	V/C greater than 1.0?	Delay (sec.)	LOS	V/C greater than 1.0?
Nova Rd. at US 1	D	15.8	B	No	19.8	B	No
Nova Rd. at Wilmette Ave.	D	27.4	C	No	33.7	C	No
SR 40 at Main Trail	D	26.0	C	No	23.0	C	No

As indicated, all signalized intersections are expected to operate within the adopted level of service under background conditions.



Tomoka Oaks Residential	N NTS	**2028 Background A.M. & P.M. Traffic Volumes**	Project Number: 5361.09 / Figure: 3

LTG Engineering & Planning
1450 W. Granada Blvd, Suite 2 – Ormond Beach, Florida 32174
Telephone: 386.257.2571 Fax: 386.257.6996 EB# 0009227

2028 Background – Roadway Segment Analysis

The study area roadway segments were analyzed under 2028 background conditions to determine the anticipated two-way peak-hour LOS. The results are provided in **Table 7**. As indicated, all study area roadway segments currently operate within their adopted LOS during the PM peak-hour except for the segments of SR 40/Granada Boulevard from I-95 to Clyde Morris Boulevard, Clyde Morris Boulevard to Nova Road and US 1 to Halifax Avenue; Hand Avenue from Clyde Morris Boulevard to Shangri La Drive and Williamson Boulevard from Hand Avenue to Strickland Range Road. The following improvements are recommended to improve the LOS deficiency:

SR 40/Granada Boulevard from I-95 to Clyde Morris Boulevard:

- Widen from 4-lanes to 6-lanes.

SR 40/Granada Boulevard from Clyde Morris Boulevard to Nova Road:

- Widen from 4-lanes to 6-lanes.

SR 40/Granada Boulevard from US 1 to Halifax Avenue:

- Widen from 4-lanes to 6-lanes.

Hand Avenue from Clyde Morris Boulevard to Shangri La Drive:

- Widen from 2-lanes to 4-lanes.

Williamson Boulevard from Hand Avenue to Strickland Range Road:

- Widen from 2-lanes to 4-lanes.

The improved roadway segment analysis for the deficient segments is provided in **Table 8.**

Table 7
2028 Background PM Peak-Hour LOS - Roadway Segments
Tomoka Oaks Residential

Roadway	Segment		No. of Lanes	Adopted LOS	Peak-Hour Two-Way Capacity	Existing PM Peak-Hour Two-Way Volume	Growth Method Applied	Total Growth Applied (# of Trips)	2028 Total Background Volume	Background PM Volume Exceed Adopted LOS?
SR 5A/Nova Rd.	US 1	Wilmette Ave.	4	D	3,455	1,296	Historical Growth	165	1,461	No
SR 40/Granada Blvd.	I-95	Clyde Morris Blvd.	4	D	3,455	3,240	Historical + Vested	356	3,596	Yes
	Clyde Morris Blvd.	Nova Rd.	4	D	3,455	3,195	Historical + Vested	379	3,574	Yes
	US 1	Halifax Ave.	4	D	3,413	3,380	Historical + Vested	337	3,717	Yes
Hand Ave.	Clyde Morris Blvd.	Shangri La Dr.	2	E	1,540	1,200	Historical + Vested	519	1,719	Yes
	Shangri La Dr.	Nova Rd.	4	E	3,410	1,350	Historical Growth	95	1,445	No
Williamson Blvd.	Hand Ave.	Strickland Range Rd.	2	E	1,540	1,420	Vested	702	2,122	Yes

Table 8
2028 Background PM Peak-Hour LOS - Roadway Segments – Improved*
Tomoka Oaks Residential

Roadway	Segment		No. of Lanes	Adopted LOS	Peak-Hour Two-Way Capacity	Existing PM Peak-Hour Two-Way Volume	Growth Method Applied	Total Growth Applied (# of Trips)	2028 Total Background Volume	Background PM Volume Exceed Adopted LOS?
SR 40/Granada Blvd.	I-95	Clyde Morris Blvd.	6	D	5,114	3,240	Historical + Vested	356	3,596	No
	Clyde Morris Blvd.	Nova Rd.	6	D	5,114	3,195	Historical + Vested	379	3,574	No
	US 1	Halifax Ave.	6	D	5,366	3,380	Historical + Vested	337	3,717	No
Hand Ave.	Clyde Morris Blvd.	Shangri La Dr.	4	E	3,410	1,200	Historical + Vested	519	1,719	No
Williamson Blvd.	Hand Ave.	Strickland Range Rd.	4	E	3,410	1,420	Vested	702	2,122	No

**Improved peak-hour two-way capacity determined using FDOT 2023 Generalized Service Tables and comparable capacity from Volusia County's AADT Spreadsheet; Improvements not fully funded for construction at this time.*

5

2028 BUILD-OUT ROADWAY ANALYSIS

The study area intersections and roadway segments were analyzed based on the roadway conditions at the time of project build-out to determine potential impacts of project-generated trips and identify mitigation requirements. The improvements recommended in background conditions have been included in the 2028 build-out analysis for those applicable intersections and roadway segments.

Project Trip Generation

The daily, a.m., and p.m. peak hour trip generation for the development presented in **Table 9** was determined using the Institute of Transportation Engineers (ITE) 11th Edition of the *Trip Generation Manual*.

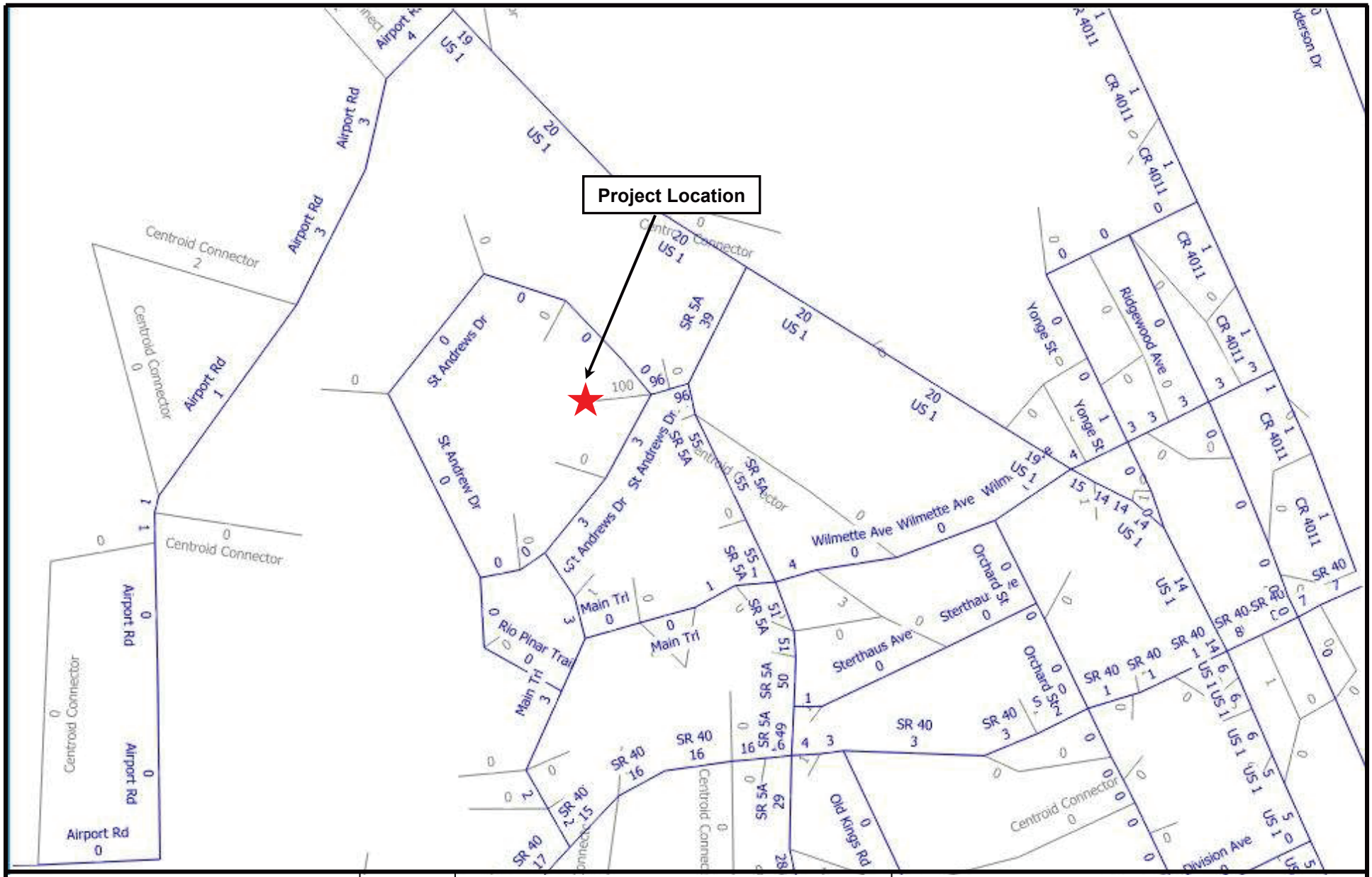
Table 9
Project Trip Generation
Tomoka Oaks Residential

Time Period	Land Use	ITE Code	Trip Rate Equation	Quantity (X)		Percent Entering	Percent Exiting	Trips Entering	Trips Exiting	Total Trips (T)
Daily	Single Family Residential	210	Ln(T) = 0.92 Ln(X) + 2.68	300	DU	50%	50%	1,387	1,387	2,774
AM Peak-Hour			Ln(T) = 0.91 Ln(X) + 0.12			26%	74%	53	149	202
PM Peak-Hour			Ln(T) = 0.94 Ln(X) + 0.27			63%	37%	176	103	279

Project Trip Distribution

The Central Florida Regional Planning Model, version 6.1 (CFRPM) was used to obtain the project trip distribution for the proposed development. A select zone analysis was completed and resulted in the project trip distribution shown in **Figure 4A**. **Figure 4B** provides a more detailed view of the model output in the vicinity of the site.

Using the trip distribution, the a.m. and p.m. peak hour project trips were assigned to the study area roadway network. **Figure 5** and **Figure 6** graphically depict the 2028 total background traffic, project trips, and resulting 2028 buildout traffic at the study area intersections.



Tomoka Oaks Residential

Project Trip Distribution

Project No.: 5361.09

Figure: 4A

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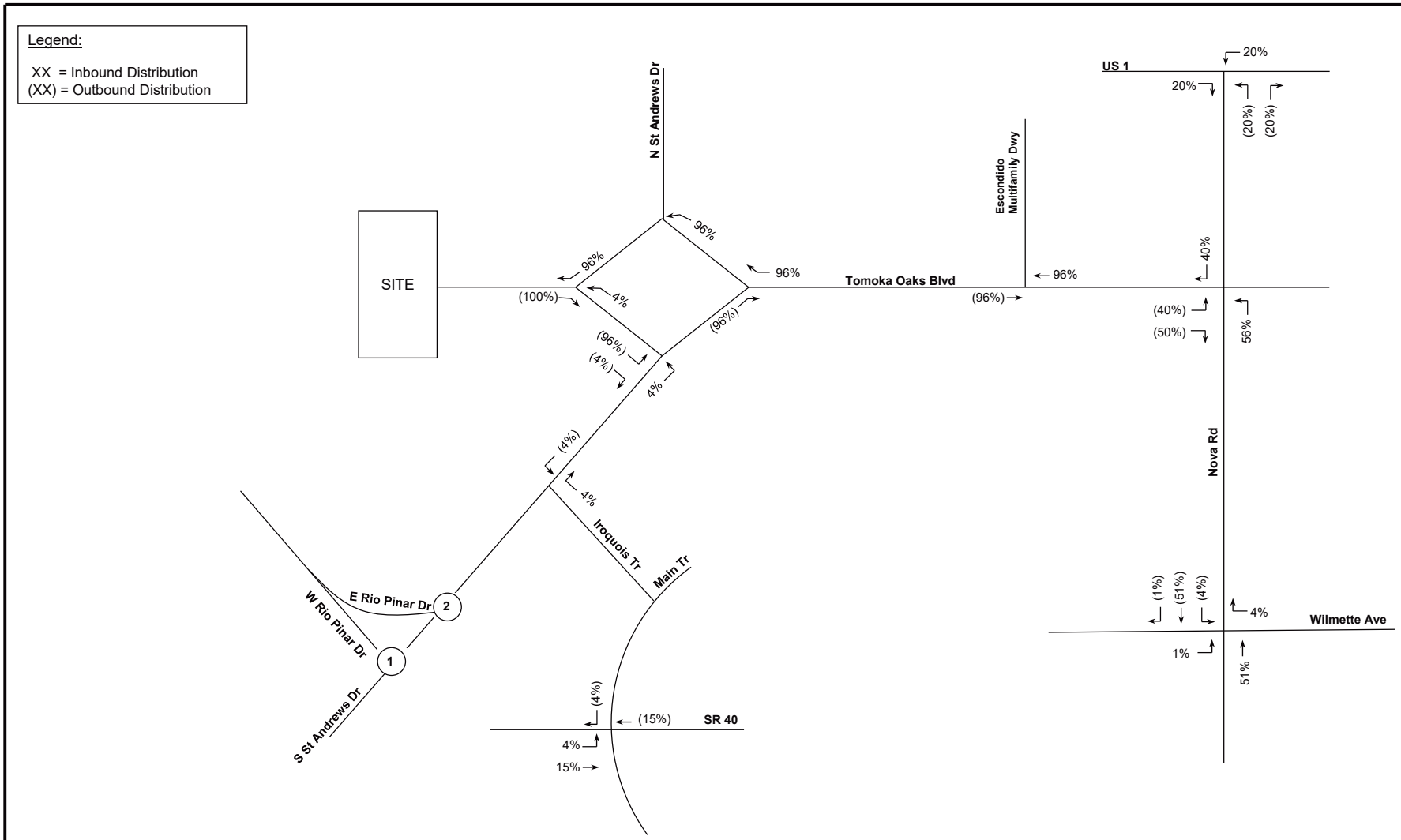

Tomoka Oaks Residential	N NTS	**Project Trip Distribution**	
		Project Number: 5361.09	Figure: 4B

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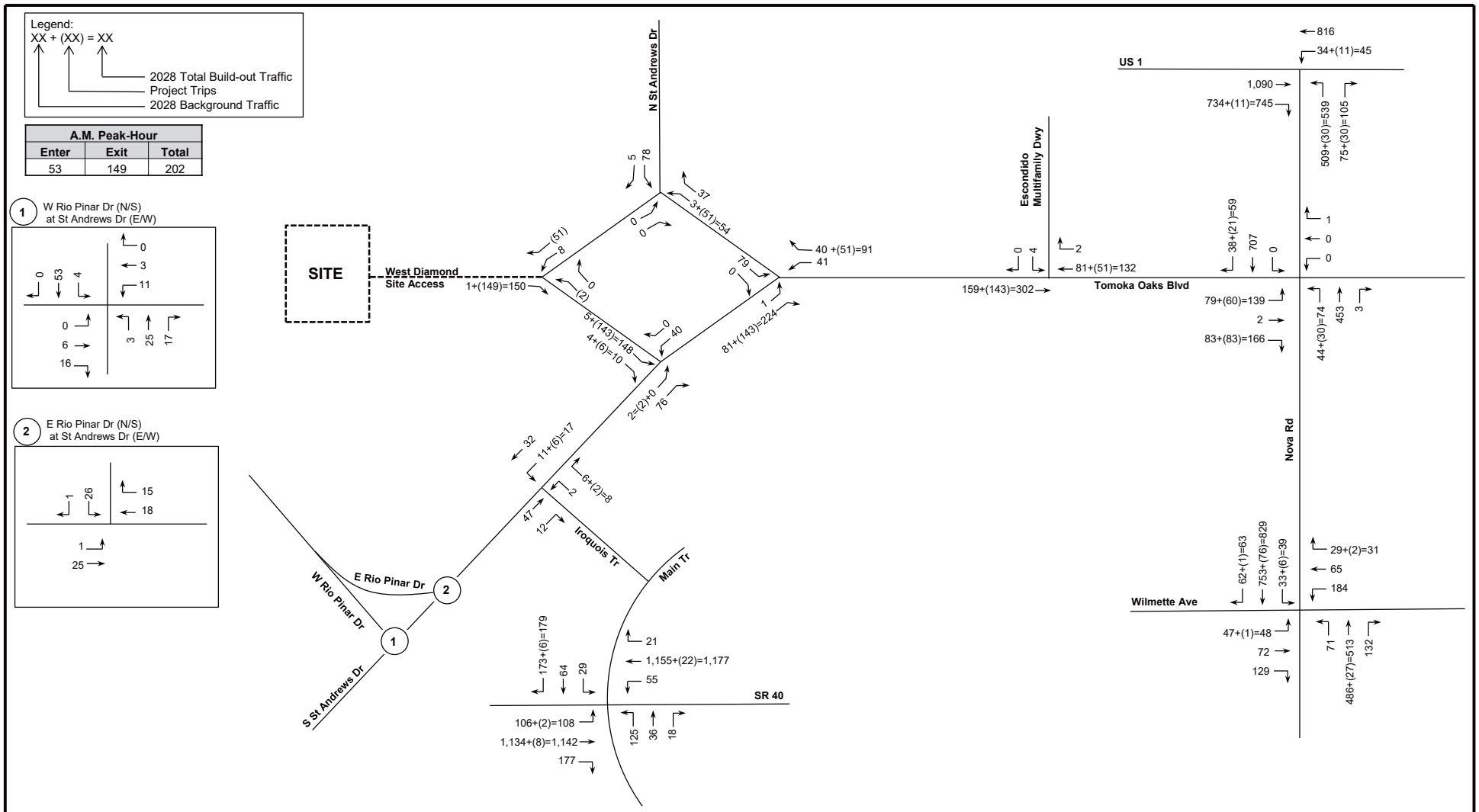
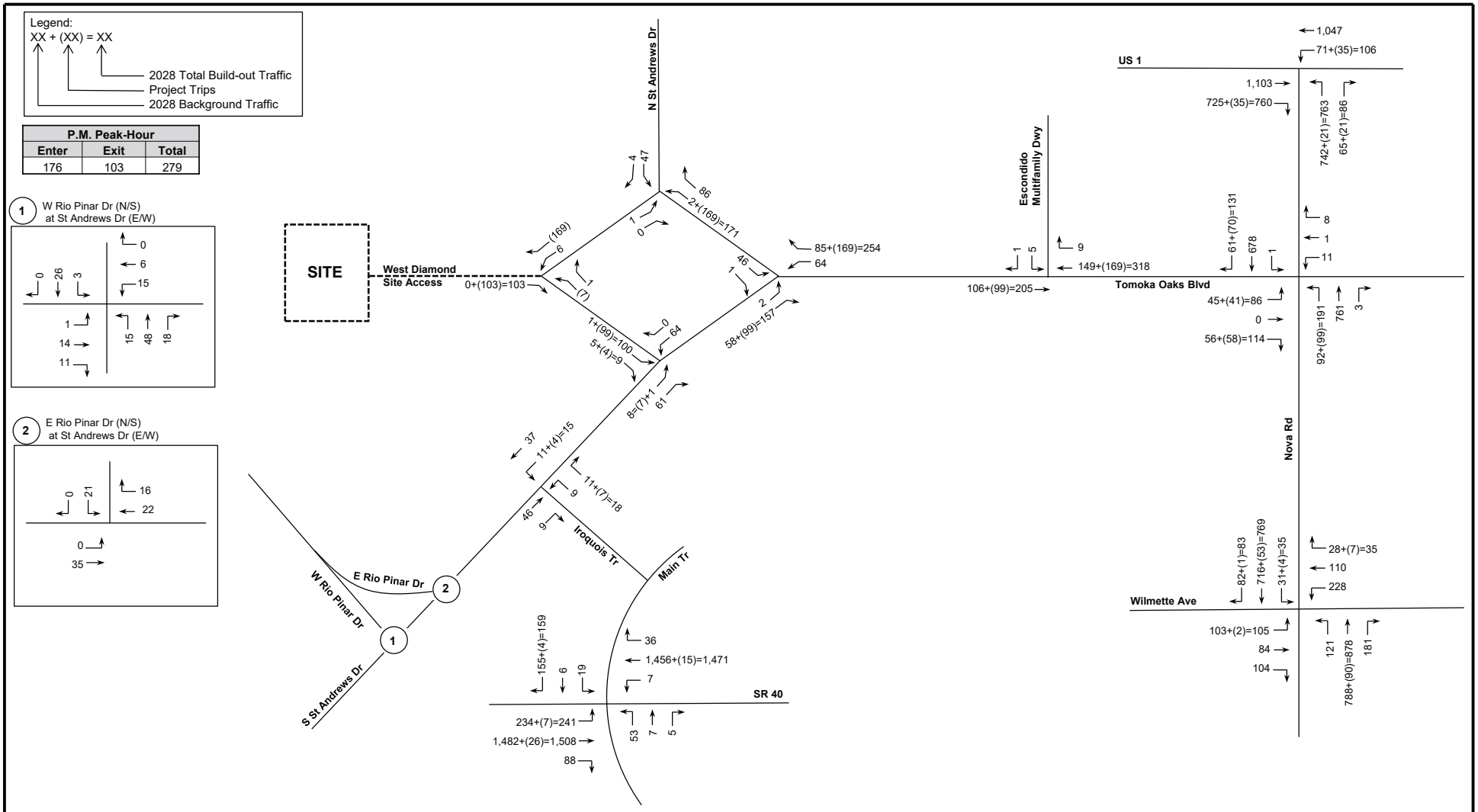


Tomoka Oaks Residential	N NTS	**2028 Buildout A.M. Peak-Hour Traffic Volumes**	LTG Engineering & Planning
		Project Number: 5361.09 / Figure: 5	1450 W. Granada Blvd, Suite 2 – Ormond Beach, Florida 32174 Telephone: 386.257.2571 Fax: 386.257.6996 EB# 0009227



Tomoka Oaks Residential

N

NTS

2028 Buildout P.M. Peak-Hour Traffic Volumes

Project Number: 5361.09

Figure: 6

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2028 Build-Out – Unsignalized Intersection Analysis

The unsignalized intersections and the project driveway were analyzed to determine the operating conditions under 2028 build-out conditions, and the results are presented in **Table 10**. The HCS and Synchro summary sheets are included in Appendix H.

Table 10
2028 Build-Out AM and PM Peak-Hour LOS – Unsignalized Intersections
Tomoka Oaks Residential

Intersection	Adopted LOS	Analysis Method	AM Peak-Hour			PM Peak-Hour		
			Critical Approach	Delay (sec.)	LOS	Critical Approach	Delay (sec.)	LOS
Nova Rd. at Tomoka Oaks Blvd.	D	Synchro	EB	93.1	F	EB	72.3	F
Tomoka Oaks Blvd at Escondido Multifamily Access	D	Synchro	SB	11.9	B	SB	12.3	B
Tomoka Oaks Blvd. at N. St. Andrews Dr.	D	Synchro	SB	9.4	A	SB	10.1	B
Tomoka Oaks Blvd. at S. St. Andrews Dr.	D	Synchro	NB	8.7	A	NB	8.8	A
Tomoka Oaks Blvd. at West Diamond	D	Synchro	EB	9.5	A	EB	10.3	B
Tomoka Oaks Blvd. at East Diamond	D	Synchro	SB	11.6	B	SB	11.2	B
St. Andrew's Dr. at W Rio Pinar Tr.	D	HCS	SB	7.9	A	EB	8.9	A
St. Andrew's Dr. at E Rio Pinar Tr.	D	HCS	SB	8.9	A	SB	9.2	A
St. Andrew's Dr. at Iroquois Tr.	D	HCS	NB	8.7	A	NB	9.0	A

As indicated, the unsignalized intersection of Nova Road at Tomoka Oaks Boulevard is not expected to operate within the adopted level-of-service under build-out conditions. It is common that unsignalized intersections operate at higher levels of service with extended delay on the minor street approaches during peak-hour when conflicted with high major street volumes. However, a Traffic Signal Warrant Study (TSWS) was conducted at the intersection to determine whether future signal control at the intersection is warranted. The result of the analysis indicates that Warrants 1B and 2 are met by future peak hour volumes under build-out conditions. The TSWS, dated June 2021 and previously reviewed by the FDOT, is included as Appendix I.

The analysis results of the intersection of Nova Road at Tomoka Oaks Boulevard under traffic signal control is provided in **Table 11**. The intersection modification also includes adding striping for an exclusive right-turn lane to the eastbound approach approximately 75 ft. in length in order to separate right-turns from the shared left-through movement. The Synchro summary sheets are included in Appendix J. As indicated, the intersection is anticipated to operate with an acceptable LOS and with v/c ratios less than 1.0 under build-out conditions with the installation of a traffic signal.

Table 11
2028 Build-Out AM and PM Peak Hour LOS – Intersection Improvement
Tomoka Oaks Residential

Intersection	Adopted LOS	AM Peak-Hour			PM Peak-Hour		
		Delay (sec.)	LOS	V/C greater than 1.0?	Delay (sec.)	LOS	V/C greater than 1.0?
Nova Rd. at Tomoka Oaks Blvd.	**D**	**12.4**	**B**	**No**	**16.7**	**B**	**No**

It should be noted that the intersection improvement results at Nova Road and Tomoka Oaks Boulevard does not include an exclusive southbound right-turn lane. Since the intersection is expected to operate at adopted levels of service during the a.m. and p.m. peak hours, no southbound right-turn lane is proposed at this time. Final lane geometry, alignment and signal timings for the signal shall be discussed with the FDOT during the permit application process before final design of the signal.

Site Access Analysis

Access to the development will be provided at the western leg of the Tomoka Oaks Boulevard/St. Andrews Drive intersection with primary external access at the existing Tomoka Oaks Boulevard at Nova Road. No additional turn-lanes are warranted or recommended at this location. However, adding stop control for the westbound approach will be required.

As requested by City Staff, additional analysis of the proposed site access driveway, as it relates to the existing diamond-intersection configuration, was performed. The analysis includes evaluation and comparison of two alternative intersection scenarios to determine whether improved vehicular circulation and safety could be achieved. The alternative scenarios include converting the configuration to an ALL-WAY STOP or modifying to a traditional single-land roundabout. Each alternative, including the existing scenario, were evaluated for average peak hour vehicular delay, 95th percentile queue length, the average number of stops, and number of minor and major conflict points. The results are summarized in **Table 12**. The Synchro analysis outputs are attached as Appendix K.

Table 12
Alternative Scenario Comparison – Diamond Intersection
Tomoka Oaks Residential

Build-Out Alternatives	Evaluation Criteria									
	Peak Time Period	Average Total Delay (sec.)	LOS	Max 95th Percentile Queue*			No. of Conflict Points*			Average No. of Stops*
				Approach	Veh/Lane	Length (ft.)	Major	Minor	Total	
Existing Diamond	AM	9.8	A	-	1	25	6	12	18	2
	PM	10.1	B	-	1	25				
All-Way Stop Control	AM	8.4	A	EB	1	25	16	16	32	1
	PM	9.5	A	WB	2	50				
Roundabout	AM	4.1	A	EB	1	25	0	8	8	0
	PM	4.4	A	WB	1	25				

**95th Percentile Queue reported for existing diamond configuration anticipated at each internal intersection.*

**Based on common vehicle travel paths; Major conflict points include crossing maneuvers, and minor conflicts include merge/diverge maneuvers.*

**Roundabout is designed under yield condition for all approaches.*

Comparing each alternative, we can conclude that the roundabout design slightly improves the peak hour delay and results in a lower number of conflict points than the existing and ALL-WAY STOP configurations. Reducing the number of conflict points at the intersection improves the overall safety for roadway users. Not only does the roundabout decrease the number of conflict points, but the ones that remain are classified as minor and typically aren't as server as major/crossing maneuvers. Crash data reports were requested from the Ormond Beach Police Department and through Signal 4 Analytics from year 2017 through year 2021. As a result, no crashes have been reported at the internal diamond configuration.

It should be noted that the existing configuration is expected to operate within the adopted LOS during the a.m. and p.m. peak hours. Therefore, from a mitigation standpoint, no improvements or modifications are required at intersections that are not deficient. At this time, the existing configuration is proposed to remain under future buildout conditions.

Local Road Impact Analysis

At the request of City Staff, the anticipated impact of project trips to local roads and neighborhoods (particularly the existing Tomoka Oaks and Trails Development) was examined. Due to the ease and pace of alternative travel paths, project trips utilizing South Saint Andrews Drive to Iroquois Trail and ultimately to SR 40/Granada Boulevard is expected to be minimal, approximately 4% of project traffic, which equates to 111 daily trips, 8 total a.m. peak hour trips and 11 total p.m. peak hour trips. No project traffic is expected to travel to W. Rio Pinar Trail, as no complementary uses are present. The results of the build-out intersection analyses indicate no degradation of levels of service at these intersections due to the addition of project trips.

Additionally, vehicular queues and potential blocking of the existing Escondido driveway were evaluated. In summary, the 95th percentile vehicular queue at the Nova Rd./Tomoka Oaks Blvd. intersection, under future signalized conditions, results in approximately 125 ft. in the a.m. and p.m. peak hours. The location of the Escondido

driveway is approximately 160 ft. from Nova Rd. (measured from eastbound stop bar to driveway centerline). Therefore, under the future buildout scenario, with signal control, indicated that the existing driveway will not be blocked during the a.m. and p.m. peak hours.

2028 Build-Out – Signalized Intersections Analysis

The signalized intersections were analyzed to determine the operational LOS under build-out conditions. The results are presented in **Table 13**. The HCS summary sheets are contained in Appendix H.

Table 13
2028 Build-Out AM and PM Peak-Hour LOS - Signalized Intersections
Tomoka Oaks Residential

Intersection	Adopted LOS	AM Peak-Hour			PM Peak-Hour		
		Delay (sec.)	LOS	V/C greater than 1.0?	Delay (sec.)	LOS	V/C greater than 1.0?
Nova Rd. at US 1	D	16.8	B	No	20.8	C	No
Nova Rd. at Wilmette Ave.	D	28.2	C	No	34.9	C	No
SR 40 at Main Trail	D	26.4	C	No	24.3	C	No

As indicated in Table 13, all signalized intersections are anticipated to operate with an acceptable LOS and with v/c ratios less than 1.0 under build-out conditions.

2028 Build-Out Roadway Segment Analysis

The study area roadway segments were analyzed under build-out conditions, including the improvements identified during 2028 background conditions, to determine the anticipated LOS and the results are presented in Table 14. As indicated, all study area roadway segments are expected to operate within the adopted LOS.

Queue Length and Turn Lane Analysis

A queue length analysis was conducted to determine recommended storage lengths for existing turn lanes at external study area intersections that are impacted by project traffic. The HCS results were used to obtain the 95th percentile queue lengths expected for each exclusive turn lane during the AM and PM peak-hours. Turn lane requirements were evaluated using the Volusia County LDC Section 72-619, Table VI and FDOT Design Manual Exhibit 212-1. The resulting recommended turn lane lengths for the intersections are provided in Table 15. The results are listed below:

Nova Road at US 1
- Northbound left-turn lane by 25-feet.

Nova Road at Tomoka Oaks Boulevard
- Northbound left-turn lane by 50-feet.

Nova Road at Wilmette Avenue
- Southbound left-turn lane by 15-feet.

Additionally, a circulation and queue analysis at the internal diamond intersections/St. Andrews Drive, the Escondido Multifamily Driveway access, and Nova Road along Tomoka Oaks Boulevard was conducted using SIM Traffic/Synchro Simulation Software under future AM and PM peak hour conditions. The analysis was conducted under existing roadway geometry and proposed future geometry (signal at Tomoka Oaks Blvd./Nova Rd.) to determine whether additional mitigation is recommended in order to improve safety and vehicle circulation. As a result, the vehicle queue is improved with the addition of the signal at Nova Road. The resulting 95th percentile queue length equates to 125 feet in the AM peak hour and 125 feet in the PM peak hour for the eastbound approach. The Escondido Multifamily Driveway is located approximately 160 feet west of Nova Road (measured from the eastbound stop bar to the driveway centerline), indicating that the driveway is not expected to be blocked under future improved buildout conditions.

Table 14
2028 Build-Out PM Peak-Hour LOS - Roadway Segments*
Tomoka Oaks Residential

Roadway	Segment		No. of Lanes	Adopted LOS	Peak-Hour Two-Way Capacity	Existing PM Peak-Hour Two-Way Volume	2028 Background Volume	Project Distribution	Project Trips	2028 Total Build-Out Volume	2028 Build-Out Volume Exceed Adopted LOS?
SR 5A/Nova Rd.	US 1	Wilmette Ave.	4	D	3,455	1,296	1,461	57%	159	1,620	No
SR 40/Granada Blvd.	I-95	Clyde Morris Blvd.	4	D	5,114	3,240	3,596	12%	33	3,629	No
	Clyde Morris Blvd.	Nova Rd.	4	D	5,114	3,195	3,574	17%	47	3,621	No
	US 1	Halifax Ave.	6	D	5,366	3,380	3,717	7%	20	3,737	No
Hand Ave.	Clyde Morris Blvd.	Shangri La Dr.	4	E	3,410	1,200	1,719	3%	8	1,727	No
	Shangri La Dr.	Nova Rd.	4	E	3,410	1,350	1,445	2%	6	1,451	No
Williamson Blvd.	Hand Ave.	Strickland Range Rd.	4	E	3,410	1,420	2,122	4%	11	2,133	No

**Includes improvements recommended in background conditions, which are currently not fully funded for construction.*

Table 15
Queue Length and Turn Lane
Tomoka Oaks Residential[1]

Intersection	Turn Lane	Posted Speed Limit (mph)	Existing Lane Length (ft)	Required Deceleration (ft)*	Existing				Background			Build-Out				
					# of Lanes	95th Percentile Queue Length (veh x 25 ft)	Total Required Turn Lane Length (ft)	Lane Length Deficiency (ft)	95th Percentile Queue Length (veh x 25 ft)	Total Required Turn Lane Length (ft)	Lane Length Deficiency (ft)	95th Percentile Queue Length (veh x 25 ft)	Total Required Turn Lane Length (ft)	Lane Length Deficiency (ft)	Difference in Length Deficiency; Background to Build-Out (ft)	Project Trips
AM																
Nova Rd. at US 1	NBL	45	370	240	2	225	465	95	250	490	120	275	515	145	25	30
	WBL	55	760	350	1	25	375	0	25	375	0	25	375	0	0	11
Nova Rd. at Tomoka Oaks Blvd.[2]	EB	25	160	0	1	75	75	0	75	75	0	125	125	0	0	143
	NBL	45	150	240	1	25	265	115	25	265	115	25	265	115	0	30
	SBL	45	305	240	1	0	240	0	0	240	0	0	240	0	0	21
Nova Rd. at Wilmette Ave.	NBL	45	130	240	1	75	315	185	100	340	210	100	340	210	0	0
	NBR	45	300	240	1	25	265	0	25	265	0	25	265	0	0	0
	SBL	45	300	240	1	50	290	0	50	290	0	50	290	0	0	6
SR 40 at Main Tr.	EBL	45	380	240	1	75	315	0	75	315	0	100	340	0	0	2
	WBL	45	380	240	1	50	290	0	50	290	0	50	290	0	0	0
PM																
Nova Rd. at US 1	NBL	45	370	240	2	300	540	170	350	590	220	375	615	245	25	21
	WBL	55	760	350	1	50	400	0	50	400	0	75	425	0	0	35
Nova Rd. at Tomoka Oaks Blvd.[2]	EB	25	160	0	1	50	50	0	50	50	0	125	125	0	0	99
	NBL	45	150	240	1	25	265	115	25	265	115	75	315	165	50	99
	SBL	45	305	240	1	0	240	0	0	240	0	0	240	0	0	70
Nova Rd. at Wilmette Ave.	NBL	45	130	240	1	150	390	260	175	415	285	175	415	285	0	0
	NBR	45	300	240	1	50	290	0	50	290	0	50	290	0	0	0
	SBL	45	300	240	1	50	290	0	50	290	0	75	315	15	15	4
SR 40 at Main Tr.	EBL	45	380	240	1	250	490	110	325	565	185	325	565	185	0	7
	WBL	45	380	240	1	25	265	0	25	265	0	25	265	0	0	0

[1]Based upon Volusia County LDC Section 72-619 Table VI and FDOT Exhibit 212-1.

[2]Evaluted as one shared lane during existing and background conditions; exclusive EBR and shared EBTL assumed to accommodate stacking for 2-vehicles per lane (combined queue reported).

Alternate Mode Analysis

An alternative mode analysis has been conducted to determine existing and proposed alternate modes of transportation within the immediate project study area. At this time, there is an existing sidewalk along the east and west sides of Nova Road. The project design also includes the extension of the sidewalk network out to Nova Road.

Votran, Volusia County's public transportation system, provides transportation alternatives to all urban areas of the county via fixed route buses and paratransit vehicles. The frequency of most routes is one hour, with a few operating on the half-hour. Standard daily service is provided from 6:00 a.m. to 7:00 p.m., Monday through Saturday, with a limited fixed route service at night and on Sunday. At this time, the closest Votran bus stop is 0.60 miles south of the proposed development driveway on Nova Road at Wilmette Avenue.

Proportionate Share (PS)

Based on the current Florida Statue and procedures outlined in the R2CTPO TIA guidelines, the proportionate share shall be calculated based upon the number of trips from the proposed development being approved. The project traffic is then divided by the change in roadway capacity resulting from the recommended improvements to result in a PS percentage. The total estimated construction cost for the improvement is multiplied by the PS percentage to determine the applicant's PS contribution.

The PS formula is to be applied only to those facilities that are determined to be significantly impacted by the project traffic under review. The recommended improvements eligible for PS determination, the estimated improvements costs and PS calculation are to be negotiated once the TIA has been approved.

6

CONCLUSION AND RECOMMENDATIONS

A Traffic Impact Analysis (TIA) was conducted to evaluate the potential transportation impact of the proposed Tomoka Oaks Residential development. Access to the development will be provided by the western leg at the Tomoka Oaks Boulevard and St. Andrews Drive intersection with primary external access at the existing Tomoka Oaks Boulevard at Nova Road intersection. The development is expected to generate 202 AM peak-hour and 279 PM peak-hour trips. The results of the analysis are summarized in Tables 16 and 17, below.

Table 16
Recommended Improvements - Roadway Segments
Tomoka Oaks Residential

Roadway	Segment		When Improvement Recommended		
	To	From	2023 Existing	2028 Background	2028 Build-Out
SR 40/Granada Blvd.	I-95	Clyde Morris Blvd.	-	6L	-
	Clyde Morris Blvd.	Nova Rd.	-	6L	-
	US 1	Halifax Ave.	-	6L	-
Hand Ave.	Clyde Morris Blvd.	Shangri La Dr.	-	4L	-
Williamson Blvd.	Hand Ave.	Strickland Range Rd.	-	4L	-

Table 17
Recommended Improvements - Intersection
Tomoka Oaks Residential

Intersection	When Improvement Recommended		
	2023 Existing	2028 Background	2028 Build-Out
Nova Rd. at Tomoka Oaks Blvd.	-	-	Install traffic signal; Add striping for eastbound approach for exclusive right-turn lane

Additionally, the following existing turn lanes are shown to be deficient under 2028 build-out conditions. Based on turn lane standards adopted by Volusia County and the FDOT, the deficient length due to project trips are present at the following intersections:

Nova Road at US 1
- Northbound left-turn lane by 25-feet.

Nova Road at Tomoka Oaks Boulevard
- Northbound left-turn lane by 50-feet.

Nova Road at Wilmette Avenue
- Southbound left-turn lane by 15-feet.

The 95th percentile queue for the eastbound approach at the Tomoka Oaks Boulevard and Nova Road intersection, under signal control and using 2028 build-out peak hour volumes, is anticipated to extend 125 ft. in the AM and PM peak hours. The existing Escondido Multifamily Driveway is located approximately 160 ft. west of Nova Road (measured from the eastbound stop bar to the driveway centerline), indicating that the driveway is not expected to be blocked under future improved buildout conditions during the peak hour.

If required by the reviewing agencies, the recommended improvements eligible for proportionate share (PS), the estimated improvement cost, and PS calculations are to be negotiated once the TIA results are accepted by the City of Ormond Beach.

APPENDIX A

Preliminary Site Plan

TOMOKA PRESERVE

CITY OF ORMOND BEACH - VOLUSIA COUNTY, FL

PLANNED DEVELOPMENT

OWNER:
TRIUMP OAKS OF ORMOND BEACH I, LLC
7765 LAKE WORTH ROAD, BOX 320
LAKE WORTH, FL 33467
PHONE NUMBER
FAX NUMBER
CONTACT PERSON: SHELDON RUBIN
e-mail: sheldonwrubin@gmail.com

CIVIL ENGINEER:
ZEV COHEN & ASSOCIATES, INC.
300 INTERCHANGE BLVD, SUITE C
ORMOND BEACH, FL 32174
PHONE NUMBER: (386) 677-2482
FAX NUMBER: (386) 677-2505
CONTACT PERSON: KRIS ROWLEY, P.E.
e-mail: krowley@zevcohen.com

SURVEYOR:
SLIGER & ASSOCIATES, INC.
3921 NOVA ROAD
PORT ORANGE, FL 32127
PHONE NUMBER: (386) 761-5385
FAX NUMBER
CONTACT PERSON: NAME
e-mail: name@name.com

GEOTECHNICAL ENGINEER:
NAME
ADDRESS
ADDRESS
PHONE NUMBER
FAX NUMBER
CONTACT PERSON: NAME
e-mail: name@name.com

LANDSCAPE ARCHITECT:
ZEV COHEN & ASSOCIATES, INC.
300 INTERCHANGE BLVD, SUITE C
ORMOND BEACH, FL 32174
PHONE NUMBER: (386) 677-2482
FAX NUMBER: (386) 677-2505
CONTACT PERSON: JAKE STEHR, RLA
e-mail: jstehr@zevcohen.com

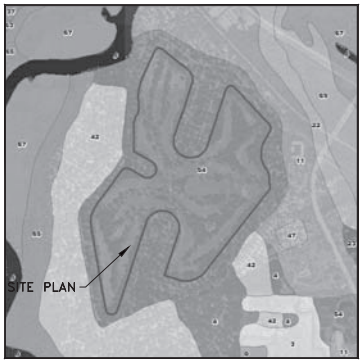
PROJECT DESCRIPTION:

REZONING OF A MULTIFAMILY PLANNED DEVELOPMENT AND GOLF COURSE.

SITE INFORMATION:	
SITE ADDRESS:	30 TOMOKA OAKS BLVD., ORMOND BEACH, FL 32174
PROJECT AREA:	147.94 ACRES
TAX PARCEL I.D. #:	324207000010
EXISTING ZONING:	PRD
PROPOSED ZONING:	PRD
EXISTING LAND USE:	VACANT
PROPOSED LAND USE:	SINGLE FAMILY
EXISTING FUTURE LAND USE:	LDR
MAXIMUM UNIT/LOT COUNT:	300
UNIT/LOT DENSITY:	2 PER ACRE
LOT TYPE	VARIES
REQUIRED LANDSCAPE BUFFER(S):	50 FT. MINIMUM TYPE 2 PLANTINGS (2 TREES, 30 SHRUBS, 30 GROUND COVER)
MINIMUM LOT DEPTH:	140 FT.
UTILITIES:	PROVIDED BY CITY OF ORMOND BEACH

VICINITY MAP
SCALE: 1" = 2000'

ZONING MAP
SCALE: 1" = 1000'
CURRENT ZONING FOR THIS SITE IS: PRD



SOILS MAP
SCALE: 1" = 1000'

THE SITE LIES WITHIN THE FOLLOWING VOLUSIA COUNTY SOIL CLASSIFICATIONS: 0-WATER; 3-ARENTS; 4-ASTATULA FINE SAND, 0 TO 8 PERCENT SLOPES;11-BULOW SAND, 0 TO 5 PERCENT SLOPES; 22-ELECTRA FINE SAND, 0 TO 5 PERCENT SLOPES; 23-FARMTON FINE SAND;37-ORSINO FINE SAND, 0 TO 5 PERCENT SLOPES; 42-PAOLA FINE SAND, 0 TO 8 PERCENT SLOPES; 47-PITS; 54-QUARTZIPSAMMENTS, GENTLY SLOPING; 63-TAVARES FINE SAND, 0 TO 5 PERCENT SLOPES; 65-TERRA CEIA MUCK; 67-TURNBULL MUCK; 69-TUSCAWILLA FINE SAND

FLOOD ZONE MAP
SCALE: 1" = 1000'

THE PROPERTY LIES IN:
FLOOD ZONE AE PER FEMA MAPS 12127C0211K AND 12127C0212K FEE 9/29/2017

SHEET INDEX:

01 COVER SHEET
1-4 EXHIBITS

LEGAL DESCRIPTION:

SAM SNEAD GOLF AND COUNTRY CLUB, A PART OF THE THOMAS FITCH GRANT, LYING WESTERLY OF THE FLORIDA EAST COAST RAILWAY, SECTION 39, TOWNSHIP 14 SOUTH, RANGE 32 EAST, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN MAP BOOK 25, PAGE 61, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.

****NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.****

ZEV COHEN & ASSOCIATES, INC.
WWW.ZEVCOHEN.COM

CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

NO.	DATE	BY	SUBMITTALS/REVISIONS

TOMOKA PRESERVE
FINAL ENGINEERING PLANS
COVER SHEET

VOLUSIA COUNTY, FLORIDA
CITY OF ORMOND BEACH

PROJECT NO: ZC 21087 PD
DESIGNED BY: KTR
DRAFTED BY: XXX
CHECKED BY: XX
DRAWING FILE: 01_21087 COV
XREF'S: XXXXX.DWG
XREF'S: XXXXX.DWG

KRISTOPHER T. ROWLEY P.E. NO. 84263
NOT VALID WITHOUT SEAL

SHEET: C1 OF 2

LOT LEGEND (298 LOTS/ 69.06 ACERS/ 46%)

SYMBOL	NOTES	LOTS	LOT %
	40' X 140'	41	(13%)
	50' x 140'	55	(18%)
	60 X 140'	84	(28%)
	70' X 140'	59	(20%)
	80' X 140'	59	(20%)

LAND USE LEGEND

SYMBOL	NOTES	ACRES	
	50' LANDSCAPE BUFFER	19.92	(13%)
	OPEN SPACE	31.3	(21%)
	DRAINAGE/HABITAT	15.73	(10%)
	AMENITY POCKET PARKS	7.08	(4%)

CONCEPT LEGEND

EMERGENCY ACCESS THRESHOLD

Pedestrian Access
TAKEOFF: 4

PROPOSED PEDESTRIAN & VEHICULAR GATE LOCATION
TAKEOFF: 2

PUD Development Standards

Lot Type	Minimum Lot Width	SF Range	Required Parking Spaces	% Impervious 6	Maximum Height 1,5	Minimum Front Porch Setbacks			Minimum Primary Structure Setbacks 2			Minimum Garage Setbacks 3,4, 5			
						Front	Side	Side Street	Front	Rear 2	Side	Front 3	Rear	Side	Side Street
Coach Homes	30 feet	1550-1850 sf	2	80%	35 feet	5 feet	5 feet	5 feet	12 feet	5/15 feet	5 feet	N/A	5 feet	5 feet	5 feet
Paired Villa	35 feet	1800-2100 sf	2	80%	35 feet	5 feet	5 feet	5 feet	12 feet	5/15 feet	5 feet	N/A	5 feet	5 feet	5 feet
Cottage	40 feet	1650-2050 sf	2	80%	35 feet	5 feet	5 feet	5 feet	12 feet	5/15 feet	5 feet	N/A	5 feet	5 feet	5 feet
Village Home	50 feet	1950-2750 sf	2	80%	35 feet	5 feet	5 feet	5 feet	12 feet	5/15 feet	5 feet	N/A	5 feet	5 feet	5 feet
Park House	60 feet	2500-3200 sf	2	80%	35 feet	5 feet	5 feet	5 feet	12 feet	5/15 feet	5 feet	N/A	5 feet	5 feet	5 feet
Estate House	70 feet	2750-4000 sf	2.5	75%	40 feet	5 feet	5 feet	5 feet	12 feet	15 feet	5 feet	N/A	5 feet	5 feet	10 feet
Custom House	80+ feet	2800+ sf	3	75%	40 feet	5 feet	5 feet	5 feet	12 feet	15 feet	7 feet	N/A	5 feet	5 feet	10 feet

NOTE: NO MULTIFAMILY STRUCTURE AND ASSOCIATED PARKING AREAS ARE TO BE WITHIN TWO HUNDRED FEET OF ANY SINGLE-FAMILY DISTRICT ADJOINING THE PROPOSED DEVELOPMENT.

ZEVCOHEN & ASSOCIATES, LLC.
800 NORTHWOODS BLVD., STE. C
WWW.ZEVCOHEN.COM
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

NO	DATE	BY	SUBMITTAL/S /REVISIONS

TOMOKA PRESERVE
PLANNED DEVELOPMENT
OVERALL DEVELOPMENT PLAN

CITY OF ORMOND BEACH — VOLUSIA COUNTY, FLORIDA

PROJECT NO: ZC 21087 PD
DESIGNED BY: KTR
DRAFTED BY: XXX
CHECKED BY: XX
DRAWING FILE: 07_21087 ODP
XREF'S: XXXXX.DWG
XREF'S: XXXXX.DWG

KRISTOPHER T. ROWLEY, P.E. NO. 84263
NOT VALID WITHOUT SEAL

SHEET: EX1 OF 4

LAND USE LEGEND

SYMBOL	NOTES	ACRES
	50' LANDSCAPE BUFFER	19.92 (13%)
	OPEN SPACE	24.57 (16%)
	DRAINAGE/HABITAT	19.12 (13%)
	AMENITY	5.7 (4%)

CONCEPT LEGEND

EMERGENCY ACCESS THRESHOLD

Pedestrian Access

TAKEOFF: 4

PROPOSED PEDESTRIAN & VEHICULAR GATE LOCATION

TAKEOFF: 2

20% NATURAL PRESERVATION

TOTAL SITE AREA	147.94 AC.
MINIMUM TREE COVERAGE AREA REQUIRED (CALCULATION: (147.94 AC. x 20% = 29.6 AC.	29.6 AC.
TOTAL MINIMUM TREE COVERAGE PROVIDED	51.2 AC.

MINIMUM ON SITE RECREATION FACILITIES

	REQUIRED	PROVIDED
RESIDENTIAL UNITS	300	286
MINIMUM ACTIVE INDOOR RECREATION REQUIRED CALCULATION: 30 S.F. * 300 UNITS = 9,000	9,000 SQFT	9,000 SQFT
MINIMUM ACTIVE OUTDOOR RECREATION REQUIRED CALCULATION: 60 S.F. * 300 UNITS = 18,000	18,000 SQFT	18,000 SQFT
MINIMUM COMMON ACCESSIBLE OPEN SPACE CALCULATION: 30 S.F. * 300 UNITS = 9,000	308,000 SQFT	18,000 SQFT

(A) 8'-0" WIDE MULTI-USE TRAIL SINGLE MULTI-USE TRAIL REDUCES IMPERVIOUS BY 15,100 SQFT

(B) 6" ABOVE CENTERLINE ROAD GRADE.

(C) SOD or SEED AND MULCH PER F.D.O.T. STANDARD SPECIFICATION SECTION 570. 1' SOD STRIP REQUIRED ADJACENT TO CURB AND AROUND DRAINAGE STRUCTURES.

(D) 4' WIDE AREA WITH MAX. SLOPE OF 1:4 FEET

(E) CONCRETE MIAMI CURB, 2500 P.S.I.

(F) ASPHALT PAVEMENT: 1-1/2" ASPHALT BITUMINOUS CONCRETE SP-9.5 OR SP-12.5; MINIMUM MARSHALL FIELD STABILITY 1500.

(G) BASE: 6" LIMEROCK (LBR 100) COMPACTED TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST. OR 6" CRUSHED CONCRETE (LBR 100) COMPACTED TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST.

(H) SUB BASE: 6" SUB BASE COMPACTED TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST WITH MINIMUM LBR 40.

(I) PROPOSED STREET TREE. SPACING TO BE COORDINATED WITH DRIVEWAY AND UTILITY LOCATIONS.

(A) TYPICAL ROADWAY SECTION

N.T.S. DETAIL-FILE

ZEVCOHEN & ASSOCIATES, INC.
800 MONTEMAGNO BLVD., STE. C
ORMOND BEACH, FL 32174
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CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
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NO.	DATE	BY	SUBMITTAL/S REVISIONS

TOMOKA PRESERVE PLANNED DEVELOPMENT OPEN SPACE PLAN

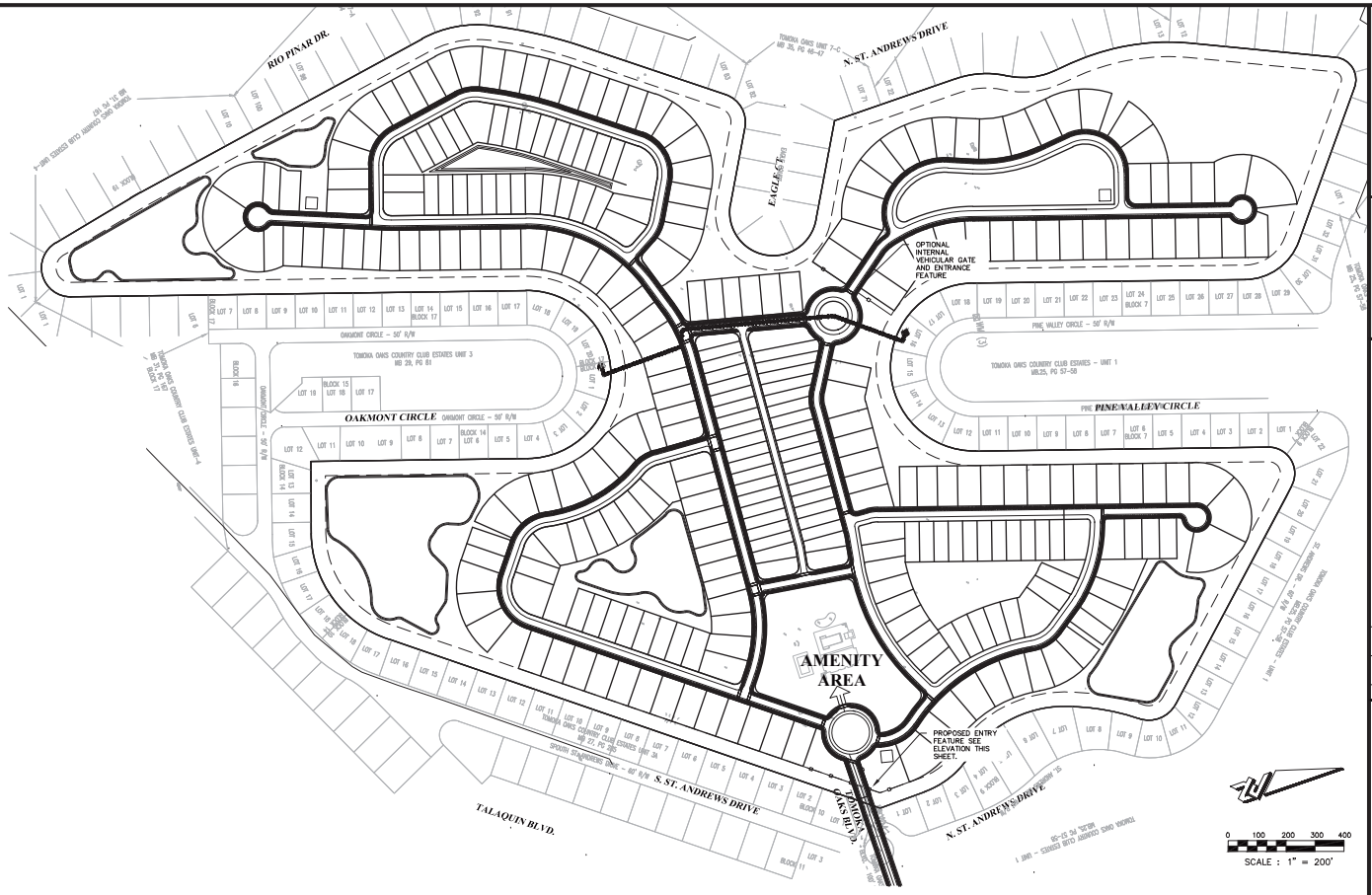
VOLUSIA COUNTY, FLORIDA
CITY OF ORMOND BEACH

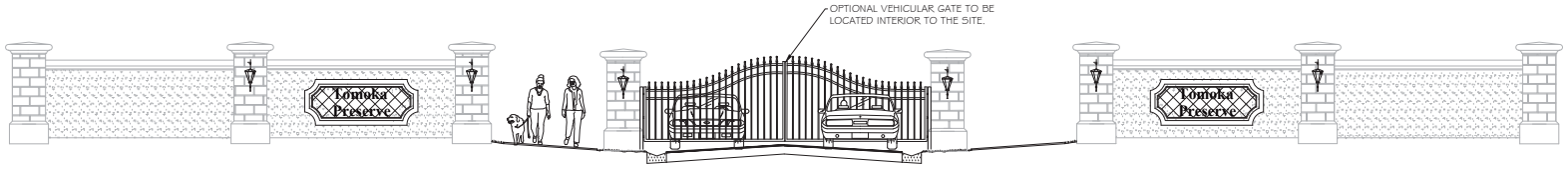
PROJECT NO: ZC 21087
DESIGNED BY: KR
DRAFTED BY: ---
CHECKED BY: RH

DRAWING FILE: 07_21087 ODP
XREF'S: XXXXX.DWG
XREF'S: XXXXX.DWG

KRISTOPHER T. ROWLEY, P.E. NO.84083
NOT VALID WITHOUT SEAL

SHEET: EX2 OF 4





A CONCEPTUAL ENTRANCE ELEVATION

N.T.S.

DETAIL-FILE

ZEV COHEN & ASSOCIATES, INC.
900 SOUTH DIXIE FREEWAY, SUITE 105
NEW SMYRNA BEACH, FLORIDA 32168
(386) 427-1818
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CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

NO.	DATE	BY	SUBMITTAL/S REVISIONS

TOMOKA PRESERVE
PLANNED DEVELOPMENT
SIGN PLAN

CITY OF ORMOND BEACH VOLUSIA COUNTY, FLORIDA

PROJECT NO: ZC 21087
DESIGNED BY: KR
DRAFTED BY: ---
CHECKED BY: RH
DRAWING FILE: 07_21087 ODP
XREF'S: XXXXX.DWG
XREF'S: XXXXX.DWG

KRISTOPHER T. RONLEY, P.E. NO.84083
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SHEET: CP1 OF 1

APPENDIX B

Approved Methodology

LTG Engineering & Planning

Via Email: (Steven.Spraker@ormondbeach.org)

Ref: 5361.02

May 16, 2022

Mr. Steven S. Spraker, AICP
Ormond Beach Planning Director
22 South Beach Street
Ormond Beach, FL 32174

Re: Tomoka Oaks - Traffic Impact Analysis (TIA) Methodology Letter
Ormond Beach, Florida

Dear Mr. Spraker:

LTG, Inc. (LTG) has been retained by Triumph Oaks of Ormond Beach I, LLC to prepare a Traffic Impact Analysis (TIA) for the proposed Tomoka Oaks development, located west of the Nova Road/Tomoka Oaks Boulevard intersection in the City of Ormond Beach, Florida. Figure 1 shows the location of the project relative to the surrounding road network. The development consists of 300 single family dwelling units. Build-out of the project is anticipated by year 2026. Access to the site is proposed via the existing intersection of SR 5A (Nova Road) and Tomoka Oaks Boulevard. A preliminary site plan is attached as Exhibit A.

The City of Ormond Beach has adopted the River to Sea Transportation Planning Organization (R2CTPO). In accordance with these guidelines, this letter outlines the proposed methodology by which the analysis will be conducted. The analysis will be based on the latest concurrency information as obtained from the City of Ormond Beach and Volusia County Traffic Engineering Department.

Analysis Period

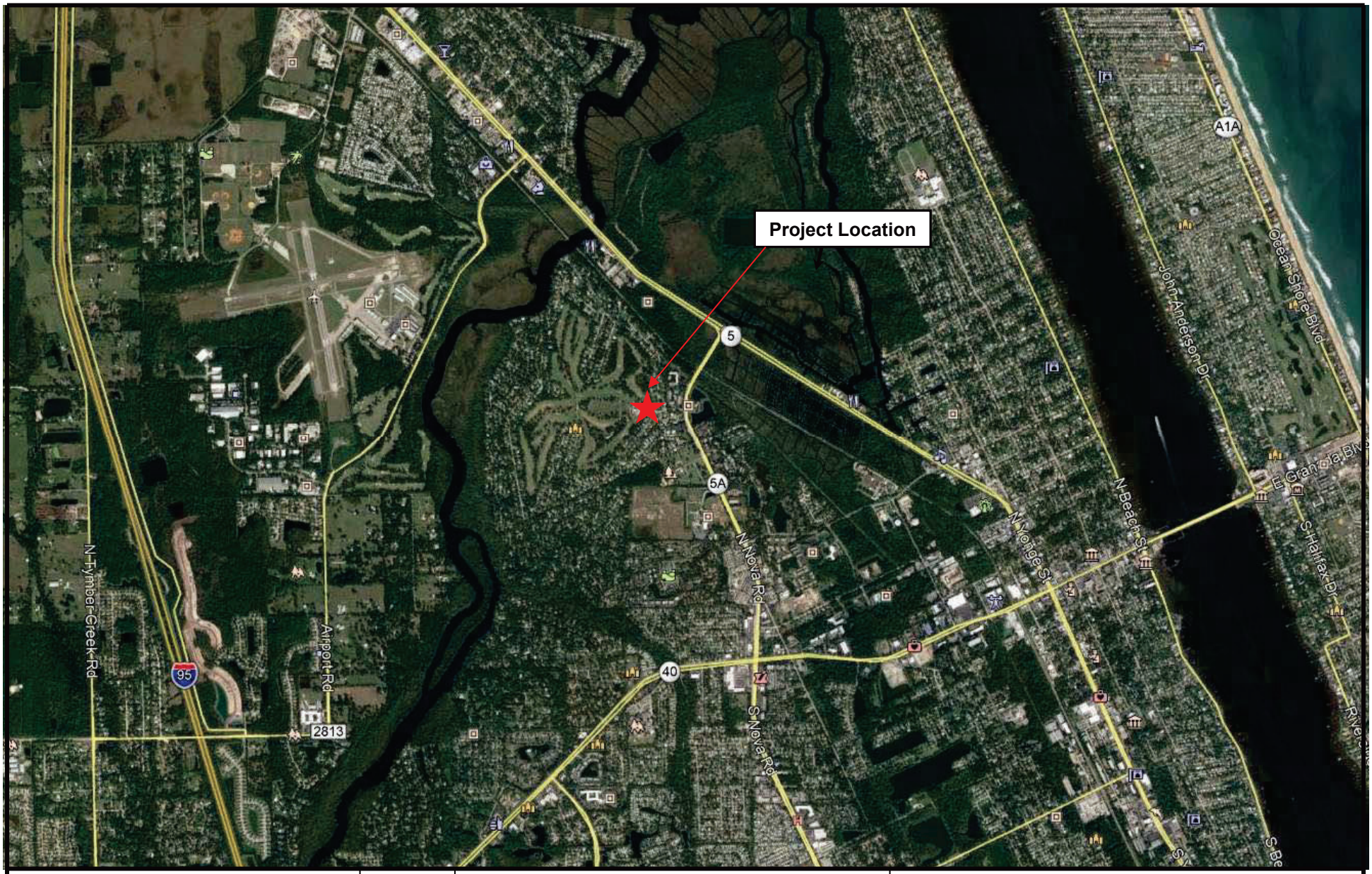
Roadway segments will be analyzed based on p.m. peak-hour two-way traffic and intersections will be analyzed for the a.m. and p.m. peak-hours. The analysis will be conducted under 2022 existing conditions and 2026 future build-out conditions. The a.m. and p.m. peak-hour turning movement counts will be collected on a typical weekday (Tuesday, Wednesday, or Thursday) between the hours of 7:00 a.m.-9:00 a.m. and 4:00 p.m.-6:00 p.m. The existing traffic counts will be adjusted by the 2019 FDOT Seasonal Factor (SF) specified for the week the data is collected.

Project Trip Generation

The daily, a.m., and p.m. peak-hour trip generation for the development was determined using the Institute of Transportation Engineers (ITE), 11^{h} edition of the *Trip Generation Manual*. The resulting project trip generation is summarized in Table 1.

Table 1
Project Trip Generation
Tomoka Oaks

Period	Land Use	Land Use Code	Trip Rate Equation	Size	Units	Percent Entering	Percent Exiting	Trips Entering	Trips Exiting	Total Trips
Daily	Single Family	210	Ln(T) = 0.92 Ln(X) + 2.68	300	DU	50%	50%	1,387	1,387	2,774
A.M. Peak-Hour	Single Family	210	Ln(T) = 0.91 Ln(X) + 0.12	300	DU	26%	74%	53	149	202
P.M. Peak-Hour	Single Family	210	Ln(T) = 0.94 Ln(X) + 0.27	300	DU	63%	37%	176	103	279



Tomoka Oaks	N NTS	**Project Location Map**	LTG Engineering & Planning
		Project No.: 5361.02 / Figure: 1	1450 W. Granada Blvd., Suite 2, Ormond Beach, Florida 32174 Telephone: 386.257.2571 Fax: 386.257.6996

Project Trip Distribution

The Central Florida Regional Planning Model, version 6.1 (CFRPM) was used to obtain the project trip distribution for the proposed development. A select zone analysis was completed and resulted in the project trip distribution shown in Figure 2.

Study Area

Per the R2CTPO guidelines, projects must include all roadway segments to which the site has direct connections, which are impacted by the proposed project to within three percent or greater of the peak-hour two-way adopted level of service (LOS) capacity, major intersections along the significant segments, and roadway segments that have been designated as "critical" or "near critical" within the site traffic influenced segments.

Critical and near critical roadways are defined by Volusia County as roadways with a volume to capacity (v/c) ratio that is equal to or greater than 1.0 and 0.90, respectively. Figure 3 depicts the critical and near critical roadway segments within the area.

Using the project trip distribution, p.m. peak-hour project trips were assigned to the roadway network to determine the roadway segments that are impacted by the proposed project to within three percent or greater of the peak-hour two-way adopted level of service (LOS) capacity. Table 2 presents the significance test on area roadways for the proposed development. The following intersections and roadway segments will be included in the study:

Roadway Segments:

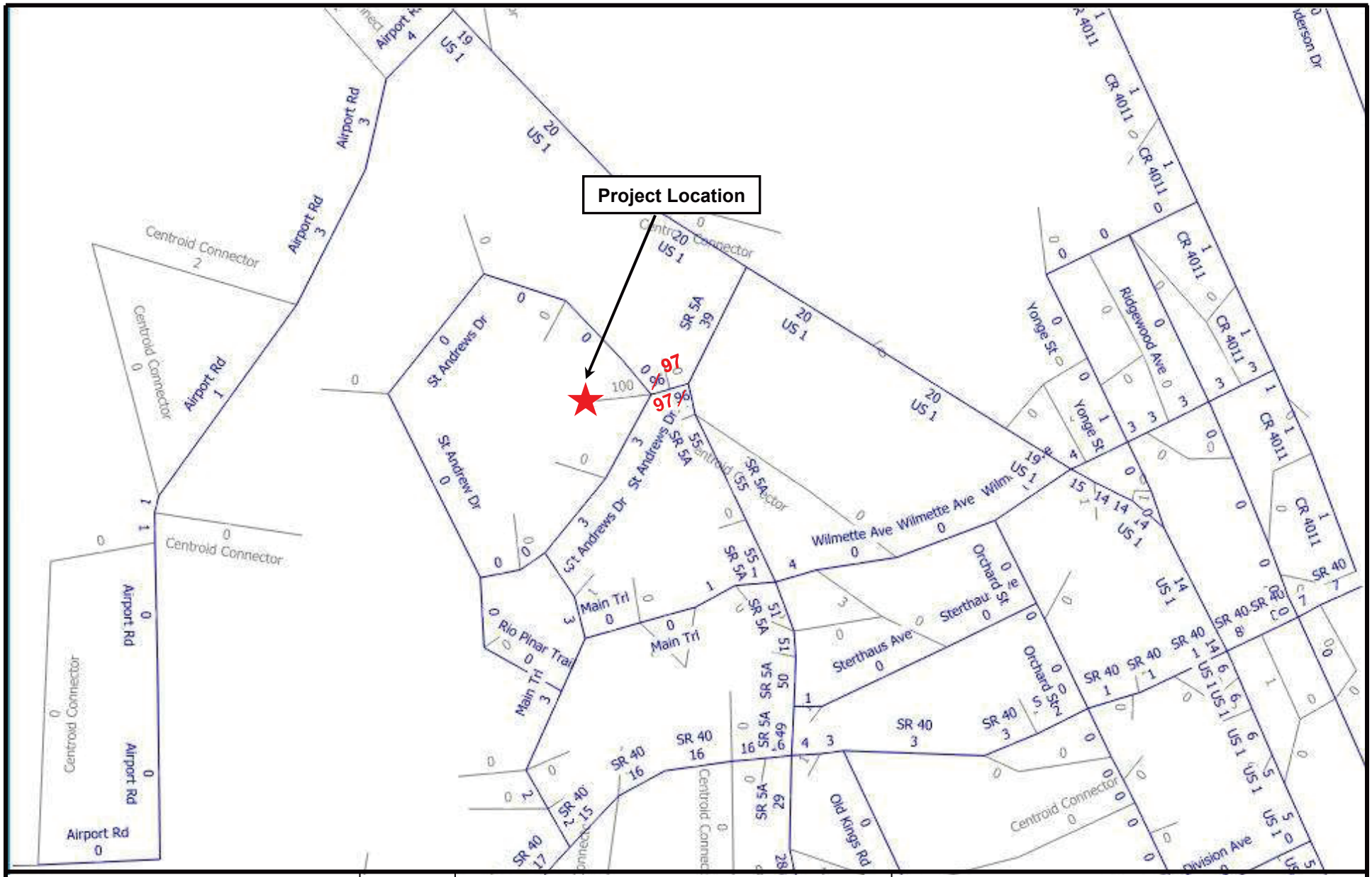
- Nova Road from Wilmette Avenue to US 1 (Significant)
- SR 40/Granada Boulevard from Clyde Morris Boulevard to Nova Road (near critical)
- SR 40/Granada Boulevard from US 1 to Halifax Drive (critical)
- Hand Avenue from Clyde Morris Boulevard to Nova Road (critical)
- Williamson Boulevard from Hand Avenue to Strickland Range Road (vested critical)

Intersections:

- Signalized
  - SR 40 at Main Trail
  - Wilmette Ave at Nova Rd
  - US 1 at Nova Rd
- Unsignalized
  - St. Andrew's Drive at Rio Pinar Trail
  - St. Andrew's Drive at Iroquois Trial
  - Tomoka Oaks Blvd at Nova Rd
  - Tomoka Oaks Blvd at N. St. Andrews Blvd
  - Tomoka Oaks Blvd at S. St. Andrews Blvd
  - Tomoka Oaks Blvd at West Diamond
  - Tomoka Oaks Blvd at East Diamond

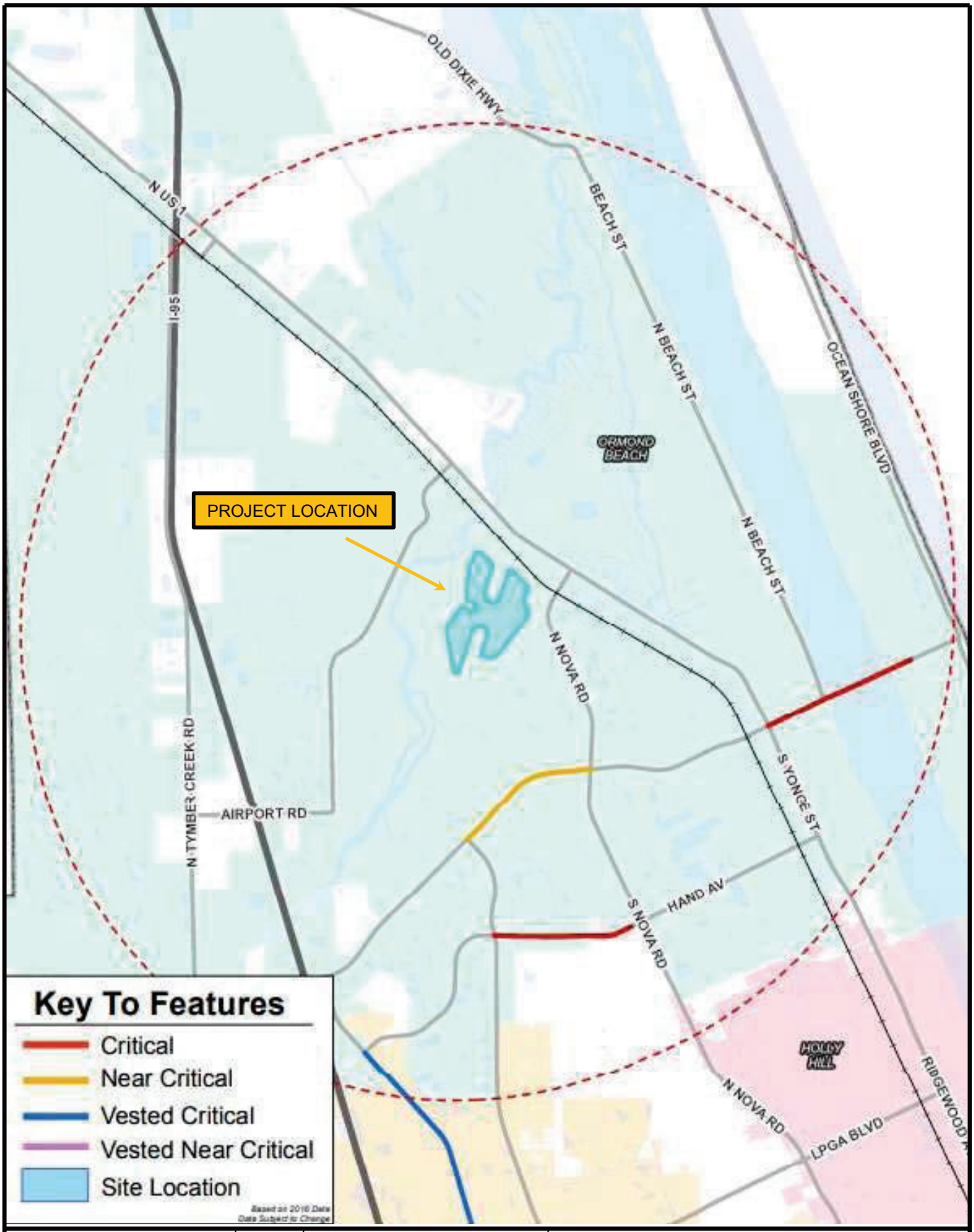
Build-Out Traffic

The build-out traffic will be developed by the sum of the background traffic (derived from historical growth rates and vested trips as identified by Volusia County) and the estimated project traffic. The growth rate for each study area roadway segment was determined using the method developed by Volusia County in August of 2020 (see Exhibit B), the vested trips as identified by the County's latest vested trips table, received June 2021, and the latest Volusia County AADT spreadsheet. The FDOT *Traffic Trends* summary sheets are attached as Exhibit B. Tables 3 summarize the historical annual growth, vested trips, and the applied growth method used in the analysis for the study area roadway segments and the additional segments needed for the intersection analyses.



Tomoka Oaks	N NTS	**Project Trip Distribution**	Project No.: 5361.02 | Figure: 2

LTG Engineering & Planning
1450 W. Granada Blvd., Suite 2, Ormond Beach, Florida 32174
Telephone: 386.257.2571 Fax: 386.257.6996



Tomoka Oaks	N NTS	**3-Mile Critical/Near Critical Map** Project No.: 5361.02 | Figure: 3	LTG Engineering & Planning 1450 W. Granada Blvd., Suite 2, Ormond Beach, Florida 32174 Telephone: 386.257.2571 Fax: 386.257.6996

Table 2
Significance Test
Tomoka Oaks

Roadway	Limits		No. of Lanes	Adopted LOS[1]	Peak-Hour Two-Way Capacity at Adopted LOS[2]	Build Out Project Distribution	Peak-Hour Two-Way		
	From	To					Project Trips	Impact on LOS	3% Significant?
I-95	LPGA Blvd.	SR 40/Granada Blvd	6	D	12,310	0%	0	0.00%	No
	SR 40/Granada Blvd	US 1	6	D	10,510	0%	0	0.00%	No
US 1/Ridgewood Ave.	Hand Ave.	SR 40/Granada Blvd	4	D	3,580	6%	18	0.49%	No
	SR 40/Granada Blvd	SR 5A/Nova Rd.	4	D	3,580	20%	58	1.63%	No
	SR 5A/Nova Rd.	Airport Dr	4	D	3,580	20%	58	1.63%	No
	Airport Dr	I-95	4	D	3,580	15%	44	1.23%	No
SR 5A/Nova Rd.	LPGA Blvd.	Hand Ave.	6	D	5,390	23%	67	1.24%	No
	Hand Ave.	SR 40/Granada Blvd.	6	D	5,390	29%	85	1.58%	No
	SR 40/Granada Blvd.	Wilmette Ave	6	D	5,390	51%	149	2.76%	No
	Wilmette Ave	US 1	4	D	3,580	57%	166	4.64%	Yes
SR 40/Granada Blvd.	I 95	Clyde Morris Blvd.	4	D	3,580	12%	35	0.98%	No
	Clyde Morris Blvd.	Nova Rd.	4	D	3,580	17%	50	1.40%	No
	SR 5A/Nova Rd.	US 1	4	D	3,580	3%	9	0.25%	No
	US 1	Halifax Ave.	4	D	3,580	7%	20	0.56%	No
Clyde Morris Blvd.	SR 40	Hand Ave.	4	E	2,740	5%	15	0.55%	No
	Hand Ave.	LPGA Blvd.	4	E	3,410	4%	12	0.35%	No
Hand Ave.	Williamson Blvd.	Clyde Morris Blvd.	2	E	1,540	2%	6	0.39%	No
	Clyde Morris Blvd.	Shangri La Dr.	2	E	1,540	3%	9	0.58%	No
	Shangri La Dr.	Nova Rd.	4	E	3,410	2%	6	0.18%	No
	Nova Rd.	US 1	2	E	1,020	1%	3	0.29%	No
Williamson Blvd.	SR 40	Hand Ave.	4	E.	3,410	2%	6	0.18%	No
	Hand Ave.	Strickland Range Rd	2	E	1,540	4%	12	0.78%	No
Airport Road	Tymber Creek Rd Ext.	Pineland Trl	2	E	2,240	0%	0	0.00%	No
	Pineland Trl	Sunshine Blvd	2	E	2,240	1%	3	0.13%	No
	Sunshine Blvd	US 1	2	E	2,240	3%	9	0.40%	No

Critical
Near Critical
Vested Critical
Vested Near Critical
3% Significant and/or provide project access

Table 3
Trends Growth and Vested Trips – Study Area Roadway Segments
Tomoka Oaks

Roadway	Limits		5-Year			10-Year			Applied Growth Rate	Applied Growth If Using Adjacent Segment	High Growth? Y/N	Vested Trips	Existing Peak-Hour Volume	Existing AADT Year	Build-Out Year	Growth (# of Trips)	Use Greater of Vested vs Growth	Total Growth Applied (# of Trips)	2026 Total Background Volume
	From	To	Best Fit Regression	R^2 Value	Historical Growth Rate	Best Fit Regression	R^2 Value	Historical Growth Rate											
Nova Rd	Wilmette Ave	US 1	Linear	70.6%	1.86%	N/A	-	-	1.86%	-	N	0	1,200	2019	2026	156	N/A	156	1,356
Williamson Blvd	Strickland Range Rd	LPGA Blvd	Linear	47.2%	4.00%	Linear	85.6%	4.23%	4.23%	-	Y	535	1,450	2021	2026	307	Vested	535	1,985
SR 40/Granada Blvd	Clyde Morris Blvd	Nova Rd	Linear	78.5%	2.67%	N/A	-	-	2.67%	-	N	89	2,670	2019	2026	499	N/A	588	3,258
	US 1	Halifax Ave	Linear	82.4%	5.16%	N/A	-	-	5.16%	-	Y	435	3,140	2019	2026	1,134	Growth	1,134	4,274
Hand Ave	Clyde Morris Blvd	Shangri La Dr	Linear	84.5%	-2.73%	Linear	-	-	1.00%	-	N	105	1,230	2021	2026	62	N/A	167	1,397
	Shangri La Dr	Nova Rd	Linear	54.2%	-2.06%	Decaying Exponential	64.6%	0.34%	Check adjacent	1.00%	N	0	1,360	2021	2026	68	N/A	68	1,428

Segment Analysis – Existing and Build-Out Conditions

If the future projected volume is expected to exceed the maximum service volume of a roadway segment, a transportation analysis may be conducted to determine service volume specific to that segment. The procedures documented in the latest version of the FDOT *Quality/Level of Service Handbook* will be used to determine specific capacity, if necessary.

Intersection Analysis – A.M. & P.M. Weekday Peak-Hour

The operating conditions for both the existing and future conditions at the signalized and unsignalized intersections will be analyzed using the *Highway Capacity Software 2022* (HCS). These software programs utilize the procedures outlined in Chapters 19 and 20 of the HCM 6th Edition *Highway Capacity Manual*, titled "Signalized Intersections" and "Two-Way Stop Control Intersections," respectively.

Alternative Mode Analysis

An alternate mode analysis will be conducted to analyze any transit stops within ¼ mile of the site, provisions for sidewalks adjacent to public roads within the limits of the site, sidewalk connectivity between parcels, provisions for any bicycle amenities, such as bike racks or lockers, and identification to any schools within 2-mile of the site.

Improvements

All improvements funded for construction within the first three years of the Volusia County and FDOT five-year work programs will be considered in the analysis. If warranted, appropriate roadway and intersection improvements will be identified. Conditions will be analyzed for improvements that are required for mitigation. Proportionate share calculations will be based on construction costs approved by Volusia County Engineering and Construction Division. Site access needs in terms of turn lane storage and deceleration shall be identified.

It is understood that this methodology will remain valid for a period of six (6) months from the date of approval. This methodology letter is a second submittal that has been updated in response to comments received from the City of Ormond Beach. Attached to those City comments was correspondence from other parties not affiliated with the City of Ormond Beach Planning Department regarding the proposed development. At the request of City Staff, that correspondence is included as Exhibit C.

Please review and advise if the City is in agreement with this proposed methodology or provide comments relating to preferred revisions. If you have any questions, please contact me at 386.257.2571.

Sincerely,
LTG, Inc.

Crystal Mercedes, PTP, RSP
Senior Transportation Planner

Attachments:

Exhibit A: Preliminary Site Plan

Exhibit B: FDOT Traffic Trends

Exhibit C: Methodology Correspondence

c: Sheldon W. Rubin, Manager, Triumph Oaks of Ormond Beach I, LLC (sheldonwrubin@gmail.com)
Emily Rubin, Triumph Oaks of Ormond Beach I, LLC (emily@rubincommunities.com)
Carl Velie, Triumph Oaks of Ormond Beach I, LLC (carlvelie@gmail.com)
Ray Barshay, Triumph Oaks of Ormond Beach I, LLC (raybar10@aol.com)
Dwight Durant, Zev Cohen & Associates (ddurant@zevcohen.com)
Rob Merrell, Cobb Cole (rob.merrell@cobbcole.com)
Jessica Gow, Cobb Cole (jessica.gow@cobbcole.com

EXHIBIT A

Concept Plan

TOMOKA PRESERVE

CITY OF ORMOND BEACH - VOLUSIA COUNTY, FL

PLANNED DEVELOPMENT

OWNER:
TRIUMP OAKS OF ORMOND BEACH I, LLC
7765 LAKE WORTH ROAD, BOX 320
LAKE WORTH, FL 33467
PHONE NUMBER
FAX NUMBER
CONTACT PERSON: SHELDON RUBIN
e-mail: sheldonwrubin@gmail.com

CIVIL ENGINEER:
ZEV COHEN & ASSOCIATES, INC.
300 INTERCHANGE BLVD, SUITE C
ORMOND BEACH, FL 32174
PHONE NUMBER: (386) 677-2482
FAX NUMBER: (386) 677-2505
CONTACT PERSON: KRIS ROWLEY, P.E.
e-mail: krowley@zevcohen.com

SURVEYOR:
SLIGER & ASSOCIATES, INC.
3921 NOVA ROAD
PORT ORANGE, FL 32127
PHONE NUMBER: (386) 761-5385
FAX NUMBER
CONTACT PERSON: NAME
e-mail: name@name.com

GEOTECHNICAL ENGINEER:
NAME
ADDRESS
ADDRESS
PHONE NUMBER
FAX NUMBER
CONTACT PERSON: NAME
e-mail: name@name.com

LANDSCAPE ARCHITECT:
ZEV COHEN & ASSOCIATES, INC.
300 INTERCHANGE BLVD, SUITE C
ORMOND BEACH, FL 32174
PHONE NUMBER: (386) 677-2482
FAX NUMBER: (386) 677-2505
CONTACT PERSON: JAKE STEHR, RLA
e-mail: jstehr@zevcohen.com

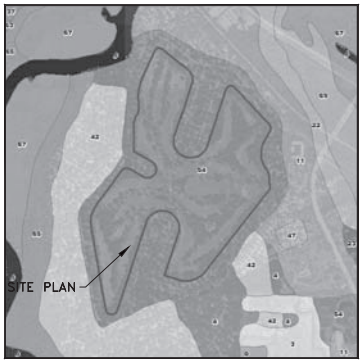
PROJECT DESCRIPTION:

REZONING OF A MULTIFAMILY PLANNED DEVELOPMENT AND GOLF COURSE.

SITE INFORMATION:	
SITE ADDRESS:	30 TOMOKA OAKS BLVD., ORMOND BEACH, FL 32174
PROJECT AREA:	147.94 ACRES
TAX PARCEL I.D. #:	324207000010
EXISTING ZONING:	PRD
PROPOSED ZONING:	PRD
EXISTING LAND USE:	VACANT
PROPOSED LAND USE:	SINGLE FAMILY
EXISTING FUTURE LAND USE:	LDR
MAXIMUM UNIT/LOT COUNT:	300
UNIT/LOT DENSITY:	2 PER ACRE
LOT TYPE	VARIES
REQUIRED LANDSCAPE BUFFER(S):	50 FT. MINIMUM TYPE 2 PLANTINGS (2 TREES, 30 SHRUBS, 30 GROUND COVER)
MINIMUM LOT DEPTH:	140 FT.
UTILITIES:	PROVIDED BY CITY OF ORMOND BEACH

VICINITY MAP
SCALE: 1" = 2000'

ZONING MAP
SCALE: 1" = 1000'
CURRENT ZONING FOR THIS SITE IS: PRD



SOILS MAP
SCALE: 1" = 1000'

THE SITE LIES WITHIN THE FOLLOWING VOLUSIA COUNTY SOIL CLASSIFICATIONS: 0-WATER; 3-ARENTS; 4-ASTATULA FINE SAND, 0 TO 8 PERCENT SLOPES;11-BULOW SAND, 0 TO 5 PERCENT SLOPES; 22-ELECTRA FINE SAND, 0 TO 5 PERCENT SLOPES; 23-FARMTON FINE SAND;37-ORSINO FINE SAND, 0 TO 5 PERCENT SLOPES; 42-PAOLA FINE SAND, 0 TO 8 PERCENT SLOPES; 47-PITS; 54-QUARTZIPSAMMENTS, GENTLY SLOPING; 63-TAVARES FINE SAND, 0 TO 5 PERCENT SLOPES; 65-TERRA CEIA MUCK; 67-TURNBULL MUCK; 69-TUSCAWILLA FINE SAND

FLOOD ZONE MAP
SCALE: 1" = 1000'

THE PROPERTY LIES IN:
FLOOD ZONE AE PER FEMA MAPS 12127C0211K AND 12127C0212K FEE 9/29/2017

SHEET INDEX:

01 COVER SHEET
1-4 EXHIBITS

LEGAL DESCRIPTION:

SAM SNEAD GOLF AND COUNTRY CLUB, A PART OF THE THOMAS FITCH GRANT, LYING WESTERLY OF THE FLORIDA EAST COAST RAILWAY, SECTION 39, TOWNSHIP 14 SOUTH, RANGE 32 EAST, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN MAP BOOK 25, PAGE 61, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.

****NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.****

ZEV COHEN & ASSOCIATES, INC.
300 INTERCHANGE BLVD., STE. C
ORMOND BEACH, FL 32174
WWW.ZEVCOHEN.COM

CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

NO.	DATE	BY	SUBMITTALS/REVISIONS

TOMOKA PRESERVE
FINAL ENGINEERING PLANS
COVER SHEET

VOLUSIA COUNTY, FLORIDA
CITY OF ORMOND BEACH

PROJECT NO: ZC 21087 PD
DESIGNED BY: KTR
DRAFTED BY: XXX
CHECKED BY: XX
DRAWING FILE: 01_21087 COV
XREF'S: XXXXX.DWG
XREF'S: XXXXX.DWG

KRISTOPHER T. ROWLEY P.E. NO. 84263
NOT VALID WITHOUT SEAL

SHEET: C1 OF 2

LOT LEGEND (298 LOTS/ 69.06 ACERS/ 46%)

SYMBOL	NOTES	LOTS	LOT %
	40' X 140'	41	(13%)
	50' x 140'	55	(18%)
	60 X 140'	84	(28%)
	70' X 140'	59	(20%)
	80' X 140'	59	(20%)

LAND USE LEGEND

SYMBOL	NOTES	ACRES	
	50' LANDSCAPE BUFFER	19.92	(13%)
	OPEN SPACE	31.3	(21%)
	DRAINAGE/HABITAT	15.73	(10%)
	AMENITY POCKET PARKS	7.08	(4%)

CONCEPT LEGEND

EMERGENCY ACCESS THRESHOLD

Pedestrian Access
TAKEOFF: 4

PROPOSED PEDESTRIAN & VEHICULAR GATE LOCATION
TAKEOFF: 2

PUD Development Standards

Lot Type	Minimum Lot Width	SF Range	Required Parking Spaces	% Impervious 6	Maximum Height 1,5	Minimum Front Porch Setbacks			Minimum Primary Structure Setbacks 2			Minimum Garage Setbacks 3,4, 5			
						Front	Side	Side Street	Front	Rear 2	Side	Front 3	Rear	Side	Side Street
Coach Homes	30 feet	1550-1850 sf	2	80%	35 feet	5 feet	5 feet	5 feet	12 feet	5/15 feet	5 feet	N/A	5 feet	5 feet	5 feet
Paired Villa	35 feet	1800-2100 sf	2	80%	35 feet	5 feet	5 feet	5 feet	12 feet	5/15 feet	5 feet	N/A	5 feet	5 feet	5 feet
Cottage	40 feet	1650-2050 sf	2	80%	35 feet	5 feet	5 feet	5 feet	12 feet	5/15 feet	5 feet	N/A	5 feet	5 feet	5 feet
Village Home	50 feet	1950-2750 sf	2	80%	35 feet	5 feet	5 feet	5 feet	12 feet	5/15 feet	5 feet	N/A	5 feet	5 feet	5 feet
Park House	60 feet	2500-3200 sf	2	80%	35 feet	5 feet	5 feet	5 feet	12 feet	5/15 feet	5 feet	N/A	5 feet	5 feet	5 feet
Estate House	70 feet	2750-4000 sf	2.5	75%	40 feet	5 feet	5 feet	5 feet	12 feet	15 feet	5 feet	N/A	5 feet	5 feet	10 feet
Custom House	80+ feet	2800+ sf	3	75%	40 feet	5 feet	5 feet	5 feet	12 feet	15 feet	7 feet	N/A	5 feet	5 feet	10 feet

NOTE: NO MULTIFAMILY STRUCTURE AND ASSOCIATED PARKING AREAS ARE TO BE WITHIN TWO HUNDRED FEET OF ANY SINGLE-FAMILY DISTRICT ADJOINING THE PROPOSED DEVELOPMENT.

ZEVCOHEN & ASSOCIATES, INC.
800 NORTHWOODS PKWY, STE 175
NORCROSS, GA 30071
WWW.ZEVCOHEN.COM

CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

NO	DATE	BY	SUBMITTAL/S /REVISIONS

TOMOKA PRESERVE
PLANNED DEVELOPMENT
OVERALL DEVELOPMENT PLAN

VOLUSIA COUNTY, FLORIDA
CITY OF ORMOND BEACH

PROJECT NO: ZC 21087 PD
DESIGNED BY: KTR
DRAFTED BY: XXX
CHECKED BY: XX
DRAWING FILE: 07_21087 ODP
XREF'S: XXXXX.DWG
XREF'S: XXXXX.DWG

KRISTOPHER T. ROWLEY, P.E. NO. 84263
NOT VALID WITHOUT SEAL

SHEET: EX1 OF 4

LAND USE LEGEND

SYMBOL	NOTES	ACRES
	50' LANDSCAPE BUFFER	19.92 (13%)
	OPEN SPACE	24.57 (16%)
	DRAINAGE/HABITAT	19.12 (13%)
	AMENITY	5.7 (4%)

CONCEPT LEGEND

EMERGENCY ACCESS THRESHOLD

Pedestrian Access

TAKEOFF: 4

PROPOSED PEDESTRIAN & VEHICULAR GATE LOCATION

TAKEOFF: 2

20% NATURAL PRESERVATION

TOTAL SITE AREA	147.94 AC
MINIMUM TREE COVERAGE AREA REQUIRED (CALCULATION: 147.94 AC. x 20% = 29.6 AC.	29.6 AC.
TOTAL MINIMUM TREE COVERAGE PROVIDED	51.2 AC.

MINIMUM ON SITE RECREATION FACILITIES

	REQUIRED	PROVIDED
RESIDENTIAL UNITS	300	286
MINIMUM ACTIVE INDOOR RECREATION REQUIRED CALCULATION: 30 S.F. * 300 UNITS = 9,000	9,000 SQFT	9,000 SQFT
MINIMUM ACTIVE OUTDOOR RECREATION REQUIRED CALCULATION: 60 S.F. * 300 UNITS = 18,000	18,000 SQFT	18,000 SQFT
MINIMUM COMMON ACCESSIBLE OPEN SPACE CALCULATION: 30 S.F. * 300 UNITS = 9,000	308,000 SQFT	18,000 SQFT

(A) 8-0" WIDE MULTI-USE TRAIL SINGLE MULTI-USE TRAIL REDUCES IMPERVIOUS BY 15,100 SQFT

(B) 6" ABOVE CENTERLINE ROAD GRADE

(C) SOD or SEED AND MULCH PER F.D.O.T. STANDARD SPECIFICATION SECTION 570. 1' SOD STRIP REQUIRED ADJACENT TO CURB AND AROUND DRAINAGE STRUCTURES.

(D) 4' WIDE AREA WITH MAX. SLOPE OF 1:4 FEET

(E) CONCRETE MIAMI CURB, 2500 P.S.I.

(F) ASPHALT PAVEMENT: 1-1/2" ASPHALT BITUMINOUS CONCRETE SP-9.5 OR SP-12.5; MINIMUM MARSHALL FIELD STABILITY 1500.

(G) BASE: 6" LIMEROCK (LBR 100) COMPACTED TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST. OR 6" CRUSHED CONCRETE (LBR 100) COMPACTED TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST.

(H) SUB BASE: 6" SUB BASE COMPACTED TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST WITH MINIMUM LBR 40.

(I) PROPOSED STREET TREE. SPACING TO BE COORDINATED WITH DRIVEWAY AND UTILITY LOCATIONS.

(A) TYPICAL ROADWAY SECTION

N.T.S. DETAIL-FILE

ZEVCOHEN & ASSOCIATES, INC.
800 NORTHLAKE BLVD., STE. 100
NORTH PALM BEACH, FL 33408
WWW.ZEVCOHEN.COM

CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

NO.	DATE	BY	SUBMITTAL/S REVISIONS

TOMOKA PRESERVE PLANNED DEVELOPMENT OPEN SPACE PLAN

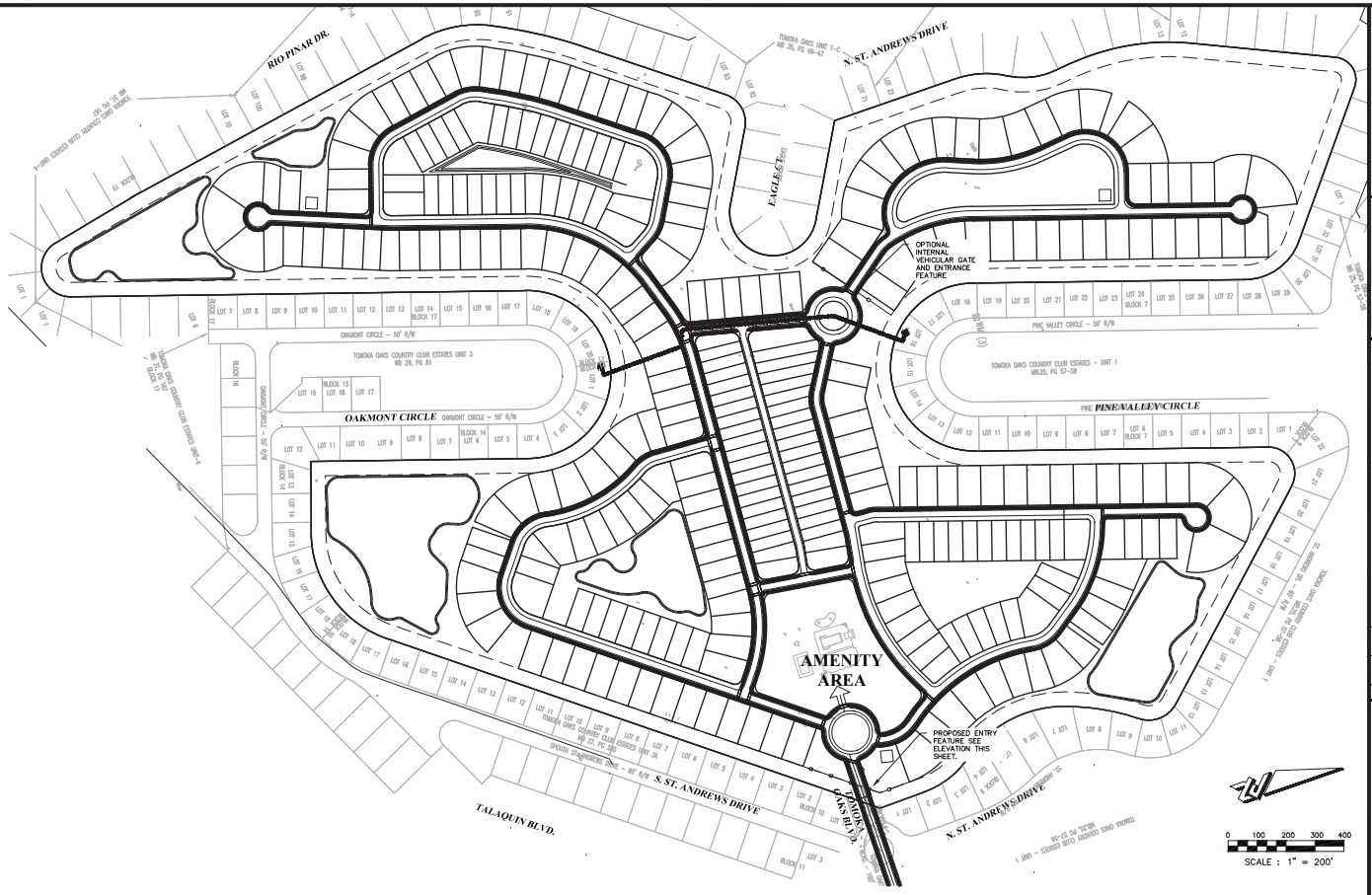
VOLUSIA COUNTY, FLORIDA
CITY OF ORMOND BEACH

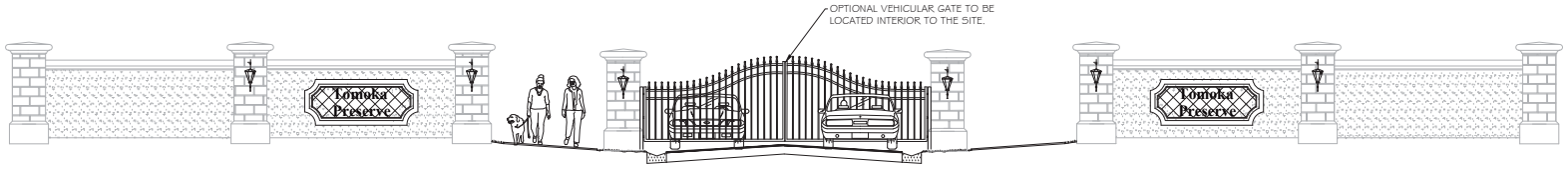
PROJECT NO: ZC 21087
DESIGNED BY: KR
DRAFTED BY: ---
CHECKED BY: RH

DRAWING FILE: 07_21087 ODP
XREF'S: XXXXX.DWG
XREF'S: XXXXX.DWG

KRISTOPHER T. RONLEY, P.E. NO.84083
NOT VALID WITHOUT SEAL

SHEET: EX2 OF 4





A CONCEPTUAL ENTRANCE ELEVATION

N.T.S.

DETAIL-FILE

ZEV COHEN & ASSOCIATES, INC.
800 BEACHMARKET BLVD., STE. 212
DAYTONA BEACH, FL 32114
WWW.ZEVCOHEN.COM

CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL
PLANNING
TRANSPORTATION

NO.	DATE	BY	SUBMITTAL'S /REVISIONS

TOMOKA PRESERVE
PLANNED DEVELOPMENT
SIGN PLAN

CITY OF ORMOND BEACH — VOLUSIA COUNTY, FLORIDA

PROJECT NO: ZC 21087
DESIGNED BY: KR
DRAFTED BY: ---
CHECKED BY: RH
DRAWING FILE: 07_21087 ODP
XREF'S: XXXXX.DWG
XREF'S: XXXXX.DWG

KRISTOPHER T. RONLEY, P.E. NO.84083
NOT VALID WITHOUT SEAL

SHEET: CP1 OF 1

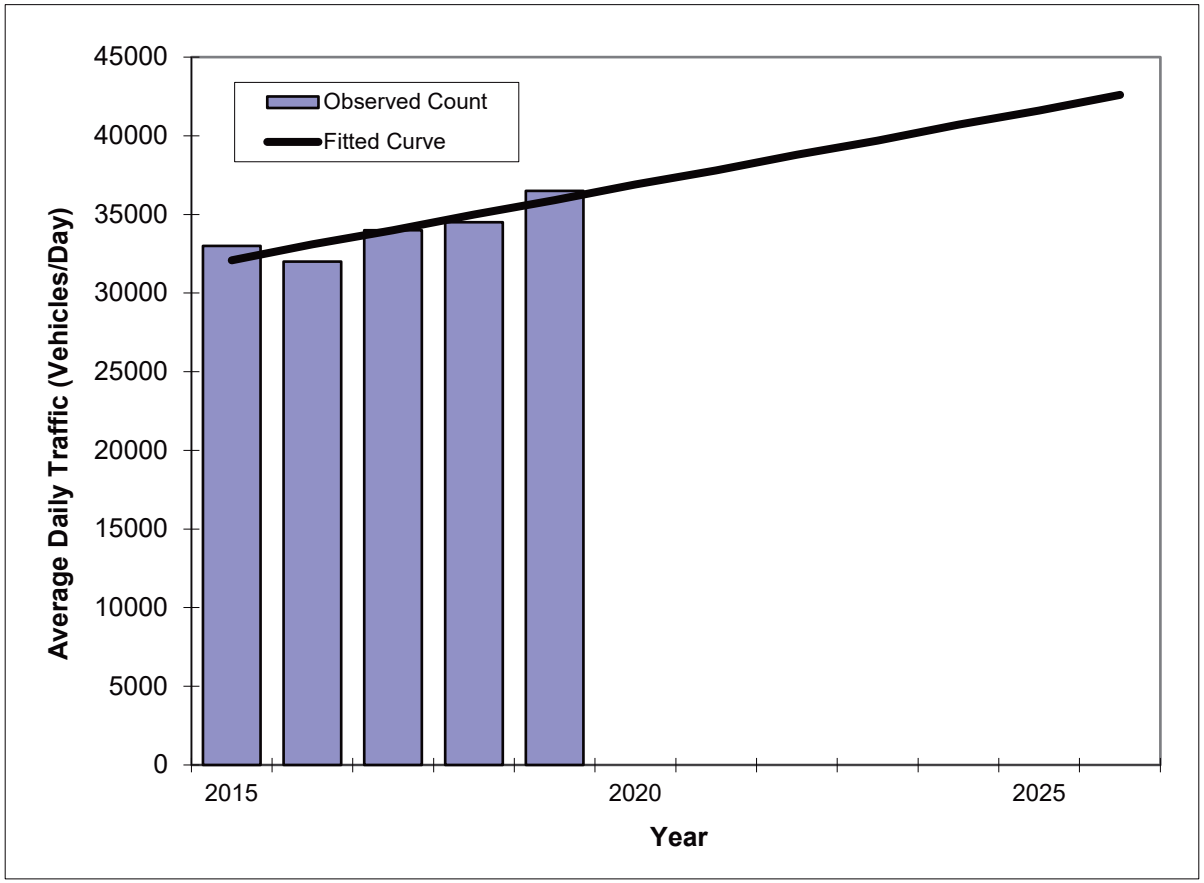
EXHIBIT B

FDOT Traffic Trends

TRAFFIC TRENDS

SR 40 -- Clyde Morris Boulevard to Nova Road

County:	Volusia
Station #:	489
Highway:	SR 40



Year	Traffic (ADT/AADT) Count*	Trend**
2015	33000	32100
2016	32000	33100
2017	34000	34000
2018	34500	35000
2019	36500	35900
2022 Opening Year Trend		
2022	N/A	38800
2024 Mid-Year Trend		
2024	N/A	40700
2026 Design Year Trend		
2026	N/A	42600
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

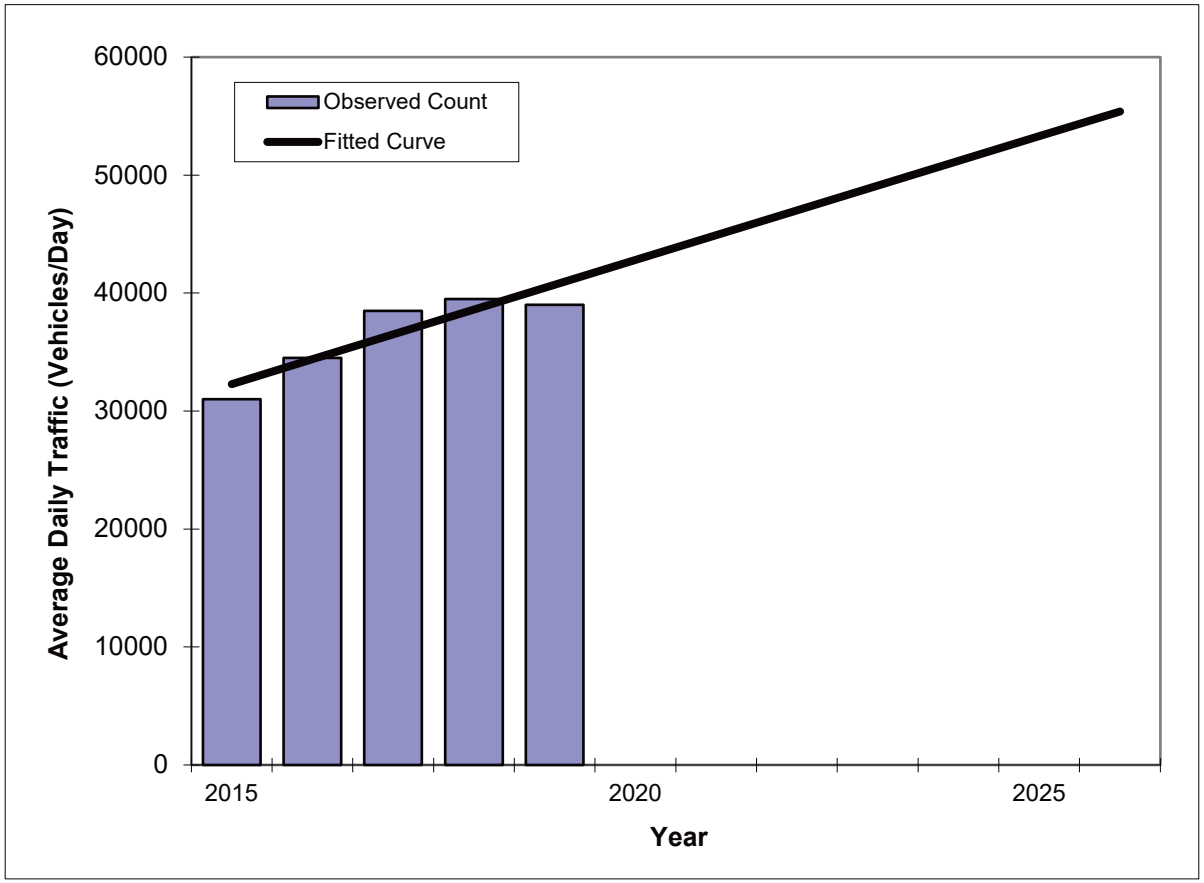
** Annual Trend Increase:	950
Trend R-squared:	78.5%
Trend Annual Historic Growth Rate:	2.96%
Trend Growth Rate (2019 to Design Year):	2.67%
Printed:	30-Mar-22

Straight Line Growth Option

TRAFFIC TRENDS

SR 40 -- US 1 to Halifax Ave

County:	Volusia
Station #:	171
Highway:	SR 40



Year	Traffic (ADT/AADT) Count*	Trend**
2015	31000	32300
2016	34500	34400
2017	38500	36500
2018	39500	38600
2019	39000	40700
2022 Opening Year Trend		
2022	N/A	47000
2023 Mid-Year Trend		
2023	N/A	49100
2026 Design Year Trend		
2026	N/A	55400
TRANPLAN Forecasts/Trends		

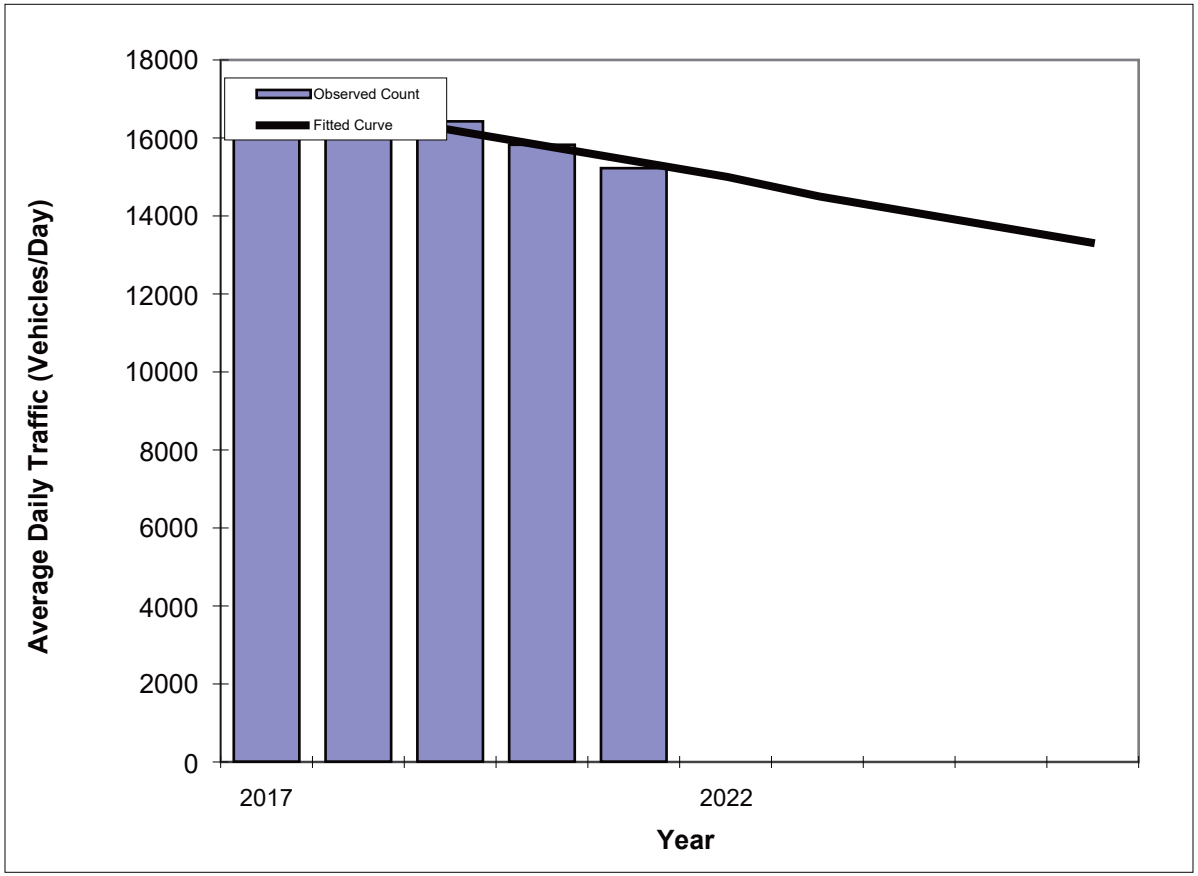
*Axle-Adjusted

** Annual Trend Increase:	2,100
Trend R-squared:	82.4%
Trend Annual Historic Growth Rate:	6.50%
Trend Growth Rate (2019 to Design Year):	5.16%
Printed:	5-May-22
Straight Line Growth Option	

TRAFFIC TRENDS

Hand Ave -- Clyde Morris Blvd to Shangri La Dr

County:	Volusia
Station #:	832
Highway:	Hand Ave



	Traffic (ADT/AADT)	
Year	**Count***	**Trend****
2017	16700	17100
2018	17000	16600
2019	16400	16200
2020	15800	15800
2021	15200	15400
2022 Opening Year Trend		
2022	N/A	15000
2024 Mid-Year Trend		
2024	N/A	14100
2026 Design Year Trend		
2026	N/A	13300
TRANPLAN Forecasts/Trends		

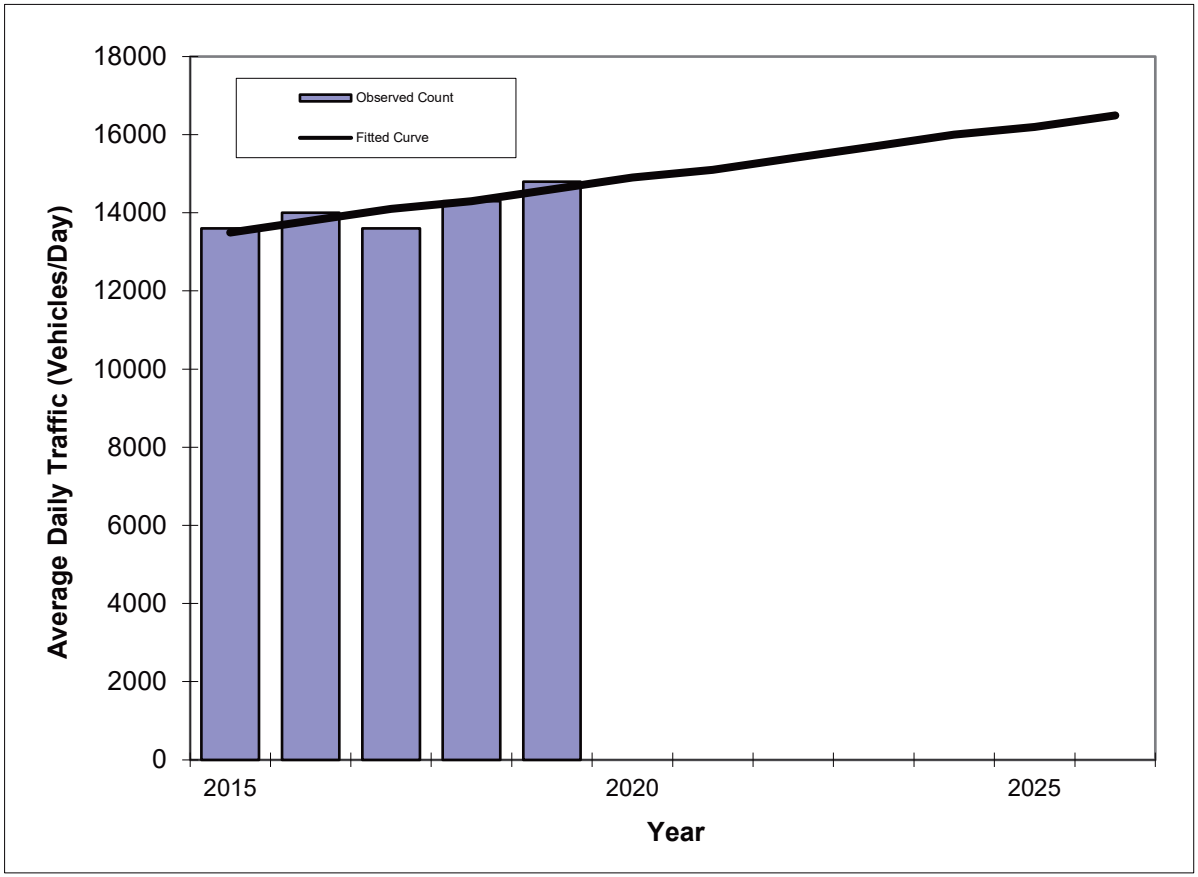
*Axle-Adjusted

**** Annual Trend Increase:**	-420
Trend R-squared:	84.5%
Trend Annual Historic Growth Rate:	-2.49%
Trend Growth Rate (2021 to Design Year):	-2.73%
Printed:	5-May-22
Straight Line Growth Option	

TRAFFIC TRENDS

Nova Rd -- Wilmette Ave to US 1

County:	Volusia
Station #:	459
Highway:	Nova Rd



Year	Traffic (ADT/AADT) Count*	Trend**
2015	13600	13500
2016	14000	13800
2017	13600	14100
2018	14300	14300
2019	14800	14600
2022 Opening Year Trend		
2022	N/A	15400
2024 Mid-Year Trend		
2024	N/A	16000
2026 Design Year Trend		
2026	N/A	16500
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:**	270
Trend R-squared:	70.6%
Trend Annual Historic Growth Rate:	2.04%
Trend Growth Rate (2019 to Design Year):	1.86%
Printed:	17-Feb-22

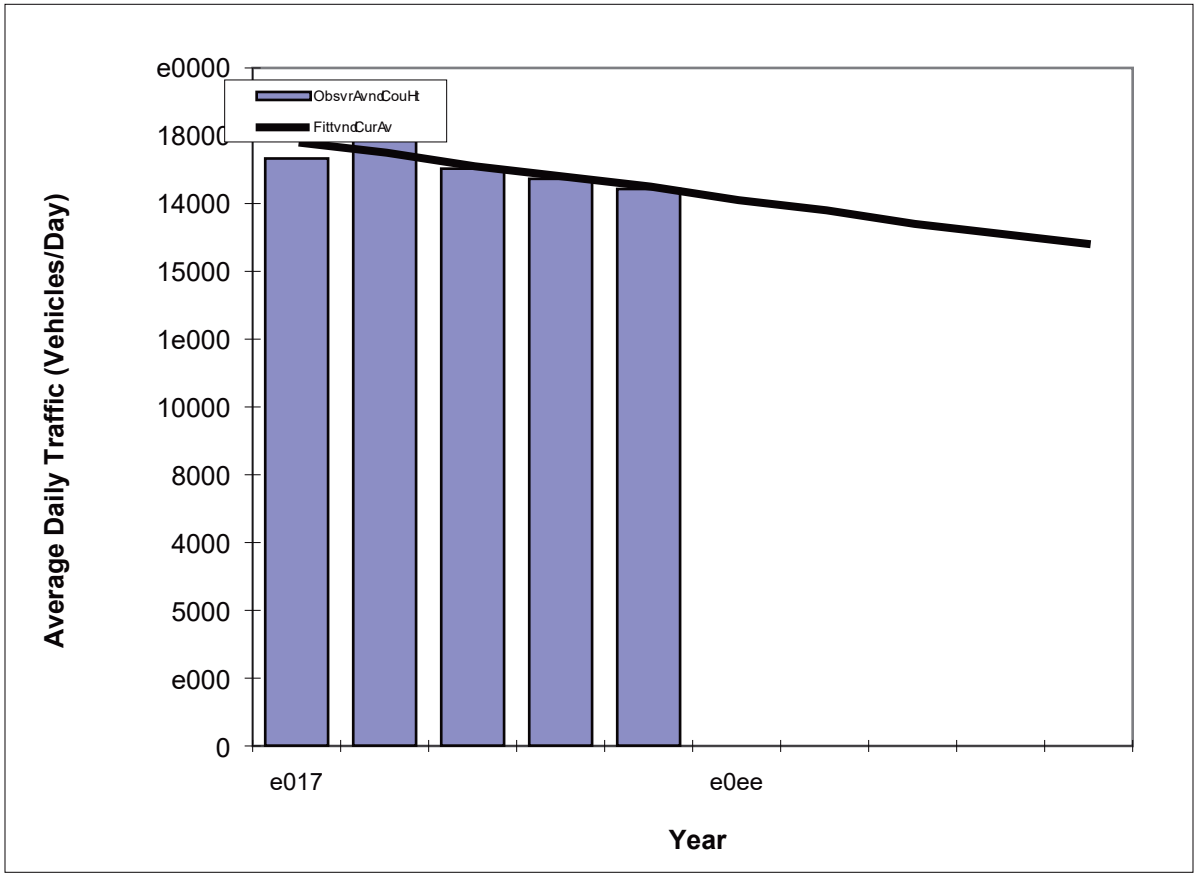
Straight Line Growth Option

***Axle-Adjusted**

TRAFFIC TRENDS

Hand Ave -- Shangri La Dr to Nova Rd

County:	Volusia
Station #:	833
Highway:	2 aHnd Av



Year	Traffic (ADT/AADT) Count*	Trend**
e017	17300	17800
e018	18300	17600
e019	17000	17100
e0e0	14700	14800
e0e1	14500	14600
e0eedOpvHiHgdYvardTrvHn		
e0ee	N/	14100
e0e5dMin-YvardTrvHn		
e0e5	N/	16500
e0e4dDvsigHdYvardTrvHn		
e0e4	N/	15800
TR NPL NdForvcasts/TrvHns		

*Axle-Adjusted

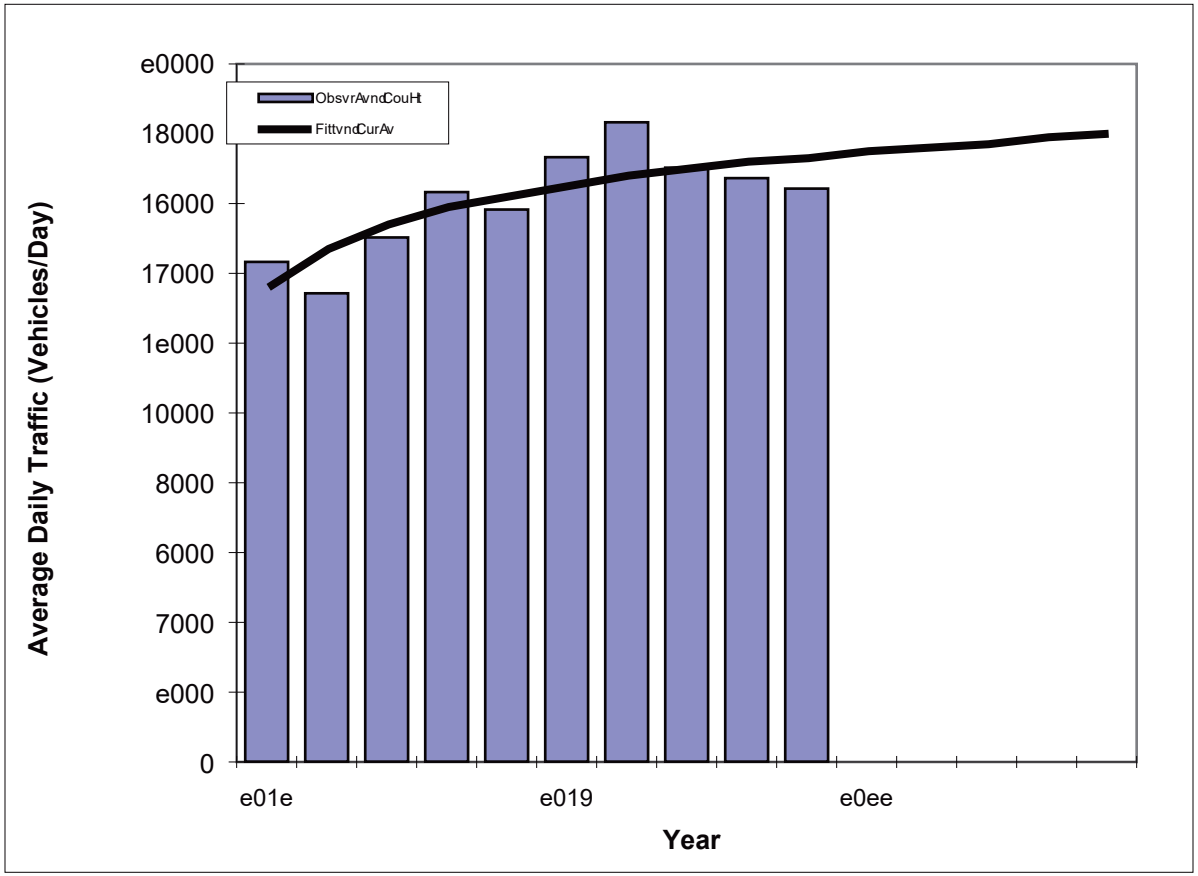
** Annual Trend Increase:	-350
Trend R-squared:	65.e%
Trend Annual Historic Growth Rate:	-1.83%
Trend Growth Rate (2021 to Design Year):	-e.04%
Printed:	6-May-ee

Straight Line Growth Option

TRAFFIC TRENDS

Hand Ave -- Shangri La Dr to Nova Rd

County:	Volusia
Station #:	833
Highway:	2 aHnd Av



Year	Traffic (ADT/AADT) Count*	Trend**
e01e	17300	13600
e013	13700	17900
e017	14000	14700
e014	16300	14500
e016	14800	16e00
e019	19300	16400
e018	18300	16800
e015	19000	19000
e0e0	16900	19e00
e0e1	16700	19300
e0eedOpvHiHgdYvardTrvHn		
e0ee	N/	19400
e0e7dMin-YvardTrvHn		
e0e7	N/	19900
e0e6dDvsigHdYvardTrvHn		
e0e6	N/	18000
TR NPL NdForvcasts/TrvHns		

*Axle-Adjusted

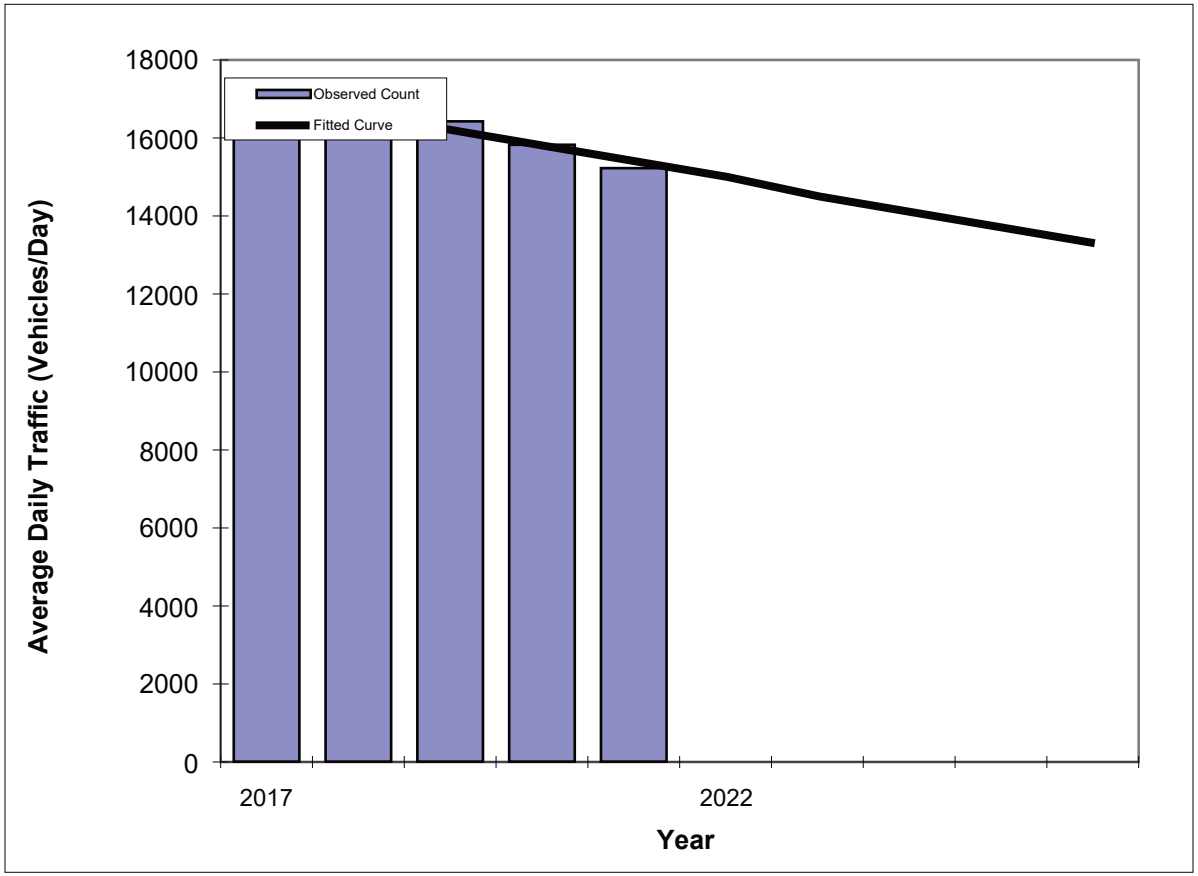
Trend R-squared:	67.6%
Compounded Annual Historic Growth Rate:	e.3e%
Compounded Growth Rate (2021 to Design Year):	0.37%
Printed:	4-May-ee

Decaying Exponential Growth Option

TRAFFIC TRENDS

Hand Ave -- Clyde Morris Blvd to Shangri La Dr

County:	Volusia
Station #:	832
Highway:	Hand Ave



Year	Traffic (ADT/AADT) Count*	Trend**
2017	16700	17100
2018	17000	16600
2019	16400	16200
2020	15800	15800
2021	15200	15400
2022 Opening Year Trend		
2022	N/A	15000
2024 Mid-Year Trend		
2024	N/A	14100
2026 Design Year Trend		
2026	N/A	13300
TRANPLAN Forecasts/Trends		

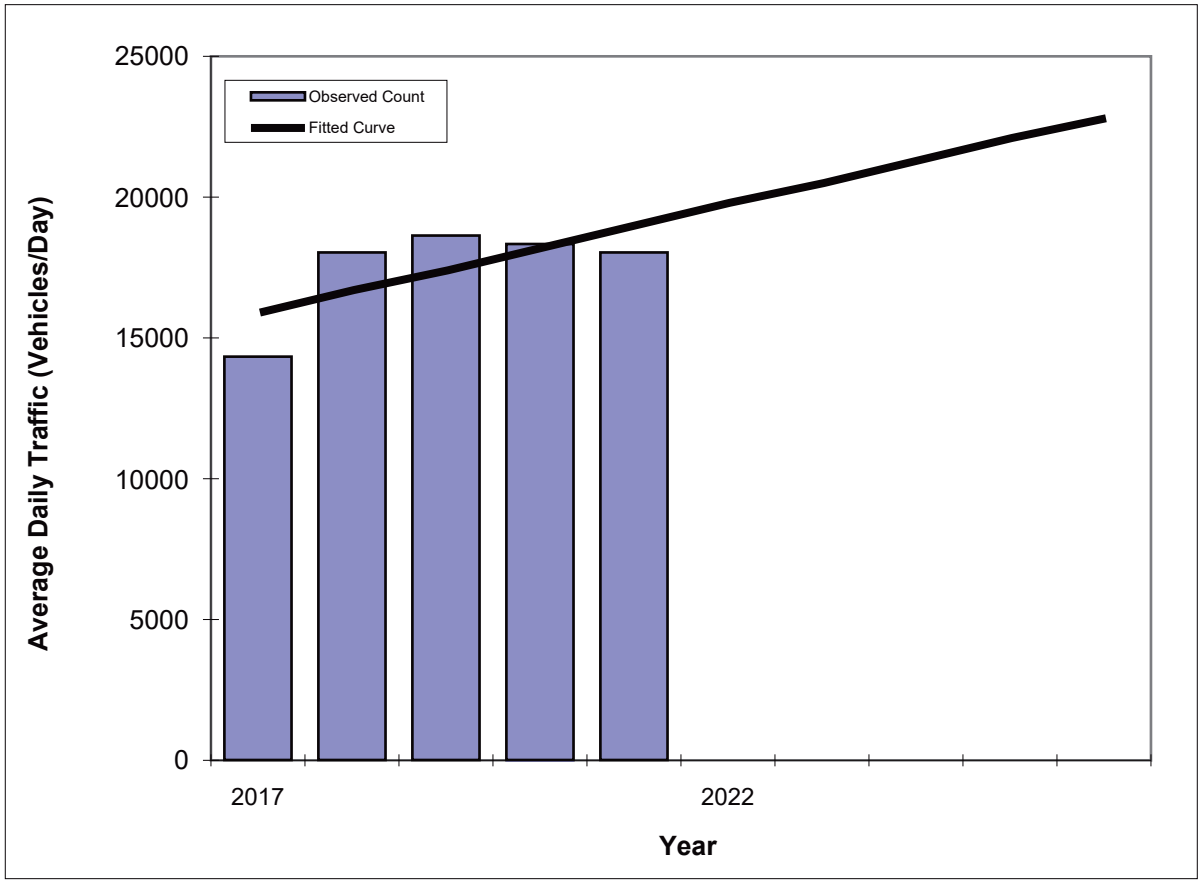
**** Annual Trend Increase:**	-420
Trend R-squared:	84.5%
Trend Annual Historic Growth Rate:	-2.49%
Trend Growth Rate (2021 to Design Year):	-2.73%
Printed:	5-May-22
Straight Line Growth Option	

***Axle-Adjusted**

TRAFFIC TRENDS

Williamson Blvd -- LPGA Blvd to Hand Ave

County:	Volusia
Station #:	2001
Highway:	Williamson Blvd



Year	Traffic (ADT/AADT) Count*	Trend**
2017	14300	15900
2018	18000	16700
2019	18600	17400
2020	18300	18200
2021	18000	19000
2022 Opening Year Trend		
2022	N/A	19800
2024 Mid-Year Trend		
2024	N/A	21300
2026 Design Year Trend		
2026	N/A	22800
TRANPLAN Forecasts/Trends		

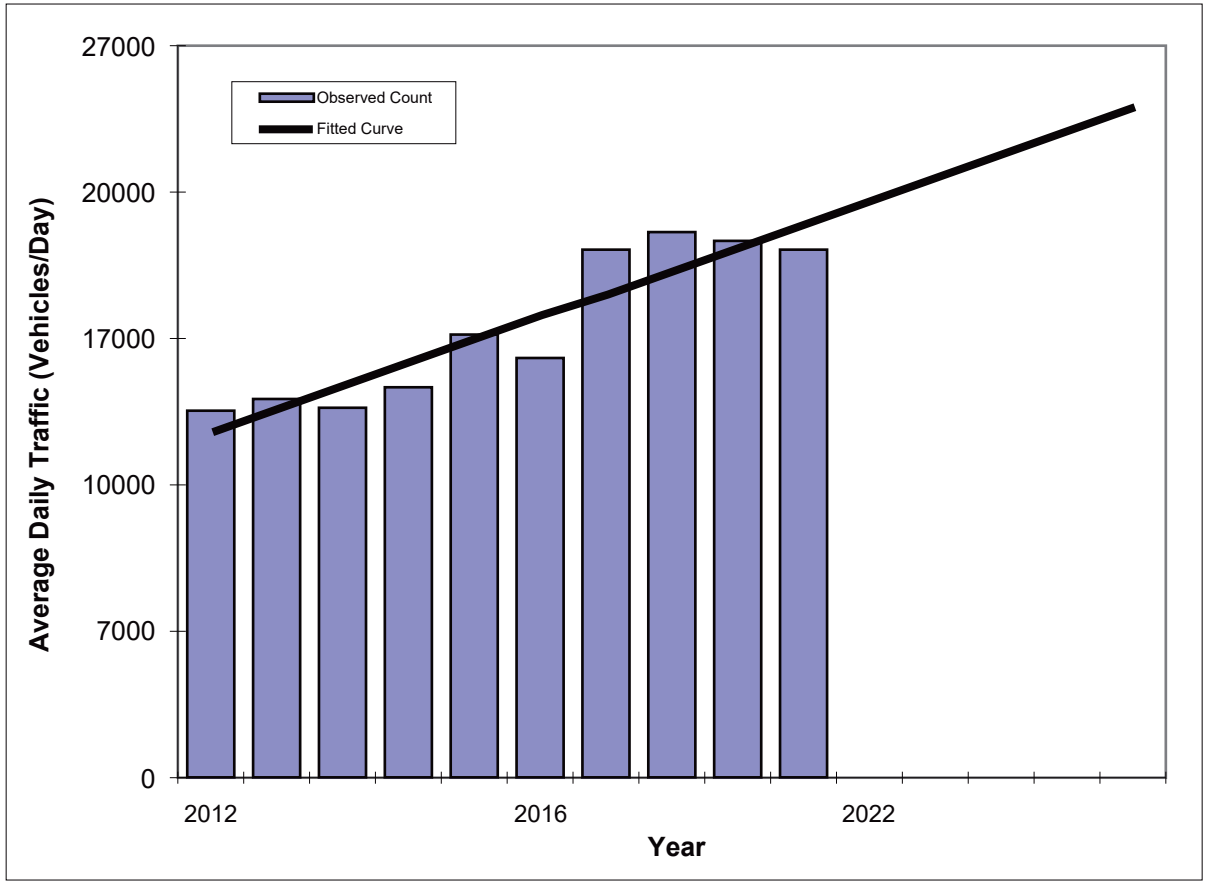
*Axle-Adjusted

** Annual Trend Increase:	770
Trend R-squared:	47.2%
Trend Annual Historic Growth Rate:	4.87%
Trend Growth Rate (2021 to Design Year):	4.00%
Printed:	5-May-22
Straight Line Growth Option	

TRAFFIC TRENDS

Williamson Blvd -- LPGA Blvd to Hand Ave

County:	Volusia
Station #:	2001
Highway:	Williamson Blvd



Year	Traffic (ADT/AADT) Count*	Trend**
2012	12700	11400
2013	12500	12900
2018	12900	13800
2017	13300	18200
2019	17100	17000
2016	18300	17400
2014	14000	19700
2015	14900	16300
2020	14300	14100
2021	14000	14500
2022 Opening Year Trend		
2022	N/A	15600
2028 Mid-Year Trend		
2028	N/A	21300
2029 Design Year Trend		
2029	N/A	22500
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

** Annual Trend Increase:	652
Trend R-squared:	47.9%
Trend Annual Historic Growth Rate:	9.95%
Trend Growth Rate (2021 to Design Year):	8.23%
Printed:	7-May-22
Straight Line Growth Option	

Exhibit C

Methodology Correspondence

From: Rob Bridger
To: Spraker, Steven
Subject: Re: Former Tomoka Oaks Golf Course Redevelopment, distribution list (03.02.2022)
Date: Thursday, March 3, 2022 3:31:52 PM

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

Thank you for considering my input. - Rob

On Thu, Mar 3, 2022 at 1:42 PM Spraker, Steven <Steven.Spraker@ormondbeach.org> wrote:

> Good afternoon,
>
> Thank you for your e-mail. Staff will provide your e-mail to the city reviewers and the applicant's consultant as part of the methodology review.
>
> Steven
>
> Steven Spraker, AICP
>
> Planning Director
>
> Planning Department
>
> 22 South Beach Street, Room 104
>
> Ormond Beach, FL 32174
>
> Direct Line: 386.676.3341
>
> Department: 386.676.3238
>
> Cell: 386.366.1590
>
> Fax: 386.676.3361
>
> E-mail: Steven.Spraker@ormondbeach.org
>
> ---
>
> **From:** Rob Bridger <rob.bridger48@gmail.com>
> **Sent:** Thursday, March 3, 2022 12:42 PM
> **To:** Spraker, Steven <Steven.Spraker@ormondbeach.org>; Julie Sipes <julesm0524@gmail.com>
> **Cc:** Tom Fitzgibbon <gototom@gmail.com>; kristine cunningham <krissysjake@gmail.com>; Ashley DuFrene <adufrene7@gmail.com>; Craig Shankland <cmshankland@mindspring.com>; Missy Herrero <mmh28@aol.com>; John Anthony <johntanthony@hotmail.com>; Kathleen Grabow <kathy.grabow67@gmail.com>; dan gowen <pathfinder32110@yahoo.fr>; Dann Dragon <danndragon@yahoo.com>; Brandie Hayes <Bhayes@sutherlandmanagement.com>

Subject: Re: Former Tomoka Oaks Golf Course Redevelopment, distribution list (03.02.2022)

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

Mr. Spraker, hello.

Thank you for your 3/2/22 email sharing a link to the 3/1/22 Traffic Impact Analysis (TIA) Methodology Letter the City has received for the Former Tomoka Oaks Golf Course Redevelopment project.

I have reviewed the correspondence from LTG Engineering & Planning and have the following comments and issues regarding the proposed methodology.

1) The "Study Area" section includes language which says, in part, the study: "must include all roadway segments to which the site has direct connections, which are impacted by the the proposed project to within three percent or greater of the peak-hour two-way adopted level of service (LOS) capacity" ...

During the City's 2018 OB Life session regarding Transportation the City's graphic displayed Main Trail as a "Connector" roadway.

There is nothing in the proposed methodology for the project that addresses its resulting effect of increasing spillover traffic from current Tomoka Oaks residents onto Rio Pinar Trail, Iroquois Trail and Main Trail.

2) The sub-section regarding "Intersections" indicates that Tomoka Oaks Blvd at Nova Rd is "signalized". That currently is incorrect.

3) In "Exhibit B" the Traffic Trend analysis for all roadway segments in the current scope is projected from 2019 Observed Count data. The 2019 data would not seem representative of current roadway usage due to the residential and commercial development the City has experience.

Thank you for your attention to the issues I have at first reading.

Rob Bridger

On Wed, Mar 2, 2022, 10:33 PM Julie and Ken Sipes <cando2ormond@gmail.com> wrote:

> You probably saw this. Forwarding anyway.
>
> ---------- Forwarded message ----------
> From: **Spraker, Steven** <Steven.Spraker@ormondbeach.org>
> Date: Wednesday, March 2, 2022
> Subject: RE: Former Tomoka Oaks Golf Course Redevelopment, distribution list (03.02.2022)
> To: "Spraker, Steven" <Steven.Spraker@ormondbeach.org>
> Cc: Community Development <ComDev@ormondbeach.org>

Good morning,

City staff are in receipt of the Traffic Impact Analysis (TIA) Methodology Letter for this project and have uploaded the document to the city's website: https://www.ormondbeach.org/1013/Former-Tomoka-Oaks-Golf-Course-Property. The Traffic Impact Analysis (TIA) Methodology Letter is a required step to conduct a Traffic Impact Analysis which is required for this project. The project **has not submitted** a site plan to the Site Plan Review Committee or Planned Development amendment application to date. As information is submitted in the future it will be uploaded the city website.

Thank you

Steven

Steven Spraker, AICP

Planning Director

Planning Department

22 South Beach Street, Room 104

Ormond Beach, FL 32174

Direct Line: 386.676.3341

Department: 386.676.3238

Cell: 386.366.1590

Fax: 386.676.3361

E-mail: Steven.Spraker@ormondbeach.org

From: Steven.Spraker@ormondbeach.org <Steven.Spraker@ormondbeach.org>
Sent: Wednesday, January 5, 2022 11:29 AM
To: Spraker, Steven <Steven.Spraker@ormondbeach.org>
Cc: ComDev@ormondbeach.org
Subject: RE: Former Tomoka Oaks Golf Course Redevelopment, distribution list (01.05.2022)

Good morning,

As a follow-up to this morning's Site Plan Review Committee (SPRC) meeting there were request to provide the two drawings that were discussed during the

From: BARBARA DOLINER
To: Spraker, Steven
Cc: Community Development
Subject: Re: Former Tomoka Oaks Golf Course Redevelopment, distribution list (03.02.2022)
Date: Wednesday, March 2, 2022 2:39:48 PM

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

Thank you Steven

Sent from my iPhone

> On Mar 2, 2022, at 1:14 PM, Spraker, Steven <Steven.Spraker@ormondbeach.org> wrote:
>
> Ms. Doliner,
>
> Thank you for the e-mail. This document is not the traffic study but the methodology to perform the traffic study. I will provide your e-mail to the city reviewers and the applicant's consultant to ensure that the traffic study addresses the areas that you have identified.
>
> Steven
>
> ---
>
> **From:** BARBARA DOLINER <renilod@yahoo.com>
> **Sent:** Wednesday, March 2, 2022 12:45 PM
> **To:** Spraker, Steven <Steven.Spraker@ormondbeach.org>
> **Cc:** Community Development <ComDev@ormondbeach.org>
> **Subject:** Re: Former Tomoka Oaks Golf Course Redevelopment, distribution list (03.02.2022)
>
> [External Email-Use Caution] - OB/IT Helpdesk
> Steve,
>
> Thank you for sending this study out for review.
>
> Please clarify:
>
> The IMPACT
> on :
> MAIN TRAIL TO NOVA
> MAIN TRAIL TO GRANADA
> RIO PINAR TO MAIN TR/ GRANADA
> RIO PINAR TO NOVA

IROQUOIS TO MAIN TR / GRANADA
IROQUOIS TO NOVA

What will the impact of ADDITIONAL
(apx?) 650 Automobiles
be on the
MAIN TRAIL BRIDGE?
The SEVERE CURVE ON
MAIN TRAIL?

Thank you
Barbara H Doliner

Sent from my iPhone

On Mar 2, 2022, at 11:41 AM, Spraker, Steven <Steven.Spraker@ormondbeach.org> wrote:

Good morning,

City staff are in receipt of the Traffic Impact Analysis (TIA) Methodology Letter for this project and have uploaded the document to the city's website: https://www.ormondbeach.org/1013/Former-Tomoka-Oaks-Golf-Course-Property. The Traffic Impact Analysis (TIA) Methodology Letter is a required step to conduct a Traffic Impact Analysis which is required for this project. The project **has not submitted** a site plan to the Site Plan Review Committee or Planned Development amendment application to date. As information is submitted in the future it will be uploaded the city website.

Thank you

Steven

Steven Spraker, AICP
Planning Director
<image001.jpg>
Planning Department
22 South Beach Street, Room 104
Ormond Beach, FL 32174
Direct Line: 386.676.3341
Department: 386.676.3238
Cell: 386.366.1590
Fax: 386.676.3361

TMH CONSULTING, INC.
Community Planning Services

TMHConsulting@cfl.rr.com
97 N. Saint Andrews Dr.
Ormond Beach, FL 32174
PH: 386.316.8426

MEMORANDUM

TO: Tomoka Oaks Golf Course Committee
CC: J. Buckholz, Traffic consultant
FROM: Thomas Harowski, AICP
SUBJECT: Golf Course Redevelopment Traffic Study
DATE: March 2, 2022

Let me begin by stating I am not a traffic engineer nor a traffic planning specialist, but I have reviewed a lot of traffic studies over the years. I read the submittal for the Tomoka Oaks project, and I have a few comments and questions. I am copying our traffic consultant so he can consider my comments in his review to the extent that they are warranted.

- Is the build-out time reasonable? They are projecting a 2026 build-out. If we assume the zoning decisions are complete by the end of calendar 2022, they will then need some time to complete the subdivision design and construct the subdivision improvements. If we assume they can complete this process by the end of 2023, that leaves 36 months to build out 300 units which calls for them to complete about 8 houses per month for three years? If we think this is reasonable then we can run with their number. If it takes longer then there is more background traffic to consider.

- Are the assumptions made for trip projections (Table 1) correct? This is really Mr. Buckholz's purview.

- The list of roadway segments selected for analysis does not include Nova Road from Wilmette to SR 40. This seems odd as their trip distribution shows 51% of the project traffic using this segment.

- The intersection analysis assumes a signal at Tomoka Oaks Boulevard and Nova Road where there is no signal currently. It seems to me the analysis should treat the intersection as unsignalized as it currently exists and recommend a signal if the development requires it. It looks to me that they are basing this intersection review on the previous finding that a signal is warranted, and they want to get out of paying for any of it.

- I did not see any mention of taking traffic counts on North and South Saint Andrews. How are they going to assess the intersection impacts at Tomoka Oaks Boulevard if there is no information on existing traffic volumes? There are no base traffic counts within the neighborhood as we have for the state and county road network.

- For build-out traffic, does Ormond Beach have any vested trips that are not included in the County vested trip totals? If so, should these be included as well?

- The trip distribution model assigns 100% of the South Saint Andrews trips to Iroquois and none to Rio Pinar. Does this make a difference since both roads connect to Main Trail than then finally to West Granada?

- The trip distribution tree does not add up in all areas. The 97% of trips going to Nova Road splits 39% left and 55% right. What happened to the other 3%? Then at US 1 and Nova Road we have 20% left and 20% right but only 39% of the trips arriving. Seems like they need to clean this up.

- For Mr. Buckholz's benefit at Nova and Wilmette we have a major city park (NW corner) and our local shopping center (SW corner) as traffic attractors.

- The table on the significance test includes a segment of Airport Road from Dunn Avenue to US92/ISB. This is nowhere near the project. They might mean Sunshine Boulevard to US1. Another piece of sloppy work.

- On Table 3 why do we use the greater of the vested trips versus the growth trips instead of using both? It seems unlikely to me that vested trips include all the trips expected from background growth. Why not use both or some combination of the two? (Another Buckholz question.)

- Should we be asking them to look at traffic accidents as a safety concern? I am not aware of many accidents within the neighborhood, but there have been some at the Nova Road intersection. I presume this data is available form Ormond PD.

I have maintained from the outset of our review that the critical traffic issues, assuming the project gets built, are the provision of a traffic signal at Tomoka Oaks Boulevard and Nova Road and the construction of operational improvements to Tomoka Oaks Boulevard. This latter item is a local operational concern and not really a system wide impact. They are looking at the intersections of Tomoka Oaks Boulevard with North and South Saint Andrews, but I am concerned that the wording in the study is not strong enough to demand answers to the operational concerns on Tomoka Oaks Boulevard. I assume the intersection they intend to study referenced as east and west diamond are the ends of the current island. I don't see how we maintain that island as currently configured and get any kind of reasonable and safe traffic flow. I think this whole discussion needs to be stronger. The whole segment works now with the existing traffic (including the intersection at Nova Road) so it seems to me that 100% of any operational improvements needs to be paid by the project.

APPENDIX C

Turning Movement Count Data

& FDOT's Seasonal Factor

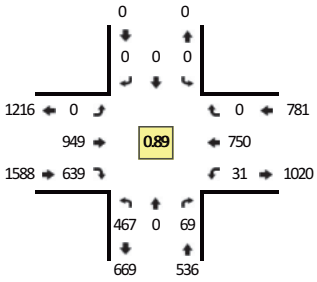
Type of peak hour being reported: Intersection Peak

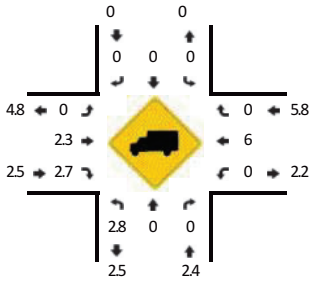
Method for determining peak hour: Total Entering Volume

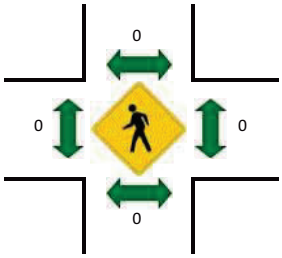
LOCATION: Nova Rd -- US-1
CITY/STATE: Ormond Beach, FL

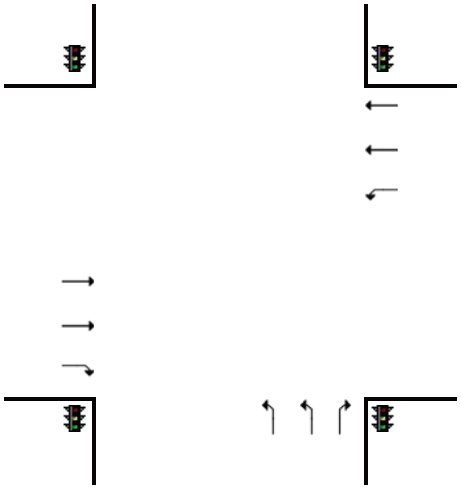
QC JOB #: 16106405
DATE: Thu, Mar 2 2023

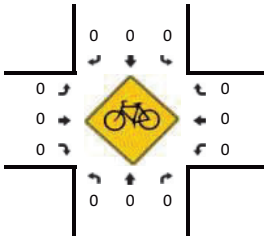
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

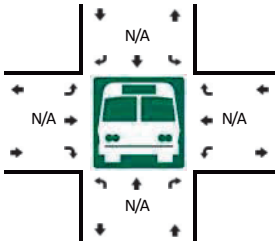


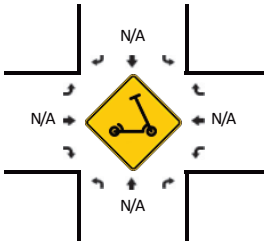












R* = RTOR

15-Min Count Period Beginning At	Nova Rd (Northbound)					Nova Rd (Southbound)					US-1 (Eastbound)					US-1 (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
7:00 AM	87	0	4	0	5	0	0	0	0	0	0	153	114	0	0	3	130	0	0	0	496	
7:15 AM	125	0	2	1	5	0	0	0	0	0	0	219	119	0	0	2	184	0	1	0	658	
7:30 AM	124	0	8	0	10	0	0	0	0	0	0	232	164	0	0	3	192	0	1	0	734	
7:45 AM	129	0	3	0	9	0	0	0	0	0	0	294	153	0	0	6	225	0	0	0	819	2707
8:00 AM	95	0	11	0	10	0	0	0	0	0	0	231	158	0	0	11	153	0	0	0	669	2880
8:15 AM	118	0	8	1	10	0	0	0	0	0	0	192	164	0	0	9	180	0	1	0	683	2905
8:30 AM	100	0	6	0	13	0	0	0	0	0	0	205	162	0	0	9	171	0	0	0	666	2837
8:45 AM	96	0	10	0	13	0	0	0	0	0	0	230	163	0	0	24	177	0	0	0	713	2731

Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	516	0	48	0	36	0	0	0	0	0	0	1176	612	0	0	24	900	0	0	0	3312
Heavy Trucks	12	0	0			0	0	0			0	28	8			0	36	0			84
Buses																					
Pedestrians		0					0					0					0				0
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0
Scooters																					

Comments:

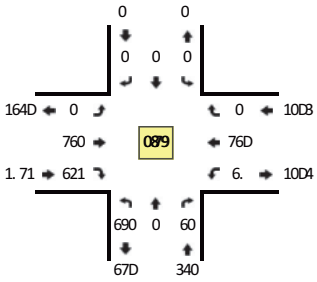
Report generated on 3/10/2023 10:59 AM

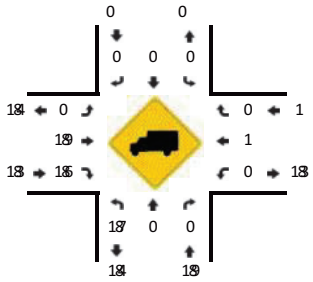
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

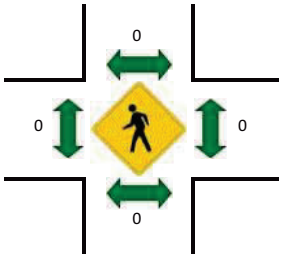
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

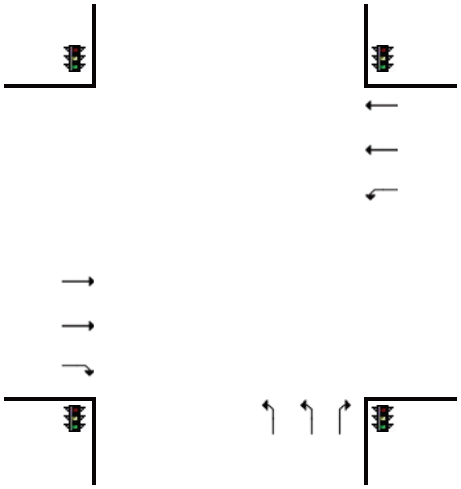
LOCATION: Nova Rd -- US-1 | **QC JOB #:** 16106406
CITY/STATE: Ormond Beach/, L | **DATE:** Thu/Mar D D0D2

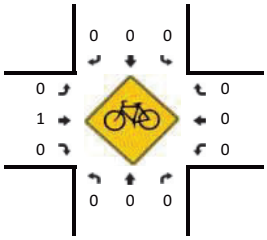
Peak-Hour: 4:4. PM -- . :4. PM
Peak 1. -Min: 4:4. PM -- . :00 PM

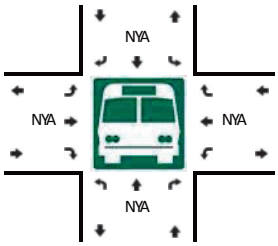


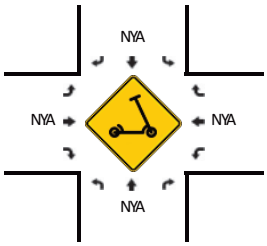












R* = RTOR

1. -Min Count Period Beginning At	Nova Rd (Northbound)					Nova Rd (Southbound)					US-1 (Eastbound)					US-1 (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	170	0	4	0	.	0	0	0	0	0	0	D42	1D3	0	0	1D	D. 7	0	1	0	941	
4:1. PM	1. 3	0	3	0	9	0	0	0	0	0	0	DD0	160	0	0	16	DD.	0	1	0	374	
4:20 PM	197	0	10	0	.	0	0	0	0	0	0	177	164	0	0	D2	D23	0	1	0	9D9	
4:4. PM	162	0	9	0	3	0	0	0	0	0	0	D. 0	1. 6	0	0	13	D. 9	0	D	0	961	22D4
. :00 PM	19D	0	10	0	10	0	0	0	0	0	0	D14	1. D	0	0	19	DD3	0	1	0	914	2D73
. :1. PM	169	0	7	0	4	0	0	0	0	0	0	D67	147	0	0	12	D24	0	0	0	946	2247
. :20 PM	163	0	9	0	4	0	0	0	0	0	0	DD3	134	0	0	12	D42	0	1	0	923	22. 9
. :4. PM	1. 4	0	3	0	4	0	0	0	0	0	0	D09	147	0	0	1.	172	0	0	0	320	2DD3

Peak 1. -Min , lowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	6. D	0	60	0	D9	0	0	0	0	0	0	1000	6D4	0	0	69	102D	0	9	0	243D
Heavy Trucks	44	0	0			0	0	0			0	D4	9			0	9	0			94
Buses																					
Pedestrians		0					0					0					0				0
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0
Scooters																					

Comments:

Report generated on 2Y10YD0D2 10:. 7 AM | SOURCE: Quality Counts/LLC (http:YYwww8qualitycounts8net) 1-933-. 90-DD1D

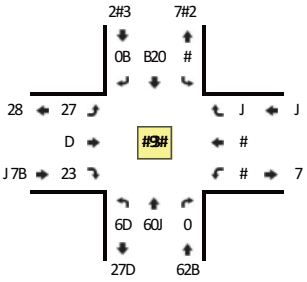
Type of peak hour being reported: Intersection Peak

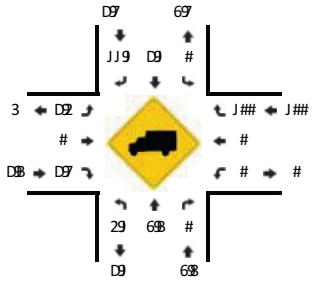
Method for determining peak hour: Total Entering Volume

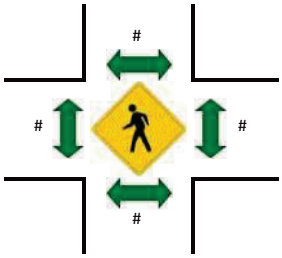
LOCATION: Nova Rd -- Tomoka Oaks Ulvd
CIT45YTATE: Ormond Ueach/, L

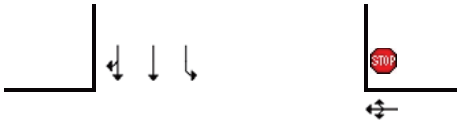
S C 1OU Q: J BJ #B6J 0
F ATE: Thu/Mar D D#D0

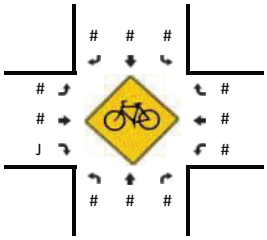
Peak-. our: 8:## AM -- 3:## AM
Peak J 7-Min: 8:67 AM -- 3:## AM

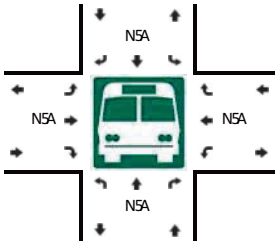


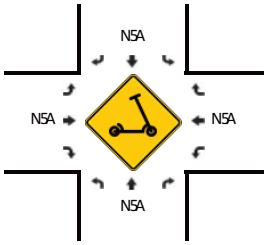












RH* RTOR

J 7-Min Count Period Ueginning At	Nova Rd =Northbound(					Nova Rd =Youthbound(					Tomoka Oaks Ulvd =Eastbound(					Tomoka Oaks Ulvd =) estbound(					Total	. ourly Totals
	Left	Thru	Right	W	RH	Left	Thru	Right	W	RH	Left	Thru	Right	W	RH	Left	Thru	Right	W	RH		
2:## AM	7	8D	#	#	#	#	J #8	6	#	#	J D	#	J 6	#	#	#	#	#	#	#	DD7	
2:J 7 AM	J #	J D8	6	#	#	#	J J 3	6	#	#	J 0	#	J 8	#	#	#	#	#	#	#	D3B	
2:0# AM	B	J J 6	0	#	#	J	J BB	0	#	#	DD	#	0#	#	#	#	#	#	#	#	067	
2:67 AM	J J	J J B	6	#	#	#	J 76	J	#	#	J 8	#	J 2	#	#	#	#	#	#	#	0DJ	J J 82
8:## AM	3	33	#	#	#	#	J 77	J 0	#	#	D7	#	D0	#	#	#	#	#	#	#	0D6	J D8B
8:J 7 AM	B	J D#	#	#	#	#	J B3	2	#	#	J 8	#	J B	#	#	#	#	#	#	#	00B	J 0DB
8:0# AM	J 0	37	#	#	#	#	J 77	J #	#	#	J 8	D	J 7	#	#	#	#	J	#	#	0#3	J D3#
8:67 AM	J 6	J J 2	0	#	#	#	J 36	B	#	#	J 6	#	D7	#	#	#	#	#	#	#	020	J 06D

Peak J 7-Min , lowrates	Northbound					Youthbound					Eastbound					) estbound					Total
	Left	Thru	Right	W	RH	Left	Thru	Right	W	RH	Left	Thru	Right	W	RH	Left	Thru	Right	W	RH	
All Vehicles	7B	6B8	J D	#	#	#	22B	D6	#	#	7B	#	J ##	#	#	#	#	#	#	#	J 63D
. eavy Trucks	8	0B	#			#	D6	6			6	#	8			#	#	#			86
Uuses																					
Pedestrians		#					#					#					#				#
Uicycles Ycooters	#	#	#			#	#	#			#	#	6			#	#	#			6

Comments:

Report generated on 05J #5D#D0 J #:73 AM

YOWRCE: S uality Counts/LLC =http:55www9qualitycounts9net(J -822-78#-DDJ D

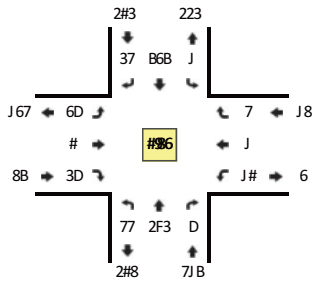
Type of peak hour being reported: Intersection Peak

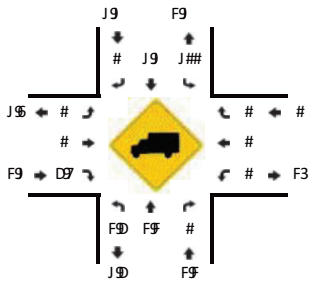
Method for determining peak hour: Total Entering Volume

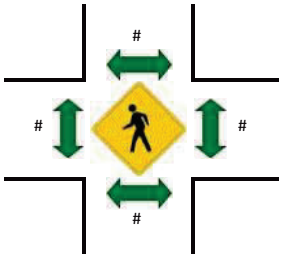
LOCATION: Nova Rd -- Tomoka Oaks Ulvd
CITY/STATE: Ormond Beach/FL

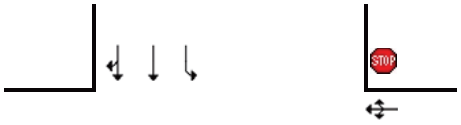
DATE: Thu/Mar 07/2019

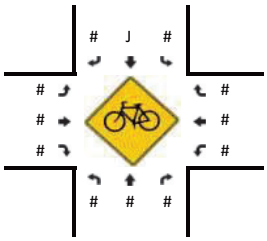
Peak Hour: 6:30 PM -- 7:30 PM
Peak 15-Min: 6:45 PM -- 7:00 PM

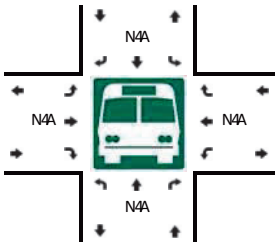


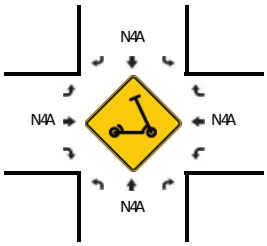












RH = RTOR

15-Min Count Period Beginning At	Nova Rd (Northbound)					Nova Rd (Southbound)					Tomoka Oaks Blvd (Eastbound)					Tomoka Oaks Blvd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	RH	Left	Thru	Right	U	RH	Left	Thru	Right	U	RH	Left	Thru	Right	U	RH		
6:00 PM	15	225	10	0	0	0	180	15	0	0	5	0	20	0	0	10	0	0	0	0	480	
6:15 PM	20	240	15	0	0	5	195	20	0	0	10	0	25	0	0	15	0	5	0	0	550	
6:30 PM	25	260	20	0	0	10	210	25	0	0	15	0	30	0	0	20	0	10	0	0	625	
6:45 PM	30	275	25	0	0	15	225	30	0	0	20	0	35	0	0	25	0	15	0	0	695	2350
7:00 PM	28	265	22	0	0	12	215	28	0	0	18	0	32	0	0	22	0	12	0	0	654	2524
7:15 PM	22	250	18	0	0	8	200	22	0	0	12	0	28	0	0	18	0	8	0	0	586	2515
7:30 PM	18	235	14	0	0	6	185	18	0	0	8	0	22	0	0	14	0	6	0	0	516	2451
7:45 PM	12	210	10	0	0	4	170	14	0	0	6	0	18	0	0	10	0	4	0	0	458	2314

Peak 15-Min Rates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	RH	Left	Thru	Right	U	RH	Left	Thru	Right	U	RH	Left	Thru	Right	U	RH	
All Vehicles	120	1040	88	0	0	48	860	112	0	0	72	0	140	0	0	88	0	48	0	0	2616
Heavy Trucks	4	8	0			2	6	0			0	0	4			0	0	0			24
Buses																					
Pedestrians		4					2					0					0				6
Bicycles	2	6	0			0	4	0			0	0	0			0	0	0			12
Scooters																					

Comments:

Report generated on 04/04/2019 08:38 AM

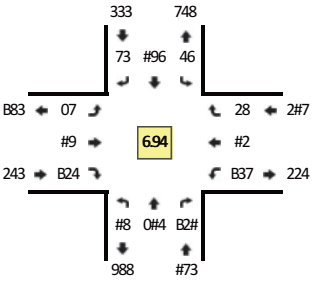
SOURCE: Quality Counts, LLC - http://www.qualitycounts.net (904-737-3977)

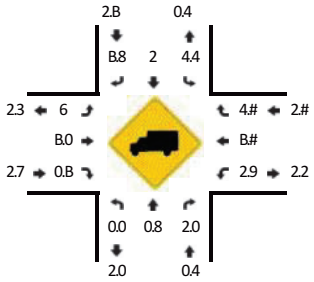
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: Nova Rd -- U ilmette Ave
CIT5Y/TATE: Ormond Qeach, FL

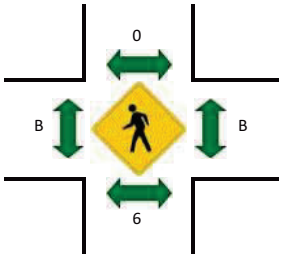
S C 1OQJ : B#B6#064
DATE: Thu, Mar 2 2624

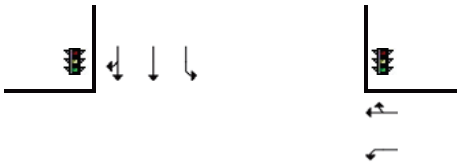
Peak-Hour: 8:66 AM -- 9:66 AM
Peak B7-Min: 8:07 AM -- 9:66 AM

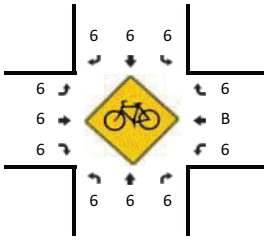


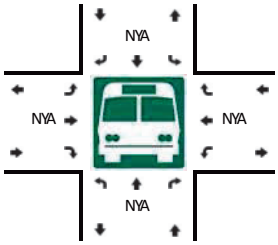


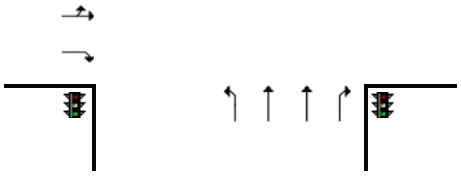
Quality Counts
DATA THAT DRIVES COMMUNITIES

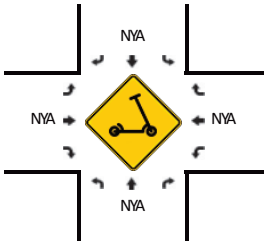












R* = RTOR

B7-Min Count Period Qeginning At	Nova Rd (Northbound)					Nova Rd (/outhbound)					U ilmette Ave (Eastbound)					U ilmette Ave (U estbound)					Total	Hourly Totals
	Left	Thru	Right	W	R*	Left	Thru	Right	W	R*	Left	Thru	Right	W	R*	Left	Thru	Right	W	R*		
3:66 AM	0	88	9	6	0	B	B4B	7	6	6	0	B7	B	6	22	49	#	B	6	B	44B	
3:B7 AM	8	B47	#	6	9	2	B08	3	6	6	3	0	3	6	22	76	4	4	6	4	0B0	
3:46 AM	BB	BB4	9	6	3	0	2B2	3	6	6	8	B6	B3	6	B3	3#	#	0	6	2	764	
3:07 AM	8	B40	BB	6	B9	B6	B77	BB	6	6	B2	BB	8	6	B9	70	8	2	6	4	0#7	B3B4
8:66 AM	BB	B6B	B3	6	B0	7	B#4	B6	6	6	#	22	B9	6	B4	02	9	2	6	4	043	B8B9
8:B7 AM	27	BB9	B4	6	B6	3	B#6	B9	2	6	B#	8	9	6	24	04	BB	2	6	B	0#8	B834
8:46 AM	26	B22	B0	6	B#	BB	B#8	B0	6	6	BB	26	B0	6	2B	09	B9	8	6	B	768	B838
8:07 AM	B2	B2B	24	6	B9	7	B99	B0	6	6	B2	B9	B4	6	BB	0B	24	9	6	2	724	B94#

Peak B7-Min Flowrates	Northbound					/outhbound					Eastbound					U estbound					Total
	Left	Thru	Right	W	R*	Left	Thru	Right	W	R*	Left	Thru	Right	W	R*	Left	Thru	Right	W	R*	
All Vehicles	08	080	B#8	6	3#	26	39#	7#	6	6	08	3#	9#	6	00	B#0	92	00	6	8	2226
Heavy Trucks	6	4#	6			6	28	6			6	6	0			8	6	0			86
Quses																					
Pedestrians		6					6					6					6				6
Qicycles /cooters	6	6	6			6	6	6			6	6	6			6	6	6			6

Comments:

Report generated on 4YB6Y2624 B6:79 AM

/OWRCE: S uality Counts, LLC (http:YYwww.qualitycounts.net) B-833-786-22B2

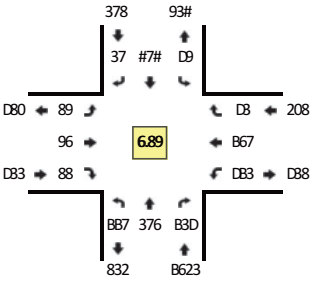
Type of peak hour being reported: Intersection Peak

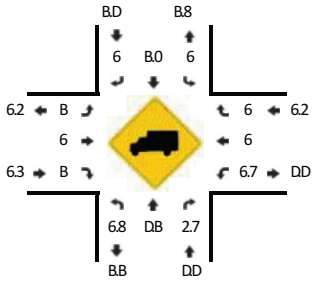
Method for determining peak hour: Total Entering Volume

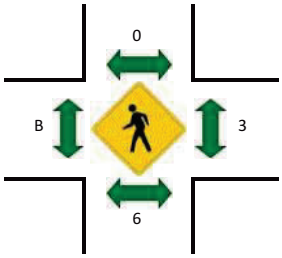
LOCATION: Nova Rd -- U ilmette Ave
CIT45YTATE: Ormond Qeach/, L

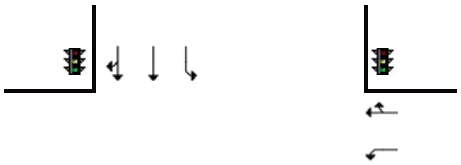
S C 1OQJ : B#B6#060
F ATE: Thu/Mar D D6D2

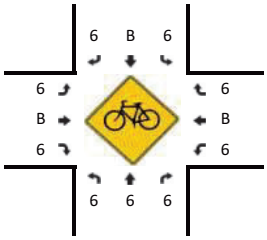
Peak-Hour: 0:B7 PM -- 7:B7 PM
Peak B7-Min: 0:26 PM -- 0:07 PM

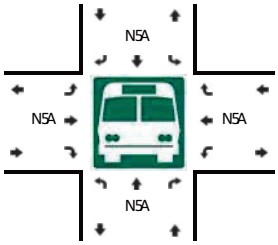


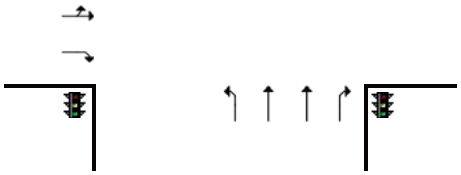


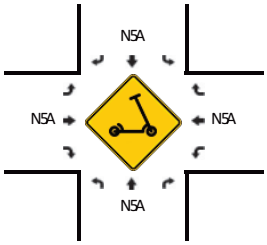












R* = RTOR

B7-Min Count Period Qeginning At	Nova Rd (Northbound)					Nova Rd (Youthbound)					U ilmette Ave (Eastbound)					U ilmette Ave (U estbound)					Total	Hourly Totals
	Left	Thru	Right	W	R*	Left	Thru	Right	W	R*	Left	Thru	Right	W	R*	Left	Thru	Right	W	R*		
0:66 PM	D2	B38	D2	6	D9	BB	B02	D0	6	6	D3	B8	7	6	B9	02	D#	8	6	0	79D	
0:B7 PM	2D	B96	DB	6	DD	7	B72	B7	6	6	D#	B#	9	6	B3	#0	22	2	6	6	787	
0:26 PM	D9	B3D	D2	6	B3	3	B3#	D8	B	6	B8	D9	B6	6	D6	7#	D0	3	6	0	#DB	
0:07 PM	D2	B90	D2	B	B8	9	B3B	B8	6	6	D7	B3	3	6	B#	09	D7	#	6	6	78D	D286
7:66 PM	2B	DB0	26	6	B3	3	B7#	BD	6	6	D9	B8	9	6	B2	08	D2	2	6	0	#B0	D0DD
7:B7 PM	D2	B0D	DB	6	2D	0	B7B	B3	6	6	D9	D2	B#	6	8	00	D8	#	6	B	70#	D232
7:26 PM	D9	B#6	DB	6	D2	8	B#2	DD	6	6	D7	DB	B7	6	B9	D8	D2	BD	6	2	73D	D2D0
7:07 PM	27	B#7	26	6	B#	2	B2B	D#	6	6	D0	B3	9	6	B0	D8	B9	7	6	7	7D#	DD79

Peak B7-Min , lowrates	Northbound					Youthbound					Eastbound					U estbound					Total
	Left	Thru	Right	W	R*	Left	Thru	Right	W	R*	Left	Thru	Right	W	R*	Left	Thru	Right	W	R*	
All Vehicles	BBD	#99	B#6	6	#9	D9	360	BB#	0	6	3#	BBD	BD6	6	96	DD0	8#	00	6	B#	D#09
Heavy Trucks	6	B#	9			6	BD	6			6	6	6			6	6	6			2#
Quses																					
Pedestrians		6					6					6					6				6
Qicycles	6	6	6			6	6	6			6	6	6			6	6	6			6
Ycooters																					

Comments:

Report generated on 25B65D6D2 B6:78 AM

YOWRCE: S uality Counts/LLC (http:55www.qualitycounts.net) B-933-796-DDBD

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Escondido Multifamily v R y -- Tomoka Oaks UlSd

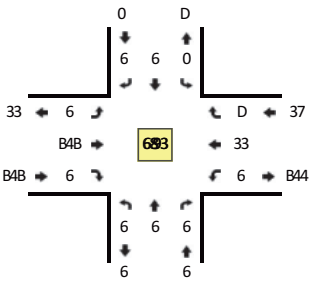
CIT5Y/TATE: Ormond Ueach, FL

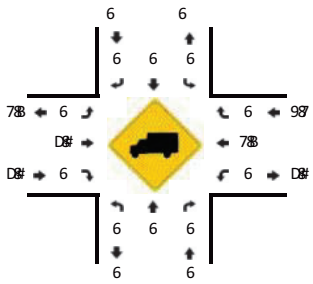
1 C QUJ : B#B6#0B4

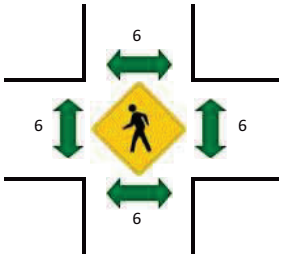
v ATE: Thu, Mar D D6D2

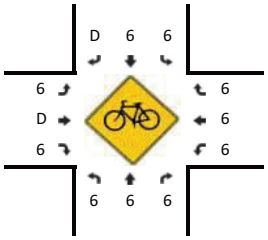
Peak-. our: 9:66 AM -- 7:66 AM

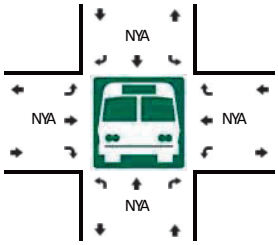
Peak B4-Min: 9:66 AM -- 9:B4 AM

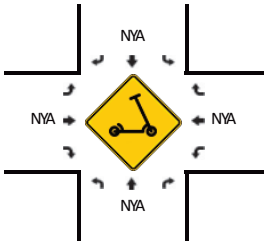












H* = HTOH

B4-Min Count Period Ueginning At	Escondido Multifamily v R y (Northbound)					Escondido Multifamily v R y (/outhbound)					Tomoka Oaks UlSd (Eastbound)					Tomoka Oaks UlSd (Westbound)					Total	. ourly Totals
	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*		
3:66 AM	6	6	6	6	6	B	6	6	6	6	6	D4	6	6	6	6	9	B	6	6	24	
3:B4 AM	6	6	6	6	6	6	6	6	6	6	6	2D	6	6	6	6	B0	6	6	6	0#	
3:26 AM	6	6	6	6	6	B	6	6	6	6	6	46	6	6	6	6	7	6	6	6	#6	
3:04 AM	6	6	6	6	6	B	6	6	6	6	6	29	6	6	6	6	BD	6	6	6	4B	B7D
9:66 AM	6	6	6	6	6	B	6	6	6	6	6	00	6	6	6	6	DD	6	6	6	#3	DD0
9:B4 AM	6	6	6	6	6	6	6	6	6	6	6	2#	6	6	6	6	BD	B	6	6	07	DD3
9:26 AM	6	6	6	6	6	B	6	6	6	6	6	22	6	6	6	6	D2	B	6	6	49	DD4
9:04 AM	6	6	6	6	6	D	6	6	6	6	6	29	6	6	6	6	D6	6	6	6	#6	D20

Peak B4-Min FloR rates	Northbound					/outhbound					Eastbound					Westbound					Total
	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	
All Vehicles	6	6	6	6	6	0	6	6	6	6	6	B3#	6	6	6	6	99	6	6	6	D#9
. eaSy Trucks Uuses	6	6	6			6	6	6			6	6	6			6	9	6			9
Pedestrians		6					6					6					6				6
Uicycles /cooters	6	6	6			6	6	6			6	6	6			6	6	6			6

Comments:

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Escondido Multifamily v R y -- Tomoka Oaks UlSd

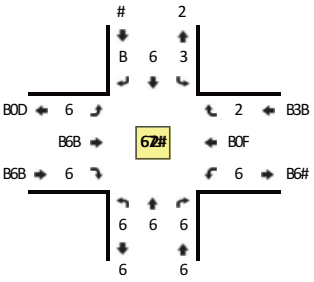
CIT45YTATE: Ormond Ueach/, L

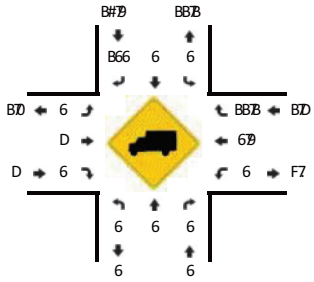
1 C QUJ : B#B6#0B#

v ATE: Thu/Mar F F6FD

Peak-8our: 3:66 PM -- #:66 PM

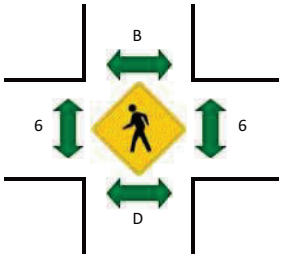
Peak B3-Min: 3:B3 PM -- 3:D6 PM

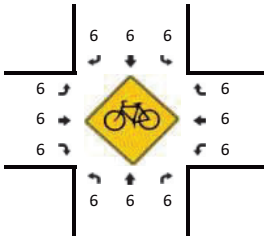


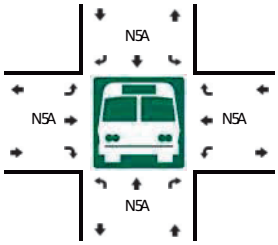


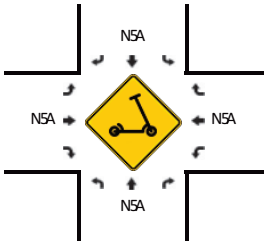
Quality Counts

DATA THAT DRIVES COMMUNITIES









H* = HTOH

B3-Min Count Period Ueginning At	Escondido Multifamily v R y (Northbound)					Escondido Multifamily v R y (Youthbound)					Tomoka Oaks UlSd (Eastbound)					Tomoka Oaks UlSd (Westbound)					Total	8ourly Totals
	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*		
0:66 PM	6	6	6	6	6	F	6	6	6	6	6	F#	6	6	6	6	F2	D	6	6	#6	
0:B3 PM	6	6	6	6	6	6	6	6	6	6	6	F.	6	6	6	6	F.	D	6	6	32	
0:D6 PM	6	6	6	6	6	B	6	6	6	6	6	F2	6	6	6	6	D9	0	6	6	9B	
0:03 PM	6	6	6	6	6	B	6	6	6	6	6	FB	6	6	6	6	DF	D	6	6	39	F09
3:66 PM	6	6	6	6	6	6	6	6	6	6	6	B2	6	6	6	6	D.	3	6	6	#F	F02
3:B3 PM	6	6	6	6	6	B	6	6	6	6	6	F9	6	6	6	6	D2	6	6	6	#9	F39
3:D6 PM	6	6	6	6	6	F	6	B	6	6	6	F.	6	6	6	6	DF	D	6	6	##	F3F
3:03 PM	6	6	6	6	6	F	6	6	6	6	6	F9	6	6	6	6	DD	B	6	6	#D	F3.

Peak B3-Min , loR rates	Northbound					Youthbound					Eastbound					Westbound					Total
	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	
All Vehicles	6	6	6	6	6	0	6	6	6	6	6	B6.	6	6	6	6	B3#	6	6	6	F#.
8eaSy Trucks	6	6	6			6	6	6			6	.	6			6	6	6			.
Uuses																					
Pedestrians		6					6					6					6				6
Uicycles	6	6	6			6	6	6			6	6	6			6	6	6			6
Ycooters																					

Comments:

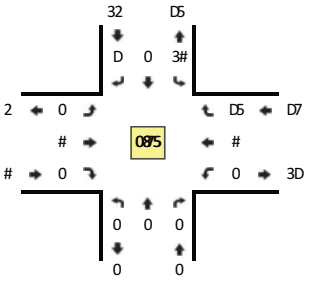
Heport generated on D5B65F6FD B6:32 AM

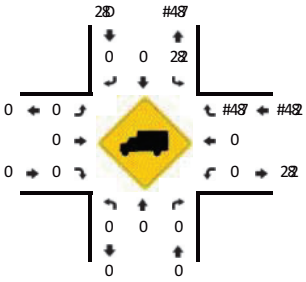
YOwHCE: 1 uality Counts/LLC (http:55R R R 7quality counts7het) B-. 99-3. 6-FFBF

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

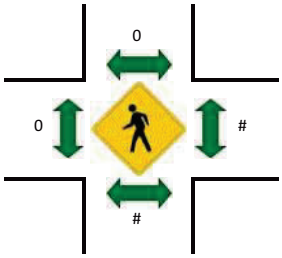
LOCATION: N vt AndreR s - r UU Tomoka Oaks Sl1d | **QC JOS B:** #6#064#5
CITY/vTATE: Ormond Seach, FL | **- ATE:** Thu, Mar D D0D2

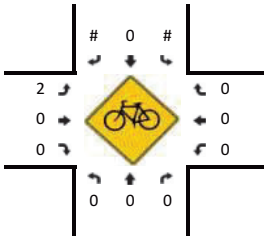
PeakU9 our: 5:#. AM UU7:#. AM
Peak #. UMin: 5:20 AM UU5:4. AM

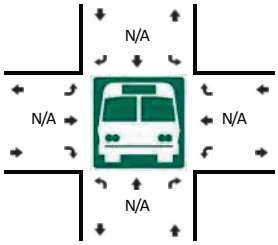


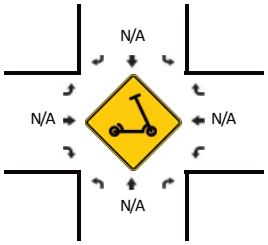


Quality Counts
DATA THAT DRIVES COMMUNITIES









H* = HTOH

#. UMin Count Period Seginning At	N vt AndreR s - r (Northbound)					N vt AndreR s - r (vouthbound)					Tomoka Oaks Sl1d (Eastbound)					Tomoka Oaks Sl1d (Westbound)					Total	9 ourly Totals
	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*		
5:00 AM	0	0	0	0	0	#0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	#5	
5:#. AM	0	0	0	0	0	#7	0	0	0	0	0	0	0	0	0	0	0	##	0	0	D3	
5:20 AM	0	0	0	0	0	2#	0	#	0	0	0	0	0	0	0	0	#	D	0	0	2.	
5:4. AM	0	0	0	0	0	D0	0	0	0	0	0	#	0	0	0	0	0	6	0	0	D5	#07
7:00 AM	0	0	0	0	0	DD	0	#	0	0	0	0	0	0	0	0	0	7	0	0	2#	#DD
7:#. AM	0	0	0	0	0	#7	0	#	0	0	0	0	0	0	0	0	0	7	0	0	D5	#D0
7:20 AM	0	0	0	0	0	#4	0	#	0	0	0	0	0	0	0	0	0	##	0	0	D6	###
7:4. AM	0	0	0	0	0	D0	0	D	0	0	0	0	0	0	0	0	2	7	0	0	22	##5

Peak #. UMin FloR rates	Northbound					vouthbound					Eastbound					Westbound					Total
	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	
All Vehicles	0	0	0	0	0	#D4	0	4	0	0	0	0	0	0	0	0	4	7	0	0	#40
9 ea1y Trucks	0	0	0			4	0	0			0	0	0			0	0	0			4
Suses																					
Pedestrians		0					0					0					0				0
Sicycles vcooters	0	0	0			4	0	0			4	0	0			0	0	0			7

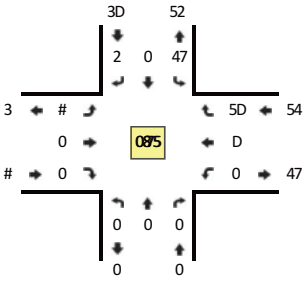
Comments:

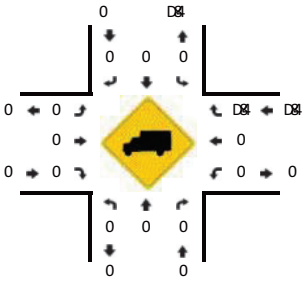
Heport generated on 2/#0/D0D2 #0:. 3 AM | vOwHCE: Quality Counts, LLC (http://R R R 8qualitycounts8net) #U755U 70UDD#D

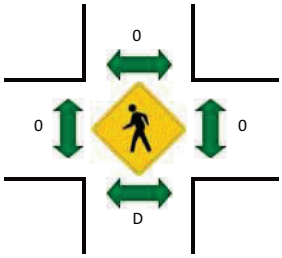
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

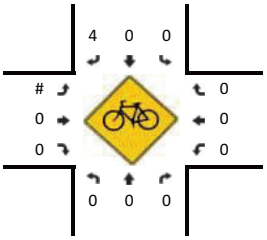
LOCATION: N vt AndreR s - r UU Tomoka Oaks Sl1d | **QC JOS B:** #6#064#5
CITY/vTATE: Ormond Seach, FL | **- ATE:** Thu, Mar D D0D2

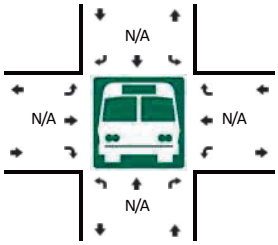
PeakU9 our: 4:43 PM UU3:43 PM
Peak #3UMin: 3:00 PM UU3:#3 PM

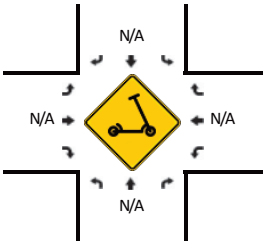












. H* . TO.

#3UMin Count Period Seginning At	N vt AndreR s - r =Northbound(					vouthbound(					Eastbound(					) estbound(					Total	9ourly Totals
	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H		
4:00 PM	0	0	0	0	0	#6	0	D	0	0	0	0	0	0	0	0	2	#w	0	0	25	
4:#3 PM	0	0	0	0	0	7	0	#	0	0	#	0	0	0	0	0	2	#7	0	0	22	
4:20 PM	0	0	0	0	0	#0	0	0	0	0	#	0	0	0	0	0	#	#7	0	0	2#	
4:43 PM	0	0	0	0	0	#6	0	0	0	0	#	0	0	0	0	0	0	#6	0	0	22	#23
3:00 PM	0	0	0	0	0	##	0	#	0	0	0	0	0	0	0	0	0	D2	0	0	23	#2D
3:#3 PM	0	0	0	0	0	##	0	#	0	0	0	0	0	0	0	0	D	D#	0	0	23	#24
3:20 PM	0	0	0	0	0	##	0	#	0	0	0	0	0	0	0	0	0	DD	0	0	24	#2w
3:43 PM	0	0	0	0	0	#D	0	#	0	0	#	0	0	0	0	0	0	#6	0	0	20	#24

Peak #3UMin FloR rates	Northbound					vouthbound					Eastbound					) estbound					Total
	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	
All Vehicles	0	0	0	0	0	44	0	4	0	0	0	0	0	0	0	0	0	7D	0	0	#40
9ea1y Trucks	0	0	0			0	0	0			0	0	0			0	0	4			4
Suses																					
Pedestrians		0					0					0					0				0
Sicycles vcooters	0	0	0			0	0	0			0	0	0			0	0	0			0

Comments:

. eport generated on 2/#0/D0D2 #0:37 AM

vOW. CE: Quality Counts, LLC =http://R R R 8qualitycounts8net(#U5wwU350UDD#D

QUALITY COUNTS REPORT
==========

Intersection:	N St Andrv	Tomoka Oaks Blvd		Lane Configuration:									
City/State:	Ormond B	FL			STOP	SBLane1	SBLane2	SBLane3	SBLane4	SBLane5	SBLane6	SBLane7	
QClobNo:	1.6E+07					LR							
ClientID:				EBLane7								TR	WBLane1
Date:	3/2/2023			EBLane6									WBLane2
Comments:				EBLane5									WBLane3
Latitude/Longitude	29.2943	-81.0896		EBLane4									WBLane4
PEAK HOUR START	8:00 AM			EBLane3									WBLane5
PEAK HOUR END	9:00 AM			EBLane2									WBLane6
PEAK 15-MIN START	8:30 AM			EBLane1	LT								WBLane7
PEAK 15-MIN END	8:45 AM												
PHF	0.89					NBLane7	NBLane6	NBLane5	NBLane4	NBLane3	NBLane2	NBLane1	STOP

PEAK-HOUR VOLUMES

	NBLeft	NBThru	NBRight	SBLeft	SBThru	SBRight	EBLeft	EBThru	EBRight	WBLeft	WBThru	WBRight	NBEntering	SBEntering	EBEntering	WBEnterin	NBLeaving	SBLeaving	EBLeaving	WBLeaving
	0	0	0	91	0	2	0	1	0	0	1	27	0	93	1	28	27	0	92	3

PERCENT HEAVY VEHICLES

	NBLeft	NBThru	NBRight	SBLeft	SBThru	SBRight	EBLeft	EBThru	EBRight	WBLeft	WBThru	WBRight	NBEntering	SBEntering	EBEntering	WBEnterin	NBLeaving	SBLeaving	EBLeaving	WBLeaving
HEAVY VEHICLES	0	0	0	3.3	0	0	0	0	0	0	0	14.8	0	3.2	0	14.3	14.8	0	3.3	0
BUSES																				

PEAK-HOUR VOLUMES - PEDESTRIANS

Leg/Crosswalk	South	North	West	East
	1	0	0	1

PEAK-HOUR VOLUMES - MICROMOBILITY

	NBLeft	NBThru	NBRight	SBLeft	SBThru	SBRight	EBLeft	EBThru	EBRight	WBLeft	WBThru	WBRight
Bicycles	0	0	0	1	0	1	3	0	0	0	0	0
Scooters												

PEAK 15-MIN FLOWRATES

VehicleType	NBLeft	NBThru	NBRight	NBU-Turn	NBRTOR	SBLeft	SBThru	SBRight	SBU-Turn	SBRTOR	EBLeft	EBThru	EBRight	EBU-Turn	EBRTOR	WBLeft	WBThru	WBRight	WBU-Turn	WBRTOR	Total
All Vehicles	0	0	0	0	0	124	0	4	0	0	0	0	0	0	0	0	4	8	0	0	140
Heavy Trucks	0	0	0			4	0	0			0	0	0			0	0	0			4
Buses																					
Pedestrians		0					0					0					0				0
Bicycles	0	0	0			4	0	0			4	0	0			0	0	0			8
Scooters																					

ALL-VEHICLE VOLUMES

Time Period	NB Left	NB Thru	NB Right	NB U-Turn	NB RTOR	SB Left	SB Thru	SB Right	SB U-Turn	SB RTOR	EB Left	EB Thru	EB Right	EB U-Turn	EB RTOR	WB Left	WB Thru	WB Right	WB U-Turn	WB RTOR	Total	Hourly Totals
7:00 AM	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	7	0	0	17	
7:15 AM	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	11	0	0	29	
7:30 AM	0	0	0	0	0	31	0	1	0	0	0	0	0	0	0	0	1	2	0	0	35	
7:45 AM	0	0	0	0	0	20	0	0	0	0	0	1	0	0	0	0	0	6	0	0	27	108
8:00 AM	0	0	0	0	0	22	0	1	0	0	0	0	0	0	0	0	0	8	0	0	31	122
8:15 AM	0	0	0	0	0	18	0	1	0	0	0	0	0	0	0	0	0	8	0	0	27	120
8:30 AM	0	0	0	0	0	14	0	1	0	0	0	0	0	0	0	0	0	11	0	0	26	111
8:45 AM	0	0	0	0	0	20	0	2	0	0	0	0	0	0	0	0	3	8	0	0	33	117
sum	**0**	**0**	**0**	**0**	**0**	**74**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**35**	**0**	**0**	**117**	

HEAVY-VEHICLE VOLUMES

Time Period	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	2
7:15 AM	0	0	0	1	0	0	0	0	0	0	0	1	2
7:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	1	0	0	0	0	0	0	0	1	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	2
8:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
8:45 AM	0	0	0	2	0	0	0	0	0	0	0	2	4
sum	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**8**

BUS VOLUMES

Time Period	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total
7:00 AM													
7:15 AM													
7:30 AM													
7:45 AM													
8:00 AM													
8:15 AM													
8:30 AM													
8:45 AM													

PEDESTRIAN VOLUMES

Time Period	South Leg	North Leg	West Leg	East Leg	Total
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	1	0	0	1	2
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0

BICYCLE VOLUMES

Time Period	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	1	1	0	0	0	0	0	2
7:30 AM	0	0	0	1	0	0	1	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	2

SCOOTER VOLUMES

Time Period	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	Total
7:00 AM													
7:15 AM													
7:30 AM													
7:45 AM													
8:00 AM													
8:15 AM													
8:30 AM													
8:45 AM													

QUALITY COUNTS REPORT
==========

| | | |

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: v vt AndreR s - r UUTomoka Oaks Sl1d

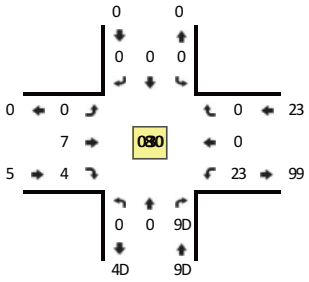
QC JOS B: #6#064#5

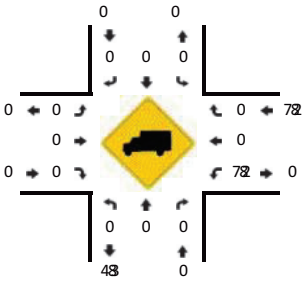
CITY/vTATE: Ormond Seach, FL

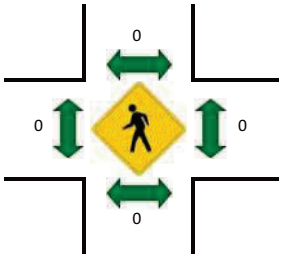
- ATE: Thu, Mar D D0D2

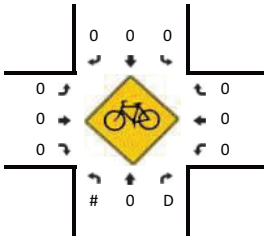
PeakU our: 3:00 AM UU5:00 AM

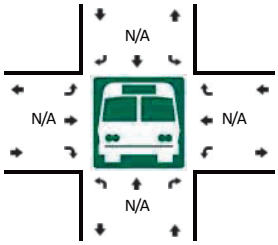
Peak #7UMin: 3:00 AM UU3:#7 AM

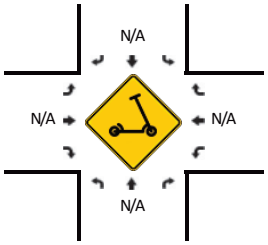












H* = HTOH

#7UMin Count Period Seginning At	v vt AndreR s - r (Northbound)					v vt AndreR s - r (vouthbound)					Tomoka Oaks Sl1d (Eastbound)					Tomoka Oaks Sl1d (Westbound)					Total	. ourly Totals
	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*		
9:00 AM	0	0	#4	0	0	0	0	0	0	0	0	0	0	0	0	D	0	0	0	0	#6	
9:#7 AM	0	0	#7	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	#3	
9:20 AM	0	0	D0	0	0	0	0	0	0	0	0	0	D	0	0	9	0	0	0	0	D5	
9:47 AM	#	0	#3	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	D6	35
3:00 AM	0	0	DD	0	0	0	0	0	0	0	0	#	#	0	0	#2	0	0	0	0	29	##0
3:#7 AM	0	0	#6	0	0	0	0	0	0	0	0	0	#	0	0	7	0	0	0	0	DD	##4
3:20 AM	0	0	D0	0	0	0	0	0	0	0	0	#	0	0	0	#D	0	0	0	0	22	##3
3:47 AM	0	0	#4	0	0	0	0	0	0	0	0	2	D	0	0	3	0	0	0	0	D9	##5

Peak #7UMin FloR rates	Northbound					vouthbound					Eastbound					Westbound					Total
	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	Left	Thru	Hight	w	H*	
All Vehicles	0	0	33	0	0	0	0	0	0	0	0	4	4	0	0	7D	0	0	0	0	#43
. ea1y Trucks	0	0	0			0	0	0			0	0	0			0	0	0			0
Suses																					
Pedestrians		0					0					0					0				0
Sicycles	4	0	0			0	0	0			0	0	0			0	0	0			4
vcooters																					

Comments:

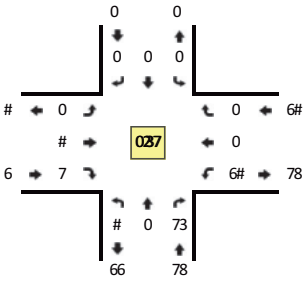
Heport generated on 2/#0/D0D2 #0:75 AM

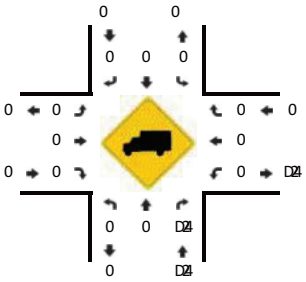
vOwHCE: Quality Counts, LLC (http://R R R 8qualitycounts8net) #U399U730UDD#D

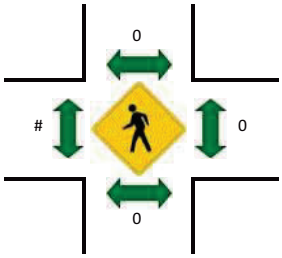
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

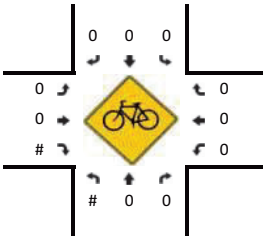
LOCATION: v vt AndreR s - r UUTomoka Oaks Sl1d | **QC JOS B:** #6#06450
CITY/vTATE: Ormond Seach, FL | **- ATE:** Thu, Mar 5 505D

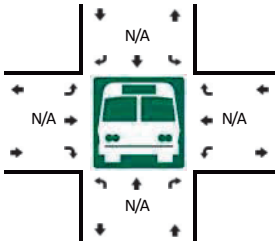
PeakU9 our: 7:00 PM UU6:00 PM
Peak #7UMin: 7:#7 PM UU7:D0 PM

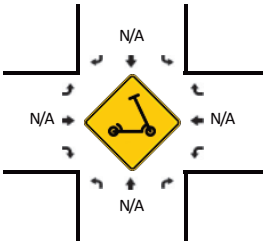












. H* . TO.

#7UMin Count Period Seginning At	v vt AndreR s - r =Northbound(					v vt AndreR s - r =vouthbound(					Tomoka Oaks Sl1d =Eastbound(					Tomoka Oaks Sl1d =) estbound(					Total	9ourly Totals
	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H		
4:00 PM	0	0	#5	0	0	0	0	0	0	0	0	#	D	0	0	##	0	0	0	0	5w	
4:#7 PM	#	0	50	0	0	0	0	0	0	0	0	#	#	0	0	8	0	0	0	0	D5	
4:D0 PM	#	0	#6	0	0	0	0	0	0	0	0	0	#	0	0	#7	0	0	0	0	DD	
4:47 PM	#	0	7	0	0	0	0	0	0	0	0	0	0	0	0	#7	0	0	0	0	5#	##D
7:00 PM	0	0	8	0	0	0	0	0	0	0	0	#	0	0	0	#6	0	0	0	0	56	##5
7:#7 PM	0	0	#w	0	0	0	0	0	0	0	0	0	D	0	0	#w	0	0	0	0	Dw	##w
7:D0 PM	0	0	#6	0	0	0	0	0	0	0	0	0	#	0	0	##	0	0	0	0	53	##5
7:47 PM	#	0	#6	0	0	0	0	0	0	0	0	0	#	0	0	#w	0	0	0	0	D7	#56

Peak #7UMin FloR rates	Northbound					vouthbound					Eastbound					) estbound					Total
	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	
All Vehicles	0	0	63	0	0	0	0	0	0	0	0	0	#5	0	0	63	0	0	0	0	#43
9ea1y Trucks	0	0	3			0	0	0			0	0	0			0	0	0			3
Suses																					
Pedestrians		0					0					4					0				4
Sicycles	4	0	0			0	0	0			0	0	0			0	0	0			4
vcooters																					

Comments:

. eport generated on D/#0/505D #0:78 AM

vOW. CE: Quality Counts, LLC =http://R R R 2quality counts2net(#L3wwJ730U55#5

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Tomoka Oaks vlRd -- Tomoka Oaks vlRd US est1

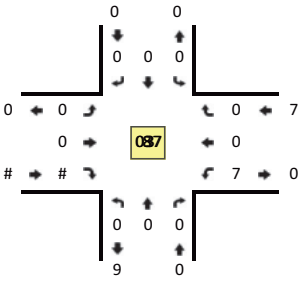
QC JOv B: #6#0645#

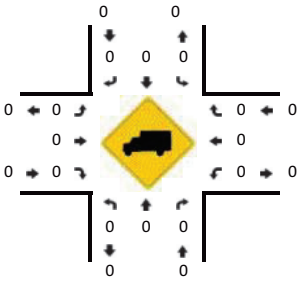
CITY/, TATE: Ormond veachFDL

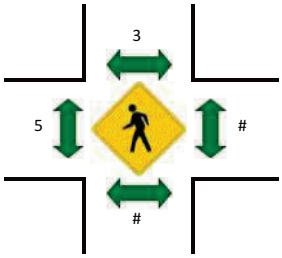
2ATE: ThuFMar 5 5053

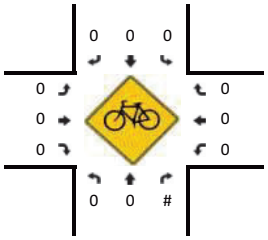
Peak-. our: 7:00 AM -- 9:00 AM

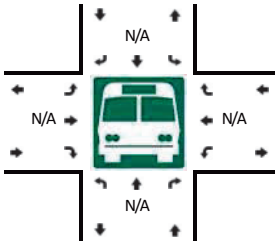
Peak #H-Min: 7:4H AM -- 9:00 AM

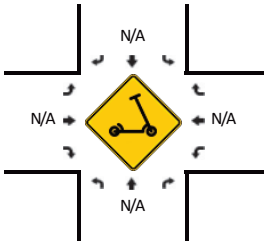












*= (*TO*

#H-Min Count Period veginning At	Tomoka Oaks vlRd UNorthbound1					Tomoka Oaks vlRd Uouthbound1					Tomoka Oaks vlRd US est1 UEastbound1					Tomoka Oaks vlRd US est1 U estbound1					Total	. ourly Totals
	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=		
w:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
w:#H AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
w:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	
w:4H AM	0	0	#	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	#	3
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	#	0	0	#	0	0	0	0	5	H
7:#H AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	#	0	0	0	0	#	6
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:4H AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	9

Peak #H-Min DloS rates	Northbound					, outhbound					Eastbound					) estbound					Total
	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=	
All Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	0	0	0	0	54
. eaRy Trucks vuses	0	0	0			0	0	0			0	0	0			0	0	0			0
Pedestrians		0					0					0					0				0
vicycles , cooters	0	0	0			0	0	0			0	0	0			0	0	0			0

Comments:

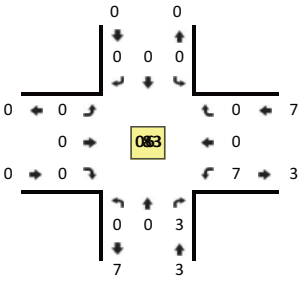
*eport generated on 3/#0/5053 #0:H9 AM

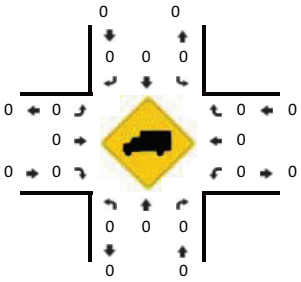
, OW*CE: Quality CountsFLLC Uhttp://S S S 8qualitycounts8net1#-7ww-H70-55#5

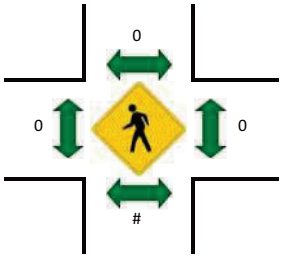
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

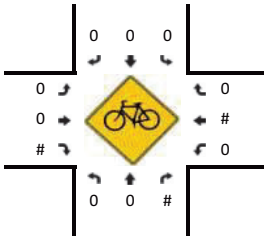
LOCATION: Tomoka Oaks vlRd -- Tomoka Oaks vlRd US est1 | **QC JOv B:** #6#06455
CITY/, TATE: Ormond veachFDL | **2ATE:** ThuFMar 5 5053

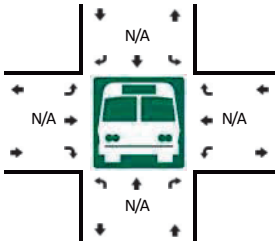
Peak-9our: 4:00 PM -- . :00 PM
Peak #. -Min: 4:00 PM -- 4:#. PM

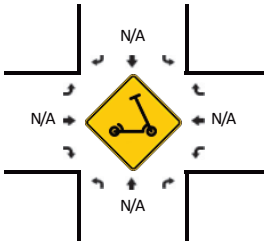












H* = HTOH

#. -Min Count Period veginning At	Tomoka Oaks vlRd UNorthbound1					Tomoka Oaks vlRd Uouthbound1					Tomoka Oaks vlRd US est1 UEastbound1					Tomoka Oaks vlRd US est1 U estbound1					Total	9ourly Totals
	Left	Thru	Hight	)	H*	Left	Thru	Hight	)	H*	Left	Thru	Hight	)	H*	Left	Thru	Hight	)	H*		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	
4:#. PM	0	0	#	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	3	
4:30 PM	0	0	#	0	0	0	0	0	0	0	0	0	0	0	0	#	0	0	0	0	5	
4:4. PM	0	0	#	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	#	#0
. :00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	#	0	0	0	0	#	7
. :#. PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	7
. :30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	#	0	0	0	0	#	6
. :4. PM	0	0	#	0	0	0	0	0	0	0	0	0	0	0	0	#	0	0	0	0	5	7

Peak #. -Min DloS rates	Northbound					, outhbound					Eastbound					(estbound					Total
	Left	Thru	Hight	)	H*	Left	Thru	Hight	)	H*	Left	Thru	Hight	)	H*	Left	Thru	Hight	)	H*	
All Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	#6	0	0	0	0	#6
9eaRy Trucks vuses	0	0	0			0	0	0			0	0	0			0	0	0			0
Pedestrians		4					0					0					0				4
vicycles , cooters	0	0	4			0	0	0			0	0	0			0	0	0			4

Comments:

Heport generated on 3/#0/5053 #0:. WAM | , O) HCE: Quality CountsFLLC Uhttp://S S S 8wualitycounts8net1#-q77-. q0-55#5

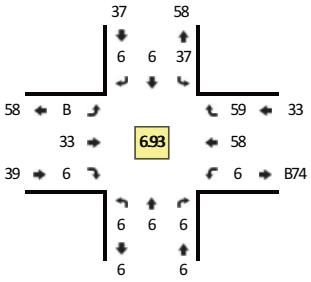
QUALITY COUNTS REPORT
==========

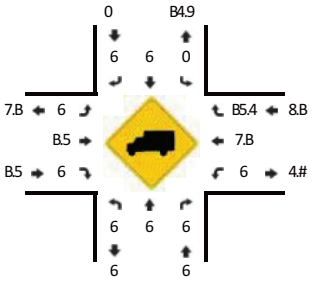
| | | |

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

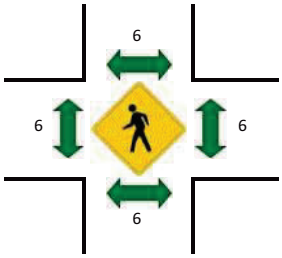
LOCATION: Tomoka Oaks vlRd -- Tomoka Oaks vlRd UeastS | **1 C QQv J :** B#B6#045
CITY/, TATE: Ormond veachFDL | **2 ATE:** ThuFMar 4 4645

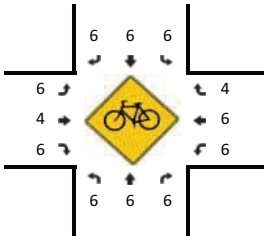
Peak-Hour: 9:66 AM -- 8:66 AM
Peak B7-Min: 9:66 AM -- 9:B7 AM

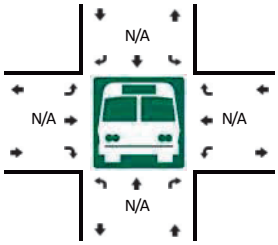


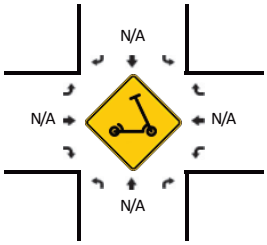


Quality Counts
DATA THAT DRIVES COMMUNITIES









*= (*TO*

B7-Min Count Period veginning At	Tomoka Oaks vlRd UNorthboundS					Tomoka Oaks vlRd UJouthboundS					Tomoka Oaks vlRd UeastboundS					Tomoka Oaks vlRd UeastS UJestboundS					Total	Hourly Totals
	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=		
3:66 AM	6	6	6	6	6	B6	6	6	6	6	6	B7	6	6	6	6	4	#	6	6	55	
3:B7 AM	6	6	6	6	6	B9	6	6	6	6	6	B7	6	6	6	6	5	BB	6	6	03	
3:56 AM	6	6	6	6	6	56	6	6	6	6	B	B8	6	6	6	6	3	4	6	6	78	
3:07 AM	6	6	6	6	6	46	6	B	6	6	6	B9	6	6	6	6	#	#	6	6	7B	B86
9:66 AM	6	6	6	6	6	45	6	6	6	6	6	44	6	6	6	6	B5	9	6	6	##	445
9:B7 AM	6	6	6	6	6	B9	6	6	6	6	6	B3	6	6	6	6	7	9	6	6	09	440
9:56 AM	6	6	6	6	6	B0	6	6	6	6	6	B8	6	6	6	6	B4	BB	6	6	7#	44B
9:07 AM	6	6	6	6	6	46	6	6	6	6	B	B8	6	6	6	6	8	BB	6	6	#6	456

Peak B7-Min Dlowrates	Northbound					, outhbound					Eastbound					) estbound					Total
	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=	
All Vehicles	6	6	6	6	6	84	6	6	6	6	6	99	6	6	6	6	74	54	6	6	4#0
HeaRy Trucks vuses	6	6	6			6	6	6			6	6	6			6	6	9			9
Pedestrians		6					6					6					6				6
vicycles , cooters	6	6	6			6	6	6			6	6	6			6	6	6			6

Comments:

*eport generated on 5/B6/4645 B6:78 AM | , OW*CE: 1 uality CountsFLLC Uhttp://www.qualitycounts.netSB-933-796-44B4

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Tomoka Oaks vlRd -- Tomoka Oaks vlRd UeastS

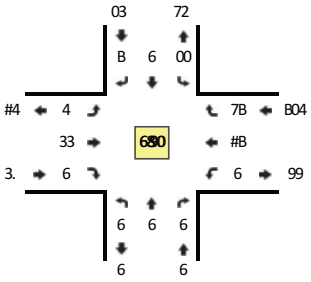
CIT5Y/TATE: Ormond veach, FL

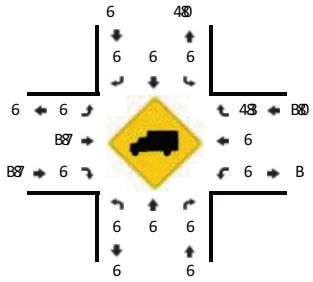
1 C QQv J : B#B6#040

DATE: Thu, Mar 4 4642

Peak-Hour: 3:66 PM -- #:66 PM

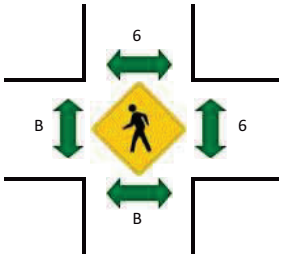
Peak B3-Min: 3:B3 PM -- 3:26 PM

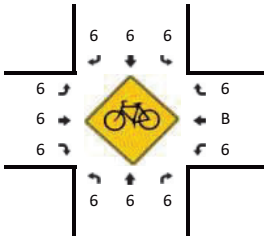


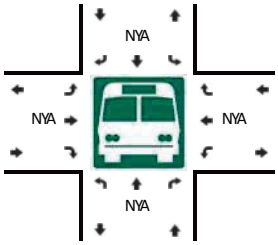


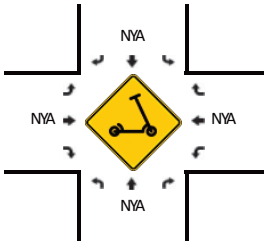
Quality Counts

DATA THAT DRIVES COMMUNITIES









*= (*TO*

B3-Min Count Period veginning At	Tomoka Oaks vlRd UNorthboundS					Tomoka Oaks vlRd U/outhboundS					Tomoka Oaks vlRd UeastS UeastboundS					Tomoka Oaks vlRd UeastS U) estboundS					Total	Hourly Totals
	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=		
0:66 PM	6	6	6	6	6	B#	6	6	6	6	4	B6	6	6	6	6	BB	B7	6	6	3.	
0:B3 PM	6	6	6	6	6	B6	6	6	6	6	2	B7	6	6	6	6	9	B9	6	6	39	
0:26 PM	6	6	6	6	6	BB	6	6	6	6	6	B#	6	6	6	6	B3	46	6	6	#4	
0:03 PM	6	6	6	6	6	B#	6	6	6	6	6	3	6	6	6	6	B3	B.	6	6	32	42B
3:66 PM	6	6	6	6	6	B6	6	B	6	6	B	9	6	6	6	6	B#	4B	6	6	37	424
3:B3 PM	6	6	6	6	6	BB	6	6	6	6	B	B0	6	6	6	6	B.	44	6	6	#3	427
3:26 PM	6	6	6	6	6	BB	6	6	6	6	6	B.	6	6	6	6	BB	44	6	6	#B	42.
3:03 PM	6	6	6	6	6	B4	6	6	6	6	6	B3	6	6	6	6	B.	B#	6	6	#6	400

Peak B3-Min Flowrates	Northbound					/outhbound					Eastbound					) estbound					Total
	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=	Left	Thru	*ight	W	*=	
All Vehicles	6	6	6	6	6	00	6	6	6	6	0	3#	6	6	6	6	#7	77	6	6	4#6
HeaRy Trucks vuses	6	6	6			6	6	6			6	0	6			6	6	6			0
Pedestrians		6					6					0					6				0
vicycles /cooters	6	6	6			6	6	6			6	6	6			6	6	6			6

Comments:

*eport generated on 2YB6Y4642 B6:39 AM

/OW*CE: 1 uality Counts, LLC Uhttp:YYwww8quality counts8netSB-7. . -376-44B4

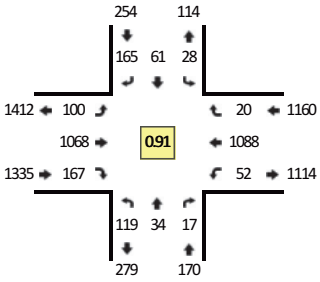
Type of peak hour being reported: Intersection Peak

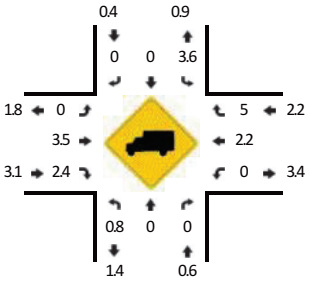
Method for determining peak hour: Total Entering Volume

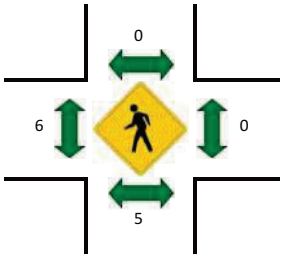
LOCATION: Main Trl -- SR 40/Granada Blvd
CITY/STATE: Ormond Beach, FL

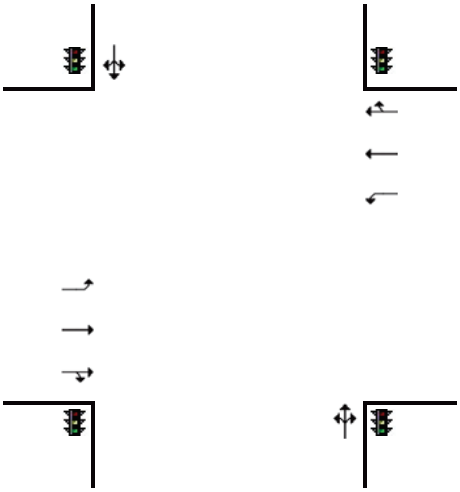
QC JOB #: 16106401
DATE: Thu, Mar 2 2023

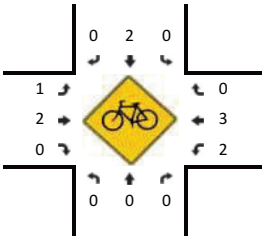
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

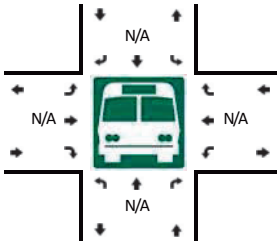


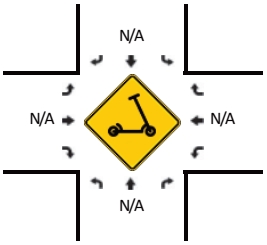












R* = RTOR

15-Min Count Period Beginning At	Main Trl (Northbound)					Main Trl (Southbound)					SR 40/Granada Blvd (Eastbound)					SR 40/Granada Blvd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
7:00 AM	11	0	1	0	1	5	3	11	0	16	1	149	18	10	10	2	183	0	0	0	421	
7:15 AM	34	10	4	0	0	5	29	38	0	1	10	237	30	13	13	11	230	1	0	0	666	
7:30 AM	31	16	4	0	0	8	28	40	0	0	13	243	55	1	1	31	270	9	1	0	751	
7:45 AM	43	8	5	0	0	6	3	52	0	7	20	263	34	12	12	7	323	6	0	0	801	2639
8:00 AM	11	0	2	0	2	9	1	17	0	10	17	325	8	14	14	2	265	3	0	1	701	2919
8:15 AM	8	0	0	0	0	12	0	24	0	12	9	319	7	4	4	1	235	2	0	1	638	2891
8:30 AM	8	0	0	0	1	8	2	39	0	8	18	334	5	14	14	0	282	5	0	0	738	2878
8:45 AM	6	1	0	0	0	8	0	31	0	7	25	318	11	8	8	3	298	6	0	2	732	2809

Peak 15-Min Flowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	172	32	20	0	0	24	12	236	0	28	80	1052	184	48	48	28	1292	24	0	0	3280
Heavy Trucks	0	0	0			4	0	0			0	40	8			0	32	0			84
Buses																					
Pedestrians		4					0					4					0				8
Bicycles	0	0	0			0	0	0			0	0	0			0	0	0			0
Scooters																					

Comments:

Report generated on 3/10/2023 10:59 AM

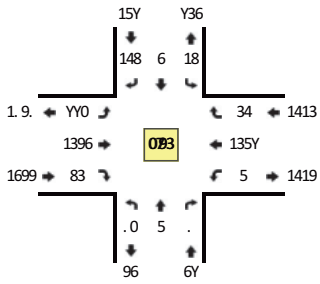
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

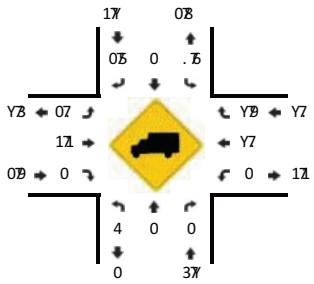
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

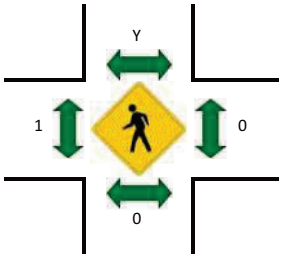
LOCATION: Main Trl -- SR 40/Granada Blvd
CIT, /STATE: Ormond BeachFDL

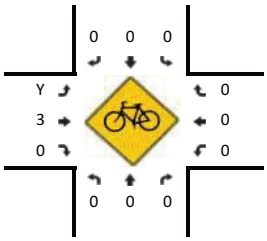
QC JOB #: 1610640Y
2ATE: ThuFMar Y Y0Y3

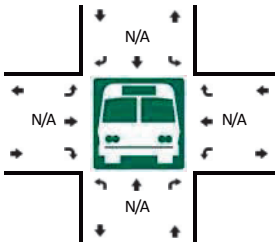
Peak-Hour: 4:00 PM -- . :00 PM
Peak 1. -Min: 4:1. PM -- 4:30 PM

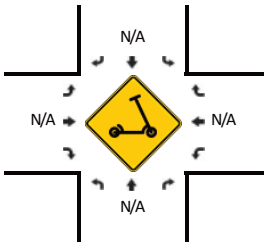












R* = RTOR

1. -Min Count Period Beginning At	Main Trl (Northbound)					Main Trl (Southbound)					SR 40/Granada Blvd (Eastbound)					SR 40/Granada Blvd (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
4:00 PM	1.	Y	0	0	1	4	Y	3.	0	6	44	360	16	9	9	3	3Y3	6	0	1	836	
4:1. PM	14	0	1	0	1	6	1	31	0	8	. .	369	1Y	6	6	1	384	9	0	0	904	
4:30 PM	11	3	1	0	0	.	1	Y5	0	13	. 9	346	1Y	8	8	Y	315	9	0	0	8YY	
4:4. PM	10	Y	0	0	1	3	Y	Y1	0	5	35	3Y1	18	Y	Y	1	348	9	0	0	584	3346
. :00 PM	11	1	0	0	Y	4	Y	15	0	.	48	336	15	6	6	4	3. 1	11	0	0	8Y1	3331
. :1. PM	11	4	0	0	1	5	4	Y0	0	3	. 9	3. 3	11	.	.	.	Y84	11	1	1	58.	3Y1Y
. :30 PM	1	1	0	0	3	6	1	Y3	0	5	36	3Y5	13	4	4	0	316	1Y	0	0	5. 4	3144
. :4. PM	5	Y	Y	0	0	5	Y	Y6	0	4	3Y	Y94	.	4	4	Y	34Y	5	1	Y	543	3103

Peak 1. -Min Dlowrates	Northbound					Southbound					Eastbound					Westbound					Total
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	
All Vehicles	. 6	0	8	0	4	Y4	4	1. 6	0	3Y	YY0	1456	5Y	Y4	Y4	4	1. 36	36	0	0	3656
Heavy Trucks	4	0	0			0	0	4			0	4	0			0	40	4			. 6
Buses																					
Pedestrians		0					0					0					0				0
Bicycles	0	0	0			0	0	0			0	4	0			0	0	0			4
Scooters																					

Comments:

Report generated on 3/10/Y0Y3 10:. 9 AM

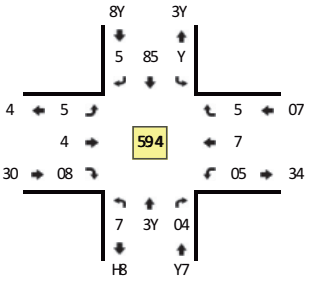
SOURCE: Quality CountsFLLC (http://www7ualitycounts7net) 1-855-. 80-YY1Y

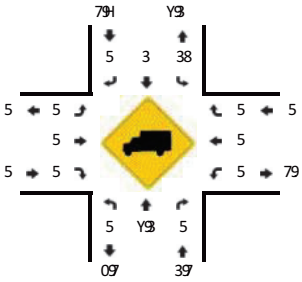
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: vio Pinar Trl R- estUSS 1t Andre- s Qr
CIT, F1TATE: Ormond #eachD2L

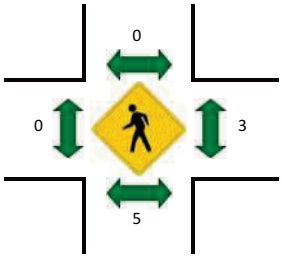
J C BO# 6: 04054Y5/
QATE: ThuDMar 3 3537

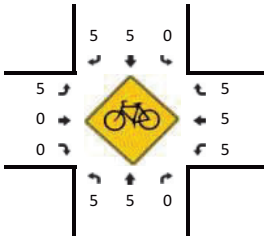
PeakS* our: H:08 AM SS. :08 AM
Peak 08SMin: H:75 AM SSH:Y8 AM

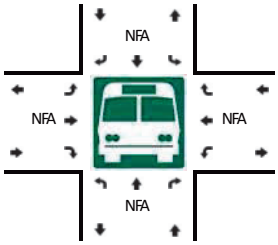


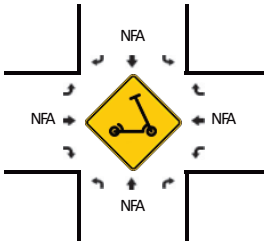


Quality Counts
DATA THAT DRIVES COMMUNITIES









v= (vTOv

08SMin Count Period #eginning At	vio Pinar Trl R- estU RNorthboundU					vio Pinar Trl R- estU RLouthboundU					1t Andre- s Qr REastboundU					1t Andre- s Qr R) estboundU					Total	*ourly Totals
	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=		
H:55 AM	5	3	5	5	5	5	H	5	5	5	5	5	3	5	5	8	0	5	5	5	0H	
H:08 AM	5	8	Y	5	5	5	08	5	5	5	5	0	7	5	5	3	0	5	5	5	70	
H:75 AM	0	7	7	5	5	0	35	5	5	5	5	3	Y	5	5	Y	5	5	5	5	7.	
H:Y8 AM	3	.	4	5	5	3	05	5	5	5	5	0	4	5	5	0	3	5	5	5	7.	03Y
. :55 AM	5	.	7	5	5	0	8	5	5	5	5	3	3	5	5	7	5	5	5	5	3Y	070
. :08 AM	5	8	0	5	5	5	.	5	5	5	5	3	4	5	5	H	0	5	5	5	75	075
. :75 AM	3	H	7	5	5	0	/	5	5	5	5	7	8	5	5	3	3	5	5	5	7Y	034
. :Y8 AM	3	8	5	5	5	5	/	5	5	5	5	7	3	5	5	0	5	5	5	5	33	005

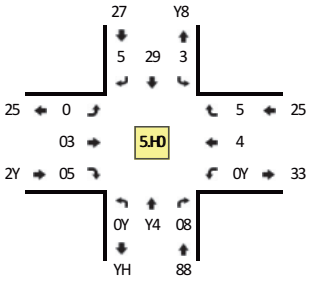
Peak 08SMin 2lo- rates	Northbound					1outhbound					Eastbound					) estbound					Total
	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=	
All Vehicles	Y	03	03	5	5	Y	. 5	5	5	5	5	.	04	5	5	04	5	5	5	5	083
*eawy Trucks #uses	5	5	5			Y	5	5			5	5	5			5	5	5			Y
Pedestrians		5					5					5					5				5
#icycles 1cooters	5	5	5			5	5	5			5	Y	5			5	5	5			Y

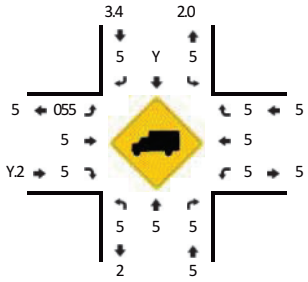
Comments:

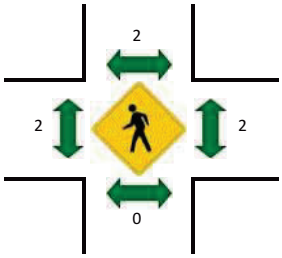
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

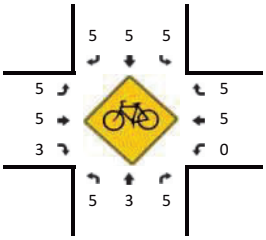
LOCATION: vio Pinar Trl R- estUSS 1t Andre- s Qr | **J C BO# 6:** 04054Y05
CIT/, 1TATE: Ormond #eachFDL | **QATE:** ThuFMar 2 2523

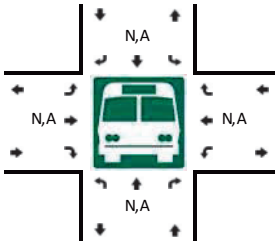
PeakS* our: 9:55 PM SS 4:55 PM
Peak 09SMin: 9:55 PM SS 9:09 PM

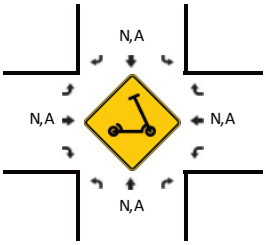












v= (vTOv

09SMin Count Period #eginning At	vio Pinar Trl R- estU RNorthboundU					vio Pinar Trl R- estU RLouthboundU					1t Andre- s Qr REastboundU					1t Andre- s Qr R) estboundU					Total	*ourly Totals
	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=		
Y:55 PM	2	00	3	5	5	5	02	5	5	5	5	3	0	5	5	3	0	5	5	5	34	
Y:09 PM	2	09	4	5	5	0	Y	5	5	5	5	3	2	5	5	2	5	5	5	5	39	
Y:35 PM	Y	H	0	5	5	3	Y	5	5	5	5	0	0	5	5	Y	0	5	5	5	27	
Y:Y9 PM	2	00	2	5	5	5	9	5	5	5	5	5	2	5	5	0	2	5	5	5	29	02Y
9:55 PM	3	09	4	5	5	0	4	5	5	5	0	2	Y	5	5	3	5	5	5	5	Y0	02H
9:09 PM	0	03	4	5	5	2	9	5	5	5	5	3	0	5	5	Y	2	5	5	5	38	030
9:35 PM	2	00	Y	5	5	5	00	5	5	5	5	3	2	5	5	3	3	5	5	5	3H	0Y2
9:Y9 PM	7	8	0	5	5	5	3	5	5	5	5	9	3	5	5	Y	0	5	5	5	32	0YH

Peak 09SMin Dlo- rates	Northbound					1outhbound					Eastbound					) estbound					Total
	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=	
All Vehicles	02	45	2Y	5	5	Y	2Y	5	5	5	Y	7	04	5	5	02	5	5	5	5	04Y
*eavy Trucks #uses	5	5	5			5	5	5			Y	5	5			5	5	5			Y
Pedestrians		5					5					5					5				5
#icycles 1cooters	5	5	5			5	5	5			5	5	02			Y	5	5			04

Comments:

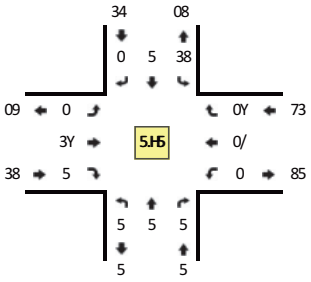
veport generated on 3, 05, 2523 05:9H AM | 1OWvCE: J uality CountsFLLC Rhttp:, , - - - .qualitycounts.netU0S788S975S2202

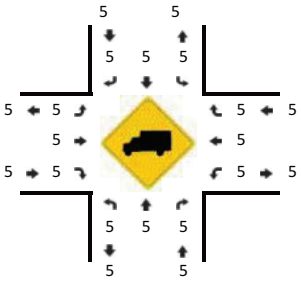
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

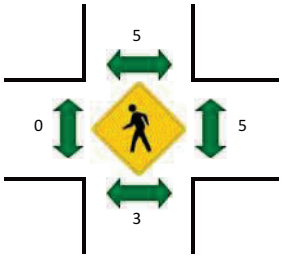
LOCATION: vio Pinar Trl Reast- UUSt Andre1 s Qr
CIT, FSTATE: Ormond #eachD2L

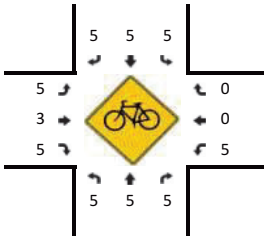
J C BO# 6: 04054Y5/
QATE: ThuDMar 3 3537

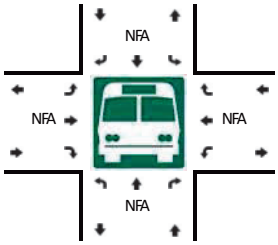
PeakU* our: /:Y8 AM UU9:Y8 AM
Peak 08UMin: 9:55 AM UU9:08 AM

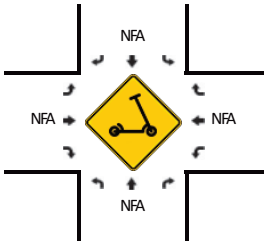












v= (vTOv

08UMin Count Period #eginning At	vio Pinar Trl Reast- RNorthbound-					vio Pinar Trl Reast- RSouthbound-					St Andre1 s Qr REastbound-					St Andre1 s Qr R) estbound-					Total	*ourly Totals
	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=		
/:55 AM	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	4	5	5	5	03	
/:08 AM	5	5	5	5	5	4	5	5	5	5	5	4	5	5	5	5	7	5	5	5	08	
/:75 AM	5	5	5	5	5	Y	5	5	5	5	5	8	5	5	5	5	Y	3	5	5	08	
/:Y8 AM	5	5	5	5	5	7	5	0	5	5	0	9	5	5	5	5	3	7	0	5	0H	40
9:55 AM	5	5	5	5	5	/	5	5	5	5	5	4	5	5	5	5	7	/	5	5	37	/3
9:08 AM	5	5	5	5	5	4	5	5	5	5	5	7	5	5	5	5	9	7	5	5	35	//
9:75 AM	5	5	5	5	5	H	5	5	5	5	5	/	5	5	5	5	Y	0	5	5	30	97
9:Y8 AM	5	5	5	5	5	9	5	5	5	5	5	7	5	5	5	5	0	7	5	5	08	/H

Peak 08UMin 2lo1 rates	Northbound					Southbound					Eastbound					) estbound					Total
	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=	Left	Thru	vight	W	v=	
All Vehicles	5	5	5	5	5	39	5	5	5	5	5	3Y	5	5	5	5	03	39	5	5	H3
*eawy Trucks	5	5	5			5	5	5			5	5	5			5	5	5			5
#uses																					
Pedestrians		5					5					5					5				5
#icycles	5	5	5			5	5	5			5	Y	5			5	5	5			Y
Scooters																					

Comments:

veport generated on 7F05F3537 05:8H AM

SOWvCE: J uality CountsDLLC Rhttp:FF1 1 1 .qualitycounts.net- 0U9//U895U3303

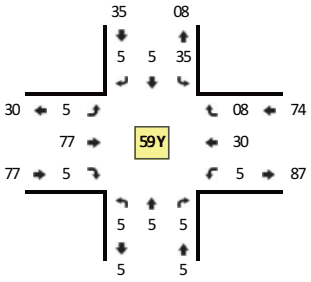
Type of peak hour being reported: Intersection Peak

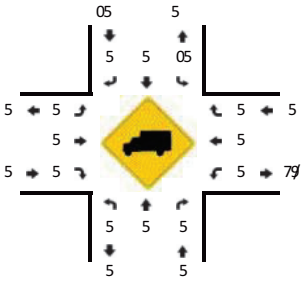
Method for determining peak hour: Total Entering Volume

LOCATION: vio Pinar Trl Reast- UUSt Andre1 s Qr
CIT, FSTATE: Ormond #eachD2L

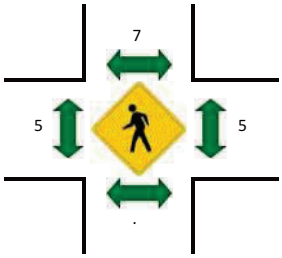
J C BO# 6: 04054Y5/
QATE: ThuDMar 3 3537

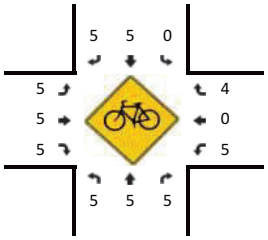
PeakUHour: 8:55 PM UU4:55 PM
Peak 08UMin: 8:08 PM UU8:75 PM

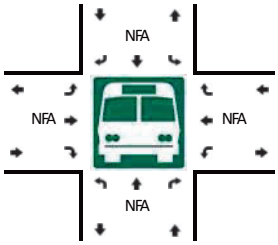


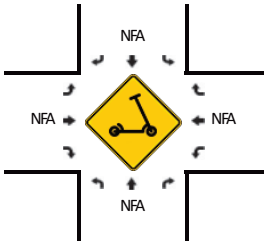


Quality Counts
DATA THAT DRIVES COMMUNITIES









v* = vTOv

08UMin Count Period #eginning At	vio Pinar Trl Reast- RNorthbound-					vio Pinar Trl Reast- RSouthbound-					St Andre1 s Qr REastbound-					St Andre1 s Qr R(estbound-					Total	Hourly Totals
	Left	Thru	vight	)	v*	Left	Thru	vight	)	v*	Left	Thru	vight	)	v*	Left	Thru	vight	)	v*		
Y:55 PM	5	5	5	5	5	3	5	5	5	5	5	4	5	5	5	5	Y	8	5	5	0.	
Y:08 PM	5	5	5	5	5	7	5	5	5	5	0	/	5	5	5	5	7	7	5	5	0/	
Y:75 PM	5	5	5	5	5	4	5	5	5	5	5	4	5	5	5	5	Y	W	5	5	38	
Y:Y8 PM	5	5	5	5	5	3	5	5	5	5	0	0	5	5	5	5	7	4	5	5	07	. 7
8:55 PM	5	5	5	5	5	3	5	5	5	5	5	/	5	5	5	5	7	Y	5	5	0.	. 7
8:08 PM	5	5	5	5	5	.	5	5	5	5	5	00	5	5	5	5	4	4	5	5	75	/8
8:75 PM	5	5	5	5	5	.	5	5	5	5	5	/	5	5	5	5	4	Y	5	5	38	/8
8:Y8 PM	5	5	5	5	5	Y	5	5	5	5	5	4	5	5	5	5	4	0	5	5	0.	/W

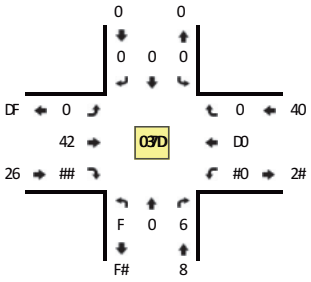
Peak 08UMin 2lo1 rates	Northbound					Southbound					Eastbound					(estbound					Total
	Left	Thru	vight	)	v*	Left	Thru	vight	)	v*	Left	Thru	vight	)	v*	Left	Thru	vight	)	v*	
All Vehicles	5	5	5	5	5	3/	5	5	5	5	5	YY	5	5	5	5	3Y	3Y	5	5	035
Heavy Trucks #uses	5	5	5			Y	5	5			5	5	5			5	5	5			Y
Pedestrians		03					/					5					5				35
#icycles	5	5	5			Y	5	5			5	5	5			5	5	Y			/
Scooters																					

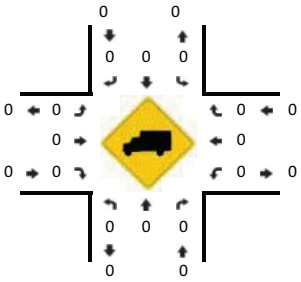
Comments:

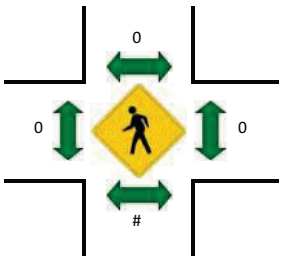
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

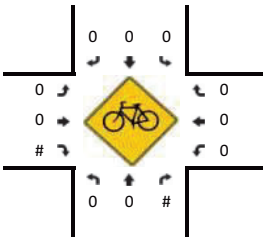
LOCATION: Irovuois Trl RR- t AndreUs S r | **1 C QDJ B:** #6#064##
CIT5Y- TATE: Ormond J each/, L | **S ATE:** Thu/Mar F F0FD

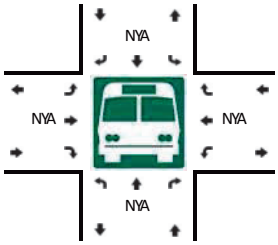
PeakR9 our: 8:00 AM RR7:00 AM
Peak #2RMin: 8:D0 AM RR8:42 AM

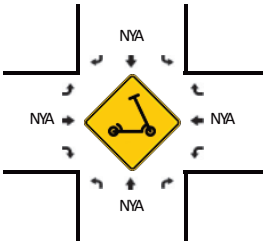












. H* . TO.

#2RMin Count Period J eginning At	Irovuois Trl =Northbound(					Irovuois Trl = outhbound(					- t AndreUs S r =Eastbound(					- t AndreUs S r =) estbound(					Total	9 ourly Totals
	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H		
w:00 AM	#	0	0	0	0	0	0	0	0	0	0	8	0	0	0	#	#	0	0	0	##	
w:#2 AM	0	0	F	0	0	0	0	0	0	0	0	##	D	0	0	4	D	0	0	0	FD	
w:D0 AM	0	0	D	0	0	0	0	0	0	0	0	#0	F	0	0	F	2	0	0	0	FF	
w:42 AM	#	0	#	0	0	0	0	0	0	0	0	#0	F	0	0	#	2	0	0	0	F0	w6
8:00 AM	0	0	#	0	0	0	0	0	0	0	0	#F	#	0	0	#	#F	0	0	0	Fw	7F
8:#2 AM	0	0	#	0	0	0	0	0	0	0	0	7	F	0	0	F	8	0	0	0	FF	7#
8:D0 AM	0	0	#	0	0	0	0	0	0	0	0	#6	D	0	0	D	2	0	0	0	F8	7w
8:42 AM	F	0	D	0	0	0	0	0	0	0	0	8	2	0	0	4	2	0	0	0	Fw	#04

Peak #2RMin , loUrates	Northbound					- outhbound					Eastbound					) estbound					Total
	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	
All Vehicles	0	0	4	0	0	0	0	0	0	0	0	64	#F	0	0	#F	F0	0	0	0	##F
9 eaqy Trucks	0	0	0			0	0	0			0	0	0			0	0	0			0
J uses																					
Pedestrians		0					0					0					0				0
J icycles - cooters	0	0	0			0	0	0			0	0	0			0	0	0			0

Comments:

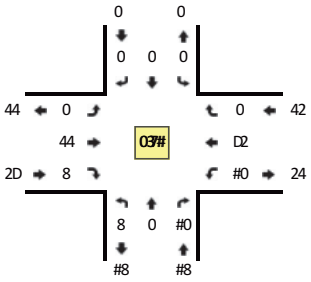
. eport generated on DY#0YF0FD #0:27 AM

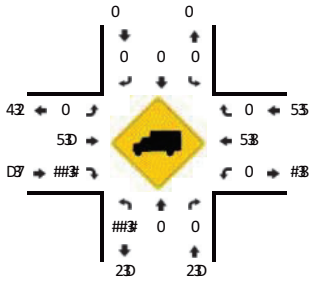
- OW. CE: 1 uality Counts/LLC =http:YYUUU3vualitycounts3net(#R8wwR280RFF#F

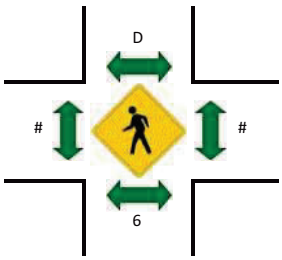
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

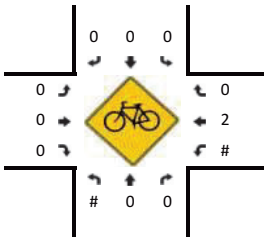
LOCATION: Irovuois Trl RR- t AndreUs S r | **1 C QQJ B:** #6#064#5
CITY/- TATE: Ormond J each, FL | **S ATE:** Thu, Mar 5 505D

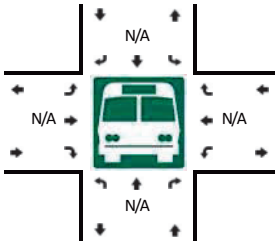
PeakR9our: 2:00 PM RR6:00 PM
Peak #2RMin: 2:D0 PM RR2:42 PM

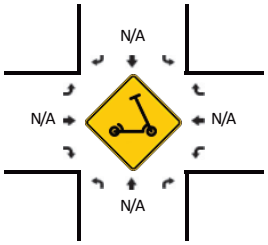












. H* . TO.

#2RMin Count Period J eginning At	Irovuois Trl =Northbound(					Irovuois Trl = outhbound(					- t AndreUs S r =Eastbound(					- t AndreUs S r =) estbound(					Total	9 ourly Totals
	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H		
4:00 PM	5	0	D	0	0	0	0	0	0	0	0	2	4	0	0	5	w	0	0	0	5D	
4:#2 PM	#	0	2	0	0	0	0	0	0	0	0	##	0	0	0	#	2	0	0	0	5D	
4:D0 PM	5	0	4	0	0	0	0	0	0	0	0	##	2	0	0	5	##	0	0	0	D2	
4:42 PM	#	0	4	0	0	0	0	0	0	0	0	5	4	0	0	#	w	0	0	0	#8	#00
2:00 PM	0	0	5	0	0	0	0	0	0	0	0	w	5	0	0	5	w	0	0	0	50	8w
2:#2 PM	#	0	#	0	0	0	0	0	0	0	0	#D	5	0	0	5	##	0	0	0	D0	#04
2:D0 PM	6	0	5	0	0	0	0	0	0	0	0	#D	D	0	0	5	#0	0	0	0	D6	#02
2:42 PM	5	0	2	0	0	0	0	0	0	0	0	##	5	0	0	4	w	0	0	0	D#	##w

Peak #2RMin FloUrates	Northbound					- outhbound					Eastbound					) estbound					Total
	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	Left	Thru	. ight	W	. H	
All Vehicles	54	0	7	0	0	0	0	0	0	0	0	25	#5	0	0	7	40	0	0	0	#44
9 eaqy Trucks	4	0	0			0	0	0			0	0	4			0	0	0			7
J uses																					
Pedestrians		7					0					0					4				#5
J icycles - cooters	0	0	0			0	0	0			0	0	0			0	7	0			7

Comments:

. eport generated on D/#0/505D #0:28 AM | - OW. CE: 1 uality Counts, LLC =http://UUU3vualitycounts3net(#R7wwR270R55#5

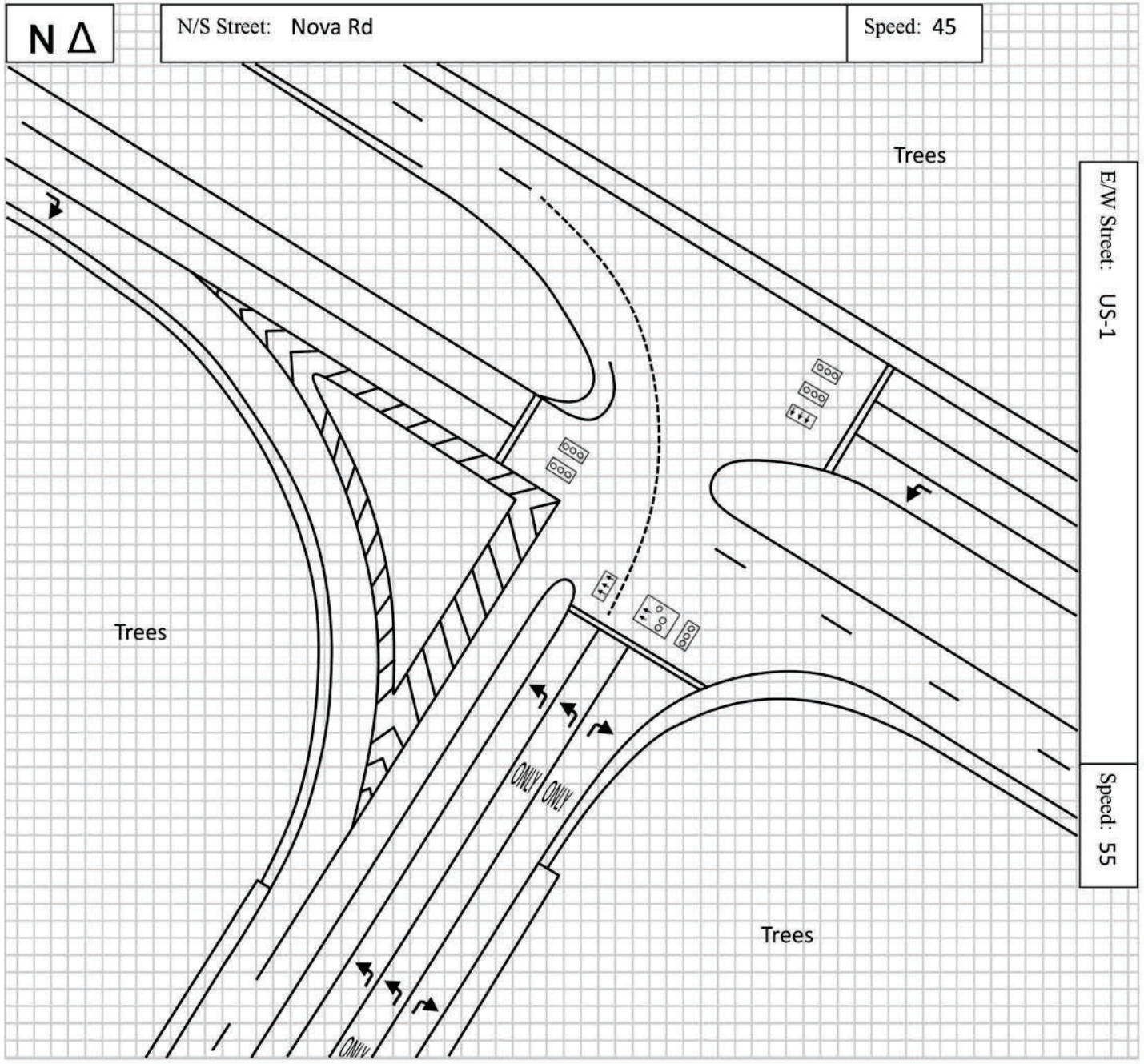
Quality Counts
DATA THAT DRIVES COMMUNITIES

Site Code: 16106405/06

Date: 3/2/2023

City: Ormond Beach

County: Volusia



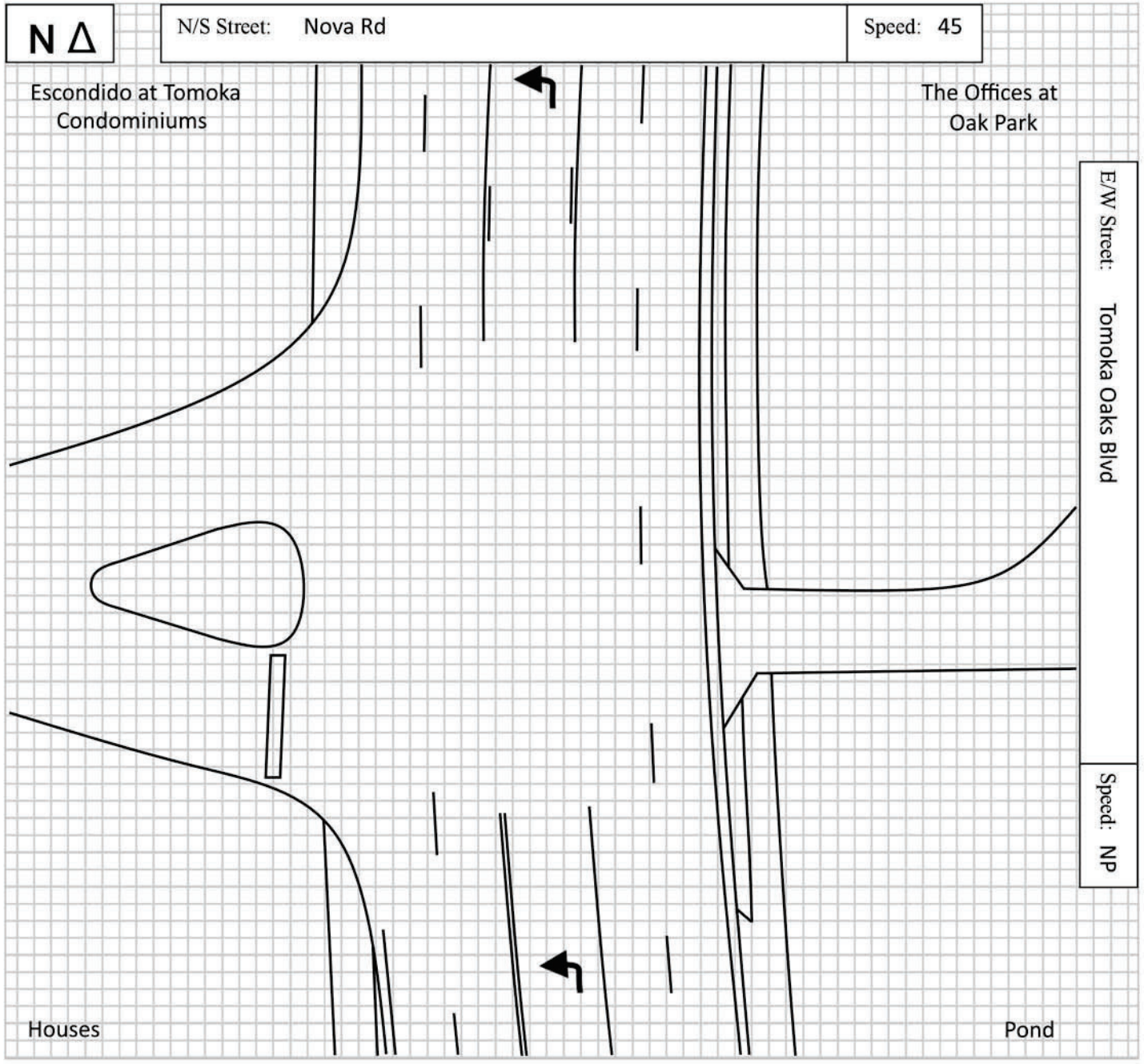
Quality Counts
DATA THAT DRIVES COMMUNITIES

Site Code: 16106413/14

Date: 3/2/2023

City: Ormond Beach

County: Volusia



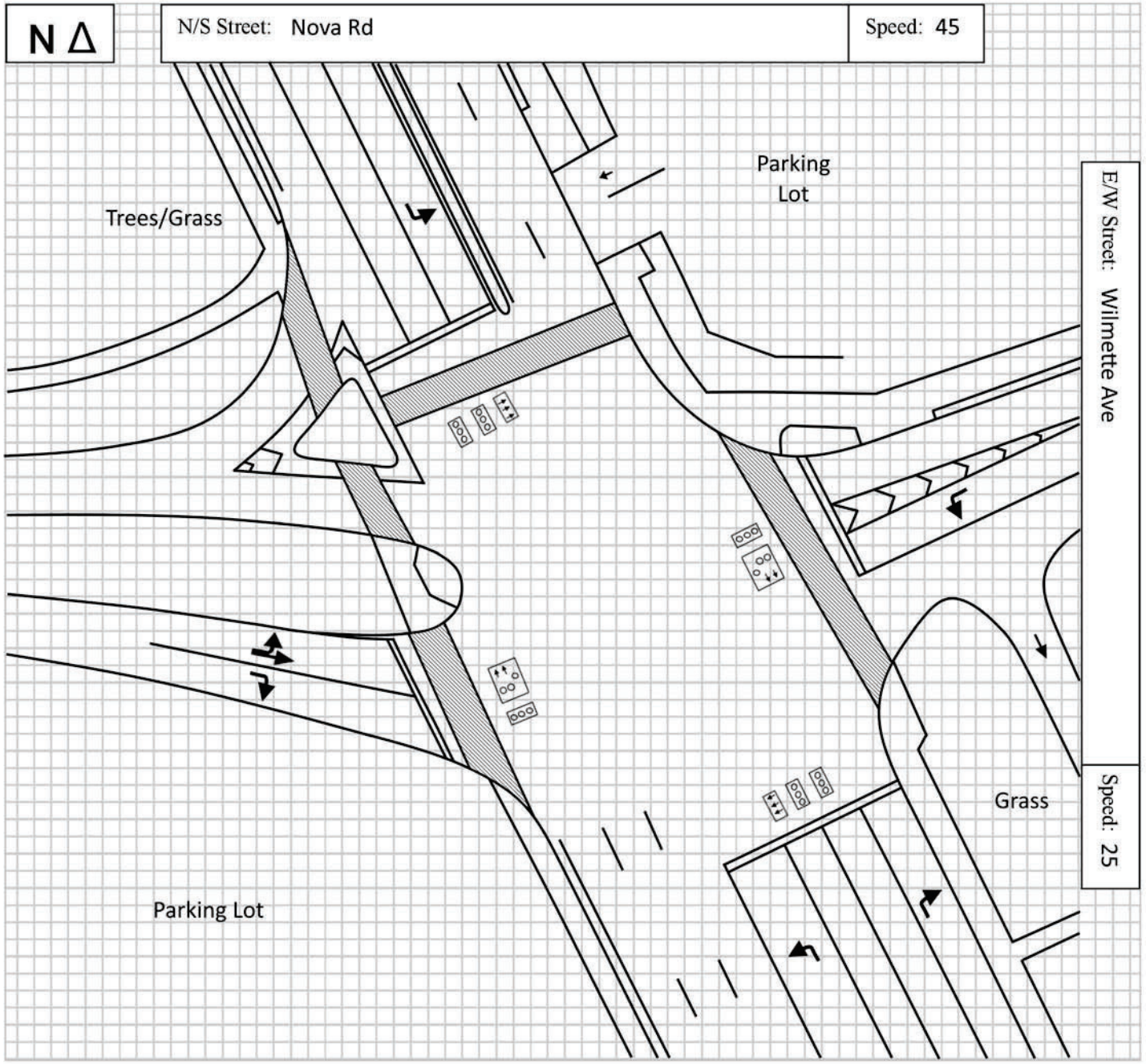
Quality Counts
DATA THAT DRIVES COMMUNITIES

Site Code: 16106403/04

Date: 3/2/2023

City: Ormond Beach

County: Volusia



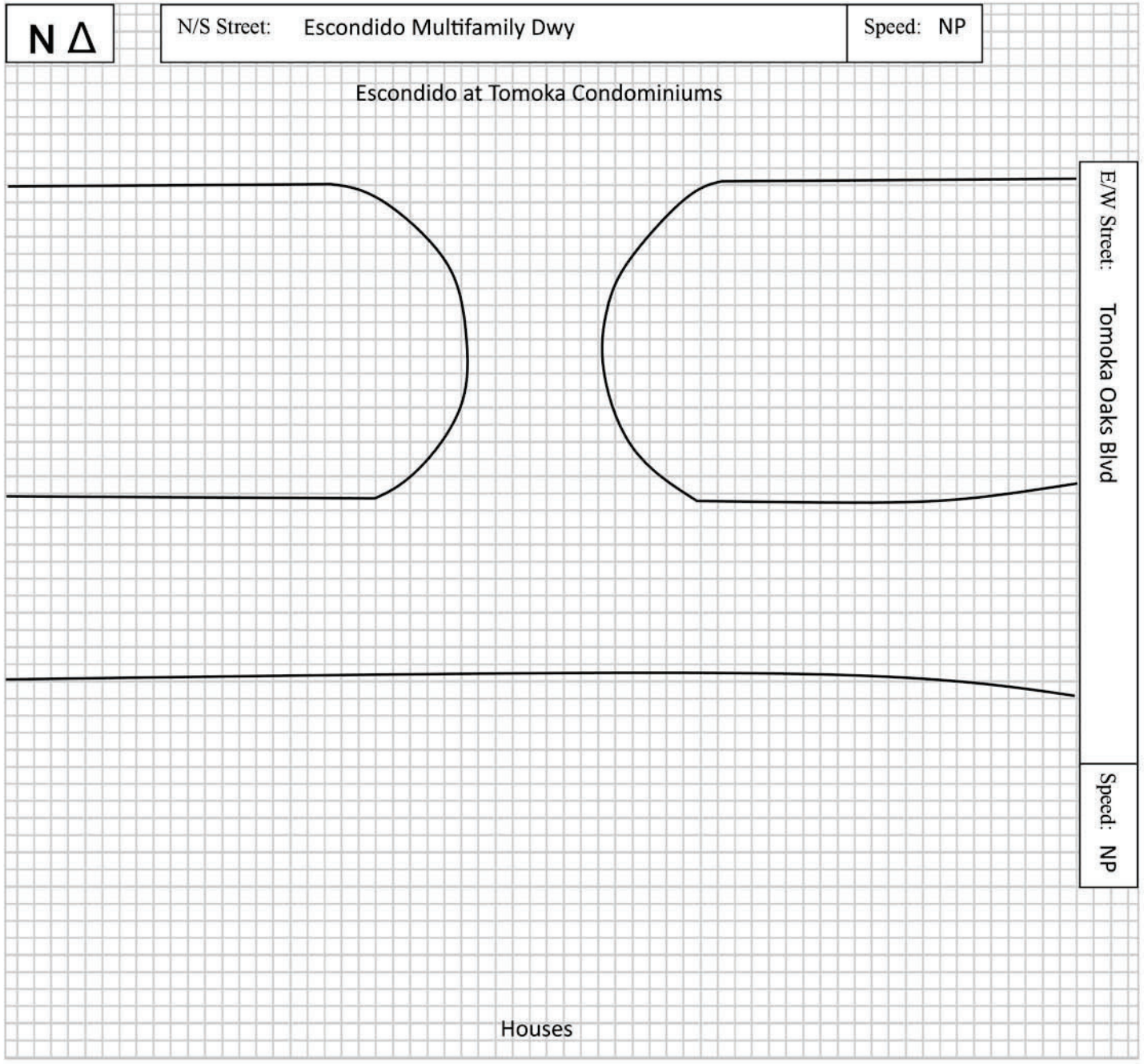
Quality Counts
DATA THAT DRIVES COMMUNITIES

Site Code: 16106415/16

Date: 3/2/2023

City: Ormond Beach

County: Volusia



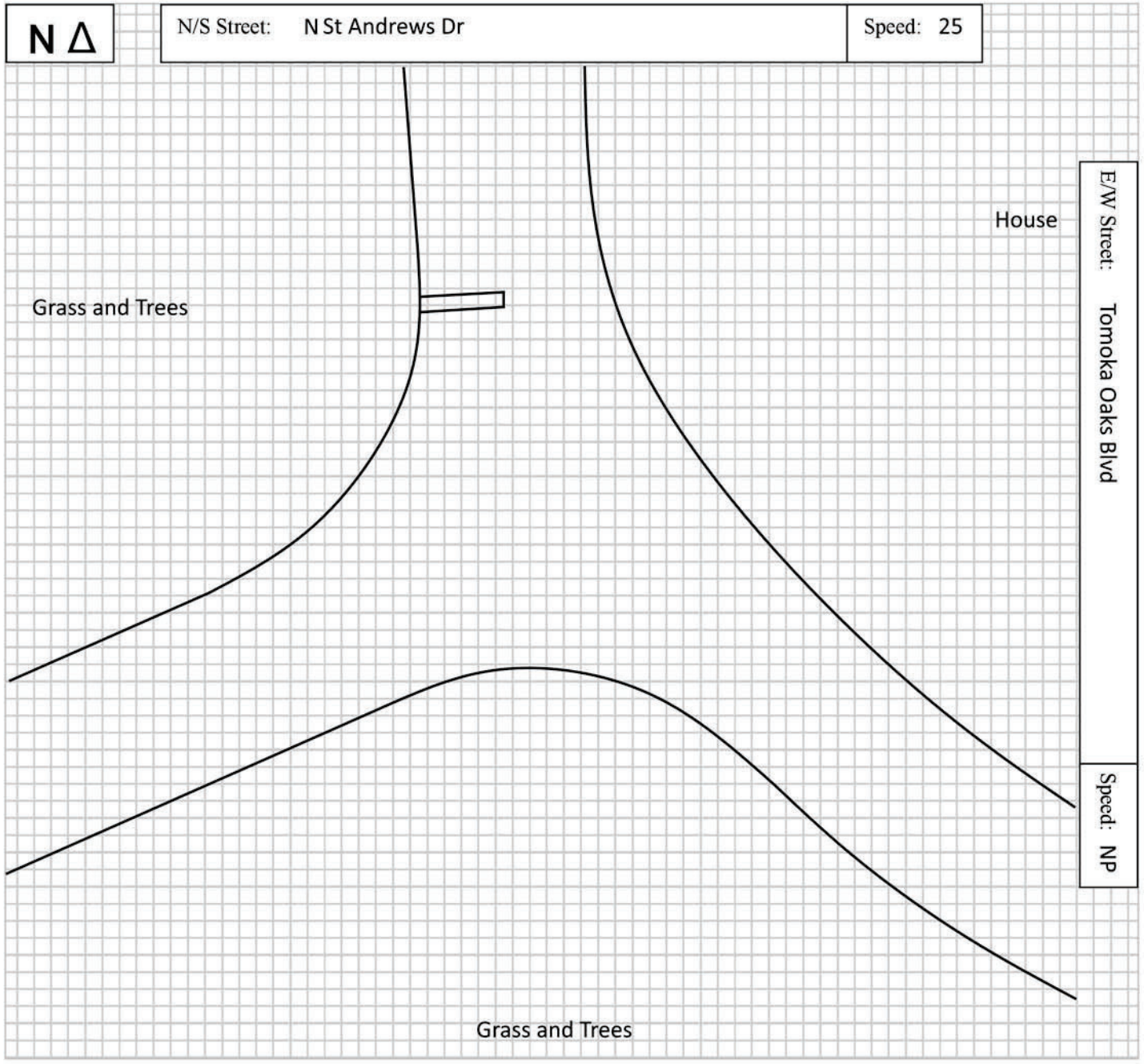
Quality Counts
DATA THAT DRIVES COMMUNITIES

Site Code: 16106417/18

Date: 3/2/2023

City: Ormond Beach

County: Volusia



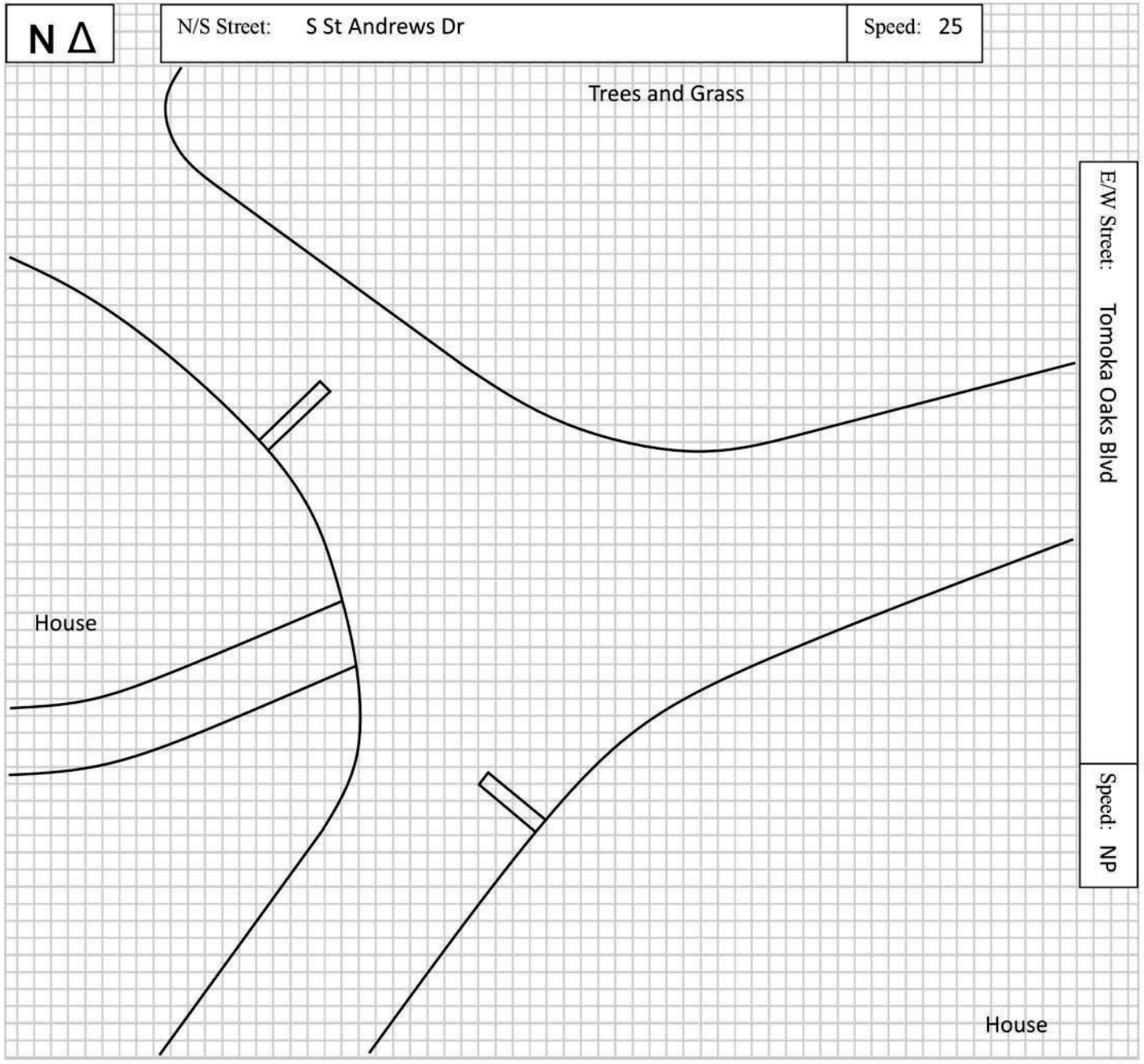
Quality Counts
DATA THAT DRIVES COMMUNITIES

Site Code: 16106419/20

Date: 3/2/2023

City: Ormond Beach

County: Volusia



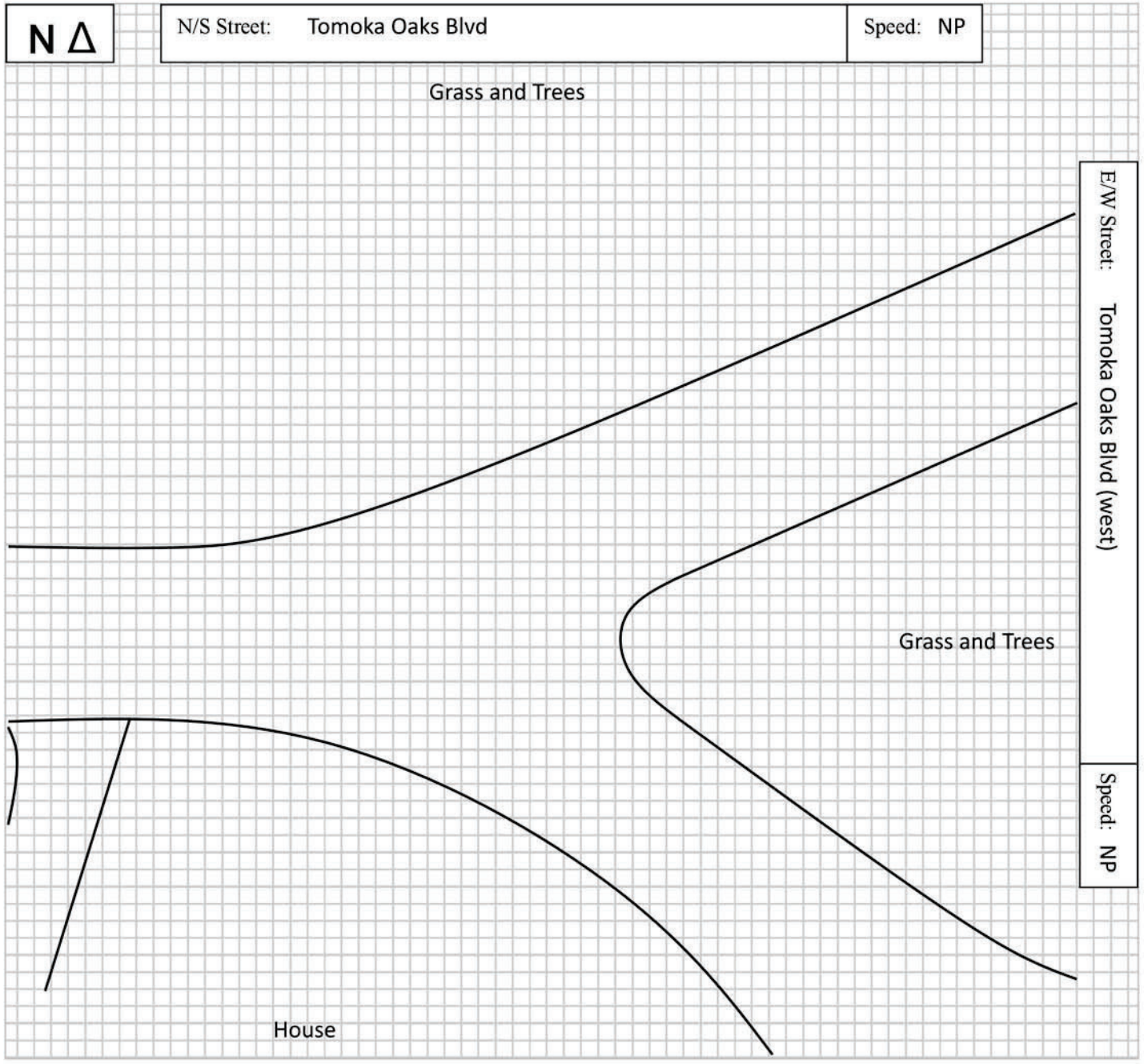
Quality Counts
DATA THAT DRIVES COMMUNITIES

Site Code: 16106421/22

Date: 3/2/2023

City: Ormond Beach

County: Volusia



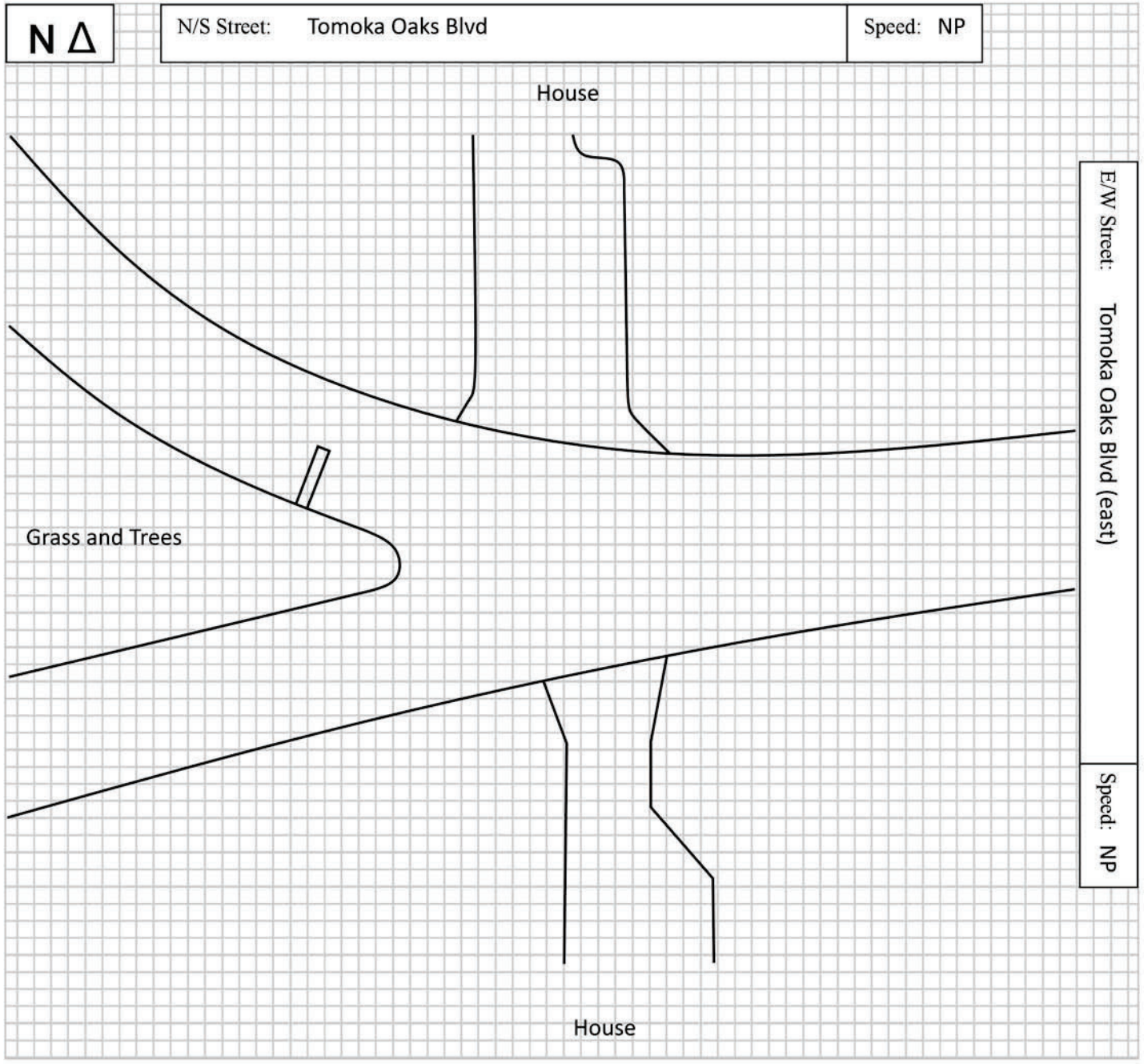
Quality Counts
DATA THAT DRIVES COMMUNITIES

Site Code: 16106423/24

Date: 3/2/2023

City: Ormond Beach

County: Volusia



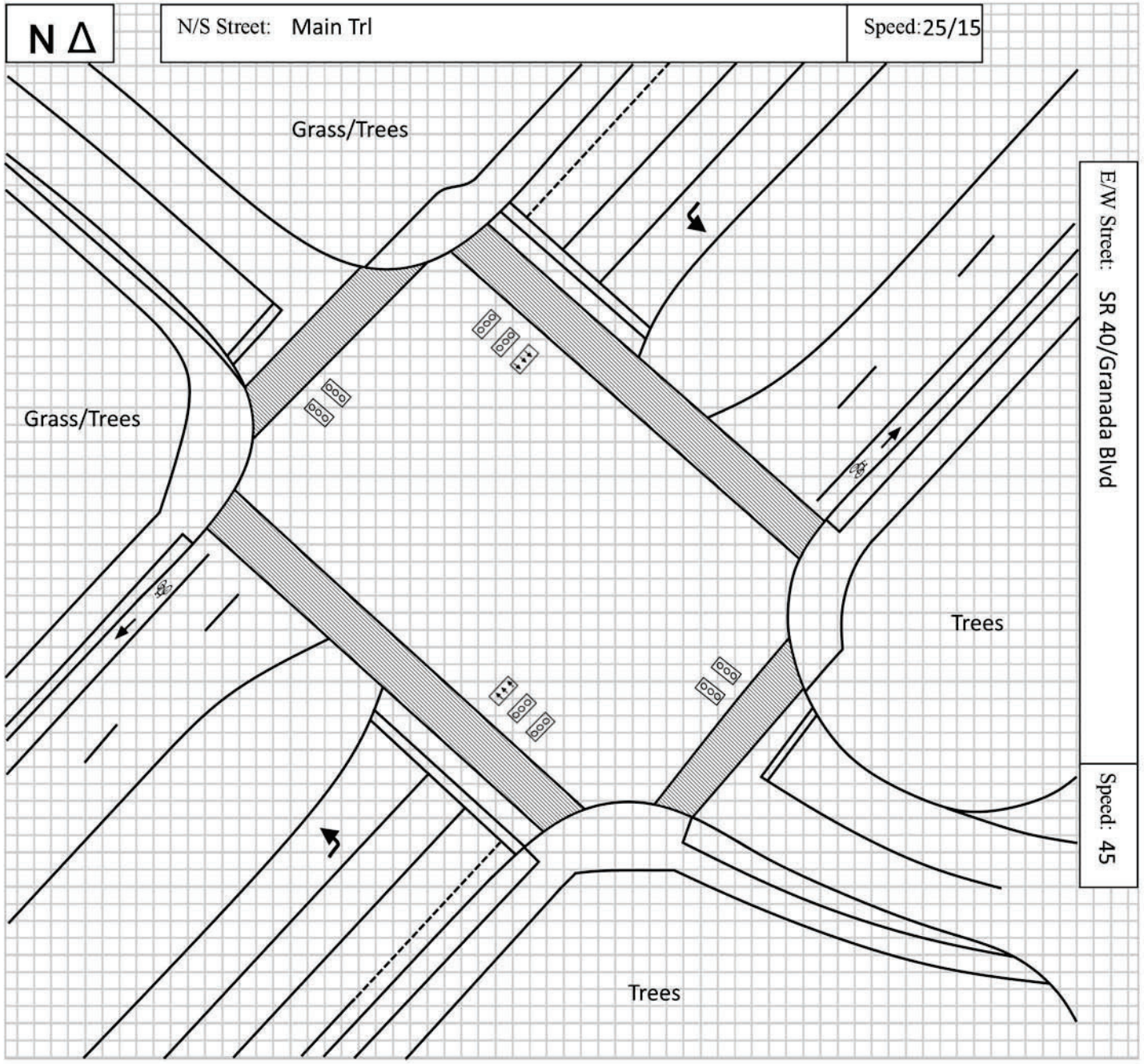
Quality Counts
DATA THAT DRIVES COMMUNITIES

Site Code: 16106401/02

Date: 3/2/2023

City: Ormond Beach

County: Volusia



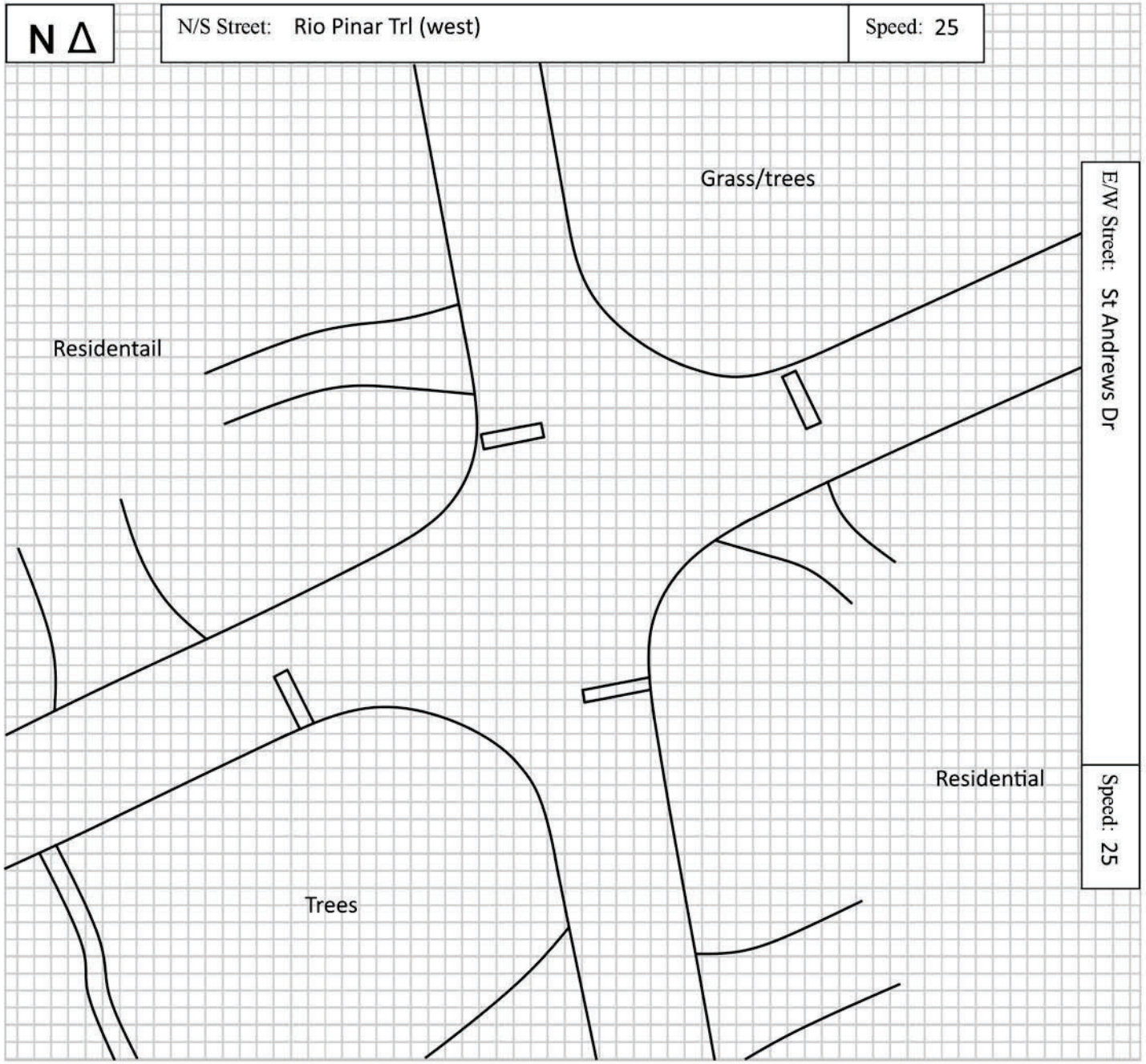
Quality Counts
DATA THAT DRIVES COMMUNITIES

Site Code: 16106409/10

Date: 3/2/2023

City: Ormond Beach

County: Volusia



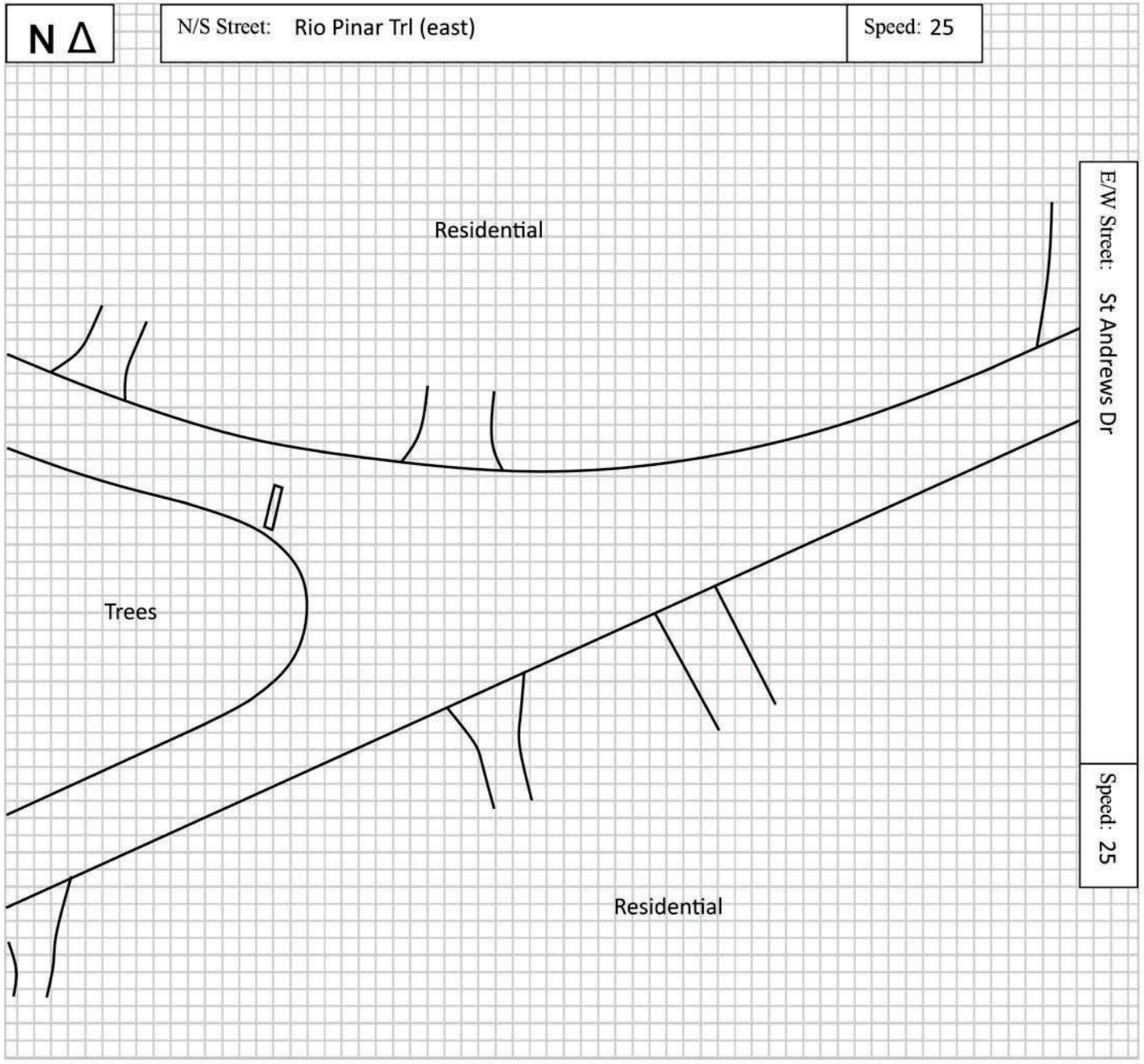
Quality Counts
DATA THAT DRIVES COMMUNITIES

Site Code: 16106407/08

Date: 3/2/2023

City: Ormond Beach

County: Volusia



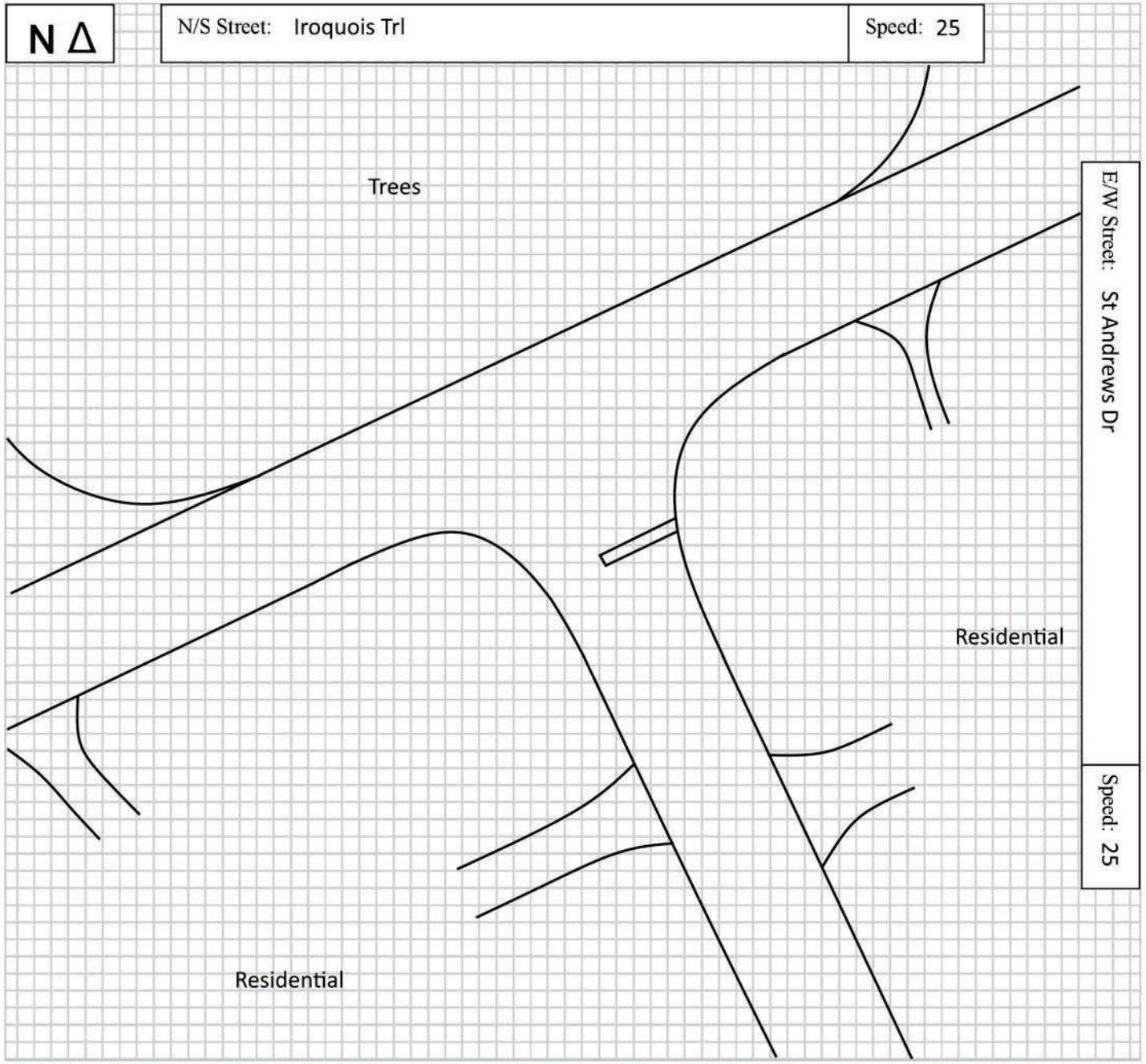
Quality Counts
DATA THAT DRIVES COMMUNITIES

Site Code: 16106411/12

Date: 3/2/2023

City: Ormond Beach

County: Volusia



2021 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 7900 VOLUSIA COUNTYWIDE

MOCF: 0.97

WEEK	DATES	SF	PSCF
1	01/01/2021 - 01/02/2021	1.01	1.04
2	01/03/2021 - 01/09/2021	1.04	1.07
3	01/10/2021 - 01/16/2021	1.06	1.09
4	01/17/2021 - 01/23/2021	1.05	1.08
5	01/24/2021 - 01/30/2021	1.04	1.07
6	01/31/2021 - 02/06/2021	1.03	1.06
7	02/07/2021 - 02/13/2021	1.02	1.05
8	02/14/2021 - 02/20/2021	1.00	1.03
9	02/21/2021 - 02/27/2021	0.99	1.02
*10	02/28/2021 - 03/06/2021	0.97	1.00
*11	03/07/2021 - 03/13/2021	0.95	0.98
*12	03/14/2021 - 03/20/2021	0.94	0.97
*13	03/21/2021 - 03/27/2021	0.95	0.98
*14	03/28/2021 - 04/03/2021	0.95	0.98
*15	04/04/2021 - 04/10/2021	0.96	0.99
*16	04/11/2021 - 04/17/2021	0.97	1.00
*17	04/18/2021 - 04/24/2021	0.98	1.01
*18	04/25/2021 - 05/01/2021	0.98	1.01
*19	05/02/2021 - 05/08/2021	0.98	1.01
*20	05/09/2021 - 05/15/2021	0.99	1.02
*21	05/16/2021 - 05/22/2021	0.99	1.02
*22	05/23/2021 - 05/29/2021	0.99	1.02
23	05/30/2021 - 06/05/2021	0.99	1.02
24	06/06/2021 - 06/12/2021	1.00	1.03
25	06/13/2021 - 06/19/2021	1.00	1.03
26	06/20/2021 - 06/26/2021	1.01	1.04
27	06/27/2021 - 07/03/2021	1.02	1.05
28	07/04/2021 - 07/10/2021	1.04	1.07
29	07/11/2021 - 07/17/2021	1.05	1.08
30	07/18/2021 - 07/24/2021	1.05	1.08
31	07/25/2021 - 07/31/2021	1.05	1.08
32	08/01/2021 - 08/07/2021	1.05	1.08
33	08/08/2021 - 08/14/2021	1.05	1.08
34	08/15/2021 - 08/21/2021	1.05	1.08
35	08/22/2021 - 08/28/2021	1.05	1.08
36	08/29/2021 - 09/04/2021	1.04	1.07
37	09/05/2021 - 09/11/2021	1.04	1.07
38	09/12/2021 - 09/18/2021	1.03	1.06
39	09/19/2021 - 09/25/2021	1.02	1.05
40	09/26/2021 - 10/02/2021	1.00	1.03
41	10/03/2021 - 10/09/2021	0.99	1.02
42	10/10/2021 - 10/16/2021	0.98	1.01
43	10/17/2021 - 10/23/2021	0.98	1.01
44	10/24/2021 - 10/30/2021	0.99	1.02
45	10/31/2021 - 11/06/2021	0.99	1.02
46	11/07/2021 - 11/13/2021	1.00	1.03
47	11/14/2021 - 11/20/2021	1.00	1.03
48	11/21/2021 - 11/27/2021	1.00	1.03
49	11/28/2021 - 12/04/2021	1.01	1.04
50	12/05/2021 - 12/11/2021	1.01	1.04
51	12/12/2021 - 12/18/2021	1.01	1.04
52	12/19/2021 - 12/25/2021	1.04	1.07
53	12/26/2021 - 12/31/2021	1.06	1.09

* PEAK SEASON

APPENDIX D

Intersections Summary Work Sheets

2023 Existing Conditions

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	2	79	0	0	1	42	431	3	0	673	36
Future Vol, veh/h	75	2	79	0	0	1	42	431	3	0	673	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	118	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	2	3	2	2	100	7	5	2	2	2	11
Mvmt Flow	83	2	88	0	0	1	47	479	3	0	748	40

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1102	1344	394	950	1363	241	788	0	0	482	0	0
Stage 1	768	768	-	575	575	-	-	-	-	-	-	-
Stage 2	334	576	-	375	788	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.54	6.96	7.54	6.54	8.9	4.24	-	-	4.14	-	-
Critical Hdwy Stg 1	6.56	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.02	3.33	3.52	4.02	4.3	2.27	-	-	2.22	-	-
Pot Cap-1 Maneuver	165	151	602	215	147	531	796	-	-	1077	-	-
Stage 1	358	409	-	470	501	-	-	-	-	-	-	-
Stage 2	651	500	-	618	400	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	157	142	602	174	138	531	796	-	-	1077	-	-
Mov Cap-2 Maneuver	261	264	-	289	245	-	-	-	-	-	-	-
Stage 1	337	409	-	442	471	-	-	-	-	-	-	-
Stage 2	611	471	-	525	400	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.4	11.8	0.9	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	796	-	-	366	531	1077	-	-
HCM Lane V/C Ratio	0.059	-	-	0.474	0.002	-	-	-
HCM Control Delay (s)	9.8	-	-	23.4	11.8	0	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	2.5	0	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	151	77	2	4	0
Future Vol, veh/h	0	151	77	2	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	3	9	2	2	2
Mvmt Flow	0	174	89	2	5	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	91	0	-	0	264	90
Stage 1	-	-	-	-	90	-
Stage 2	-	-	-	-	174	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1504	-	-	-	725	968
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	856	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1504	-	-	-	725	968
Mov Cap-2 Maneuver	-	-	-	-	725	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	856	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1504	-	-	-	725
HCM Lane V/C Ratio	-	-	-	-	0.006
HCM Control Delay (s)	0	-	-	-	10
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	3	35	74	5
Future Vol, veh/h	0	0	3	35	74	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	14	4	2
Mvmt Flow	0	0	3	39	83	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	42	0	-	0	23	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.44	6.22
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.218	-	-	-	3.536	3.318
Pot Cap-1 Maneuver	1567	-	-	-	988	1054
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1567	-	-	-	988	1054
Mov Cap-2 Maneuver	-	-	-	-	988	-
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1567	-	-	-	992
HCM Lane V/C Ratio	-	-	-	-	0.089
HCM Control Delay (s)	0	-	-	-	9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Movement	WBL	WBR	SEL	SER	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	38	0	5	4	0	72
Future Volume (Veh/h)	38	0	5	4	0	72
Sign Control	Free		Stop		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	48	0	6	5	0	90
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		186	96	96	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		186	96	96	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	97		99	99	100	92
cM capacity (veh/h)	1604		694	770	770	1085

Direction, Lane #	WB 1	SE 1	NE 1
Volume Total	48	11	90
Volume Left	48	6	0
Volume Right	0	0	90
cSH	1604	727	1085
Volume to Capacity	0.03	0.02	0.08
Queue Length 95th (ft)	2	1	7
Control Delay (s)	7.3	10.0	8.6
Lane LOS	A	B	A
Approach Delay (s)	7.3	10.0	8.6
Approach LOS		B	A

Intersection Summary			
Average Delay	8.3		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	1	77	39	38	75	0
Future Vol, veh/h	1	77	39	38	75	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	5	13	4	2
Mvmt Flow	1	89	45	44	86	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	89	0	-	0	158	67
Stage 1	-	-	-	-	67	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	4.12	-	-	-	6.44	6.22
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.218	-	-	-	3.536	3.318
Pot Cap-1 Maneuver	1506	-	-	-	829	997
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	928	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1506	-	-	-	828	997
Mov Cap-2 Maneuver	-	-	-	-	828	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	928	-

Approach	EB	WB	SE
HCM Control Delay, s	9.1	0	9.9
HCM LOS			A

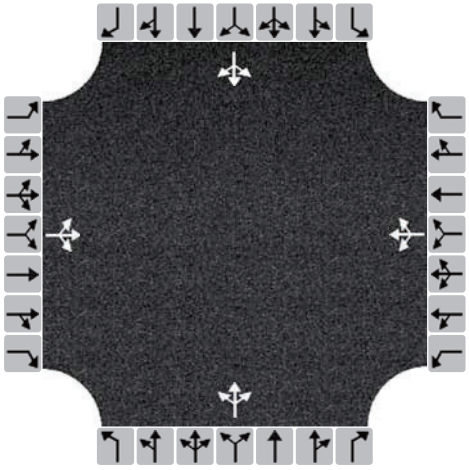
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1506	-	-	-	828
HCM Lane V/C Ratio	0.001	-	-	-	0.104
HCM Control Delay (s)	7.4	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

HCS All-Way Stop Control Report

General and Site Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2023
Analysis Time Period (hrs)	0.25
Time Analyzed	Existing A.M. Peak-hour
Project Description	5361.09 Tomoka Oaks Residential
Intersection	S St. Andrews at W Rio
Jurisdiction	Volusia
East/West Street	S St. Andrews Dr
North/South Street	W Rio Pinar Dr
Peak Hour Factor	0.86

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	0	6	15	10	3	0	3	24	16	4	50	0
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	24			15			50			63		
Percent Heavy Vehicles	2			2			2			25		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.022			0.013			0.044			0.056		
Final Departure Headway, h_d (s)	3.77			4.36			3.87			4.47		
Final Degree of Utilization, x	0.026			0.018			0.054			0.078		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	1.77			2.36			1.87			2.47		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	24			15			50			63		
Capacity (veh/h)	955			825			929			806		
95% Queue Length, Q_{95} (veh)	0.1			0.1			0.2			0.3		
Control Delay (s/veh)	6.9			7.4			7.1			7.8		
Level of Service, LOS	A			A			A			A		
Approach Delay (s/veh) | LOS	6.9	A		7.4	A		7.1	A		7.8	A	
Intersection Delay (s/veh) | LOS	7.4						A					

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HCS Two-Way Stop-Control Report

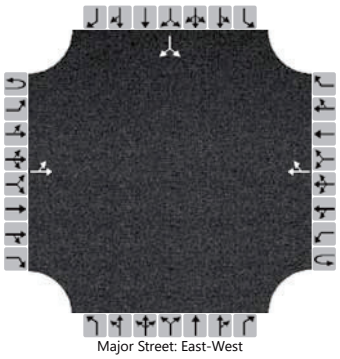
General Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2023
Time Analyzed	Existing A.M. Peak-hour
Intersection Orientation	East-West
Project Description	5361.09 Tomoka Oaks Residetial

Site Information

Intersection	St. Andrews Dr at E Rio
Jurisdiction	Volusia
East/West Street	St. Andrews Dr
North/South Street	E Rio Pinar Dr
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		1	24				17	14						25		1
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1													29	
Capacity, c (veh/h)		1577													955	
v/c Ratio		0.00													0.03	
95% Queue Length, Q_{95} (veh)		0.0													0.1	
Control Delay (s/veh)		7.3	0.0												8.9	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)	0.3												8.9			
Approach LOS	A												A			

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HCS Two-Way Stop-Control Report

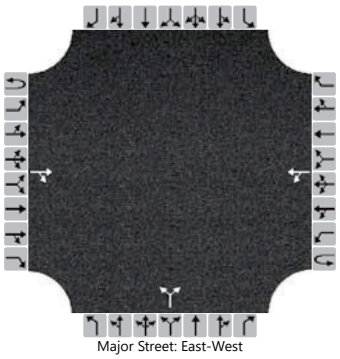
General Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2023
Time Analyzed	Existing A.M. Peak-hour
Intersection Orientation	East-West
Project Description	5361.09 Tomoka Oaks Residetioal

Site Information

Intersection	St. Andrews Dr at Iroquoi
Jurisdiction	Volusia
East/West Street	St. Andrews Dr
North/South Street	Iroquois Tr
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			45	11		10	30			2		6				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						11					9					
Capacity, c (veh/h)						1543					977					
v/c Ratio						0.01					0.01					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						7.3	0.1				8.7					
Level of Service (LOS)						A	A				A					
Approach Delay (s/veh)					1.9				8.7							
Approach LOS					A				A							

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Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	0	53	10	1	8	88	725	3	1	646	58
Future Vol, veh/h	43	0	53	10	1	8	88	725	3	1	646	58
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	118	-	-	100	-	-
Veh in Median Storage,#	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	4	2	2	2	2	2	2	100	2	2
Mvmt Flow	46	0	56	11	1	9	94	771	3	1	687	62

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1294	1682	375	1307	1712	387	749	0	0	774	0	0
Stage 1	720	720	-	961	961	-	-	-	-	-	-	-
Stage 2	574	962	-	346	751	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.98	7.54	6.54	6.94	4.14	-	-	6.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.34	3.52	4.02	3.32	2.22	-	-	3.2	-	-
Pot Cap-1 Maneuver	120	94	617	117	90	611	856	-	-	419	-	-
Stage 1	385	430	-	275	333	-	-	-	-	-	-	-
Stage 2	471	332	-	643	416	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	108	83	617	97	80	611	856	-	-	419	-	-
Mov Cap-2 Maneuver	219	195	-	187	177	-	-	-	-	-	-	-
Stage 1	343	429	-	245	296	-	-	-	-	-	-	-
Stage 2	412	295	-	583	415	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.1	19.8	1	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	856	-	-	340	263	419	-	-
HCM Lane V/C Ratio	0.109	-	-	0.3	0.077	0.003	-	-
HCM Control Delay (s)	9.7	-	-	20.1	19.8	13.6	-	-
HCM Lane LOS	A	-	-	C	C	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	1.2	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	101	142	9	5	1
Future Vol, veh/h	0	101	142	9	5	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	3	2	11	2	100
Mvmt Flow	0	106	149	9	5	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	158	0	-	0	260	154
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	106	-
Critical Hdwy	4.12	-	-	-	6.42	7.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	4.2
Pot Cap-1 Maneuver	1422	-	-	-	729	688
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	918	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1422	-	-	-	729	688
Mov Cap-2 Maneuver	-	-	-	-	729	-
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	918	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1422	-	-	-	722
HCM Lane V/C Ratio	-	-	-	-	0.009
HCM Control Delay (s)	0	-	-	-	10
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	2	82	45	4
Future Vol, veh/h	1	0	2	82	45	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	2	86	47	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	88	0	-	0	47	45
Stage 1	-	-	-	-	45	-
Stage 2	-	-	-	-	2	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1508	-	-	-	963	1025
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	1021	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1508	-	-	-	962	1025
Mov Cap-2 Maneuver	-	-	-	-	962	-
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	1021	-

Approach	EB	WB	SB
HCM Control Delay, s	7.4	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1508	-	-	-	967
HCM Lane V/C Ratio	0.001	-	-	-	0.053
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Movement	WBL	WBR	SEL	SER	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	61	0	1	5	1	58
Future Volume (Veh/h)	61	0	1	5	1	58
Sign Control	Free		Stop		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	72	0	1	6	1	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		212	144	144	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		212	144	144	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	96		100	99	100	94
cM capacity (veh/h)	1623		673	714	714	1082

Direction, Lane #	WB 1	SE 1	NE 1
Volume Total	72	7	69
Volume Left	72	1	0
Volume Right	0	0	68
cSH	1623	708	1074
Volume to Capacity	0.04	0.01	0.06
Queue Length 95th (ft)	3	1	5
Control Delay (s)	7.3	10.1	8.6
Lane LOS	A	B	A
Approach Delay (s)	7.3	10.1	8.6
Approach LOS		B	A

Intersection Summary			
Average Delay	8.0		
Intersection Capacity Utilization	20.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	2	55	61	81	44	1
Future Vol, veh/h	2	55	61	81	44	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	59	65	86	47	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	151	0	-	0	171	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	63	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1430	-	-	-	819	946
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	960	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1430	-	-	-	818	946
Mov Cap-2 Maneuver	-	-	-	-	818	-
Stage 1	-	-	-	-	915	-
Stage 2	-	-	-	-	960	-

Approach	EB	WB	SE
HCM Control Delay, s	0.3	0	9.7
HCM LOS			A

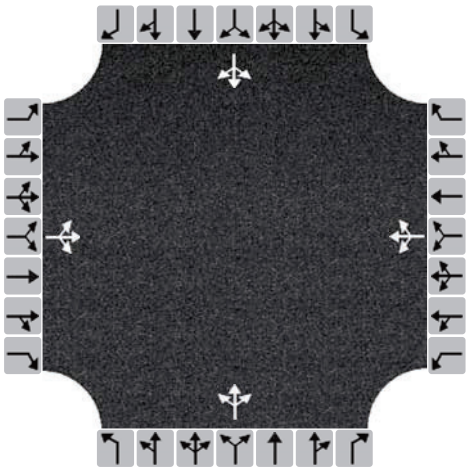
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1430	-	-	-	820
HCM Lane V/C Ratio	0.001	-	-	-	0.058
HCM Control Delay (s)	7.5	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCS All-Way Stop Control Report

General and Site Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2023
Analysis Time Period (hrs)	0.25
Time Analyzed	Existing P.M. Peak-hour
Project Description	5361.09 Tomoka Oaks Residentail
Intersection	S St. Andrews at W Rio
Jurisdiction	Volusia
East/West Street	S St. Andrews Dr
North/South Street	W Rio Pinar Dr
Peak Hour Factor	0.91

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	1	13	10	14	6	0	14	46	17	3	25	0
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	26			22			85			31		
Percent Heavy Vehicles	100			2			2			2		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.023			0.020			0.075			0.027		
Final Departure Headway, h_d (s)	5.63			4.36			4.00			4.16		
Final Degree of Utilization, x	0.041			0.027			0.094			0.036		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	3.63			2.36			2.00			2.16		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	26			22			85			31		
Capacity (veh/h)	639			827			901			865		
95% Queue Length, Q_{95} (veh)	0.1			0.1			0.3			0.1		
Control Delay (s/veh)	8.9			7.5			7.4			7.3		
Level of Service, LOS	A			A			A			A		
Approach Delay (s/veh) | LOS	8.9	A		7.5	A		7.4	A		7.3	A	
Intersection Delay (s/veh) | LOS	7.6						A					

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HCS Two-Way Stop-Control Report

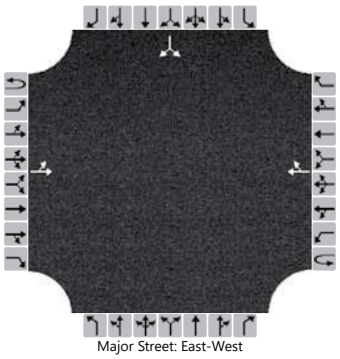
General Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2023
Time Analyzed	Existing P.M. Peak-hour
Intersection Orientation	East-West
Project Description	5361.09 Tomoka Oaks Residetial

Site Information

Intersection	St. Andrews Dr at E Rio
Jurisdiction	Volusia
East/West Street	St. Andrews Dr
North/South Street	E Rio Pinar Dr
Peak Hour Factor	0.75
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		0	33				21	15						20		0
Percent Heavy Vehicles (%)		2												10		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.50		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.59		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0													27	
Capacity, c (veh/h)		1559													901	
v/c Ratio		0.00													0.03	
95% Queue Length, Q_{95} (veh)		0.0													0.1	
Control Delay (s/veh)		7.3	0.0												9.1	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)	0.0												9.1			
Approach LOS	A												A			

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HCS Two-Way Stop-Control Report

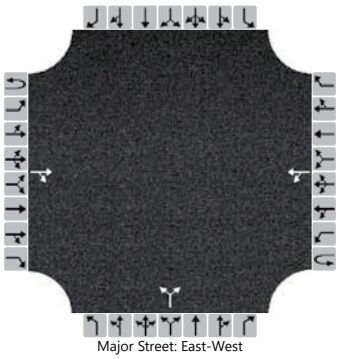
General Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2023
Time Analyzed	Existing P.M. Peak-hour
Intersection Orientation	East-West
Project Description	5361.09 Tomoka Oaks Residetial

Site Information

Intersection	St. Andrews Dr at Iroquoi
Jurisdiction	Volusia
East/West Street	St. Andrews Dr
North/South Street	Iroquois Tr
Peak Hour Factor	0.81
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			44	9		10	35			9		10				
Percent Heavy Vehicles (%)						2				11		2				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.51		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.60		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						12					23					
Capacity, c (veh/h)						1537					919					
v/c Ratio						0.01					0.03					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.4	0.1				9.0					
Level of Service (LOS)						A	A				A					
Approach Delay (s/veh)					1.7				9.0							
Approach LOS					A				A							

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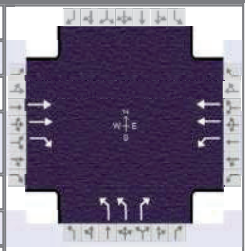
HCS Signalized Intersection Results Summary

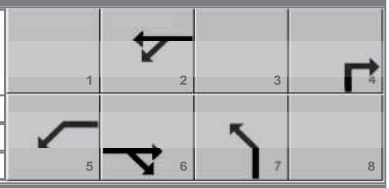
General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Existing AM Peak-hour	PHF	0.89
Urban Street	US 1	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	US 1 at Nova Rd	File Name	1- US 1 at Nova Rd_existing AM.xus		
Project Description	5361.09 Tomoka Oaks Residential				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		949	639	31	750		467		69			

Signal Information			
Cycle, s	80.4	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.2	37.5	17.0	0.0	0.0	0.0
Yellow	5.5	5.5	4.5	0.0	0.0	0.0
Red	2.0	2.0	3.2	0.0	0.0	0.0



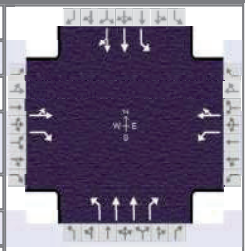
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6	5	2		4		
Case Number		7.3	1.0	4.0		9.0		
Phase Duration, s		45.0	10.7	55.7		24.7		
Change Period, (*Y+R c*), s		7.5	7.5	7.5		7.7		
Max Allow Headway (*MAH*), s		4.9	4.9	4.9		5.2		
Queue Clearance Time (*g s*), s		23.0	2.8	12.4		13.5		
Green Extension Time (*g e*), s		14.2	0.1	21.3		3.5		
Phase Call Probability		1.00	0.54	1.00		1.00		
Max Out Probability		0.68	0.00	0.54		0.07		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2		7		14			
Adjusted Flow Rate (*v*), veh/h		1066	520	35	843		525		78			
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1781		1781	1724		1716		1585			
Queue Service Time (*g s*), s		18.4		0.8	10.4		11.5		3.3			
Cycle Queue Clearance Time (*g c*), s		18.4		0.8	10.4		11.5		3.3			
Green Ratio (*g/C*)		0.47		0.53	0.60		0.21		0.21			
Capacity (*c*), veh/h		1660		287	2068		725		335			
Volume-to-Capacity Ratio (*X*)		0.642		0.121	0.408		0.723		0.231			
Back of Queue (*Q*), ft/ln (95 th percentile)		260.8		11.5	132.2		211.2		56.1			
Back of Queue (*Q*), veh/ln (95 th percentile)		10.3		0.5	5.0		8.2		2.2			
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.02	0.00		0.66		0.00			
Uniform Delay (*d 1*), s/veh		16.4		11.8	8.5		29.5		26.3			
Incremental Delay (*d 2*), s/veh		0.7		0.3	0.2		2.0		0.5			
Initial Queue Delay (*d 3*), s/veh		0.0		0.0	0.0		0.0		0.0			
Control Delay (*d*), s/veh		17.1	0.0	12.0	8.7		31.5		26.8			
Level of Service (LOS)		B	A	B	A		C		C			
Approach Delay, s/veh / LOS	11.5	B		8.8	A		30.9	C		0.0		
Intersection Delay, s/veh / LOS	14.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.09	B	0.67	A	2.31	B	2.56	C
Bicycle LOS Score / LOS	1.80	B	1.21	A		F		

HCS Signalized Intersection Results Summary

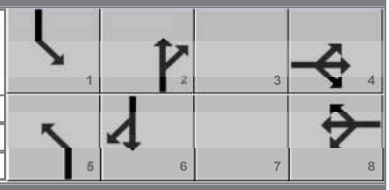
General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Existing AM Peak-hour	PHF	0.93
Urban Street	Nova Rd	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Nova Rd at Wilmette Rd	File Name	3- Nova Rd at Wilmette Ave_existing AM.xus		
Project Description	5361.09 Tomoka Oaks Residentail				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	45	69	123	175	62	28	68	463	126	30	690	57

Signal Information			
Cycle, s	76.3	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	2.5	1.7	26.8	7.6	10.7	0.0	
Yellow	5.0	0.0	4.0	4.0	4.0	0.0	
Red	2.5	0.0	2.5	2.5	2.5	0.0	



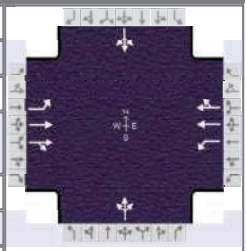
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		11.0		10.0	2.0	3.0	2.0	4.0
Phase Duration, s		14.1		17.2	11.7	35.0	10.0	33.3
Change Period, ($Y+R_c$), s		6.5		6.5	7.5	7.5	7.5	7.5
Max Allow Headway (*MAH*), s		4.3		4.3	4.0	4.9	4.0	4.9
Queue Clearance Time (g_s), s		6.9		9.8	5.1	10.2	3.4	16.1
Green Extension Time (g_e), s		0.7		0.9	0.1	10.0	0.0	9.7
Phase Call Probability		0.99		1.00	0.79	1.00	0.50	1.00
Max Out Probability		0.00		0.00	0.00	0.05	0.00	0.08

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		123	96	188	97		73	498	41	32	407	396
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1834	1560	1767	1771		1753	1738	1585	1767	1870	1820
Queue Service Time (g_s), s		4.9	4.5	7.8	3.8		3.1	8.2	1.3	1.4	14.0	14.1
Cycle Queue Clearance Time (g_c), s		4.9	4.5	7.8	3.8		3.1	8.2	1.3	1.4	14.0	14.1
Green Ratio (*g/C*)		0.10	0.10	0.14	0.14		0.05	0.36	0.36	0.03	0.34	0.34
Capacity (*c*), veh/h		183	155	248	249		96	1254	572	58	633	616
Volume-to-Capacity Ratio (*X*)		0.672	0.617	0.757	0.389		0.762	0.397	0.071	0.560	0.643	0.643
Back of Queue (*Q*), ft/ln (95 th percentile)		108.5	85.7	165.9	76		72.7	138.3	19.7	31.7	245	236.4
Back of Queue (*Q*), veh/ln (95 th percentile)		4.3	3.3	6.5	3.0		2.8	5.3	0.8	1.2	9.6	9.5
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	1.32	2.21	0.00		0.55	0.00	0.07	0.13	0.00	0.00
Uniform Delay (d_1), s/veh		33.2	33.0	31.6	29.8		35.6	18.2	16.0	36.4	21.4	21.4
Incremental Delay (d_2), s/veh		4.2	3.9	4.7	1.0		11.7	0.3	0.1	8.2	1.6	1.6
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		37.4	36.9	36.2	30.8		47.3	18.5	16.1	44.6	22.9	23.0
Level of Service (LOS)		D	D	D	C		D	B	B	D	C	C
Approach Delay, s/veh / LOS	37.2	D		34.4	C		21.8	C		23.8	C	
Intersection Delay, s/veh / LOS	26.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.57	C	2.30	B	1.91	B	1.96	B
Bicycle LOS Score / LOS	0.85	A	0.96	A	0.99	A	1.18	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Existing AM Peak-hour	PHF	0.91
Urban Street	SR 40	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	SR 40 at Main Trail	File Name	9- SR 40 at Main Trail_existing AM.xus		
Project Description	5361.09 Tomoka Oaks Residential				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	100	1068	167	52	1088	20	119	34	17	28	61	165

Signal Information					EB			WB			NB			SB		
Cycle, s	113.3	Reference Phase	2													
Offset, s	0	Reference Point	End	Green	4.2	0.8		60.7	26.5	0.0	0.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.8	0.0		4.8	3.5	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.8	0.0		2.0	3.3	0.0	0.0					

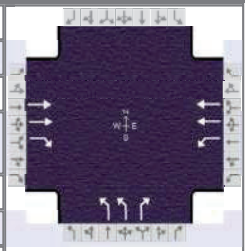
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.1	4.0	1.1	4.0		8.0		8.0
Phase Duration, s	12.6	68.3	11.8	67.5		33.3		33.3
Change Period, ($Y+R_c$), s	7.3	6.8	7.6	6.8		6.8		6.8
Max Allow Headway (*MAH*), s	4.0	5.0	4.0	5.0		4.5		4.5
Queue Clearance Time (g_s), s	5.1	33.2	3.6	27.5		25.6		18.8
Green Extension Time (g_e), s	0.3	28.2	0.1	30.0		0.9		1.6
Phase Call Probability	0.97	1.00	0.83	1.00		1.00		1.00
Max Out Probability	0.00	0.53	0.00	0.49		1.00		0.09

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	110	693	665	57	611	607		187			279	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1856	1768	1781	1870	1858		918			1728	
Queue Service Time (g_s), s	3.1	30.9	31.2	1.6	25.5	25.5		6.8			0.0	
Cycle Queue Clearance Time (g_c), s	3.1	30.9	31.2	1.6	25.5	25.5		23.6			16.8	
Green Ratio (*g/C*)	0.58	0.54	0.54	0.57	0.54	0.54		0.23			0.23	
Capacity (*c*), veh/h	289	1007	959	229	1002	995		268			439	
Volume-to-Capacity Ratio (*X*)	0.381	0.688	0.693	0.249	0.609	0.610		0.696			0.636	
Back of Queue (*Q*), ft/ln (95 th percentile)	54.1	463.5	440	28.2	394.2	386		239.6			302.5	
Back of Queue (*Q*), veh/ln (95 th percentile)	2.1	18.1	17.6	1.1	15.5	15.4		9.4			11.9	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.19	0.00	0.00	0.10	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	14.3	18.9	19.0	16.1	18.1	18.1		43.4			39.9	
Incremental Delay (d_2), s/veh	0.8	1.4	1.5	0.6	0.9	0.9		5.6			2.3	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	15.2	20.3	20.5	16.7	19.0	19.0		49.1			42.2	
Level of Service (LOS)	B	C	C	B	B	B		D			D	
Approach Delay, s/veh / LOS	20.0	B		18.9	B		49.1	D		42.2	D	
Intersection Delay, s/veh / LOS	23.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.67	B	2.30	B	2.30	B
Bicycle LOS Score / LOS	1.70	B	1.54	B	0.80	A	0.95	A

HCS Signalized Intersection Results Summary

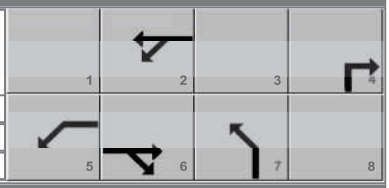
General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Existing PM Peak-hour	PHF	0.95
Urban Street	US 1	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	US 1 at Nova Rd	File Name	1.1- US 1 at Nova Rd_existing PM.xus		
Project Description	5361.09 Tomoka Oaks Residential				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		960	631	65	962		680		60			

Signal Information			
Cycle, s	87.2	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.9	37.0	22.7	0.0	0.0	0.0
Yellow	5.5	5.5	4.5	0.0	0.0	0.0
Red	2.0	2.0	3.2	0.0	0.0	0.0



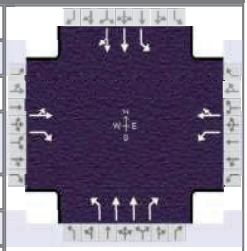
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6	5	2		4		
Case Number		7.3	1.0	4.0		9.0		
Phase Duration, s		44.5	12.4	56.8		30.4		
Change Period, ($Y+R_c$), s		7.5	7.5	7.5		7.7		
Max Allow Headway (*MAH*), s		4.9	4.9	4.9		5.1		
Queue Clearance Time (g_s), s		23.8	3.7	17.1		18.8		
Green Extension Time (g_e), s		12.8	0.2	19.8		3.9		
Phase Call Probability		1.00	0.81	1.00		1.00		
Max Out Probability		0.71	0.00	0.62		0.35		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2		7		14			
Adjusted Flow Rate (*v*), veh/h		1011	479	68	1013		716		63			
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1781		1781	1781		1730		1585			
Queue Service Time (g_s), s		19.9		1.7	15.1		16.8		2.7			
Cycle Queue Clearance Time (g_c), s		19.9		1.7	15.1		16.8		2.7			
Green Ratio (*g/C*)		0.42		0.50	0.57		0.26		0.26			
Capacity (*c*), veh/h		1509		290	2013		901		413			
Volume-to-Capacity Ratio (*X*)		0.670		0.236	0.503		0.794		0.153			
Back of Queue (*Q*), ft/ln (95 th percentile)		294.9		28.2	209.4		291.6		45.7			
Back of Queue (*Q*), veh/ln (95 th percentile)		11.6		1.1	8.2		11.5		1.8			
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.04	0.00		0.91		0.00			
Uniform Delay (d_1), s/veh		20.2		14.4	11.5		30.1		24.8			
Incremental Delay (d_2), s/veh		0.9		0.6	0.3		3.3		0.2			
Initial Queue Delay (d_3), s/veh		0.0		0.0	0.0		0.0		0.0			
Control Delay (*d*), s/veh		21.1	0.0	15.0	11.8		33.4		25.1			
Level of Service (LOS)		C	A	B	B		C		C			
Approach Delay, s/veh / LOS	14.3	B		12.0	B		32.7	C		0.0		
Intersection Delay, s/veh / LOS	17.9						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	0.68	A	2.31	B	2.56	C
Bicycle LOS Score / LOS	1.72	B	1.38	A		F		

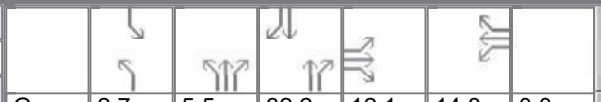
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Existing PM Peak-hour	PHF	0.95
Urban Street	Nova Rd	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	Nova Rd at Wilmette Rd	File Name	3.1- Nova Rd at Wilmette Ave_existing PM.xus		
Project Description	5361.09 Tomoka Oaks Residentail				

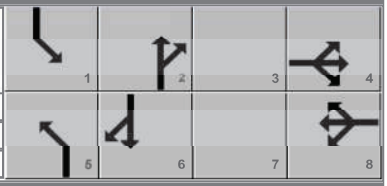


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	98	80	99	217	105	27	115	750	172	28	656	75

Signal Information			
Cycle, s	94.2	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	2.7	5.5	32.2	12.1	14.8	0.0
Yellow	5.0	0.0	4.0	4.0	4.0	0.0
Red	2.5	0.0	2.5	2.5	2.5	0.0



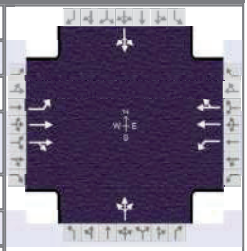
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		11.0		10.0	2.0	3.0	2.0	4.0
Phase Duration, s		18.6		21.3	15.7	44.2	10.2	38.7
Change Period, ($Y+R_c$), s		6.5		6.5	7.5	7.5	7.5	7.5
Max Allow Headway (*MAH*), s		4.3		4.2	4.0	5.0	4.0	5.0
Queue Clearance Time (g_s), s		11.4		13.7	8.3	18.4	3.5	18.7
Green Extension Time (g_e), s		0.7		1.1	0.2	12.5	0.0	12.4
Phase Call Probability		1.00		1.00	0.96	1.00	0.54	1.00
Max Out Probability		0.00		0.04	0.00	0.20	0.00	0.21

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		187	43	228	139		121	789	66	29	392	378
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1820	1585	1781	1804		1781	1781	1415	1781	1870	1803
Queue Service Time (g_s), s		9.4	2.3	11.7	6.6		6.3	16.4	2.8	1.5	16.7	16.7
Cycle Queue Clearance Time (g_c), s		9.4	2.3	11.7	6.6		6.3	16.4	2.8	1.5	16.7	16.7
Green Ratio (*g/C*)		0.13	0.13	0.16	0.16		0.09	0.39	0.39	0.03	0.33	0.33
Capacity (*c*), veh/h		234	204	280	283		155	1386	551	51	619	597
Volume-to-Capacity Ratio (*X*)		0.802	0.212	0.817	0.491		0.783	0.570	0.120	0.578	0.632	0.633
Back of Queue (*Q*), ft/ln (95 th percentile)		207	42.2	238.7	138.5		137.2	268.2	40.9	36.4	294	281.5
Back of Queue (*Q*), veh/ln (95 th percentile)		8.2	1.7	9.4	5.5		5.4	10.6	1.6	1.4	11.6	11.3
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	0.65	3.18	0.00		1.03	0.00	0.14	0.15	0.00	0.00
Uniform Delay (d_1), s/veh		39.9	36.8	38.5	36.3		42.2	22.6	18.5	45.3	26.7	26.7
Incremental Delay (d_2), s/veh		6.3	0.5	5.8	1.3		8.3	0.5	0.1	9.9	1.5	1.6
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		46.2	37.3	44.3	37.6		50.5	23.1	18.6	55.2	28.2	28.3
Level of Service (LOS)		D	D	D	D		D	C	B	E	C	C
Approach Delay, s/veh / LOS	44.6	D		41.8	D		26.2	C		29.3	C	
Intersection Delay, s/veh / LOS	31.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.61	C	2.31	B	1.91	B	2.00	B
Bicycle LOS Score / LOS	0.87	A	1.09	A	1.29	A	1.15	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Existing PM Peak-hour	PHF	0.93
Urban Street	SR 40	Analysis Year	2023	Analysis Period	1> 7:00
Intersection	SR 40 at Main Trail	File Name	9.1- SR 40 at Main Trail_existing PM.xus		
Project Description	5361.09 Tomoka Oaks Residential				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	220	1396	83	7	1372	34	50	7	5	18	6	148

Signal Information			
Cycle, s	170.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	10.7	105.0	5.0	20.8	0.0	0.0
Yellow	4.8	4.8	4.8	3.5	0.0	0.0
Red	2.5	2.0	2.8	3.3	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.2	4.0	1.3	4.0		8.0		8.0
Phase Duration, s	18.0	129.8	12.6	124.4		27.6		27.6
Change Period, ($Y+R_c$), s	7.3	6.8	7.6	7.6		6.8		6.8
Max Allow Headway (*MAH*), s	4.0	0.0	4.0	0.0		4.5		4.5
Queue Clearance Time (g_s), s	10.0		2.0			20.4		19.8
Green Extension Time (g_e), s	0.7	0.0	1.9	0.0		0.4		0.5
Phase Call Probability	1.00		1.00			1.00		1.00
Max Out Probability	0.00		1.00			0.82		0.61

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	237	800	790	8	758	754		67			185	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1870	1833	1781	1870	1854		688			1714	
Queue Service Time (g_s), s	8.0	35.1	35.6	0.0	36.3	36.4		0.5			0.0	
Cycle Queue Clearance Time (g_c), s	8.0	35.1	35.6	0.0	36.3	36.4		18.4			17.8	
Green Ratio (*g/C*)	0.69	0.72	0.72	0.64	0.69	0.69		0.12			0.12	
Capacity (*c*), veh/h	294	1353	1326	256	1285	1274		122			233	
Volume-to-Capacity Ratio (*X*)	0.805	0.591	0.596	0.029	0.590	0.592		0.545			0.793	
Back of Queue (*Q*), ft/ln (95 th percentile)	245.9	510.9	501.1	6.7	542.7	532.3		139.2			349.2	
Back of Queue (*Q*), veh/ln (95 th percentile)	9.7	20.1	20.0	0.3	21.4	21.3		5.5			13.7	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.88	0.00	0.00	0.02	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	22.7	11.3	11.4	19.1	14.0	14.0		73.4			73.5	
Incremental Delay (d_2), s/veh	5.1	1.9	2.0	0.0	2.0	2.0		3.7			12.8	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	27.9	13.3	13.4	19.1	16.0	16.0		77.1			86.3	
Level of Service (LOS)	C	B	B	B	B	B		E			F	
Approach Delay, s/veh / LOS	15.2	B		16.0	B		77.1	E		86.3	F	
Intersection Delay, s/veh / LOS	20.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.75	B	1.66	B	2.32	B	2.32	B
Bicycle LOS Score / LOS	1.99	B	1.74	B	0.60	A	0.79	A

APPENDIX E

Volusia County Signal Timings

COUNTY OF VOLUSIA TRAFFIC SIGNAL TIMING SHEET

LOCATION: US 1 & Nova Road North
Ormond Beach

FREE: X

DATE: 1/12/2022

SIGNAL #: 227

CO-ORD:

Design By: S.Castello

System #: 17

Controller Timing Chart

PHASE	1	WB 2	3	NB 4	WBL 5	EB 6	7 NBL	8	
DIRECTION	-	NB	-	EB	NBL	SB	EBL	-	
TURN TYPE	-	-	-	-	PERM/PROT	-	-	-	
MIN GREEN	-	16	-	11	6	16	11	-	
WALK	-	-	-	-	-	-	-	-	
PED CLR	-	-	-	-	-	-	-	-	
YELLOW	-	5.5	-	4.5	5.5	5.5	4.5	-	
RED CLR	-	2.0	-	3.2	2.0	2.0	3.2	-	
EXTENSION	-	4	-	4	4	4	4	-	
MAX 1	-	45	-	30	25	45	30	-	
MAX 2	-	-	-	-	-	-	-	-	
MAX 3	-	-	-	-	-	-	-	-	
DYM MAX	-	90	-	60	35	90	60	-	
DYM STP	-	10	-	10	10	10	10	-	
RECALL	-	MIN	-	-	-	MIN	-	-	
DETECTOR	-	LOCK	-	NON-LOCK	LOCK	LOCK	NON-LOCK	-	
FLASH	-	YELLOW	-	RED	RED	YELLOW	RED	-	

PATTERN	1	2	3	4	5	6	7	8	
CYCLE	-	-	-	-	-	-	-	-	
OFFSET	-	-	-	-	-	-	-	-	

PHASE	1	2	3	4	5	6	7	8	
PATTERN 1	-	-	-	-	-	-	-	-	
PATTERN 2	-	-	-	-	-	-	-	-	
PATTERN 3	-	-	-	-	-	-	-	-	
PATTERN 4	-	-	-	-	-	-	-	-	
PATTERN 5	-	-	-	-	-	-	-	-	
PATTERN 6	-	-	-	-	-	-	-	-	
PATTERN 7	-	-	-	-	-	-	-	-	

Controller IP	)	Switch IP		Camera IP	-
Controller Gateway	0	Switch Gateway		Camera Gateway	-

REMARKS:

Phase 5, FYA becomes Permitted/Protected at 9 PM.

2 4
5 6

COUNTY OF VOLUSIA TRAFFIC SIGNAL TIMING SHEET

LOCATION: Nova Rd & Main Trl / Willmette Ave
Ormond Beach

ISOLATED: X

DATE: 3/25/2021

SIGNAL #: 287

CO-ORD:

Design By: Sean Castello

System #: 17

Controller Timing Chart

PHASE	1	2	3	4	5	6	7	8
DIRECTION	SBL	NB	-	EB	NBL	SB	-	WB
TURN TYPE	PROT	-	-	SPLIT LEAD	PROT	-	-	SPLIT LAG
MIN GREEN	5	15		6	5	15		6
EXTENSION	3	4		3	3	4		3
CLEARANCE	5.0	5.0		4.0	5.0	5.0		4.0
ALL RED	2.5	2.5		2.5	2.5	2.5		2.5
WALK	-	7		-	-	7		7
FDW	-	40		-	-	40		20
MAX 1	20	50		25	20	50		25
MAX 2	-	-		-	-	-		-
MAX 3	-	90		-	-	90		-
ADJUST	-	10		-	-	10		-
RECALL	-	MIN		-	-	MIN		-
DETECTOR	LOCK	LOCK		NON-LOCK	LOCK	LOCK		NON-LOCK
FLASH	RED	YELLOW		RED	RED	YELLOW		RED
SET	-	2		-	-	2		-
CLEAR	-	2		-	-	2		-

BASE DAY		1	2	3	4	5	6	7
MON #1	TIME	00:01-00:00						
	PLAN	FREE						
TUES#1	TIME	00:01-00:00						
	PLAN	FREE						
WED #1	TIME	00:01-00:00						
	PLAN	FREE						
THU #1	TIME	00:01-00:00						
	PLAN	FREE						
FRI #1	TIME	00:01-00:00						
	PLAN	FREE						
SAT #1	TIME	00:01-00:00						
	PLAN	FREE						
SUN #1	TIME	00:01-00:00						
	PLAN	FREE						

Crosswalk Length
P2
80 Feet
P4
-
P6
141 Feet
P8
70 Feet
SIGNAL OWNER
FDOT
LED YES

CONTROLLER TYPE		CONDITION OF OVERHEAD	OK	PROM NUMBER
Econolite ASC/3		OVERHEAD STREET NAMES	NO	
PHASES:	8Φ	ILLUMINATED STREET NAMES	YES	02.65.00
CABINET TYPE	V	PRE-EMPTION	YES	IP ADDRESS
CABINET DATE	11/2009	PRE-EMPTION TYPE	GPS	

REMARKS:

4 & 8 are Split Phase

1	2	4	8
5	6		

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION - DISTRICT FIVE
SR 40 - TSMO Signal Retiming
Volusia County
FIN 440412-1-32-02

Designed By:	J.M.
Date:	1/7/2019
Checked By:	R.A.A
Date:	1/7/2019

Section	79100	Mile Post	28.264	Node	8
Sig ID	207	Controller	Econolite ASC/3-2100	System ID	17
Maj. Street	SR 40	Orientation	E-W	SOP	7
Min. Street	Main Tr / Old Tomoka Rd	Orientation	N-S		

Pedestrians

Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	EBL	WB		NB	WBL	EB		SB	
Speed Limit (mph)	45	45		25	45	45		25	
Vehicle Traversed Width	106	88		136	116	90		135	
Approach Grades	-0.5%	0.0%		-3.2%	0.0%	-0.5%		-1.9%	
Ped-X (curb to curb)		45		104		47		106	
Crossing Time		15		35		16		36	
Ped-X (button to curb)		18		13		21		14	
Ped-X (button to far curb)		63		117		68		120	
Crossing Time (to far curb)		21		39		23		40	

Controller Timings (seconds)

Movement # (Controller Phase Ø)	1	2	3	4	5	6	7	8	Notes
Direction	EBL	WB		NB	WBL	EB		SB	
Turn Type	Prot				Prot				
Min Green	5	15		10	5	15		10	
Ext	3.0	4.0		3.0	3.0	4.0		3.0	
Yellow Change Interval	4.8	4.8		3.5	4.8	4.8		3.5	
Red Clearance Interval	2.5	2.0		3.3	2.8	2.0		3.3	
Max I	20	60		40	20	60		40	
Max II (Timing Plan 1)	30	80		30	20	80		30	
Walk		7		7		7		7	Alternate walk and PED CL in notes below for school periods (Timing Plan 2 - TP2)
Flashing Don't Walk		15		35		16		36	
Min Splits	13.0	29.0		49.0	13.0	30.0		50.0	
Detector Memory		ON				ON			
Det. Cross Switch.									
Recall		Min				Min			
CNA									
Coord Phase		YES				YES			

Coordination Timings (seconds)

Plan	Pattern	C-O-S	Splits								Cycle Length	Offset	Seq
AM	1		23	86	-	51	18	91	-	51	160	80	1
MIDDAY	2		24	76	-	50	18	82	-	50	150	83	1
PM	3		31	107	-	32	18	120	-	32	170	22	2

Timing Plan 2

Walk		8		18		8		18			
Flashing Don't Walk		17		32		17		32			
Max II	23	80		30	11	80		30			

Notes

1. Offset referenced to end of first through movement 2 & 6
2. Program Max II (Timing Plan 1) for Patterns 1 & 2
3. Program fixed force-offs
4. Intersection runs FREE Max II & TP2 from 7:30 to 8:30 and 14:00 to 15:00 on weekdays
5. PED recall on coord phases. Program to rest in walk
6. Phase 5 lags for pattern 3, program Min recall on phase 5 for pattern 3
7. Additional programmed Max timings with the Pattern they run on are provided below

Patterns 1 & 2

Ring-1	1	2	4
Ring-2	5	6	8

Patterns 3

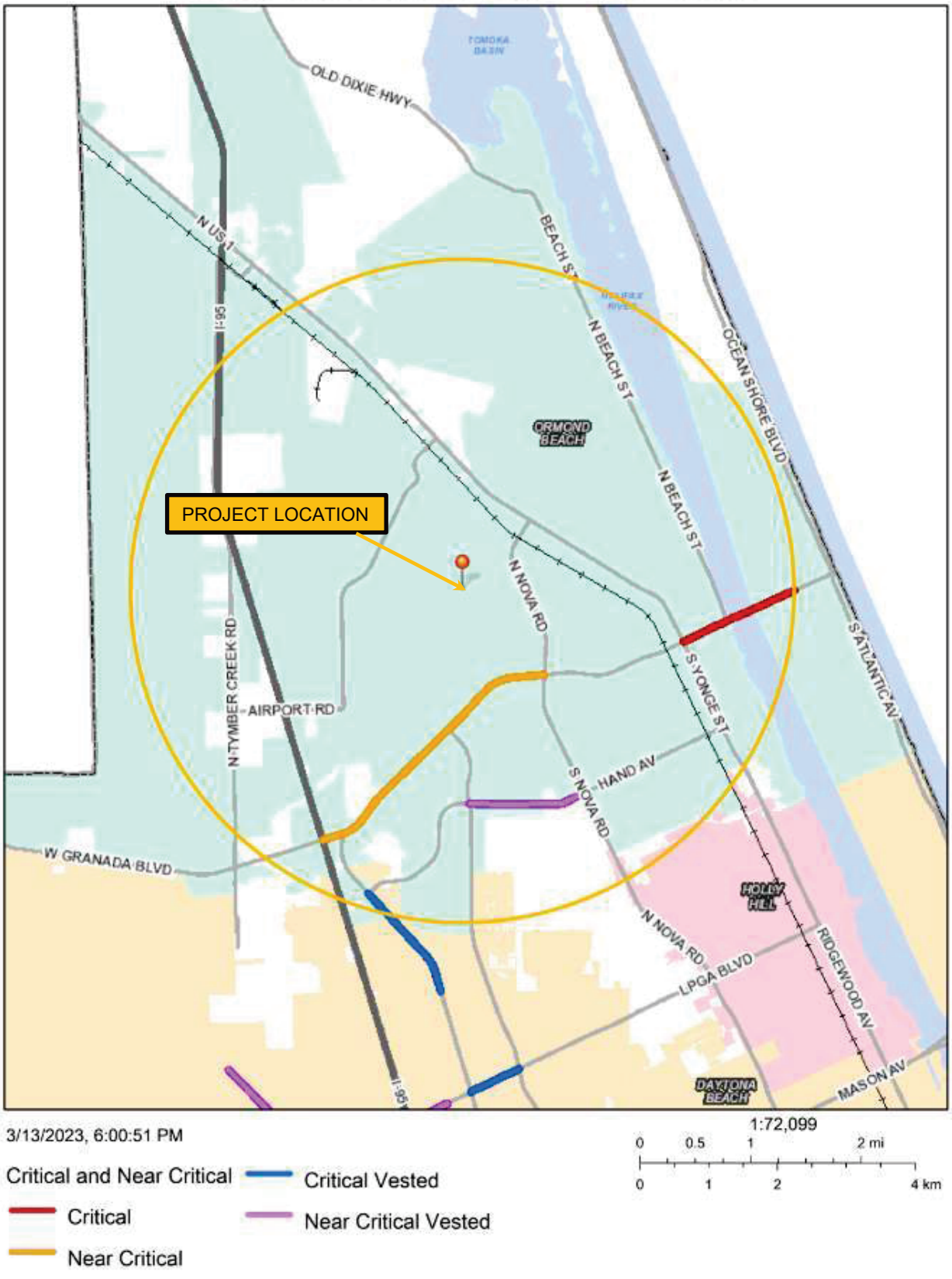
Ring-1	2	1	4
Ring-2	5	6	8

Timing Plan	Pattern	Max #	1	2	3	4	5	6	7	8
1	3	Max III	24	80	0	18	14	80	0	18

APPENDIX F

FDOT Traffic Trends Analysis & Vested Trip Information & Trip Assignments

Traffic Impact Buffer Map - 3 Mile Radius



Tomoka Oaks	N NTS	**3-Mile Critical/Near Critical Map**	LTG Engineering & Planning
		Project No.: 5361.02 | Figure: 3	1450 W. Granada Blvd., Suite 2, Ormond Beach, Florida 32174 Telephone: 386.257.2571 Fax: 386.257.6996

Roadway	Limits		No. of Lanes	Adopted LOS[1]	Two-Way Capacity at Adopted LOS[2]	Build Out Project Distribution	PM Peak-Hour Two-Way		
	From	To					Project Trips	Impact of LOS	3% Significant?
I-95	LPGA Blvd.	SR 40/Granada Blvd	6	D	12,310	0.0%	0	0.00%	No
	SR 40/Granada Blvd	US 1	6	D	10,510	0.0%	0	0.00%	No
US 1/Ridgewood Ave.	Hand Ave.	SR 40/Granada Blvd	4	D	3,580	6.0%	17	0.47%	No
	SR 40/Granada Blvd	SR 5A/Nova Rd.	4	D	3,580	20.0%	56	1.56%	No
	SR 5A/Nova Rd.	Airport Dr	4	D	3,580	20.0%	56	1.56%	No
	Airport Dr	I-95	4	D	3,580	15.0%	42	1.17%	No
SR 5A/Nova Rd.	LPGA Blvd.	Hand Ave.	6	D	5,390	23.0%	64	1.19%	No
	Hand Ave.	SR 40/Granada Blvd.	6	D	5,390	29.0%	81	1.50%	No
	SR 40/Granada Blvd.	Wilmette Ave	6	D	5,390	51.0%	142	2.63%	No
	Wilmette Ave	US 1	4	D	3,580	57.0%	159	4.44%	Yes
SR 40/Granada Blvd.	I 95	Clyde Morris Blvd.	4	D	3,580	12.0%	33	0.92%	No
	Clyde Morris Blvd.	Nova Rd.	4	D	3,580	17.0%	47	1.31%	No
	SR 5A/Nova Rd.	US 1	4	D	3,580	3.0%	8	0.22%	No
	US 1	Halifax Ave.	4	D	2,920	7.0%	20	0.68%	No
Clyde Morris Blvd.	SR 40	Hand Ave.	4	E	2,740	5.0%	14	0.51%	No
	Hand Ave.	LPGA Blvd.	4	E	3,410	4.0%	11	0.32%	No
Hand Ave.	Williamson Blvd.	Clyde Morris Blvd.	2	E	1,540	2.0%	6	0.39%	No
	Clyde Morris Blvd.	Shangri La Dr.	2	E	1,540	3.0%	8	0.52%	No
	Shangri La Dr.	Nova Rd.	4	E	3,410	2.0%	6	0.18%	No
	Nova Rd.	US 1	2	E	1,020	1.0%	3	0.29%	No
Williamson Blvd.	SR 40	Hand Ave.	4	E	3,410	2.0%	6	0.18%	No
	Hand Ave.	Strickland Range Rd	2	E	1,540	4.0%	11	0.71%	No
Airport Road	Tymber Creek Rd Ext.	Pineland Trl	2	E	2,200	0.0%	0	0.00%	No
	Pineland Trl	Sunshine Blvd	2	E	2,200	1.0%	3	0.14%	No
	Sunshine Blvd	US 1	2	E	2,200	3.0%	8	0.36%	No

[1] *Per Comprehensive Plan of Jurisdiction*

[2] *Per 2021 VC AADT Spreadsheet*

[3] *Per 2019 VC AADT Spreadsheet*

Critical

Near Critical

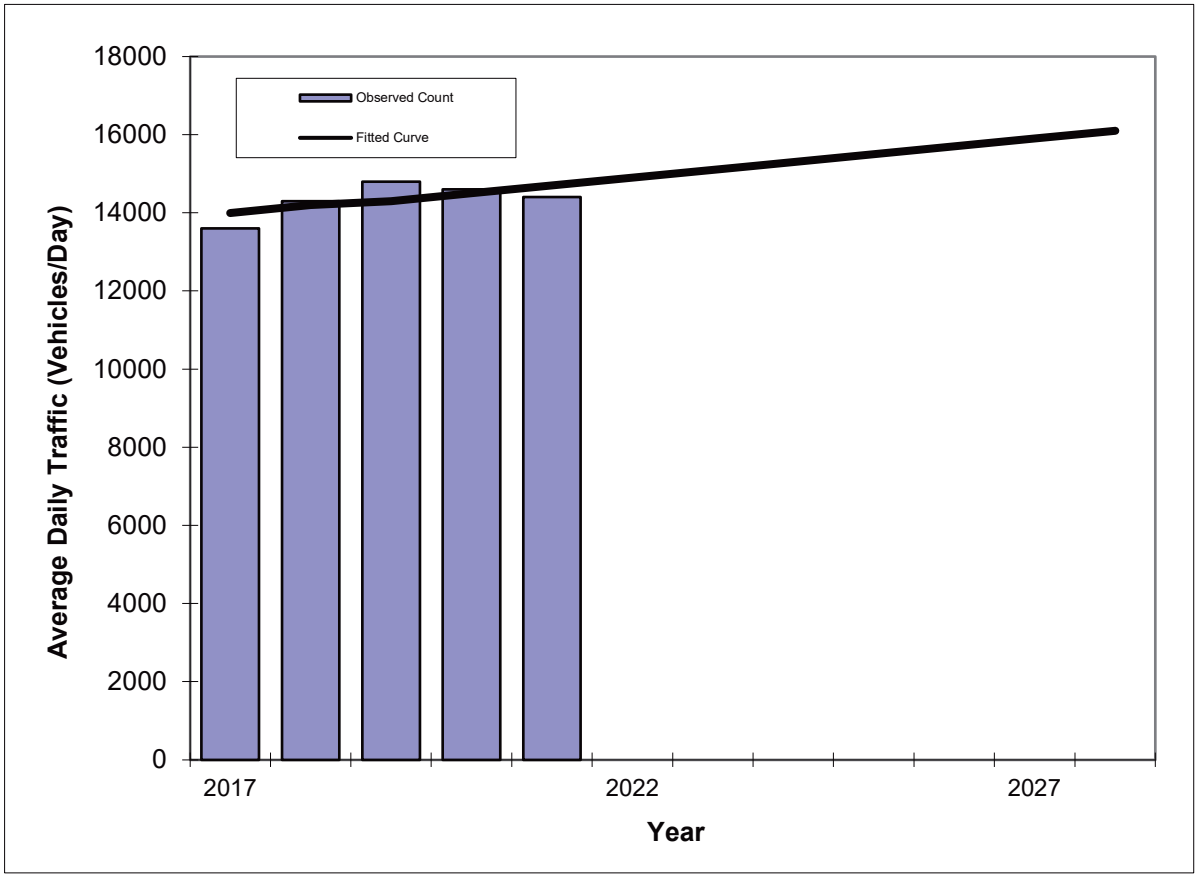
Vested Critical

Vested Near Critical

TRAFFIC TRENDS

Nova Rd -- Wilmette Ave to US 1

County:	Volusia
Station #:	459
Highway:	Nova Rd



Year	Traffic (ADT/AADT) Count*	Trend**
2017	13600	14000
2018	14300	14200
2019	14800	14300
2020	14600	14500
2021	14400	14700
2023 Opening Year Trend		
2023	N/A	15100
2026 Mid-Year Trend		
2026	N/A	15700
2028 Design Year Trend		
2028	N/A	16100
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:**	190
Trend R-squared:	43.4%
Trend Annual Historic Growth Rate:	1.25%
Trend Growth Rate (2021 to Design Year):	1.36%
Printed:	27-Mar-23

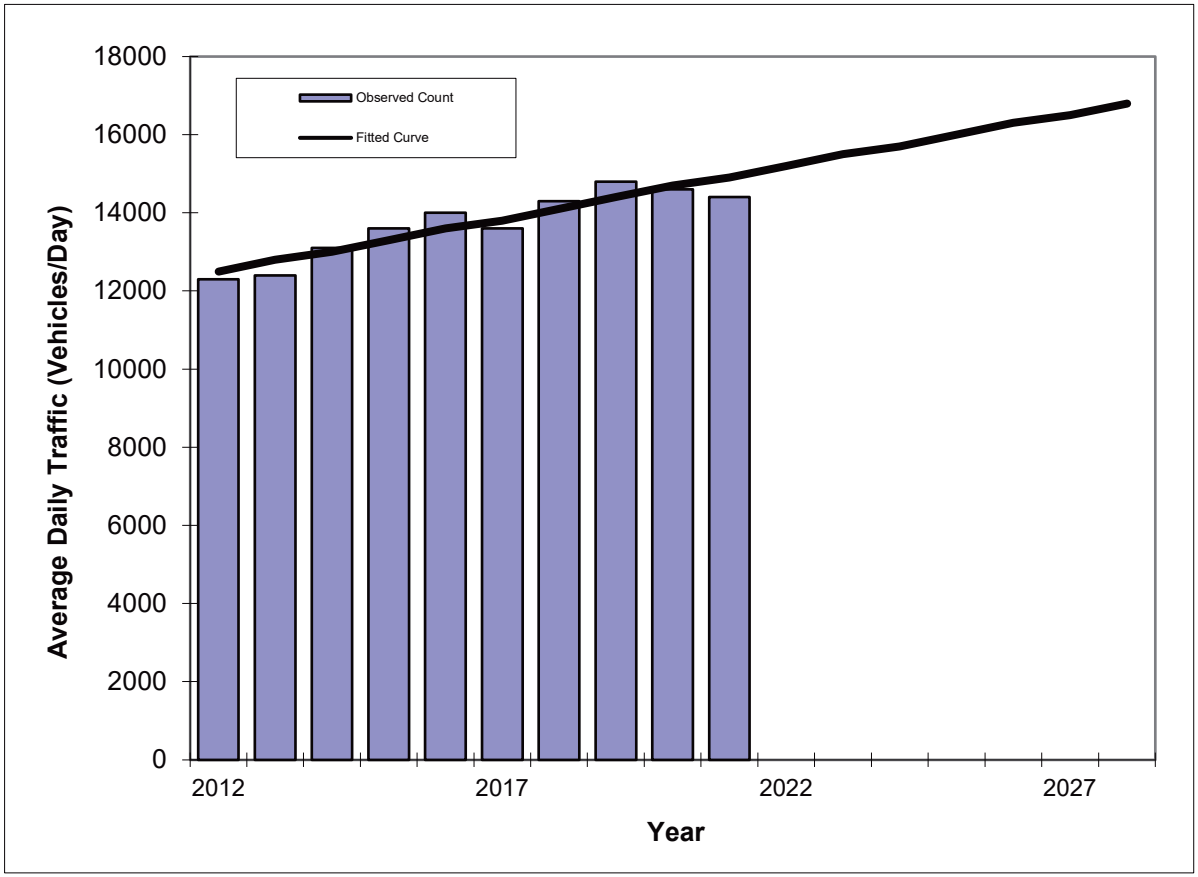
Straight Line Growth Option

***Axle-Adjusted**

TRAFFIC TRENDS

Nova Rd -- Wilmette Ave to US 1

County:	Volusia
Station #:	459
Highway:	Nova Rd



Year	Traffic (ADT/AADT) Count*	Trend**
2012	12300	12500
2013	12400	12800
2014	13100	13000
2015	13600	13300
2016	14000	13600
2017	13600	13800
2018	14300	14100
2019	14800	14400
2020	14600	14700
2021	14400	14900
2023 Opening Year Trend		
2023	N/A	15500
2026 Mid-Year Trend		
2026	N/A	16300
2028 Design Year Trend		
2028	N/A	16800
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

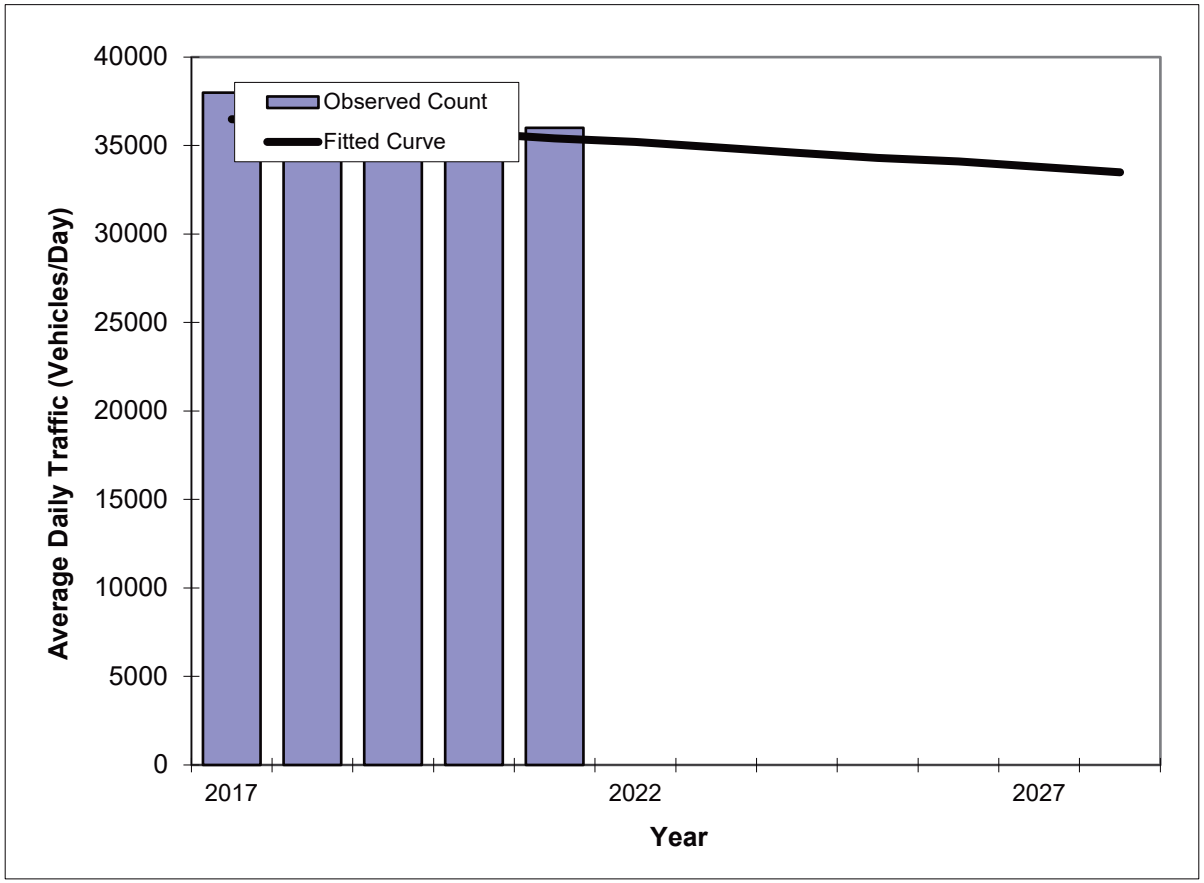
** Annual Trend Increase:	270
Trend R-squared:	85.9%
Trend Annual Historic Growth Rate:	2.13%
Trend Growth Rate (2021 to Design Year):	1.82%
Printed:	27-Mar-23

Straight Line Growth Option

TRAFFIC TRENDS

SR 40 -- I-95 to Clyde Morris Boulevard

County:	Volusia
Station #:	522
Highway:	SR 40



Year	Traffic (ADT/AADT) Count*	Trend**
2017	38000	36500
2018	34500	36200
2019	35500	36000
2020	35800	35700
2021	36000	35400
2023 Opening Year Trend		
2023	N/A	34900
2026 Mid-Year Trend		
2026	N/A	34100
2028 Design Year Trend		
2028	N/A	33500
TRANPLAN Forecasts/Trends		

***Axle-Adjusted**

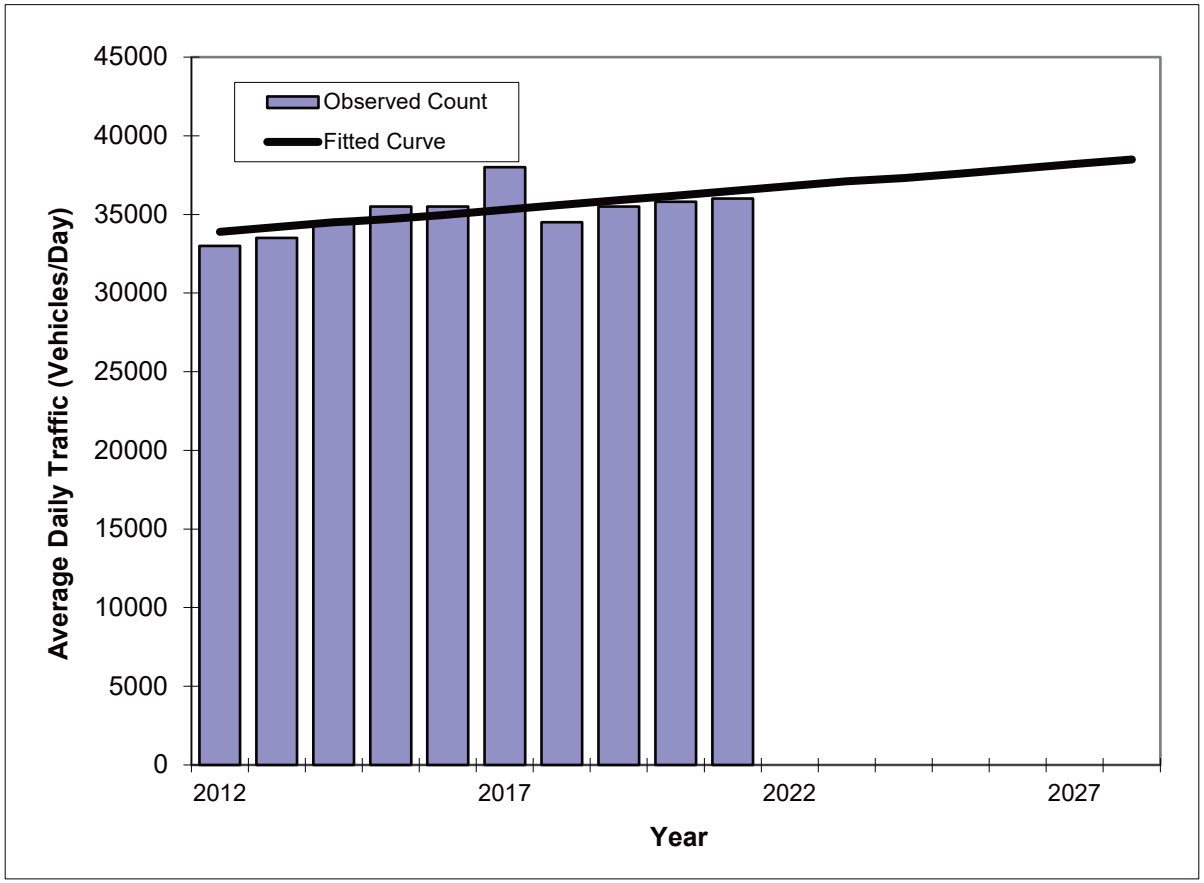
**** Annual Trend Increase:**	-270
Trend R-squared:	11.2%
Trend Annual Historic Growth Rate:	-0.75%
Trend Growth Rate (2021 to Design Year):	-0.77%
Printed:	27-Mar-23

Straight Line Growth Option

TRAFFIC TRENDS

SR 40 -- I-95 to Clyde Morris Boulevard

County:	Volusia
Station #:	522
Highway:	SR 40



Year	Traffic (ADT/AADT) Count*	Trend**
2012	33000	33900
2013	33500	34200
2014	34500	34500
2015	35500	34700
2016	35500	35000
2017	38000	35300
2018	34500	35600
2019	35500	35900
2020	35800	36200
2021	36000	36500
2023 Opening Year Trend		
2023	N/A	37100
2026 Mid-Year Trend		
2026	N/A	37900
2028 Design Year Trend		
2028	N/A	38500
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

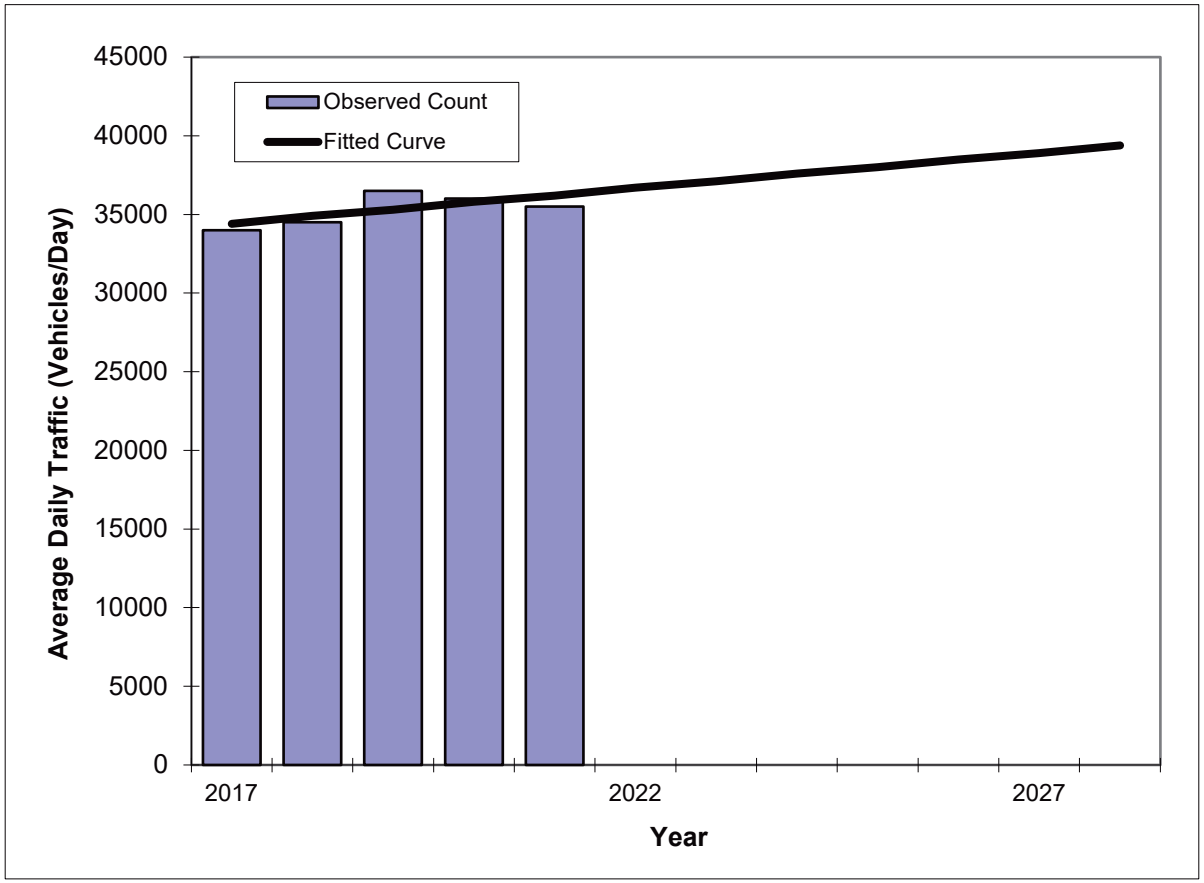
** Annual Trend Increase:	288
Trend R-squared:	38.5%
Trend Annual Historic Growth Rate:	0.85%
Trend Growth Rate (2021 to Design Year):	0.78%
Printed:	27-Mar-23

Straight Line Growth Option

TRAFFIC TRENDS

SR 40 -- Clyde Morris Boulevard to Nova Road

County:	Volusia
Station #:	489
Highway:	SR 40



Year	Traffic (ADT/AADT) Count*	Trend**
2017	34000	34400
2018	34500	34900
2019	36500	35300
2020	36000	35800
2021	35500	36200
2023 Opening Year Trend		
2023	N/A	37100
2026 Mid-Year Trend		
2026	N/A	38500
2028 Design Year Trend		
2028	N/A	39400
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

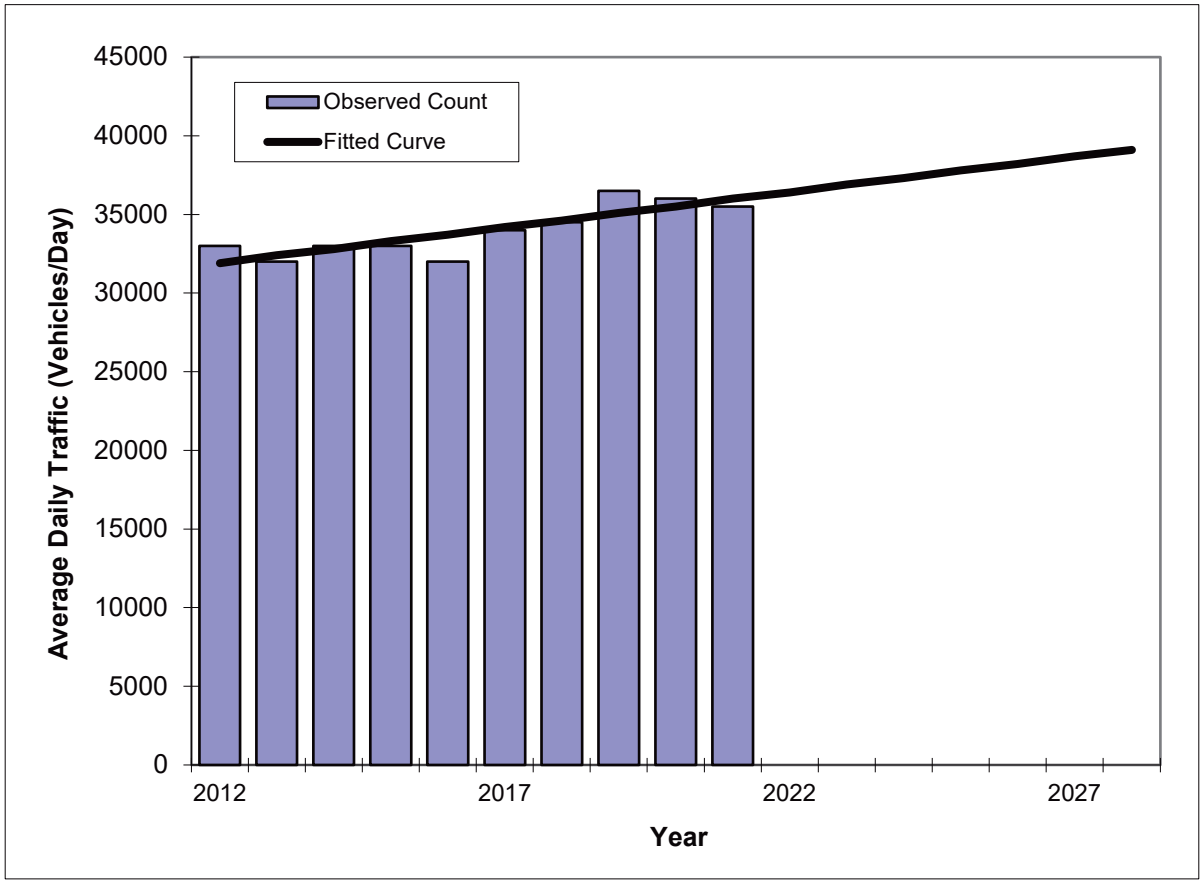
** Annual Trend Increase:	450
Trend R-squared:	47.1%
Trend Annual Historic Growth Rate:	1.31%
Trend Growth Rate (2021 to Design Year):	1.26%
Printed:	27-Mar-23

Straight Line Growth Option

TRAFFIC TRENDS

SR 40 -- Clyde Morris Boulevard to Nova Road

County:	Volusia
Station #:	489
Highway:	SR 40



Year	Traffic (ADT/AADT) Count*	Trend**
2012	33000	31900
2013	32000	32400
2014	33000	32800
2015	33000	33300
2016	32000	33700
2017	34000	34200
2018	34500	34600
2019	36500	35100
2020	36000	35500
2021	35500	36000
2023 Opening Year Trend		
2023	N/A	36900
2026 Mid-Year Trend		
2026	N/A	38200
2028 Design Year Trend		
2028	N/A	39100
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

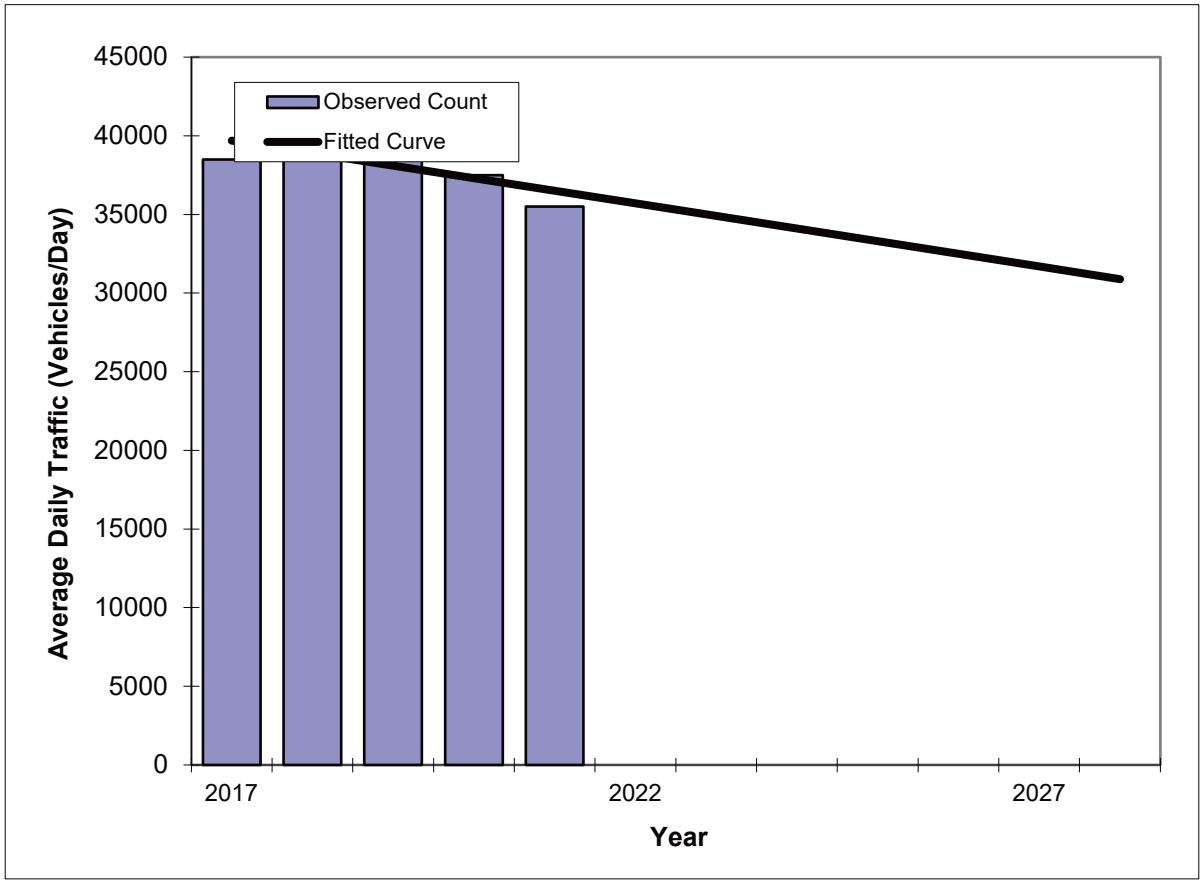
** Annual Trend Increase:	452
Trend R-squared:	70.9%
Trend Annual Historic Growth Rate:	1.43%
Trend Growth Rate (2021 to Design Year):	1.23%
Printed:	27-Mar-23

Straight Line Growth Option

TRAFFIC TRENDS

SR 40 -- US 1 to Halifax Ave

County:	Volusia
Station #:	171
Highway:	SR 40



Year	Traffic (ADT/AADT) Count*	Trend**
2017	38500	39700
2018	39500	38900
2019	39500	38100
2020	37500	37300
2021	35500	36500
2023 Opening Year Trend		
2023	N/A	34900
2026 Mid-Year Trend		
2026	N/A	32500
2028 Design Year Trend		
2028	N/A	30900
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

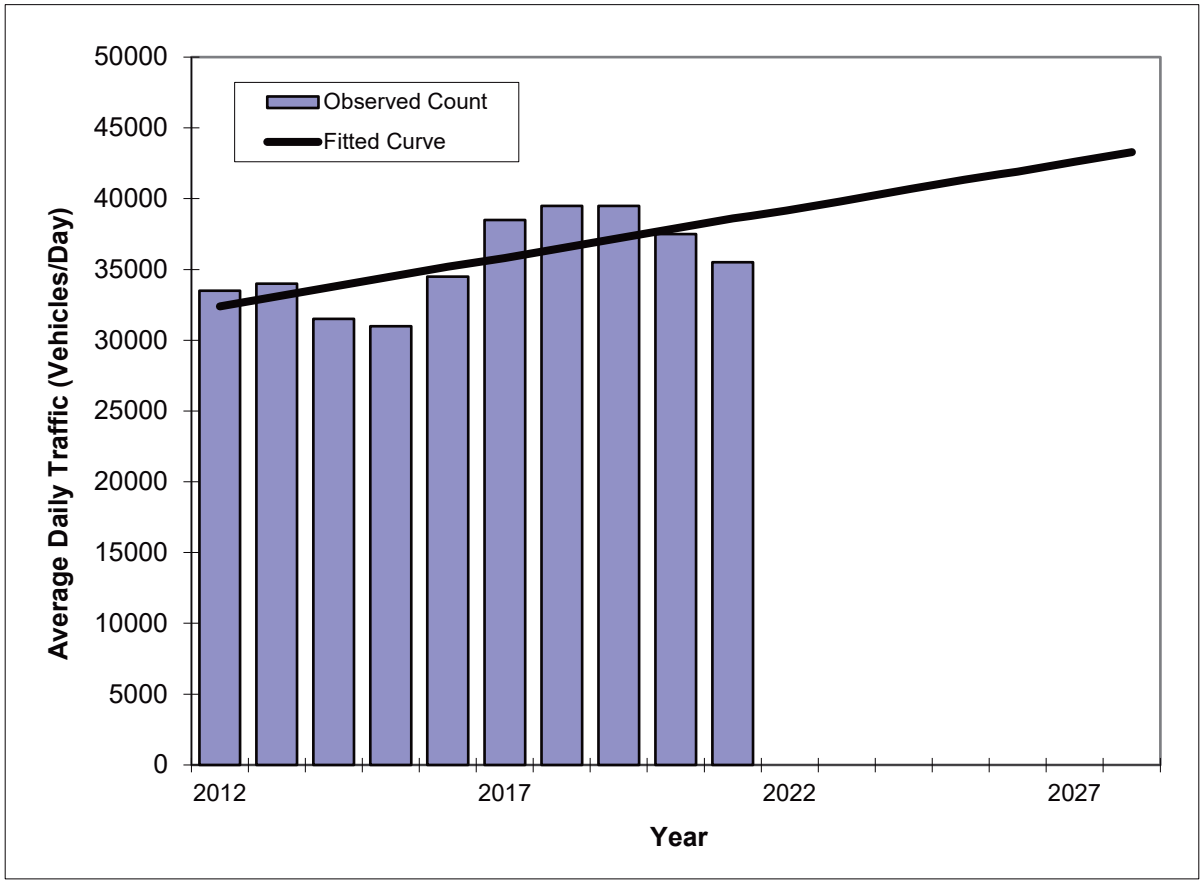
** Annual Trend Increase:	-800
Trend R-squared:	57.1%
Trend Annual Historic Growth Rate:	-2.02%
Trend Growth Rate (2021 to Design Year):	-2.19%
Printed:	27-Mar-23

Straight Line Growth Option

TRAFFIC TRENDS

SR 40 -- US 1 to Halifax Ave

County:	Volusia
Station #:	171
Highway:	SR 40



Year	Traffic (ADT/AADT) Count*	Trend**
2012	33500	32400
2013	34000	33100
2014	31500	33800
2015	31000	34500
2016	34500	35200
2017	38500	35800
2018	39500	36500
2019	39500	37200
2020	37500	37900
2021	35500	38600
2023 Opening Year Trend		
2023	N/A	39900
2026 Mid-Year Trend		
2026	N/A	41900
2028 Design Year Trend		
2028	N/A	43300
TRANPLAN Forecasts/Trends		

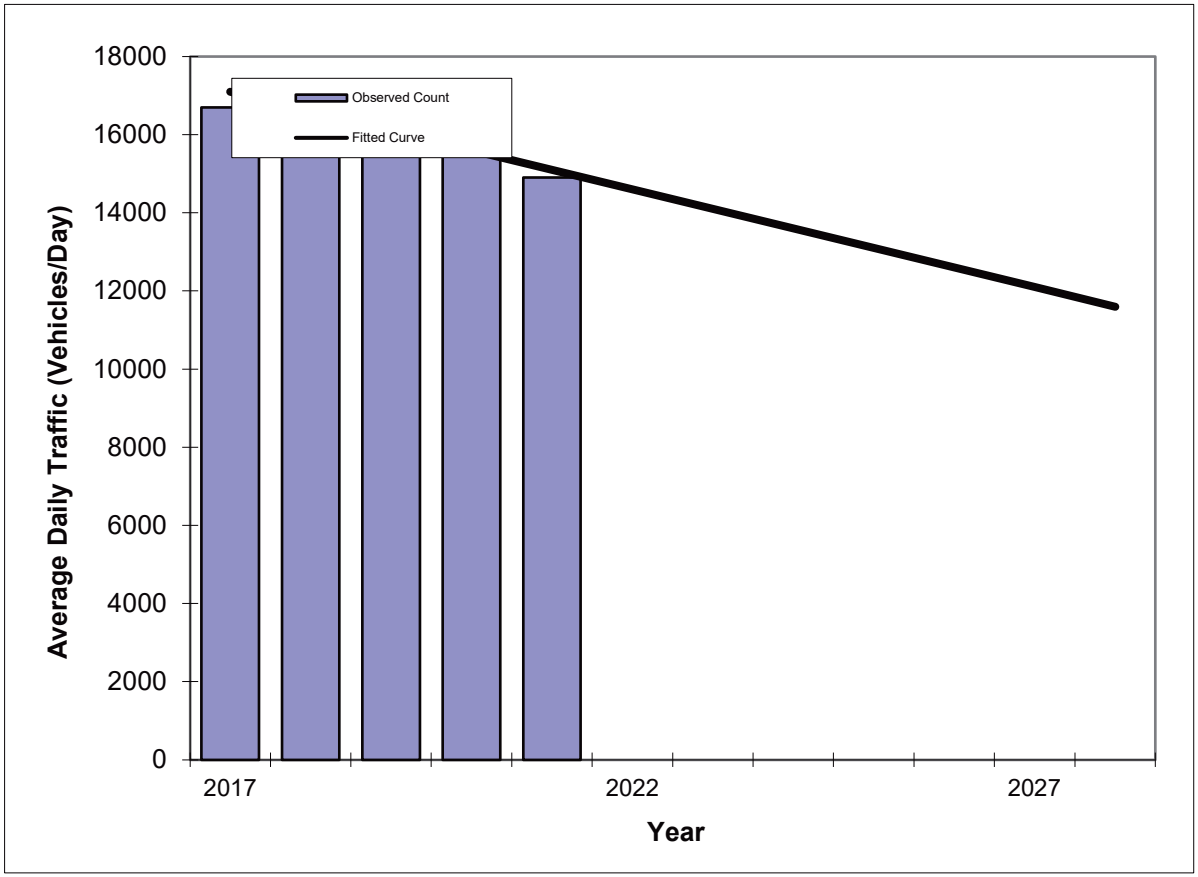
*Axle-Adjusted

** Annual Trend Increase:	679
Trend R-squared:	43.0%
Trend Annual Historic Growth Rate:	2.13%
Trend Growth Rate (2021 to Design Year):	1.74%
Printed:	27-Mar-23
Straight Line Growth Option	

TRAFFIC TRENDS

Hand Ave -- Clyde Morris Blvd to Shangri La Dr

County:	Volusia
Station #:	832
Highway:	Hand Ave



Year	Traffic (ADT/AADT) Count*	Trend**
2017	16700	17100
2018	17000	16600
2019	16400	16100
2020	15600	15600
2021	14900	15100
2023 Opening Year Trend		
2023	N/A	14100
2026 Mid-Year Trend		
2026	N/A	12600
2028 Design Year Trend		
2028	N/A	11600
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

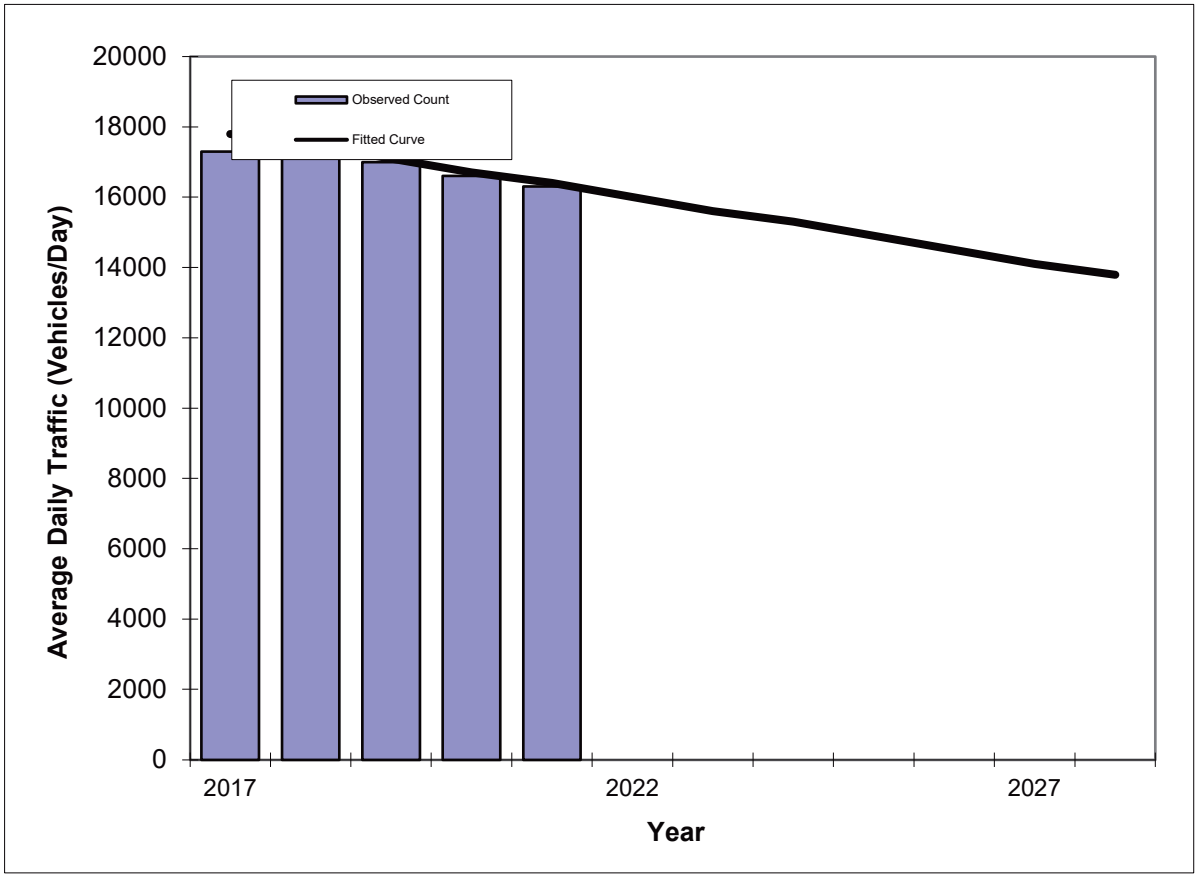
** Annual Trend Increase:	-500
Trend R-squared:	84.8%
Trend Annual Historic Growth Rate:	-2.92%
Trend Growth Rate (2021 to Design Year):	-3.31%
Printed:	27-Mar-23

Straight Line Growth Option

TRAFFIC TRENDS

Hand Ave -- Shangri La Dr to Nova Rd

County:	Volusia
Station #:	833
Highway:	Hand Ave



Year	Traffic (ADT/AADT) Count*	Trend**
2017	17300	17800
2018	18300	17500
2019	17000	17100
2020	16600	16700
2021	16300	16400
2023 Opening Year Trend		
2023	N/A	15600
2026 Mid-Year Trend		
2026	N/A	14500
2028 Design Year Trend		
2028	N/A	13800
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

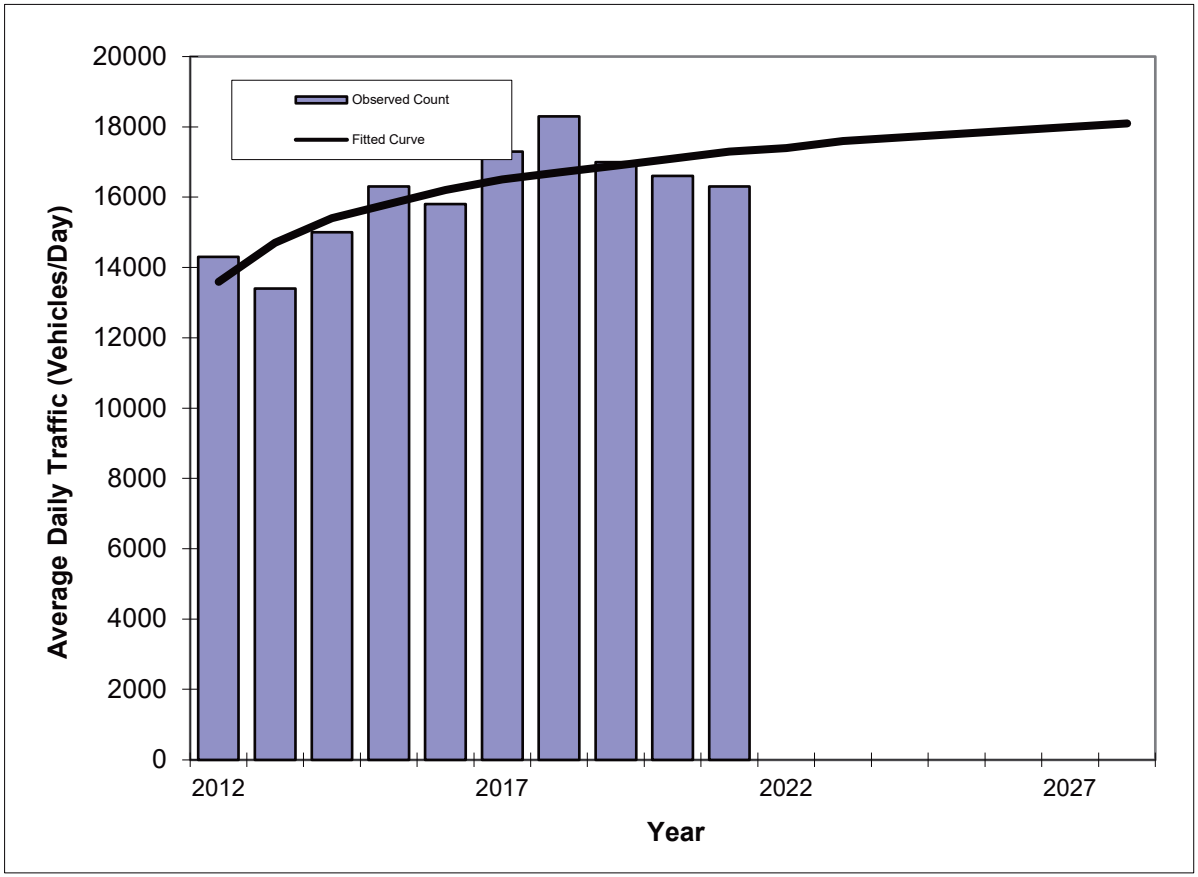
**** Annual Trend Increase:**	-370
Trend R-squared:	57.5%
Trend Annual Historic Growth Rate:	-1.97%
Trend Growth Rate (2021 to Design Year):	-2.26%
Printed:	27-Mar-23

Straight Line Growth Option

TRAFFIC TRENDS

Hand Ave -- Shangri La Dr to Nova Rd

County:	Volusia
Station #:	833
Highway:	Hand Ave



Year	Traffic (ADT/AADT) Count*	Trend**
2012	14300	13600
2013	13400	14700
2014	15000	15400
2015	16300	15800
2016	15800	16200
2017	17300	16500
2018	18300	16700
2019	17000	16900
2020	16600	17100
2021	16300	17300
2023 Opening Year Trend		
2023	N/A	17600
2026 Mid-Year Trend		
2026	N/A	17900
2028 Design Year Trend		
2028	N/A	18100
TRANPLAN Forecasts/Trends		

***Axle-Adjusted**

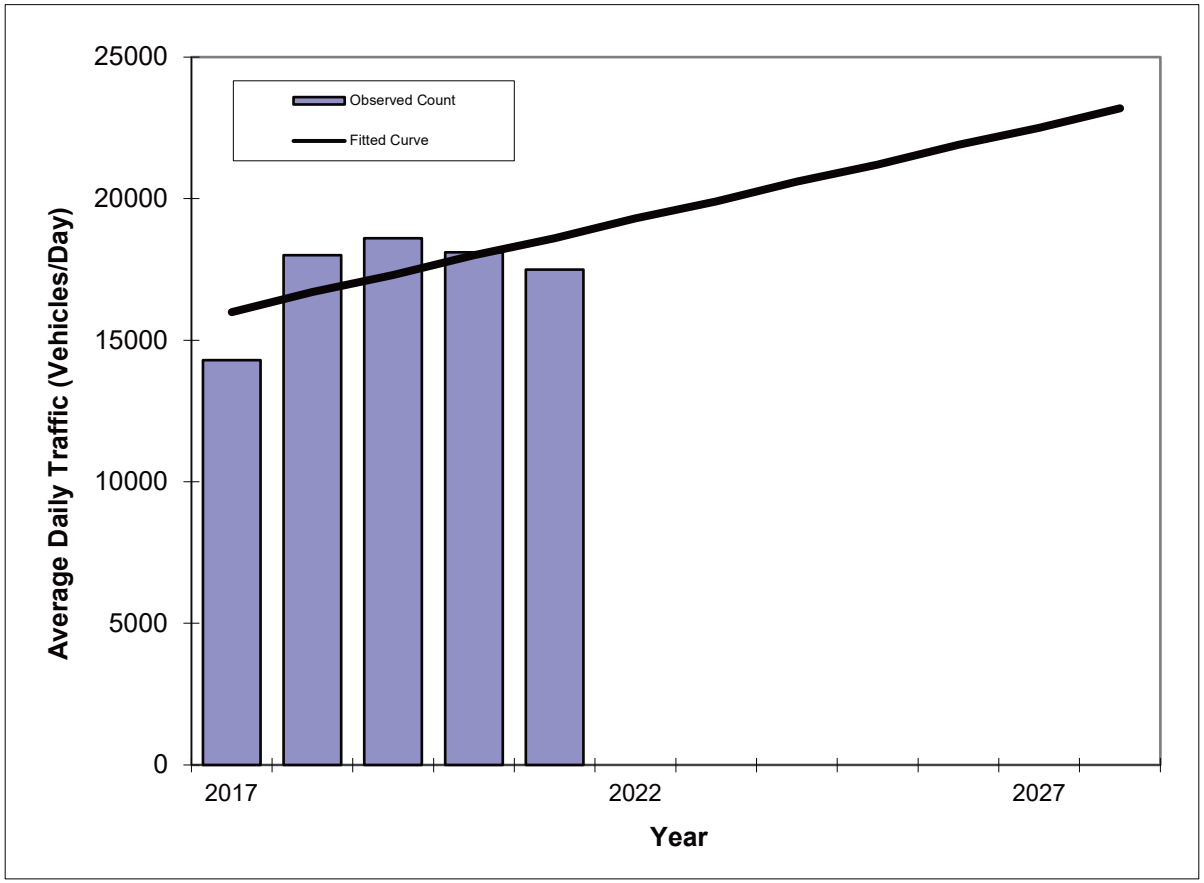
Trend R-squared:	62.8%
Compounded Annual Historic Growth Rate:	2.18%
Compounded Growth Rate (2021 to Design Year):	0.41%
Printed:	27-Mar-23

Decaying Exponential Growth Option

TRAFFIC TRENDS

Williamson Blvd -- LPGA Blvd to Hand Ave

County:	Volusia
Station #:	2001
Highway:	Williamson Blvd



Year	Traffic (ADT/AADT) Count*	Trend**
2017	14300	16000
2018	18000	16700
2019	18600	17300
2020	18100	18000
2021	17500	18600
2023 Opening Year Trend		
2023	N/A	19900
2026 Mid-Year Trend		
2026	N/A	21900
2028 Design Year Trend		
2028	N/A	23200
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

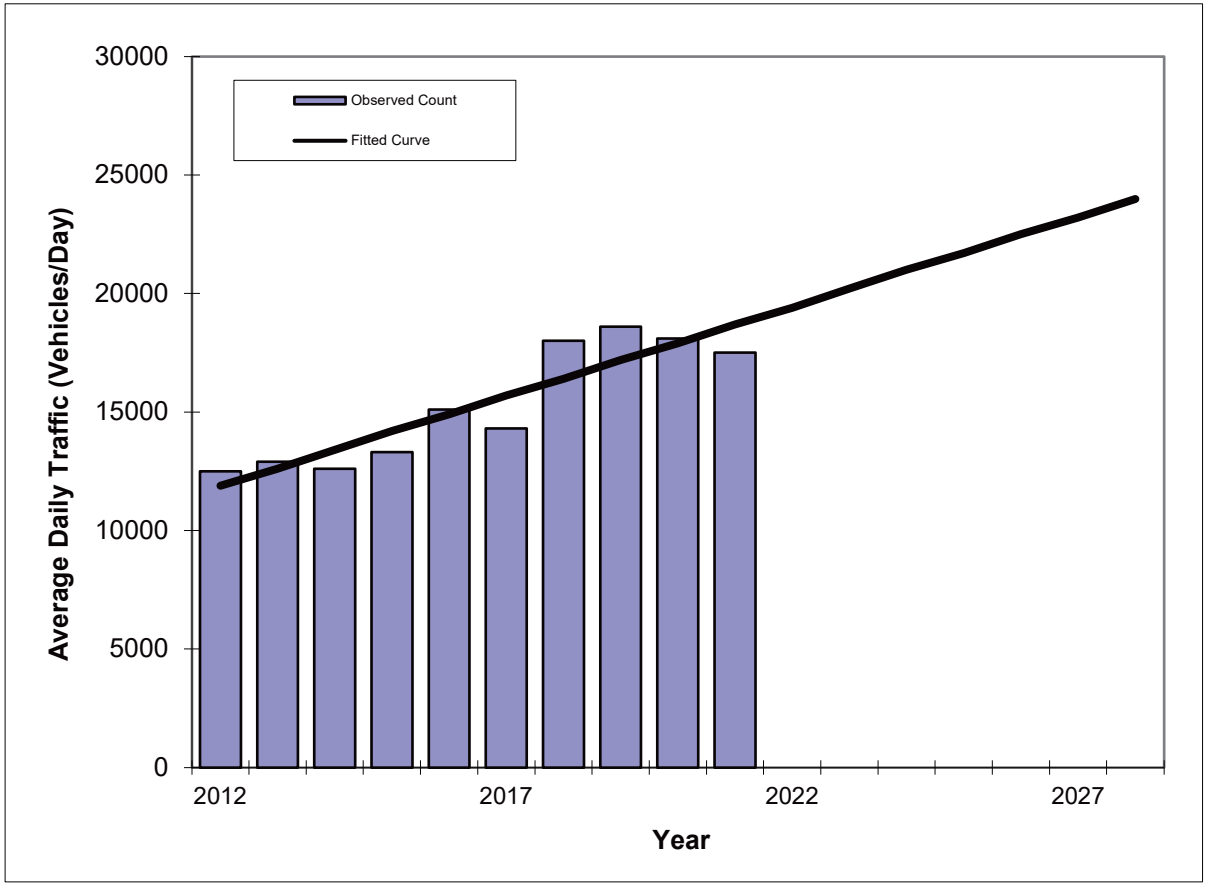
**** Annual Trend Increase:**	650
Trend R-squared:	35.6%
Trend Annual Historic Growth Rate:	4.06%
Trend Growth Rate (2021 to Design Year):	3.53%
Printed:	27-Mar-23

Straight Line Growth Option

TRAFFIC TRENDS

Williamson Blvd -- LPGA Blvd to Hand Ave

County:	Volusia
Station #:	2001
Highway:	Williamson Blvd



Year	Traffic (ADT/AADT) Count*	Trend**
2012	12500	11900
2013	12900	12600
2014	12600	13400
2015	13300	14200
2016	15100	14900
2017	14300	15700
2018	18000	16400
2019	18600	17200
2020	18100	17900
2021	17500	18700
2023 Opening Year Trend		
2023	N/A	20200
2026 Mid-Year Trend		
2026	N/A	22500
2028 Design Year Trend		
2028	N/A	24000
TRANPLAN Forecasts/Trends		

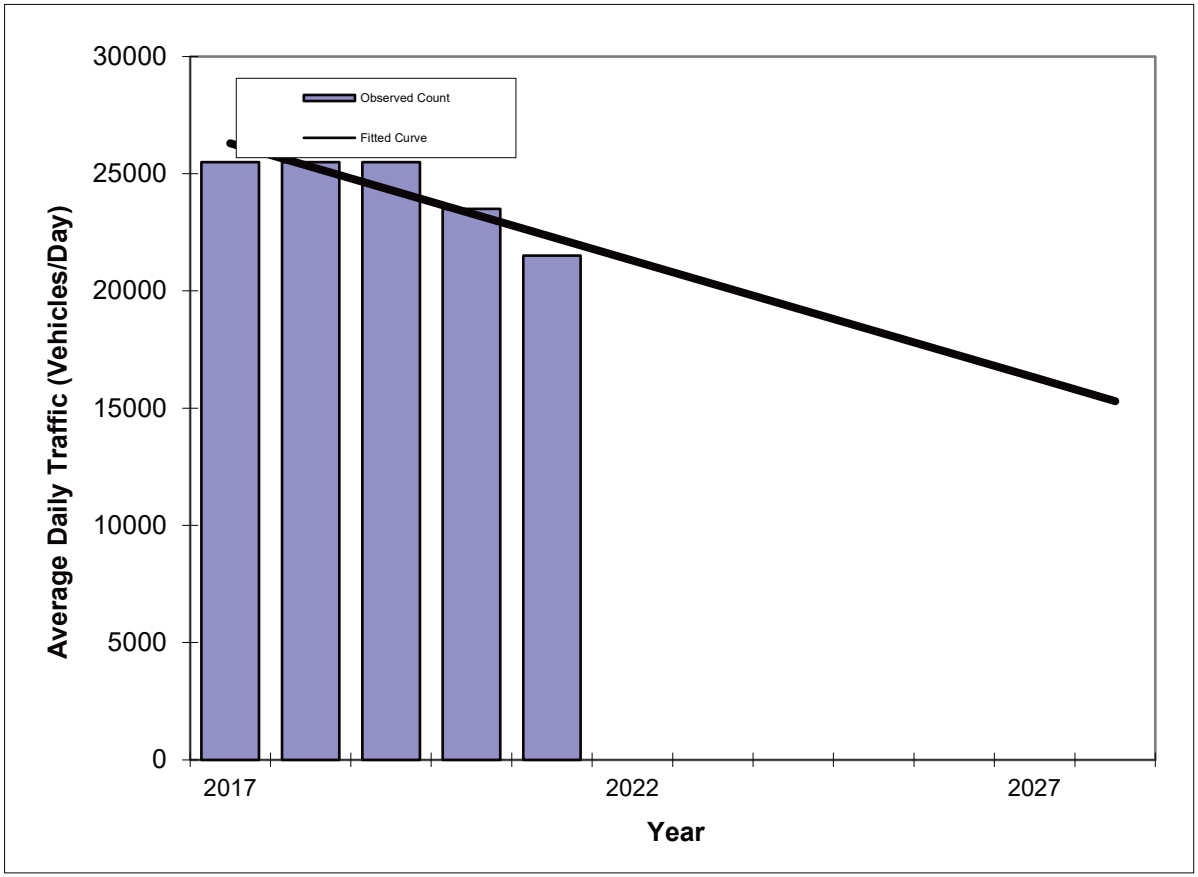
*Axle-Adjusted

** Annual Trend Increase:	756
Trend R-squared:	83.0%
Trend Annual Historic Growth Rate:	6.35%
Trend Growth Rate (2021 to Design Year):	4.05%
Printed:	27-Mar-23
Straight Line Growth Option	

TRAFFIC TRENDS

Nova Rd -- SR 40 to Wilmette Ave

County:	Volusia
Station #:	518
Highway:	Nova Rd



Year	Traffic (ADT/AADT) Count*	Trend**
2017	25500	26300
2018	25500	25300
2019	25500	24300
2020	23500	23300
2021	21500	22300
2023 Opening Year Trend		
2023	N/A	20300
2026 Mid-Year Trend		
2026	N/A	17300
2028 Design Year Trend		
2028	N/A	15300
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:**	-1,000
Trend R-squared:	78.1%
Trend Annual Historic Growth Rate:	-3.80%
Trend Growth Rate (2021 to Design Year):	-4.48%
Printed:	27-Mar-23

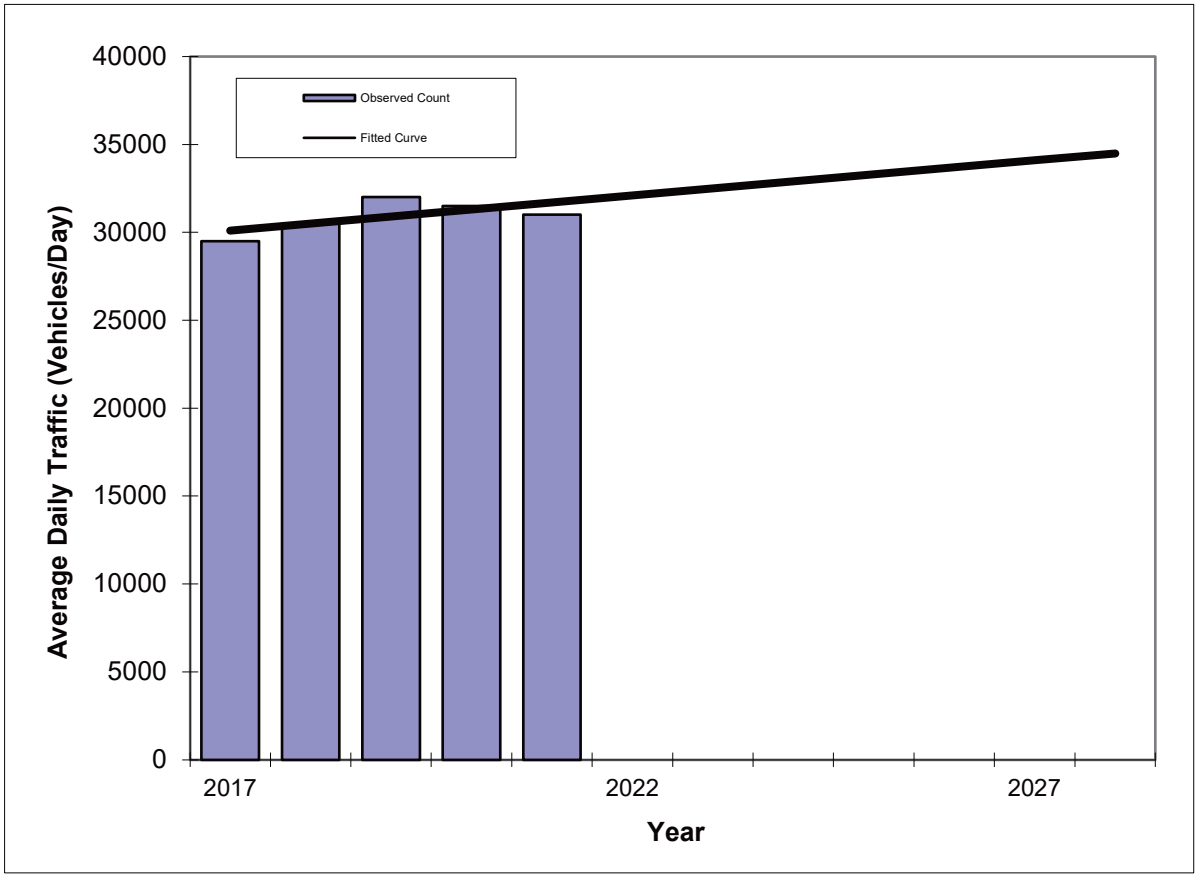
Straight Line Growth Option

***Axle-Adjusted**

TRAFFIC TRENDS

US 1 -- Nova Rd to Airport Rd

County:	Volusia
Station #:	100
Highway:	US 1



Year	Traffic (ADT/AADT) Count*	Trend**
2017	29500	30100
2018	30500	30500
2019	32000	30900
2020	31500	31300
2021	31000	31700
2023 Opening Year Trend		
2023	N/A	32500
2026 Mid-Year Trend		
2026	N/A	33700
2028 Design Year Trend		
2028	N/A	34500
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

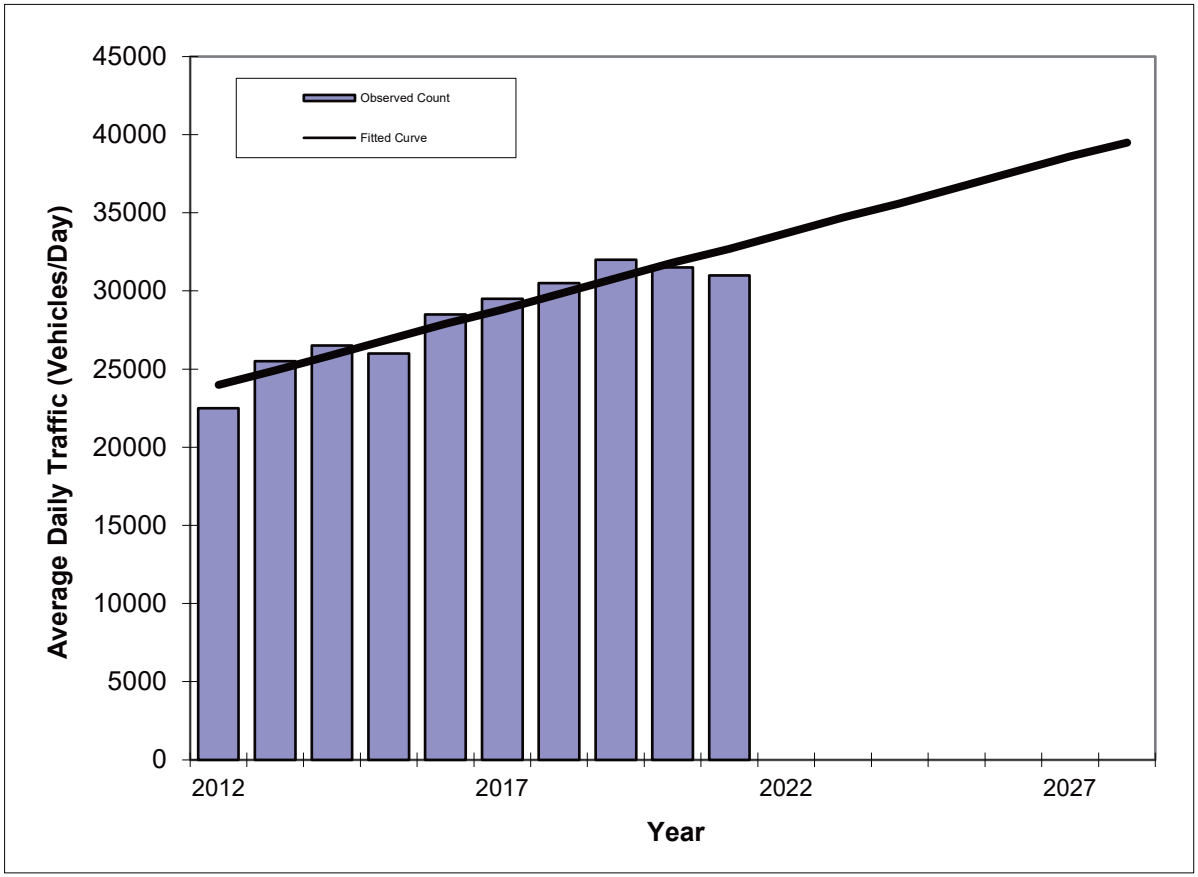
**** Annual Trend Increase:**	400
Trend R-squared:	43.2%
Trend Annual Historic Growth Rate:	1.33%
Trend Growth Rate (2021 to Design Year):	1.26%
Printed:	27-Mar-23

Straight Line Growth Option

TRAFFIC TRENDS

US 1 -- Nova Rd to Airport Rd

County:	Volusia
Station #:	100
Highway:	US 1



Year	Traffic (ADT/AADT) Count*	Trend**
2012	22500	24000
2013	25500	24900
2014	26500	25900
2015	26000	26900
2016	28500	27900
2017	29500	28800
2018	30500	29800
2019	32000	30800
2020	31500	31800
2021	31000	32700
2023 Opening Year Trend		
2023	N/A	34700
2026 Mid-Year Trend		
2026	N/A	37600
2028 Design Year Trend		
2028	N/A	39500
TRANPLAN Forecasts/Trends		

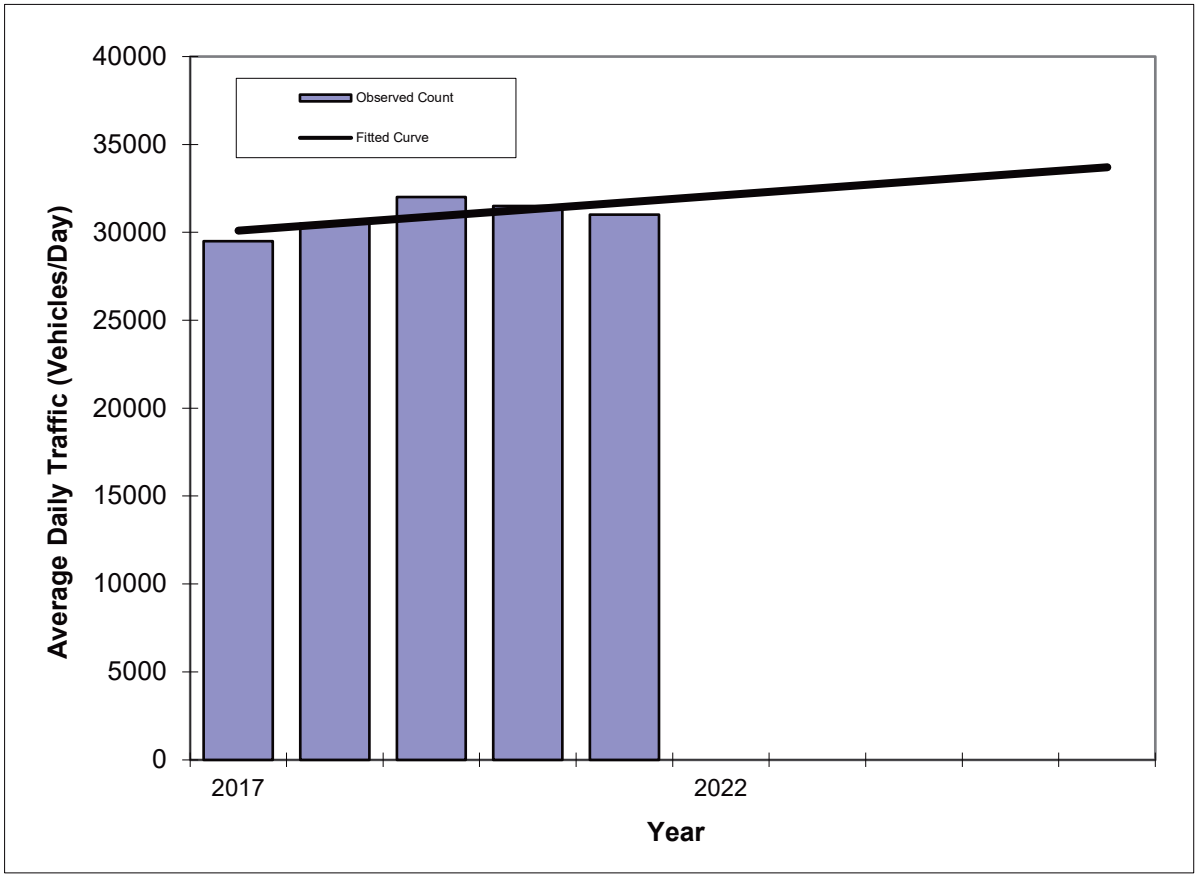
*Axle-Adjusted

** Annual Trend Increase:	973
Trend R-squared:	89.2%
Trend Annual Historic Growth Rate:	4.03%
Trend Growth Rate (2021 to Design Year):	2.97%
Printed:	27-Mar-23
Straight Line Growth Option	

TRAFFIC TRENDS

US 1 -- Nova Rd to Airport Rd

County:	Volusia
Station #:	100
Highway:	US 1



Year	Traffic (ADT/AADT) Count*	Trend**
2017	29500	30100
2018	30500	30500
2019	32000	30900
2020	31500	31300
2021	31000	31700
2023 Opening Year Trend		
2023	N/A	32500
2025 Mid-Year Trend		
2025	N/A	33300
2026 Design Year Trend		
2026	N/A	33700
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:**	400
Trend R-squared:	43.2%
Trend Annual Historic Growth Rate:	1.33%
Trend Growth Rate (2021 to Design Year):	1.26%
Printed:	22-Mar-23

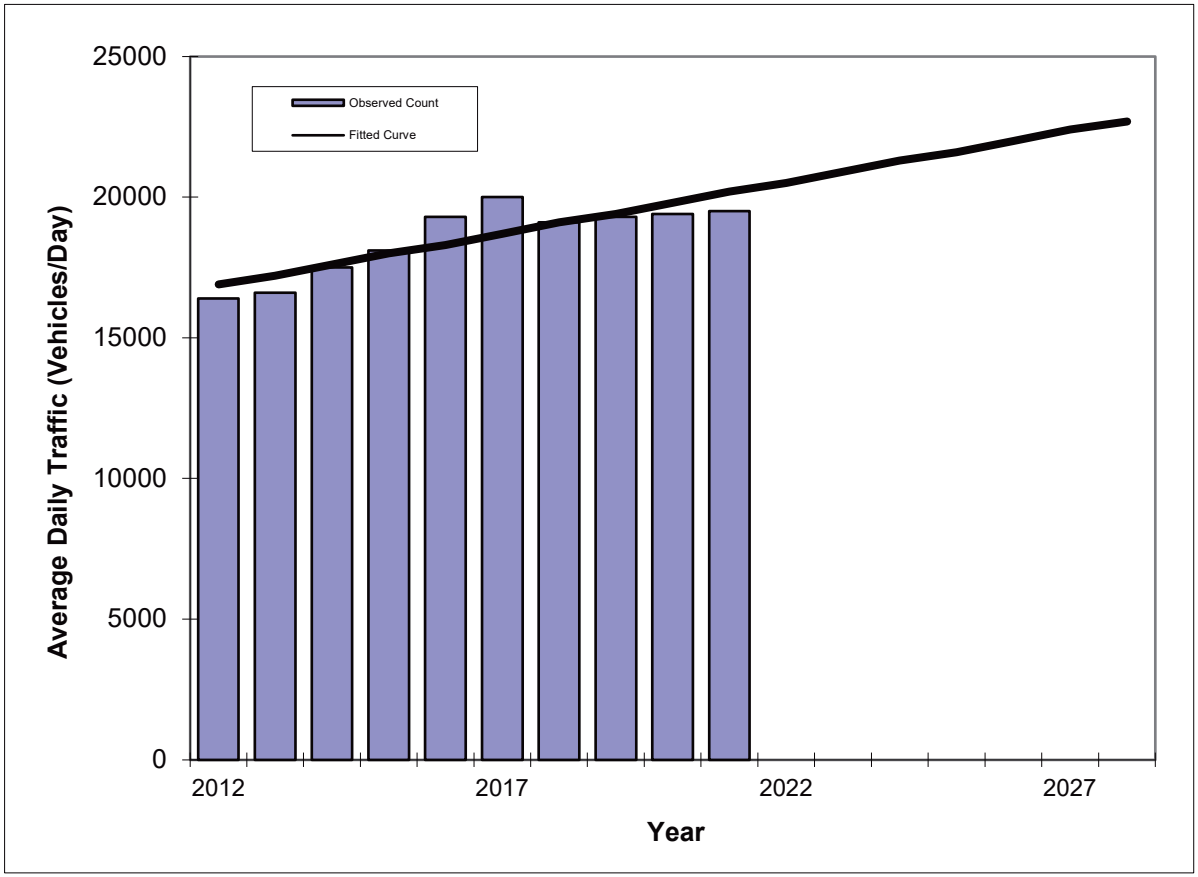
Straight Line Growth Option

***Axle-Adjusted**

TRAFFIC TRENDS

US 1 -- SR 40 to Nova Rd

County:	Volusia
Station #:	1019
Highway:	US 1



Year	Traffic (ADT/AADT) Count*	Trend**
2012	16400	16900
2013	16600	17200
2014	17500	17600
2015	18100	18000
2016	19300	18300
2017	20000	18700
2018	19100	19100
2019	19300	19400
2020	19400	19800
2021	19500	20200
2023 Opening Year Trend		
2023	N/A	20900
2026 Mid-Year Trend		
2026	N/A	22000
2028 Design Year Trend		
2028	N/A	22700
TRANPLAN Forecasts/Trends		

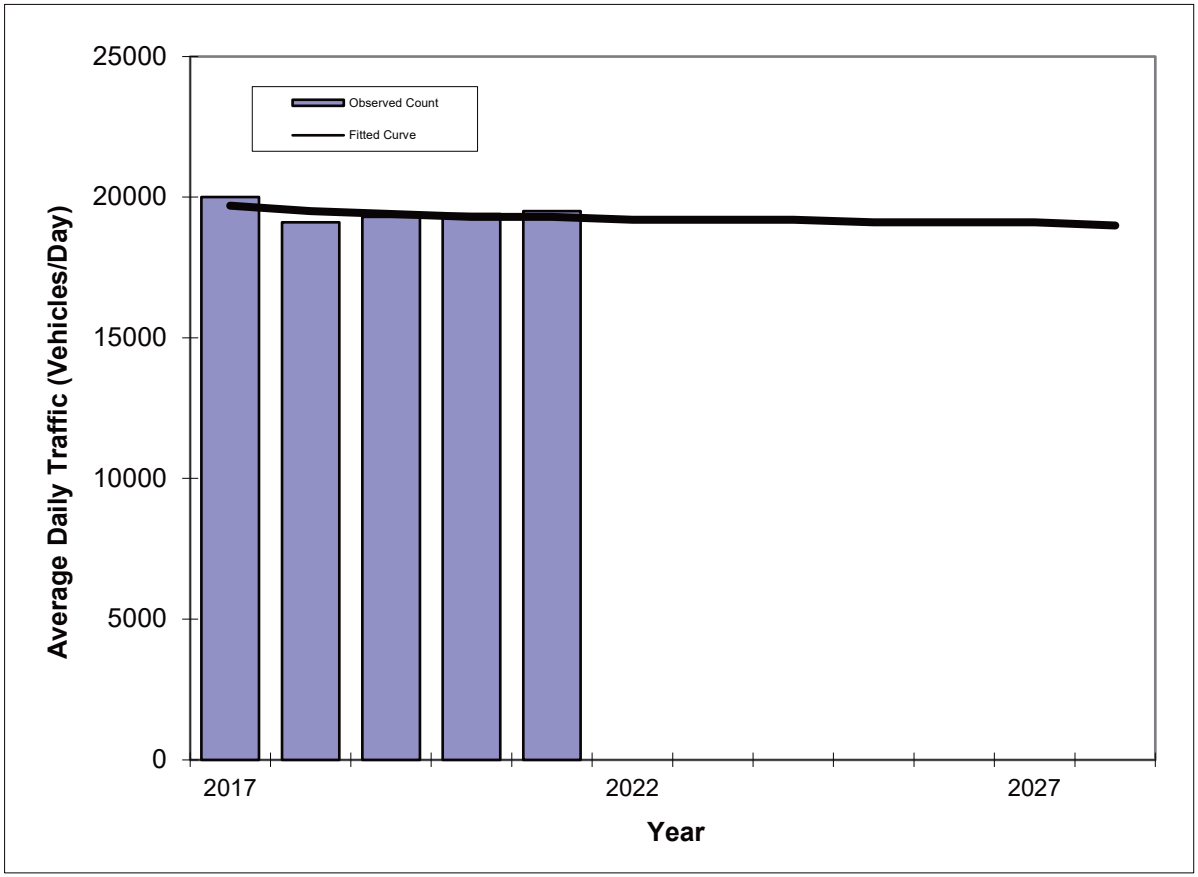
*Axle-Adjusted

** Annual Trend Increase:	365
Trend R-squared:	73.8%
Trend Annual Historic Growth Rate:	2.17%
Trend Growth Rate (2021 to Design Year):	1.77%
Printed:	27-Mar-23
Straight Line Growth Option	

TRAFFIC TRENDS

US 1 -- SR 40 to Nova Rd

County:	Volusia
Station #:	1019
Highway:	US 1



Year	Traffic (ADT/AADT) Count*	Trend**
2017	20000	19700
2018	19100	19500
2019	19300	19400
2020	19400	19300
2021	19500	19300
2023 Opening Year Trend		
2023	N/A	19200
2026 Mid-Year Trend		
2026	N/A	19100
2028 Design Year Trend		
2028	N/A	19000
TRANPLAN Forecasts/Trends		

***Axle-Adjusted**

Trend R-squared:	27.0%
Compounded Annual Historic Growth Rate:	-0.38%
Compounded Growth Rate (2021 to Design Year):	-0.22%
Printed:	27-Mar-23

Decaying Exponential Growth Option

Volusia County Vested Trip Database on Critical/Non-Critical Roads - By Critical Area, PM Peak

Approved Devts and Devts under Review
Developments not considered vested
Parent/Tract trips - should not be included in overall, only for informational purposes

****ALWAYS REFER TO THE VC AADT SPREADSHEET FOR COUNT AND CAPACITY INFO. (Not this spreadsheet)****

Updated 3/22/2023

****ALWAYS REFER TO THE VC AADT SPREADSHEET FOR COUNT AND CAPACITY INFO. (Not this spreadsheet)****

North Daytona/Ormond Beach Area

Updated 6-1-22 & 7-25-22

Roadway	Segment	2021PM Pk Hr (VCTE) VCTE Staff note: RED font = FDOT pk volumes based on daily VC proportion.)	Capacity	2020 Fully Vested Minus Buildout Removed (9%)	Bayberry Pk (A & IB only child 25%)	Sweetwaterhead 2021 (10% removed of 548 PM Pk Trips)	Integrated LPGA Residential Dev thru PkH (8%)	The Preserve (8%)	Williamson Crossings 2019 (Removed 60%)	Ormond Crossings 2010 Vested (REMOVED 20 1%)	Granada Pointe REMOVED 20%	Pineland PID REMOVED 50%	Ormond Central	LPGA Multifamily Enacted 2019	Edison Apartments 2019	Tomoka Village Apartments 2021	Close 2025	Reserve at Strickland 2024	Veterans Administration Bldg 2023	Tymber Creek Village 2022	Halifax Plantation* Remaining Trips 223 units remaining under DRI)	Halifax Plantation Rebuilt (of the 1730 platted & construction approved in 2021, 200 vested but not generating	Plantation Bay* Flagler County Remaining Trips (as of Aug 2021) 710 units. 50% Distribution an Old Dixie Hwy	Plantation Oaks (National Gardens DRI) (includes Dixie Ridge trips)	Plantation Oaks Major Amendment	Westford Reserve 2021 Traffic memo (Vested PUD 2003)	Eagle Lakes PUD (2014) Flagler County Phase 1	Project Tarpon 2023	Watermark 2024	Cornerstone Exchange 2025	KFC Parent Tract	LPGA Dunn Residential	Clyde Morris Apartments additional units	Waypoint MF Project Epsilon	Welkare Green	Capstone 2023 (removed 10%)	Tomoka Village South****	Strickland Range Williamson Multifamily***	Total Vested Trips	Eastern AADT plus Vested trips	VC with Vested trips	VC without Vested Trips		Critical	Near Critical	Vested Critical	Vested Near Critical	Evac Route?	
Bland Ave	Shangri La Dr to Clyde Morris	1240	1540			25				4	2			1	2	8	5	12	12																		5	118	1368	0.88	0.88	Vested Near Critical	no	no	no	no	Added by mgmt
SR 40	LPR to Clyde Morris Blvd	3120	3580							48	7				2	12			24																	15	113	3233	0.90	0.90	Near Critical	no	Near Critical	no	no	Vested Nede	
SR 40	Clyde Morris Blvd to Nova Rd	3120	3580							48	7																									15	168	3297	0.92	0.89	Near Critical	no	no	no	no	Vested Nede	
SR 40	Nova Rd to US 1	1280	1620			25				36	108		93																						6	468	2418	1.51	0.86	Vested Critical	Critical	Near Critical	Vested Crit	Vested Near		
Williamson	Bland Ave to Strickland Range	1450	1540	101	122	61	41	51	203					11	61	101	41	52	142	26																84	45	203	703	2455	1.60	0.98	Vested Critical	no	Near Critical	Vested Crit	Vested Near Critical		

*NE Volusia DRI projects - Halifax Plantation, Plantation Bay, & Plantation Oaks used a Plantation Bay Biennial Traffic Monitoring Report, Aug 2021, Daily trip rate of 4.31. VCTE staff converted to 0.61 trips in the PM Peak hour.

**When segment data is not available, Source is derived from TIA that shows "vested trips" in LOS column. Only to be used when other pervious data is unknown.

***TCR count was not taken in 2019. Used Close Property TIA 2019 to get count.

****Added by LTG based on the recent approved TIA in the study area.

LTG Engineering & Planning

ADD A PASS-BY COLUMN AS NEEDED

AM Peak-Hour Factored Volumes

*Note:
Peak-Hour Factor
Min = 0.75 Max = 0.95

Nova Rd. at US 1

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	2028 Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Nova Rd. at US 1	Eastbound	U-Turn			0%	1,588	0%		1,588	0	0%	2.97%	1,824	0	0	0				0	0	
		Left			0%		0%			0	0%			0	0	0				0	0	
		Through		949	22		60%			949	22	2%		1090	0	1,090				0	1,090	
		Right		639	17	3%		40%		639	17	3%		734	0	734	20.0%	in	11	745	
	Westbound	U-Turn			0%	781	0%		781	0	0%	1.77%	850	0	0	0				0	0	
		Left		31	0		4%			31	3	0%		34	0	34	20.0%	in	11	45	
		Through		750	45	6%		96%		750	45	6%		816	0	816			0	816	
		Right	2023			0%		0%	1.00	0	0	0%		0	0	0			0	0	0.89
	Northbound	U-Turn				0%	536	0%		0	0	0%	1.82%	585	0	0				0	0	
		Left		467	13	3%		87%		467	13	3%		509	0	509	20.0%	out	30	539	
		Through		0	0	0%		0%		0	0	0%		0	0	0			0	0	
		Right		69	0	0%		13%		69	0	0%		75	0	75	20.0%	out	30	105	
	Southbound	U-Turn				0%	0	0%		0	0	0%	1.00%	0	0	0				0	0	
		Left				0%		0%		0	0	0%		0	0	0				0	0	
		Through				0%		0%		0	0	0%		0	0	0				0	0	
		Right				0%		0%		0	0	0%		0	0	0				0	0	

Nova Rd. at Tomoka Oaks Blvd.

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Nova Rd. at Tomoka Oaks Blvd.	Eastbound	U-Turn				0%	156	0%		156	0	0	0%	1.00%	164	0	0	0			0	0	
		Left		75	2	3%		48%			75	2	3%			79	0	79	40.0%	out	60	139	
		Through		2	0	0%		1%			2	0	0%			2	0	2			0	2	
		Right		79	2	3%		51%			79	2	3%			83	0	83	56.0%	out	83	166	
	Westbound	U-Turn				0%	1	0%		1	0	0	0%	1.00%	1	0	0	0			0	0	
		Left		0	0	0%		0%			0	0	0%			0	0	0			0	0	
		Through		0	0	0%		0%			0	0	0%			0	0	0			0	0	
		Right	2023	1	1	100%		100%	1.00	1	1	100%			1	0	1			0	1	0.90
	Northbound	U-Turn				0%	476	0%		476	0	0	0%	1.00%	500	0	0	0			0	0	
		Left		42	3	7%		9%			42	3	7%			44	0	44	56.0%	in	30	74	
		Through		431	20	5%		91%			431	20	5%			453	0	453			0	453	
		Right		3	0	0%		1%			3	0	0%			3	0	3			0	3	
	Southbound	U-Turn				0%	709	0%		709	0	0	0%	1.00%	744	0	0	0			0	0	
		Left		0	0	0%		0%			0	0	0%			0	0	0			0	0	
		Through		673	14	2%		95%			673	14	2%			707	0	707			0	707	
		Right		36	4	11%		5%			36	4	11%			38	0	38	40.0%	in	21	59	

Nova Rd. at Willowtie Ave.

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Nova Rd. at Willowtie Ave.	Eastbound	U-Turn				0%	237	0%		237	0	0	0%	1.00%	249	0	0	0			0	0	
		Left		45	0	0%		19%			45	0	0%			47	0	47	1.0%	in	1	48	
		Through		69	1	1%		29%			69	1	1%			72	0	72			0	72	
		Right		123	5	4%		52%			123	5	4%			129	0	129			0	129	
	Westbound	U-Turn				0%	265	0%		265	0	0	0%	1.00%	278	0	0	0			0	0	
		Left		175	5	3%		66%			175	5	3%			184	0	184			0	184	
		Through		62	1	2%		23%			62	1	2%			65	0	65			0	65	
		Right	2023	28	1	4%		11%	1.00		28	1	4%			29	0	29	4.0%	in	2	31	0.93
	Northbound	U-Turn				0%	657	0%		657	0	0	0%	1.00%	690	0	0	0			0	0	
		Left		68	3	4%		10%			68	3	4%			71	0	71			0	71	
		Through		463	22	5%		70%			463	22	5%			486	0	486	51.0%	in	27	513	
		Right		126	3	2%		19%			126	3	2%			132	0	132			0	132	
	Southbound	U-Turn				0%	777	0%		777	0	0	0%	1.82%	848	0	0	0			0	0	
		Left		30	1	3%		4%			30	1	3%			33	0	33	4.0%	out	6	39	
		Through		690	14	2%		89%			690	14	2%			753	0	753	51.0%	out	76	829	
		Right		57	1	2%		7%			57	1	2%			62	0	62	1.0%	out	1	63	

Tomoka Oaks Blvd at Escondido Multifamily

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Tomoka Oaks Blvd at Escondido Multifamily	Eastbound	U-Turn				0%	151	0%		151	0	0	0%	1.00%	159	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through		151	4	3%		100%			151	4	3%			159	0	159	96.0%	out	143	302	
		Right				0%		0%			0	0	0%			0	0	0			0	0	
	Westbound	U-Turn				0%	79	0%		79	0	0	0%	1.00%	83	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through		77	7	9%		97%			77	7	9%			81	0	81	96.0%	in	51	132	
		Right	2023	2		0%		3%	1.00		2	0	0%			2	0	2			0	2	0.87
	Northbound	U-Turn				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right				0%		0%			0	0	0%			0	0	0			0	0	
	Southbound	U-Turn				0%	4	0%		4	0	0	0%	1.00%	4	0	0	0			0	0	
		Left		4		0%		100%			4	0	0%			4	0	4			0	4	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right				0%		0%			0	0	0%			0	0	0			0	0	

Tomoka Oaks Blvd. at N. St. Andrews Dr.

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Tomoka Oaks Blvd. at N. St. Andrews Dr.	Eastbound	U-Turn				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right				0%		0%			0	0	0%			0	0	0			0	0	
	Westbound	U-Turn				0%	38	0%		38	0	0	0%	1.00%	40	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through		3		0%		8%			3	0	0%			3	0	3	96.0%	in	51	54	
		Right	2023	35	5	14%		92%	1.00		35	5	14%			37	0	37			0	37	0.89
	Northbound	U-Turn				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right				0%		0%			0	0	0%			0	0	0			0	0	
	Southbound	U-Turn				0%	79	0%		79	0	0	0%	1.00%	83	0	0	0			0	0	
		Left		74	3	4%		94%			74	3	4%			78	0	78			0	78	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right		5		0%		6%			5	0	0%			5	0	5			0	5	

Tomoka Oaks Blvd. at S. St. Andrews Dr.

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Tomoka Oaks Blvd. at S. St. Andrews Dr.	Eastbound	U-Turn				0%	9	0%		9	0	0	0%	1.00%	9	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through		5		0%		56%			5	0	0%			5	0	5	96.0%	out	143	148	
		Right		4		0%		44%			4	0	0%			4	0	4	4.0%	out	6	10	
	Westbound	U-Turn				0%	38	0%		38	0	0	0%	1.00%	40	0	0	0			0	0	
		Left		38	2	5%		100%			38	2	5%			40	0	40			0	40	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right	2023			0%		0%	1.00		0	0	0%			0	0	0			0	0	0.80
	Northbound	U-Turn				0%	72	0%		72	0	0	0%	1.00%	76	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0	4.0%	in	2	2	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right		72		0%		100%			72	0	0%			76	0	76			0	76	
	Southbound	U-Turn				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right				0%		0%			0	0	0%			0	0	0			0	0	

Tomoka Oaks Blvd. at West Diamond

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Tomoka Oaks Blvd. at West Diamond	Eastbound	U-Turn				0%	1	0%		1	0	0	0%	1.00%	1	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right		1		0%		100%			1	0	0%			1	0	1	100.0%	out	149	150	
	Westbound	U-Turn				0%	8	0%		8	0	0	0%	1.00%	8	0	0	0			0	0	
		Left		8		0%		100%			8	0	0%			8	0	8			0	8	
		Through				0%		0%			0	0	0%			0	0	0	96.0%	in	51	51	
		Right	2023			0%		0%	1.00		0	0	0%			0	0	0			0	0	0.75
	Northbound	U-Turn				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0	4.0%	in	2	2	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right				0%		0%			0	0	0%			0	0	0			0	0	
	Southbound	U-Turn				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right				0%		0%			0	0	0%			0	0	0			0	0	

Tomoka Oaks Blvd. at East Diamond

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Tomoka Oaks Blvd. at East Diamond	Eastbound	U-Turn				0%	78	0%		78	0	0	0%	1.00%	82	0	0	0			0	0	
		Left		1		0%		1%			1	0	0%			1	0	1			0	1	
		Through		77	1	1%		99%			77	1	1%			81	0	81	96.0%	out	143	224	
		Right				0%		0%			0	0	0%			0	0	0			0	0	
	Westbound	U-Turn				0%	77	0%		77	0	0	0%	1.00%	81	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through		39	2	5%		51%			39	2	5%			41	0	41			0	41	
		Right	2023	38	5	13%		49%	1.00		38	5	13%			40	0	40	96.0%	in	51	91	0.87
	Northbound	U-Turn				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right				0%		0%			0	0	0%			0	0	0			0	0	
	Southbound	U-Turn				0%	75	0%		75	0	0	0%	1.00%	79	0	0	0			0	0	
		Left		75	3	4%		100%			75	3	4%			79	0	79			0	79	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right				0%		0%			0	0	0%			0	0	0			0	0	

SR 40 at Main Trail

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
SR 40 at Main Trail	Eastbound	U-Turn				0%	1,335	0%		1,335	0	0	0%	1.23%	1,417	0	0	0			0	0	
		Left		100		0%		7%			100	0	0%			106	0	106	4.0%	in	2	108	
		Through		1068	37	3%		80%			1068	37	3%			1134	0	1,134	15.0%	in	8	1,142	
		Right		167	4	2%		13%			167	4	2%			177	0	177			0	177	
	Westbound	U-Turn				0%	1,160	0%		1,160	0	0	0%	1.23%	1,231	0	0	0			0	0	
		Left		52		0%		4%			52	0	0%			55	0	55			0	55	
		Through		1088	24	2%		94%			1088	24	2%			1155	0	1,155	15.0%	out	22	1,177	
		Right	2023	20	1	5%		2%	1.00		20	1	5%			21	0	21			0	21	0.91
	Northbound	U-Turn				0%	170	0%		170	0	0	0%	1.00%	179	0	0	0			0	0	
		Left		119	1	1%		70%			119	1	1%			125	0	125			0	125	
		Through		34	0	0%		20%			34	0	0%			36	0	36			0	36	
		Right		17		0%		10%			17	0	0%			18	0	18			0	18	
	Southbound	U-Turn				0%	254	0%		254	0	0	0%	1.00%	267	0	0	0			0	0	
		Left		28	1	4%		11%			28	1	4%			29	0	29			0	29	
		Through		61		0%		24%			61	0	0%			64	0	64			0	64	
		Right		165		0%		65%			165	0	0%			173	0	173	4.0%	out	6	179	

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Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
St. Andrew's Dr. at W Rio Pinar Tr.	Eastbound	U-Turn	2023			0%	21	0%	1.00	21	0	0	0%	1.00%	22	0	0	0			0	0	0.86
		Left		0		0%		0%			0	0	0%			0	0	0			0	0	
		Through		6		0%		29%			6	0	0%			6	0	6			0	6	
		Right		15		0%		71%			15	0	0%			16	0	16			0	16	
	Westbound	U-Turn				0%	13	0%		13	0	0	0%	1.00%	14	0	0	0			0	0	
		Left		10		0%		77%			10	0	0%			11	0	11			0	11	
		Through		3		0%		23%			3	0	0%			3	0	3			0	3	
		Right		0		0%		0%			0	0	0%			0	0	0			0	0	
	Northbound	U-Turn				0%	43	0%		43	0	0	0%	1.00%	45	0	0	0			0	0	
		Left		3		0%		7%			3	0	0%			3	0	3			0	3	
		Through		24	1	4%		56%			24	1	4%			25	0	25			0	25	
		Right		16		0%		37%			16	0	0%			17	0	17			0	17	
	Southbound	U-Turn				0%	54	0%		54	0	0	0%	1.00%	57	0	0	0			0	0	
		Left		4	1	25%		7%			4	1	25%			4	0	4			0	4	
		Through		50	1	2%		93%			50	1	2%			53	0	53			0	53	
		Right		0		0%		0%			0	0	0%			0	0	0			0	0	

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
St. Andrew's Dr. at E Rio Pinar Tr.	Eastbound	U-Turn	2023			0%	25	0%	1.00	25	0	0	0%	1.00%	26	0	0	0			0	0	0.90
		Left		1		0%		4%			1	0	0%			1	0	1			0	1	
		Through		24		0%		96%			24	0	0%			25	0	25			0	25	
		Right				0%		0%			0	0	0%			0	0	0			0	0	
	Westbound	U-Turn				0%	31	0%		31	0	0	0%	1.00%	33	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through		17		0%		55%			17	0	0%			18	0	18			0	18	
		Right		14		0%		45%			14	0	0%			15	0	15			0	15	
	Northbound	U-Turn				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right				0%		0%			0	0	0%			0	0	0			0	0	
	Southbound	U-Turn				0%	26	0%		26	0	0	0%	1.00%	27	0	0	0			0	0	
		Left		25		0%		96%			25	0	0%			26	0	26			0	26	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right		1		0%		4%			1	0	0%			1	0	1			0	1	

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
St. Andrew's Dr. at Iroquois Tr.	Eastbound	U-Turn	2023			0%	56	0%	1.00	56	0	0	0%	1.00%	59	0	0	0			0	0	0.93
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through		45		0%		80%			45	0	0%			47	0	47			0	47	
		Right		11		0%		20%			11	0	0%			12	0	12			0	12	
	Westbound	U-Turn				0%	40	0%		40	0	0	0%	1.00%	42	0	0	0			0	0	
		Left		10		0%		25%			10	0	0%			11	0	11	4.0%	out	6	17	
		Through		30		0%		75%			30	0	0%			32	0	32			0	32	
		Right				0%		0%			0	0	0%			0	0	0			0	0	
	Northbound	U-Turn				0%	8	0%		8	0	0	0%	1.00%	8	0	0	0			0	0	
		Left		2		0%		25%			2	0	0%			2	0	2			0	2	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right		6		0%		75%			6	0	0%			6	0	6	4.0%	in	2	8	
	Southbound	U-Turn				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0			0	0	
		Left				0%		0%			0	0	0%			0	0	0			0	0	
		Through				0%		0%			0	0	0%			0	0	0			0	0	
		Right				0%		0%			0	0	0%			0	0	0			0	0	

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ADD A PASS-BY COLUMN AS NEEDED

PM Peak-Hour Factored Volumes

*Note:
Peak-Hour Factor
Min = 0.75 Max = 0.95

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	2028 Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Nova Rd. at US 1	Eastbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Through		960	17	2%	1,591	60%		1,591	960	17	2%	2.97%	1,827	1103	0	1,103	0.0%	0	0	1,103	
		Right		631	10	2%		40%			631	10	2%			725	0	725	20.0%	in	35	760	
	Westbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		65	0	6%		6%			65	0	0%			71	0	71	20.0%	in	35	106	
		Through		962	10	1%	1,027	94%		1,027	962	10	1%	1.77%	1,118	1047	0	1,047	0.0%	0	0	1,047	
		Right	2023			0%		0%	1.00		0	0	0%			0	0	0	0.0%	0	0	0	0.95
	Northbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		680	13	2%		92%		740	680	13	2%	1.82%	807	742	0	742	20.0%	out	21	763	
		Through				0%	740	0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right		60	0	0%		8%			60	0	0%			65	0	65	20.0%	out	21	86	
	Southbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Through				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0	0.0%	0	0	0	
		Right				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Nova Rd. at Tomoka Oaks Blvd.	Eastbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		43	0	0%		45%			43	0	0%			45	0	45	40.0%	out	41	86	
		Through		0	0	0%	96	0%		96	0	0	0%	1.00%	101	0	0	0	0.0%	0	0	0	
		Right		53	2	4%		55%			53	2	4%			56	0	56	56.0%	out	58	114	
	Westbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		10	0	0%		53%			10	0	0%			11	0	11	0.0%	0	0	11	
		Through		1	0	0%	19	5%		19	1	0	0%	1.00%	20	1	0	1	0.0%	0	0	1	
		Right	2023	8	0	0%		42%	1.00		8	0	0%			8	0	8	0.0%	0	0	8	0.94
	Northbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		88	2	2%		11%		816	88	2	2%	1.00%	857	92	0	92	56.0%	in	99	191	
		Through		725	16	2%	816	89%			725	16	2%			761	0	761	0.0%	0	0	761	
		Right		3	0	0%		0%			3	0	0%			3	0	3	0.0%	0	0	3	
	Southbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		1	1	100%		0%			1	1	100%			1	0	1	0.0%	0	0	1	
		Through		646	7	1%	705	92%		705	646	7	1%	1.00%	740	678	0	678	0.0%	0	0	678	
		Right		58	0	0%		8%			58	0	0%			61	0	61	40.0%	in	70	131	

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Nova Rd. at Willowtie Ave.	Eastbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		98	1	1%		35%			98	1	1%			103	0	103	1.0%	in	2	105	
		Through		80	0	0%	277	29%		277	80	0	0%	1.00%	291	84	0	84	0.0%	0	0	84	
		Right		99	1	1%		36%			99	1	1%			104	0	104	0.0%	0	0	104	
	Westbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		217	1	0%		62%			217	1	0%			228	0	228	0.0%	0	0	228	
		Through		105	0	0%	349	30%		349	105	0	0%	1.00%	366	110	0	110	0.0%	0	0	110	
		Right	2023	27	0	0%		8%	1.00		27	0	0%			28	0	28	4.0%	in	7	35	0.95
	Northbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		115	1	1%		11%			115	1	1%			121	0	121	0.0%	0	0	121	
		Through		750	16	2%	1,037	72%		1,037	750	16	2%	1.00%	1,089	788	0	788	51.0%	in	90	878	
		Right		172	6	3%		17%			172	6	3%			181	0	181	0.0%	0	0	181	
	Southbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		28	0	4%		4%			28	0	0%			31	0	31	4.0%	out	4	35	
		Through		656	9	1%	759	86%		759	656	9	1%	1.82%	828	716	0	716	51.0%	out	53	769	
		Right		75	0	0%		10%			75	0	0%			82	0	82	1.0%	out	1	83	

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Tomoka Oaks Blvd at Escondido Multifamily	Eastbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left				0%	101	0%		101	0	0	0%	1.00%	106	0	0	0	0.0%	0	0	0	
		Through		101	3	3%		100%			101	3	3%			106	0	106	96.0%	out	99	205	
		Right				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
	Westbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left				0%	151	0%		151	0	0	0%	1.00%	159	0	0	0	0.0%	0	0	0	
		Through		142	1	1%		94%			142	1	1%			149	0	149	96.0%	in	169	318	
		Right	2023	9	1	11%		6%	1.00		9	1	11%			9	0	9	0.0%	0	0	9	0.95
	Northbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0	0.0%	0	0	0	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
	Southbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		5		0%		83%			5	0	0%			5	0	5	0.0%	0	0	5	
		Through				0%	6	0%		6	0	0	0%	1.00%	6	0	0	0	0.0%	0	0	0	
		Right		1	1	100%		17%			1	1	100%			1	0	1	0.0%	0	0	1	

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Project Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Tomoka Oaks Blvd. at N. St. Andrews Dr.	Eastbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		1		0%	1	100%		1	1	0	0%	1.00%	1	1	0	1	0.0%	0	0	1	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
	Westbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left				0%	84	0%		84	0	0	0%	1.00%	88	0	0	0	0.0%	0	0	0	
		Through		2		0%		2%			2	0	0%			2	0	2	96.0%	in	169	171	
		Right	2023	82	2	2%		98%	1.00		82	2	2%			86	0	86	0.0%	0	0	86	0.95
	Northbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0	0.0%	0	0	0	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
	Southbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		45		0%	49	92%		49	45	0	0%	1.00%	51	47	0	47	0.0%	0	0	47	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right		4		0%		8%			4	0	0%			4	0	4	0.0%	0	0	4	

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Tomoka Oaks Blvd. at S. St. Andrews Dr.	Eastbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left				0%	6	0%		6	0	0	0%	1.00%	6	0	0	0	0.0%	0	0	0	
		Through		1		0%		17%			1	0	0%			1	0	1	96.0%	out	99	100	
		Right		5		0%		83%			5	0	0%			5	0	5	4.0%	out	4	9	
	Westbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		61		0%	61	100%		61	61	0	0%	1.00%	64	64	0	64	0.0%	0	0	64	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right	2023			0%		0%	1.00		0	0	0%			0	0	0	0.0%	0	0	0	0.85
	Northbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		1		2%	59	2%		59	1	0	0%	1.00%	62	1	0	1	4.0%	in	7	8	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right		58	2	3%		98%			58	2	3%			61	0	61	0.0%	0	0	61	
	Southbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0	0.0%	0	0	0	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Tomoka Oaks Blvd. at West Diamond	Eastbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0	0.0%	0	0	0	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right				0%		0%			0	0	0%			0	0	0	100.0%	out	103	103	
	Westbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		6		0%	6	100%		6	6	0	0%	1.00%	6	6	0	6	0.0%	0	0	6	
		Through				0%		0%			0	0	0%			0	0	0	96.0%	in	169	169	
		Right	2023			0%		0%	1.00		0	0	0%			0	0	0	0.0%	0	0	0	0.75
	Northbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left				0%	1	0%		1	0	0	0%	1.00%	1	0	0	0	4.0%	in	7	7	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right		1		0%		100%			1	0	0%			1	0	1	0.0%	0	0	1	
	Southbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0	0.0%	0	0	0	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
Tomoka Oaks Blvd. at East Diamond	Eastbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		2		0%	57	4%		57	2	0	0%	1.00%	60	2	0	2	0.0%	0	0	2	
		Through		55	1	2%		96%			55	1	2%			58	0	58	96.0%	out	99	157	
		Right				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
	Westbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left				0%	142	0%		142	0	0	0%	1.00%	149	0	0	0	0.0%	0	0	0	
		Through		61		0%		43%			61	0	0%			64	0	64	0.0%	0	0	64	
		Right	2023	81	2	2%		57%	1.00		81	2	2%			85	0	85	96.0%	in	169	254	0.94
	Northbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0	0.0%	0	0	0	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
	Southbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		44		0%	45	98%		45	44	0	0%	1.00%	47	46	0	46	0.0%	0	0	46	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right		1		0%		2%			1	0	0%			1	0	1	0.0%	0	0	1	

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
SR 40 at Main Trail	Eastbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		220	1	0%	1,699	13%		1,699	220	1	0%	1.23%	1,803	234	0	234	4.0%	in	7	241	
		Through		1396	15	1%		82%			1396	15	1%			1482	0	1,482	15.0%	in	26	1,508	
		Right		83		0%		5%			83	0	0%			88	0	88	0.0%	0	0	88	
	Westbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		7		0%	1,413	0%		1,413	7	0	0%	1.23%	1,500	7	0	7	0.0%	0	0	7	
		Through		1372	34	2%		97%			1372	34	2%			1456	0	1,456	15.0%	out	15	1,471	
		Right	2023	34	1	3%		2%	1.00		34	1	3%			36	0	36	0.0%	0	0	36	0.93
	Northbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		50	2	4%	62	81%		62	50	2	4%	1.00%	65	53	0	53	0.0%	0	0	53	
		Through		7		0%		11%			7	0	0%			7	0	7	0.0%	0	0	7	
		Right		5		0%		8%			5	0	0%			5	0	5	0.0%	0	0	5	
	Southbound	U-Turn				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Left		18	1	6%	172	10%		172	18	1	6%	1.00%	181	19	0	19	0.0%	0	0	19	
		Through		6		0%		3%			6	0	0%			6	0	6	0.0%	0	0	6	
		Right		148	1	1%		86%			148	1	1%			155	0	155	4.0%	out	4	159	

LTG Engineering & Planning

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
St. Andrew's Dr. at W Rio Pinar Tr.	Eastbound	U-Turn	2023			0%	24	0%	1.00	24	0	0	0%	1.00%	25	0	0	0	0.0%	0	0	0	0.91
		Left		1	1	100%		4%			1	1	100%			1	0	1	0.0%	0	0	1	
		Through		13		0%		54%			13	0	0%			14	0	14	0.0%	0	0	14	
		Right		10		0%		42%			10	0	0%			11	0	11	0.0%	0	0	11	
	Westbound	U-Turn				0%	20	0%		20	0	0	0%	1.00%	21	0	0	0	0.0%	0	0	0	
		Left		14		0%		70%			14	0	0%			15	0	15	0.0%	0	0	15	
		Through		6		0%		30%			6	0	0%			6	0	6	0.0%	0	0	6	
		Right		0		0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
	Northbound	U-Turn				0%	77	0%		77	0	0	0%	1.00%	81	0	0	0	0.0%	0	0	0	
		Left		14		0%		18%			14	0	0%			15	0	15	0.0%	0	0	15	
		Through		46		0%		60%			46	0	0%			48	0	48	0.0%	0	0	48	
		Right		17		0%		22%			17	0	0%			18	0	18	0.0%	0	0	18	
	Southbound	U-Turn				0%	28	0%		28	0	0	0%	1.00%	29	0	0	0	0.0%	0	0	0	
		Left		3		0%		11%			3	0	0%			3	0	3	0.0%	0	0	3	
		Through		25	1	4%		89%			25	1	4%			26	0	26	0.0%	0	0	26	
		Right		0		0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
St. Andrew's Dr. at E Rio Pinar Tr.	Eastbound	U-Turn	2023			0%	33	0%	1.00	33	0	0	0%	1.00%	35	0	0	0	0.0%	0	0	0	0.75
		Left				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Through		33		0%		100%			33	0	0%			35	0	35	0.0%	0	0	35	
		Right				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
	Westbound	U-Turn				0%	36	0%		36	0	0	0%	1.00%	38	0	0	0	0.0%	0	0	0	
		Left				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Through		21		0%		58%			21	0	0%			22	0	22	0.0%	0	0	22	
		Right		15		0%		42%			15	0	0%			16	0	16	0.0%	0	0	16	
	Northbound	U-Turn				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0	0.0%	0	0	0	
		Left				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
	Southbound	U-Turn				0%	20	0%		20	0	0	0%	1.00%	21	0	0	0	0.0%	0	0	0	
		Left		20	2	10%		100%			20	2	10%			21	0	21	0.0%	0	0	21	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	

Intersection	Approach	Mvmn't.	TMCs Collected: TMC Year	Raw Count	Raw Truck Count	% Heavy Vehicles	Approach Volume	% Turn Distribution	2023 Factored Existing Traffic: Seasonal Factor	Approach Volume	Est. Count	Est. Truck Count	% Heavy Vehicles	Background Traffic: Approach Growth Rate	Approach Volume	Background Volume w/o Vested	Vested Traffic	Total Background Volume	Build-Out Traffic: % Model Distribution	Trip Direction	Project Trips	Total Build-Out Volume	Peak-Hour Factor
St. Andrew's Dr. at Iroquois Tr.	Eastbound	U-Turn	2023			0%	53	0%	1.00	53	0	0	0%	1.00%	56	0	0	0	0.0%	0	0	0	0.81
		Left				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Through		44	1	2%		83%			44	1	2%			46	0	46	0.0%	0	0	46	
		Right		9	1	11%		17%			9	1	11%			9	0	9	0.0%	0	0	9	
	Westbound	U-Turn				0%	45	0%		45	0	0	0%	1.00%	47	0	0	0	0.0%	0	0	0	
		Left		10		0%		22%			10	0	0%			11	0	11	4.0%	out	4	15	
		Through		35	1	3%		78%			35	1	3%			37	0	37	0.0%	0	0	37	
		Right				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
	Northbound	U-Turn				0%	19	0%		19	0	0	0%	1.00%	20	0	0	0	0.0%	0	0	0	
		Left		9	1	11%		47%			9	1	11%			9	0	9	0.0%	0	0	9	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right		10		0%		53%			10	0	0%			11	0	11	4.0%	in	7	18	
	Southbound	U-Turn				0%	0	0%		0	0	0	0%	1.00%	0	0	0	0	0.0%	0	0	0	
		Left				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Through				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	
		Right				0%		0%			0	0	0%			0	0	0	0.0%	0	0	0	

APPENDIX G

Intersections Summary Work Sheets

2028 Background Conditions

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	79	2	83	0	0	1	44	453	3	0	707	38
Future Vol, veh/h	79	2	83	0	0	1	44	453	3	0	707	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	118	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	2	3	2	2	100	7	5	2	2	2	11
Mvmt Flow	88	2	92	0	0	1	49	503	3	0	786	42

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1157	1411	414	997	1431	253	828	0	0	506	0	0
Stage 1	807	807	-	603	603	-	-	-	-	-	-	-
Stage 2	350	604	-	394	828	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.54	6.96	7.54	6.54	8.9	4.24	-	-	4.14	-	-
Critical Hdwy Stg 1	6.56	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.02	3.33	3.52	4.02	4.3	2.27	-	-	2.22	-	-
Pot Cap-1 Maneuver	150	137	584	198	133	519	768	-	-	1055	-	-
Stage 1	339	392	-	453	487	-	-	-	-	-	-	-
Stage 2	637	486	-	602	384	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	142	128	584	158	124	519	768	-	-	1055	-	-
Mov Cap-2 Maneuver	245	250	-	272	231	-	-	-	-	-	-	-
Stage 1	317	392	-	424	456	-	-	-	-	-	-	-
Stage 2	595	455	-	504	384	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.3	12	0.9	0
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	768	-	-	347	519	1055	-	-
HCM Lane V/C Ratio	0.064	-	-	0.525	0.002	-	-	-
HCM Control Delay (s)	10	-	-	26.3	12	0	-	-
HCM Lane LOS	B	-	-	D	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	2.9	0	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	159	81	2	4	0
Future Vol, veh/h	0	159	81	2	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	3	9	2	2	2
Mvmt Flow	0	183	93	2	5	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	95	0	-	0	277	94
Stage 1	-	-	-	-	94	-
Stage 2	-	-	-	-	183	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1499	-	-	-	713	963
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	848	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1499	-	-	-	713	963
Mov Cap-2 Maneuver	-	-	-	-	713	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	848	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1499	-	-	-	713
HCM Lane V/C Ratio	-	-	-	-	0.006
HCM Control Delay (s)	0	-	-	-	10.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	3	37	78	5
Future Vol, veh/h	0	0	3	37	78	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	14	4	2
Mvmt Flow	0	0	3	42	88	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	45	0	-	0	24	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.44	6.22
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.218	-	-	-	3.536	3.318
Pot Cap-1 Maneuver	1563	-	-	-	987	1052
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1563	-	-	-	987	1052
Mov Cap-2 Maneuver	-	-	-	-	987	-
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1563	-	-	-	991
HCM Lane V/C Ratio	-	-	-	-	0.094
HCM Control Delay (s)	0	-	-	-	9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Movement	WBL	WBR	SEL	SER	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	40	0	5	4	0	76
Future Volume (Veh/h)	40	0	5	4	0	76
Sign Control	Free		Stop		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	50	0	6	5	0	95
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		195	100	100	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		195	100	100	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	97		99	99	100	91
cM capacity (veh/h)	1604		681	765	765	1085

Direction, Lane #	WB 1	SE 1	NE 1
Volume Total	50	11	95
Volume Left	50	6	0
Volume Right	0	0	95
cSH	1604	717	1085
Volume to Capacity	0.03	0.02	0.09
Queue Length 95th (ft)	2	1	7
Control Delay (s)	7.3	10.1	8.6
Lane LOS	A	B	A
Approach Delay (s)	7.3	10.1	8.6
Approach LOS		B	A

Intersection Summary			
Average Delay	8.3		
Intersection Capacity Utilization	21.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	1	81	41	40	79	0
Future Vol, veh/h	1	81	41	40	79	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	5	13	4	2
Mvmt Flow	1	93	47	46	91	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	93	0	-	0	165	70
Stage 1	-	-	-	-	70	-
Stage 2	-	-	-	-	95	-
Critical Hdwy	4.12	-	-	-	6.44	6.22
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.218	-	-	-	3.536	3.318
Pot Cap-1 Maneuver	1501	-	-	-	821	993
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	924	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1501	-	-	-	820	993
Mov Cap-2 Maneuver	-	-	-	-	820	-
Stage 1	-	-	-	-	947	-
Stage 2	-	-	-	-	924	-

Approach	EB	WB	SE
HCM Control Delay, s	0.1	0	9.9
HCM LOS			A

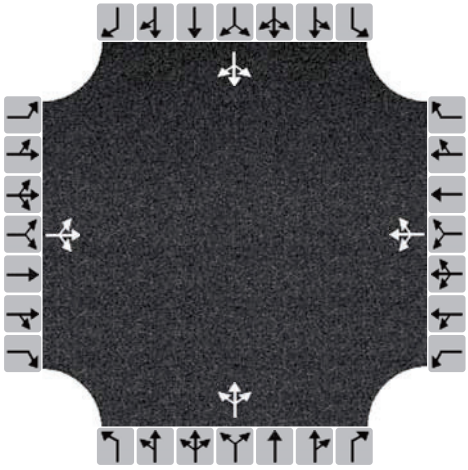
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1501	-	-	-	820
HCM Lane V/C Ratio	0.001	-	-	-	0.111
HCM Control Delay (s)	7.4	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4

HCS All-Way Stop Control Report

General and Site Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	Background A.M. Peak-hour
Project Description	5361.09 Tomoka Oaks Residential
Intersection	S St. Andrews at W Rio
Jurisdiction	Volusia
East/West Street	S St. Andrews Dr
North/South Street	W Rio Pinar Dr
Peak Hour Factor	0.86

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	0	6	16	11	3	0	3	25	17	4	53	0
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	26			16			52			66		
Percent Heavy Vehicles	2			2			2			25		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.023			0.014			0.047			0.059		
Final Departure Headway, h_d (s)	3.78			4.38			3.88			4.48		
Final Degree of Utilization, x	0.027			0.020			0.056			0.082		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	1.78			2.38			1.88			2.48		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	26			16			52			66		
Capacity (veh/h)	953			822			928			804		
95% Queue Length, Q_{95} (veh)	0.1			0.1			0.2			0.3		
Control Delay (s/veh)	6.9			7.5			7.1			7.9		
Level of Service, LOS	A			A			A			A		
Approach Delay (s/veh) | LOS	6.9	A		7.5	A		7.1	A		7.9	A	
Intersection Delay (s/veh) | LOS	7.4						A					

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HCS Two-Way Stop-Control Report

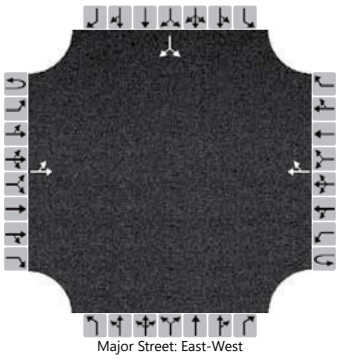
General Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2028
Time Analyzed	Background A.M. Peak-hour
Intersection Orientation	East-West
Project Description	5361.09 Tomoka Oaks Residetial

Site Information

Intersection	St. Andrews Dr at E Rio
Jurisdiction	Volusia
East/West Street	St. Andrews Dr
North/South Street	E Rio Pinar Dr
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		1	25				18	15						26		1
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1													30	
Capacity, c (veh/h)		1574													951	
v/c Ratio		0.00													0.03	
95% Queue Length, Q_{95} (veh)		0.0													0.1	
Control Delay (s/veh)		7.3	0.0												8.9	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)	0.3												8.9			
Approach LOS	A												A			

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HCS Two-Way Stop-Control Report

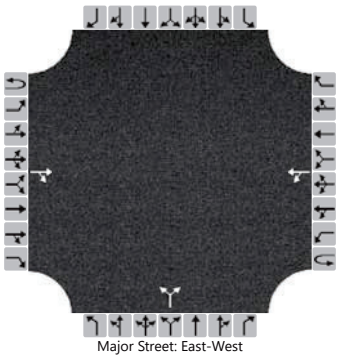
General Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2028
Time Analyzed	Background A.M. Peak-hour
Intersection Orientation	East-West
Project Description	5361.09 Tomoka Oaks Residetioal

Site Information

Intersection	St. Andrews Dr at Iroquoi
Jurisdiction	Volusia
East/West Street	St. Andrews Dr
North/South Street	Iroquois Tr
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			47	12		11	32			2		6				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						12					9					
Capacity, c (veh/h)						1539					972					
v/c Ratio						0.01					0.01					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						7.4	0.1				8.7					
Level of Service (LOS)						A	A				A					
Approach Delay (s/veh)					1.9				8.7							
Approach LOS					A				A							

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Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	0	56	11	1	8	92	761	3	1	678	61
Future Vol, veh/h	45	0	56	11	1	8	92	761	3	1	678	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	118	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	4	2	2	2	2	2	2	100	2	2
Mvmt Flow	48	0	60	12	1	9	98	810	3	1	721	65

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1358	1765	393	1371	1796	407	786	0	0	813	0	0
Stage 1	756	756	-	1008	1008	-	-	-	-	-	-	-
Stage 2	602	1009	-	363	788	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.98	7.54	6.54	6.94	4.14	-	-	6.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.34	3.52	4.02	3.32	2.22	-	-	3.2	-	-
Pot Cap-1 Maneuver	107	83	600	105	79	593	829	-	-	398	-	-
Stage 1	366	414	-	258	316	-	-	-	-	-	-	-
Stage 2	453	316	-	628	400	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	95	73	600	86	69	593	829	-	-	398	-	-
Mov Cap-2 Maneuver	204	183	-	173	164	-	-	-	-	-	-	-
Stage 1	323	413	-	228	279	-	-	-	-	-	-	-
Stage 2	392	279	-	564	399	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.7	21.5	1.1	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	829	-	-	322	240	398	-	-
HCM Lane V/C Ratio	0.118	-	-	0.334	0.089	0.003	-	-
HCM Control Delay (s)	9.9	-	-	21.7	21.5	14.1	-	-
HCM Lane LOS	A	-	-	C	C	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	1.4	0.3	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	106	149	9	5	1
Future Vol, veh/h	0	106	149	9	5	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	3	2	11	2	100
Mvmt Flow	0	112	157	9	5	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	166	0	-	0	274	162
Stage 1	-	-	-	-	162	-
Stage 2	-	-	-	-	112	-
Critical Hdwy	4.12	-	-	-	6.42	7.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	4.2
Pot Cap-1 Maneuver	1412	-	-	-	716	680
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	913	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1412	-	-	-	716	680
Mov Cap-2 Maneuver	-	-	-	-	716	-
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	913	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1412	-	-	-	710
HCM Lane V/C Ratio	-	-	-	-	0.009
HCM Control Delay (s)	0	-	-	-	10.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	2	86	47	4
Future Vol, veh/h	1	0	2	86	47	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	2	91	49	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	93	0	-	0	50	48
Stage 1	-	-	-	-	48	-
Stage 2	-	-	-	-	2	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1501	-	-	-	959	1021
Stage 1	-	-	-	-	974	-
Stage 2	-	-	-	-	1021	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1501	-	-	-	958	1021
Mov Cap-2 Maneuver	-	-	-	-	958	-
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	1021	-

Approach	EB	WB	SB
HCM Control Delay, s	7.4	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1501	-	-	-	963
HCM Lane V/C Ratio	0.001	-	-	-	0.056
HCM Control Delay (s)	7.4	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Movement	WBL	WBR	SEL	SER	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	64	0	1	5	1	61
Future Volume (Veh/h)	64	0	1	5	1	61
Sign Control	Free		Stop		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	75	0	1	6	1	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		222	150	150	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		222	150	150	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	95		100	99	100	93
cM capacity (veh/h)	1623		660	707	707	1082

Direction, Lane #	WB 1	SE 1	NE 1
Volume Total	75	7	73
Volume Left	75	1	0
Volume Right	0	0	72
cSH	1623	700	1074
Volume to Capacity	0.05	0.01	0.07
Queue Length 95th (ft)	4	1	5
Control Delay (s)	7.3	10.2	8.6
Lane LOS	A	B	A
Approach Delay (s)	7.3	10.2	8.6
Approach LOS		B	A

Intersection Summary			
Average Delay	8.1		
Intersection Capacity Utilization	20.7%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	2	58	64	85	46	1
Future Vol, veh/h	2	58	64	85	46	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	62	68	90	49	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	158	0	-	0	179	113
Stage 1	-	-	-	-	113	-
Stage 2	-	-	-	-	66	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1422	-	-	-	811	940
Stage 1	-	-	-	-	912	-
Stage 2	-	-	-	-	957	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1422	-	-	-	810	940
Mov Cap-2 Maneuver	-	-	-	-	810	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	957	-

Approach	EB	WB	SE
HCM Control Delay, s	0.3	0	9.7
HCM LOS			A

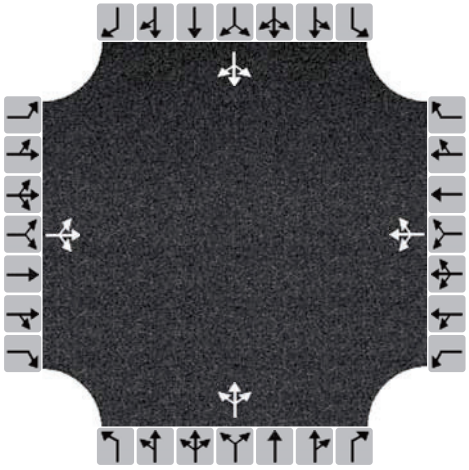
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1422	-	-	-	812
HCM Lane V/C Ratio	0.001	-	-	-	0.062
HCM Control Delay (s)	7.5	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCS All-Way Stop Control Report

General and Site Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	Background P.M. Peak-hour
Project Description	5361.09 Tomoka Oaks Residentail
Intersection	S St. Andrews at W Rio
Jurisdiction	Volusia
East/West Street	S St. Andrews Dr
North/South Street	W Rio Pinar Dr
Peak Hour Factor	0.91

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	1	14	11	15	6	0	15	48	18	3	26	0
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	29			23			89			32		
Percent Heavy Vehicles	100			2			2			2		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.025			0.021			0.079			0.028		
Final Departure Headway, h_d (s)	5.64			4.37			4.01			4.18		
Final Degree of Utilization, x	0.045			0.028			0.099			0.037		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	3.64			2.37			2.01			2.18		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	29			23			89			32		
Capacity (veh/h)	638			823			898			862		
95% Queue Length, Q_{95} (veh)	0.1			0.1			0.3			0.1		
Control Delay (s/veh)	8.9			7.5			7.4			7.3		
Level of Service, LOS	A			A			A			A		
Approach Delay (s/veh) | LOS	8.9	A		7.5	A		7.4	A		7.3	A	
Intersection Delay (s/veh) | LOS	7.7						A					

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HCS Two-Way Stop-Control Report

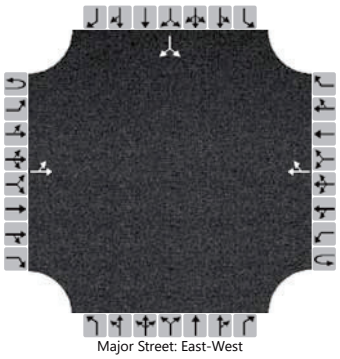
General Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2028
Time Analyzed	Background P.M. Peak-hour
Intersection Orientation	East-West
Project Description	5361.09 Tomoka Oaks Residetial

Site Information

Intersection	St. Andrews Dr at E Rio
Jurisdiction	Volusia
East/West Street	St. Andrews Dr
North/South Street	E Rio Pinar Dr
Peak Hour Factor	0.75
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		0	35				22	16						21		0
Percent Heavy Vehicles (%)		2												10		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.50		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.59		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0													28	
Capacity, c (veh/h)		1556													895	
v/c Ratio		0.00													0.03	
95% Queue Length, Q_{95} (veh)		0.0													0.1	
Control Delay (s/veh)		7.3	0.0												9.2	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)	0.0												9.2			
Approach LOS	A												A			

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HCS Two-Way Stop-Control Report

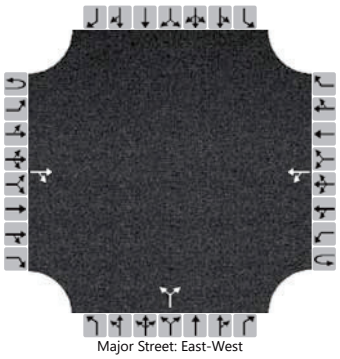
General Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2028
Time Analyzed	Background P.M. Peak-hour
Intersection Orientation	East-West
Project Description	5361.09 Tomoka Oaks Residetial

Site Information

Intersection	St. Andrews Dr at Iroquoi
Jurisdiction	Volusia
East/West Street	St. Andrews Dr
North/South Street	Iroquois Tr
Peak Hour Factor	0.81
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			46	9		11	37			9		11				
Percent Heavy Vehicles (%)						2				11		2				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.51		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.60		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						14					25					
Capacity, c (veh/h)						1533					917					
v/c Ratio						0.01					0.03					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.4	0.1				9.0					
Level of Service (LOS)						A	A				A					
Approach Delay (s/veh)					1.7				9.0							
Approach LOS					A				A							

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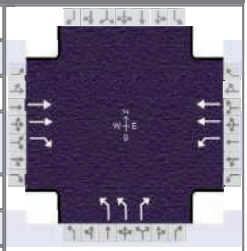
HCS Signalized Intersection Results Summary

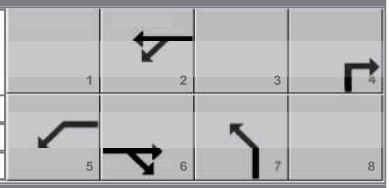
General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Background AM Peak-hour	PHF	0.89
Urban Street	US 1	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	US 1 at Nova Rd	File Name	1- US 1 at Nova Rd_AM.xus		
Project Description	5361.09 Tomoka Oaks Residential				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1090	734	34	816		509		75			

Signal Information			
Cycle, s	85.6	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.6	40.3	19.0	0.0	0.0	0.0
Yellow	5.5	5.5	4.5	0.0	0.0	0.0
Red	2.0	2.0	3.2	0.0	0.0	0.0



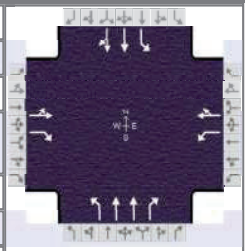
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6	5	2		4		
Case Number		7.3	1.0	4.0		9.0		
Phase Duration, s		47.8	11.1	58.9		26.7		
Change Period, ($Y+R_c$), s		7.5	7.5	7.5		7.7		
Max Allow Headway (*MAH*), s		4.9	4.9	4.9		5.2		
Queue Clearance Time (g_s), s		31.6	2.9	14.4		15.3		
Green Extension Time (g_e), s		8.3	0.1	23.4		3.7		
Phase Call Probability		1.00	0.60	1.00		1.00		
Max Out Probability		0.89	0.00	0.70		0.13		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2		7		14			
Adjusted Flow Rate (*v*), veh/h		1225	627	38	917		572		84			
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1781		1781	1724		1716		1585			
Queue Service Time (g_s), s		23.7		0.9	12.4		13.3		3.7			
Cycle Queue Clearance Time (g_c), s		23.7		0.9	12.4		13.3		3.7			
Green Ratio (*g/C*)		0.47		0.54	0.60		0.22		0.22			
Capacity (*c*), veh/h		1676		246	2069		763		352			
Volume-to-Capacity Ratio (*X*)		0.731		0.155	0.443		0.750		0.239			
Back of Queue (*Q*), ft/ln (95 th percentile)		332.8		13.8	165		239.3		64.7			
Back of Queue (*Q*), veh/ln (95 th percentile)		13.1		0.5	6.3		9.3		2.5			
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.02	0.00		0.75		0.00			
Uniform Delay (d_1), s/veh		18.3		13.7	9.3		31.1		27.3			
Incremental Delay (d_2), s/veh		1.5		0.4	0.2		2.1		0.5			
Initial Queue Delay (d_3), s/veh		0.0		0.0	0.0		0.0		0.0			
Control Delay (*d*), s/veh		19.8	0.0	14.1	9.5		33.2		27.8			
Level of Service (LOS)		B	A	B	A		C		C			
Approach Delay, s/veh / LOS	13.1	B		9.7	A		32.5	C		0.0		
Intersection Delay, s/veh / LOS	15.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.09	B	0.68	A	2.31	B	2.56	C
Bicycle LOS Score / LOS	2.02	B	1.28	A		F		

HCS Signalized Intersection Results Summary

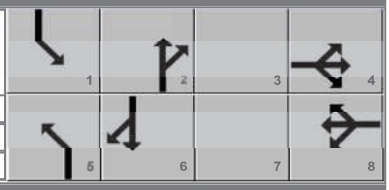
General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Background AM Peak-hour	PHF	0.93
Urban Street	Nova Rd	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Nova Rd at Wilmette Rd	File Name	3- Nova Rd at Wilmette Ave_ AM.xus		
Project Description	5361.09 Tomoka Oaks Residentail				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	47	72	129	184	65	29	71	486	132	33	753	62

Signal Information			
Cycle, s	81.6	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	2.8	1.9	30.0	8.2	11.7	0.0	
Yellow	5.0	0.0	4.0	4.0	4.0	0.0	
Red	2.5	0.0	2.5	2.5	2.5	0.0	



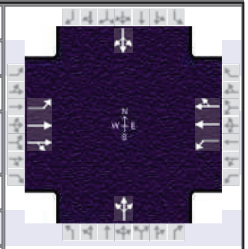
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		11.0		10.0	2.0	3.0	2.0	4.0
Phase Duration, s		14.7		18.2	12.2	38.4	10.3	36.5
Change Period, ($Y+R_c$), s		6.5		6.5	7.5	7.5	7.5	7.5
Max Allow Headway (*MAH*), s		4.3		4.3	4.0	4.9	4.0	4.9
Queue Clearance Time (g_s), s		7.5		10.8	5.5	11.0	3.6	18.4
Green Extension Time (g_e), s		0.7		0.9	0.1	11.1	0.0	10.5
Phase Call Probability		0.99		1.00	0.82	1.00	0.55	1.00
Max Out Probability		0.00		0.00	0.00	0.08	0.00	0.14

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		128	100	198	101		76	523	43	35	444	432
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1834	1560	1767	1772		1753	1738	1585	1767	1870	1820
Queue Service Time (g_s), s		5.5	5.0	8.8	4.2		3.5	9.0	1.4	1.6	16.4	16.4
Cycle Queue Clearance Time (g_c), s		5.5	5.0	8.8	4.2		3.5	9.0	1.4	1.6	16.4	16.4
Green Ratio (*g/C*)		0.10	0.10	0.14	0.14		0.06	0.38	0.38	0.03	0.35	0.35
Capacity (*c*), veh/h		185	157	255	255		100	1315	600	60	664	646
Volume-to-Capacity Ratio (*X*)		0.692	0.636	0.777	0.396		0.761	0.397	0.072	0.591	0.669	0.669
Back of Queue (*Q*), ft/ln (95 th percentile)		122.2	96.4	188.7	85.4		80.6	154.2	21.8	37.5	279.9	269.9
Back of Queue (*Q*), veh/ln (95 th percentile)		4.8	3.7	7.4	3.4		3.1	5.9	0.9	1.5	11.0	10.8
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	1.48	2.52	0.00		0.61	0.00	0.07	0.15	0.00	0.00
Uniform Delay (d_1), s/veh		35.5	35.3	33.7	31.7		38.0	18.6	16.2	38.9	22.3	22.3
Incremental Delay (d_2), s/veh		4.6	4.2	5.1	1.0		11.2	0.3	0.1	8.9	1.7	1.7
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		40.1	39.5	38.8	32.7		49.1	18.9	16.3	47.8	23.9	24.0
Level of Service (LOS)		D	D	D	C		D	B	B	D	C	C
Approach Delay, s/veh / LOS	39.8	D		36.7	D		22.3	C		24.9	C	
Intersection Delay, s/veh / LOS	27.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.58	C	2.31	B	1.91	B	1.96	B
Bicycle LOS Score / LOS	0.86	A	0.98	A	1.02	A	1.24	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Background AM Peak-hour	PHF	0.91
Urban Street	SR 40	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	SR 40 at Main Trail	File Name	9- SR 40 at Main Trail_ AM.xus		
Project Description	5361.09 Tomoka Oaks Residential				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	106	1134	177	55	1155	21	125	36	18	29	64	173

Signal Information			
Cycle, s	122.7	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4
Green	4.4	1.1	66.1	30.0	0.0	0.0	5	6	7	8
Yellow	4.8	0.0	4.8	3.5	0.0	0.0				
Red	2.8	0.0	2.0	3.3	0.0	0.0				

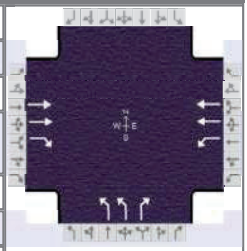
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.1	4.0	1.1	4.0		8.0		8.0
Phase Duration, s	13.1	74.0	12.0	72.9		36.8		36.8
Change Period, ($Y+R_c$), s	7.3	6.8	7.6	6.8		6.8		6.8
Max Allow Headway (*MAH*), s	4.0	5.0	4.0	5.0		4.5		4.5
Queue Clearance Time (g_s), s	5.6	39.0	3.8	32.1		29.9		20.9
Green Extension Time (g_e), s	0.3	28.2	0.1	31.2		0.0		1.5
Phase Call Probability	0.98	1.00	0.87	1.00		1.00		1.00
Max Out Probability	0.00	0.65	0.00	0.60		1.00		0.21

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	116	734	707	60	648	644		197			292	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1856	1768	1781	1870	1858		878			1737	
Queue Service Time (g_s), s	3.6	36.3	37.0	1.8	30.0	30.1		9.0			0.0	
Cycle Queue Clearance Time (g_c), s	3.6	36.3	37.0	1.8	30.0	30.1		27.9			18.9	
Green Ratio (*g/C*)	0.59	0.55	0.55	0.57	0.54	0.54		0.24			0.24	
Capacity (*c*), veh/h	268	1016	968	207	1007	1001		264			457	
Volume-to-Capacity Ratio (*X*)	0.435	0.722	0.730	0.292	0.643	0.644		0.744			0.640	
Back of Queue (*Q*), ft/ln (95 th percentile)	63.8	545.8	521.6	33.3	460.9	451.5		279.9			337.8	
Back of Queue (*Q*), veh/ln (95 th percentile)	2.5	21.3	20.9	1.3	18.1	18.1		11.0			13.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.23	0.00	0.00	0.12	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	16.3	20.8	20.9	18.5	20.0	20.0		47.3			42.3	
Incremental Delay (d_2), s/veh	1.1	2.1	2.3	0.8	1.1	1.1		10.8			3.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	17.5	22.8	23.2	19.3	21.1	21.1		58.2			45.3	
Level of Service (LOS)	B	C	C	B	C	C		E			D	
Approach Delay, s/veh / LOS	22.6	C		21.1	C		58.2	E		45.3	D	
Intersection Delay, s/veh / LOS	26.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.68	B	2.30	B	2.30	B
Bicycle LOS Score / LOS	1.77	B	1.60	B	0.81	A	0.97	A

HCS Signalized Intersection Results Summary

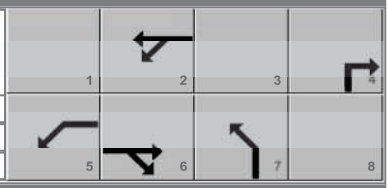
General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Background PM Peak-hour	PHF	0.95
Urban Street	US 1	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	US 1 at Nova Rd	File Name	1.1- US 1 at Nova Rd_PM.xus		
Project Description	5361.09 Tomoka Oaks Residential				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1103	725	71	1047		742		65			

Signal Information			
Cycle, s	92.2	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.1	39.3	25.1	0.0	0.0	0.0
Yellow	5.5	5.5	4.5	0.0	0.0	0.0
Red	2.0	2.0	3.2	0.0	0.0	0.0



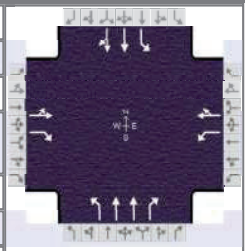
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6	5	2		4		
Case Number		7.3	1.0	4.0		9.0		
Phase Duration, s		46.8	12.6	59.4		32.8		
Change Period, ($Y+R_c$), s		7.5	7.5	7.5		7.7		
Max Allow Headway (*MAH*), s		4.9	4.9	4.9		5.1		
Queue Clearance Time (g_s), s		32.4	4.0	20.1		21.6		
Green Extension Time (g_e), s		6.9	0.3	20.2		3.5		
Phase Call Probability		1.00	0.85	1.00		1.00		
Max Out Probability		0.90	0.00	0.77		0.60		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2		7		14			
Adjusted Flow Rate (*v*), veh/h		1161	578	75	1102		781		68			
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1781		1781	1781		1730		1585			
Queue Service Time (g_s), s		25.6		2.0	18.1		19.6		3.0			
Cycle Queue Clearance Time (g_c), s		25.6		2.0	18.1		19.6		3.0			
Green Ratio (*g/C*)		0.43		0.50	0.56		0.27		0.27			
Capacity (*c*), veh/h		1517		249	2004		943		432			
Volume-to-Capacity Ratio (*X*)		0.765		0.301	0.550		0.829		0.158			
Back of Queue (*Q*), ft/ln (95 th percentile)		374.2		34.1	249.5		337.3		52.1			
Back of Queue (*Q*), veh/ln (95 th percentile)		14.7		1.3	9.8		13.3		2.1			
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.05	0.00		1.05		0.00			
Uniform Delay (d_1), s/veh		22.6		16.8	12.8		31.5		25.5			
Incremental Delay (d_2), s/veh		2.1		1.0	0.4		5.0		0.2			
Initial Queue Delay (d_3), s/veh		0.0		0.0	0.0		0.0		0.0			
Control Delay (*d*), s/veh		24.6	0.0	17.7	13.2		36.5		25.8			
Level of Service (LOS)		C	A	B	B		D		C			
Approach Delay, s/veh / LOS	16.4	B		13.5	B		35.7	D		0.0		
Intersection Delay, s/veh / LOS	19.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	0.69	A	2.31	B	2.56	C
Bicycle LOS Score / LOS	1.92	B	1.46	A		F		

HCS Signalized Intersection Results Summary

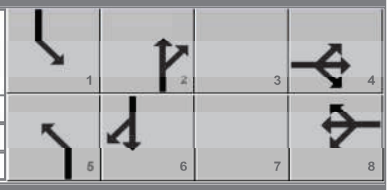
General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Background PM Peak-hour	PHF	0.95
Urban Street	Nova Rd	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Nova Rd at Wilmette Rd	File Name	3.1- Nova Rd at Wilmette Ave_PM.xus		
Project Description	5361.09 Tomoka Oaks Residentail				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	103	84	104	228	110	28	121	788	181	31	716	82

Signal Information			
Cycle, s	101.8	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.0	6.1	35.9	13.4	16.4	0.0	
Yellow	5.0	0.0	4.0	4.0	4.0	0.0	
Red	2.5	0.0	2.5	2.5	2.5	0.0	



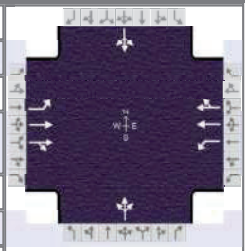
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		11.0		10.0	2.0	3.0	2.0	4.0
Phase Duration, s		19.9		22.9	16.6	48.5	10.5	42.4
Change Period, ($Y+R_c$), s		6.5		6.5	7.5	7.5	7.5	7.5
Max Allow Headway (*MAH*), s		4.3		4.2	4.0	5.0	4.0	5.0
Queue Clearance Time (g_s), s		12.7		15.3	9.1	20.5	3.8	21.9
Green Extension Time (g_e), s		0.7		1.0	0.2	13.3	0.0	13.0
Phase Call Probability		1.00		1.00	0.97	1.00	0.60	1.00
Max Out Probability		0.01		0.08	0.00	0.28	0.00	0.30

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		197	45	240	145		127	829	71	33	428	412
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1820	1585	1781	1804		1781	1781	1415	1781	1870	1802
Queue Service Time (g_s), s		10.7	2.6	13.3	7.5		7.1	18.5	3.2	1.8	19.9	19.9
Cycle Queue Clearance Time (g_c), s		10.7	2.6	13.3	7.5		7.1	18.5	3.2	1.8	19.9	19.9
Green Ratio (*g/C*)		0.13	0.13	0.16	0.16		0.09	0.40	0.40	0.03	0.34	0.34
Capacity (*c*), veh/h		240	209	287	290		160	1435	570	53	641	618
Volume-to-Capacity Ratio (*X*)		0.821	0.217	0.837	0.500		0.796	0.578	0.124	0.618	0.667	0.667
Back of Queue (*Q*), ft/ln (95 th percentile)		230.2	48	272.3	157.3		156.7	298.5	46.6	43.8	341.6	326.8
Back of Queue (*Q*), veh/ln (95 th percentile)		9.1	1.9	10.7	6.2		6.2	11.8	1.8	1.7	13.5	13.1
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	0.74	3.63	0.00		1.18	0.00	0.16	0.18	0.00	0.00
Uniform Delay (d_1), s/veh		43.1	39.5	41.5	39.0		45.5	23.7	19.1	48.9	28.5	28.5
Incremental Delay (d_2), s/veh		6.8	0.5	8.5	1.3		8.7	0.5	0.1	11.2	1.7	1.8
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		49.9	40.1	50.0	40.4		54.1	24.2	19.3	60.0	30.2	30.3
Level of Service (LOS)		D	D	D	D		D	C	B	E	C	C
Approach Delay, s/veh / LOS	48.1	D		46.3	D		27.6	C		31.4	C	
Intersection Delay, s/veh / LOS	33.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.62	C	2.31	B	1.91	B	2.01	B
Bicycle LOS Score / LOS	0.89	A	1.12	A	1.34	A	1.21	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Background PM Peak-hour	PHF	0.93
Urban Street	SR 40	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	SR 40 at Main Trail	File Name	9.1- SR 40 at Main Trail_ PM.xus		
Project Description	5361.09 Tomoka Oaks Residential				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	234	1482	88	7	1456	36	53	7	5	19	6	155

Signal Information			
Cycle, s	170.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.5	103.0	5.0	21.9	0.0	0.0
Yellow	4.8	4.8	4.8	3.5	0.0	0.0
Red	2.5	2.0	2.8	3.3	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.2	4.0	1.3	4.0		8.0		8.0
Phase Duration, s	18.8	128.7	12.6	122.4		28.7		28.7
Change Period, ($Y+R_c$), s	7.3	6.8	7.6	7.6		6.8		6.8
Max Allow Headway (*MAH*), s	4.0	0.0	4.0	0.0		4.5		4.5
Queue Clearance Time (g_s), s	10.8		2.0			21.6		20.6
Green Extension Time (g_e), s	0.7	0.0	2.0	0.0		0.4		0.4
Phase Call Probability	1.00		1.00			1.00		1.00
Max Out Probability	0.00		1.00			1.00		0.95

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	252	848	840	8	804	800		70			194	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1870	1833	1781	1870	1854		672			1718	
Queue Service Time (g_s), s	8.8	39.9	40.7	0.0	41.6	41.9		0.9			0.0	
Cycle Queue Clearance Time (g_c), s	8.8	39.9	40.7	0.0	41.6	41.9		19.6			18.6	
Green Ratio (*g/C*)	0.69	0.72	0.72	0.62	0.68	0.68		0.13			0.13	
Capacity (*c*), veh/h	277	1341	1314	231	1263	1252		125			245	
Volume-to-Capacity Ratio (*X*)	0.909	0.632	0.639	0.033	0.637	0.639		0.558			0.790	
Back of Queue (*Q*), ft/ln (95 th percentile)	309.5	575	567.4	7.3	616.9	606.9		145.9			362.2	
Back of Queue (*Q*), veh/ln (95 th percentile)	12.2	22.6	22.7	0.3	24.3	24.3		5.7			14.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	1.11	0.00	0.00	0.03	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	28.5	12.5	12.6	22.3	15.7	15.8		73.1			72.8	
Incremental Delay (d_2), s/veh	15.6	2.3	2.4	0.1	2.5	2.5		3.9			13.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	44.1	14.7	15.0	22.3	18.2	18.3		76.9			85.8	
Level of Service (LOS)	D	B	B	C	B	B		E			F	
Approach Delay, s/veh / LOS	18.6	B		18.2	B		76.9	E		85.8	F	
Intersection Delay, s/veh / LOS	23.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.75	B	1.66	B	2.32	B	2.32	B
Bicycle LOS Score / LOS	2.09	B	1.82	B	0.60	A	0.81	A

APPENDIX H

Intersections Summary Work Sheets

2028 Buildout Conditions

Intersection	
Int Delay, s/veh	18.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	139	2	166	0	0	1	74	453	3	0	707	59
Future Vol, veh/h	139	2	166	0	0	1	74	453	3	0	707	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	118	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	2	3	2	2	100	7	5	2	2	2	11
Mvmt Flow	154	2	184	0	0	1	82	503	3	0	786	66

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1235	1489	426	1063	1521	253	852	0	0	506	0	0
Stage 1	819	819	-	669	669	-	-	-	-	-	-	-
Stage 2	416	670	-	394	852	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.54	6.96	7.54	6.54	8.9	4.24	-	-	4.14	-	-
Critical Hdwy Stg 1	6.56	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.02	3.33	3.52	4.02	4.3	2.27	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 132	123	574	177	117	519	751	-	-	1055	-	-
Stage 1	334	388	-	413	454	-	-	-	-	-	-	-
Stage 2	582	454	-	602	374	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 121	110	574	109	104	519	751	-	-	1055	-	-
Mov Cap-2 Maneuver	222	231	-	207	201	-	-	-	-	-	-	-
Stage 1	298	388	-	368	405	-	-	-	-	-	-	-
Stage 2	517	405	-	406	374	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	93.1	12	1.4	0
HCM LOS	F	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	751	-	-	332	519	1055	-	-
HCM Lane V/C Ratio	0.109	-	-	1.027	0.002	-	-	-
HCM Control Delay (s)	10.4	-	-	93.1	12	0	-	-
HCM Lane LOS	B	-	-	F	B	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	11.9	0	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	302	132	2	4	0
Future Vol, veh/h	0	302	132	2	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	3	9	2	2	2
Mvmt Flow	0	347	152	2	5	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	154	0	-	0	500	153
Stage 1	-	-	-	-	153	-
Stage 2	-	-	-	-	347	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1426	-	-	-	530	893
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	716	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1426	-	-	-	530	893
Mov Cap-2 Maneuver	-	-	-	-	530	-
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	716	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1426	-	-	-	530
HCM Lane V/C Ratio	-	-	-	-	0.009
HCM Control Delay (s)	0	-	-	-	11.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	54	37	78	5
Future Vol, veh/h	0	0	54	37	78	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	14	4	2
Mvmt Flow	0	0	61	42	88	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	103	0	-	0	82	82
Stage 1	-	-	-	-	82	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.44	6.22
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.218	-	-	-	3.536	3.318
Pot Cap-1 Maneuver	1489	-	-	-	915	978
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1489	-	-	-	915	978
Mov Cap-2 Maneuver	-	-	-	-	915	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1489	-	-	-	919
HCM Lane V/C Ratio	-	-	-	-	0.101
HCM Control Delay (s)	0	-	-	-	9.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Movement	WBL	WBR	SEL	SER	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	40	0	148	10	2	76
Future Volume (Veh/h)	40	0	148	10	2	76
Sign Control	Free		Stop		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	50	0	185	12	2	95
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		196	100	100	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		196	100	100	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	97		73	98	100	91
cM capacity (veh/h)	1604		678	765	765	1085

Direction, Lane #	WB 1	SE 1	NE 1
Volume Total	50	197	97
Volume Left	50	185	0
Volume Right	0	0	95
cSH	1604	683	1076
Volume to Capacity	0.03	0.29	0.09
Queue Length 95th (ft)	2	30	7
Control Delay (s)	7.3	12.4	8.7
Lane LOS	A	B	A
Approach Delay (s)	7.3	12.4	8.7
Approach LOS		B	A

Intersection Summary			
Average Delay	10.6		
Intersection Capacity Utilization	27.0%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	6.8

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	0	150	8	51	2	0
Future Vol, veh/h	0	150	8	51	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	200	11	68	3	0

Major/Minor	Minor2		Major2	
Conflicting Flow All	90	68	0	0
Stage 1	90	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.52	6.22	4.12	-
Critical Hdwy Stg 1	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	800	995	-	-
Stage 1	820	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	995	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	EB	WB
HCM Control Delay, s	9.5	
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	WBL	WBT
Capacity (veh/h)	995	-	-
HCM Lane V/C Ratio	0.201	-	-
HCM Control Delay (s)	9.5	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	1	224	41	91	79	0
Future Vol, veh/h	1	224	41	91	79	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	5	13	4	2
Mvmt Flow	1	257	47	105	91	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	152	0	-	0	359	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	259	-
Critical Hdwy	4.12	-	-	-	6.44	6.22
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.218	-	-	-	3.536	3.318
Pot Cap-1 Maneuver	1429	-	-	-	636	956
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	780	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1429	-	-	-	635	956
Mov Cap-2 Maneuver	-	-	-	-	635	-
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	780	-

Approach	EB	WB	SE
HCM Control Delay, s	0	0	11.6
HCM LOS			B

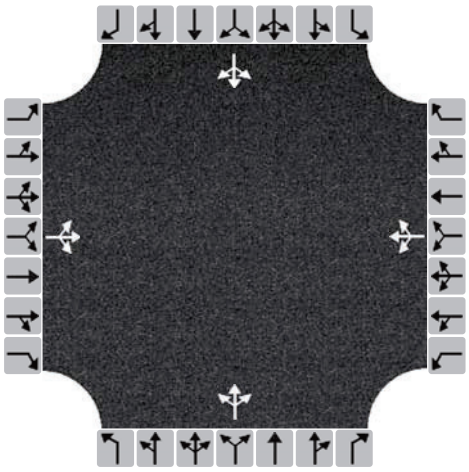
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1429	-	-	-	635
HCM Lane V/C Ratio	0.001	-	-	-	0.143
HCM Control Delay (s)	7.5	0	-	-	11.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

HCS All-Way Stop Control Report

General and Site Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	Buildout A.M. Peak-hour
Project Description	5361.09 Tomoka Oaks Residential
Intersection	S St. Andrews at W Rio
Jurisdiction	Volusia
East/West Street	S St. Andrews Dr
North/South Street	W Rio Pinar Dr
Peak Hour Factor	0.86

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	0	6	16	11	3	0	3	25	17	4	53	0
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	26			16			52			66		
Percent Heavy Vehicles	2			2			2			25		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.023			0.014			0.047			0.059		
Final Departure Headway, h_d (s)	3.78			4.38			3.88			4.48		
Final Degree of Utilization, x	0.027			0.020			0.056			0.082		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	1.78			2.38			1.88			2.48		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	26			16			52			66		
Capacity (veh/h)	953			822			928			804		
95% Queue Length, Q_{95} (veh)	0.1			0.1			0.2			0.3		
Control Delay (s/veh)	6.9			7.5			7.1			7.9		
Level of Service, LOS	A			A			A			A		
Approach Delay (s/veh) | LOS	6.9	A		7.5	A		7.1	A		7.9	A	
Intersection Delay (s/veh) | LOS	7.4						A					

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HCS Two-Way Stop-Control Report

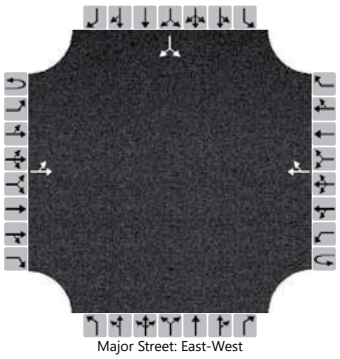
General Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2028
Time Analyzed	Buildout A.M. Peak-hour
Intersection Orientation	East-West
Project Description	5361.09 Tomoka Oaks Residetial

Site Information

Intersection	St. Andrews Dr at E Rio
Jurisdiction	Volusia
East/West Street	St. Andrews Dr
North/South Street	E Rio Pinar Dr
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		1	25				18	15						26		1
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1													30	
Capacity, c (veh/h)		1574													951	
v/c Ratio		0.00													0.03	
95% Queue Length, Q_{95} (veh)		0.0													0.1	
Control Delay (s/veh)		7.3	0.0												8.9	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)	0.3												8.9			
Approach LOS	A												A			

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HCS Two-Way Stop-Control Report

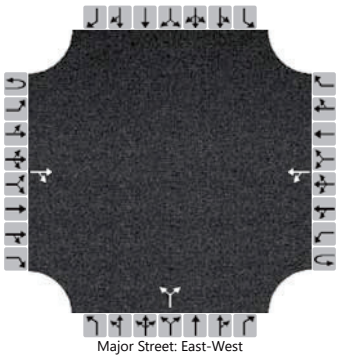
General Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2028
Time Analyzed	Buildout A.M. Peak-hour
Intersection Orientation	East-West
Project Description	5361.09 Tomoka Oaks Residetioal

Site Information

Intersection	St. Andrews Dr at Iroquoi
Jurisdiction	Volusia
East/West Street	St. Andrews Dr
North/South Street	Iroquois Tr
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			47	12		17	32			2		8				
Percent Heavy Vehicles (%)						2				2		2				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.42		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.52		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						18					11					
Capacity, c (veh/h)						1539					974					
v/c Ratio						0.01					0.01					
95% Queue Length, Q_{95} (veh)						0.0					0.0					
Control Delay (s/veh)						7.4	0.1				8.7					
Level of Service (LOS)						A	A				A					
Approach Delay (s/veh)					2.6				8.7							
Approach LOS					A				A							

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Intersection	
Int Delay, s/veh	8.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	86	0	114	11	1	8	191	761	3	1	678	131
Future Vol, veh/h	86	0	114	11	1	8	191	761	3	1	678	131
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	118	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	4	2	2	2	2	2	2	100	2	2
Mvmt Flow	91	0	121	12	1	9	203	810	3	1	721	139

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1605	2012	430	1581	2080	407	860	0	0	813	0	0
Stage 1	793	793	-	1218	1218	-	-	-	-	-	-	-
Stage 2	812	1219	-	363	862	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.98	7.54	6.54	6.94	4.14	-	-	6.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.34	3.52	4.02	3.32	2.22	-	-	3.2	-	-
Pot Cap-1 Maneuver	~ 70	58	568	73	53	593	777	-	-	398	-	-
Stage 1	348	398	-	191	251	-	-	-	-	-	-	-
Stage 2	339	251	-	628	370	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 55	43	568	46	39	593	777	-	-	398	-	-
Mov Cap-2 Maneuver	139	131	-	104	98	-	-	-	-	-	-	-
Stage 1	257	397	-	141	185	-	-	-	-	-	-	-
Stage 2	245	185	-	493	369	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	72.3	32.1	2.3	0
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	777	-	-	244	154	398	-	-
HCM Lane V/C Ratio	0.262	-	-	0.872	0.138	0.003	-	-
HCM Control Delay (s)	11.3	-	-	72.3	32.1	14.1	-	-
HCM Lane LOS	B	-	-	F	D	B	-	-
HCM 95th %tile Q(veh)	1	-	-	7.2	0.5	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	205	318	9	5	1
Future Vol, veh/h	0	205	318	9	5	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	3	2	11	2	100
Mvmt Flow	0	216	335	9	5	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	344	0	-	0	556	340
Stage 1	-	-	-	-	340	-
Stage 2	-	-	-	-	216	-
Critical Hdwy	4.12	-	-	-	6.42	7.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	4.2
Pot Cap-1 Maneuver	1215	-	-	-	492	526
Stage 1	-	-	-	-	721	-
Stage 2	-	-	-	-	820	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1215	-	-	-	492	526
Mov Cap-2 Maneuver	-	-	-	-	492	-
Stage 1	-	-	-	-	721	-
Stage 2	-	-	-	-	820	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1215	-	-	-	497
HCM Lane V/C Ratio	-	-	-	-	0.013
HCM Control Delay (s)	0	-	-	-	12.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	171	86	47	4
Future Vol, veh/h	1	0	171	86	47	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	180	91	49	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	271	0	-	0	228	226
Stage 1	-	-	-	-	226	-
Stage 2	-	-	-	-	2	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1292	-	-	-	760	813
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	1021	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1292	-	-	-	759	813
Mov Cap-2 Maneuver	-	-	-	-	759	-
Stage 1	-	-	-	-	811	-
Stage 2	-	-	-	-	1021	-

Approach	EB	WB	SB
HCM Control Delay, s	7.8	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1292	-	-	-	763
HCM Lane V/C Ratio	0.001	-	-	-	0.07
HCM Control Delay (s)	7.8	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Movement	WBL	WBR	SEL	SER	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	64	0	100	9	8	61
Future Volume (Veh/h)	64	0	100	9	8	61
Sign Control	Free		Stop		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	75	0	118	11	9	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		226	150	150	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		226	150	150	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	95		82	98	99	93
cM capacity (veh/h)	1623		650	707	707	1082

Direction, Lane #	WB 1	SE 1	NE 1
Volume Total	75	129	81
Volume Left	75	118	0
Volume Right	0	0	72
cSH	1623	655	1022
Volume to Capacity	0.05	0.20	0.08
Queue Length 95th (ft)	4	18	6
Control Delay (s)	7.3	11.8	8.8
Lane LOS	A	B	A
Approach Delay (s)	7.3	11.8	8.8
Approach LOS		B	A

Intersection Summary			
Average Delay	9.8		
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3.8

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	0	103	6	169	7	1
Future Vol, veh/h	0	103	6	169	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	137	8	225	9	1

Major/Minor	Minor2		Major2	
Conflicting Flow All	241	225	0	0
Stage 1	241	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.52	6.22	4.12	-
Critical Hdwy Stg 1	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	660	814	-	-
Stage 1	706	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	814	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	EB	WB
HCM Control Delay, s	10.3	
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	WBL	WBT
Capacity (veh/h)	814	-	-
HCM Lane V/C Ratio	0.169	-	-
HCM Control Delay (s)	10.3	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.6	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	2	157	64	254	46	1
Future Vol, veh/h	2	157	64	254	46	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	167	68	270	49	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	338	0	-	0	374	203
Stage 1	-	-	-	-	203	-
Stage 2	-	-	-	-	171	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1221	-	-	-	627	838
Stage 1	-	-	-	-	831	-
Stage 2	-	-	-	-	859	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1221	-	-	-	626	838
Mov Cap-2 Maneuver	-	-	-	-	626	-
Stage 1	-	-	-	-	829	-
Stage 2	-	-	-	-	859	-

Approach	EB	WB	SE
HCM Control Delay, s	0.1	0	11.2
HCM LOS			B

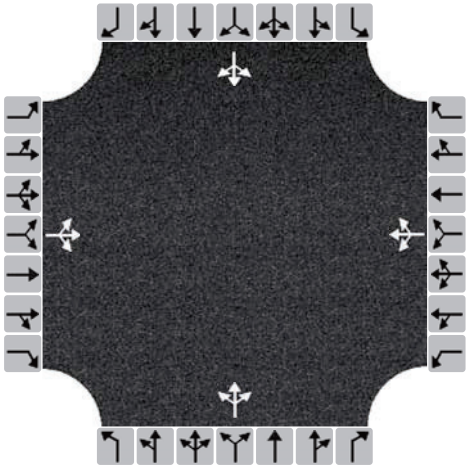
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1221	-	-	-	629
HCM Lane V/C Ratio	0.002	-	-	-	0.079
HCM Control Delay (s)	8	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

HCS All-Way Stop Control Report

General and Site Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	Buildout P.M. Peak-hour
Project Description	5361.09 Tomoka Oaks Residentail
Intersection	S St. Andrews at W Rio
Jurisdiction	Volusia
East/West Street	S St. Andrews Dr
North/South Street	W Rio Pinar Dr
Peak Hour Factor	0.91

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	1	14	11	15	6	0	15	48	18	3	26	0
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	29			23			89			32		
Percent Heavy Vehicles	100			2			2			2		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.025			0.021			0.079			0.028		
Final Departure Headway, h_d (s)	5.64			4.37			4.01			4.18		
Final Degree of Utilization, x	0.045			0.028			0.099			0.037		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	3.64			2.37			2.01			2.18		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	29			23			89			32		
Capacity (veh/h)	638			823			898			862		
95% Queue Length, Q_{95} (veh)	0.1			0.1			0.3			0.1		
Control Delay (s/veh)	8.9			7.5			7.4			7.3		
Level of Service, LOS	A			A			A			A		
Approach Delay (s/veh) | LOS	8.9	A		7.5	A		7.4	A		7.3	A	
Intersection Delay (s/veh) | LOS	7.7						A					

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HCS Two-Way Stop-Control Report

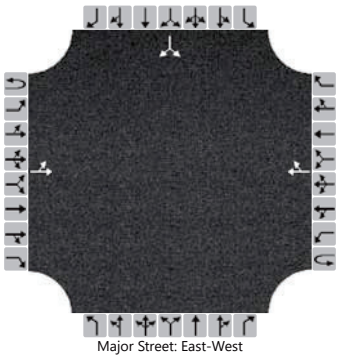
General Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2028
Time Analyzed	Buildout P.M. Peak-hour
Intersection Orientation	East-West
Project Description	5361.09 Tomoka Oaks Residetial

Site Information

Intersection	St. Andrews Dr at E Rio
Jurisdiction	Volusia
East/West Street	St. Andrews Dr
North/South Street	E Rio Pinar Dr
Peak Hour Factor	0.75
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		0	35				22	16						21		0
Percent Heavy Vehicles (%)		2												10		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.50		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.59		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0													28	
Capacity, c (veh/h)		1556													895	
v/c Ratio		0.00													0.03	
95% Queue Length, Q_{95} (veh)		0.0													0.1	
Control Delay (s/veh)		7.3	0.0												9.2	
Level of Service (LOS)		A	A												A	
Approach Delay (s/veh)	0.0												9.2			
Approach LOS	A												A			

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HCS Two-Way Stop-Control Report

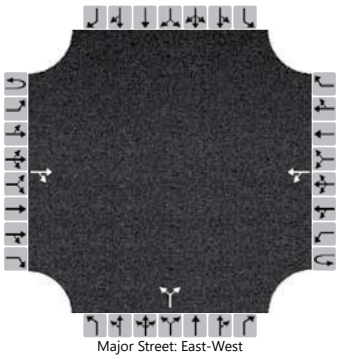
General Information

Analyst	BNH
Agency/Co.	LTG
Date Performed	03.21.2023
Analysis Year	2028
Time Analyzed	Buildout P.M. Peak-hour
Intersection Orientation	East-West
Project Description	5361.09 Tomoka Oaks Residetial

Site Information

Intersection	St. Andrews Dr at Iroquoi
Jurisdiction	Volusia
East/West Street	St. Andrews Dr
North/South Street	Iroquois Tr
Peak Hour Factor	0.81
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			46	9		15	37			9		18				
Percent Heavy Vehicles (%)						2				11		2				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.12				6.51		6.22				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.60		3.32				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						19					33					
Capacity, c (veh/h)						1533					932					
v/c Ratio						0.01					0.04					
95% Queue Length, Q_{95} (veh)						0.0					0.1					
Control Delay (s/veh)						7.4	0.1				9.0					
Level of Service (LOS)						A	A				A					
Approach Delay (s/veh)					2.2				9.0							
Approach LOS					A				A							

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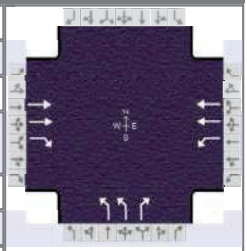
HCS Signalized Intersection Results Summary

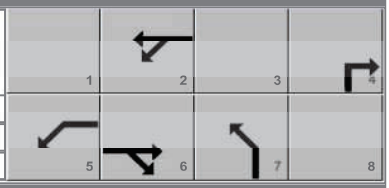
General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Buildout AM Peak-hour	PHF	0.89
Urban Street	US 1	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	US 1 at Nova Rd	File Name	1- US 1 at Nova Rd_AM.xus		
Project Description	5361.09 Tomoka Oaks Residential				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1090	745	45	816		539		105			

Signal Information			
Cycle, s	88.1	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.3	40.7	20.4	0.0	0.0	0.0
Yellow	5.5	5.5	4.5	0.0	0.0	0.0
Red	2.0	2.0	3.2	0.0	0.0	0.0



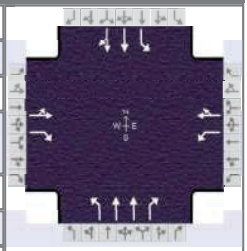
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6	5	2		4		
Case Number		7.3	1.0	4.0		9.0		
Phase Duration, s		48.2	11.8	60.0		28.1		
Change Period, ($Y+R_c$), s		7.5	7.5	7.5		7.7		
Max Allow Headway (*MAH*), s		4.9	4.9	4.9		5.2		
Queue Clearance Time (g_s), s		34.1	3.2	14.9		16.5		
Green Extension Time (g_e), s		6.6	0.2	23.2		3.9		
Phase Call Probability		1.00	0.71	1.00		1.00		
Max Out Probability		0.92	0.00	0.71		0.20		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2		7		14			
Adjusted Flow Rate (*v*), veh/h		1225	639	51	917		606		118			
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1781		1781	1724		1716		1585			
Queue Service Time (g_s), s		24.9		1.2	12.9		14.5		5.4			
Cycle Queue Clearance Time (g_c), s		24.9		1.2	12.9		14.5		5.4			
Green Ratio (*g/C*)		0.46		0.53	0.60		0.23		0.23			
Capacity (*c*), veh/h		1645		250	2053		797		368			
Volume-to-Capacity Ratio (*X*)		0.745		0.202	0.447		0.760		0.321			
Back of Queue (*Q*), ft/ln (95 th percentile)		351.9		19.3	176.5		257.4		94.6			
Back of Queue (*Q*), veh/ln (95 th percentile)		13.9		0.8	6.7		10.1		3.7			
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.03	0.00		0.80		0.00			
Uniform Delay (d_1), s/veh		19.4		14.5	9.8		31.6		28.1			
Incremental Delay (d_2), s/veh		1.7		0.6	0.2		2.3		0.7			
Initial Queue Delay (d_3), s/veh		0.0		0.0	0.0		0.0		0.0			
Control Delay (*d*), s/veh		21.2	0.0	15.1	10.0		33.9		28.8			
Level of Service (LOS)		C	A	B	B		C		C			
Approach Delay, s/veh / LOS	13.9	B		10.3	B		33.1	C		0.0		
Intersection Delay, s/veh / LOS	16.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.09	B	0.68	A	2.31	B	2.56	C
Bicycle LOS Score / LOS	2.03	B	1.29	A		F		

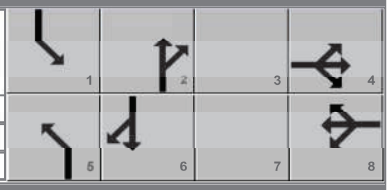
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Buildout AM Peak-hour	PHF	0.93
Urban Street	Nova Rd	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Nova Rd at Wilmette Rd	File Name	3- Nova Rd at Wilmette Ave_ AM.xus		
Project Description	5361.09 Tomoka Oaks Residentail				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	48	72	129	184	65	31	71	513	132	39	829	63

Signal Information					EB			WB			NB		
Cycle, s	86.0	Reference Phase	2										
Offset, s	0	Reference Point	End	Green	3.2	1.7		33.2	8.6		12.2	0.0	
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	5.0	0.0		4.0	4.0		4.0	0.0	
Force Mode	Fixed	Simult. Gap N/S	On	Red	2.5	0.0		2.5	2.5		2.5	0.0	



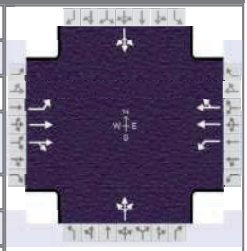
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		11.0		10.0	2.0	3.0	2.0	4.0
Phase Duration, s		15.1		18.7	12.4	41.5	10.7	39.7
Change Period, ($Y+R_c$), s		6.5		6.5	7.5	7.5	7.5	7.5
Max Allow Headway (*MAH*), s		4.3		4.3	4.0	4.9	4.0	4.9
Queue Clearance Time (g_s), s		7.9		11.3	5.7	11.8	4.0	20.9
Green Extension Time (g_e), s		0.7		0.9	0.1	12.4	0.1	11.3
Phase Call Probability		1.00		1.00	0.84	1.00	0.63	1.00
Max Out Probability		0.00		0.01	0.00	0.12	0.00	0.21

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		129	100	198	103		76	552	43	42	486	473
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1834	1560	1767	1768		1753	1738	1585	1767	1870	1823
Queue Service Time (g_s), s		5.9	5.3	9.3	4.6		3.7	9.8	1.5	2.0	18.9	18.9
Cycle Queue Clearance Time (g_c), s		5.9	5.3	9.3	4.6		3.7	9.8	1.5	2.0	18.9	18.9
Green Ratio (*g/C*)		0.10	0.10	0.14	0.14		0.06	0.40	0.40	0.04	0.38	0.38
Capacity (*c*), veh/h		183	156	252	252		100	1374	627	65	702	684
Volume-to-Capacity Ratio (*X*)		0.704	0.641	0.786	0.410		0.762	0.401	0.069	0.643	0.692	0.692
Back of Queue (*Q*), ft/ln (95 th percentile)		131	102.1	198.7	92.7		84.9	169.5	22.5	46.9	314.1	303.1
Back of Queue (*Q*), veh/ln (95 th percentile)		5.2	4.0	7.8	3.6		3.3	6.5	0.9	1.8	12.4	12.1
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	1.57	2.65	0.00		0.64	0.00	0.07	0.19	0.00	0.00
Uniform Delay (d_1), s/veh		37.5	37.2	35.6	33.6		40.0	18.7	16.2	40.9	22.7	22.7
Incremental Delay (d_2), s/veh		4.9	4.3	5.4	1.1		11.2	0.3	0.1	10.1	1.8	1.8
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		42.4	41.6	41.0	34.7		51.2	19.0	16.2	51.0	24.5	24.5
Level of Service (LOS)		D	D	D	C		D	B	B	D	C	C
Approach Delay, s/veh / LOS	42.0	D		38.8	D		22.5	C		25.6	C	
Intersection Delay, s/veh / LOS	28.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.58	C	2.31	B	1.91	B	1.96	B
Bicycle LOS Score / LOS	0.87	A	0.98	A	1.04	A	1.31	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Buildout AM Peak-hour	PHF	0.91
Urban Street	SR 40	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	SR 40 at Main Trail	File Name	9- SR 40 at Main Trail_ AM.xus		
Project Description	5361.09 Tomoka Oaks Residential				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	108	1142	177	55	1177	21	125	36	18	29	64	179

Signal Information			
Cycle, s	123.4	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4
Green	4.4	1.2	66.6	30.0	0.0	0.0	5	6	7	8
Yellow	4.8	0.0	4.8	3.5	0.0	0.0				
Red	2.8	0.0	2.0	3.3	0.0	0.0				

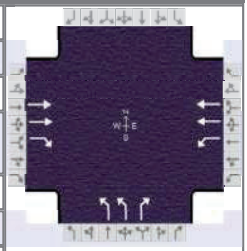
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.1	4.0	1.1	4.0		8.0		8.0
Phase Duration, s	13.2	74.6	12.0	73.4		36.8		36.8
Change Period, ($Y+R_c$), s	7.3	6.8	7.6	6.8		6.8		6.8
Max Allow Headway (*MAH*), s	4.0	5.0	4.0	5.0		4.5		4.5
Queue Clearance Time (g_s), s	5.6	39.4	3.8	33.0		30.8		21.5
Green Extension Time (g_e), s	0.3	28.4	0.1	31.4		0.0		1.5
Phase Call Probability	0.98	1.00	0.87	1.00		1.00		1.00
Max Out Probability	0.00	0.67	0.00	0.62		1.00		0.26

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	119	738	711	60	660	656		197			299	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1856	1769	1781	1870	1859		853			1743	
Queue Service Time (g_s), s	3.6	36.7	37.4	1.8	31.0	31.0		9.2			0.0	
Cycle Queue Clearance Time (g_c), s	3.6	36.7	37.4	1.8	31.0	31.0		28.8			19.5	
Green Ratio (*g/C*)	0.59	0.55	0.55	0.58	0.54	0.54		0.24			0.24	
Capacity (*c*), veh/h	264	1020	972	206	1010	1004		257			456	
Volume-to-Capacity Ratio (*X*)	0.450	0.724	0.732	0.293	0.654	0.654		0.766			0.656	
Back of Queue (*Q*), ft/ln (95 th percentile)	65.4	551.4	527.3	33.4	474	465		286.8			348.6	
Back of Queue (*Q*), veh/ln (95 th percentile)	2.6	21.5	21.1	1.3	18.7	18.6		11.3			13.7	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.23	0.00	0.00	0.12	0.00	0.00		0.00			0.00	
Uniform Delay (d_1), s/veh	16.7	20.8	20.9	18.6	20.2	20.2		48.1			42.9	
Incremental Delay (d_2), s/veh	1.2	2.1	2.4	0.8	1.2	1.2		12.9			3.4	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	17.9	22.9	23.3	19.4	21.4	21.4		61.0			46.3	
Level of Service (LOS)	B	C	C	B	C	C		E			D	
Approach Delay, s/veh / LOS	22.7	C		21.3	C		61.0	E		46.3	D	
Intersection Delay, s/veh / LOS	26.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.67	B	1.68	B	2.30	B	2.30	B
Bicycle LOS Score / LOS	1.78	B	1.62	B	0.81	A	0.98	A

HCS Signalized Intersection Results Summary

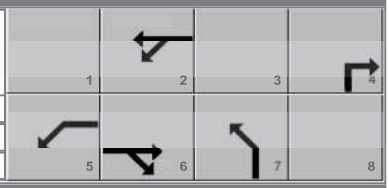
General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Buildout PM Peak-hour	PHF	0.95
Urban Street	US 1	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	US 1 at Nova Rd	File Name	1.1- US 1 at Nova Rd_PM.xus		
Project Description	5361.09 Tomoka Oaks Residential				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1103	760	106	1047		763		86			

Signal Information			
Cycle, s	96.2	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	5.7	41.4	26.3	0.0	0.0	0.0
Yellow	5.5	5.5	4.5	0.0	0.0	0.0
Red	2.0	2.0	3.2	0.0	0.0	0.0



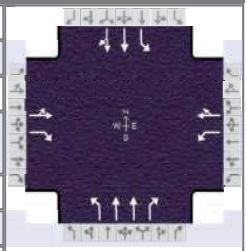
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		6	5	2		4		
Case Number		7.3	1.0	4.0		9.0		
Phase Duration, s		48.9	13.2	62.1		34.0		
Change Period, ($Y+R_c$), s		7.5	7.5	7.5		7.7		
Max Allow Headway (*MAH*), s		4.9	4.9	4.9		5.1		
Queue Clearance Time (g_s), s		36.7	5.1	22.1		23.1		
Green Extension Time (g_e), s		4.7	0.4	19.0		3.2		
Phase Call Probability		1.00	0.95	1.00		1.00		
Max Out Probability		0.96	0.00	0.80		0.78		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		6	16	5	2		7		14			
Adjusted Flow Rate (*v*), veh/h		1161	615	112	1102		803		91			
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1781		1781	1692		1730		1585			
Queue Service Time (g_s), s		26.5		3.1	20.1		21.1		4.2			
Cycle Queue Clearance Time (g_c), s		26.5		3.1	20.1		21.1		4.2			
Green Ratio (*g/C*)		0.43		0.51	0.57		0.27		0.27			
Capacity (*c*), veh/h		1535		256	1922		947		434			
Volume-to-Capacity Ratio (*X*)		0.757		0.437	0.573		0.848		0.209			
Back of Queue (*Q*), ft/ln (95 th percentile)		388.5		54.6	264.3		364.8		73.2			
Back of Queue (*Q*), veh/ln (95 th percentile)		15.3		2.1	10.4		14.4		2.9			
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00		0.08	0.00		1.14		0.00			
Uniform Delay (d_1), s/veh		23.1		17.8	13.3		33.0		26.9			
Incremental Delay (d_2), s/veh		2.1		1.7	0.5		6.3		0.3			
Initial Queue Delay (d_3), s/veh		0.0		0.0	0.0		0.0		0.0			
Control Delay (*d*), s/veh		25.2	0.0	19.4	13.8		39.3		27.2			
Level of Service (LOS)		C	A	B	B		D		C			
Approach Delay, s/veh / LOS	16.5	B		14.3	B		38.1	D		0.0		
Intersection Delay, s/veh / LOS	20.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.10	B	0.69	A	2.31	B	2.56	C
Bicycle LOS Score / LOS	1.95	B	1.49	A		F		

HCS Signalized Intersection Results Summary

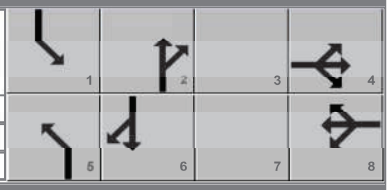
General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Buildout PM Peak-hour	PHF	0.95
Urban Street	Nova Rd	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	Nova Rd at Wilmette Rd	File Name	3.1- Nova Rd at Wilmette Ave_PM.xus		
Project Description	5361.09 Tomoka Oaks Residentail				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	84	104	228	110	35	121	878	181	35	769	83

Signal Information			
Cycle, s	106.5	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	3.3	6.2	39.0	14.0	17.0	0.0
Yellow	5.0	0.0	4.0	4.0	4.0	0.0
Red	2.5	0.0	2.5	2.5	2.5	0.0



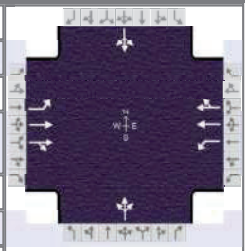
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		11.0		10.0	2.0	3.0	2.0	4.0
Phase Duration, s		20.5		23.5	17.0	51.7	10.8	45.5
Change Period, ($Y+R_c$), s		6.5		6.5	7.5	7.5	7.5	7.5
Max Allow Headway (*MAH*), s		4.3		4.2	4.0	5.0	4.0	5.0
Queue Clearance Time (g_s), s		13.4		16.0	9.5	23.9	4.2	24.1
Green Extension Time (g_e), s		0.7		1.0	0.2	13.9	0.1	13.9
Phase Call Probability		1.00		1.00	0.98	1.00	0.66	1.00
Max Out Probability		0.01		0.12	0.00	0.41	0.00	0.41

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		199	45	240	153		127	924	71	37	456	441
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1820	1585	1781	1792		1781	1781	1415	1781	1870	1806
Queue Service Time (g_s), s		11.4	2.7	14.0	8.3		7.5	21.9	3.3	2.2	22.1	22.1
Cycle Queue Clearance Time (g_c), s		11.4	2.7	14.0	8.3		7.5	21.9	3.3	2.2	22.1	22.1
Green Ratio (*g/C*)		0.13	0.13	0.16	0.16		0.09	0.41	0.41	0.03	0.36	0.36
Capacity (*c*), veh/h		240	209	284	286		159	1477	587	56	667	644
Volume-to-Capacity Ratio (*X*)		0.830	0.217	0.844	0.534		0.801	0.626	0.120	0.663	0.684	0.684
Back of Queue (*Q*), ft/ln (95 th percentile)		241.7	50.4	286.3	175		164.7	344.9	48	52.1	376.1	360
Back of Queue (*Q*), veh/ln (95 th percentile)		9.5	2.0	11.3	6.9		6.5	13.6	1.9	2.1	14.8	14.4
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	0.78	3.82	0.00		1.24	0.00	0.16	0.21	0.00	0.00
Uniform Delay (d_1), s/veh		45.1	41.4	43.5	41.1		47.6	24.7	19.2	51.1	29.2	29.2
Incremental Delay (d_2), s/veh		7.2	0.5	10.0	1.5		9.0	0.8	0.1	12.7	1.9	2.0
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		52.3	41.9	53.5	42.7		56.6	25.4	19.3	63.8	31.1	31.2
Level of Service (LOS)		D	D	D	D		E	C	B	E	C	C
Approach Delay, s/veh / LOS	50.4	D		49.3	D		28.6	C		32.4	C	
Intersection Delay, s/veh / LOS	34.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.62	C	2.32	B	1.91	B	2.01	B
Bicycle LOS Score / LOS	0.89	A	1.14	A	1.41	A	1.26	A

HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	LTG			Duration, h	0.250
Analyst	BNH	Analysis Date	Mar 21, 2023	Area Type	Other
Jurisdiction	Volusia	Time Period	Buildout PM Peak-hour	PHF	0.93
Urban Street	SR 40	Analysis Year	2028	Analysis Period	1> 7:00
Intersection	SR 40 at Main Trail	File Name	9.1- SR 40 at Main Trail_ PM.xus		
Project Description	5361.09 Tomoka Oaks Residential				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	241	1508	88	7	1471	36	53	7	5	19	6	159

Signal Information			
Cycle, s	170.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	13.1	101.1	5.0	22.3	0.0	0.0
Yellow	4.8	4.8	4.8	3.5	0.0	0.0
Red	2.5	2.0	2.8	3.3	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	1	6	5	2		4		8
Case Number	1.2	4.0	1.3	4.0		8.0		8.0
Phase Duration, s	20.4	128.3	12.6	120.5		29.1		29.1
Change Period, (*Y+R c*), s	7.3	6.8	7.6	7.6		6.8		6.8
Max Allow Headway (*MAH*), s	4.0	0.0	4.0	0.0		4.5		4.5
Queue Clearance Time (*g s*), s	12.4		2.0			22.0		21.0
Green Extension Time (*g e*), s	0.7	0.0	2.0	0.0		0.3		0.4
Phase Call Probability	1.00		1.00			1.00		1.00
Max Out Probability	0.00		1.00			1.00		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	1	6	16	5	2	12	7	4	14	3	8	18
Adjusted Flow Rate (*v*), veh/h	259	862	855	8	812	808		70			198	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1781	1870	1834	1781	1870	1854		659			1719	
Queue Service Time (*g s*), s	10.4	41.4	42.3	0.0	43.9	44.2		0.9			0.0	
Cycle Queue Clearance Time (*g c*), s	10.4	41.4	42.3	0.0	43.9	44.2		20.0			19.0	
Green Ratio (*g/C*)	0.68	0.71	0.71	0.61	0.66	0.66		0.13			0.13	
Capacity (*c*), veh/h	284	1337	1311	224	1242	1231		125			249	
Volume-to-Capacity Ratio (*X*)	0.912	0.645	0.652	0.034	0.654	0.657		0.560			0.795	
Back of Queue (*Q*), ft/ln (95 th percentile)	317.3	595.6	588.8	7.5	651.9	642.1		145.9			370	
Back of Queue (*Q*), veh/ln (95 th percentile)	12.5	23.4	23.6	0.3	25.7	25.7		5.7			14.6	
Queue Storage Ratio (*RQ*) (95 th percentile)	1.13	0.00	0.00	0.03	0.00	0.00		0.00			0.00	
Uniform Delay (*d 1*), s/veh	32.5	12.8	13.0	23.3	17.0	17.0		72.9			72.7	
Incremental Delay (*d 2*), s/veh	17.7	2.4	2.5	0.1	2.7	2.7		3.9			13.6	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Control Delay (*d*), s/veh	50.2	15.2	15.5	23.4	19.7	19.8		76.8			86.3	
Level of Service (LOS)	D	B	B	C	B	B		E			F	
Approach Delay, s/veh / LOS	19.9	B		19.7	B		76.8	E		86.3	F	
Intersection Delay, s/veh / LOS	24.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.75	B	1.66	B	2.32	B	2.32	B
Bicycle LOS Score / LOS	2.12	B	1.83	B	0.60	A	0.81	A

APPENDIX I

Traffic Signal Warrant

Traffic Signal Warrant Study

Nova Road at Tomoka Oaks Boulevard
2026 Build-Out Conditions
(Volusia County / City of Ormond Beach)

LTG Job No.: 5361.04

Prepared For:

Triumph Oaks of Ormond Beach, LLC

Prepared By:

LTG Engineering & Planning

1450 W. Granada Blvd., Suite 2
Ormond Beach, Florida 32714

August 18, 2022

PROFESSIONAL ENGINEERING CERTIFICATION

I hereby certify that I am a Professional Engineer properly registered in the State of Florida practicing with LTG, Inc., a corporation authorized to operate as an engineering business, by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have prepared or approved the evaluations, findings, opinions, conclusions, or technical advice attached hereto for:

PROJECT: Nova Road at Tomoka Oaks Boulevard – Preliminary Traffic Signal Warrant Study
LOCATION: City of Ormond Beach, Florida
CLIENT: Triumph Oaks of Ormond Beach, LLC
JOB #: 5361.04

I hereby acknowledge that the procedures and references used to develop the results contained in these computations are standard to the professional practice of Transportation Engineering as applied through professional judgment and experience.

Prepared by:
LTG, Inc.
1450 W. Granada Blvd, Suite 2
Ormond Beach, FL 32174
Registration No. 9227
386/257-2571

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

LTG, INC.
1450 W. GRANADA BLVD, SUITE 2
ORMOND BEACH, FL 32174
REGISTRATION NO. 9227
GEORGE A. GALAN, P.E. NO. 60080

TABLE OF CONTENTS

Executive Summary 1
Introduction 2
Existing Conditions 4
Existing Traffic Volumes 6
Future Conditions 7
Hourly Trip Variation 7
Preliminary Signal Warrant Analysis 9
Recommendations 9

FIGURES

Figure 1: Study Location Map 3

TABLES

Table 1 Summary of Existing Conditions 4
Table 2 24-Hour Existing Approach Volumes 6
Table 3 Daily Trip Generation 7
Table 4 Hourly Variation of Project Traffic – Major and Minor Streets 8
Table 5 Preliminary TSWS Total Volumes 8
Table 6 Summary of Signal Warrant Analysis 10

APPENDICES

Appendix A – FDOT's Seasonal Factor and Raw Count Data
Appendix B – Signal Warrants

EXECUTIVE SUMMARY

LTG, Inc. has conducted a Preliminary Traffic Signal Warrant Study (TSWS) at the intersection of Nova Road and Tomoka Oaks Boulevard located in the City of Ormond Beach, Florida. Based on the results of the analysis and engineering judgment, the following recommendations and conclusions were developed:

- The intersection meets the following warrants:
  - Warrant 1B: Interruption of Continuous Traffic
  - Warrant 2: 4-Hour Vehicular Volume

LTG's analysis was based on methods which are consistent with those set forth in the *Manual on Uniform Traffic Control Devices* (MUTCD) and standard practice in the State of Florida.

INTRODUCTION

LTG, Inc. has been retained by Triumph Oaks of Ormond Beach, LLC to conduct a Preliminary Traffic Signal Warrant Study (TSWS) at the intersection of SR 5A (Nova Road) and Tomoka Oaks Boulevard, located in the City of Ormond Beach, Florida. The location of the subject intersection is shown in Figure 1.

The purpose of this study is to determine if signalized traffic control may be warranted at the intersection of Nova Road and Tomoka Oaks Boulevard upon build-out of the proposed Tomoka Oaks development. The analysis methods used in conducting this study are consistent with those set forth in the *Manual on Uniform Traffic Control Devices* (MUTCD), the *Manual on Uniform Traffic Studies* (MUTS), and Florida Department of Transportation (FDOT) guidelines and procedures. This report documents the existing conditions, future conditions, signal warrant analysis, and recommendations.

Nova Road at Tomoka Oaks Boulevard Preliminary TSWS

N

NTS

Project Location Map

Project No.: 5361.04

Figure: 1

LTG Engineering & Planning

1450 W. Granada Blvd., Suite 2, Ormond Beach, Florida 32174
Telephone: 386.257.2571 Fax: 386.257.6996

EXISTING CONDITIONS

The intersection of Nova Road at Tomoka Oaks Boulevard is currently unsignalized. This section of Nova Road is currently maintained by FDOT as an Access Class 5 roadway. Significant features of the roadway are summarized in Table 1 below:

Table 1
Summary of Existing Conditions
Nova Road at Tomoka Oaks Boulevard Preliminary TSWS

Feature	Description
Main Street	Nova Road
Side Street	Tomoka Oaks Boulevard
Area Location	Volusia County
Surrounding Development	Residential and Commercial Land Uses
Land Uses at Intersection	This intersection provides access to existing residential development to the west.
Traffic Control	The eastbound approach is currently under stop-sign control.
Signal Spacing	Nearest signals: Nova Road at US 1, approximately 2,000 ft north Nova Road at Wilmette Avenue, approximately 3,300 ft south (Minimum spacing for Access Class 5 at 45 mph is 1,320 ft.)
Additional Features	Function – North-South principal arterial
	Connectivity – US 1 to the north and SR 40 to the south
	Posted Speed Limit – 45miles per hour (mph)
	Sidewalks – There are sidewalks present along both sides of Nova Road at this location.
	Utilities – There are overhead utilities along the east side of Nova Road.
	Street Lighting – Street lighting is provided along the west side of Nova Road.

Existing Traffic Volumes

The 24-hour directional volume counts were collected at the existing approaches to the subject intersection on Tuesday, May 27, 2021, prior to the end of the Volusia County school year. The eight highest hours were identified from the 24-hour volume counts. The eight highest count hours selected include 9:00 a.m. to 10:00 a.m., and 12:00 p.m. to 7:00 p.m. The existing directional approach volumes are summarized in Table 1 below, with the raw count data attached as Appendix A.

Table 2
24-Hour Approach Volumes
Nova Road at Tomoka Oaks Boulevard Preliminary TSWS

		Major Street			Minor Street
Hour		NB	SB	Total	EB
12:00 AM	1:00 AM	66	59	**125**	9
1:00 AM	2:00 AM	56	50	**106**	0
2:00 AM	3:00 AM	26	59	**85**	5
3:00 AM	4:00 AM	31	58	**89**	2
4:00 AM	5:00 AM	27	27	**54**	2
5:00 AM	6:00 AM	89	58	**147**	9
6:00 AM	7:00 AM	121	135	**256**	15
7:00 AM	8:00 AM	350	334	**684**	74
8:00 AM	9:00 AM	713	600	**1313**	122
9:00 AM	10:00 AM	785	641	**1426**	136
10:00 AM	11:00 AM	650	560	**1210**	82
11:00 AM	12:00 PM	692	689	**1381**	82
12:00 PM	1:00 PM	760	782	**1542**	107
1:00 PM	2:00 PM	793	845	**1638**	104
2:00 PM	3:00 PM	802	815	**1617**	88
3:00 PM	4:00 PM	815	895	**1710**	107
4:00 PM	5:00 PM	717	859	**1576**	98
5:00 PM	6:00 PM	713	825	**1538**	109
6:00 PM	7:00 PM	688	779	**1467**	87
7:00 PM	8:00 PM	480	468	**948**	69
8:00 PM	9:00 PM	364	367	**731**	55
9:00 PM	10:00 PM	243	227	**470**	40
10:00 PM	11:00 PM	136	154	**290**	22
11:00 PM	12:00 AM	99	68	**167**	12
	ADT:	10,216	10,354	20,570	1,436

FUTURE CONDITIONS

The evaluation of signal warrants was based on future roadway conditions. The following presents the methods used to determine the traffic volumes for the preliminary signal warrant evaluation.

Trip Generation

The daily trip generation for the Tomoka Oaks development was calculated using the nationally accepted trip generation software, TripGen (10th Edition), prepared by the Institute of Transportation Engineers (ITE) and is shown in Table 3.

Table 3
Daily Trip Generation
Nova Road at Tomoka Oaks Boulevard Preliminary TSWS

Period	Land Use	Land Use Code	Trip Rate Equation	Size	Units	Percent Entering	Percent Exiting	Trips Entering	Trips Exiting	Total Trips
Daily	Single Family	210	Ln(T)=0.92Ln(X)+2.71	300	DU	50%	50%	1,429	1,429	2,858

Hourly Trip Variation

The Tomoka Oaks development will have site access at Nova Road at Tomoka Oaks Boulevard. The anticipated hourly project traffic utilizing the intersection was included to determine the anticipated build-out volumes. The percent of 24-hour traffic was determined using the hourly variation percentages from the existing residential development, which were derived from the 24-hour eastbound (exiting) volumes. Table 4 presents the predicted hourly variation of the project trips for the proposed development exiting through the intersection for the identified eight highest hours. Note that the distribution for left-turning (39%) and right-turning (57%) project trips was obtained from the Central Florida Regional Planning Model (CFRPM) model run used in the TIA.

The raw directional approach data was factored using FDOT's Seasonal Factor (Appendix A) and a growth rate of two percent per year, was applied to determine the 2026 background hourly traffic. Table 5 shows the resultant total mainline and minor street volumes used in the signal warrant, with the highest four hours volumes highlighted based on the minor street approach.

Table 4
Hourly Variation of Project Traffic – Major and Minor Streets
Nova Road at Tomoka Oaks Boulevard Preliminary TSWS

Tomoka Oaks						
Hourly Variation * Distribution * Exit Daily Project Trips						
				Movement		
				Exit =	1,429	
8-Highest Hours		Enter	Exit	EBL (39%)	EBR (57%)	Total Exiting
9:00 AM	10:00 AM	0.0%	9.5%	53	77	130
12:00 PM	1:00 PM	0.0%	7.5%	42	61	103
1:00 PM	2:00 PM	0.0%	7.2%	40	59	99
2:00 PM	3:00 PM	0.0%	6.1%	34	50	84
3:00 PM	4:00 PM	0.0%	7.5%	42	61	103
4:00 PM	5:00 PM	0.0%	6.8%	38	56	94
5:00 PM	6:00 PM	0.0%	7.6%	42	62	104
6:00 PM	7:00 PM	0.0%	6.1%	34	49	83

Table 5
Preliminary TSWS Total Volumes
Nova Road at Tomoka Oaks Boulevard Preliminary TSWS

Time		Northbound and Southbound					Eastbound				
From	To	NB Raw Data (RD)	NB Hourly Traffic (a=RD*SF)	SB Raw Data (RD)	SB Hourly Traffic (b=RD*SF)	Background Total Hourly Traffic (c=(a+b)*GR	EB Raw Data (RD)	EB Hourly Traffic (d=RD*SF)	EB Background Left-Turn Trips (e)	EB Total Hourly Project Left-Turn Trips (f)	Total Build-Out Hourly Left-Turn Trips (g)
9:00 AM	10:00 AM	785	824	641	673	1,653	136	143	56	53	109
12:00 PM	1:00 PM	760	798	782	821	1,788	107	112	44	42	86
1:00 PM	2:00 PM	793	833	845	887	1,899	104	109	43	40	83
2:00 PM	3:00 PM	802	842	815	856	1,875	88	92	36	34	70
3:00 PM	4:00 PM	815	856	895	940	1,982	107	112	44	42	86
4:00 PM	5:00 PM	717	753	859	902	1,827	98	103	40	38	78
5:00 PM	6:00 PM	713	749	825	866	1,783	109	114	45	42	87
6:00 PM	7:00 PM	688	722	779	818	1,701	87	91	36	34	70

Abbreviations: RD = Raw Data, SF = Seasonal Factor, and GR = Growth Rate
A seasonal Factor of 1.05 and a growth rate of 2.00% per year was applied to the data. Build-out year for Tomoka Oaks is 2026.

PRELIMINARY SIGNAL WARRANT ANALYSIS

The traffic volumes and geometric conditions were compared with the warrants for the installation of traffic signals contained in the latest edition of the *Manual on Uniform Traffic Control Devices* (MUTCD).

For the purposes of the Preliminary Signal Warrant Analysis, Nova Road was considered the major street and the eastbound approach of Tomoka Oaks Boulevard was considered the minor street. The eastbound approach of this intersection functions as two lanes since the existing lane width facilitates separation of left-turn and right-turns. However, right-turns were excluded from the minor approach warrant volumes, and the minor approach was considered a one lane roadway. The analysis was performed under 2026 build-out year conditions. The signal warrant forms are included as Appendix B. Table 6 summarizes the results of the analyses during the study hours:

Table 6
Summary of Signal Warrant Analysis
Nova Road at Tomoka Oaks Boulevard Preliminary TSWS

Warrant		Applicable	Satisfied	Comments
1A	Minimum Vehicular Volume	Yes	No	**Warrant is not satisfied.**
1B	Interruption of Continuous Traffic	Yes	Yes	**Warrant is satisfied.**
2	Four-Hour Vehicular Volume	Yes	Yes	**Warrant is satisfied.**
3A	Peak-Hour Delay	Yes	No	**Warrant is not satisfied.**
3B	Peak-Hour Volume	Yes	No	**Warrant is not satisfied.**
4	Pedestrian Volume	Yes	No	**Warrant is not satisfied.**
5	School Crossing	No	No	This warrant is not applicable.
6	Coordinated Signal System	No	No	This warrant is not applicable.
7	*Crash Experience	Yes	No	**Warrant is not satisfied.**
8	Roadway Network	No	No	This warrant is not applicable.

**Available crash data from Signal4 Analytics between December 2017 and December 2021 was reviewed and determined not to meet warrant thresholds.*

RECOMMENDATIONS

Based on the results of the Preliminary Signal Warrant Analyses and engineering judgement of projected 2026 build-out conditions at the intersection of Nova Road and Tomoka Oaks Boulevard, the following recommendations were developed:

- The intersection meets the following warrants:
    - Warrant 1B: Interruption of Continuous Traffic
    - Warrant 2: 4-Hour Vehicular Volume

Appendix A
Raw Count Data & FDOT's Seasonal Factor

2020 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 7900 VOLUSIA COUNTYWIDE

MOCF: 0.93

WEEK	DATES	SF	PSCF
* 1	01/01/2020 - 01/04/2020	0.99	1.06
* 2	01/05/2020 - 01/11/2020	0.95	1.02
* 3	01/12/2020 - 01/18/2020	0.92	0.99
* 4	01/19/2020 - 01/25/2020	0.91	0.98
* 5	01/26/2020 - 02/01/2020	0.89	0.96
* 6	02/02/2020 - 02/08/2020	0.88	0.95
* 7	02/09/2020 - 02/15/2020	0.87	0.94
* 8	02/16/2020 - 02/22/2020	0.88	0.95
* 9	02/23/2020 - 02/29/2020	0.90	0.97
*10	03/01/2020 - 03/07/2020	0.92	0.99
*11	03/08/2020 - 03/14/2020	0.94	1.01
*12	03/15/2020 - 03/21/2020	0.96	1.03
*13	03/22/2020 - 03/28/2020	1.05	1.13
14	03/29/2020 - 04/04/2020	1.14	1.23
15	04/05/2020 - 04/11/2020	1.24	1.33
16	04/12/2020 - 04/18/2020	1.33	1.43
17	04/19/2020 - 04/25/2020	1.26	1.35
18	04/26/2020 - 05/02/2020	1.20	1.29
19	05/03/2020 - 05/09/2020	1.14	1.23
20	05/10/2020 - 05/16/2020	1.07	1.15
21	05/17/2020 - 05/23/2020	1.06	1.14
22	05/24/2020 - 05/30/2020	1.05	1.13
23	05/31/2020 - 06/06/2020	1.03	1.11
24	06/07/2020 - 06/13/2020	1.02	1.10
25	06/14/2020 - 06/20/2020	1.01	1.09
26	06/21/2020 - 06/27/2020	1.02	1.10
27	06/28/2020 - 07/04/2020	1.02	1.10
28	07/05/2020 - 07/11/2020	1.03	1.11
29	07/12/2020 - 07/18/2020	1.04	1.12
30	07/19/2020 - 07/25/2020	1.03	1.11
31	07/26/2020 - 08/01/2020	1.02	1.10
32	08/02/2020 - 08/08/2020	1.02	1.10
33	08/09/2020 - 08/15/2020	1.01	1.09
34	08/16/2020 - 08/22/2020	1.01	1.09
35	08/23/2020 - 08/29/2020	1.01	1.09
36	08/30/2020 - 09/05/2020	1.01	1.09
37	09/06/2020 - 09/12/2020	1.01	1.09
38	09/13/2020 - 09/19/2020	1.01	1.09
39	09/20/2020 - 09/26/2020	1.00	1.08
40	09/27/2020 - 10/03/2020	0.99	1.06
41	10/04/2020 - 10/10/2020	0.98	1.05
42	10/11/2020 - 10/17/2020	0.97	1.04
43	10/18/2020 - 10/24/2020	0.98	1.05
44	10/25/2020 - 10/31/2020	0.98	1.05
45	11/01/2020 - 11/07/2020	0.98	1.05
46	11/08/2020 - 11/14/2020	0.99	1.06
47	11/15/2020 - 11/21/2020	0.99	1.06
48	11/22/2020 - 11/28/2020	0.99	1.06
49	11/29/2020 - 12/05/2020	0.99	1.06
50	12/06/2020 - 12/12/2020	0.99	1.06
51	12/13/2020 - 12/19/2020	0.99	1.06
52	12/20/2020 - 12/26/2020	0.95	1.02
53	12/27/2020 - 12/31/2020	0.92	0.99

* PEAK SEASON

27-FEB-2021 10:30:05 830UPD 5_7900_PKSEASON.TXT

VOLUME SUMMARY
Thu 5/27/2021

Station #: NB
Site ID: NB
Location: Nova Rd NB south of Tomoka Oaks Blvd

File: Nova NB.prn
Steet Name: Nova Rd NB
County: Volusia

TIME	1 NORTH	Total
01:00	56	56
02:00	26	26
03:00	31	31
04:00	27	27
05:00	89	89
06:00	121	121
07:00	350	350
08:00	713	713
09:00	785	785
10:00	650	650
11:00	692	692
12:00	760	760
13:00	793	793
14:00	802	802
15:00	815	815
16:00	717	717
17:00	713	713
18:00	688	688
19:00	480	480
20:00	364	364
21:00	243	243
22:00	136	136
23:00	99	99
24:00	66	66
DAY TOTAL	10216	10216
PERCENTS	100.0	100
AM Times	08:00	
AM Peaks	804	
PM Times	14:45	
PM Peaks	826	

VOLUME SUMMARY
Thu 5/27/2021

Station #: NB
Site ID: NB
Location: Nova Rd NB south of Tomoka Oaks Blvd

File: Nova NB.prn
Steet Name: Nova Rd NB
County: Volusia

TIME	1 NORTH	Total
00:15	13	13
00:30	15	15
00:45	13	13
01:00	15	15
Hour Total	56	56
01:15	5	5
01:30	4	4
01:45	8	8
02:00	9	9
Hour Total	26	26
02:15	7	7
02:30	8	8
02:45	9	9
03:00	7	7
Hour Total	31	31
03:15	5	5
03:30	6	6
03:45	9	9
04:00	7	7
Hour Total	27	27
04:15	13	13
04:30	26	26
04:45	24	24
05:00	26	26
Hour Total	89	89
05:15	19	19
05:30	24	24
05:45	35	35
06:00	43	43
Hour Total	121	121
06:15	65	65
06:30	78	78
06:45	109	109
07:00	98	98
Hour Total	350	350
07:15	161	161
07:30	185	185
07:45	172	172
08:00	195	195
Hour Total	713	713

Station #: NB File: Nova NB.prn
Site ID: NB Steet Name: Nova Rd NB
Location: Nova Rd NB south of Tomoka Oaks Blvd County: Volusia

TIME	1 NORTH	Total
08:15	225	225
08:30	198	198
08:45	186	186
09:00	176	176
Hour Total	785	785
09:15	157	157
09:30	172	172
09:45	156	156
10:00	165	165
Hour Total	650	650
10:15	153	153
10:30	167	167
10:45	185	185
11:00	187	187
Hour Total	692	692
11:15	198	198
11:30	178	178
11:45	186	186
12:00	198	198
Hour Total	760	760
12:15	187	187
12:30	210	210
12:45	198	198
13:00	198	198
Hour Total	793	793
13:15	201	201
13:30	198	198
13:45	187	187
14:00	216	216
Hour Total	802	802
14:15	198	198
14:30	187	187
14:45	224	224
15:00	206	206
Hour Total	815	815
15:15	198	198
15:30	198	198
15:45	157	157
16:00	164	164
Hour Total	717	717

Station #: NB File: Nova NB.prn
Site ID: NB Steet Name: Nova Rd NB
Location: Nova Rd NB south of Tomoka Oaks Blvd County: Volusia

TIME	1 NORTH	Total
16:15	158	158
16:30	199	199
16:45	181	181
17:00	175	175
Hour Total	713	713
17:15	185	185
17:30	199	199
17:45	162	162
18:00	142	142
Hour Total	688	688
18:15	135	135
18:30	115	115
18:45	124	124
19:00	106	106
Hour Total	480	480
19:15	106	106
19:30	89	89
19:45	94	94
20:00	75	75
Hour Total	364	364
20:15	84	84
20:30	75	75
20:45	42	42
21:00	42	42
Hour Total	243	243
21:15	35	35
21:30	51	51
21:45	24	24
22:00	26	26
Hour Total	136	136
22:15	34	34
22:30	25	25
22:45	16	16
23:00	24	24
Hour Total	99	99
23:15	19	19
23:30	17	17
23:45	11	11
24:00	19	19
Hour Total	66	66

Station #: NB File: Nova NB.prn
Site ID: NB Steet Name: Nova Rd NB
Location: Nova Rd NB south of Tomoka Oaks Blvd County: Volusia

TIME	1 NORTH	Total
DAY TOTAL	10216	10216
PERCENTS	100.0	100
AM Times	08:00	
AM Peaks	804	
PM Times	14:45	
PM Peaks	826	

2020 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 7941 VOLUSIA I4 RURAL

MOCF: 0.92

WEEK	DATES	SF	PSCF
* 1	01/01/2020 - 01/04/2020	0.91	0.99
* 2	01/05/2020 - 01/11/2020	0.88	0.96
* 3	01/12/2020 - 01/18/2020	0.86	0.93
* 4	01/19/2020 - 01/25/2020	0.85	0.92
* 5	01/26/2020 - 02/01/2020	0.85	0.92
* 6	02/02/2020 - 02/08/2020	0.84	0.91
* 7	02/09/2020 - 02/15/2020	0.83	0.90
* 8	02/16/2020 - 02/22/2020	0.87	0.95
* 9	02/23/2020 - 02/29/2020	0.91	0.99
*10	03/01/2020 - 03/07/2020	0.96	1.04
*11	03/08/2020 - 03/14/2020	1.00	1.09
*12	03/15/2020 - 03/21/2020	1.04	1.13
*13	03/22/2020 - 03/28/2020	1.20	1.30
14	03/29/2020 - 04/04/2020	1.36	1.48
15	04/05/2020 - 04/11/2020	1.53	1.66
16	04/12/2020 - 04/18/2020	1.69	1.84
17	04/19/2020 - 04/25/2020	1.57	1.71
18	04/26/2020 - 05/02/2020	1.46	1.59
19	05/03/2020 - 05/09/2020	1.34	1.46
20	05/10/2020 - 05/16/2020	1.23	1.34
21	05/17/2020 - 05/23/2020	1.19	1.29
22	05/24/2020 - 05/30/2020	1.15	1.25
23	05/31/2020 - 06/06/2020	1.12	1.22
24	06/07/2020 - 06/13/2020	1.08	1.17
25	06/14/2020 - 06/20/2020	1.04	1.13
26	06/21/2020 - 06/27/2020	1.03	1.12
27	06/28/2020 - 07/04/2020	1.03	1.12
28	07/05/2020 - 07/11/2020	1.02	1.11
29	07/12/2020 - 07/18/2020	1.02	1.11
30	07/19/2020 - 07/25/2020	1.01	1.10
31	07/26/2020 - 08/01/2020	1.01	1.10
32	08/02/2020 - 08/08/2020	1.00	1.09
33	08/09/2020 - 08/15/2020	1.00	1.09
34	08/16/2020 - 08/22/2020	0.99	1.08
35	08/23/2020 - 08/29/2020	0.99	1.08
36	08/30/2020 - 09/05/2020	0.99	1.08
37	09/06/2020 - 09/12/2020	0.98	1.07
38	09/13/2020 - 09/19/2020	0.98	1.07
39	09/20/2020 - 09/26/2020	0.97	1.05
40	09/27/2020 - 10/03/2020	0.96	1.04
41	10/04/2020 - 10/10/2020	0.96	1.04
42	10/11/2020 - 10/17/2020	0.95	1.03
43	10/18/2020 - 10/24/2020	0.95	1.03
44	10/25/2020 - 10/31/2020	0.95	1.03
45	11/01/2020 - 11/07/2020	0.95	1.03
46	11/08/2020 - 11/14/2020	0.95	1.03
47	11/15/2020 - 11/21/2020	0.95	1.03
48	11/22/2020 - 11/28/2020	0.94	1.02
49	11/29/2020 - 12/05/2020	0.93	1.01
50	12/06/2020 - 12/12/2020	0.92	1.00
51	12/13/2020 - 12/19/2020	0.91	0.99
52	12/20/2020 - 12/26/2020	0.88	0.96
53	12/27/2020 - 12/31/2020	0.86	0.93

* PEAK SEASON

27-FEB-2021 10:30:05 830UPD 5_7941_PKSEASON.TXT

2020 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 7995 VOLUSIA I95

MOCF: 0.92

WEEK	DATES	SF	PSCF
* 1	01/01/2020 - 01/04/2020	0.90	0.98
* 2	01/05/2020 - 01/11/2020	0.89	0.97
* 3	01/12/2020 - 01/18/2020	0.88	0.96
* 4	01/19/2020 - 01/25/2020	0.87	0.95
* 5	01/26/2020 - 02/01/2020	0.87	0.95
* 6	02/02/2020 - 02/08/2020	0.86	0.93
* 7	02/09/2020 - 02/15/2020	0.85	0.92
* 8	02/16/2020 - 02/22/2020	0.88	0.96
* 9	02/23/2020 - 02/29/2020	0.90	0.98
*10	03/01/2020 - 03/07/2020	0.93	1.01
*11	03/08/2020 - 03/14/2020	0.95	1.03
*12	03/15/2020 - 03/21/2020	0.98	1.07
*13	03/22/2020 - 03/28/2020	1.15	1.25
14	03/29/2020 - 04/04/2020	1.33	1.45
15	04/05/2020 - 04/11/2020	1.50	1.63
16	04/12/2020 - 04/18/2020	1.68	1.83
17	04/19/2020 - 04/25/2020	1.55	1.68
18	04/26/2020 - 05/02/2020	1.42	1.54
19	05/03/2020 - 05/09/2020	1.29	1.40
20	05/10/2020 - 05/16/2020	1.16	1.26
21	05/17/2020 - 05/23/2020	1.13	1.23
22	05/24/2020 - 05/30/2020	1.10	1.20
23	05/31/2020 - 06/06/2020	1.07	1.16
24	06/07/2020 - 06/13/2020	1.04	1.13
25	06/14/2020 - 06/20/2020	1.01	1.10
26	06/21/2020 - 06/27/2020	1.01	1.10
27	06/28/2020 - 07/04/2020	1.02	1.11
28	07/05/2020 - 07/11/2020	1.02	1.11
29	07/12/2020 - 07/18/2020	1.03	1.12
30	07/19/2020 - 07/25/2020	1.03	1.12
31	07/26/2020 - 08/01/2020	1.03	1.12
32	08/02/2020 - 08/08/2020	1.03	1.12
33	08/09/2020 - 08/15/2020	1.03	1.12
34	08/16/2020 - 08/22/2020	1.02	1.11
35	08/23/2020 - 08/29/2020	1.02	1.11
36	08/30/2020 - 09/05/2020	1.01	1.10
37	09/06/2020 - 09/12/2020	1.01	1.10
38	09/13/2020 - 09/19/2020	1.01	1.10
39	09/20/2020 - 09/26/2020	1.00	1.09
40	09/27/2020 - 10/03/2020	0.99	1.08
41	10/04/2020 - 10/10/2020	0.98	1.07
42	10/11/2020 - 10/17/2020	0.97	1.05
43	10/18/2020 - 10/24/2020	0.96	1.04
44	10/25/2020 - 10/31/2020	0.95	1.03
45	11/01/2020 - 11/07/2020	0.94	1.02
46	11/08/2020 - 11/14/2020	0.94	1.02
47	11/15/2020 - 11/21/2020	0.93	1.01
48	11/22/2020 - 11/28/2020	0.92	1.00
49	11/29/2020 - 12/05/2020	0.92	1.00
50	12/06/2020 - 12/12/2020	0.91	0.99
51	12/13/2020 - 12/19/2020	0.90	0.98
52	12/20/2020 - 12/26/2020	0.89	0.97
53	12/27/2020 - 12/31/2020	0.88	0.96

* PEAK SEASON

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Appendix B
Signal Warrants

SIGNAL WARRANT ANALYSIS

Introduction

- The Signal Warrant Analysis Spreadsheets are a tool for assisting traffic engineers when evaluating the need for a traffic signal installation
- The filled spreadsheets can be used as part of the supporting documents for the signal warrant evaluation

Note: This templates are a useful resource, but it remains necessary to apply engineering judgment and to consider specific environmental, traffic, geometric, and operational conditions

Instructions

Fill in "Orange" areas only	
Automated cells based on in Input Data in "orange" cells	
General Information	Fill in below the general information including: District, County (drop-down menu) City, Engineer, Date Major and Minor Street with corresponding number of lanes and speed limits
Enter Eight Hour Volumes	Any 8 hours of an average day. Major-street and minor-street volumes shall be for the same 8 hours; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B for 80% columns only. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.
Enter Four Hour Volumes	Any 4 hours of an average day. Vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only, not required to be on the same approach during each of the 4 hours)
Enter Pedestrian Volumes (4-hr)	Pedestrians per hour crossing the major street (total of all crossings)
Enter Peak Hour Volumes	Vehicular: Any four consecutive 15-minute periods of an average day Pedestrian: Any four consecutive 15-minute periods of an average day representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings)

Input Data

Form 750-020-01
TRAFFIC ENGINEERING
10/15

City:	**Ormond Beach**				
County:	**79 – Volusia**	Engineer:	**CAM1**		
District:	**Five**	Date:	**June 7, 2021**		
Major Street:	**SR 5A**	# Lanes:	**2**	Major Approach Speed:	**45**
Minor Street:	**Tomoka Oaks**	# Lanes:	**1**	Minor Approach Speed:	**25**

Eight Hour Volumes (Condition A)

Hours	Major Street (total of both approaches)	Minor Street (one direction only)
9:00-10:00 AM	1,653	109
12:00-1:00 PM	1,788	86
1:00-2:00 PM	1,899	83
2:00-3:00 PM	1,875	70
3:00-4:00 PM	1,982	86
4:00-5:00 PM	1,827	78
5:00-6:00 PM	1,783	87
6:00-7:00 PM	1,701	70

Eight Hour Volumes (Condition B)

Hours	Major Street (total of both approaches)	Minor Street (one direction only)
9:00-10:00 AM	1,653	109
12:00-1:00 PM	1,788	86
1:00-2:00 PM	1,899	83
2:00-3:00 PM	1,875	70
3:00-4:00 PM	1,982	86
4:00-5:00 PM	1,827	78
5:00-6:00 PM	1,783	87
6:00-7:00 PM	1,701	70

Highest Four Hour Vehicular Volumes

Hours	Major Street (total of both approaches)	Minor Street (one direction only)
9:00-10:00 AM	1,653	109
1:00-2:00 PM	1,899	83
3:00-4:00 PM	1,982	86
5:00-6:00 PM	1,783	87

Highest Four Hour Pedestrian Volumes

Hours	Major Street (total of both approaches)	Pedestrian Crossings on Major Street
9:00-10:00 AM	1,653	
1:00-2:00 PM	1,899	
3:00-4:00 PM	1,982	
5:00-6:00 PM	1,783	

Vehicular Peak Hour Volumes

Peak Hour	Major Street (total of both approaches)	Minor Street (one direction only)	Total Entering Volume
5:00-6:00 PM	1,783	87	

Pedestrian Peak Hour Volumes

Peak Hour	Major Street (total of both approaches)	Pedestrian Crossing Volumes on Major Street
5:00-6:00 PM	1,783	87

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Ormond Beach	Engineer:	CAM1
County:	79 – Volusia	Date:	June 7, 2021
District:	Five		

Major Street:	SR 5A	Lanes:	2	Major Approach Speed:	45
Minor Street:	Tomoka Oaks	Lanes:	1	Minor Approach Speed:	25

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ 70% ☑ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied for eight hours. ☐ Yes ☑ No

Warrant 1 is also satisfied if both Condition A and Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems). ☐ Yes ☑ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

100% Satisfied: ☐ Yes ☑ No
80% Satisfied: ☐ Yes ☑ No
70% Satisfied: ☐ Yes ☑ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	Minor	100%[a]	80%[b]	70%[c]	100%[a]	80%[b]	70%[c]
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

[a] Basic Minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	9:00-10:00 AM	12:00-1:00 PM	1:00-2:00 PM	2:00-3:00 PM	3:00-4:00 PM	4:00-5:00 PM	5:00-6:00 PM	6:00-7:00 PM
Major	1,653	1,788	1,899	1,875	1,982	1,827	1,783	1,701
Minor	109	86	83	70	86	78	87	70

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

Condition B - Interruption of Continuous Traffic

Condition B is intended for application where Condition A is not satisfied and the traffic volume on a major street is so heavy that traffic on the minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Applicable:	☑ Yes	☐ No
100% Satisfied:	☐ Yes	☑ No
80% Satisfied:	☑ Yes	☐ No
70% Satisfied:	☑ Yes	☐ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	**Minor**	**100%[a]**	**80%[b]**	**70%[c]**	**100%[a]**	**80%[b]**	**70%[c]**
1	1	750	600	525	75	60	53
2 or more	1	900	720	630	75	60	53
2 or more	2 or more	900	720	630	100	80	70
1	2 or more	750	600	525	100	80	70

[a] Basic Minimum hourly volume

[b] Used for combination of Conditions A and B after adequate trial of other remedial measures

[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Eight Highest Hours								
Street	**9:00-10:00 AM**	**12:00-1:00 PM**	**1:00-2:00 PM**	**2:00-3:00 PM**	**3:00-4:00 PM**	**4:00-5:00 PM**	**5:00-6:00 PM**	**6:00-7:00 PM**
Major	1,653	1,788	1,899	1,875	1,982	1,827	1,783	1,701
Minor	109	86	83	70	86	78	87	70

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Ormond Beach	Engineer:	CAM1
County:	79 – Volusia	Date:	June 7, 2021
District:	Five		

Major Street:	SR 5A	Lanes:	2	Major Approach Speed:	45
Minor Street:	Tomoka Oaks	Lanes:	1	Minor Approach Speed:	25

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ Yes ☐ No

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

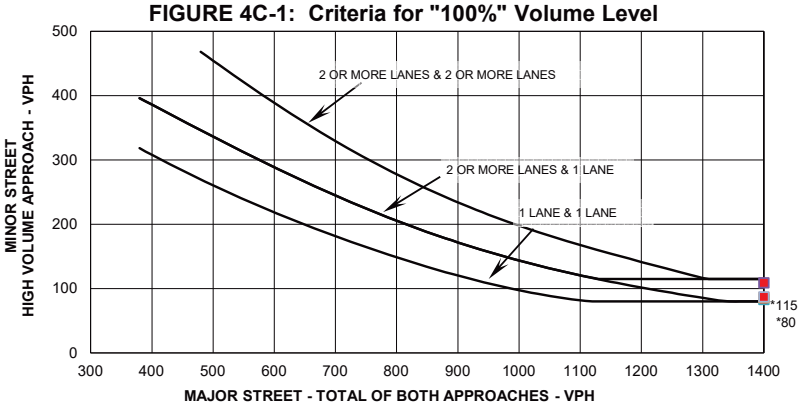
Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
9:00-10:00 AM	1653	109
1:00-2:00 PM	1899	83
3:00-4:00 PM	1982	86
5:00-6:00 PM	1783	87

FIGURE 4C-1: Criteria for "100%" Volume Level



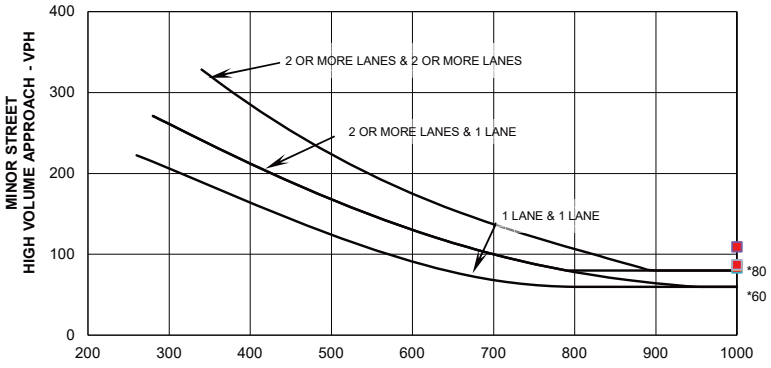
** Note: 115 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
9:00-10:00 AM	1653	109
1:00-2:00 PM	1899	83
3:00-4:00 PM	1982	86
5:00-6:00 PM	1783	87

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr (40 mph) on Major Street)



** Note: 80 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Ormond Beach	Engineer:	CAM1
County:	79 – Volusia	Date:	June 7, 2021
District:	Five		

Major Street:	SR 5A	Lanes:	2	Major Approach Speed:	45
Minor Street:	Tomoka Oaks	Lanes:	1	Minor Approach Speed:	25

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ 70% ☑ 100%

WARRANT 3 - PEAK HOUR

*If all three criteria are fulfilled **or** the plotted point lies above the appropriate line, then the warrant is satisfied.*

Applicable: ☑ Yes ☐ No
Satisfied: ☐ Yes ☑ No

Unusual condition justifying use of warrant:

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Peak Hour 100% Volume		
Time	Major Vol.	Minor Vol.
5:00-6:00 PM	1783	87

Peak Hour 70% Volume		
Time	Major Vol.	Minor Vol.
5:00-6:00 PM	1783	87

Criteria

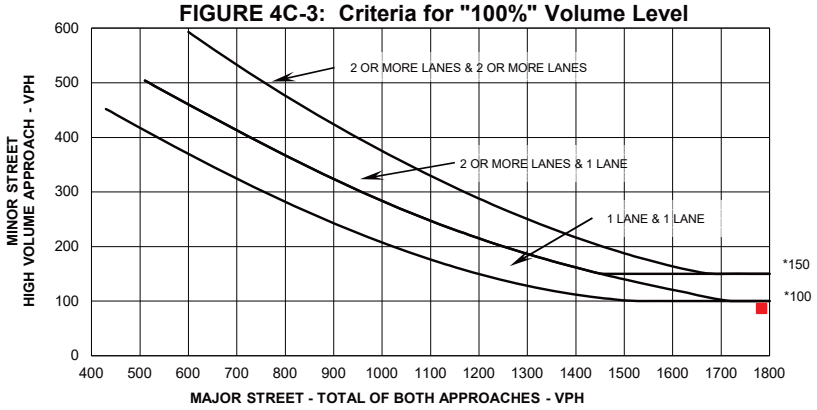
1. Delay on Minor Approach *(vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*		
Fulfilled?:	☐ Yes ☑ No	

2. Volume on Minor Approach One-Direction *(vehicles per hour)		
Approach Lanes	1	2
Volume Criteria*	100	150
Volume*		
Fulfilled?:	☐ Yes ☑ No	

3. Total Intersection Entering Volume *(vehicles per hour)		
No. of Approaches	3	4
Volume Criteria*	650	800
Volume*		
Fulfilled?:	☑ Yes ☐ No	

Plot volume combination on the applicable figure below.

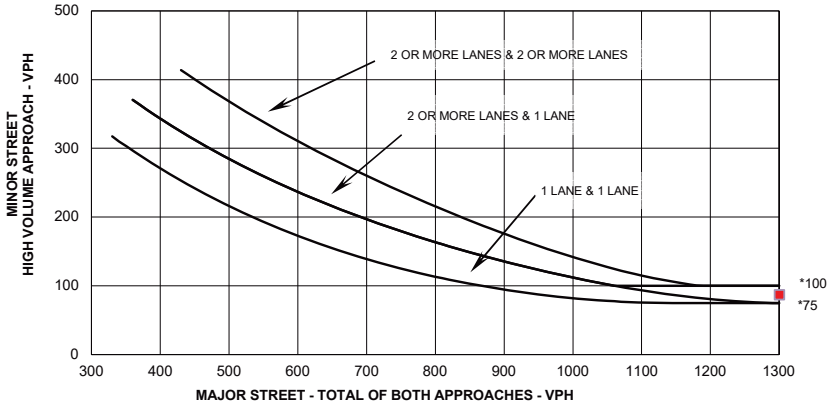
FIGURE 4C-3: Criteria for "100%" Volume Level



** Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

FIGURE 4C-4: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr (40 mph) on Major Street)



** Note: 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 75 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Ormond Beach	Engineer:	CAM1
County:	79 – Volusia	Date:	June 7, 2021
District:	Five		

Major Street:	SR 5A	Lanes:	2	Major Approach Speed:	45
Minor Street:	Tomoka Oaks	Lanes:	1	Minor Approach Speed:	25

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☐ Yes ☑ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ 70% ☐ 100%

WARRANT 4 - PEDESTRIAN VOLUME

For each of any 4 hours of an average day, the plotted points lie above the appropriate line, then the warrant is satisfied.

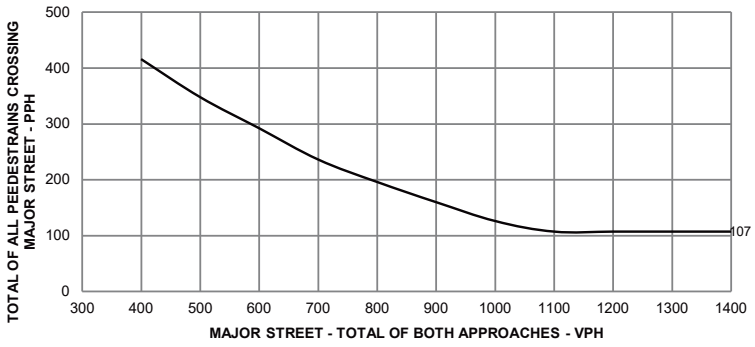
Applicable: ☐ Yes ☑ No
Satisfied: ☐ Yes ☑ No

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total

Plot four volume combinations on the applicable figure below.

Figure 4C-5. Criteria for "100%" Volume Level

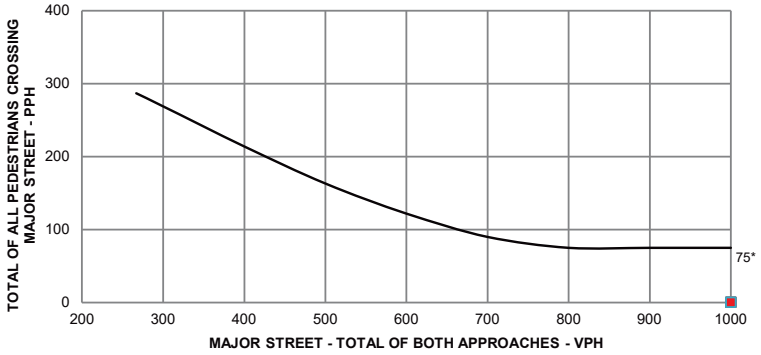


** Note: 107 pph applies as the lower threshold volume*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Pedestrian Total
9:00-10:00 AM	1653	
1:00-2:00 PM	1899	
3:00-4:00 PM	1982	
5:00-6:00 PM	1783	

Figure 4C-6 Criteria for "70%" Volume Level



** Note: 75 pph applies as the lower threshold volume*

WARRANT 4 - PEDESTRIAN VOLUME

For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point falls above the appropriate line, then the warrant is satisfied.

Applicable: ☐ Yes ☐ No

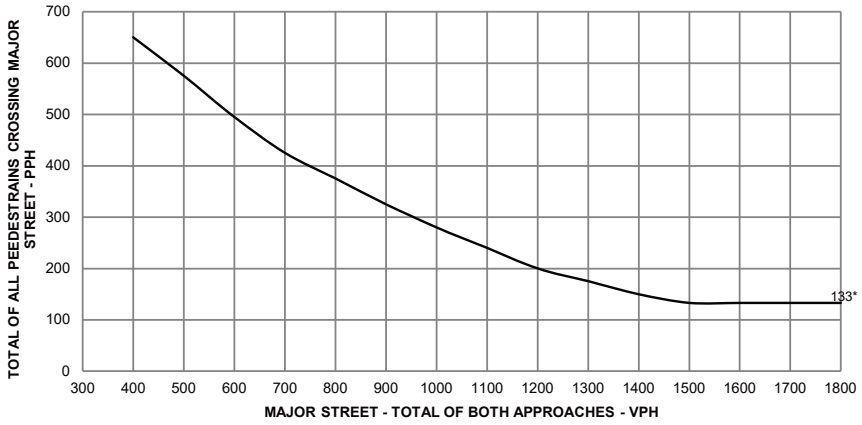
Satisfied: ☐ Yes ☐ No

Plot one volume combination on the applicable figure below.

100% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total

Figure 4C-7. Criteria for "100%" Volume Level - Peak Hour

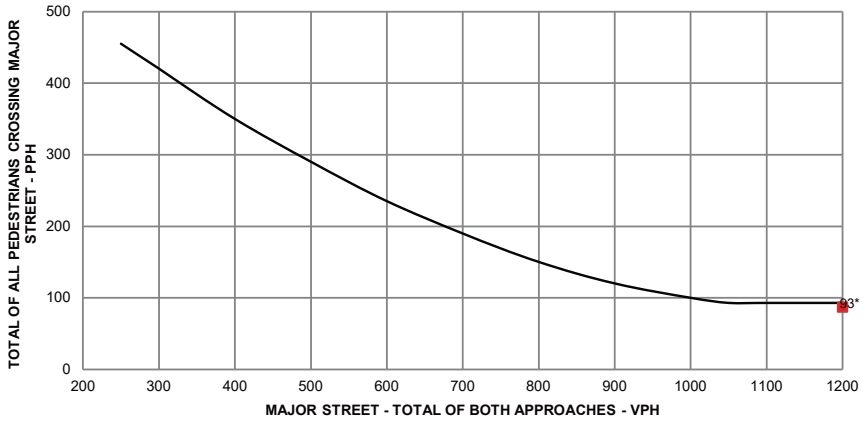


** Note: 133 pph applies as the lower threshold volume*

70% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total
5:00-6:00 PM	1783	87

Figure 4C-8 Criteria for "70%" Volume Level - Peak Hour



** Note: 93 pph applies as the lower threshold volume*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Ormond Beach**	Engineer:	**CAM1**
County:	**79 – Volusia**	Date:	**June 7, 2021**
District:	**Five**		

Major Street:	**SR 5A**	Lanes:	**2**	Major Approach Speed:	**45**
Minor Street:	**Tomoka Oaks**	Lanes:	**1**	Minor Approach Speed:	**25**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 5 - SCHOOL CROSSING

Record hours where criteria are fulfilled and the corresponding volume or gap frequency in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☑ No

Criteria				Fulfilled? Yes	Fulfilled? No
1. There are a minimum of 20 students crossing the major street during the highest crossing hour.	Students:	Hour:			
2. There are fewer adequate gaps in the major street traffic stream during the period when the children are using the established school crossing than the number of minutes in the same period.		Minutes:	Gaps:		
3. The nearest traffic signal along the major street is located more than 300 ft. (90 m) away, or the nearest signal is within 300 ft. (90 m) but the proposed traffic signal will not restrict the progressive movement of traffic.					

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Ormond Beach**	Engineer:	**CAM1**
County:	**79 – Volusia**	Date:	**June 7, 2021**
District:	**Five**		

Major Street:	**SR 5A**	Lanes:	**2**	Major Approach Speed:	**45**
Minor Street:	**Tomoka Oaks**	Lanes:	**1**	Minor Approach Speed:	**25**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 6 - COORDINATED SIGNAL SYSTEM

Indicate if the criteria are fulfilled in the boxes provided. The warrant is satisfied if either criterion is fulfilled. This warrant should not be applied when the resulting signal spacing would be less than 300 m (1,000 ft.).

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☑ No

Criteria	Fulfilled? Yes	Fulfilled? No
1. On a one-way street or a street that has traffic predominately in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.		
2. On a two-way street, adjacent signals do not provide the necessary degree of platooning, and the proposed and adjacent signals will collectively provide a progressive operation.		

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Ormond Beach**	Engineer:	**CAM1**
County:	**79 – Volusia**	Date:	**June 7, 2021**
District:	**Five**		

Major Street:	**SR 5A**	Lanes:	**2**	Major Approach Speed:	**45**
Minor Street:	**Tomoka Oaks**	Lanes:	**1**	Minor Approach Speed:	**25**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 7 - CRASH EXPERIENCE

Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Applicable: ☑ Yes ☐ No

Satisfied: ☐ Yes ☑ No

Criteria		Hour	Volume		Met?		Fulfilled?	
			Major	Minor	Yes	No	Yes	No
1. One of the warrants to the right is met.	Warrant 1, Condition A (80% satisfied)							
	Warrant 1, Condition B (80% satisfied)							
	Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour.							
2. Adequate trial of other remedial measure has failed to reduce crash frequency.		Measure tried:						
3. Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-month period.		Observed Crash Types:	Number of crashes per 12 months:					

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Ormond Beach**	Engineer:	**CAM1**
County:	**79 – Volusia**	Date:	**June 7, 2021**
District:	**Five**		

Major Street:	**SR 5A**	Lanes:	**2**	Major Approach Speed:	**45**
Minor Street:	**Tomoka Oaks**	Lanes:	**1**	Minor Approach Speed:	**25**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

WARRANT 8 - ROADWAY NETWORK

Record hours where criteria are fulfilled, and the corresponding volume or other information in the boxes provided. The warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the Major Route characteristics listed.

Applicable: ☐ Yes ☑ No

Satisfied: ☐ Yes ☑ No

Criteria								Met?		Fulfilled?	
								Yes	No	Yes	No
1. Both of the criteria to the right are met.	a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour.		Entering Volume:								
	b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.		Warrant:	1	2	3					
			Satisfied?:								
2. Total entering volume at least 1,000 veh/hr for each of any 5 hrs of a non-normal business day (Sat. or Sun.)							← Hour				
							←Volume				

Characteristics of Major Routes		Met?		Fulfilled?	
		Yes	No	Yes	No
1. Part of the street or highway system that serves as the principal roadway network for through traffic flow.	Major Street:				
	Minor Street:				
2. Rural or suburban highway outside of, entering, or traversing a city.	Major Street:				
	Minor Street:				
3. Appears as a major route on an official plan.	Major Street:				
	Minor Street:				

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	Ormond Beach	Engineer:	CAM1
County:	79 – Volusia	Date:	June 7, 2021
District:	Five		

Major Street:	SR 5A	Lanes:	2	Major Approach Speed:	45
Minor Street:	Tomoka Oaks	Lanes:	1	Minor Approach Speed:	25

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Approach Lane Criteria

1. How many approach lanes are there at the track crossing? ☐ 1 ☐ 2 or

If there is 1 lane, use Figure 4C-9 and if there are 2 or more, use Figure 4C-10. ☐ Fig 4C-9 ☐ Fig 4C-10

WARRANT 9 - INTERSECTION NEAR A GRADE CROSSING

This signal warrant should be applied only after adequate consideration has been given to other alternatives or after a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing.

Indicate if both criteria are fulfilled in the boxes provided. The warrant is satisfied if both criteria are met.

Applicable: ☐ Yes ☐ No

Satisfied: ☐ Yes ☐ No

Criteria	Fulfilled? Yes	Fulfilled? No
1. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and	☐	☐
2. During the highest traffic volume hour during which the rail uses the crossing, the plotted point falls above the applicable curve for the existing combination of approach lanes over the track and the distance D (clear storage distance).	☐	☐

Use the following tables (4C-2, 4C-3, and 4C-4 to appropriately adjust the minor-street approach volume).

Inputs		Adjustment Factors from Tables
Occurrences of Rail traffic per day		
% of High Occupancy Buses on Minor-Street Approach		1.00
Enter D (feet)		
% of Tractor-Trailer Trucks on Minor-Street Approach		0.50

Table 4C-2. Adjustment Factor for Daily Frequency of Rail Traffic

Rail Traffic per Day	Adjustment Factor
1	0.67
2	0.91
3 to 5	1.00
6 to 8	1.18
9 to 11	1.25
12 or more	1.33

Table 4C-3. Adjustment Factor for Percentage of High-Occupancy Buses

% of High-Occupancy Buses* on Minor Street Approach	Adjustment Factor
0%	1.00
2%	1.09
4%	1.19
6% or more	1.32

* A high-occupancy bus is defined as a bus occupied by at least 20 people

Table 4C-4. Adjustment Factor for Percentage of Tractor-Trailer Trucks

% of Tractor-Trailer Trucks on Minor-Street Approach	Adjustment Factor	
	D less than 70 feet	D of 70 feet or more
0% to 2.5%	0.50	0.50
2.6% to 7.5%	0.75	0.75
7.6% to 12.5%	1.00	1.00
12.6% to 17.5%	2.30	1.15
17.6% to 22.5%	2.70	1.35
22.6% to 27.5%	3.28	1.64
More than 27.5%	4.18	2.09

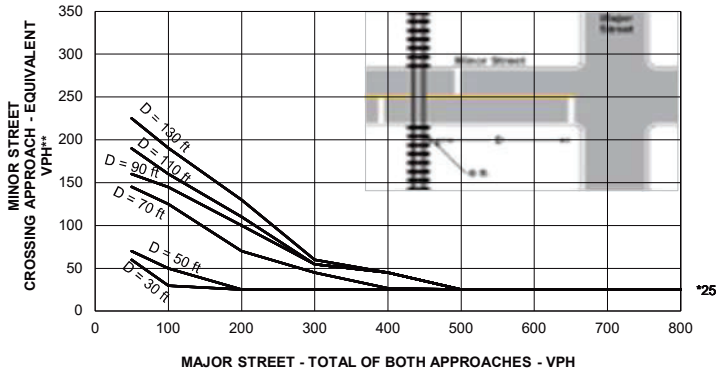
Input the major and minor street volumes before adjustment factors are applied

1 Approach Lane		
D (ft)	Major Vol.	Minor Vol.

After adjustment factors are applied

1 Approach Lane w/Factors		
D (ft)	Major Vol.	Minor Vol.

FIGURE 4C-9: Criteria for 1 Approach Lane at the Track Crossing



** Note: 25 vph applies as the lower threshold volume*

** *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate*

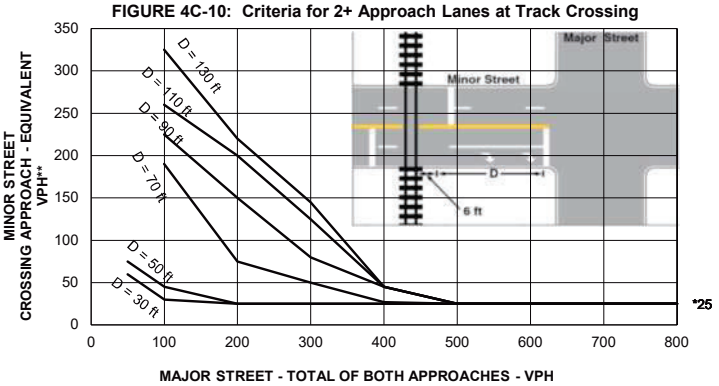
Input D and the major and minor street volumes before adjustment factors are applied

2 or more Approach Lanes		
D (ft)	Major Vol.	Minor Vol.

After adjustment factors are applied

2+ Approach Lane w/Factors		
D (ft)	Major Vol.	Minor Vol.

FIGURE 4C-10: Criteria for 2+ Approach Lanes at Track Crossing



** Note: 25 vph applies as the lower threshold volume*

** *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate*

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Ormond Beach**	Engineer:	**CAM1**
County:	**79 – Volusia**	Date:	**June 7, 2021**
District:	**Five**		

Major Street:	**SR 5A**	Lanes:	**2**	Major Approach Speed:	**45**
Minor Street:	**Tomoka Oaks**	Lanes:	**1**	Minor Approach Speed:	**25**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

CONCLUSIONS

Remarks:

WARRANTS SATISFIED:

☑	Warrant 1	☐ Not Applicable
☑	Warrant 2	☐ Not Applicable
☐	Warrant 3	☐ Not Applicable
☐	Warrant 4	☐ Not Applicable
☐	Warrant 5	☐ Not Applicable
☐	Warrant 6	☐ Not Applicable
☐	Warrant 7	☐ Not Applicable
☐	Warrant 8	☐ Not Applicable
☐	Warrant 9	☐ Not Applicable

APPENDIX J

Intersections Summary Work Sheets

2028 Build-Out Improvement Conditions

Lane Group	EBT	EBR	WBT	NBL	NBT	SBT	Ø1
Lane Configurations							
Traffic Volume (vph)	2	166	0	74	453	707	
Future Volume (vph)	2	166	0	74	453	707	
Turn Type	NA	Perm	NA	pm+pt	NA	NA	
Protected Phases	4		8	5	2	6	1
Permitted Phases		4		2			
Detector Phase	4	4	8	5	2	6	
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	6.0	10.0	10.0	6.0
Minimum Split (s)	24.0	24.0	24.0	12.0	24.0	24.0	12.0
Total Split (s)	27.0	27.0	24.0	20.0	40.0	40.0	20.0
Total Split (%)	24.3%	24.3%	21.6%	18.0%	36.0%	36.0%	18%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag				Lead	Lag	Lag	Lead
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	Min	None

Intersection Summary
Cycle Length: 111
Actuated Cycle Length: 61.4
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Nova Rd & Tomoka Oaks Blvd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	2	166	0	0	1	74	453	3	0	707	59
Future Volume (veh/h)	139	2	166	0	0	1	74	453	3	0	707	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1856	1870	1870	418	1796	1826	1870	1870	1870	1737
Adj Flow Rate, veh/h	154	2	184	0	0	1	82	503	3	0	786	66
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	2	3	2	2	100	7	5	2	2	2	11
Cap, veh/h	313	4	280	0	0	0	392	1996	12	472	1167	98
Arrive On Green	0.18	0.18	0.18	0.00	0.00	0.00	0.08	0.56	0.56	0.00	0.35	0.35
Sat Flow, veh/h	1760	23	1572		0		1711	3536	21	1781	3318	279
Grp Volume(v), veh/h	156	0	184		0.0		82	247	259	0	421	431
Grp Sat Flow(s),veh/h/ln	1782	0	1572				1711	1735	1822	1781	1777	1820
Q Serve(g_s), s	3.7	0.0	5.1				1.2	3.4	3.4	0.0	9.4	9.4
Cycle Q Clear(g_c), s	3.7	0.0	5.1				1.2	3.4	3.4	0.0	9.4	9.4
Prop In Lane	0.99		1.00				1.00		0.01	1.00		0.15
Lane Grp Cap(c), veh/h	317	0	280				392	979	1029	472	625	640
V/C Ratio(X)	0.49	0.00	0.66				0.21	0.25	0.25	0.00	0.67	0.67
Avail Cap(c_a), veh/h	803	0	709				762	1266	1330	1004	1296	1328
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	17.3	0.0	17.8				8.3	5.2	5.2	0.0	12.8	12.8
Incr Delay (d2), s/veh	1.2	0.0	2.6				0.3	0.1	0.1	0.0	1.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.6	0.0	3.4				0.5	1.1	1.2	0.0	5.2	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.4	0.0	20.5				8.5	5.3	5.3	0.0	14.1	14.1
LnGrp LOS	B	A	C				A	A	A	A	B	B
Approach Vol, veh/h		340						588			852	
Approach Delay, s/veh		19.5						5.7			14.1	
Approach LOS		B						A			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	0.0	32.3		14.3	9.9	22.4
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s	0.0	34.0		21.0	14.0	34.0
Max Q Clear Time (g_c+I1), s	0.0	5.4		7.1	3.2	11.4
Green Ext Time (p_c), s	0.0	2.8		1.3	0.1	5.0

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	0	114	1	191	761	1	678
Future Volume (vph)	0	114	1	191	761	1	678
Turn Type	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases	4		8	5	2	1	6
Permitted Phases		4		2		6	
Detector Phase	4	4	8	5	2	1	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	6.0	10.0	6.0	10.0
Minimum Split (s)	24.0	24.0	24.0	12.0	24.0	12.0	24.0
Total Split (s)	27.0	27.0	24.0	20.0	40.0	20.0	40.0
Total Split (%)	24.3%	24.3%	21.6%	18.0%	36.0%	18.0%	36.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	None	Min

Intersection Summary
Cycle Length: 111
Actuated Cycle Length: 69
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Nova Rd & Tomoka Oaks Blvd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	0	114	11	1	8	191	761	3	1	678	131
Future Volume (veh/h)	86	0	114	11	1	8	191	761	3	1	678	131
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1841	1870	1870	1870	1870	1870	1870	418	1870	1870
Adj Flow Rate, veh/h	91	0	121	12	1	9	203	810	3	1	721	139
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	4	2	2	2	2	2	2	100	2	2
Cap, veh/h	210	0	184	29	2	21	386	1581	6	166	989	191
Arrive On Green	0.12	0.00	0.12	0.03	0.03	0.03	0.10	0.44	0.44	0.00	0.33	0.33
Sat Flow, veh/h	1781	0	1560	927	77	695	1781	3631	13	398	2972	573
Grp Volume(v), veh/h	91	0	121	22	0	0	203	396	417	1	431	429
Grp Sat Flow(s),veh/h/ln	1781	0	1560	1699	0	0	1781	1777	1868	398	1777	1767
Q Serve(g_s), s	2.8	0.0	4.3	0.7	0.0	0.0	3.9	9.4	9.4	0.1	12.4	12.4
Cycle Q Clear(g_c), s	2.8	0.0	4.3	0.7	0.0	0.0	3.9	9.4	9.4	0.1	12.4	12.4
Prop In Lane	1.00		1.00	0.55		0.41	1.00		0.01	1.00		0.32
Lane Grp Cap(c), veh/h	210	0	184	52	0	0	386	774	813	166	592	588
V/C Ratio(X)	0.43	0.00	0.66	0.42	0.00	0.00	0.53	0.51	0.51	0.01	0.73	0.73
Avail Cap(c_a), veh/h	646	0	566	528	0	0	632	1043	1097	262	1043	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	24.4	27.6	0.0	0.0	11.8	11.9	11.9	13.0	17.0	17.0
Incr Delay (d2), s/veh	1.4	0.0	4.0	5.2	0.0	0.0	1.1	0.5	0.5	0.0	1.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.1	0.0	3.1	0.7	0.0	0.0	2.2	5.3	5.5	0.0	7.8	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.2	0.0	28.4	32.8	0.0	0.0	12.9	12.4	12.4	13.0	18.7	18.8
LnGrp LOS	C	A	C	C	A	A	B	B	B	B	B	B
Approach Vol, veh/h		212			22			1016			861	
Approach Delay, s/veh		27.0			32.8			12.5			18.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	31.2		12.8	12.0	25.3		7.8				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	14.0	34.0		21.0	14.0	34.0		18.0				
Max Q Clear Time (g_c+I1), s	2.1	11.4		6.3	5.9	14.4		2.7				
Green Ext Time (p_c), s	0.0	4.7		0.7	0.3	4.9		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

APPENDIX K

Intersections Summary Work Sheets – Alternative Scenario Comparison

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	54	37	78	5
Future Vol, veh/h	0	0	54	37	78	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	14	4	2
Mvmt Flow	0	0	61	42	88	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	103	0	-	0	82	82
Stage 1	-	-	-	-	82	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.44	6.22
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.218	-	-	-	3.536	3.318
Pot Cap-1 Maneuver	1489	-	-	-	915	978
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1489	-	-	-	915	978
Mov Cap-2 Maneuver	-	-	-	-	915	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1489	-	-	-	919
HCM Lane V/C Ratio	-	-	-	-	0.101
HCM Control Delay (s)	0	-	-	-	9.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Movement	WBL	WBR	SEL	SER	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	40	0	148	10	2	76
Future Volume (Veh/h)	40	0	148	10	2	76
Sign Control	Free		Stop		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	50	0	185	12	2	95
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)	642					
pX, platoon unblocked						
vC, conflicting volume	0		196	100	100	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		196	100	100	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	97		73	98	100	91
cM capacity (veh/h)	1604		678	765	765	1085

Direction, Lane #	WB 1	SE 1	NE 1
Volume Total	50	197	97
Volume Left	50	185	0
Volume Right	0	0	95
cSH	1604	683	1076
Volume to Capacity	0.03	0.29	0.09
Queue Length 95th (ft)	2	30	7
Control Delay (s)	7.3	12.4	8.7
Lane LOS	A	B	A
Approach Delay (s)	7.3	12.4	8.7
Approach LOS		B	A

Intersection Summary			
Average Delay	10.6		
Intersection Capacity Utilization	27.0%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	6.8

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	0	150	8	51	2	0
Future Vol, veh/h	0	150	8	51	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	200	11	68	3	0

Major/Minor	Minor2		Major2	
Conflicting Flow All	90	68	0	0
Stage 1	90	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.52	6.22	4.12	-
Critical Hdwy Stg 1	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	900	995	-	-
Stage 1	820	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	995	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	EB	WB
HCM Control Delay, s	9.5	
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	WBL	WBT
Capacity (veh/h)	995	-	-
HCM Lane V/C Ratio	0.201	-	-
HCM Control Delay (s)	9.5	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	1	224	41	91	79	0
Future Vol, veh/h	1	224	41	91	79	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	5	13	4	2
Mvmt Flow	1	257	47	105	91	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	152	0	-	0	359	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	259	-
Critical Hdwy	4.12	-	-	-	6.44	6.22
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.218	-	-	-	3.536	3.318
Pot Cap-1 Maneuver	1429	-	-	-	636	956
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	780	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1429	-	-	-	635	956
Mov Cap-2 Maneuver	-	-	-	-	635	-
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	780	-

Approach	EB	WB	SE
HCM Control Delay, s	0	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1429	-	-	-	635
HCM Lane V/C Ratio	0.001	-	-	-	0.143
HCM Control Delay (s)	7.5	0	-	-	11.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	171	86	47	4
Future Vol, veh/h	1	0	171	86	47	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	0	180	91	49	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	271	0	-	0	228	226
Stage 1	-	-	-	-	226	-
Stage 2	-	-	-	-	2	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1292	-	-	-	760	813
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	1021	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1292	-	-	-	759	813
Mov Cap-2 Maneuver	-	-	-	-	759	-
Stage 1	-	-	-	-	811	-
Stage 2	-	-	-	-	1021	-

Approach	EB	WB	SB
HCM Control Delay, s	7.8	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1292	-	-	-	763
HCM Lane V/C Ratio	0.001	-	-	-	0.07
HCM Control Delay (s)	7.8	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Movement	WBL	WBR	SEL	SER	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	64	0	100	9	8	61
Future Volume (Veh/h)	64	0	100	9	8	61
Sign Control	Free		Stop		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	75	0	118	11	9	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)	642					
pX, platoon unblocked						
vC, conflicting volume	0		226	150	150	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		226	150	150	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	95		82	98	99	93
cM capacity (veh/h)	1623		650	707	707	1082

Direction, Lane #	WB 1	SE 1	NE 1
Volume Total	75	129	81
Volume Left	75	118	0
Volume Right	0	0	72
cSH	1623	655	1022
Volume to Capacity	0.05	0.20	0.08
Queue Length 95th (ft)	4	18	6
Control Delay (s)	7.3	11.8	8.8
Lane LOS	A	B	A
Approach Delay (s)	7.3	11.8	8.8
Approach LOS		B	A

Intersection Summary			
Average Delay	9.8		
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3.8

Movement	EBT	EBR	WBL	WBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	0	103	6	169	7	1
Future Vol, veh/h	0	103	6	169	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	137	8	225	9	1

Major/Minor	Minor2		Major2	
Conflicting Flow All	241	225	0	0
Stage 1	241	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.52	6.22	4.12	-
Critical Hdwy Stg 1	5.52	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	660	814	-	-
Stage 1	706	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	0	814	-	-
Mov Cap-2 Maneuver	0	-	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-

Approach	EB	WB
HCM Control Delay, s	10.3	
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	WBL	WBT
Capacity (veh/h)	814	-	-
HCM Lane V/C Ratio	0.169	-	-
HCM Control Delay (s)	10.3	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.6	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	2	157	64	254	46	1
Future Vol, veh/h	2	157	64	254	46	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	167	68	270	49	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	338	0	-	0	374	203
Stage 1	-	-	-	-	203	-
Stage 2	-	-	-	-	171	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1221	-	-	-	627	838
Stage 1	-	-	-	-	831	-
Stage 2	-	-	-	-	859	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1221	-	-	-	626	838
Mov Cap-2 Maneuver	-	-	-	-	626	-
Stage 1	-	-	-	-	829	-
Stage 2	-	-	-	-	859	-

Approach	EB	WB	SE
HCM Control Delay, s	0.1	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1221	-	-	-	629
HCM Lane V/C Ratio	0.002	-	-	-	0.079
HCM Control Delay (s)	8	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL	NER
Lane Configurations										
Traffic Vol, veh/h	0	0	150	41	91	0	78	5	2	76
Future Vol, veh/h	0	0	150	41	91	0	78	5	2	76
Peak Hour Factor	0.75	0.75	0.75	0.87	0.87	0.87	0.89	0.89	0.80	0.80
Heavy Vehicles, %	2	2	2	5	13	2	4	2	2	2
Mvmt Flow	0	0	200	47	105	0	88	6	3	95
Number of Lanes	0	1	0	0	1	0	1	0	1	0

Approach	EB	WB	SB	NE
Opposing Approach	WB	EB		
Opposing Lanes	1	1	0	0
Conflicting Approach Left	SB	NE	WB	EB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SB	NE	WB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	8.9	8.8	7.8
HCM LOS	A	A	A	A

Lane	NELn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	0%	31%	94%
Vol Thru, %	0%	0%	69%	0%
Vol Right, %	97%	100%	0%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	78	150	132	83
LT Vol	2	0	41	78
Through Vol	0	0	91	0
RT Vol	76	150	0	5
Lane Flow Rate	98	200	152	93
Geometry Grp	1	1	1	1
Degree of Util (X)	0.115	0.22	0.198	0.129
Departure Headway (Hd)	4.238	3.959	4.694	4.994
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	843	906	765	717
Service Time	2.275	1.987	2.726	3.032
HCM Lane V/C Ratio	0.116	0.221	0.199	0.13
HCM Control Delay	7.8	8.1	8.9	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.8	0.7	0.4

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	NEL	NER
Lane Configurations										
Traffic Vol, veh/h	0	0	103	64	254	0	47	4	8	61
Future Vol, veh/h	0	0	103	64	254	0	47	4	8	61
Peak Hour Factor	0.75	0.75	0.75	0.94	0.94	0.94	0.95	0.95	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	3
Mvmt Flow	0	0	137	68	270	0	49	4	9	72
Number of Lanes	0	1	0	0	1	0	1	0	1	0

Approach	EB	WB	SB	NE
Opposing Approach	WB	EB		
Opposing Lanes	1	1	0	0
Conflicting Approach Left	SB	NE	WB	EB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SB	NE	WB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	10.6	8.7	8.1
HCM LOS	A	B	A	A

Lane	NELn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	0%	20%	92%
Vol Thru, %	0%	0%	80%	0%
Vol Right, %	88%	100%	0%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	103	318	51
LT Vol	8	0	64	47
Through Vol	0	0	254	0
RT Vol	61	103	0	4
Lane Flow Rate	81	137	338	54
Geometry Grp	1	1	1	1
Degree of Util (X)	0.103	0.154	0.417	0.078
Departure Headway (Hd)	4.547	4.029	4.436	5.223
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	787	889	812	684
Service Time	2.586	2.062	2.465	3.266
HCM Lane V/C Ratio	0.103	0.154	0.416	0.079
HCM Control Delay	8.1	7.8	10.6	8.7
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.3	0.5	2.1	0.3

Intersection	
Intersection Delay, s/veh	4.1
Intersection LOS	A

Approach	EB	WB	SB	NE
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	200	152	94	97
Demand Flow Rate, veh/h	204	168	98	99
Vehicles Circulating, veh/h	147	2	168	92
Vehicles Exiting, veh/h	119	189	2	259
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.6	3.9	3.9	3.6
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	TR	LT	LR	LR
Assumed Moves	TR	LT	LR	LR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	204	168	98	99
Cap Entry Lane, veh/h	1188	1377	1163	1256
Entry HV Adj Factor	0.980	0.907	0.959	0.980
Flow Entry, veh/h	200	152	94	97
Cap Entry, veh/h	1164	1248	1115	1231
V/C Ratio	0.172	0.122	0.084	0.079
Control Delay, s/veh	4.6	3.9	3.9	3.6
LOS	A	A	A	A
95th %tile Queue, veh	1	0	0	0

Intersection	
Intersection Delay, s/veh	4.4
Intersection LOS	A

Approach	EB	WB	SB	NE
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	137	338	53	81
Demand Flow Rate, veh/h	140	344	54	83
Vehicles Circulating, veh/h	123	9	344	50
Vehicles Exiting, veh/h	275	124	9	213
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.0	4.8	4.3	3.3
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	TR	LT	LR	LR
Assumed Moves	TR	LT	LR	LR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	140	344	54	83
Cap Entry Lane, veh/h	1217	1367	972	1311
Entry HV Adj Factor	0.979	0.981	0.981	0.976
Flow Entry, veh/h	137	338	53	81
Cap Entry, veh/h	1191	1342	954	1280
V/C Ratio	0.115	0.252	0.056	0.063
Control Delay, s/veh	4.0	4.8	4.3	3.3
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

LTG Engineering & Planning

Via Email: (Steven.Spraker@ormondbeach.org)

Ref: 5361.05

Draft Print
08/31/2023 1:00:30 PM

TECHNICAL MEMORANDUM

To: Steve Spraker, AICP – Planning Direction, City of Ormond Beach

From: Kady L. Dearing, P.E.

Date: August 31, 2023

Subject: Tomoka Oaks Residential – Impact of Nova Road Planned Improvement
City of Ormond Beach, Florida

INTRODUCTION

LTG, Inc. has been retained by Triumph Oaks or Ormond Beach I, LLC to prepare a technical memorandum summarizing the impacts of the planned and programmed Nova Road safety improvements proposed by the Florida Department of Transportation (FDOT). The following documentation and analysis are prepared to address residents' concerns, at the request of City Staff, regarding the effects of the proposed safety improvement in relation to the Traffic Impact Analysis (TIA) Report prepared for the Tomoka Oaks Residential project.

BACKGROUND

The FDOT is conducting a maintenance project for the segment of Nova Road with a focus on the primary segment of SR 40/Granada Boulevard to Wilmette Avenue (approximately 0.5 miles). The goal of the project is to rehabilitate the pavement and improve safety for all roadway users. As a result, the segment is expected to be revised from a 6-lane divided roadway, with shared left-turn lane, to a 4-lane divided roadway separated by a concrete median and enhanced with landscaping areas on the east and west sides of Nova Road. A copy of the project limits and proposed alternatives for the improvement project is provided as **Exhibit A**.

The TIA has been competed in accordance with the analysis standards adopted by the City of Ormond Beach, FDOT, and the River to Sea Transportation Planning Organization (R2CTPO) TIA Guidelines. As such, the study area for the analysis is based on a standard 3% project significance test and agreed upon during the methodology phase of the analysis. The part of Nova Road that will be modified by the safety improvement project was not within the 3% significant threshold for the TIA. However, the segment of Nova Road, from Wilmette Avenue to US-1, was included as part of the analysis and is expected to remain as a 4-lane divided section upon buildout of the safety improvement project. It should be noted that the segment of Nova Road from Wilmette Avenue to US-1 is expected to continue to operate within the adopted level-of-service upon buildout of the Tomoka Oaks Residential project.

SEGMENT ANALYIS

The segment of Nova Road, from SR 40/Granada Boulevard to Wilmette Avenue, was evaluated to determine the operating conditions under the existing roadway configuration and under the future planned configuration with buildout of the proposed development. The latest Annual Average Daily Traffic (AADT) count data, as released by the FDOT for the year 2022, was used. Due to the annual historical trend resulting in a negative growth, using 5-year and 10-year historical data, a 3% annual growth rate was used to determine 2028 background traffic. The results of the segment analysis are shown in **Table 1**.

Table 1
Nova Road Segment Analysis
Tomoka Oaks Residential

Roadway	Segment		No. of Lanes	Adopted LOS	Peak Hour Two-Way Capacity	Existing Peak Hour Two-Way Volume (2022)	Annual Growth Rate	2028 Background Volume	Project Trip Distribution	Project Volume	2028 Buildout Volume
Nova Rd.	SR 40	Wilmette Ave.	6	D	5,114	1,935	3%	2,283	51%	142	2,425
			4	D	3,455						

As shown in Table 1, the future 2028 volume is not expected to exceed the 4-lane divided capacity with inclusion of the proposed development. Therefore, no additional mitigation improvements or funds are required.

CONCLUSION

An additional segment analysis was conducted on Nova Road, from SR 40 to Wilmette Avenue, in order to address residents' concerns regarding the potential impact of the proposed development on the new safety improvements planned by the FDOT. In summary, the segment was not included in the original TIA, as it did not meet the significant test thresholds for analysis. In analyzing the additional segment, with and without the proposed safety improvements, the segment is expected to remain within the adopted level-of-service under 2028 future conditions with inclusion of the proposed development. Therefore, no additional mitigation improvements or funds, other than what was previously reported in the TIA, are required.

Attachments:

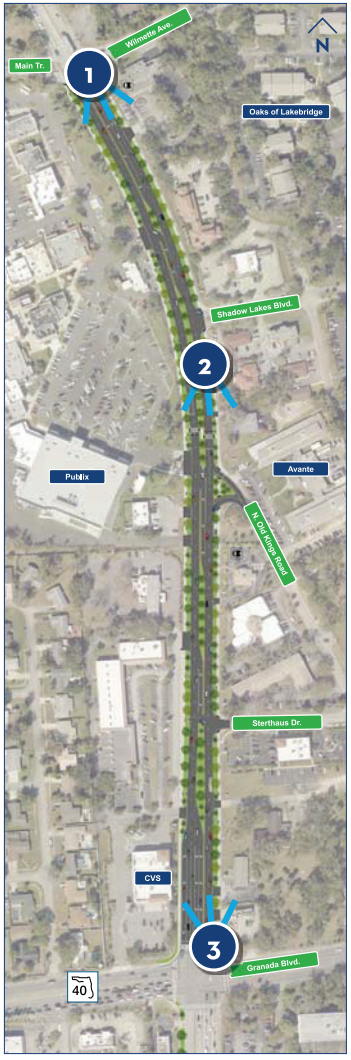
Exhibit A – Nova Road Planned Safety Improvement Alternatives

EXHIBIT A

Nova Road Planned Safety Improvement Alternatives

Nova Road 5A

ALTERNATIVE 1 - Wider Sidewalk and Landscape Buffer



Existing Conditions

Proposed Renderings

Nova Road 5A

ALTERNATIVE 2 - Separated Bicycle Lane

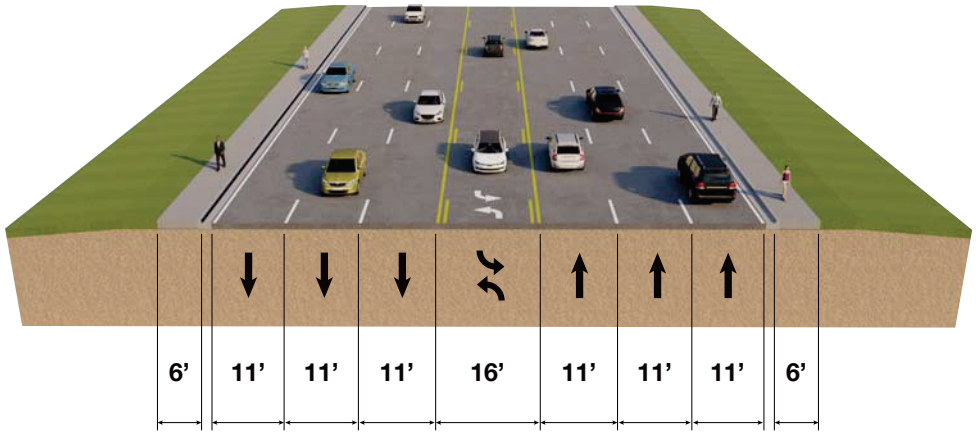
Existing Conditions

Proposed Renderings

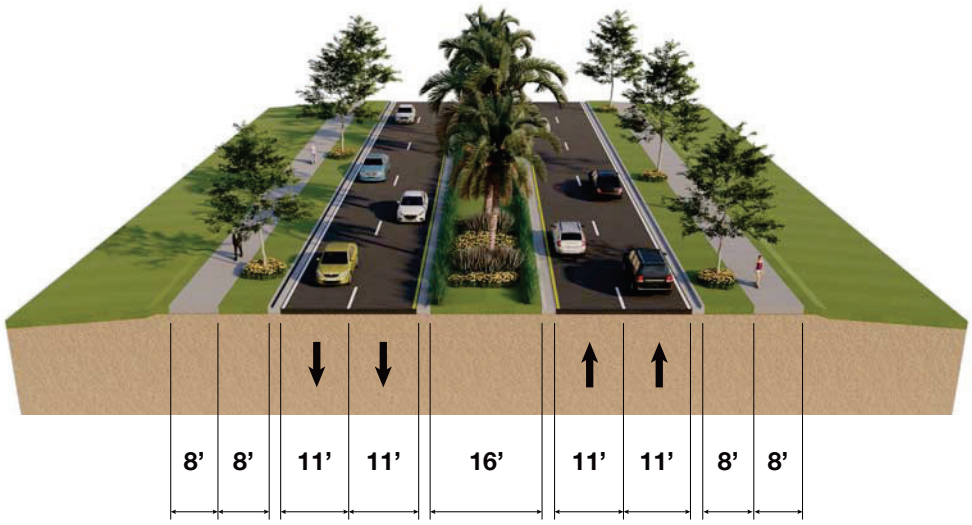
Nova Road 5A

TYPICAL SECTIONS

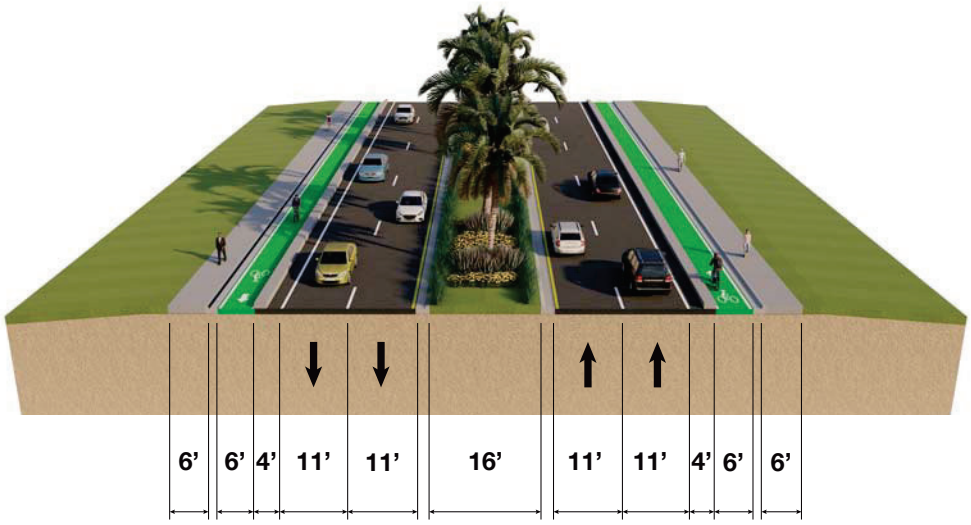
Existing Conditions



Alternative 1



Alternative 2



ATTACHMENT 6

2023 Planning Board minutes

M I N U T E S

ORMOND BEACH PLANNING BOARD

Regular Meeting

July 13, 2023 6:00 PM

Calvary Christian Center
1687 West Granada Boulevard
Ormond Beach, FL 32174

PURSUANT TO SECTION 286.0105, FLORIDA STATUTES, IF ANY PERSON DECIDES TO APPEAL ANY DECISION MADE BY THE PLANNING BOARD WITH RESPECT TO ANY MATTER CONSIDERED AT THIS PUBLIC MEETING, THAT PERSON WILL NEED A RECORD OF THE PROCEEDINGS AND FOR SUCH PURPOSE, SAID PERSON MAY NEED TO ENSURE THAT A VERBATIM RECORD OF THE PROCEEDING IS MADE, INCLUDING THE TESTIMONY AND EVIDENCE UPON WHICH THE APPEAL IS TO BE BASED.

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 IN WRITING, OR MAY CALL 677-0311 FOR INFORMATION REGARDING AVAILABLE AIDS AND SERVICES.

I. ROLL CALL

Members Present	Staff Present
Angie Shull, Vice Chair	Claire Whitley, Assistant City Manager
G.G. Galloway	Steven Spraker, Planning Director
Al Jorczak	Becky Weedo, Senior Planner
Mike Scudiero	David Allen, Planning Civil Engineer
Barry du Moulin	Cara Culliver, Landscape Architect
Troy Railsback (Absent)	Robin Gawel, Senior Planner
Doug Thomas, Chair	Sarah Cushing, Senior Planner
	Marcella Miller, Recording Technician
	Randy Hayes, City Attorney

II. INVOCATION

Chairman Thomas led the invocation.

III. PLEDGE OF ALLEGIANCE

IV. NOTICE REGARDING ADJOURNMENT

NEW ITEMS WILL NOT BE HEARD BY THE PLANNING BOARD AFTER 9:00 PM UNLESS AUTHORIZED BY A MAJORITY VOTE OF THE BOARD MEMBERS PRESENT. ITEMS WHICH HAVE NOT BEEN HEARD BEFORE 9:00 PM MAY BE CONTINUED TO THE FOLLOWING THURSDAY OR TO THE NEXT REGULAR MEETING, AS DETERMINED BY AFFIRMATIVE VOTE OF THE MAJORITY OF THE BOARD MEMBERS PRESENT (PER PLANNING BOARD RULES OF PROCEDURE, SECTION 2.7).

Mr. Randy Hayes, City Attorney, explained the process for the public hearing. Attorney Hayes recommended that those individuals who sought to give testimony on the application be sworn in by the Board Secretary and to affirm if they took the Oath when they speak.

Attorney Hayes reviewed an outline of procedural and evidentiary matters regarding Quasi-Judicial proceedings regarding the roles of the City Attorney, Planning Board and explanation of a Quasi-Judicial hearing, competent substantial evidence, Burden of Proof, witness testimonies, and the decision making process of the Planning Board. He added that there are two stipulations that the Planning Board members must vote on to: (1) agree to stipulate that the professionals who will testify on behalf of the parties are qualified to do so, and (2) allow Tomoka Oaks HOA to participate in the proceeding as a "party-intervenor".

Attorney Hayes advised the Board that once moving into the public hearing they must vote on the two stipulations aforementioned.

Chairman Thomas stated that the Planning Board members are their neighbors and are volunteers. He continued that the Board tries to do what is best for them and the City of Ormond Beach, and have no special interest.

Chairman Thomas opened the Public Hearing.

V. PUBLIC HEARINGS

A. PRD 2022-043, Tomoka Reserve – Issuance of a Development Order

Chairman Thomas asked Ms. Miller, Recording Technician, to read the Oath. Ms. Miller read the Oath:

"Do you swear that the testimony you are about to give is the truth, the whole truth and nothing but the truth?"

Mr. Galloway motioned to approve of and accept the following stipulations: (1) the parties agree to stipulate that the professionals who will testify on behalf of the parties are qualified to do so; and (2) allow Tomoka Oaks HOA to participate in the proceeding as a "party-intervenor". Mr. Jorczak seconded it. Vote was called, and the motion was approved (6-0).

Mr. Steven Spraker, Planning Director, explained the application for the issuance of a development order for the Tomoka Reserve subdivision. The application seeks to allow the issuance of a development order for 276 single-family lots on approximately 147.94 acres under certain conditions and associated subdivision improvements. The subject property is currently zoned as Planned Residential Development (PRD), and is located at 20 Tomoka Oaks Boulevard.

Mr. Spraker stated that the property has an existing land use of "Low Density Residential" (LDR) which allows a density of up to 4.3 units per acre. He continued that the purpose of the land use is to protect and encourage the continued development of typical single-family residential areas and stabilize and protect the character of

such neighborhoods. Mr. Spraker added that institutional uses may be permitted in accordance with the maximum floor area ratio.

Mr. Spraker continued with the explanation of the existing zoning of Planned Residential Development (PRD). In 2006, there was a zoning map amendment that went from R-2, Single-Family Low Density to PRD, Planned Residential Development. A site specific development order was approved for 122 residential units and the reconfiguration of the golf course. Mr. Spraker stated that one of the conditions of approval was to provide the covenant and restrictions on the golf course because in 2006 it was determined that there was no covenant and restrictions. The development order expired. He explained the process for the issuance of a development order began with a neighborhood meeting, in which the property went through two, then Site Plan Review Committee (SPRC), Planning Board and City Commission. Mr. Spraker explained that the development order is a zoning document that provides the number of lots, landscape buffer, and recreational areas. If approved, the next step is the construction plans as preliminary plat, with detailed engineering, landscape buffers, and roadways, which also goes through the process with the SPRC, neighborhood meeting, back to the Planning Board and then on to the City Commission.

Mr. Spraker reviewed the Tomoka Reserve Site Plan. He continued that the project is approximately 148 acres, with 276 proposed units and a density of 1.87 units per acre. He stated that the project seeks to allow a gated vehicular access while allowing pedestrians to still access the project through sidewalks. Mr. Spraker stated that there is an emergency access easement noted on the plan. The project is not in a designated floodplain, and there are no wetlands on the property. He added that an environmental assessment was provided with the project. Mr. Spraker remarked that the site plan is preserving 34 acres and an additional 9 acres for recreation. A key issue expressed through the process is size of the lots, with the proposal of 80' lots in width, 60' lots in width, and 50' lots in width. He continued that there is a proposed 50' buffer around the perimeter of the site (3.3 miles). The project stormwater areas use berms around exiting vegetation which is a low impact development technique. He added that the historic trees on the property are being sought to be preserved and that they provided the required school concurrency and a Traffic Impact Analysis.

Mr. Spraker reviewed key issues included in the staff report, starting with issue 1, the development ability of the former golf course. Mr. Spraker stated the Planning Board packet included an analysis from Ms. Davis, including a letter from Mr. Brent Spain Esquire. Also included in the packet was an analysis from the City Attorney's office and from the applicant's law firm, Cobb Cole. Mr. Spraker explained the position of the city staff that there is no covenant and restrictions that would prevent the site from being used for residential purposes.

Mr. Spraker reviewed issue 2, the lot size compatibility. Mr. Spraker described the R-2 zoning district which was the original zoning on the property and the surrounding area. The R2 zoning district requires a 100'-wide lot width a 10,000 square-foot lot area size. He explained that part of the applicant's Planned Residential Development request is to provide additional buffers, recreation and open space in order to negotiate lot size. They are not increasing the overall density but reconfiguring it in order to provide additional natural preservation and additional buffer and recreation,

according to Mr. Spraker. Staff discussed its similarity to what happened with an area of west Ormond, where there were applications for subdivisions less than 80' in width. These applications were denied and the subdivisions were made to comply with the 80'-wide lots.

Mr. Spraker discussed issue 3, planting of the 50' natural buffer. The applicant is seeking to use the existing vegetation along the perimeter buffer and in the areas that do not have vegetation, they are seeking to do seven trees and 30 shrubs and grasses, per 100 linear feet, clustered in 20' spacing. The irrigation is proposed to be provided by a truck with a water tank and no permanent irrigation. Mr. Spraker continued that the position of the Site Plan Review Committee (SPRC) is that the type 6 buffer which requires seven trees, 70 shrubs and 70 ground covers per 100' linear feet with staggered planting, should be adopted by the Board as it has worked well in other applications. SPRC staff strongly objects to the use of non-permanent irrigation and believes that this will lead to future land use issues and the Homeowners' Association (HOA) would be tasked with doing the irrigation. Mr. Spraker stated the buffer should not be clustered in a 20-foot buffer depth but rather staggered over the 50-foot buffer area in order to allow for proper tree growth and spacing.

Mr. Spraker discussed issue 4, the setback plan. Mr. Spraker stated that the applicant proposed a setback plan and staff provided an analysis in the staff report. Mr. Spraker reviewed the setbacks proposed by the applicant and the recommendations of the SPRC. Staff does support the front porch setbacks, as they have been successful in Chelsea Place.

Mr. Spraker discussed issue 5, Sheet PD6 note on the lot separation. Mr. Spraker explained that the note allowed variation on the buffer width. Staff recommends that the note be amended to state that the 50' buffer abutting the Tomoka Oaks existing residential lots and areas called out as natural preservation shown on the site plan. The natural preservation area shall not be modified and shall always be vegetative areas (Option 24 in the staff report). Mr. Spraker stated the language within the development order becomes a contract and when they go to construction that is what needs to be presented in the preliminary plat.

Mr. Spraker discussed issue 6, the traffic. The applicant performed a detailed Traffic Impact Analysis (TIA). City staff had the TIA reviewed by the traffic consultants, Traffic Engineering Data Solutions (TEDS) employed by the city. After requests from citizens at the February neighborhood meeting, the applicant updated the TIA traffic counts to get current counts. The TIA concluded that 96 percent of the project trips used Tomoka Oaks Boulevard and 4 percent used Iroquois Trail for external access. He added that the traffic study found that a traffic signal is warranted at Tomoka Oaks Boulevard and Nova Road. Mr. Spraker stated that the TIA concluded that all local intersections operate at a Level of Service "A" or "B", where the adopted Level of Service is a "D". A proportionate fair share calculation was drafted, which is where state law allows them to contribute their fair share for whatever traffic impacts they have. Mr. Spraker referenced another traffic issue that is part of the SPRC review, the intersection of St. Andrews Drive and Tomoka Oaks Boulevard. The intersection is awkward and does not function well. Mr. Spraker stated staff believed that the applicant should bear some responsibility in the reconfiguration, perhaps through a joint partnership through the impact fee credits.

Mr. Spraker stated that comments were received from residents in that they desire sidewalks on both sides of Tomoka Oaks Boulevard, where the applicant only proposed a sidewalk on one side.

Mr. Spraker discussed issue 7, recreation areas. The development order seeks to provide all outdoor recreational areas with no indoor recreation provided. The project has proposed 9 acres of recreational areas, with final details to occur with the preliminary plat.

Mr. Spraker discussed issue 8, environmental analysis. Mr. Spraker states Ayden Environmental submitted site assessment reports and a Soils Management Plan to the Florida Department of Environmental Protection (FDEP), where all work will be managed by them with the oversight of the FDEP. The FDEP approved the site assessment reports and Soils Management Plan in a letter dated November 16, 2022. Mr. Spraker stated that there are no wetlands on the site and it is not in a designated floodplain, and added that any gopher tortoises onsite will be reviewed at the preliminary plat.

Mr. Spraker stated that the applicant has applied for a R-2 Zoning Map application, separate of the PRD, with the intent that if the PRD is not approved, it would be necessary to ensure that they have zoning. He reiterated that the R-2 zoning allows 100' wide lots with a 10,000 square-foot lot area minimum. The setbacks are 30' in the front yard, with the building coverage at 35 percent. Mr. Spraker stated Planned Developments have additional requirements on the natural preservation, requiring 20 percent whereas the Land Development Code (LDC) requires 15 percent. Mr. Spraker continued that the applicant is proposing a 50' buffer within the Planned Development, when only 6' is required under the R-2 zoning guidelines. Mr. Spraker detailed that the R-2 zoning district does not require a perimeter setback, where the Planned Development requires a 40' perimeter setback. The Planned Development site plan includes 9 acres of recreational area and there is no recreation requirement in R-2 zoning.

Mr. Spraker reviewed the correspondence received throughout the proposed project and advised that a city webpage is maintained that shows each project submittal site plan, in which the information and documents were also enclosed in the Planning Board packet. He explained that concerns received included the topics of lot sizes, lot compatibility, stormwater, buffer widths, impacts to the existing wildlife, and traffic. The correspondence received were included in the packet.

Mr. Spraker explained that when reviewing the PRD criteria, the Planning Board should take into consideration: (1) the application submittal, (2) staff report and SPRC comments, (3) written correspondence provided, (4) criteria of the LDC contained within the staff report, and (5) testimony provided at the Planning Board public hearing. He stated that staff recommends denial of the proposed site plan for the issuance of a development order. He continued that there are items that the applicant can do that would change the recommendation including larger lot sizes, adjusting the buffer in terms of the plantings and irrigation, revisions to the setback plan, participation in the diamond intersection with a diamond reconfiguration

requirement at the construction (preliminary plat) phase of the development, and sidewalk additions be on both sides of Tomoka Oaks Boulevard.

Mr. Spraker concluded with thanking Calvary Christian Center with allowing use of their facility for the public hearing, and reminded everyone that there were comment cards in the back for those wishing to speak on the item.

Board Discussion and Questions

Mr. Jorczak asked for clarification of the statement in the Board packet, specifying that denial of the application may lead to the movement of the R-2 Single-Family Low-Density Zoning Map Amendment to provide the property a zoning designation. Mr. Spraker replied that the property is required by state law to have a zoning. If unable to work through the Planned Residential Development (PRD) process, the property is required to have a zoning designation. Mr. Spraker states the applicant has submitted an application to amend to R-2 which allows single-family lots as an allowed use. Under the R-2 zoning, as long as the application meets the criteria in the LDC, there is nothing that the SPRC can do to deny the application. Mr. Spraker continued that they would be required to have 100' wide lots and 10,000 square feet lot sizes, and have to have stormwater and utilities, and 15 percent natural preservation.

Mr. Scudiero asked Mr. Spraker for clarification based on the 147 acres, what the number of single-family homes would be to fall under the second scenario. Mr. Spraker answered that a site plan is required to calculate the number. It has not been submitted to city staff.

Ms. Shull inquired about the 100' wide lots and if that would be throughout the entire proposed property under the R-2 zoning. Mr. Spraker confirmed yes, but commented that there are certain things that staff cannot require such as increased buffers and recreation. The entire basis of the application is the trade of the increased buffers and the natural area for smaller lots in size.

Chairman Thomas disclosed that he met with the attorney for the applicants, Mr. Rob Merrell, Esquire, Cobb Cole Attorneys at Law, at City Hall on July 12, 2023 to discuss the item.

Applicant's Presentation

Mr. Rob Merrell, Esquire, Cobb Cole Attorneys at Law, 2049 S. Ridgewood Avenue, Daytona Beach, and Representative of the developers, thanked the Planning Board and staff for their time. He reiterated the choices that are before the Board, adding the possibility of a custom choice option, if they so desire. He delivered a summary of the project and overview of the rezoning criteria in a PowerPoint presentation, including explanation of the experts testifying about the project and their qualifications.

Mr. Merrell stated that the applicants purchased the property approximately three years ago. Two neighborhood meetings were held as well as other smaller meetings with the HOA and others. He concluded that several revisions have been made to the plan in which Mr. Dwight Durant, Zev Cohen & Associates, will detail.

Mr. Dwight Durant, Zev Cohen & Associates, 300 Interchange Boulevard, stated that the overall plan is for 276 units on 147 acres, where the holding capacity density analysis allows 800 units. He reviewed the site plan and open space plan and explained the benefits of the design, including the water distribution system, versus the golf course fertilizer effects. Mr. Durant continued with details on emergency access. He added that the minimum size lot, surrounding the perimeter of the site is 80' wide by 120' long, which allows additional space between the homes. He continued with information on the lot range widths from 50' to 80', the maintenance plan for the 50' buffer, and the proposed density of 1.87 units per acre. Mr. Durant explained that the open space plan exceeds the LDC standards on preservation areas and that 53 percent of the site is dedicated to landscape buffers, open space, stormwater management systems, and recreation areas. Mr. Durant added that he took the Oath.

Mr. Merrell continued with his presentation and added that he did not take the Oath. He explained the architectural standards of the proposed project, commenting that the neighbors want quality and diversity, similar to what Tomoka Oaks currently has, and that is what is being proposed with the variety of architectural plans.

Mr. Jake Stehr, Zev Cohen & Associates, 300 Interchange Boulevard, began with advising the Board that he took the Oath. He stated that the proposed property 50' landscape buffer is approximately three miles in length. In reference to the buffers, he described the proposed landscape and irrigation plan and remarked that the project requires a six (6') foot landscape buffer which requires two shade trees, 20 shrubs and 20 ground cover per 100 linear feet, and the applicants are proposing seven (7) trees, 30 shrubs and 30 ground cover per 100 linear feet.

Mr. Donald Spence, President and Owner, Native Florida Landscapes, LLC, stated that he is also a Board Certified Master Arborist and Ph.D. of Plant Pathology, University of Florida. Dr. Spence explained that he assisted with performing the tree survey and with the proposed buffer layout design, keeping it as similar to the existing buffer as possible. The layout is designed for a native, drought-tolerant species, that will not need irrigation after establishment.

Mr. Durant reviewed the criteria met in the LDC standards and the compliance of them.

Mr. Mark Karet, Director of Planning and Landscape Architecture, Zev Cohen & Associates, 300 Interchange Boulevard, stated that he took the Oath. He added that he has 35 years of experience in both the public and private sectors, has his Master's Degree in Urban and Regional Planning from the University of Florida, and is also a member of the American Institute of Certified Planners (AICP). Mr. Karet spoke on the project's conformance with the LDC standards and consistency with the Comprehensive Plan. He commented that LDC, Section 2-35(b), deals with more intense uses, such as townhomes and apartment districts, versus what is being presented in the application. He referenced the concern of 'crowding' and noted that the density is less than one half of what is permitted under the Future Land Use designation. The open space and buffers create slight crowding, although more than 50 percent of the site is open space. Mr. Karet added that the property falls in the "Low Density Residential" Future Land Use designation and the proposal aligns with

the land use and LDC, and the application aligns with the goals, policies of the city, supports infill development, and adheres to the intended use of the property.

Mr. Durant explained that the last criteria is on trees and that Mr. Bill Ray, AICP, and Mr. Jeff Flairty, P.E., Environmental and Planning Consultant and Presidents, Ray and Associates, are in attendance for any questions. He concluded that there are no wetlands onsite, and that an Environmental Analysis was performed.

Mr. Michael Hotaling, MAI, Managing Partner, Moody Williams Appraisal Group, 1300 Riverplace Boulevard, Suite 640, Jacksonville, stated that he took the Oath. He continued that he was asked to analyze the home sales as to whether the golf course lots sold for more than the non-golf course lots. Mr. Hotaling advised that he looked through two sets of data from 2021 to current and 2016-2018, and found the only substantial price difference was in the size of the homes. Golf course fronting lots tend to have larger homes, according to Mr. Hotaling, and he found that the gross sales price tends to be higher, but the price per square foot turns out to be lower. He advised that he also analyzed the potential impact of the Planned Development on the existing homes and explained that there has been a paradigm shift in how subdivisions are developed in regulation and the local demand. Smaller lots are being sought after, with smaller yards to mow. The same size house is wanted but with less yard to maintain. More compact neighborhoods with walkability, underground utilities and community amenities are desired. Mr. Hotaling continued that essentially with golf courses, there is a stigma associated, and people pay less for the homes on the golf course because the golf course is closed.

Mr. Sans Lassiter, P.E., President, LTG Engineering and Planning, 1450 West Granada Boulevard, stated that he took the Oath. He stated that he has his Master's Degree in Transportation of Engineering from the University of Florida, and has 45 years of experience. Mr. Lassiter delivered explanation of the traffic analysis, including the warrant for a traffic signal at Tomoka Oaks Boulevard and Nova Road. The development will be going through the proportionate fair share process, with the stacking information and traffic access improvements presented.

Mr. Merrell continued with describing the 9th criteria regarding material and architectural features and standards, which is part of the negotiating process as part of the custom zoning, Planned Residential Development (PRD). He explained the difference from 'by the book' straight zoning. Mr. Merrell commented that the final, 10th criteria is happening now with the expert-testimonies.

Tomoka Oaks HOA Presentation

Mr. Dennis Bayer, Esquire, 109 6th Street, Flagler Beach, legal counsel of the Tomoka Oaks HOA, introduced himself with 35 years of experience in land use and zoning and resides in Ormond-by-the-Sea. He added that he has worked on golf course conversion cases. He stated that buffers, location of lot sizes, and compatibility with lot sizes requires flexibility. Mr. Bayer stated that he has met with the developers, consultants, and staff, and expressed his concerns with size of the significantly smaller lots, traffic and infrastructure. He commented that the HOA supports staff's recommendation.

Mr. Thomas Harowski, Certified Planner and Tomoka Oaks resident, 97 N. St. Andrews Drive, stated that he did take the Oath, and has a Master's Degree in City and Regional Planning, and is a member of the American Institute of Certified Planners (AICP), with 50 years' experience in the field. Mr. Harowski continued that he submitted an analysis of the proposed plan and spoke on compatibility between the proposed project and the neighborhood, traffic concerns, and residential design standards. He suggested the proposed project would be the first thing that people see when they go into the community and will be a defining element to the extent that the new homes will give a different impression of the neighborhood which will change Tomoka Oaks and the existing community. He reiterated the plan for bigger houses on smaller lots. The new houses will be more massive in appearance than the most exceptional in size in Tomoka Oaks now. Mr. Harowski expressed his concerns with the design of the proposed houses on the 50'-wide lot homes with the garages all protruding forward. He added that when going down the entrance street, you will see a continuous row of garages on both sides. He continued with 50'-wide lots on the project, they should be consistent. He explained that he has prepared quality alternative designs. Mr. Harowski noted that diversified design is the final element in the characteristic of Tomoka Oaks, and currently they have wood, brick, stucco and stone and the proposed neighborhood presents a more monolithic look, inconsistent with the current neighborhood. He commented on the design of the homes being repeated throughout the proposed development with 16 models throughout. Mr. Harowski referenced the traffic study and expressed his concern as well with the traffic that would come with the project, and stated that all agree a traffic signal is needed at Nova Road and Tomoka Oaks Boulevard, with an excess of 2,700 additional trips per day. He suggested that the applicant should be required to modify the study to reflect the upcoming changes to Nova Road proposed by the Florida Department of Transportation and an updated diamond intersection with an adequate turning radius. Mr. Harowski concluded with his concern about the sidewalks, with one sidewalk being proposed on only one side, commenting that there should be sidewalks for safety on both sides.

Mr. Spraker provided a reminder that anyone interested in speaking to the Planning Board would need to complete a comment card.

Chairman Thomas opened the public comments.

VI. PUBLIC COMMENTS

Each speaker is allowed three (3) minutes to address the Planning Board.

Audience Comments

Ms. Carolyn Davis, 46 Oakmont Circle, introduced herself as a resident of Tomoka Oaks and confirmed that she took the Oath. She commented that her name may be familiar from the staff report. She advised that she writes the Tomoka Oaks Times newsletter. Ms. Davis hired Attorney Brent Spain, Theriaque & Spain Law Firm, who submitted a letter of opinion citing case law, that a golf course property cannot be developed into residential homes. Ms Davis explained Mr. Spain's legal authority in that he received his J.D. from Florida State University (FSU), where he ranked #7 in his class of 214. She continued that his relevant areas of practice include land use and zoning law, land use litigation, and appellate advocacy. Ms. Davis clarified that her

prevention efforts are independent of the volunteer HOA mitigation efforts and expressed that she respects their efforts. She thanked *Jim, Dennis and Tom* for their presentations. Ms. Davis explained that she felt compelled to take a different path, based upon historical and legal records that would prevent development. She added that she noticed that the developers included their resumes and pictures, of ten professionals to lend credibility to their flawed application. She stated that it is important to let the Planning Board know that she has her own list of credible, seasoned professionals, a number higher than ten, it is the homeowners of Tomoka Oaks and the surrounding neighborhoods that purchased homes believing the golf course would always remain a green area within our neighborhood. She asked the homeowners to raise their hands until her speech was over. She stated that she wanted the Board to see the faces of her credible professionals. Ms. Davis advised that she will provide the City Commission hundreds of resumes and signed and return post cards of public opposition. She stated that Tomoka Oaks residents went to her house today as she was writing this speech to personally deliver their post cards. A realtor, Kathy, asked Ms. Davis to tell the Board that even she does not want the proposed project. Ms. Davis concluded that she agrees with the decision of the city staff and Mr. Spain that the Planning Board should recommend denial. Mr. Spain's opinion will continue to have significant relevance for the denying the R-2 application as well.

Ms. Stephanie A. Cox, 1526 Agatha Drive, Deltona, stated that she did not take the Oath but solemnly swears. She continued that she is a resident of Volusia County and is a licensed real estate broker for over 33 years. She explained that she plans to move to Ormond Beach to be closer to her 4-registered voting children. Ms. Cox expressed that she is tired of the growth, traffic, problems with the schools and infrastructure in the city, as well as the traffic that will come if this development is approved.

Mr. Len Gaspary, 7 Oakmont Circle, stated that he lives on the Tomoka Oaks golf course. He elaborated on his career as a home builder in Volusia County, including homes in Tomoka Oaks. He built four houses on the golf course, as well as four to five houses off of the golf course in Tomoka Oaks. Mr. Gaspary commented that when he was new to the neighborhood, the golf course lots were substantially more expensive then off of the golf course lots, and he chose to live at his home based on the fact that it was on the golf course. He added that 36 years ago, he paid a premium for the lot. Mr. Gaspary continued that at one time you had to get your home plans approved by an architectural review board and had to be administered by the people who developed the Trails subdivision to ensure it would fit in with the community. Mr. Gaspary expressed his feelings about if the golf course is closed, it will impact the value of the homes and lots. He feels that there must be a way to mitigate the loss and value of his house, as it changes the complete character of the community by adding 276 lots, which will add almost 800 people when all is said and done. He confirmed that he took the Oath.

Mr. Jeff Boyle, 614 N. Halifax Drive, stated that he is duly sworn and commented on the proposal having consistency issues. Comprehensive Land Use Planning, Goal 2, says that the development must be compatible with nearby homes, lot sizes and density. Policy 1.1.3. - prohibits altering the neighborhood character by squeezing a new subdivision inside an existing subdivision. Policy 2.1.1. - this project allows unsafe traffic flow, with more than 2,700 daily trips. Policy 2.4.6 - protects the environment from excessive tree removals, too much impervious surface and

stormwater that overflows into the Tomoka River. Policy 1.6.4. - states, preserve natural open space in urban areas, do not eliminate 148 acres of that open space. He continued, in the Land Development Code, Section 1-15, prohibits depreciation of adjacent property values and undue crowding. Section 2-35, requires a PRD to provide an indoor recreation amenity that is missing and substantial community benefits that justify code waivers and exemptions sought by the applicant. Mr. Boyle added that legal questions cloud this golf course conversion, early Tomoka Oaks documents promised a golf course "in perpetuity".

Mr. Boyle stated on October 3, 2006, the City Commission granted a 122-unit Tomoka development order with the condition to preserve the golf course. Everyone was unanimous on the decision, including the City Commission, including the current Mayor and two preceding Mayors, the Planning Board, the Planning Director, city staff, and the applicant's attorney all recognized that it implied unwritten golf course protection existed. He continued that in 2014, the United States Court of Appeals, 11th judicial circuit, upheld unwritten implied golf course protections. It does not have to be in writing. Mr. Boyle advised Chairman Thomas, in case law precedent and in city land use codes, we believe that the Board has solid legal grounds to deny this proposed rezoning.

Ms. Denise White, 9 Fox Run Trail, advised that she lives in the Trails subdivision and thanked the Board for their time and efforts and listening to the residents. She expressed her concern with the development is health and safety of everybody. She understands developers rights and knows why they purchased the land, but explained that thousands are impacted by the development by 450' single-road for residents to get in and out of the neighborhood, and takes issues with the traffic analysis stating that only four percent of residents will be going through the Trails. Ms. White stated that the Trails has small two-lane narrow roads that are laden with medians and that she walks the wider roads on Tomoka Oaks Boulevard. She continued that last year the question was raised by Trails residents about overflow traffic. She commented that it will affect all of them. She asked when looking at the map, at the 450' road, how it is reasonable to expect that it is not affecting everybody's lives and health and safety.

Ms. Ashley Dufrene, 118 N. St. Andrews Drive, stated that in Section 1-15, Article II, Administration Enforcement of the Ormond Beach Land Development Code, it is the Planning Board and City Commissioners' duty to ensure that the proposed use will not substantially or permanently depreciate the values of the surrounding property; create a nuisance; or deprive the adjoining properties of adequate light and air; create excessive noise, odor, glare, or visual impacts on the neighborhood on the adjoining properties. Ms. Dufrene advised the Board that the current plan in front of them does everything that a proposed use should not. She said that her and her husband purchased their home in 2015 with the vision of raising their family there as generations did before them. They were looking for peace and tranquility being that they lived in major cities (Orlando, Miami, Atlanta and Washington D.C.) prior to settling in Ormond Beach. Ms. Dufrene continued that they were done with big-city-living and fell in love with Tomoka Oaks as they drove down the road and complete strangers would wave 'hello'. She explained that she felt that they were 'home'. She described that as they walked into the open house they were greeted with windows aligning the back of the home to see what they imagined 'old Florida' looked like with beautiful live oak trees lining what was the second fairway of the Tomoka Oaks

Golf Course. It was beauty that they had not seen in so many years living in congested neighborhoods and concrete jungles for all of their lives. They chose to buy the house even at the top of their price-range. Ms. Dufrene stated that they looked at a house on Rio Pinar that was $50,000 less but knew that the Tomoka Oaks home's view of the golf course was worth the extra expense. She added that eight years later, what was once their peace and tranquility as they are expecting their first child, will be destroyed by a wall of homes lining the back of their house, fifty feet from the edge of their pool. She elaborated that the new homes will block their sunrise-view and be replaced with concrete walls that are everywhere you turn nowadays. The wall of homes will not be finalized for years to come, and for the next 5+ years there will be a construction zone surrounding the beautiful land including their sleeping baby. She commented that hammering, pounding, and dust will circulate as they try to enjoy their haven of peace and privacy. Ms. Dufrene concluded that the proposed use must "not create a nuisance; or deprive adjoining properties of adequate light and air; create excess noise, odor, glare, or visual impacts on the neighborhood and adjoining properties." She closed in saying that she hopes that she illustrated that the plan will do everything that it should not. Ms. Dufrene confirmed that she took the oath.

Ms. Michelle C. Zirkelbach, 328 River Bluff Drive, expressed that she cares deeply and passionately about the home as her and her husband built the home and raised their children there. She added that she cares about her neighbors and neighborhood and cares about the City of Ormond Beach. She continued that the proposed development affects everybody as every resident travels on one of the major thoroughfares in the city. Ms. Zirkelbach stated that Ormond has grown extensively since she moved here in 1989 and she realized that a guiding force in the development is the Comprehensive Plan. She continued that the Comprehensive Plan establishes a community's policies and priorities regarding future development while aiming to preserve the environmental features and community character. She remarked that community character is something that Tomoka Oaks has in spades. The compatibility with existing character is something the developer wants the residents to believe is true. She continued that combability is just a buzzword to her at this point. Ms. Zirkelbach stated that the neighborhood is full of individual architectural design an abundance of majestic trees and established homes. She continued expressing her confusion with the applicants' claims that the proposed 50' wide, 60' wide and the 80' wide lots were compatible with the existing 100'+ lots they currently enjoy throughout Tomoka Oaks. Ms. Zirkelbach stated that her and the other residents are confused about the traffic studies. She apprised the Board that she was a former math teacher and is aware that people can make numbers say whatever they want them to, resulting in all Ormond Beach residents suffering the consequences of the traffic. Ms. Zirkelbach commented that she has been reading and studying a lot about the matter at hand and is reminded of when she studied contracts when getting her real estate license in 2004. She remarked that she never had a buyer ask her to find them a house on a 50', 60' or 80'-wide lot. She continued that they are being faced with the developers maximizing profits per acre. Ms. Zirkelbach concluded that all of the residents that raised their hands signed a contract to buy a home in a golf course community or on a golf course. She expressed lack of care about the expert that said that the home values will go up, if her quality of life goes down.

Ms. Ellen L. Cook, 1 Tomoka Oaks Boulevard, Escondido Condominiums, expressed her concern with the traffic, with her condominium building facing Nova Road. She

stated that the only thing that will not prevent anything is if the proposed development will not be built. She elaborated on the traffic that is seen stacked up and said that it is due to the railroad. She said that it does not matter how many cars are coming or going, that everyone has to stop at the railroad track. Ms. Cook remarked that putting up another traffic signal on Tomoka Oaks Boulevard is not going to matter if the railroad is closed and nobody can pass and turn left onto Nova Road or from Nova Road on to Tomoka Oaks Boulevard as everything comes to a halt. A railroad signal will not be in sync with the traffic signal, she said, and added that there will be accidents. Ms. Cook concluded that only the residents in Escondido and Tomoka Oaks know what goes on there and suggested that they pay attention because it is going to be a big issue.

Ms. Adele Shaw, 1 Tomoka Oaks Boulevard, stated that she took the Oath and lives in the Escondido Condominiums and is also concerned about the traffic. She continued that when she sees the word Reserve in the words Tomoka Reserve, she thinks of nature. Ms. Shaw that the city could have purchased the former golf course. Ms. Shaw expressed her dissatisfaction with the project and lack of natural preservation and recreation in it.

Mr. Tom Fitzgibbon, 51 S. St. Andrews Drive, stated that he lives in Tomoka Oaks and is a member of their HOA Board. Mr. Fitzgibbon confirmed he took the Oath. He expressed his concern with the traffic, stating that the new houses will add 600 vehicles or more and more than 2,700 daily trips at a minimum. The development traffic will block Escondido going in. He continued that turning left from Tomoka Oaks Boulevard onto Nova Road is already dangerous, and commented that there will be twice the amount of cars and trucks will make it worse. Mr. Fitzgibbon remarked that the traffic light may take up to two years to install. He continued that the Granada Boulevard, Main Trail-intersection, where LTG is predicting that after the development is built there, that only 18 more cars in the AM peak hour will exit onto Granada Boulevard, and referenced the part of the report that detailed that there will be 600 more vehicles where many will exit through the Trails to Granada Boulevard to Walmart, Lowes and other locations. Taking the Trails route versus Nova Road is about the same travel time. Mr. Fitzgibbon stated that he takes the route through the Trails as it is a nicer route. He expressed his concern with the data and methodology of LTG traffic study. He stated that residents could not hire a traffic expert because no local traffic agencies approved of the development. Mr. Fitzgibbon explained that none of the narrow roads have sidewalks and puts the residents and kids in danger. The Public Works Department has promised to put in speed tables on Tomoka Oaks Boulevard based on a speeding problem that radars, signs and patrols cannot fix. He commented that four houses down from his house, a female pedestrian was killed by a driver. He stated that he saw a city inspector also almost get hit by a speeding car as well as large delivery trucks that speed blindly around cars, clipping overhead wires and trees. Mr. Fitzgibbon asked the Planning Board and City Commissioners to finish the street work before house construction and to plan the possible development correctly to limit injuries and deaths.

Ms. Denise Corley, 51 S. St. Andrews Drive, stated that she took the Oath, opposes the development and spoke on her topics of compatibility and soil. She continued that the 100'-wide lots create spacious feel along with 13 islands. She added that the proposal looks urbanized with 50', 60', 80'-wide lots covering 50 percent of the land and is incompatible. The proposal tells the fact that centrally located smaller homes

are appropriately screened from the existing neighborhood and she continued that it points to the fact that village-homes on 50'-wide lots are less compatible. Ms. Corley continued that the center cavity is not diverse and the area in the north corridor is spacious, larger and upscale, and expressed that the plans for diversity are sketchy. She asked if there are assurances that the houses will be private homes or if it is a corporate rental housing development, and asked if it would be good for Ormond Beach. Ms. Corley remarked that calling the golf course an infill makes it sound as though it is the ghetto in an urban city. She expressed concerns about the soil and asked the Board to take a close reading of the environmental report where it points to several remediation steps that need to be performed for the soil clean up target levels to be met with standards for residential housing. She asked if it can be trusted that the steps will be followed in accordance to the law and if the soil will continue with unacceptable levels of harmful chemicals, be removed offsite or mixed with the other soil. Ms. Corley suggested that the recommendation that the soil will be transported and piled on open space in amenity areas of the proposal is of no comfort to the existing residents. She expressed her concerns with the fertilizers, poisons, animal feces, petroleum products, rubbish in the drainage ponds as well as the airborne toxins released by moving soil as discomforting as well. She touched on the berms, and stormwater drainage ponds on the perimeter of the proposal and those abutting the 50' buffer of the Tomoka Oaks residents, and mentioned that she hopes the berm is not toxic soil piled up behind the homes. Ms. Corley continued that the swales, ditches and dry ponds proposed are known to be mosquito habitats and that Tomoka Oaks residents utilize ground stormwater pipes. She urged that the Board vote no on the proposal.

Ms. Jane Eddy, 306 River Bluff Drive, stated that she took the Oath and read a letter from another Tomoka Oaks resident, Ms. Julie Frebis, who was unable to attend. "I would like to utilize my time this evening to discuss the overall development occurring in the City of Ormond Beach and the lack of critical infrastructure our city currently has to accommodate the needs of its citizens. I recently had to take my mother to the emergency room. She was suffering with a heart condition that without timely treatment could have easily led to a stroke. We went into the ER around noon and waited five hours for a room. Once in the room, we waited another three hours before we saw a doctor. The doctor ordered medication and due to a lack of staff, she was not given the medication until I called a high-level contact at the hospital to get extra attention. Once I called my contact, she was given the medication about 45 minutes later or almost nine hours since arriving at the ER. This concerns me a great deal. What if her condition was worse and she had a stroke? What about our citizens that do not have someone to call? How many of our current citizens are suffering severe medical consequences due to the lack of critical care infrastructure? What about the families when they need care? This is not the hospital's fault. They are working at break-neck speed to expand their services. This is simply due to having too many people move to our town in too short of a time period. It is time to step on the brake pedals. I work as the employee benefits director for a large company in the area and am acutely aware of the lack of other medical providers in our community. You need to be aware that there is a critical shortage of primary care physicians in the area. Most in our community have to wait up to six months to book a new patient appointment with a primary care provider. Also to my knowledge we only have one provider in all of East Florida that serves the under privileged or maternity care. My question to you is what is more important? Additional tax revenue for the city, and

allowing developers to build to the maximum, or the well-being of the Ormond Beach current residents? The right answer is the well-being of our current residents."

Mr. Scott Ryals, 24 Tomoka Oaks Boulevard, stated that prior to his current address he lived at 66 N. St. Andrews Drive. He stated that he had a decision to make when he saw the problems back in 2006/2008. He commented that it was a very difficult decision to put in 122 units on a golf course he played since 1970. He added that he has been in the neighborhood for 50 years. Mr. Ryals said that he knows every chemical that was put on the golf course before and got his first job there. He elaborated on his familiarity with the golf course and club house. He stated if we let a piece of our city do what's happening, to me and my family, you won't think to highly of Ormond Beach. Mr. Ryals stated that he still lives in Tomoka Oaks and he loves it. Mr. Ryals stated that he knows how mitigation takes place with numbers, and how individual freedoms are taken away over time. He stated that he was the one who stated if anything was done to the golf course property that it would remain a golf course. Mr. Ryals commented that he beat his head night and day on how he can do it. He said that they could only put in 122 units with the 2006 development and did not want to make $150 million off the development. They did not want to impact the traffic. He concluded that he hopes his perspective is understood and that he enjoys Tomoka Oaks and plans on staying there. Chairman Thomas commented that Mr. Ryals had taken the Oath.

Mr. Peter Tupas, 332 River Bluff Drive, confirmed he took the Oath. He stated that he has been a resident of Tomoka Oaks for 27 years and has been a real estate broker for 30 years. He disagrees with comment made about the golf course depreciating the value of the homes on it. He added that a lot of people paid a lot of money because the houses are on the golf course. Mr. Tupas commented on the two-lane access on Nova Road and two-lane access going from Main Trail, and adding 600 cars with rush hour, people will be stacked up. Mr. Tupas stated in the real estate business, anything behind houses impacts there value. He remarked that the traffic light may assist getting people on the road but that the access through Tomoka Oaks will be jammed up getting to the traffic light.

Mr. Ned and Lauren Huhta, 30 Pine Valley Circle, introduced himself and his daughter, and stated that he took the Oath and is a second-generation resident. He explained that he lives in a custom built home and is like none other in the neighborhood. He added that he supports the city staff denial and encourages the Board to do so. Mr. Huhta commented on his support of the Tomoka Oaks residents and remarked that the high traffic levels will be a nuisance to all who travel through the area, and believes that it promotes a lower quality of life. He suggests the applicant provide all of the funding for the configuration of the entry area if approved. He requested that if reuse water for irrigation is provided to the project, then re-use water should be provided to existing Tomoka Oaks residents. Miss Huhta confirmed that they took the Oath.

Mr. Richard Goldhair, 21 Cherokee Trail, advised that he took the Oath. He stated he desired to talk about the construction traffic that will likely last three to five years, as well as weekends on Saturdays 7:00 a.m. to 7:00 p.m. He expressed his hope that the 18-wheelers will not be allowed. If they cannot use the Tomoka Oaks entrance, will there be overflow on the two Main Trail entrances, Nova Road and Granada Boulevard. Mr. Goldhair referenced traffic, including large delivery vehicles

contending with pedestrians, skateboarders and bicyclists at the choke point off of Nova Road with the public shopping center on one side and community center on the other side with the possibility of a catastrophic situation. He continued that trucks accessing Granada Boulevard that get to Rio Pinar and Iroquois to get to the new construction site, they will have to go over the Misners Branch bridge. He expressed concern if the bridge can take the excess weight of the construction trucks and increased traffic. He questioned how the proposed project will affect real estate values and insurance premiums.

Ms. Barbara Handsman Doliner, 108 S. St. Andrews Drive, stated that she took the Oath. She explained that her family has had a thumbprint in Volusia County for 83 years and she has been a resident of the Trails and Tomoka Oaks for 35 years. She added that she raised her children there and that they are all registered voters. Ms. Doliner stated that she has been a professional volunteer in the community for 35 years and expressed appreciation to the Planning Board for volunteering. She thanked the residents for working diligently to maintain the neighborhood. She commented that she does not understand why the proposed project and the people behind the project, are so resistant to what the community has to say. Ms. Doliner stated and repeated, that it does not fit the community. She suggested building it in Miami or elsewhere and not in Tomoka Oaks where they do not want 'cookie-cutter' homes. She added that they do not care if gates or sidewalks are included in the proposal, and concluded that the shoe does not fit and this Cinderella will never have the shoe fit, no matter what way it is packaged. It does not fit. Ms. Doliner reiterated the suggestion for 100'-wide lot executive homes with 120 units. At $700,000 per home, she asked if that was enough money to make, what is the issue here. Ms. Doliner concluded that no consideration was given to increasing police, EMTs and Firefighters. She understands the shortage of doctors, the overcrowded hospitals and the going rate of over 7 hours at the emergency department. The shoe simply doesn't fit.

Mr. James Cameron, 39 Laurel Oaks Circle, stated solemnly swore that all of his comments are true in nature. He stated that he in support of the application and has worked with a local pro-business group for a number of years and has worked with the Volusia County Association for Responsible Development. He expressed the importance of all finding a happy medium that everybody can agree to and said that he talked with Planning Board members as well as with people in opposition to the issue. Mr. Cameron pointed out that he has heard a lot of people say that they have a lot of confidence in Planning staff. He concluded that he hopes a custom zoning can be agreed upon between all parties.

Mr. Renny Herrero, 111 N. St. Andrews Drive, stated that he took the Oath. He stated that he has lived in the community his entire life and is part of six generations. His grandfather was born in New Smyrna in 1918 and installed a love for surfing and golf in him. Mr. Herrero continued that he and his wife married and were excited with the expectation of being near a golf course and has played golf in Tomoka Oaks since the 1980s. He commented that he has played almost every golf course around the community and referenced the statements about 21 different golf courses within 20 miles and another questionable comment on four municipal golf courses, and remarked he did not think that it was factual information. Mr. Herrero stated that he can think of about seven golf courses within 20 miles as well as two municipal golf courses and delivered additional information on the popularity of golf courses and

educational opportunities in reviving ones that are run down. He referenced one in Atlanta where businessmen put their ideas together and put together a plan for educational opportunities for a rebuild. Mr. Herrero commented that golf is still popular and there are 60-80 people out on the LPGA Golf Course swinging a club daily even in the summer heat. He remarked that it is outside and beautiful. He added that the idea to relaunch Tomoka Oaks as a standalone 18-hole course without financial support is not financially sound. Mr. Herrero suggested considering other proposals that would keep the golf course. He concluded that the community could be behind the concept of a use that included the golf course in the redevelopment. Mr. Herrero stated to approve this plan is to settle for lack of possibilities and ideas. We can do better.

Ms. Caroline Herrero, 111 N. St. Andrews Drive, stated that she took the Oath. She stated she lived and grew up in Tomoka Oaks, and enjoyed being outside there in its beauty, ran and rode her bike there. She added that now one of her favorite parts of her daily routine is sharing it with her grandmother when they go on their evening walks. She added that they have noticed the growth of Ormond Beach and how it has changed the experience of living here. Miss Herrero continued that the Developer's Economic Impact Study states that all traffic is engineered to go Nova Road via Tomoka Oaks Boulevard with it being said that there are other alternatives and that they are longer. She clarified that if you exit the neighborhood onto Nova Road to get to Granada Boulevard where the traffic light and Main Trail connect, which is the other exit, it measures approximately two miles even and if you take the short cut through the Trails it measures 1.9 miles to get to the same intersection. She commented that it is already tricky for pedestrians and cyclists on the streets and pleaded with the Board not to approve the proposed project with this density.

8:30 p.m. Chairman Thomas announced an 8-minute break.

Mr. Adam Kipi, 52 Pine Valley Circle, stated that he took the Oath. He stated that he does environmental remediation and litigation for a living and spoke on the environmental report and asked the question of if they are going to dig 2' and then fill it in with clean fill straight over the top with the problem of going 2' just straight over the fairways because it is only affecting the fairways. He suggested that there would be other drainage issues. Mr. Kipi commented on the proposed homes and retention areas, suggesting that there will still be sloping, topography and grading issues. He touched on the traffic light and remarked that it will be an issue. He added that unless the main entrance is widened to Nova Road that they will be backed up, even with a roundabout. Mr. Kipi referenced the applicants PRD and then the addition of a part two, and added that when he moved here in 2021 he noticed on google maps still had Tomoka Oaks displaying a golf course and noticed in pictures that it had been neglected for years and had the thought that if it were to come up for sale that the residents can buy it and make it a golf course again. He suggested commercially, to take it back to a golf course and sign a Rehabilitation Completion Order. He referenced Tomoka Oaks as being a community built around a golf course and to possibly sell it to the city, stating that nobody wants the proposal or houses to be right up to the back of their fences. He suggested to go build off of Airport Road in undeveloped land. He expressed that he feels that it is going to look ridiculous and that it is going to be a nightmare.

Mr. Tyler Brown, 90 N. St. Andrews Drive, stated that he took the Oath. He expressed concern with the compatibility with Tomoka Reserve and Tomoka Oaks. He stated the applicant states the density is 1.87 units per acre for the Tomoka Reserve project and 2.09 for the Tomoka Oaks subdivision. He stated he questions these numbers. Mr. Brown stated when looking at the Volusia County Property Appraiser's (VCPA) Website, there are 547 lots in Tomoka Oaks with a land area of 282.85 acres, which he calculated at 1.93 units per acre and not 2.09 units per acre,. He commented that the number does not include roads or the islands in Tomoka Oaks and he did not have access to that specific data on the VCPA website. Mr. Brown remarked that it is the addition of 148 acres of the golf course that Tomoka Oaks was built around that was the core of the neighborhood. The number for Tomoka Oaks drops to 1.27 units per acre, lower than their proposed development, according to Mr. Brown. He then referenced the newspaper article out this morning that stated the number is closer to 1.003 units per acre at 547 homes and 545 acres. Mr. Brown commended city staff for their observation of the project and concluded that with the concerns raised by residents, the city might want to clarify the units per acre issue, and more, prior to when the Planning Board reviews any recommendation one way or another.

Ms. Missy Herrero, 111 N. St. Andrews Drive, asked if Mr. Cameron, who expressed that he was in favor of the development, was a paid witness and if so, should he have identified himself as a paid consultant?

Attorney Hayes replied that there is no evidence of Ms. Herrero's inquiry.

Chairman Thomas added that there is no proof that he was a paid witness.

Ms. Herrero stated that she has been a resident of Ormond Beach for 30 years and is a native Floridian. She commented that she is not against development and understands that they cannot fight it but we do have the power to shape it. Ms. Herrero stated that she heard from the Planning Board before that Ormond Beach residents do not want to share their sand in the sandbox with people moving to Florida. She shared her personal story about her parents illnesses with COVID in January and how she and members of her family work in the hospital, serving the community for decades. Ms. Herrero explained that they went to the hospital and both the hospital and the emergency department were full with no beds. She advised that she took her 87-year old father there for needed fluids and how they waited for eight hours in the hallway. She added that it is not the hospital or the nurses or doctors faults and that they are doing the best they can. She said that they left at midnight and that her father returned the next day by ambulance and he waited another eight hours in the hallway again. Ms. Herrero stated that they left and he continued to deteriorate, and attended an appointment via tele med and then had to return to the hospital for a third time via ambulance and was then admitted. She continued that his health deteriorated to a point that the family decided to go home on Hospice-care. Ms. Herrero reported that they did not have a Hospice nurse for five days because there was a shortage and he died three days later. Ms. Herrero explained that there is no structure for the existing residents and that this is what people are doing that are living and dying in the community today. She concluded that she hopes that the Board does not have the same experience that she did of the real life experience-data presented, and that she took the Oath and recommends denial of the plan.

Mr. Paul Hughes, 4 Lauren Court, stated that he took the Oath and expressed his concern with the missing logic, delivering history on his experience in the community in that he moved back to family here 30 years ago and bought into Tomoka Oaks Country Club and Golf Course, the greenspace, what the neighborhood offered to the kids with the opportunity to ride bikes and enjoy life. He continued that he supports all of the efforts for the greenspace and quality of life the golf course would offer by stopping the proposed development. Mr. Hughes commented that when it was up for sale he was late and offered to write a check for the 150 acres so that it would stop. He added that he thinks that there are enough people there that could come up with the money or use the city's money or other appropriate resources, including the university what would be interested in involvement to bringing it back to a greenspace, golf course, and avoid this. Mr. Hughes suggested if going through with this project design, there will be five to seven years construction with trucks that will exceed 24 tons, attempt to go over the bridge, which will limit the number of entrances into the neighborhood. He spoke on his traffic concerns, expressing his recommendation of denial, stating that there is no physical way to put 30 pounds of potatoes in a five-pound croker sac. Mr. Hughes concluded that it is too much for this community and that they bought what they bought, for the green space and what it was and have paid dearly for it.

Ms. Janice Rose, 21 Eagle Court, stated that she took the Oath and has lived on the golf course for 32 years. She asked for a provision in the Planned Development order that the Tomoka Reserve HOA is required to preserve and maintain the trees and the buffer around the development now and in the future. She continued that if they do not, the residents of Tomoka Oaks should have the right to sue. Ms. Rose commented that she may not have 30 years to see mature trees behind the property.

Ms. Leah Washington, 12 Oakmont Circle, stated that she took the Oath and that her and her family moved to Tomoka Oaks in September of 2020. She added that her husband is off serving his last tour in the military and they decided to settle down in Tomoka Oaks with their kids. She commented that they are going to call it home forever, the purpose of them not going with her husband during his last tour so that their kids can settle down and call their place 'home' in their forever home, in a place where they can grow up with kids and know the kids for longer than three years at a time. Ms. Washington stated that they live in a community that was advertised as a golf course community. She expressed that they are finding as time goes on that the peaceful community is not there anymore and is not going to exist. She explained how difficult it has been to find a pediatrician in the community going through three different pediatricians offices to get care and stay with her health insurance. She continued that specialty care for pediatrics does not exist in the community as they have had to travel to Lake Nona, Lake Mary and Orlando frequently for care. She added that they have gone through four different dental offices as well due to having to circulate insurance companies and not being able to sustain the patient load. They drop certain insurance companies in order to sustain a better count in their practices. Ms. Washington stated that all of this is happening without the development and asked what she is supposed to tell her kids when they cannot get a pediatrician or sick child appointment for three weeks, then in turn having to sit in the Emergency Room (ER) for six hours. She commented that it is negligible of the community to consider the proposed development. Ms. Washington concluded that the Florida Department of Transportation (FDOT) issued their study recently and quoted statistics that started

in 2011 that came after the area was zoned Residential in 2006. She mentioned rezoning of a particular pod of land, she thinks that changes would have had to occurred within the geographic area around the property which prevents the use of the property under its current zoning. She concluded that it seems that the community has proven that it is not possible to continue the residential zoned area and suggests denying the project all together.

Mr. Logan Pigliacampi, 31 S. St. Andrews Drive, stated that he took the Oath. He stated he lives on the golf course and attended today's meeting to witness what has been ongoing for a few years. He stated that he was born and raised here and that the golf course has been critical to his way of life. He continued that he goes to the University of Florida and feels our fundamentals of living, how we want to expand and conquer everything around us, and want to make it industrialized and improve everything, and how in part of that, the beautiful scenery is ruined. Mr. Pigliacampi mentioned that he recently took a trip across the United States and drove through approximately 23 states and noticed how the levels of air pollution and industrialized trucking and fracking contribute to asthma. He explained an experience that he had when he just cleaned his white car and then when going through Georgia, through a town that experienced something like this proposal, noticed his car was pitch black. Mr. Pigliacampi stated that these things affect him and the Tomoka Oaks residents. He concluded that he has to live the next 60-80 years with this world and issued a warning, pleading about industrializing the area. He remarked that the community needs the trees and not just the limited number of required ground cover. Mr. Pigliacampi urged the Board to vote no and said to think about long term consequences, including the lives of area residents, the wildlife, and impacts of construction.

Ms. Darla Widnall, 7 Shawnee Trail, stated that people have been trying to fight the development for two years. She commented that she heads up the people in the Trails that do not want any residential development on the golf course. She continued that the city spent $125,000 for a two-year survey for Parks and Recreation, where they came up with 10 items, greenspace, parks, and a golf course in Ormond Beach, to name a few. Ms. Widnall commented that she is not a golfer but that the Tomoka Oaks Golf Course was a beautiful one and feels that it still could be. She attended the FDOT meeting where there were experts and she elaborated on the proposed 276 homes in the middle of Tomoka Oaks, and west of Interstate 95 on Granada Boulevard where there will be 10,000 homes. Ms. Widnall stated that she advised them to change whatever they are doing to Nova Road because by 2045 due to the possibility of the 10,000 additional homes. She concluded that she did not take the Oath but swears to tell the truth.

Ms. Debbie Gatz, 32 N. St. Andrews Drive, stated that she took the Oath. She has been in Tomoka Oaks for 27 years. She inquired about the Planned Development buffer and existing trees. She added that due to living in Florida with storms, a lot of their trees have gone down. Ms. Gatz expressed concern with her existing buffer left with all of the 80' vines taking over her landscape. She encouraged the Board to look at the Planned Development to see what is in place for their HOA to take care of those buffers that have existing trees. Ms. Gatz thanked her neighbors and elaborated on her history in the area, living in the Trails prior to Tomoka Oaks. Her family walks a lot and when walking with others, people always refer to the diversity of the homes.

Ms. Beth Rabitaille, 22 Rio Pinar Trail, stated that she has lived there for 30 years and commented that the road is busy with drivers that speed down it. She questions how accurate the traffic report is. She concluded that she did not take the Oath but swears to it.

Tomoka Oaks HOA Rebuttal/Summary

Mr. Dennis Bayer, Esquire, 109 6th Street, Flagler Beach, legal counsel of the Tomoka Oaks HOA, requested that the Planning Board reflect upon what they heard tonight. When the developers were making their initial application they described this as infill. He continued that this is not infill, but instead the filling of greenspace with a residential development. He further explained that infill is where rundown houses and rundown neighborhoods are taken out and replaced with new development. Mr. Bayer reviewed the history of the property as a golf course since 1963. He commented that it is not a golf course now and it they do not get what they want with a PRD, it will not go straight zoning. He suggested reviewing the staff report and criteria and the issues that the developer needs to answer. Mr. Bayer asked how the buffer will be maintained five years from now when the vines take over all of the trees. Mr. Bayer stated that Mr. Harowski provided design options for the smaller lots. Mr. Bayer acknowledged that the issue of medical care may not be in the Land Development Code for concurrency, but it is a factor should be considered for lower density. This development is building in the heart of the existing Tomoka Oaks subdivisions. He urged the Board to go along with the staff recommendations of denial based upon the lack of information that has been given by the developer.

Applicant's Rebuttal/Summary

Mr. Merrell stated their presentation and design professionals addressed many of the questions brought up tonight. The design professionals provided information on the lot widths and the buffer types. Mr. Merrell stated that they desire to hear from the Planning Board and provide responses as needed. What has been presented are options. At the root of this issue, this property has a residential density and land use, which is an entitlement. Mr. Merrell stated an entitlement is automatic. He continued it is not a choice between nothing and the application. It is up to the Planning Board to look at the list in the staff report and provide direction on the residential development of the property. Mr. Merrell stated that they are looking for direction on the options presented.

Chairman Thomas brought the discussion up to the Board.

Board Discussion and Questions

Ms. Shull asked for clarification about the R-2. Attorney Hayes explained the development application based on the PRD zoning before them today. The R-2 is a different issue and not before the Planning Board at this time, and should not form the basis of the Board decision based on a different issue. Attorney Hayes further explained that depending on the decision of the Board, the developer will have a decision to make whether submitting another application to rezone to R-2, come back before the Planning Board, or submit another application for a PRD development order.

Ms. Shull inquired about the irrigation on the buffer and where that water would be coming from. Mr. Spraker replied that irrigation is recommended by staff. There are two reuse ponds that they are seeking to use reuse water and suggested that a well will most likely be needed to supplement the reuse ponds. Mr. Spraker stated that the irrigation water supply would be part of the preliminary plat.

Ms. Shull asked about the self-amending mention. Mr. Spraker answered that the PD6 detailed the amendment of that language. He reiterated the lot layout language that the project can make the lots wider, for examples a 50' wide lot into a 60' wide lot. Staff has no objection to making lot widths wider and the project could not exceed the overall lot total of 276 units. Mr. Spraker commented that if the Board does not like the architectural standards or if they would like something else regarding the submittal, they can discuss and recommend to change. What has been provided is consistent with other Planned Developments.

Chairman Thomas asked for clarification about irrigation and if staff is seeking in ground irrigation. Mr. Spraker explained that in the landscape proposal it is to establish a natural vegetation that after a certain point, no longer requires water. A truck with water would be used to establish the landscaped areas temporarily. Mr. Spraker commented that the concern is if there is a drought, and the buffer dies, it puts the obligation on the HOA. Staff has never seen a buffer of this size utilizing temporary irrigation.

Mr. Scudiero stated that several speakers referenced putting in a traffic signal and asked for confirmation on if it has been approved. Mr. Spraker replied that the response comments stated that it was presented to the Department of Transportation (DOT) and it was verbally approved and Mr. Lassiter may have additional information.

Mr. du Moulin thanked the Tomoka Oaks HOA. He asked if there is a possibility of a win-win type situation, referencing greenspace solar panel farming that everyone can benefit from. It would be for something other than houses. He asked if housing does go in, if they can go in with increased lot size, such as the Broadwater subdivision for million dollar homes instead. Mr. du Moulin stated he is seeking a solution where everyone wins.

Mr. Galloway disclosed that he has friends on both sides of the equation and has spoken with a few Tomoka Oaks residents, as well as Mr. Durant and Mr. Merrell. He asked for the difference between the 80' wide lot from the proposed 100' wide lots. Mr. Durant explained that with the market of what people want to buy, they are interested in the smaller lot widths. Mr. Durant added that the greenspace is the same for both. Mr. Durant stated that they want this project to be successful He continued to be blunt, our future residents don't want to look into the back of the Tomoka Oaks houses. They desire for the buffer to be successful and believe that the proposed plan will be successful. Mr. DuRant stated there is an existing, non-irrigated buffer out on the property today that we are seeking to replicate. He suggested allowing them to put the buffer in as proposed and that if it does not work out, they will try something else. He reiterated that they do not want to irrigate or fertilize and do not want to have run-off. The project is seeking to replicate what the existing buffer is and if there is a need for security, the project can bond the improvements.

Mr. Galloway asked for additional information on the proposed plans inconsistency with the Comprehensive Plan. Mr. Spraker replied that in the staff report it is not one of the reasons why staff recommended denial. It was not said that the proposed plan is inconsistent with the Comprehensive plan. He clarified that the reason for recommending denial were criteria 1 and 4, consistency with the Land Development Code (LDC), as in section 2-35 is permissive and specifies that, *'you may'* do something. He further explained that the issuance of the development order is a negotiated zoning. The area surrounding the property has 100' wide lots. Mr. Spraker continued that it is understood, the design of the project is to provide the buffer in exchange for smaller lots, which would be fine in the interior of the project, but the perimeter should stay at 100'. He also referred to Mr. Durant's comment on the setbacks at 7.5' for a side yard setback, which is smaller than a typical lot. Mr. Spraker concluded that staff did not recommend denial based upon consistency with the Comprehensive Plan.

Attorney Hayes specified that the staff report identifies the criteria that the proposal before them today should be evaluated.

Mr. Mark Karet, referenced the question as to if the plans are consistent with the Comprehensive Plan. He stated that Ormond Beach has land use categories that clearly would have not allowed residential development on the former golf course property, such as the "Recreation & Open Space" land use designation. Mr. Karet continued that the "Low Density Residential" land use allows residential development. Mr. Karet stated that the staff report indicates a policy that could be used to deny the application based on inconsistency with the Comprehensive Plan. Mr. Karet stated, as detailed earlier, the cited policy cannot be used as a reason for denial. He remarked that in order to deny the use, one would need to determine that the residential use is inconsistent and read words which are not in the policy.

Mr. Galloway stated or require 100' wide lots? Mr. Karet replied that the policy only refers to use and does not address lot sizes. Single-family lots next to single-family lots, regardless of lot size, is the same land use.

Mr. Karet stated in the application of Section 2-35 of the Land Development Code, staff is reading words in the language. He stated that what is being said tonight is that compatibility means that it has to be the same thing and that is not what the modern practice of planning says. Mr. Karet commented that compatibility has to be sensitive to the character of the community. He reiterated that it is infill development which is encouraged throughout the Comprehensive Plan. Mr. Karet states that there are many communities that are eliminating single-family only zoning.

Mr. Galloway stated he understands what Mr. Karet is stating, but there are many individuals tonight and notes that state that either they do not want the project or they want 100' wide lots. Mr. Galloway stated that the application is asking for smaller lot sizes and there are questions about compatibility. Mr. Karet stated that staff is seeking 100' wide lots next to the Tomoka Oaks existing 100' wide lots. Additionally, staff is seeking a type 6 landscape buffer of a 50' width with certain plantings that is typically required with industrial development next to low density residential uses. Mr. Karet re-emphasized that city staff is asking for both the 100' lot width and an indusial size landscape planting plan. Mr. Karet stated as a professional planner, that does not stand up.

Mr. Jorczak spoke on the diversity of the housing in the existing Tomoka Oaks community from the size and type, describing them as impressive in comparison with the newer developments out there or a cookie cutter approach. He commented that the existing community has issues with some of the people that service the neighborhood, such as the landscapers and mail carriers, and does not feel is the safest to get through with the amount of traffic there and the vehicles parked on the street. Mr. Jorczak remarked that it is a phenomenal area that we should be looking for excellence in how the piece of property is developed. He suggested that it needs to be something that blends with the existing area that has a character and a flavor and is not going to be an enclave. Mr. Jorczak commended Mr. Harowski on his research for his presentation and suggested doing a little more in researching if the proposed development should or should not go in. He remarked that he appreciates the time, efforts and money spent on creating the Board packet and all that city staff has done to point out what can be done as far as development options.

Chairman Scudiero made a motion to hold a time-certain vote, no later than 10:55 p.m. Chairman Thomas explained that he does not want to put a time-constraint on this and that it is of his top-5 most important issues ever heard in all his years of being on the Board.

Mr. Merrell stated that they appreciate the comments and expressed that the applicants are taking notes and listening to all Board suggestions. Mr. Merrell stated they are okay with a time certain continuance of the application.

Mr. Galloway stated that he has more questions and cannot vote on the issue tonight. Mr. Merrell stated that the applicant team is not seeking to rush the item and are noting all the comments.

Mr. Galloway asked if the staff recommendation of increasing lots to 100' wide around the perimeter were implemented, what would be the density (the number of units) that would be applying. Mr. Merrell replied that the project has been reviewed for a design using the straight zoning classification with 100'-wide lots, R-2. He stated that the design yielded about the same number of units. Mr. Merrell stated getting rid of the 50' buffer, you gain a lot of real estate, but the product would not be as good. Mr. Merrell stated if the project is required to provide 100' wide lots and a 50' industrial type buffer, it is just not a fair trade. Mr. Galloway stated that the project is developing in the middle of an existing neighborhood and those concerns need to be addressed. Mr. Galloway pondered why the abutting property owners did not purchase the former golf course as a community development district.

Mr. Scudiero asked the applicant, if the Board agrees to adopt all of staff and SPRC's recommendations, what the number of houses would look like. Mr. Merrell stated that they have not done this exercise.

Chairman Thomas referenced the presentation of Mr. Harowski. He asked for the design plan for the 50' wide lots and if they included an alley. Mr. Karet replied that there is room for back loaded alley ways. Chairman Thomas replied that would be the only way that he would vote for 50' lots.

Chairman Thomas asked about the open space and recreation planned for the project. Mr. Stehr answered that there would be a sports field, pavilions, pickle-ball courts,

two playgrounds, pocket parks, and added that the plan has not yet been finalized and additional open space and recreation can be added or modified.

Chairman Thomas referenced the traffic direction in between the fields and the parking lot between the areas and expressed his concern for the children's safety. Mr. Stehr advised that they would take it into consideration.

Ms. Shull inquired about the gates. Mr. Stehr stated that they are requesting electronic access gates for vehicular access only. Pedestrians are able to go through on the proposed sidewalks.

Ms. Shull asked about the lot size and density. She stated that the Tomoka Reserve project appeared to have more homes than the Tomoka Oaks subdivisions. Mr. Stehr referenced the density breakdown based on the LDC that was included in the staff report. Ms. Shull said that she agrees with the 100' wide lots around the perimeter but is unsure about the 50' and 60' wide lots in the interior. Mr. Stehr stated that there are condos and apartments abutting the existing subdivision. Chairman Thomas questioned if these were in the neighborhood. Ms. Shull stated the project is a neighborhood inside of a neighborhood. She stated her goal was to be consistent with what is in the existing neighborhood.

Ms. Shull stated she did not believe that the 50' wide lots are consistent with the neighborhood. Mr. Stehr asked if the multifamily was consistent. Ms. Shull stated that she is providing her feedback on the project.

Ms. Shull discussed the setbacks and stated from her experience, they allow for short driveways, which means cars are parked out in the street. Mr. Stehr replied that it is a 25' setback allowing for two cars in the driveway, and two in the garage. Ms. Shull commented that it is too much house on the lot.

Mr. Durant stated that the existing Tomoka Oaks lots are suffering with not enough room in their backyard, therefore they are trying to give flexibility to be able to sacrifice some of the front. He continued that the setbacks would provide additional distances between subdivisions.

Ms. Shull asked if fencing would be allowed inside of the neighborhood, even for those houses backed up to the buffer. Mr. Stehr confirmed that they are.

Ms. Shull asked why it was mentioned prior that 100' wide lots would not work, but that 80' wide lots can. Mr. Merrell replied that 100' wide lots could work, but they are not as good for the developer, and the 80' wide lots work better for the project. There is a concern that there is not a market for 100' wide lots.

Ms. Shull stated, as a realtor, she believes that 100' wide lots would be very desirable.

Chairman Thomas commented that the 100' wide lots in Tomoka Oaks do not stay on the market very long.

Mr. Carl Velie, property owner, for the proposed Tomoka Reserve development, stated that the value of property that is based on building and the land. The land is 20 to 25 percent of the property value, depending on how urbanized that it is. He remarked the bigger the lot width, the higher the cost of the house will be, based on

the house size. Most of the houses in Tomoka Oaks are selling for $400,000 to $500,000 range, and are 40 to 50 years old. Mr. Velie, stated if the project built a new home on the same sized lots then it would likely be an $800,000 home. Mr. Velie added that proposed houses on a 100' lot with 10,000 square feet in lot size will be substantially higher than the typical house in Tomoka Oaks. He stated that they are trying to match the same value on a smaller lot width with similar lot square footage.

Mr. Velie continued that they think they can sell a few 100' lots but he is not sure if they can sell two hundred of them as quick, and may have to wait 15 years. That is not what the developer wants to do. Mr. Velie stated that he does not think people want to buy million-dollar houses unless they are on the river or ocean. He said the project seeks to create a product that will sell quickly, or as good or better than what is in the neighborhood. He stated that there is a difference compatible and comparable. This project will be compatible with a residential use abutting a residential use. Comparable is going different because these will be new homes with new amenities. Mr. Velie stated that the new construction will result in better built and stronger houses. He expressed concern with have a 100' wide house with a value of $800,000 next to a 60' wide house with a value of $500,000. Mr. Velie stated if they thought that they could sell 100' wide lots, they would be all for it. But they do not think that the project can sell 100' wide lots.

Mr. du Moulin stated that if it is designed correctly it could work. Mr. Velie detailed the constraints of the existing property layout. Mr. Velie suggested that there be a quadrant area or pod where the lots are smaller at 50' or 60' lots. He remarked that the studies the applicants have done show that there is not enough demand for the million dollar homes.

Ms. Shull asked why Mr. Velie believes that they cannot sell 100' wide lots. Mr. Velie responded that the study the project has done there is not enough demand for the million-dollar homes. The concern is that there are not 200 or 250 buyers who can purchase the million dollar homes. Ms. Shull commented that they will go a lot farther with the neighbors if there is a higher quality product in the area. Mr. Velie replied that the proposed homes are planned to sell higher than any in the area, other than the riverfront properties that are in Tomoka Oaks. Mr. Velie stated that the cost per square foot is $250 to $300. For a 2,000 square foot house, that would be $600,000. For a 3,000 square foot house, it will be a million dollars and we do not see that demand in the market. Mr. Velie explained his experience in the area and stated that he moved to Florida in 1954 and moved to Ormond Beach in 1964. He was an appraiser for 40 years and learned the life cycle of a neighborhood. Mr. Velie concluded that it is to their advantage to sell the most expensive house that they can sell. Mr. Velie stated that this development will be new and modern. The newer, more expensive homes would enhance the values in Tomoka Oaks.

Chairman Thomas restated that the public participation is closed.

Chairman Thomas inquired about the 80' wide lots and the comment people do not want to have homes next to smaller homes. He stated on the proposed site plan, there are 80' wide lots across the street from 50' and 60' wide lots. Mr. Velie responded that area is the main road. Mr. Stehr answered that after numerous meetings with the neighborhood, the applicants went back to 80'wide lots by 125', matching the R-2

square footage. The 80' wide lots allow relocation of the garage to the side or to the rear.

Mr. Sheldon Rubin, property owner, added that the setback on the 80' wide lot is 25 percent. He remarked that the 10,000 square foot lots with 80' wide lots on the perimeters plus the 50' and the open space, is quite accommodating. Mr. Rubin questioned that he is not sure why everyone is stuck on the 100' wide lot. Mr. Rubin stated that they will be modern, high-priced housing with benefits and a bigger buffer, in which they agreed to the plantings for. He expressed concern for the disconnect. Mr. Rubin stated through the process there has been a desire to lock down this site plan and show exactly what is desired. He reiterated that we did not have any flexibility with the rules. So, on the inside lots we show 50' wide lots. Mr. Rubin added that if they have to put an alley on some of the 50' wide lots, that they will do so if given the opportunity. There needs to be flexibility in the design. He concluded that it is a superb site plan.

Mr. Jorczak stated that increasing lot widths would decrease the lot total and also reduce the traffic impacts. He asked if there were a catastrophic event and in an emergency evacuation for the entire area, how long would it take to get the residents out with the current road situation, with a huge number of people in a short period of time with limited road structure to do it.

Mr. Lassiter replied that they did not analyze a mass evacuation situation. He confirmed that they did a standard peak hour evaluation. He continued that without a traffic signal it will take a long time. Mr. Lassiter replied that when doing beachside analysis they do have to look at hurricane evacuation times. He continued that there is plenty of advance warning. He confirmed that the traffic analysis showed that the proposed plan works. Mr. Lassiter referenced the traffic signal and advised that what they did to the traffic signal study, and that the Department of Transportation (DOT) approved it with the following two items, (1) peak hour analysis to show that it will not work with a two-way stop; and (2) intersection control evaluation.

Mr. Jorczak expressed concern with overall traffic impacts that the city has experienced. He stated that the options to address traffic are limited based on transportation costs and funding. Mr. Jorczak stated that the Hand Avenue extension has been discussed for many years to alleviate traffic on SR40 and there is no plan to anything soon. Mr. Jorczak stated he hoped that in the planning process some of the citywide traffic problems can be addressed.

Mr. Lassiter stated that beachside developments required to perform a hurricane evacuation analysis. He stated when the PM peak hour analysis shows that it is working well, this is criteria in the hurricane evacuation analysis. Mr. Lassiter stated that the project works in the PM peak hour. Mr. Lassiter referred back to the question on the traffic signal. He stated that a signal warrant analysis was performed and FDOT verbally agreed with the analysis and are requesting the peak hour analysis and an intersection control analysis.

Mr. Jorczak asked if the warrant analysis coordinated with the railroad. Mr. Lassiter stated that is required as part of the study. Mr. Lassiter detailed how traffic signals work with emergency vehicles and train horns.

Chairman Thomas asked Mr. Lassiter if a study was done of the Trails intersection on Route 40. Mr. Lassiter replied that a statement was made earlier that the distance is close but he stated the traffic time was not. The main entrance to Tomoka Reserve is very close to Nova Road and the travel speeds to get out the Main Trail going out to State Road 40 is much slower. Mr. Lassiter stated the distribution is based on the travel time.

Chairman Thomas expressed his concern with the project traffic when going to Tomoka Elementary School at the intersection of the Trails subdivision and SR40. Chairman Thomas detailed the route from the Tomoka Reserve project onto Nova Road and West Granada Boulevard. He stated the left hand turns onto Old Tomoka Road are problematic and do not have long stacking lanes.

Chairman Thomas detailed the issue with the intersection of Main Trail and SR40 and a single lane to go straight or make turning movements. He expressed concern about the increased traffic at this intersection. Chairman Thomas added that the only solution he sees is if the city to make a right-hand turn lane out of the Main Trail onto Granada Boulevard, a southbound right turn (west onto SR40).

Mr. Scudiero accepted that a majority of the traffic from Tomoka Reserve will go to Nova Road based on its proximity. One question has arisen is what would that do to the existing Tomoka Oaks population that now does not want to deal with the backup in the morning onto Nova Road Would residents on South St. Andrews and Rio Pinar, go out through the Trails to avoid the Nova Road backup. Mr. Lassiter explained that because of how the existing homes are built, around the two relative access points, whether Main Trail or Nova Road, 64 percent of all existing traffic that has access to Main Trail and Tomoka Oaks, use Main Trail and 36 percent use Nova Road access. Mr. Lassiter added that because of the location of the proposed project, its primary impact is going to be on Nova Road, a state road, and less impact on Main Trail to SR40.

Chairman Thomas stated that there are approximately 1,000 homes that are in the Trails, 500+ homes in Tomoka Oaks, and now proposing to add 276 more lots, totaling approximately 1,800 homes. Chairman Thomas stated that there would be approximately 1,800 homes with approximately 3,600 vehicles going out three exits through Tomoka Oaks and the Trails.

Mr. Lassiter stated that we counted them all. Mr. Lassiter explained that the traffic analysis process has gone through several rounds of review by the Department of Transportation (DOT), by the City and the City's consultant, as well as the County. He stated that they all agreed we came to the right conclusion based on how traffic studies are conducted.

Chairman Thomas stated he believed that the traffic counting is flawed. Mr. Lassiter stated that traffic counting now uses video which is not flawed and is more accurate.

Ms. Shull asked if the count was done during school times. Mr. Lassiter replied yes. Ms. Shull expressed uncertainty about how the traffic analysis is performed and stated in the manor in which people drive and at the speeds they drive, she does not feel comfortable about adding additional traffic and backups to the Tomoka Oaks and Trails neighborhood areas.

Chairman Thomas inquired about the current City of Ormond Beach population. Mr. Spraker answered approximately 44,000. Mr. Spraker added that the time was approaching to conclude this meeting.

Chairman Thomas asked the Board to share additional closing comments for the applicants.

Mr. Galloway stated what he is hearing are concerns with density. He referenced it as trying to put five pounds of sugar in a one-pound bag. He continued that unless the HOA is willing to come up with a Community Development Fund to buy the property from the property owners, that something will be built there. Mr. Galloway stated that he just does not feel like 276 units is what needs to be put in that donut hole. He stated that there are 500 homes that exist and they bought with the expectation of a golf course. He spoke on the American Dream, the ability to own a home, no matter how large or how much it costs. Mr. Galloway stated that there has to be a happy medium here. The homeowners have to realize that something will be built there or there needs to be a purchase of the property from the HOA and/or residents. Mr. Galloway stated that it should not be my tax dollars paying for a park. Mr. Galloway stated that he hoped that the applicant team is listening tonight.

Mr. Velie replied that when he and the other property owners first started the process, they originally had a different engineering firm that drew up a plan for units and they declined that route as they wanted something consistent with the subdivision. He explained that he took a 1.85 mile circle on Google Earth around the neighborhood over the Trails, from Misners Branch East, Tomoka Oaks Condo North, Escondido, Tahlequah, Tomoka Meadows and Harbor Oaks. He added that he took every plat and platted it out, and found that they have less density than the Trails residential section, not including the Villas, at 1.91 units per acre and Tomoka Oaks is 2.09 units per acre. He further detailed that Mallard's Reach is 2.23 units per acre and Tahlequah is 3.06 units per acre, and considering the entire Trails subdivision is 3.4 units per acre. Mr. Velie concluded that any other subdivision in the city has higher density than what is being proposed with Tomoka Reserve.

Mr. Galloway commented that he values Mr. Spraker and thinks the City of Ormond Beach has the best city Planning Director and believes that the applicants need to reassess and come back. He added that he has faith that something will increase the value of the homes there.

Mr. Jorczak agrees with the city's comments on the issues were appropriate. On some issues, he stated he may have gone further. He continued with remarks on the influx of people moving to the area, and how things are not going to get getter with the hospitals or traffic. He commented that Ormond Beach considers themselves to be a jewel on the east coast and is a special community, therefore should not be augmenting what has been done in other major cities, but should be looking for excellence. Mr. Jorczak concluded that he would like to see a better mix on the lot sizes. He stated the wider lot widths would reduce density and ensure a higher value of houses.

Mr. du Moulin concurred with Mr. Jorczak and stated he would like to see an increase in the lot sizes.

Ms. Shull concurred with Mr. Jorczak as well on the density and lot sizes. She remarked that the homeowners are compromising and know something is going to be built there, and advised the developers to compromise as well and work with them symbiotically. Ms. Shull concluded suggesting for the developers to take into consideration the unique piece of property that it is as well as the interconnected density and traffic.

Mr. Scudiero commented that he would like to see the golf course reopened, but that compromise between the applicants and the homeowners are necessary. He concluded for the applicants to find ways to make it more palatable for everyone. Mr. Scudiero stated a compromise is needed.

Chairman Thomas referenced earlier remarks on the irrigation for the plants and stated that if the applicants cannot abide by staff's suggestions, to at least do a bond so that the homeowners are not stuck with not having the vegetation buffer as promised. He spoke on the 50'-wide lot sizes, and said that he is opposed, but that if the Board agrees with them, he will support if there is an alley and a garage in the back. Chairman Thomas stated that in Venetian Bay, there is a section that is set off by itself and where they do not have garages in the front of the houses. He added that he would love to see 100'-wide lots. He commented that both the developers and the landowners have rights. Chairman Thomas stated that the residents also have rights. Chairman Thomas remarked that whatever goes in is going to be impacting the resident's lives. Chairman Thomas agreed with Mr. Galloway that something will be built and there needs to be compromise. He stated that he understood there are residents who are seeking no development, but he believes that something He concluded that when he moved to the city 50 years ago, the population was approximately 30,000. There has been a growth of 14,000 people, and commented that the traffic reflects more than that.

VII. OTHER BUSINESS

It was discussed that the item requires a continuation for the applicants to bring other ideas and options back for another public hearing in front of the Planning Board and for the Planning Board to have more time for the support decision-making process. It was determined, taking the availability of the Planning Board, staff, and applicants, that the continuation meeting will be held on Monday, August 21, 2023 at 6:00 p.m. (location is to be determined). Mr. Spraker explained that the Planning Board is scheduled to meet on August 10, 2023 for the monthly Planning Board meeting as planned as well.

City Attorney Hayes stated that when the Board resumes this meeting, the item would be where it is now with Board member comments and discussion. The applicant and HOA attorney should be provided an opportunity to provide any updates. City Attorney Hayes stated a motion and a second would be needed for the continuation.

Chairman Thomas entertained a motion for the continuation date.

Mr. Galloway motioned for a continuation of the meeting on August 21, 2023 at 6:00 p.m. with a location to be determined. Ms. Shull seconded it. Vote was called, and the motion was approved (6-0).

VIII. MEMBER COMMENTS

Mr. Jorczak thanked the citizens of Ormond Beach for their input and expressing their opinions.

Ms. Shull thanked the audience members and staff for their input.

Chairman Thomas commented that he is interested in the City of Ormond Beach having another hospital. He added if the zoning could be amended where a hospital could be built taller than seven stories. Mr. Spraker replied that it would be a charter amendment.

IX. ADJOURNMENT

The meeting was adjourned at 10:57 p.m.

Respectfully submitted,

Steven Spraker, Planning Director

ATTEST:

Doug Thomas, Chair

Minutes transcribed by Marcella Miller.

M I N U T E S

ORMOND BEACH PLANNING BOARD

Regular Meeting

August 21, 2023 6:00 PM

Tomoka Christian Church
1450 Hand Avenue
Ormond Beach, FL 32174

PURSUANT TO SECTION 286.0105, FLORIDA STATUTES, IF ANY PERSON DECIDES TO APPEAL ANY DECISION MADE BY THE PLANNING BOARD WITH RESPECT TO ANY MATTER CONSIDERED AT THIS PUBLIC MEETING, THAT PERSON WILL NEED A RECORD OF THE PROCEEDINGS AND FOR SUCH PURPOSE, SAID PERSON MAY NEED TO ENSURE THAT A VERBATIM RECORD OF THE PROCEEDING IS MADE, INCLUDING THE TESTIMONY AND EVIDENCE UPON WHICH THE APPEAL IS TO BE BASED.

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 IN WRITING, OR MAY CALL 677-0311 FOR INFORMATION REGARDING AVAILABLE AIDS AND SERVICES.

I. ROLL CALL

Members Present	Staff Present
Angie Shull, Vice Chair	Steven Spraker, Planning Director
G.G. Galloway	David Allen, Planning Civil Engineer
Al Jorczak	Cara Culliver, Landscape Architect
Mike Scudiero	Sarah Cushing, Senior Planner
Barry du Moulin	Marcella Miller, Recording Technician
Troy Railsback	Randy Hayes, City Attorney
Doug Thomas, Chair (arrived at 6:05 p.m.)	

II. INVOCATION

Mr. Railsback led the invocation.

III. PLEDGE OF ALLEGIANCE

IV. NOTICE REGARDING ADJOURNMENT

NEW ITEMS WILL NOT BE HEARD BY THE PLANNING BOARD AFTER 9:00 PM UNLESS AUTHORIZED BY A MAJORITY VOTE OF THE BOARD MEMBERS PRESENT. ITEMS WHICH HAVE NOT BEEN HEARD BEFORE 9:00 PM MAY BE CONTINUED TO THE FOLLOWING THURSDAY OR TO THE NEXT REGULAR MEETING, AS DETERMINED BY AFFIRMATIVE VOTE OF THE MAJORITY OF THE BOARD MEMBERS PRESENT (PER PLANNING BOARD RULES OF PROCEDURE, SECTION 2.7).

V. APPROVAL OF THE MINUTES

Mr. Scudiero motioned to approve the July 13, 2023 Minutes. Mr. du Moulin seconded it. Vote was called, and the motion was approved (7-0).

Chairman Thomas opened the Public Hearing.

Attorney Hayes explained the continuation of the July 13, 2023 Planning Board meeting on Tomoka Reserve and how the meeting ended at the question, answer and decision component of the meeting agenda and where it continues this evening. Attorney Hayes stated that there will be no public comments unless it is the pleasure of the Board and added that the disclosure parts continue to apply. Recent updates have been proposed from the applicants as of last week on August 16th and staff advised that they need more time and have not been able to review the full context of the proposed changes, therefore today is more a material hearing and the issue could be continued to a later date. Recommendations were made for the Chairman to let the applicant, attorney and HOA attorney talk and decide if more time is needed to analyze the new plans.

VI. PUBLIC HEARINGS

A. PRD 2022-043, Tomoka Reserve – Issuance of a Development Order – continuation of the July 13, 2023 meeting

Mr. Spraker, Planning Director, suggested that if the Board is interested in considering the new site plan that there should be a new public hearing for it, as well as advertisement of it, and for it to go through the Site Plan Review Committee (SPRC) and the public hearing. Today the Board has the ability to act on what they heard at the July 13th Planning Board meeting. Mr. Spraker concluded that the Board may want to see something else which will require resubmittal.

Applicant's Opening Remarks

Mr. Rob Merrell, Esquire, Cobb Cole Attorneys at Law, representative for the applicant, stated that he respects Mr. Spraker's wish for additional time to analyze the new plan and added that another updated plan was submitted on Friday. He advised the Board that he is interested in feedback from them and to come to a consensus at the next public hearing.

Attorney Hayes remarked that he suggests more of a summary presentation, than a full fledge question and answer discussion which is the purpose of a public hearing.

Chairman Thomas stated that he does not want to get back into a heavy discussion but more a summary of the new proposal and hear from the Homeowners' Association (HOA).

Tomoka Oaks HOA Opening Remarks

Mr. Dennis Bayer, Esquire, 109 6th Street, Flagler Beach, legal counsel of the Tomoka Oaks HOA, stated that he too respects Mr. Spraker's decision if the major or material changes require the continuation of the matter. Mr. Bayer added that he would like time to discuss the continued areas of significant disagreement that the

HOA has. He expressed his concern with the July 13th Planning Board meeting closing comment that was made that something will be built on the property but that the project was too dense, and remarked that going from 276 units to 272 units is not a material change in their eyes, and would like to be able to discuss that and other areas of concern.

Applicant's Summary of Changes

Mr. Merrell went over key issues of concern explaining that most of them have been resolved.

Key issue: lots sizes: Mr. Merrell started with the changes with the lot sizes around the perimeter of the development addressing the requested 100'- wide lots around the perimeter, with the request for them to match the existing Tomoka Oaks properties along the perimeter, the 50'- wide lots that were eliminated and now solely 60'- wide lots around the perimeter. He added that the greenspace, road alignments and stormwater ponds are staying the same. Additional 90'- wide lots and 100'- wide lots were added as well along the perimeter, where it was previously 80'- wide lots. Mr. Merrell commented that he does not think that anyone is going to see their neighbors' lot from the backyard with the buffer.

Key issue: Buffer: Mr. Merrell touched on the buffer, plantings, irrigation and maintenance and said that they agree with the number of bushes and understory trees to be planted in a type 6 buffer per staff's suggestion, but want to use a Florida-friendly type landscape that does not have to be frequently watered but more a wild landscape. Regarding a permanent irrigation system, Mr. Merrell expressed that there are other alternatives. He added that they are in agreement to offer a two-year bond if it needs to be replaced.

Key issue: Dimensional standards: Mr. Merrell continued that they are agreeing with staff's requested setbacks and dimensional standards.

Key issue: PD6 note on lot separation: Mr. Merrell continued that they are agreeing with staff's requested note modification on lot separation.

Key issue: Traffic: Mr. Merrell stated that staff requested that the diamond be reconfigured to a circle shape, and the applicants are suggesting a similar shape with rounded edges, allowing better flow as well as adding landscaping in the island. Regarding the proportionate share, it has been decided that the applicants are taking care of it 100 percent on their own. Mr. Merrell added that it was agreed to add sidewalks on both sides of the street. He further explained that it has been agreed to add a provision that says that the applicant will make application for permits for the signal within 30 days of the subdivision approval and such permits will be issued prior to the issuance of the subdivision construction permit, to be sure that the light is put in before anyone is traveling there on the road. Mr. Merrell referenced the architectural design requests and stated that the architectural standard language has been reworked. He continued and spoke on the request for a potential vehicular cut-through at the amenity area and it has since been reconfigured.

Key issues: Neighborhood meeting at preliminary plat: Mr. Merrell stated that the applicants agree to conduct a neighborhood meeting.

Key issues: architectural standards: Mr. Merrell stated that the architectural standards have been updated.

Key issues: amenity space parking lot: Mr. Merrell stated that the site design was amended based on the concern of cut through traffic.

Tomoka Oaks HOA Summary

Mr. Bayer commented that he does not think that the golf course remaining a golf course is near a determination yet and added that if there is a party that feels that the property has to stay a golf course it will be up to the courts to decide and not an issue for him or Mr. Merrell. He continued that the HOA set up a Board that continues to try and negotiate with developers to make the project more compatible, with significant areas of disagreement still existing.

Mr. Bayer brought up an aforementioned comment from the last meeting that this development is having significant impact on the quality of life for the existing tax-paying property owners which is fueling the comments that were made. He referenced the density, and the history of the site, mentioning that the last project proposed and approved by the City of Ormond Beach on this property was 100+ homes and significant open space in 2006, when the recession hit and projects did not get developed. Mr. Bayer added that the site is not urban infill and is a development of open recreational greenspace that has been developed around by homeowners that expect it to remain an open space. He continued that their decision is that the perimeter lots should be 100'- wide and asked staff if it is 100'- wide on the front of the lot and rear of the lot, or just 100'- wide on the rear of the lot and not the front. Mr. Bayer expressed concern with what is being said about the homeowners not even seeing the project because of the buffer and commented that they will be able to see them as secondary impacts, which includes the traffic.

Mr. Bayer touched on the traffic concerns and stated that the traffic study looks at the delays in traffic intersections and does not consider the fact that Nova Road is about to lose lanes under the Department of Transportation (DOT) proposal, or the possible fuel tank storage project. He was pleased with the agreement to the two sidewalks and stated that he hopes that the proposed updated rounded diamond area helps, and looks forward to having third party traffic consultants review it.

Mr. Bayer mentioned the architectural concerns and stated that Mr. Harowski, Certified Planner and Tomoka Oaks resident, worked on language so that they are not cookie-cutter, where every other house looks the same. Mr. Bayer elaborated on the HOA proposal that the same house model may not be used more than three times within a single lot phase and to have more diverse housing, and requests that the architectural plan be enhanced over and above what it is currently.

Mr. Bayer referenced the proposed buffer and explained that in his history in practicing law he has seen where neighbors complain that other neighbors are cutting down the buffer and seek Code Enforcement action and wants to see enforcement action that the property owners abutting the golf course would have the ability to do.

He asked for language pertaining to what happens after the two year bond, as well as the wild versus manicured buffer, and whether the HOA or developers will be responsible for it. Mr. Bayer concluded that with multiple sets of plans that there are still several concerns necessary to make the project more compatible with the interest of the current property owners.

Board Discussion

Chairman Thomas brought the discussion up to the Board. He reviewed the choices before the Board. Chairman Thomas disclosed that he received a phone call from Mr. Barshay. Chairman Thomas stated to Mr. Barshay that they should discuss the project with the homeowners and the HOA. Chairman Thomas commented on the new material with the change of lots, and staff's suggestions and advised the Board that it needed to be decided if it was going to be reviewed as new material or accept the submittal that was discussed on July 13, 2023 and continue on with a recommendation.

Mr. du Moulin stated that he accepts it as new material and should go back to SPRC for review.

Mr. Galloway agreed that it is new material and stated that he talked to people from both sides and hates to prolong it but that staff needs more time and thinks it will be fair to all parties.

Mr. Jorczak concurred with Mr. Galloway and commented that there are still questions to be raised. The overall density and lot sizes need more review. He added that it is an enclave within an enclave and has concerns with the architectural standards.

Mr. Scudiero reviewed the three options of voting it up, vote it down based on the July 13, 2023 meeting only, or continue the meeting and let the new presentation be formally made and legally advertised. He stated that he is not comfortable voting on the previous rendition with another rendition coming. He added that it is probably going to go to court and asked what the attorneys want to do.

Attorney Hayes explained the process and the Planning Boards role in it. The function of the Planning Board is to review the application and determine if the changes are not new material or act on the proposal that was submitted on July 13, 2023, and vote up or down. The new changes, once folded into the application go to City Commission but they lose the benefit of the experience of the Planning Board. Another option suggested is to continue with another meeting date with more discussion before it goes to City Commission.

Mr. Railsback apologized for missing the first Tomoka Reserve meeting and commented that he supports the position of the full benefit of the City Commission being a recommendation for a final plan and encouraged another meeting, incorporating as much of a concession and fine-tuning to benefit the community as well as property owners so that the process is not repeated again. He expressed interest in reducing density with the 100'- wide lots and putting a roundabout design in rather than a diamond.

Ms. Shull concurred with the Board and commented that the project has evolved. She disclosed that she met with Mr. Carl Velie and Mr. Ray Barshay on July 3, 2023 following the first set of plans and now the plans are different. Ms. Shull wants to make sure that all comments are addressed and added that it is not a typical neighborhood and that there needs to be time to address everything. She concluded that the property is infill but not derelict land and is a beautiful property.

Mr. Galloway expressed the importance on whatever decision is made.

Chairman Thomas concurred with Ms. Shull and added that he is glad it is being considered as new material and questioned that if there are changes now, what changes might arise between this meeting and when it goes to City Commission. He suggested making the best attempt and to consider the new material and move forward, giving the applicants a reaction to their recent summation for guidance.

Attorney Hayes stated that it should be general sound advice only and not getting into too much detail.

Ms. Shull stated that there is still too much density and would like to see bigger lots, even with the 60' – wide lots and commented on the congestion. She added that there are too many cars in the area creating congestion. Ms. Shull remarked that something still needs to be worked out with the irrigation for the buffer and added that she agrees that the architectural designs should be different.

Mr. Railsback commented that he has concerns with the density and squeezing a lot of property in and wants to see a more conforming development. He expressed his concerns with the buffer becoming a problem in the future and that there needs to be a requirement for whose responsibility it is to maintain it. Mr. Railsback added that he hopes the irrigation saves on water as well. He added that the architectural design should be controlled, and suggested that they should not be all the same color scheme in the same vicinity. He suggested that the diamond area should be a one-way traffic roundabout.

Mr. Scudiero stated that the changes discussed tonight are a step in the right direction. Mr. Scudiero referenced the density and stated that the compromise between 0 and 276 is not 272 and expressed his hopes that they keep working, commenting that there is not much change.

Mr. du Moulin questioned if it is legally right to build on this land. Mr. du Moulin referenced the past agreements stating the land would be a golf course. Mr. du Moulin stated additional work needs to be done and he wants to ensure that the land is not built on if there are restrictions that only allow a golf course.

Mr. Jorczak expressed that he still has concerns with the enclave within an enclave and suggested that whatever is developed blend in more efficiently with what is already there as far as lot sizes and the density perspective and not inconvenience the surrounding community. He commented on the minimal land left in the City of Ormond Beach. There are over 53 facilities in the community that are funded by the taxpayer, including open spaces and sports areas. Mr. Jorczak added that what is put

into a specialized area with the rest of the community and be an asset to the City of Ormond Beach is going to take all the input they can get from city staff from a technical standpoint and give it a hard look at the economics from the developers standpoint on how the property can be used. Mr. Jorczak concluded that there is more work to do on the proposal.

Mr. Galloway referenced the last Board meeting where 475 homes were approved in Plantation Oaks and explained the difference between the two projects where that land was designed to hold 475 homes. He continued that he is interested in seeing a spreadsheet on how the proposed homes inside of the existing homes will affect those homes' resale value. He added that he is concerned with the buffer and who will be responsible for the maintenance. Further expressing his concern with the buffer, he referenced a swamp area on Clyde Morris Boulevard where the brush behind the homes caught fire approximately six months ago. The number of lots are questionable as well he said. He spoke on development and reiterated that something will go in there and that the question is in the number of homes. Mr. Galloway concluded that it is a possibility that a few key people could go in and offer the developer a price and someone purchase it and then it will be seen what they want to do.

Chairman Thomas elaborated on recent experiences, one relative to the concern of the lot sizes in seeing homes as close as 10' from one another in Jacksonville, Florida. It was discussed and determined that depending on the area, there is 5' to 20' between homes in a subdivision on a 60'- wide lot typically. He continued that he and his wife noticed that traffic was congested going into the Trails from Interstate 40 on Sunday at 1:35 p.m., with eight cars going into the neighborhood and then four of the cars going though to Tomoka Oaks, expressing his concern with the traffic. Chairman Thomas commented that Tomoka Oaks is a traditional neighborhood where you have to search hard and far to find two homes alike and does not like the idea of dropping cookie-cutter homes into a well-established, traditional neighborhood. He added his concern with the density and that he hopes that there are a lot of changes before meeting again.

Attorney Hayes reviewed the available dates to hold the next Tomoka Reserve continuation Planning Board meeting, Tuesday, September 26 or Thursday, September 28, 2023.

Mr. Spraker stated that as part of the motion it is requested to hold a time-certain date before the new plan is submitted to the SPRC, which is requested by staff to be September 6, 2023.

Board discussion ensued and September 26, 2023 was decided upon as the next Planning Board meeting date.

It was discussed that the item requires a continuation for the applicants to bring other ideas and options back for another public hearing in front of the Planning Board and for the Planning Board to have more time for the support decision-making process. It was determined, taking the availability of the Planning Board, staff, and applicants, that the continuation meeting will be held on Tuesday, September 26, 2023 at 6:00 p.m. at Calvary Christian Center. Chairman Thomas asked the residents to keep the

comments to new questions or comments in reference to tonight's meeting and limit speaking time to 1 ½ - 2 minutes.

Chairman Thomas entertained a motion for the continuation date.

Mr. Galloway motioned for a continuation of the meeting on September 26, 2023 at 6:00 p.m., and for all the plans to be submitted to the Planning Department on or before September 6, 2023. Ms. Shull seconded it. Vote was called, and the motion was approved (7-0).

VII. OTHER BUSINESS

No other business was discussed.

VIII. MEMBER COMMENTS

Mr. Jorczak recommended that citizens of Ormond Beach attend the upcoming fuel farm County meeting for the safety of the community.

The Board thanked the staff and thanked everyone for attending.

Chairman Thomas requested for the applicant to choose different colors on the updated project plans.

IX. ADJOURNMENT

The meeting was adjourned at 7:13 p.m.

Respectfully submitted,

Steven Spraker, Planning Director

ATTEST:

Doug Thomas, Chair

Minutes transcribed by Marcella Miller.

M I N U T E S

ORMOND BEACH PLANNING BOARD

Regular Meeting

September 26, 2023 6:08 PM

Calvary Christian Center
1687 West Granada Boulevard
Ormond Beach, FL 32174

PURSUANT TO SECTION 286.0105, FLORIDA STATUTES, IF ANY PERSON DECIDES TO APPEAL ANY DECISION MADE BY THE PLANNING BOARD WITH RESPECT TO ANY MATTER CONSIDERED AT THIS PUBLIC MEETING, THAT PERSON WILL NEED A RECORD OF THE PROCEEDINGS AND FOR SUCH PURPOSE, SAID PERSON MAY NEED TO ENSURE THAT A VERBATIM RECORD OF THE PROCEEDING IS MADE, INCLUDING THE TESTIMONY AND EVIDENCE UPON WHICH THE APPEAL IS TO BE BASED.

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 IN WRITING, OR MAY CALL 677-0311 FOR INFORMATION REGARDING AVAILABLE AIDS AND SERVICES.

I. ROLL CALL

Members Present	Staff Present
Angie Shull, Vice Chair	Claire Whitley, Assistant City Manager
G.G. Galloway	Steven Spraker, Planning Director
Al Jorczak	Cara Culliver, Landscape Architect
Mike Scudiero	Robin Gawel, Senior Planner
Barry du Moulin	Sarah Cushing, Senior Planner
Troy Railsback	David Allen, Planning Civil Engineer
Doug Thomas, Chair	Randy Hayes, City Attorney
	Marcella Miller, Recording Technician

II. INVOCATION

Chairman Thomas led the invocation.

III. PLEDGE OF ALLEGIANCE

IV. NOTICE REGARDING ADJOURNMENT

NEW ITEMS WILL NOT BE HEARD BY THE PLANNING BOARD AFTER 9:00 PM UNLESS AUTHORIZED BY A MAJORITY VOTE OF THE BOARD MEMBERS PRESENT. ITEMS WHICH HAVE NOT BEEN HEARD BEFORE 9:00 PM MAY BE CONTINUED TO THE FOLLOWING THURSDAY OR TO THE NEXT REGULAR MEETING, AS DETERMINED BY AFFIRMATIVE VOTE OF THE MAJORITY OF THE BOARD MEMBERS PRESENT (PER PLANNING BOARD RULES OF PROCEDURE, SECTION 2.7).

V. APPROVAL OF THE MINUTES

Mr. Jorczak motioned to approve the August 21, 2023 Minutes. Mr. Galloway seconded it. Vote was called, and the motion was approved (7-0).

Chairman Thomas opened the Public Hearing.

Attorney Hayes explained the continuation of the August 21, 2023 Planning Board meeting on Tomoka Reserve. Recommendations were made by staff, Planning Board, and the HOA attorney to allow more time to analyze the previous set of new plans. Tonight, the Planning Board can make a recommendation to the City Commission or request additional information. Attorney Hayes added that the recent material submitted, according to the applicants, is consistent with the Comprehensive Plan and Land Development Code (LDC) regulations and staff disagrees and recommends that the application be denied. He concluded that the witnesses are not required to be re-sworn and directed for those wishing to speak to announce their name and whether or not they have been sworn in.

Chairman Thomas and the Planning Board discussed the allotted speaking time for residents and audience members and it was determined to allow three minutes per person. Chairman Thomas opened the public hearing.

VI. PUBLIC HEARINGS

A. PRD 2022-043, Tomoka Reserve – Issuance of a Development Order – continuation of the July 13, 2023 meeting

Staff Presentation

Mr. Spraker, Planning Director, thanked Calvary Christian Center for hosting the meeting and stated that the application is for the issuance of a development order for the Tomoka Reserve subdivision, at 20 Tomoka Oaks Boulevard. He continued that the existing land use is "Low Density Residential" and the existing zoning is Planned Residential Development (PRD). The zoning district does not have a development order associated with it any longer and has since expired, the reason for the public hearing.

Mr. Spraker continued that the project has gone through two pre-application meetings, the Site Plan Review Committee (SPRC),a neighborhood meeting, and today, the third Planning Board meeting. Mr. Spraker stated that if there is a recommendation tonight, the tentative City Commission meeting date will be November 07, 2023 at Calvary Christian Center. Mr. Spraker explained the issuance of a development order review process. A PRD is a zoning document that shows lots, landscape buffers, open areas, recreational areas, and architectural standards. A PRD does not require engineering construction plans that include stormwater and utilities, which will come later with a preliminary plat. The preliminary plat would go through a neighborhood meeting, Planning Board and City Commission.

Mr. Spraker displayed a recap of the July 13, 2023 site plan with the proposal of 276 units, a mixture of 50', 60', 80' wide lots. He explained the August submittal that was before the Planning Board, with a mixture of 60', 80', 90', and 100' wide lots, but because it was submitted after it was advertised, it required a new public hearing. He continued that the applicant agreed with some SPRC recommendations, including

the building coverage, setbacks, note for lot separation, Tomoka Oaks diamond improvements, sidewalks on both sides of Tomoka Oaks Boulevard, neighborhood meeting for the preliminary plat, the timing of the traffic signal, updated architectural design language and the removal of the cut-through of amenity space parking area.

Mr. Spraker stated that a new site plan was submitted on September 06, 2023, and the changes are primarily the mixture of lot sizes along the perimeter of the boundary of the project of 80' wide lots and interior, 60' wide lots. Other aspects of the site plan that did not change were the gated vehicular access of the subdivision, it is not in the wetlands or floodplain. Mr. Spraker added that other characteristics that did not change were the environmental assessment provided, the 34 acres of natural preservation, recreational areas, 50' buffer around the site, preservation of historic trees, the school concurrency and Traffic Impact Analysis provided.

Mr. Spraker stated that the two remaining key issues are the perimeter lot sizes and the material and irrigation of the 50' buffer. The SPRC continues to recommend 100' wide lots on the perimeter where the site plan shows 80' wide lots as the former and surrounding zoning district of R-2 are 100' wide lots.

Mr. Spraker continued that the existing conditions today with the 3.3 mile buffer in the planting plan states that there are native trees and shrubs that will provide screening between the existing homes and the proposed development. Another existing condition is the existing vegetation to be able to use and gaps of landscaping to be planted, and 70 percent of the 50' buffer with trees and shrubs for visual screening. Mr. Spraker stated that the proposed plan shows that the buffer shall be 50' wide containing five trees and 50 shrubs. No groundcover was proposed in the plan. The existing vegetation would be used for gaps of landscaping to be planted. Mr. Spraker added that watering would be provided by a large water tanker truck, not permanent irrigation. The plan offered a maintenance bond for two years and requires an 80 percent survival rate to release the bond.

Mr. Spraker delivered an overview of staff's recommendations, including the City's Landscape Architect, of a type 6 buffer of seven trees, 70 shrubs, and 70 ground cover plants. The proposed plan does not meet the visual screen requirement of the LDC. He stated that staff is supportive of the use of native/xeric plantings. He added that that the irrigation by water tanker truck does not comply with the LDC. Mr. Spraker expressed concerns with the fact that the watering plan shifts compliance to the future HOA. It can involve additional maintenance and costs, as well as the 2-year bond and 80 percent survival plant rate.

Mr. Spraker reviewed the correspondence that was received and that was also included in the meeting packet. Some of the correspondences included the compatibility with the existing Tomoka Oaks, property value concerns, loss of quality of life, traffic concerns, golf course perpetuity and related uses, the existing configuration of the diamond intersection, Tomoka Reserve HOA concerns, wildlife concerns and buffer concerns.

Mr. Spraker delivered an overview of the Planning Board review criteria consisting of the application submittal, staff report, SPRC comments, written correspondence provided, criteria of the LDC contained within the staff report, and testimony provided at the Planning Board public hearing. He stated that staff recommends denial of the proposed site plan for the issuance of a development order, based on the

perimeter lot sizes and the buffer planting plan. Mr. Spraker continued that if the Planning Board believes that it is appropriate they can recommend approval. Either recommendation of approval or denial goes to the City Commission for the final decision.

Applicant's Presentation

Mr. Rob Merrell, Esquire, Cobb Cole Attorneys at Law, representative for the applicant, stated that Mr. Don Spence will speak again on the buffer and Mr. Michael Hoteling, on the lot widths, the two key issues. Mr. Merrell recapped on the PRD due to its custom zoning for the property. He asked the Board for suggested items in negotiation for an agreement.

Key issue: Buffer:

Mr. Don Spence, Master Arborist/Native Plant Expert, Ph.D., Native Florida Landscapes, explained that he has been working with landscaping and native design for 25 years. Three years ago he completed a tree survey for the property and beginning in January, started work on the buffer plan. Mr. Spence stated that it is based on a low density residential and a buffer planting plan that had three or four plants to fill in gaps along the shrubs. He continued that several months later, they got pushback from the City as they wanted a type 6 buffer. He explained the reasons that the team felt it was not appropriate as a type 2 buffer is outlined for low density residential. A type 2 buffer is three trees and 30 shrubs. The team proposed a bonified, meaningful type 4 buffer with five trees and 50 shrubs, to fill in the gaps to provide visual screening between the existing homes and the homes that are proposed to be built. Mr. Spence expressed his concern with the said irrigation requested, as the existing trees and trees to be planted are native and once established over the next six to seven months, will not need it, same as the existing buffer that is not being watered. He stated that the goal is to plant plants that mimic the existing trees in the buffer, claiming that if the tree dies it will be replaced per the two year bond.

Mr. Spence continued reviewing the buffer planting plan and stated that the 50' wide buffer, that would be managed by the HOA, if there are tree problems would not be able to plant across the entire buffer due to many of the homes having fences or walls. In the plan, the center 20' of the buffer would be the planting zone. He continued that trees and shrubs need full sun and cannot be planted underneath of canopies. Mr. Spence stated that space is needed for access (15' on the development side and space for neighbors on the backside). He added that access is needed behind the property lots of the homes built to manage trees and any invasive plant problems, therefore cannot plant across along the entire width of the buffer. Mr. Spence reassured that the plants will be watered and made sure of their survival at 100 percent from the initial plan of 80 percent, after two years. The site will develop in phases and the bonds will follow in phases and long-term maintenance will be driven by the legal agreement that the HOA develops. Mr. Spence reviewed a table that explains the watering phase for the trees and shrubs and stated that the plan meets and exceeds what the University of Florida recommendation is. He continued that they are not willing to dig up the buffer for ground coverings and feel it does not add to the visual screening. He pointed out that a water tanker truck is in the plan for irrigation and backed up his point with the LDC guideline specifying that if using native/xeric plants a permanent irrigation system is not required. Mr. Spence concluded that there is no standard for a type 6 buffer being applied in a residential setting and no example of an industrial buffer design against residential.

Mr. Merrell stated that the proposed buffer plan is well founded and innovative, concurring with Mr. Spence, and added that a permanent irrigation system would tear up the manicured grass.

Key issue: Lot sizes:

Mr. Michael Hoteling, MAI, Managing Partner, Moody Williams Appraisal Group, stated that he has been appraising commercial, residential, subdivision type properties for 20 years. He spoke on the appropriateness of the lot sizes and stated that most of the lots of the homes being proposed are 2,100 to 2,900 square feet and most of the lots that get sold are between 60' wide and 80' wide, with some 100' wide. Mr. Hoteling commented that this will be a nice subdivision where the homes can range from $600,000 to possibly over $1 million. He added that when pricing the homes in Tomoka Oaks three weeks ago, there were no homes for sale that exceeded $700,000, except for those along the water. Mr. Hoteling concluded that what is being proposed to be built will add value to the existing development and not detract from it.

Mr. Merrell stated that the alternative to the custom zoning is straight zoning. The subject property is low density residential in which the zoning classification does not have all of what is being offered through the proposed project. He explained the reason it was decided to go through the PRD process and propose the combination of lots is because the market does not do 'Tomoka Oaks lot sizes' at 100' by 100' anymore. Mr. Merrell added that the applicants wanted the mixture of lot sizes starting at 50' wide lots and a larger landscape buffer for separation. The minimum guidelines for the landscape buffer is required to be 50' and if adding all of the green around the outside it is an average of 129' of greenspace between both properties. Doing straight zoning at a 6' buffer requirement as opposed to the 129'. The straight zoning would have also offered only two trees and 20 shrubs as the landscaping buffer requirement. Mr. Merrell added regarding outdoor recreation, and the open space and parks, that they are a concession as part of the negotiating PRD. Mr. Merrell referenced the architectural standards and how the applicants listened to the neighbors and their dislike of cookie-cutter homes. He touched on the pedestrian connectivity being volunteered, stating that they would add sidewalks out to Nova Road. Mr. Merrell concluded that something is going to be built, whether based on custom zoning or straight zoning.

Board Questions of the Applicant

Mr. Scudiero asked what the average lot square footage is in the existing Tomoka Oaks development versus what the perimeter lots would be with the 80' wide, 90' wide, and 100' wide lot range.

Mr. Dwight Durant, Zev Cohen & Associates, stated that what is being proposed are 80' wide by 120' deep lots, approximately 10,000 square feet, and the existing typical Tomoka Oaks lot is 100' by 120', approximately 10,000 to 12,000 square feet. The inside lots are approximately 7,000 – 8,000 square feet. It was discussed that some of the proposed lots have a different rear width and can be above 10,000 square feet.

Mr. du Moulin inquired about the proposed irrigation of the buffer and if there is a specific amount of time that the water tanker truck would irrigate. Mr. Merrell replied that the detailed proposal and plan is in the board packet materials.

Chairman Thomas asked about the different proposed façades of the homes and asked for clarification on if it is every 4th house before duplicating the same façade,

expressing that he does not like every other house repeating the same design. He added that currently in Tomoka Oaks you will not see two houses within 200', 300' and 400'. Mr. Merrell replied that the same façade cannot be next to each other or across the street, and urged Chairman Thomas and the Board to be specific in what it is exactly that they would like to see. Mr. Merrell clarified that the applicant is not trying to recreate or replicate Tomoka Oaks, an older product and design, but bring forward the quality and variety that they have asked for.

Mr. Railsback referenced the elevations and colors of the homes and stated that they should be not 'cookie cutter' in design. He asked what is being done for the softening of the diamond and if it will be a roundabout instead. Mr. Merrell relied that the diamond is proposed to be reconfigured to an amoeba shape, with rounded corners, allowing better flow for vehicles, including buses, as well as adding landscaping in the island.

Mr. Jake Stehr, Zev Cohen & Associates, read the material included in the recently submitted plans that stated architectural variations in the variety of house sizes designs in the neighborhood is encouraged to facilitate it so that the two adjacent homes on the same side of the street as well as the house across the street and its two adjacent homes have to have a minimum of three different design elements of the following ten elements.

Ms. Shull asked if the plan was referencing different design elements (example brick and siding) or if the whole house is different. Mr. Stehr answered elements such as roof pitch and roof type, the skin/exterior finish material, color, garage orientation and size, porch size and location, number of stories, window sizes and shapes, window location and decorative elements. He concluded that houses cannot be mirrored across the street from one another and that options will be given to future home buyers.

Mr. Galloway asked for clarification on the buffer. Mr. Merrell explained that their idea is to leave the places that already have bushes and trees alone. The reason for not wanting to lay groundcover down is to avoid tearing the ground/landscaping up and put wild landscaping in. Mr. Merrell added that if landscaping was put in along the entire 50' buffer it would not be able to be accessed and maintained, according to Mr. Spence.

Mr. Jorczak inquired about what the average required time for the trees, based on size, that is going to be planted to be able to provide 100 percent screening in all of the areas that trees have not been supplied to fill the gaps. He commented that it will determine if it will be three, five, or ten years before the trees will provide the screening. Mr. Spence replied that different trees grow different ways and it is hard to tell. The trees are designed to provide a canopy and the shrubs will provide the visual appearance between the homes. There is not going to be 100 percent complete vegetative screening, as the code only calls for 40 percent. Mr. Spence concluded that there will be gaps for a while and in time the plants, natives and shrubs will mature and will reseed themselves in the buffer, creating a denser buffer over time.

Ms. Shull asked Mr. Spraker for explanation of the request for the 50' buffer, the irrigation, and type 6 buffer. Mr. Spraker answered that one of the key factors expressed was the buffer and the lot sizes during the pre-application neighborhood meetings and the SPRC meetings. The goal is to provide the buffer to mitigate for some of the loss of the natural buffer that is there today. Tattersall, RidgeHaven, and Tymber Creek Apartments are projects that have natural buffers. He stated that staff

is not against the native or xeric plantings, but are against taking a former golf course, developing it into residential, and leaving gaps in the buffer. He added that Ms. Culliver, Landscape Architect, is available to go through the details of the recommendation if necessary. Mr. Spraker added that staff believes that irrigation is a key source for the plantings.

Tomoka Oaks HOA Presentation

Mr. Dennis Bayer, Esquire, 109 6th Street, Flagler Beach, legal counsel of the Tomoka Oaks HOA, expressed his disappointment with the applicant's response to the HOA in negotiating the architectural standards, traffic impacts and buffers. A few of the architectural ideas were agreed upon, but not on having the different architectural styles close to one another. Another HOA request was for buffer enforcement once the two-year performance bond is over. No comments were received back from the applicants regarding if that language was acceptable or not. Mr. Bayer rebutted Mr. Merrell's comment and said that property is currently zoned PRD and the last development proposed that came to the Board was to convert the golf course, which was PRD with part of the property being a golf course, and part of it residential. He spoke on the PRD and R-2 zoning and referenced a Florida Supreme Court case, The Snyder Decision, a landmark land use decision that has been in place in the Florida Supreme Court since 1993. Based on it, he remarked that the City Commission can say that they do not want R-2 zoning and that they want it to stay PRD, given the unique circumstance presented by the property. Mr. Bayer continued that they agree with staffs comments on the issue with the buffer and stated that the buffer is typically required between the new residential development and the existing residential development and are typically at a much higher standard than residential next to residential, as the use is being surrounded, therefore a different buffer requirement. Mr. Bayer referenced the Matanzas Shores Golf Course conversion where they required a lot of different issues with the buffer that was much greater than the standard residential buffers, which is part of the golf course conversion process. He stated that this is not the standard development review and is very unique. Mr. Bayer concluded that the HOA agrees with staff on the 100' wide lots on the perimeter and the type 6 buffer, and the recommendation of denial to the City Commission.

Mr. Tom Harowski, Certified Planner and Tomoka Oaks resident, 97 N. St. Andrews Drive, expressed the resident's frustration with the developments with the late withdraw of the plan that they presented at the last meeting, and the lesser plan submitted. He spoke on the applicants list of concessions in response to staff comments and stated that it did not affect the project in size or layout. The addition of the sidewalks on Tomoka Oaks Boulevard and the modification of the island, he says are basic safety issues. Mr. Harowski commented that the basic issues remain the same since the beginning. He continued that the applicants refuse to apply the staff recommended 100' wide lots on the perimeter or offer reasonable solutions. The threatened alternative of R-2 standard zoning, which requires 100' wide lots throughout seem acceptable to the applicant as an alternative and should be acceptable for a portion of the project. Mr. Harowski remarked that they turned to the design guidelines but still need to include the requirement for diversity in garage door orientation and the way the driveway faces. The compatibility is not having clusters of units that are the same. He remarked that the design that they have seen does not get that point. Mr. Harowski spoke on the important factor of the traffic signal

application and how a 30-day period was mentioned previously and stated that the application should be made promptly.

Audience Comments

Ms. Flavia Cassasola, 21 N. St. Andrews Drive, asked if the proposal gets approved if a moratorium has been considered on the noise level, 24 hours a day/7 days a week, from sunrise to sunset. She mentioned that people walk and bike the neighborhood at all hours of the day and remarked that the Mac tucks can be driving through as well as jack hammers working at all hours of the day and night, including weekends and holidays. Ms. Flavia asked if the construction schedule has been considered. She added that the investors bought the property to make money and that she has been in opposition since the beginning as there has been no compromise in the 272 units. Ms. Cassasola concluded that it is going to impact Tomoka Oaks, the Trails and Talaquah as well as the traffic and recommends denial.

Ms. Ashley Dufrene, 118 N. St. Andrews Drive, said that she took the Oath and reminded the Planning Board that the City of Ormond Land Development Code (LDC), Section 1-18, states that the proposed use will not substantially or permanently create a nuisance, deprive adjoining properties of adequate light and air or create excessive noise, odor, glare or visual impacts on the neighborhood and adjoining properties. Ms. Dufrene remarked that she lives on the golf course and knows that all three of those will happen if the development takes place without the proper guidance that the City and HOA is providing.

Ms. Bonnie Kloepfer, 23 Tomoka Oaks Drive, did not take the Oath prior but does so now. She commented that she is at the mouth of the Tomoka Oaks Golf Course. She added that she has a brand new white house and it will get filthy from the trucks and dirt from construction. She continued that the issue of 1,100 cars per day going back and forth is insane and cannot imagine what the traffic will be like. Ms. Kloepfer commented on their sentiments on trying to make it easy for the residents and their claim of compromising. She expressed her discontent with proposed number of homes. Ms. Kloepfer referenced yesterday's newspaper in regards to the purchases of one million plus homes on the rise in Volusia and Flagler Counties. She concluded her comments with the expression "if you build it, they will come", and said that she would like a proposed development such as Tomoka Estates or Estates of Tomoka Reserve instead of jammed in houses.

Ms. Denise White, 9 Fox Run Trail, The Trails, stated that she took the Oath. She thanked the Board for their time and service. Ms. White added that a reduction of four homes does nothing for the safety, traffic, density or lifestyle issues and changes nothing whatsoever. She remarked that it will impact everyone's lives and safety. Ms. White spoke on the merit of the old adage, "just because you can build does not mean that you should."

Mr. Jeff Boyle, 614 N. Halifax Drive, took the Oath and stated that the data in numbers in Volusia County are causing loss of sight in the big picture. He referenced the Comprehensive Plan policies and goals and remarked that the latest site plan is not compatible with adjacent homes and added that the revisions protect the neighborhood character, and does not guarantee safe traffic flow. Mr. Boyle continued that the revisions do not preserve natural open space. He stated that the golf course should have been zoned Open Space/Recreation, and commented that it is a mystery why it was not. The zonings protect adjacent property rights. Rezonings threaten those rights. Mr. Boyle said that Tomoka Oaks defines everything that is

good about Ormond Beach with a quality environment, quality homes and quality people who have suffered this thread with heroic dignity after paying premium property taxes to the City for over 60 years. Mr. Boyle stated that the revised site plan disrespects the city, the spirit and intent of the land use codes, the residents of the Trails and other nearby communities and the people of Tomoka Oaks. He added that they deserve better. He concluded that the revised plan is not Ormond Beach and is not who they are.

Ms. Ronnie Ranieri, 216 Rio Pinar Trail, swears to the Oath, and expressed her concern with 272 houses with only one point of egress. Another concern expressed is the traffic in the mornings and the safety of the kids that are walking or riding bikes to Tomoka Elementary School and the private Temple school. She commented that it is a tragedy waiting to happen. Ms. Ranieri remarked that reducing the plan by four houses from 276 is not going to work. She added that hundreds of cars are going to be coming out of the neighborhood at rush hour in the morning. Ms. Ranieri commented that most families have two cars and with the number of houses that are proposed, is worried about the kids.

Ms. Connie Colby, 108 Robal Lane, stated that she is concerned about it being a gated community as school busses do not go into gated communities. The children in middle school can walk and ride their bikes but middle school busses will have to come in the community somewhere to pick the kids up and will have to park outside of the gate, near the roundabout which would stop traffic. Ms. Colby continued that in her neighborhood a lot of the parents drive their kids to the bus stop or pick them up in the afternoon which will lead to more people parking along the road, causing a traffic mess. Ms. Colby pointed out that according to one of the maps, and with her experience living in gated communities, there has to be an emergency exit for emergency vehicles and suggests that there be a plan for it. Ms. Colby concluded that a lot of the proposed properties are close together and expressed her concern for boat, trailer, and RV storage on the properties.

Ms. Kelsey Kipi, 52 Pine Valley Circle, vowed to take the Oath, and commented that the reduction of the four homes on the plan is nothing and explained how they made lots slightly larger at the expense of the greenspace. She added that the developers purchased the golf course and asked why it could not a golf course that goes in. Ms. Kipi stated that Tomoka Oaks Golf Course closed due to a lack of maintenance to the course and not a lack of interest in the sport. Two local golf courses, both Halifax Plantation and Riviera, both have waitlists, according to Ms. Kipi. She suggested to restore the course and the membership with follow and profit will be made, and the greenspace will remain. No more angry citizens and no more debating on lot sizes and buffer zones and no more FDEP requirements. Ms. Kipi concluded to restore the course or sell it to someone who is willing to do so.

Ms. Lauren and Mr. Ned Huhta, 30 Pine Valley Circle, stated that they took the Oath. Ms. Huhta stated that she is a third generation resident and her grandfather designed and built their home. She expressed their concern with the signage for Tomoka Reserve and asked for specifics of where the signage will be located. Mr. Huhta added that he grew up in the house. He asked if the reclaimed water is going to be used for the proposed neighborhood residents as well as those around the perimeter. He asked if an adjoining property owner has a say in what is planted in the buffer and can decide on something mutually agreeable. Mr. Huhta remarked that they do not like Magnolia trees.

Ms. Wendy Dedo Findes, 16 Oakmont Circle, stated that she did not take the Oath but does now, and has lived in Tomoka Oaks for 27 years. She asked if the Planning Board has visited the Tomoka Oaks Golf Course or driven through Tomoka Oaks. She added that it is a very quiet, residential community and when the kids are in school, people are walking around quietly. Ms. Dedo Findes stated to build the proposed development inside of the golf course area will be a catastrophe. She said that there are no sidewalks, therefore kids ride their bikes in the narrow streets due to the neighborhood initially tailored to an older community. Ms. Dedo Findes added that the Trails are going to be affected. She spoke on the light at Tomoka Oaks and Nova Road and how it will be a havoc, with only one ingress and one egress through Tomoka Reserve which will spread out through Main Trail, Iroquois, and Rio Pinar. She continued that are a lot more children in the community now, including her 6th grade son at Ormond Beach Middle School (OBMS). She expressed her concern for all of the kids. Ms. Dedo Findes stated that all of this should be of consideration, the children, quality of life, and the environment. Ms. Dedo Findes concluded that wildlife have been displaced because there is nowhere to go with all of the developments.

Mr. Tyler Travis, 888 Willow Run, stated that he rents in Tomoka Oaks, and just moved here from Virginia and elaborated on his experience in a dense, high-traffic area in Virginia and offered a contrary, counter-perspective, expressing his respect for the current residents. He continued that he likes his privacy but is also interested in smaller lot sizes to be able to afford a home. Larger lots and estates would price him out, according to Mr. Travis. He is interested in new construction, and spoke on the architectural designs and how the applicant plans to alternate styles throughout. With townhomes it was only door color or shutter color that changed. Mr. Travis commented on the traffic and said that as long as there are sidewalks and traffic crossing lights, just as he was in a dense area in Virginia and it was not an issue. The kids had to walk to the bus stops, other than the younger kids whose parents took them to school. He added that he has a young child and had no problem playing with them out in the streets in their neighborhood.

Mr. Robert Banker, 1 Tomoka Oaks, #135, Escondido, stated that when the HOA President raised the idea of 276 units going in, the residents wanted it changed. He agreed with the President that then it went down to 272 units, that he did not like it and that it was not much of a change. Mr. Banker continued that he would like to see the number 0, unsure if it will happen. He commented that the applicant stated that they were going to put in $600,000, $800,000, and possibly $1 million homes. Mr. Banker stated that the plan shows a section in the middle similar to appearance as a sardine can which he does not see them being 7', 8', 10', 15' to 20' apart. He suggests that they will not sell for more than $100 to $150,000. A $700,000 will not be next to a $150,000 and still maintain value. He referenced the infrastructure and commented that no one is considering what it will do to the Publix area. Mr. Banker stated that the President commented that something is going in, and he asks why and what is the hurry. He spoke on a unilateral amendment and how the language for it should be stricken. Mr. Banker asked how when the construction is going on with the trucks backing up at the traffic signal, how the traffic will be going in and out.

Ms. Michele Zirkelbach, 328 River Bluff Drive, stated that she swears to the Oath. She thanked the Planning Board members for their time. In reference to time, she added that Mr. Merrell started out his presentation with the remark that a lot of hours have gone into talking about of stuff, and the irony in the statement. She commented

that for every hour that Mr. Merrell has spent, it is a billable hour for him and the residents match him hour for hour times every resident in the neighborhood and have more invested in this in manpower hours and are ready to have a real negotiation. Ms. Zirkelbach stated that when Mr. Merrell sits at the mediation table when someone comes back with a less than 2 percent reduction, he takes it for what it is a slap in the face. She continued that is where they are, 276 homes, down to 272, is not a meaningful move on their part in which finds offensive. She continued, and referenced Chairman's remark on speaking directly to the plan that that represented, and said that she finds it unacceptable. She spoke on the previous proposal approved, keeping parcel greenspace golf course and having less homes and nothing has been proved in terms of traffic. Ms. Zirkelbach stated that if continuing with this back and forth, for the Planning Board or City Commission to ask the hard questions about the traffic study. She stated that when looking at the traffic study and its statement that one car is going to be going to Tomoka Elementary out through Nova Road, that they have more common sense. She concluded that she agrees that something is going to go in there and offered food for thought on the market out there not for smaller lots and commented that Kings Landing subdivision in Port Orange is being brokered by Realty Pros, Mr. Buzzy Porter and Mr. Bill Navarra, whom she esteems, but said they are one acre home sites that are selling for $250, 000, $267, 000 to $278,000. Ms. Zirkelbach stated that if the threat is R-2 zoning and all of the lots being 10,000 square feet that the whole concept should be reconsidered as one-acre lots. One-acre lots is where it is at!

Ms. Missy Herrero, 111 N. St. Andrews Drive, stated that she has lived there for over 30 years and residents have spent thousands of dollars for legal representation to defend their quality of life and safety of their community. She continued that they do not have money to gain in the war of attrition. She said that they have been meeting with different members of the development and Board for over two years. Mr. Ray Barshay was quoted in the newspaper for saying that they just have not been able to tell their story, and Ms. Herrero commented that she does not know what they have been doing for two years. He invited them to see the quality of the product that they wanted to build out at Plantation Bay, on 80' wide lots. Ms. Herrero asked before she took her time to do so, what was behind the 80' wide lots. The answer was a golf course. Ms. Herrero spoke directly to the new plan and said that it is still not compatible in the existing neighborhood. 60' and 80' wide lots does not fit. The proposed buffer is the most inexpensive approach to the buffer. She mentioned a comment brought up by their HOA Attorney, that it is not a neighborhood backed up to a neighborhood, it is a neighborhood where people invested in property and homes on a golf course for views and privacy and are losing that, so the buffer should not be treated as a regular Residential to Residential buffer. Ms. Herrero commented that Mr. Rubin is from South Florida where she grew up, and her friend sent her miles and miles of buffers, dense, diverse, and well-maintained examples, with no water trucks driving along the buffer. She suggested that if it has to be built to some extent that it needs to be done in the best, high-quality possible approach as the reality is that the environmentally-friendly innovative approach is the least expensive and the most profitable for the developer. Ms. Herrero commented that there is information on how when golf courses are developed it affects the value of homes, with experts that say the opposite, and she said that data can be provided for it. She added that they do not have millions of dollars to win on this and they do. She suggested that if someone had time to pick apart the experts, it does not all add up and urged the Board vote no.

Ms. Dale Ryals, 20 Eagle Court, stated that she was not hear at the last meeting to take the Oath. She commented that her husband was in the hospital over the last month at Advent Hospital and when transported by ambulance and admitted to the Emergency Room, where he had to stay for two days due to no available room in the hospital. She continued that the hallways were lined with patients. The hospital claimed that they are not going to improve with only two hospitals. Ms. Ryals stated that when the development order was done the neighborhood was told by the City Commission that the golf course was needed for holding and draining the water to be able to put it back into the aquifer. She added putting rows of the houses with concrete and asphalt roads will have sewer drains and it will end up in the Tomoka Basin. They were told they could not add too many chemicals to the golf course so that it would not get into the Tomoka Basin. Ms. Ryals commented on the million and a half gallon water that had to be added to the reclaimed water, in which 250 of it came from St. Johns, and 250,000 came from her husband's pocket. The mylar-rubber liners was not paid for so her husband had to pay a lot of money to put the liners in, which could be an EPA problem.

Mr. John Rhoades, 39 N. St. Andrews Drive, stated that on his property, the city sewer and water/electricity come in from Nova Road through his yard/easement. He was aware when he purchased the property. He added that the infrastructure is going to have to come in from somewhere through easements or the main road which will tear up roads and create a miserable quality of life. He continued that the traffic and noise will be horrible and wants people to be aware of it when they are coming through resident's yards. Mr. Rhoades concluded that he appreciates the Boards time and trouble.

Mr. Paul Hughes, 4 Lauren Court, stated that he has taken 30 years of Oaths with the Government as an officer and added that his Oath is his bond. He commented that Tomoka Oaks is the body and the donut hole looks more like the large intestines. He remarked that hope is not a good plan for investments and added that there is no detailed entrance, drawing or plans that have put up to the gated, private, profit-motivated, smaller lot community. Mr. Hughes stated that the Escondido neighborhood has not seen any drawings to see how their lives will be altered with all of the underground utilities, sewers, that are max capacity now will all have to be altered at an extreme cost. He spoke on the northeast section where it has been cleared already on the plans and asked how they got a land use variance to alter the neighborhood standard to demolish a house or use for a rear entrance for EMS. Mr. Hughes remarked that he sees the issue with the watering for the plants and claims it will not be water that is treated. He referenced the Misners Branch Bridge and the overweight trucks that will be going over it and asked who will pay the construction costs when it has to be closed down for maintenance. He added that the plans do not include the utilities, and concluded that a person with nothing to hide, hides nothing.

Mr. John Measel, 16 Eagle Court, spoke on not irrigating the buffer and commented that if you do not water grass, you will get nothing but weeds and sandspurs. He added his concern with the traffic diamond and the thought that it will be suitable to add another 500-600 cars daily. He stated that it is not suitable now. Mr. Measel suggested to put a traffic circle and concluded that the traffic will be horrible.

Applicant's Rebuttal

Mr. Merrell thanked the residents for being there and spoke on the number of units that were reduced and stated that it started at 300 and is at 272. He reiterated the

straight zoning concept, the alternative in negotiating the zoning. He referenced the Snyder Case law and stated that it has nothing to do with rezoning of property that is surrounded by the exact same zoning. The limit of what you can ask for was talked about and it was said that you cannot think you are going to get the limit of what the Comprehensive Plan allows. Mr. Merrell referenced Mr. Spraker's report in that the Comprehensive Plan allowance is 4.3 units per acre, 632 units, which was their starting point.

Mr. Merrell referenced Mr. Harowski and thanked him and his input and suggestions on architecture and commented that they did not do all of what was suggested and remarked if the Board wants a particular thing to let the applicants know. On the traffic signal timing, Mr. Merrell remarked that if the light was not put in based on the DOT's timing that they would put the money up to have it built when the permit was issued and Mr. Lassiter will process the FDOT request. Mr. Merrell advised the Planning Board that if they feel differently to make it part of the motion.

Mr. Merrell referenced Ms. Flavia's remarks and stated that they have proposed construction time limits, on the cover sheet of the plan, Monday – Saturday, 7am – 7pm. He advised that it will not be 24/7 and it will not take place on Sundays.

Mr. Merrell refenced Ms. Lauren and Mr. Ned Huhta's inquiries on signage and answered that the plan is to have a sign like what was exhibited at the first hearing, at the entrance to the Tomoka Reserve community, not the entrance to Tomoka Oaks. The City Utility Department will have the answer on reclaimed water. Mr. Merrell stated that they are happy to discuss the types of trees.

Mr. Merrell thanked Mr. Travis for his remarks.

Tomoka Oaks HOA Rebuttal

Mr. Bayer referenced the Board members comments over the last couple of Board meetings that the project is too dense, with no significant reduction, as well as staff's comments on why the Type 6 buffer is appropriate and why it needs to be maintained and irrigated. He remarked that he understands a natural look and does not think it is a natural area with issues. Mr. Bayer spoke on the traffic circle and how it should be a requirement. He added that there has not been any substantive change since the last meeting and based on that he agrees with staff's recommendation of denial with it being time to go to City Commission. Mr. Bayer concluded that he respects the request that it go with the recommendation of the Planning Board of no, that it is not adequate and the way the property should be developed.

Live Stream Update

Mr. Spraker stated that staff is aware the livestream cut out from one link and are not able to re-establish that link. He stated a new live link has been established that is on the city's Facebook page and the city website. He stated he is aware that audience members are getting e-mails and texts and the city Public Information Officer (PIO) is also providing the new link.

Applicant's Rebuttal

Mr. Merrell stated at the end of the day, in response to Mr. Bayer, he pretty much repeated what has been talked about all along which is what to do with the lot sizes and the buffer in terms how it is planted and maintained. Mr. Merrell stated you heard a difference of opinion and they were professional opinions, very well thought out. He stated that there were hopes that the Board listened to them and looked at the

package that was in front of them, because if they said, "yes, but.." Mr. Merrell stated that is the safe route and then the City Commission knows that the Planning Board is willing to say the proposed houses can be built, but on suggested terms. Mr. Merrell continued that if the Planning Board says no for them to say why and explain because there are things in the reasons presented to you that you could say why and that it may not be the type of evidence that is needed to say no. He asked the Board to think about those things.

Break

Chairman Thomas stated that the Board is going to take a break at 8:14 p.m. The meeting resumed at 8:27 p.m.

Board Discussion

Chairman Thomas thanked all of those who spoke and for their input. He stated it is very important that the Board gets that and hopes that they all feel that over the three meetings that they have all been treated with dignity and respect and that true feeling that the Board really does care about their thoughts, wants to hear from them, and considers their opinions. Chairman Thomas stated that he wanted to remind the audience, "we are you - we are no different than you, we are just the volunteer people who sit up here and want to do what is best for our overall community." He thanked the audience for attending and for their participation. Chairman Thomas stated they are bringing the discussion up to the Board and the Board will have the discussion among themselves. He stated that the public hearing is closed, and cannot acknowledge anybody in the audience without the Board asking for them, and commented to please not raise any hands because it is closed for the public participation.

Mr. Jorczak stated that in the staff report it was discussed for the replacement of any of the plantings that may die and the two-year bond being put up to replace those issues. He stated that he noticed in some developments where there are dead trees long after the development has been completed and wondered if the city has any information with respect to developers who are responsible for going to do replacements in a certain time period and what the evidence generally is throughout the community. Mr. Jorczak stated that there have been a lot of developments that he has not gone through after they have been built to see what the propensity is for that to happen irrespective of the information that had been presented as to what it takes for the shrubbery to mature and then survive without any irrigation. Mr. Jorczak inquired if there was any data that could be shared as to an incidence of that happening and the time period to resolve it if another development was under no compunction or no city responsibility to do that replacement.

Mr. Spraker stated that staff does not have any empirical data to answer this question. He stated that typically a subdivision is constructed by a developer with inspections of landscaping at the end of construction to ensure whatever was supposed to be built is there and then it is turned over to a Homeowners' Association (HOA) for maintenance. Mr. Spraker continued if there are complaints about gaps in buffers or dead material, Neighborhood Improvement staff will investigate and look at the approved plans and seek to come to a resolution. The city Landscape Architect is often times included in the review. Mr. Spraker stated that there is a method for enforcement. Attorney Hayes stated that there are conditions in the development order and the obligations for maintenance are with the Homeowners' Association

(HOA). Staff seeks to work with the respective parties to find a solution. Attorney Hayes continued that there are enforcement provisions that code enforcement staff can enforce.

Mr. Jorczak asked if irrigation is a typical part of a development order. Mr. Spraker referenced the example of the Pineland subdivision that used a natural area that did not require new irrigation. He stated that wherever there are landscape plantings there is a requirement for irrigation.

Ms. Shull asked about long-term irrigation for other properties and referenced the applicant's request not to use an irrigation system. Mr. Spraker stated that if it is planted then there is an irrigation system and if it is a natural area, it is already established and no additional irrigation is installed. He referenced the natural areas and wetlands within the Pineland subdivision. Mr. Spraker stated that Tomoka Reserve has areas that will not need irrigation based on the natural areas. He continued that the city Landscape Architect advised that as new landscape material is planted, irrigation is required.

Ms. Shull asked why the plan did not want to include groundcover material and asked Mr. Spraker elaborate. Mr. Spraker stated that a buffer is sought between two developments and the groundcover is a tool to accomplish the buffer. Mr. Spraker stated in staff's opinion, the type 6 is an appropriate buffer. He concluded that if there is a desire to trade groundcover material for more trees or shrubs, that it is possible through the development order process. The groundcover is one of three layers that make up a landscape buffer.

Ms. Shull asked about maintenance and vine maintenance. Mr. Spraker stated that a normal course of maintenance would include managing vines and such material. He explained that he understood that the desire of the buffer is to let it grow natural and that SPRC staff are focused on the gaps in the buffer and filling the gaps. Ms. Shull inquired if the maintenance would be taken over by the HOA. Mr. Spraker confirmed that is correct.

Mr. Scudiero remarked that this is an applicant who appears before us quite often, and the least that can be done is to provide direction. Mr. Scudiero commented that he does not love the plan and did not think that was a secret. He stated that his biggest hang-up is the density. He continued, not just density in general, because of some of the lots being larger throughout the perimeter, commenting at least you cannot always see in other neighborhoods around the city where the density is higher. Mr. Scudiero stated that his concern is the references to the donut, which is not a completely inaccurate description. He stated if you are going to fill the donut in, it has to be with the same material as the rest of the donut. Mr. Scudiero stated his concern here is that the lot sizes, not just lot widths, need to be consistent throughout. He stated that would be his biggest suggestion to the attorney.

Mr. Scudiero added that when you take a neighborhood that is 50 or 60 years old, there is no way to re-create every style of home and architecture as so much has change in that time period. Mr. Scudiero stated that the homes today, even if they are the same square footage, they are vastly different than what was built originally in Tomoka Oaks. Mr. Scudiero continued that it is owed to the surrounding residents to make the development as close as possible – make the donut as contiguous as possible. He added and as consistent as possible. Mr. Scudiero concluded explaining his heartburn is that the development plan does not get anywhere close, especially with the 60' wide lots in the center, to the existing development.

Mr. Railsback commented that he concurred with Mr. Scudiero's comments. He stated that he read the application and all of the submittals. He stated that he previously lived in the Trails and was familiar with this area, which was one of the residents' concerns. He stated that he believed the Board members have a very intimate perspective of that area of the community. Mr. Railsback added that he served on the Quality-of-Life Board and that elements such as traffic and continuity are important to his decision-making process. He stated that in his review he could not ignore the fact that there is an open question of should the property always be a golf course. Mr. Railsback compared it to someone who bought on a lake or on the river and if someone was going to develop a houseboat development behind them. He stated that would invade on their original thought process of where they wanted to live and what they decided to purchase.

Mr. Railsback stated that if something goes in there that is not a golf course, considering the conformity and compatibility discussed and whether concessions were made. He commented that from the perspective of what could go there, 632 units are allowed under the land use and there are other concurrency issues that would pair that number down. Mr. Railsback stated that he is works in the area of HOA/condo unit development and has been thinking of the issues of development and what should of or could have been done that would be better for the surrounding area. He identified parking as an issue. Mr. Railsback expressed concern with so many vehicles with short driveways and two or three cars parking in the street when you have guests. He stated that he did not want this to be an afterthought and wishes there were longer driveways.

Mr. Railsback commented that he would like much less density and how that is his major concern. He offered the estate home concept as an alternative concept that would be more compatible. He continued that it is going to take an established neighborhood with larger lots and homes that are not 7 ½ feet offset from the property line, effectively 156' apart, then something greater than that should be in place, adding that there are no homes in Tomoka Oaks that are 15' apart or that have the same building elevations. Mr. Railsback stated in order to get his support there would need to be enhanced architectural standards that separate similar building elevations and much less density. He remarked that if you have a larger home price per square foot, rather than a ton of smaller homes, you can get to the same range and get a project that is better conforming to the area. Mr. Railsback expressed concerns about the traffic flow, including the thoroughfare leading into Rio Pinar, Iroquois, and Main Trail and out to SR40. He stated it will become a racetrack at different times of the day with safety concerns. Mr. Railsback expressed his concerns with Rio Pinar and North/South St. Andrews Drive. He expressed that a higher density project would provide additional traffic impacts and does not know how that many cars would work through that area.

Mr. Railsback stated he agreed with the donut comments. He stated the new development should be the same design or better. Mr. Railsback expressed support for greater sized lots or a greater size home and the rising tide will bring everything up.

Mr. du Moulin stated he rode his bike from Winding Woods through the area and Tomoka Oaks is a unique community with the houses beautifully maintained with its own character. Mr. du Moulin expressed that he is still shaky on the legal issues on whether or not the former golf course can be built upon. He stated that if the

developers want to be good stewards to their neighbors, the community, and to Ormond Beach that they should consider a larger scope for the housing development. Mr. du Moulin recalled at the last Planning Board meeting that there was a project called the "Enclave" which had larger lots sizes, 12 homes on 26 acres. He stated that the only problem was that it had septic systems and that is not applicable here. He suggested if something was to go on the former golf course, if it legally can go in there, the developers need to expand the acreage per lot.

Mr. du Moulin continued that he was concerned with the traffic and suggests that the traffic studies are flawed. He stated that the Fishkind study was also flawed. Mr. du Moulin expressed additional concerns with the traffic patterns and expressed that the traffic studies do not cut it. He stated the project needs to consider larger lots that would reduce the overall traffic demand and suggested a rotary at Tomoka Oaks Boulevard and Saint Andrews Drive diamond.

Mr. Jorczak stated that he has spent a considerable amount of time reviewing this project and concurs that it is unique. He expressed a concern that the proposed houses would be cookie-cutter homes which is quite a bit different than the existing neighborhood surrounding the project. Mr. Jorczak stated if this project were 5 miles from the center of town, it may be appropriate, but this is dropped into an existing residential subdivision that has an atmosphere. Mr. Jorczak stated that he understood the business model that the developer is working with and what homes that they believe that they can sell. He commented that the elephant in the room for him has been the change in lot size. Mr. Jorczak stated that this property could be even better than the existing Tomoka Oaks homes. He encouraged the developer to take a look at other potential economic models with larger lot sizes. Mr. Jorczak continued that the former golf course is such a unique piece of property and how he would like to see what is already there expanded as opposed to a standard development model.

Mr. Jorczak expressed concerns about traffic from the project and traffic in general. He stated that traffic is a common issue that happens everywhere - the infrastructure does not catch up to the level of development. Mr. Jorczak continued that traffic is astounding and getting worse by the year, and it will continue to get worse. He stated these elements have to be dealt with in a fashion to minimize the effects, including the use of larger lots. He stated that both issues of traffic and density can be helped with larger lots. Mr. Jorczak commented that the land area's limited access should also be considered. He stated that there is not one project before the Planning Board that has not discussed access. He acknowledged that the property will likely be developed in some residential fashion. Mr. Jorczak stated that density, traffic/safety, diversity of building styles, and compatibility with the surrounding neighborhood are all key issues and concerns. He concluded that the comments of the other Board members are valid comments and there needs to be a better job of mitigating the impacts of this development than what is in front of them.

Mr. Galloway commented that he wanted to be clear that he has friends, professionally and long term, on both sides of this equation. Mr. Galloway stated to the resident who asked about the board members familiarity with this area, that he and his family have spent a lot of time in Tomoka Oaks and the Trails.

Mr. Galloway stated he has done research in relation to this application and lots being built in this area. The first thing is that not a single developer has been able to develop to maximum land use density allowed. He added that it seems that developers ask for the moon and we pull back the density. He stated that 60 to 70 percent of the lots that

his company pulled were between 55' and 65' in width. He continued that 30 to 40 percent were 70' to 80' in width. Mr. Galloway stated that they could not find any new subdivisions with 100' wide lots. He stated that a 50' wide lot would probably cost the builder $100,000 today. There are no more $25,000 lots. Mr. Galloway continued that a 100' wide lot, not on the water, would likely cost between $185,000 and $250,000, and then there is the cost of the house construction.

Mr. Galloway recalled he did a tape measurement prior to the meeting and the buffer would go from the stage to the curtain at the end of the seating area. The new house would have a 30' setback, plus the 50' buffer, and the Tomoka Oaks 25' setback. Mr. Galloway stated that there would 115' from house to house. He commented that he never has seen an inner-city neighborhood have that much space between the back of the houses. He expressed his concerns including the potential of neighbors to take down trees.

Mr. Galloway stated that the applicant did what he had asked of them by putting in a combination of lot sizes. He remarked that what they did not do was listen. He continued expressing that everyone has property rights – the developer has property rights and homeowners have property rights – what they did not do was listen to the neighborhood. Mr. Galloway stated that he could vote for this project if it had less density. He continued that he thought that the project would come back with 220, 230, 240 – maybe 250 lots. Mr. Galloway stated he was a little shocked and a little disappointed that the number of lots was not less. He stated he is not sure if they are still asking for the moon or if they will take what the City Commission will give.

Mr. Galloway commented that he believed that something would be built on the property. He continued that there is always an ability to buy property, at the right price, and encouraged residents to continue the purchase option. Mr. Galloway encouraged the HOA and residents to pursue a purchase through a community development bond over 30 years. He stated it would cost about $129 a month per homeowner and that they can buy it. He asked the audience how many individuals would be willing to participate in a purchase. Mr. Galloway stated if the residents bought it, they could decide what to do with the land. He continued to encourage the residents to seek to buy the property. Mr. Galloway concluded that he is for this project, but not at this density.

Mr. Jorczak asked if every single lot was 100' in width, what would that do to reduce the density in terms of the number of lots as it currently sits. Mr. Spraker stated he believes that the applicant has done an analysis and would prefer that the applicant address this question. City staff have not reviewed any plans where all lots are 100' in width. Mr. Spraker speculated that between 280 and 300 lots would be possible. Mr. Spraker stated the applicant would likely have a better answer.

Mr. Jorczak clarified that all the other parameters would be the same. Mr. Merrell questioned which perimeters and Mr. Jorczak stated all of them. Mr. Merrell replied that they have a plan adhering to the Land Development Code that allowed 300 lots. Mr. Jorczak stated that he is not talking about the code. Mr. Merrell continued that the project engineers developed a code compliant plan for the benefit of the property owner and the answer is 300.

Mr. Jorczak stated that he is looking for the 100' wide lot within the context of the PRD application, including the buffer and recreational area. Mr. Merrell stated the question mixes apples and oranges. Mr. Merrell stated a 100' wide project would utilize a different set of standards other than the PRD and the buffers and recreation

areas. Mr. Jorczak stated his fundamental question was within the PRD development plan, if the lots were all 100' in width, what the total number be. Mr. Merrell replied that they do not have the answer to that question and concluded that they mixed the lots up and brought the other things along – these all go together.

Attorney Hayes stated that the lot number question would require other site-specific analysis which is not before the Board tonight. He continued that if it is of belief that the density is too much on this project, then the Board can talk a little bit about it, but that it is a development application under a PRD zoning. Chairman Thomas sought clarification if the question was to maintain the PRD site plan layout and require a minimum lot size of 100' in width and depth. Mr. Railsback stated it would be approximately 240 lots based on the existing lot areas in the site plan. Mr. Galloway questioned if that impacted the buffer. Mr. Railsback replied with the calculated lot sizes in the site plan (60' X 125' and 80' X 125') and then divided by 10,000 square feet which came to approximately 240 lots. Mr. Galloway confirmed that there would still be a 50' buffer.

Ms. Shull reviewed the case studies provided about other golf courses provided by the applicant. She stated the studies looked good with a 9-hole course and how one golf course added estate homes. She continued that one in Boca left the part of the golf course and added a 55+ community with 120 homes. Ms. Shull stated that other things can be done with the property. She expressed that she understood the intention was not to rebuild a golf course. She stated that the other densities are not anywhere near what is being proposed. She stated that she concurred with other board members on the density. Ms. Shull expressed concern that traffic is going to be too much, concerns with children in other neighborhoods with no sidewalks, Tomoka Reserve cut through traffic. She stated that no matter what is said, that it is 600 more cars. Ms. Shull added that the stoplight is an issue and commented that the traffic signal should be in place before the homes are finished, just as the WaWa did the traffic signal first.

Ms. Shull stated that the density is a big concern and how the buffer needs to be installed as a type 6 with irrigation. Ms. Shull remarked that the HOA should not bear the burden of future buffer costs. She added that the ground cover needs to be installed.

Ms. Shull stated that she does not like the different lot sizes of 60' and 80' in width and explained that the lot widths need to be larger. She continued that the length of the driveways and having options for side entry garages are important for neighborhoods. Ms. Shull concluded that if there is not enough parking, individuals will park on the street and the community will not look good.

Chairman Thomas stated that the traffic engineer for the project does a very good job for traffic studies, but the system is so flawed that it is unreal. He continued that the studies are not reality, totally not reality. Chairman Thomas stated the density is a concern, as well as the traffic with the biggest problem coming out Main Trail to West Granada Boulevard. He stated this will be a nightmare. He stated that when the school is rebuilt and how right now coming out of the Trails where there is no bus pickup for elementary kids so they are either taken by their parents or riding bikes – most will go by car. Chairman Thomas asked the traffic engineer if they did the traffic study at school hours with the elementary school at Main Trail to West Granada Boulevard and commented that he doubted it. Chairman Thomas acknowledged the traffic engineer nodded yes, that the study was done. Chairman Thomas stated that people are not going want to wait the time they are going to have to wait because of

the way that intersection is right now you have going out to Granada. He stated that you have people wanting to turn right and you have people wanting to go straight and people wanting to turn left. He continued if somebody wants to turn left, nobody will be able to go anywhere. Chairman Thomas stated especially when school is coming out after people drop their kids off in the morning and people are still trying to get there and to the little Christian School to the west on Granada Boulevard that also has people stacked up waiting to turn right. Chairman Thomas stated that the traffic nightmare in his opinion is not going to be at Tomoka Oaks and Nova Road, but it is going to be a nightmare because people coming out of Tomoka Oaks now are going down on Rio Pinar and turning on Main Trail or on Iroquois. Chairman Thomas stated that the school will have more kids going to it because the school will be bigger. He reiterated that traffic will be a nightmare. He asked who will pay for needed improvements at the intersection and asked if the developer is going to pay for the intersection improvements.

Chairman Thomas asked the acreage of Tomoka Oaks minus the Tomoka Reserve property. He stated that there are over 500 homes in Tomoka Oaks. Mr. Spraker recalled there was a density analysis provided that showed Tomoka Oaks had a density of 2.09 units per acre. The acreage would be 547 homes divided by 2.09 units per acre.

Chairman Thomas stated that he has a problem with the density that has been discussed several times. He agreed with the applicant that there is a demand for 50 and 60' wide lots, but he did not believe that this demand is in the heart of an existing development of 100' wide lots. Chairman Thomas recalled he was on the Board in 2006 and the development plan at that time saved the golf course, allowed 117 condominiums, and three single-family lots. He stated that the 2006 approval recognized the property as a collection point of water to recharge the aquifer. Chairman Thomas stated that he understands times have changed, costs have risen, and housing types have changed. He stated that he wished the project team could come back with a plan similar to the 2006 plans because everyone got what they wanted.

Chairman Thomas added that 117 units will not work and now he can understand 220 to 230 residential units. Chairman Thomas stated that this is zoned as PRD now and it does not necessarily need to change.

Attorney Hayes asked to summarize a few points before answering the question. He stated this is a legal proceeding and there are rules that do apply and explained the Planning Board-role as a decision maker to weigh the competent and substantial evidence that was described at the July meeting. He stated the role of the Planning Board to weigh the testimony provided and determine which evidence is more credible. Attorney Hayes stated the initial burden is on the applicant to establish the application is consistent with the Comprehensive Plan and the requirements of the Land Development Code. The Planning staff's report is part of the evidence to consider. Attorney Hayes continued that application tonight is for a development within the Planned Residential Development zoning designation. The R-2 zoning district is not applicable tonight and may be a future application, but it is not before the Board tonight.

Attorney Hayes stated he wanted to point out some observations and his comments are not testimony. He continued that his role is to provide legal advice and counsel.

Attorney Hayes stated this is a unique piece of property and Tomoka Oaks was designed around this golf course and provided the following observations:

- Tomoka Oaks had an R-2 zoning designation;
- The R-2 zoning district also applied to the former golf course property for decades. The golf course operated for decades. He stated one may ask why was it not zoned separately. Attorney Hayes stated no additional zoning was in place because of restrictive covenants;
- The restrictive covenants for the former golf course were released by the HOA. The protection went away and the land continued to operate as a golf course;
- There was an application in 2005/2006 to rezone the golf course property from R-2 to PRD. This was reviewed by the Planning Board and approved by the City Commission. The approval allowed 119 multi-family units and three single-family units and certain conditions such as a covenant to restrict the use to a golf course with development;
- The 2006 development order expired with no construction. The 2006 covenant for use as a golf course was never recorded.

Attorney Hayes stated that these demonstrate the unique characteristics of this property. He continued that it is another application for development under the PRD zoning. He stated that there is probably a difference in why it is not separated out in the early years as described and how it is his speculation and it can be taken it for what it is worth. Attorney Hayes explained where the Board was and that the Board has to weigh the competent and substantial evidence and if the application is consistent with the Comprehensive Plan and the requirements of the Land Development Code. The initial burden is on the applicant and it shifts over to the HOA. Attorney Hayes stated that the Board gets to make that final determination.

Attorney Hayes stated that if the Board does not believe the application meets the criteria then the motion should be for denial. If it is believed to meet the criteria, then the motion should be for approval, and if it falls somewhere in between, a creative motion can be made, including a denial, and provide conditions. Attorney Hayes concluded that the Board has discretion, because as stated by the applicant, this a negotiated development order.

Chairman Thomas asked if there is a legal requirement if this application does not go through, does the city have to re-zone the property. Attorney Hayes stated that there is no rezoning application before the board. He continued if the Planning Board and the City Commission deny the current application, the question becomes what options does the applicant have. Attorney Hayes stated the applicant can present another PRD site plan under the PRD zoning or they can file an application to rezone the property to R-2. Attorney Hayes stated the rezoning to the R-2 is not before the board tonight.

Chairman Thomas stated he wished the applicant presented something like 2006 with some higher housing numbers. He stated at this point that he has major problems with the application.

Mr. Galloway asked Mr. Railsback what number he calculated if all were 100' wide lots. Mr. Railsback responded 240 lots. Mr. Railsback replied that it could be a little more or less based on the geometry of the property.

Mr. Galloway inquired about his interest of entertaining a motion of accepting the proposal with comments from staff for 240 homes. He stated that would give the applicant a message of where we stand and he always states that he would like to see the lot range between 220 and 240 lots. Attorney Hayes replied that the motion would require new data. Attorney Hayes commented that from what he was understanding the concern is the density. Attorney Hayes continued that a recommendation can be made for denial with details of the reasons for the denial motion so that there is a good factual basis for the recommendation. Attorney Hayes stated the detailed reasons or conditions would allow the applicant to make a decision of how they will move forward or pursue an application to R-2.

Mr. Galloway withdrew his motion.

Chairman Thomas stated his desired range was 220-225 lots. He discussed other lot range potentials and stated he would set the lot range low. He remarked that the City Commission would have some idea of what the Planning Board thought was appropriate and added at 250 lots, it is only a reduction of 22 lots.

Mr. Galloway stated he was putting a lot number out there to let the applicant know the current plan is too many lots. He commented that the City Commission will make the final determination. Chairman Thomas stated it would be in the minutes that they were looking at 220 units. Mr. Jorczak commented that if there is a denial tonight, the number is out there. Mr. Jorczak stated if the applicant wants to go to the City Commission, they can adjust the number to some extent.

Attorney Hayes stated that the Board can approve a motion with reasonable conditions. He added that the question then becomes what is reasonable based on the testimony and evidence presented. Attorney Hayes continued that it appears to that the Board does not like the density and desires something less. He stated that his recommendation is to make a motion to deny and state the reasons into the record this way the applicant has items to consider as they move forward and consider what the Board has stated.

Mr. Railsback stated that what the City Attorney and the applicant are asking the Board to do is to tell the reasons why the Board is denying the application. He provided an example that the Board denies the project because it is more than 230 units, the lack of a rotary circle, and the lots were not a minimum of 100' in width. Mr. Railsback commented that with the recommendations, the applicant could consider the revisions for the City Commission hearing.

Ms. Shull stated that she did not know that every little detail, the sprinkler system, the things that the Planning Department has said, could be put into a motion and expressed that those are the things that the Board would like taken care of. She added that that there was a lot in there that they do not know if it has been taken care of yet because the Planning Department has not had an opportunity to go over it. She continued that they have not had the opportunity to run the numbers to see how many 100' lots could go in there. Ms. Shull concluded that for them to sit there on a calculator and figure that it is around 220 is not a good way to put into a motion.

Chairman Thomas stated that this is true and he could go for no irrigation if the developer would pass the two years and maybe go to 5 or 7+ years that they would guarantee that those would last.

Ms. Shull stated that the motion is going to be three pages long. She stated that the City Commission will know what was discussed, read the notes, and know the points

of concern. Ms. Shull suggested a motion to deny and to please read the Planning Board minutes.

Chairman Thomas stated he believed that each City Commissioner or Mayor that appointed will be calling and seeking information from board members and that is totally legal. He stated that he knows that his commissioner talks to him about a lot of decisions made by the Planning Board.

Attorney Hayes reiterated what he heard and expressed that if he is wrong, for the Board to correct him. What the Board does not like as a basis for denial is:

- Density – believe that it is too much. There was talk about fuzzy numbers that the Board may be comfortable with under an appropriate plan;
- Traffic analysis is flawed based on evidence and testimony that you have heard and in the Boards own experiences;
- The traffic triangle should be a traffic circle; and
- The buffer and whether it should be a natural buffer or some other form of buffer and whether that buffer should have irrigation of some form.

Attorney Hayes asked if there were any other items.

Chairman Thomas stated a concern is the Main Trail and West Granada Boulevard intersection. He continued that is going to be a major problem. Attorney Hayes replied that would all be supported by the minutes and the record.

Attorney Hayes stated that if a motion is made with those parameters based on the evidence in the record that the application could be moved on up to the next level which would be the City Commission. He stated that the City Commission would take all the information under advisement, as they always do, and they will make their own determination after a legal proceeding just as this.

Mr. Railsback asked if the variety of elevations was included. Attorney Hayes stated that it was not, but that it could be included but not necessarily limited, because there are so many things. He reiterated that the Board's recommendation is advisory to the City Commission.

Chairman Thomas asked the Planning Director when the meeting minutes are written up and with the recommendation of the Board, if a synopsis could be included of the reasons that the vote was to deny it so that it would be in print that goes to the Mayor and City Commissioners.

Mr. Spraker explained that the way the minutes are done is more verbatim than a summary so that the entire scope of what is being said is reflected. He continued that staff always does a summary, usually brief, that hits the highlights. He concluded that yes, the minutes can reflect exactly what was said.

Mr. Scudiero stated that he would like to make a motion and if there is a second they can each give their articulated reasons both for the record and for the applicant's benefit.

Board Motion and Discussion

Mr. Scudiero motioned to deny PRD 2022-043, Tomoka Reserve – Issuance of a Development Order. Ms. Shull seconded it.

Chairman Thomas announced that the Board was going into discussion.

Mr. Scudiero stated his summary of concerns:

- Density;
- The plan that the applicant has come up with the buffers;
- An improved traffic rotary at the entrance;
- Instead of the 60, 80, 90 and maybe 100' wide lots, they want them all to be 100' in lot width, just like the rest of the neighborhood.

Mr. Railsback added the desire for a variety of house building elevations, including colors and roofing materials. He stated at least the minimum in the application and if a greater separation was given, his thought was that was another carrot for the City Commission.

Ms. Shull stated her issues are:

- The buffer, a desire to see a type 6 buffer;
- Would like to see the irrigation system to go in;
- Traffic signal to go in;
- Not sure about the diamond and roundabout. She noted that traffic study with the fire truck trying to get around that thing and it bothered her;
- Lot sizes are too much. The 60' wide lots are too crammed into that little space and it does not conform to the rest of the neighborhood that is already there;
- The gated community was a positive; and
- The main thing is the density because of the traffic.

Mr. du Moulin stated that he is concerned with the proposed lot sizes and the rotary.

Mr. Jorczak stated the elephant in the room for him has always been the density and he thought that it had been addressed. He added that he would like to see something less for the lots than what Mr. Railsback calculated in terms of how that is going to fit within the existing community. Mr. Jorczak discussed the architectural styles that the Board talked about and expressed that it would be nice if there was something better defined as to what the flexibility would be. He stated that he supported a no vote and concurs with what the city staff has recommended with respect to irrigation. Mr. Jorczak commented that he would recommend beyond what they had indicated in terms of just the perimeter lots being 100' in frontage. He continued that he believed that there is far less density of homes. He stated what the developer wants to do with respect to reducing that and seeing whether he has an economic model, is something that they will have to work with. Mr. Jorczak concluded that the way it is proposed today, he would vote for denial.

Mr. Galloway stated that he has a problem making them all 100' in width because of the lot radiuses with no way to get 100' wide lots on a curve. He added that he is okay with 100' wide on the back side of the lots. Mr. Galloway stated that he believed that there needed to be a flexibility of 80' and 100' wide lots. He concluded that you cannot get a 100' wide lot in a circle.

Mr. Jorczak stated that you can go above 100' in lot width and that he believed that the fewer number of homes would be better.

Mr. Galloway stated that he thought that it could be done with a combination of 80 and 100' wide lots. He stated that he would hate to tie-string them with 100' wide lots.

Chairman Thomas asked if Mr. Galloway was going to put a ratio on that, and said that what he looked at was that there was ten 100' wide lots and a few 80' wide lots. Mr. Galloway stated that he did not believe that a ratio was needed and that they should let the engineers analyze that. He stated that you can say that there should be more 100' wide lots, but you cannot tie somebody down to put all 100' wide lots in.

Mr. Railsback suggested making the lot deeper with a minimum of 10,000 square feet (80' X 125'). He stated that if you have to squeeze an 80' wide frontage lot, then it needs to be deeper. Mr. Galloway concurred and commented that the Board was doing the schematics and are not engineers. Chairman Thomas stated what we are is neighbors. Mr. Galloway concluded that in this type of property you cannot make all 100' wide lots.

Attorney Hayes sought to refocus the Board. He stated that there is a motion and second for denial. He continued that most of the comments are consistent and some are a little different. Attorney Hayes explained to the Board that you can incorporate the comments as part of the motion and second for supporting purposes of the motion to deny. He stated that these comments are not going to tie anything down specifically. Attorney Hayes restated that the Board's action is a recommendation. He stated if the maker of the motion and the seconder is okay incorporating those comments as a supporting basis for the motion to deny, all of that information would go up to the City Commission.

Chairman Thomas asked for a point of clarification if any member of the Board can call any City Commissioner or Mayor. Attorney Hayes confirmed that there is no Sunshine Law requirement for a member of the Planning Board communicating with a member of the City Commission. Attorney Hayes stated that Planning Board members cannot talk with each other.

Mr. Railsback stated for the minutes that he would like to see longer driveways as parking in the street is going to be an afterthought and that he would be remiss if he did not bring it up. He continued that he is okay with deeper lots and believes that two or three spots are needed plus the garage, not one car hanging into the road.

Attorney Hayes stated that he saw the maker of the motion and the seconder nod their heads to incorporate the item as a supporting basis for the motion.

Chairman Thomas asked if Attorney Hayes had his concerns on the list. Attorney Hayes responded that he did.

Chairman Thomas stated that there is a motion and a second. He stated that the Board has had discussion and asked the recording technician to call the vote. Mr. Galloway asked the motion be repeated. Chairman Thomas stated the motion was to deny the application. Attorney Hayes confirmed that the supporting basis in the Board comments are incorporated. Chairman Thomas asked the recording technician to call the vote.

Vote was called:

Mr. du Moulin: Yes, to deny.
Mr. Scudiero: Yes.
Mr. Railsback: Yes.

Mr. Galloway: Yes.
Mr. Jorczak: Yes.
Ms. Shull: Yes.
Chairman Thomas: Yes.

The motion for denial was approved (7-0).

Chairman Thomas stated that when the Planning Board first started at the first meeting, he told them that this is one of the top five decisions that he had ever been involved in at the Planning Board. He stated that it can now be moved up to the number two slot. Chairman Thomas stated that the only one that proceeded it was voting to tear down the Ormond Hotel to which he regrets to this day.

Chairman Thomas thanked the audience for their patience and courtesy. He stated that these have been the biggest meetings they have had and that they are probably one of the nicest, most respectful groups ever. He stated there has been no hollering or hooting and that he thanked the audience for that because they made the Board's job easier.

VII. OTHER BUSINESS

No other business was discussed.

VIII. MEMBER COMMENTS

No member comments.

IX. ADJOURNMENT

The meeting was adjourned at 9:42 p.m.

Respectfully submitted,

Steven Spraker, Planning Director

ATTEST:

Doug Thomas, Chair

Minutes transcribed by Marcella Miller.

M I N U T E S

ORMOND BEACH PLANNING BOARD

Regular Meeting

September 26, 2023 6:08 PM

Calvary Christian Center
1687 West Granada Boulevard
Ormond Beach, FL 32174

PURSUANT TO SECTION 286.0105, FLORIDA STATUTES, IF ANY PERSON DECIDES TO APPEAL ANY DECISION MADE BY THE PLANNING BOARD WITH RESPECT TO ANY MATTER CONSIDERED AT THIS PUBLIC MEETING, THAT PERSON WILL NEED A RECORD OF THE PROCEEDINGS AND FOR SUCH PURPOSE, SAID PERSON MAY NEED TO ENSURE THAT A VERBATIM RECORD OF THE PROCEEDING IS MADE, INCLUDING THE TESTIMONY AND EVIDENCE UPON WHICH THE APPEAL IS TO BE BASED.

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 IN WRITING, OR MAY CALL 677-0311 FOR INFORMATION REGARDING AVAILABLE AIDS AND SERVICES.

I. ROLL CALL

Members Present	Staff Present
Angie Shull, Vice Chair	Claire Whitley, Assistant City Manager
G.G. Galloway	Steven Spraker, Planning Director
Al Jorczak	Cara Culliver, Landscape Architect
Mike Scudiero	Robin Gawel, Senior Planner
Barry du Moulin	Sarah Cushing, Senior Planner
Troy Railsback	David Allen, Planning Civil Engineer
Doug Thomas, Chair	Randy Hayes, City Attorney
	Marcella Miller, Recording Technician

II. INVOCATION

Chairman Thomas led the invocation.

III. PLEDGE OF ALLEGIANCE

IV. NOTICE REGARDING ADJOURNMENT

NEW ITEMS WILL NOT BE HEARD BY THE PLANNING BOARD AFTER 9:00 PM UNLESS AUTHORIZED BY A MAJORITY VOTE OF THE BOARD MEMBERS PRESENT. ITEMS WHICH HAVE NOT BEEN HEARD BEFORE 9:00 PM MAY BE CONTINUED TO THE FOLLOWING THURSDAY OR TO THE NEXT REGULAR MEETING, AS DETERMINED BY AFFIRMATIVE VOTE OF THE MAJORITY OF THE BOARD MEMBERS PRESENT (PER PLANNING BOARD RULES OF PROCEDURE, SECTION 2.7).

V. APPROVAL OF THE MINUTES

Mr. Jorczak motioned to approve the August 21, 2023 Minutes. Mr. Galloway seconded it. Vote was called, and the motion was approved (7-0).

Chairman Thomas opened the Public Hearing.

Attorney Hayes explained the continuation of the August 21, 2023 Planning Board meeting on Tomoka Reserve. Recommendations were made by staff, Planning Board, and the HOA attorney to allow more time to analyze the previous set of new plans. Tonight, the Planning Board can make a recommendation to the City Commission or request additional information. Attorney Hayes added that the recent material submitted, according to the applicants, is consistent with the Comprehensive Plan and Land Development Code (LDC) regulations and staff disagrees and recommends that the application be denied. He concluded that the witnesses are not required to be re-sworn and directed for those wishing to speak to announce their name and whether or not they have been sworn in.

Chairman Thomas and the Planning Board discussed the allotted speaking time for residents and audience members and it was determined to allow three minutes per person. Chairman Thomas opened the public hearing.

VI. PUBLIC HEARINGS

A. PRD 2022-043, Tomoka Reserve – Issuance of a Development Order – continuation of the July 13, 2023 meeting

Staff Presentation

Mr. Spraker, Planning Director, thanked Calvary Christian Center for hosting the meeting and stated that the application is for the issuance of a development order for the Tomoka Reserve subdivision, at 20 Tomoka Oaks Boulevard. He continued that the existing land use is "Low Density Residential" and the existing zoning is Planned Residential Development (PRD). The zoning district does not have a development order associated with it any longer and has since expired, the reason for the public hearing.

Mr. Spraker continued that the project has gone through two pre-application meetings, the Site Plan Review Committee (SPRC),a neighborhood meeting, and today, the third Planning Board meeting. Mr. Spraker stated that if there is a recommendation tonight, the tentative City Commission meeting date will be November 07, 2023 at Calvary Christian Center. Mr. Spraker explained the issuance of a development order review process. A PRD is a zoning document that shows lots, landscape buffers, open areas, recreational areas, and architectural standards. A PRD does not require engineering construction plans that include stormwater and utilities, which will come later with a preliminary plat. The preliminary plat would go through a neighborhood meeting, Planning Board and City Commission.

Mr. Spraker displayed a recap of the July 13, 2023 site plan with the proposal of 276 units, a mixture of 50', 60', 80' wide lots. He explained the August submittal that was before the Planning Board, with a mixture of 60', 80', 90', and 100' wide lots, but because it was submitted after it was advertised, it required a new public hearing. He continued that the applicant agreed with some SPRC recommendations, including

the building coverage, setbacks, note for lot separation, Tomoka Oaks diamond improvements, sidewalks on both sides of Tomoka Oaks Boulevard, neighborhood meeting for the preliminary plat, the timing of the traffic signal, updated architectural design language and the removal of the cut-through of amenity space parking area.

Mr. Spraker stated that a new site plan was submitted on September 06, 2023, and the changes are primarily the mixture of lot sizes along the perimeter of the boundary of the project of 80' wide lots and interior, 60' wide lots. Other aspects of the site plan that did not change were the gated vehicular access of the subdivision, it is not in the wetlands or floodplain. Mr. Spraker added that other characteristics that did not change were the environmental assessment provided, the 34 acres of natural preservation, recreational areas, 50' buffer around the site, preservation of historic trees, the school concurrency and Traffic Impact Analysis provided.

Mr. Spraker stated that the two remaining key issues are the perimeter lot sizes and the material and irrigation of the 50' buffer. The SPRC continues to recommend 100' wide lots on the perimeter where the site plan shows 80' wide lots as the former and surrounding zoning district of R-2 are 100' wide lots.

Mr. Spraker continued that the existing conditions today with the 3.3 mile buffer in the planting plan states that there are native trees and shrubs that will provide screening between the existing homes and the proposed development. Another existing condition is the existing vegetation to be able to use and gaps of landscaping to be planted, and 70 percent of the 50' buffer with trees and shrubs for visual screening. Mr. Spraker stated that the proposed plan shows that the buffer shall be 50' wide containing five trees and 50 shrubs. No groundcover was proposed in the plan. The existing vegetation would be used for gaps of landscaping to be planted. Mr. Spraker added that watering would be provided by a large water tanker truck, not permanent irrigation. The plan offered a maintenance bond for two years and requires an 80 percent survival rate to release the bond.

Mr. Spraker delivered an overview of staff's recommendations, including the City's Landscape Architect, of a type 6 buffer of seven trees, 70 shrubs, and 70 ground cover plants. The proposed plan does not meet the visual screen requirement of the LDC. He stated that staff is supportive of the use of native/xeric plantings. He added that that the irrigation by water tanker truck does not comply with the LDC. Mr. Spraker expressed concerns with the fact that the watering plan shifts compliance to the future HOA. It can involve additional maintenance and costs, as well as the 2-year bond and 80 percent survival plant rate.

Mr. Spraker reviewed the correspondence that was received and that was also included in the meeting packet. Some of the correspondences included the compatibility with the existing Tomoka Oaks, property value concerns, loss of quality of life, traffic concerns, golf course perpetuity and related uses, the existing configuration of the diamond intersection, Tomoka Reserve HOA concerns, wildlife concerns and buffer concerns.

Mr. Spraker delivered an overview of the Planning Board review criteria consisting of the application submittal, staff report, SPRC comments, written correspondence provided, criteria of the LDC contained within the staff report, and testimony provided at the Planning Board public hearing. He stated that staff recommends denial of the proposed site plan for the issuance of a development order, based on the

perimeter lot sizes and the buffer planting plan. Mr. Spraker continued that if the Planning Board believes that it is appropriate they can recommend approval. Either recommendation of approval or denial goes to the City Commission for the final decision.

Applicant's Presentation

Mr. Rob Merrell, Esquire, Cobb Cole Attorneys at Law, representative for the applicant, stated that Mr. Don Spence will speak again on the buffer and Mr. Michael Hoteling, on the lot widths, the two key issues. Mr. Merrell recapped on the PRD due to its custom zoning for the property. He asked the Board for suggested items in negotiation for an agreement.

Key issue: Buffer:

Mr. Don Spence, Master Arborist/Native Plant Expert, Ph.D., Native Florida Landscapes, explained that he has been working with landscaping and native design for 25 years. Three years ago he completed a tree survey for the property and beginning in January, started work on the buffer plan. Mr. Spence stated that it is based on a low density residential and a buffer planting plan that had three or four plants to fill in gaps along the shrubs. He continued that several months later, they got pushback from the City as they wanted a type 6 buffer. He explained the reasons that the team felt it was not appropriate as a type 2 buffer is outlined for low density residential. A type 2 buffer is three trees and 30 shrubs. The team proposed a bonified, meaningful type 4 buffer with five trees and 50 shrubs, to fill in the gaps to provide visual screening between the existing homes and the homes that are proposed to be built. Mr. Spence expressed his concern with the said irrigation requested, as the existing trees and trees to be planted are native and once established over the next six to seven months, will not need it, same as the existing buffer that is not being watered. He stated that the goal is to plant plants that mimic the existing trees in the buffer, claiming that if the tree dies it will be replaced per the two year bond.

Mr. Spence continued reviewing the buffer planting plan and stated that the 50' wide buffer, that would be managed by the HOA, if there are tree problems would not be able to plant across the entire buffer due to many of the homes having fences or walls. In the plan, the center 20' of the buffer would be the planting zone. He continued that trees and shrubs need full sun and cannot be planted underneath of canopies. Mr. Spence stated that space is needed for access (15' on the development side and space for neighbors on the backside). He added that access is needed behind the property lots of the homes built to manage trees and any invasive plant problems, therefore cannot plant across along the entire width of the buffer. Mr. Spence reassured that the plants will be watered and made sure of their survival at 100 percent from the initial plan of 80 percent, after two years. The site will develop in phases and the bonds will follow in phases and long-term maintenance will be driven by the legal agreement that the HOA develops. Mr. Spence reviewed a table that explains the watering phase for the trees and shrubs and stated that the plan meets and exceeds what the University of Florida recommendation is. He continued that they are not willing to dig up the buffer for ground coverings and feel it does not add to the visual screening. He pointed out that a water tanker truck is in the plan for irrigation and backed up his point with the LDC guideline specifying that if using native/xeric plants a permanent irrigation system is not required. Mr. Spence concluded that there is no standard for a type 6 buffer being applied in a residential setting and no example of an industrial buffer design against residential.

Mr. Merrell stated that the proposed buffer plan is well founded and innovative, concurring with Mr. Spence, and added that a permanent irrigation system would tear up the manicured grass.

Key issue: Lot sizes:

Mr. Michael Hoteling, MAI, Managing Partner, Moody Williams Appraisal Group, stated that he has been appraising commercial, residential, subdivision type properties for 20 years. He spoke on the appropriateness of the lot sizes and stated that most of the lots of the homes being proposed are 2,100 to 2,900 square feet and most of the lots that get sold are between 60' wide and 80' wide, with some 100' wide. Mr. Hoteling commented that this will be a nice subdivision where the homes can range from $600,000 to possibly over $1 million. He added that when pricing the homes in Tomoka Oaks three weeks ago, there were no homes for sale that exceeded $700,000, except for those along the water. Mr. Hoteling concluded that what is being proposed to be built will add value to the existing development and not detract from it.

Mr. Merrell stated that the alternative to the custom zoning is straight zoning. The subject property is low density residential in which the zoning classification does not have all of what is being offered through the proposed project. He explained the reason it was decided to go through the PRD process and propose the combination of lots is because the market does not do 'Tomoka Oaks lot sizes' at 100' by 100' anymore. Mr. Merrell added that the applicants wanted the mixture of lot sizes starting at 50' wide lots and a larger landscape buffer for separation. The minimum guidelines for the landscape buffer is required to be 50' and if adding all of the green around the outside it is an average of 129' of greenspace between both properties. Doing straight zoning at a 6' buffer requirement as opposed to the 129'. The straight zoning would have also offered only two trees and 20 shrubs as the landscaping buffer requirement. Mr. Merrell added regarding outdoor recreation, and the open space and parks, that they are a concession as part of the negotiating PRD. Mr. Merrell referenced the architectural standards and how the applicants listened to the neighbors and their dislike of cookie-cutter homes. He touched on the pedestrian connectivity being volunteered, stating that they would add sidewalks out to Nova Road. Mr. Merrell concluded that something is going to be built, whether based on custom zoning or straight zoning.

Board Questions of the Applicant

Mr. Scudiero asked what the average lot square footage is in the existing Tomoka Oaks development versus what the perimeter lots would be with the 80' wide, 90' wide, and 100' wide lot range.

Mr. Dwight Durant, Zev Cohen & Associates, stated that what is being proposed are 80' wide by 120' deep lots, approximately 10,000 square feet, and the existing typical Tomoka Oaks lot is 100' by 120', approximately 10,000 to 12,000 square feet. The inside lots are approximately 7,000 – 8,000 square feet. It was discussed that some of the proposed lots have a different rear width and can be above 10,000 square feet.

Mr. du Moulin inquired about the proposed irrigation of the buffer and if there is a specific amount of time that the water tanker truck would irrigate. Mr. Merrell replied that the detailed proposal and plan is in the board packet materials.

Chairman Thomas asked about the different proposed façades of the homes and asked for clarification on if it is every 4th house before duplicating the same façade,

expressing that he does not like every other house repeating the same design. He added that currently in Tomoka Oaks you will not see two houses within 200', 300' and 400'. Mr. Merrell replied that the same façade cannot be next to each other or across the street, and urged Chairman Thomas and the Board to be specific in what it is exactly that they would like to see. Mr. Merrell clarified that the applicant is not trying to recreate or replicate Tomoka Oaks, an older product and design, but bring forward the quality and variety that they have asked for.

Mr. Railsback referenced the elevations and colors of the homes and stated that they should be not 'cookie cutter' in design. He asked what is being done for the softening of the diamond and if it will be a roundabout instead. Mr. Merrell relied that the diamond is proposed to be reconfigured to an amoeba shape, with rounded corners, allowing better flow for vehicles, including buses, as well as adding landscaping in the island.

Mr. Jake Stehr, Zev Cohen & Associates, read the material included in the recently submitted plans that stated architectural variations in the variety of house sizes designs in the neighborhood is encouraged to facilitate it so that the two adjacent homes on the same side of the street as well as the house across the street and its two adjacent homes have to have a minimum of three different design elements of the following ten elements.

Ms. Shull asked if the plan was referencing different design elements (example brick and siding) or if the whole house is different. Mr. Stehr answered elements such as roof pitch and roof type, the skin/exterior finish material, color, garage orientation and size, porch size and location, number of stories, window sizes and shapes, window location and decorative elements. He concluded that houses cannot be mirrored across the street from one another and that options will be given to future home buyers.

Mr. Galloway asked for clarification on the buffer. Mr. Merrell explained that their idea is to leave the places that already have bushes and trees alone. The reason for not wanting to lay groundcover down is to avoid tearing the ground/landscaping up and put wild landscaping in. Mr. Merrell added that if landscaping was put in along the entire 50' buffer it would not be able to be accessed and maintained, according to Mr. Spence.

Mr. Jorczak inquired about what the average required time for the trees, based on size, that is going to be planted to be able to provide 100 percent screening in all of the areas that trees have not been supplied to fill the gaps. He commented that it will determine if it will be three, five, or ten years before the trees will provide the screening. Mr. Spence replied that different trees grow different ways and it is hard to tell. The trees are designed to provide a canopy and the shrubs will provide the visual appearance between the homes. There is not going to be 100 percent complete vegetative screening, as the code only calls for 40 percent. Mr. Spence concluded that there will be gaps for a while and in time the plants, natives and shrubs will mature and will reseed themselves in the buffer, creating a denser buffer over time.

Ms. Shull asked Mr. Spraker for explanation of the request for the 50' buffer, the irrigation, and type 6 buffer. Mr. Spraker answered that one of the key factors expressed was the buffer and the lot sizes during the pre-application neighborhood meetings and the SPRC meetings. The goal is to provide the buffer to mitigate for some of the loss of the natural buffer that is there today. Tattersall, RidgeHaven, and Tymber Creek Apartments are projects that have natural buffers. He stated that staff

is not against the native or xeric plantings, but are against taking a former golf course, developing it into residential, and leaving gaps in the buffer. He added that Ms. Culliver, Landscape Architect, is available to go through the details of the recommendation if necessary. Mr. Spraker added that staff believes that irrigation is a key source for the plantings.

Tomoka Oaks HOA Presentation

Mr. Dennis Bayer, Esquire, 109 6th Street, Flagler Beach, legal counsel of the Tomoka Oaks HOA, expressed his disappointment with the applicant's response to the HOA in negotiating the architectural standards, traffic impacts and buffers. A few of the architectural ideas were agreed upon, but not on having the different architectural styles close to one another. Another HOA request was for buffer enforcement once the two-year performance bond is over. No comments were received back from the applicants regarding if that language was acceptable or not. Mr. Bayer rebutted Mr. Merrell's comment and said that property is currently zoned PRD and the last development proposed that came to the Board was to convert the golf course, which was PRD with part of the property being a golf course, and part of it residential. He spoke on the PRD and R-2 zoning and referenced a Florida Supreme Court case, The Snyder Decision, a landmark land use decision that has been in place in the Florida Supreme Court since 1993. Based on it, he remarked that the City Commission can say that they do not want R-2 zoning and that they want it to stay PRD, given the unique circumstance presented by the property. Mr. Bayer continued that they agree with staffs comments on the issue with the buffer and stated that the buffer is typically required between the new residential development and the existing residential development and are typically at a much higher standard than residential next to residential, as the use is being surrounded, therefore a different buffer requirement. Mr. Bayer referenced the Matanzas Shores Golf Course conversion where they required a lot of different issues with the buffer that was much greater than the standard residential buffers, which is part of the golf course conversion process. He stated that this is not the standard development review and is very unique. Mr. Bayer concluded that the HOA agrees with staff on the 100' wide lots on the perimeter and the type 6 buffer, and the recommendation of denial to the City Commission.

Mr. Tom Harowski, Certified Planner and Tomoka Oaks resident, 97 N. St. Andrews Drive, expressed the resident's frustration with the developments with the late withdraw of the plan that they presented at the last meeting, and the lesser plan submitted. He spoke on the applicants list of concessions in response to staff comments and stated that it did not affect the project in size or layout. The addition of the sidewalks on Tomoka Oaks Boulevard and the modification of the island, he says are basic safety issues. Mr. Harowski commented that the basic issues remain the same since the beginning. He continued that the applicants refuse to apply the staff recommended 100' wide lots on the perimeter or offer reasonable solutions. The threatened alternative of R-2 standard zoning, which requires 100' wide lots throughout seem acceptable to the applicant as an alternative and should be acceptable for a portion of the project. Mr. Harowski remarked that they turned to the design guidelines but still need to include the requirement for diversity in garage door orientation and the way the driveway faces. The compatibility is not having clusters of units that are the same. He remarked that the design that they have seen does not get that point. Mr. Harowski spoke on the important factor of the traffic signal

application and how a 30-day period was mentioned previously and stated that the application should be made promptly.

Audience Comments

Ms. Flavia Cassasola, 21 N. St. Andrews Drive, asked if the proposal gets approved if a moratorium has been considered on the noise level, 24 hours a day/7 days a week, from sunrise to sunset. She mentioned that people walk and bike the neighborhood at all hours of the day and remarked that the Mac tucks can be driving through as well as jack hammers working at all hours of the day and night, including weekends and holidays. Ms. Flavia asked if the construction schedule has been considered. She added that the investors bought the property to make money and that she has been in opposition since the beginning as there has been no compromise in the 272 units. Ms. Cassasola concluded that it is going to impact Tomoka Oaks, the Trails and Talaquah as well as the traffic and recommends denial.

Ms. Ashley Dufrene, 118 N. St. Andrews Drive, said that she took the Oath and reminded the Planning Board that the City of Ormond Land Development Code (LDC), Section 1-18, states that the proposed use will not substantially or permanently create a nuisance, deprive adjoining properties of adequate light and air or create excessive noise, odor, glare or visual impacts on the neighborhood and adjoining properties. Ms. Dufrene remarked that she lives on the golf course and knows that all three of those will happen if the development takes place without the proper guidance that the City and HOA is providing.

Ms. Bonnie Kloepfer, 23 Tomoka Oaks Drive, did not take the Oath prior but does so now. She commented that she is at the mouth of the Tomoka Oaks Golf Course. She added that she has a brand new white house and it will get filthy from the trucks and dirt from construction. She continued that the issue of 1,100 cars per day going back and forth is insane and cannot imagine what the traffic will be like. Ms. Kloepfer commented on their sentiments on trying to make it easy for the residents and their claim of compromising. She expressed her discontent with proposed number of homes. Ms. Kloepfer referenced yesterday's newspaper in regards to the purchases of one million plus homes on the rise in Volusia and Flagler Counties. She concluded her comments with the expression "if you build it, they will come", and said that she would like a proposed development such as Tomoka Estates or Estates of Tomoka Reserve instead of jammed in houses.

Ms. Denise White, 9 Fox Run Trail, The Trails, stated that she took the Oath. She thanked the Board for their time and service. Ms. White added that a reduction of four homes does nothing for the safety, traffic, density or lifestyle issues and changes nothing whatsoever. She remarked that it will impact everyone's lives and safety. Ms. White spoke on the merit of the old adage, "just because you can build does not mean that you should."

Mr. Jeff Boyle, 614 N. Halifax Drive, took the Oath and stated that the data in numbers in Volusia County are causing loss of sight in the big picture. He referenced the Comprehensive Plan policies and goals and remarked that the latest site plan is not compatible with adjacent homes and added that the revisions protect the neighborhood character, and does not guarantee safe traffic flow. Mr. Boyle continued that the revisions do not preserve natural open space. He stated that the golf course should have been zoned Open Space/Recreation, and commented that it is a mystery why it was not. The zonings protect adjacent property rights. Rezonings threaten those rights. Mr. Boyle said that Tomoka Oaks defines everything that is

good about Ormond Beach with a quality environment, quality homes and quality people who have suffered this thread with heroic dignity after paying premium property taxes to the City for over 60 years. Mr. Boyle stated that the revised site plan disrespects the city, the spirit and intent of the land use codes, the residents of the Trails and other nearby communities and the people of Tomoka Oaks. He added that they deserve better. He concluded that the revised plan is not Ormond Beach and is not who they are.

Ms. Ronnie Ranieri, 216 Rio Pinar Trail, swears to the Oath, and expressed her concern with 272 houses with only one point of egress. Another concern expressed is the traffic in the mornings and the safety of the kids that are walking or riding bikes to Tomoka Elementary School and the private Temple school. She commented that it is a tragedy waiting to happen. Ms. Ranieri remarked that reducing the plan by four houses from 276 is not going to work. She added that hundreds of cars are going to be coming out of the neighborhood at rush hour in the morning. Ms. Ranieri commented that most families have two cars and with the number of houses that are proposed, is worried about the kids.

Ms. Connie Colby, 108 Robal Lane, stated that she is concerned about it being a gated community as school busses do not go into gated communities. The children in middle school can walk and ride their bikes but middle school busses will have to come in the community somewhere to pick the kids up and will have to park outside of the gate, near the roundabout which would stop traffic. Ms. Colby continued that in her neighborhood a lot of the parents drive their kids to the bus stop or pick them up in the afternoon which will lead to more people parking along the road, causing a traffic mess. Ms. Colby pointed out that according to one of the maps, and with her experience living in gated communities, there has to be an emergency exit for emergency vehicles and suggests that there be a plan for it. Ms. Colby concluded that a lot of the proposed properties are close together and expressed her concern for boat, trailer, and RV storage on the properties.

Ms. Kelsey Kipi, 52 Pine Valley Circle, vowed to take the Oath, and commented that the reduction of the four homes on the plan is nothing and explained how they made lots slightly larger at the expense of the greenspace. She added that the developers purchased the golf course and asked why it could not a golf course that goes in. Ms. Kipi stated that Tomoka Oaks Golf Course closed due to a lack of maintenance to the course and not a lack of interest in the sport. Two local golf courses, both Halifax Plantation and Riviera, both have waitlists, according to Ms. Kipi. She suggested to restore the course and the membership with follow and profit will be made, and the greenspace will remain. No more angry citizens and no more debating on lot sizes and buffer zones and no more FDEP requirements. Ms. Kipi concluded to restore the course or sell it to someone who is willing to do so.

Ms. Lauren and Mr. Ned Huhta, 30 Pine Valley Circle, stated that they took the Oath. Ms. Huhta stated that she is a third generation resident and her grandfather designed and built their home. She expressed their concern with the signage for Tomoka Reserve and asked for specifics of where the signage will be located. Mr. Huhta added that he grew up in the house. He asked if the reclaimed water is going to be used for the proposed neighborhood residents as well as those around the perimeter. He asked if an adjoining property owner has a say in what is planted in the buffer and can decide on something mutually agreeable. Mr. Huhta remarked that they do not like Magnolia trees.

Ms. Wendy Dedo Findes, 16 Oakmont Circle, stated that she did not take the Oath but does now, and has lived in Tomoka Oaks for 27 years. She asked if the Planning Board has visited the Tomoka Oaks Golf Course or driven through Tomoka Oaks. She added that it is a very quiet, residential community and when the kids are in school, people are walking around quietly. Ms. Dedo Findes stated to build the proposed development inside of the golf course area will be a catastrophe. She said that there are no sidewalks, therefore kids ride their bikes in the narrow streets due to the neighborhood initially tailored to an older community. Ms. Dedo Findes added that the Trails are going to be affected. She spoke on the light at Tomoka Oaks and Nova Road and how it will be a havoc, with only one ingress and one egress through Tomoka Reserve which will spread out through Main Trail, Iroquois, and Rio Pinar. She continued that are a lot more children in the community now, including her 6th grade son at Ormond Beach Middle School (OBMS). She expressed her concern for all of the kids. Ms. Dedo Findes stated that all of this should be of consideration, the children, quality of life, and the environment. Ms. Dedo Findes concluded that wildlife have been displaced because there is nowhere to go with all of the developments.

Mr. Tyler Travis, 888 Willow Run, stated that he rents in Tomoka Oaks, and just moved here from Virginia and elaborated on his experience in a dense, high-traffic area in Virginia and offered a contrary, counter-perspective, expressing his respect for the current residents. He continued that he likes his privacy but is also interested in smaller lot sizes to be able to afford a home. Larger lots and estates would price him out, according to Mr. Travis. He is interested in new construction, and spoke on the architectural designs and how the applicant plans to alternate styles throughout. With townhomes it was only door color or shutter color that changed. Mr. Travis commented on the traffic and said that as long as there are sidewalks and traffic crossing lights, just as he was in a dense area in Virginia and it was not an issue. The kids had to walk to the bus stops, other than the younger kids whose parents took them to school. He added that he has a young child and had no problem playing with them out in the streets in their neighborhood.

Mr. Robert Banker, 1 Tomoka Oaks, #135, Escondido, stated that when the HOA President raised the idea of 276 units going in, the residents wanted it changed. He agreed with the President that then it went down to 272 units, that he did not like it and that it was not much of a change. Mr. Banker continued that he would like to see the number 0, unsure if it will happen. He commented that the applicant stated that they were going to put in $600,000, $800,000, and possibly $1 million homes. Mr. Banker stated that the plan shows a section in the middle similar to appearance as a sardine can which he does not see them being 7', 8', 10', 15' to 20' apart. He suggests that they will not sell for more than $100 to $150,000. A $700,000 will not be next to a $150,000 and still maintain value. He referenced the infrastructure and commented that no one is considering what it will do to the Publix area. Mr. Banker stated that the President commented that something is going in, and he asks why and what is the hurry. He spoke on a unilateral amendment and how the language for it should be stricken. Mr. Banker asked how when the construction is going on with the trucks backing up at the traffic signal, how the traffic will be going in and out.

Ms. Michele Zirkelbach, 328 River Bluff Drive, stated that she swears to the Oath. She thanked the Planning Board members for their time. In reference to time, she added that Mr. Merrell started out his presentation with the remark that a lot of hours have gone into talking about of stuff, and the irony in the statement. She commented

that for every hour that Mr. Merrell has spent, it is a billable hour for him and the residents match him hour for hour times every resident in the neighborhood and have more invested in this in manpower hours and are ready to have a real negotiation. Ms. Zirkelbach stated that when Mr. Merrell sits at the mediation table when someone comes back with a less than 2 percent reduction, he takes it for what it is a slap in the face. She continued that is where they are, 276 homes, down to 272, is not a meaningful move on their part in which finds offensive. She continued, and referenced Chairman's remark on speaking directly to the plan that that represented, and said that she finds it unacceptable. She spoke on the previous proposal approved, keeping parcel greenspace golf course and having less homes and nothing has been proved in terms of traffic. Ms. Zirkelbach stated that if continuing with this back and forth, for the Planning Board or City Commission to ask the hard questions about the traffic study. She stated that when looking at the traffic study and its statement that one car is going to be going to Tomoka Elementary out through Nova Road, that they have more common sense. She concluded that she agrees that something is going to go in there and offered food for thought on the market out there not for smaller lots and commented that Kings Landing subdivision in Port Orange is being brokered by Realty Pros, Mr. Buzzy Porter and Mr. Bill Navarra, whom she esteems, but said they are one acre home sites that are selling for $250, 000, $267, 000 to $278,000. Ms. Zirkelbach stated that if the threat is R-2 zoning and all of the lots being 10,000 square feet that the whole concept should be reconsidered as one-acre lots. One-acre lots is where it is at!

Ms. Missy Herrero, 111 N. St. Andrews Drive, stated that she has lived there for over 30 years and residents have spent thousands of dollars for legal representation to defend their quality of life and safety of their community. She continued that they do not have money to gain in the war of attrition. She said that they have been meeting with different members of the development and Board for over two years. Mr. Ray Barshay was quoted in the newspaper for saying that they just have not been able to tell their story, and Ms. Herrero commented that she does not know what they have been doing for two years. He invited them to see the quality of the product that they wanted to build out at Plantation Bay, on 80' wide lots. Ms. Herrero asked before she took her time to do so, what was behind the 80' wide lots. The answer was a golf course. Ms. Herrero spoke directly to the new plan and said that it is still not compatible in the existing neighborhood. 60' and 80' wide lots does not fit. The proposed buffer is the most inexpensive approach to the buffer. She mentioned a comment brought up by their HOA Attorney, that it is not a neighborhood backed up to a neighborhood, it is a neighborhood where people invested in property and homes on a golf course for views and privacy and are losing that, so the buffer should not be treated as a regular Residential to Residential buffer. Ms. Herrero commented that Mr. Rubin is from South Florida where she grew up, and her friend sent her miles and miles of buffers, dense, diverse, and well-maintained examples, with no water trucks driving along the buffer. She suggested that if it has to be built to some extent that it needs to be done in the best, high-quality possible approach as the reality is that the environmentally-friendly innovative approach is the least expensive and the most profitable for the developer. Ms. Herrero commented that there is information on how when golf courses are developed it affects the value of homes, with experts that say the opposite, and she said that data can be provided for it. She added that they do not have millions of dollars to win on this and they do. She suggested that if someone had time to pick apart the experts, it does not all add up and urged the Board vote no.

Ms. Dale Ryals, 20 Eagle Court, stated that she was not hear at the last meeting to take the Oath. She commented that her husband was in the hospital over the last month at Advent Hospital and when transported by ambulance and admitted to the Emergency Room, where he had to stay for two days due to no available room in the hospital. She continued that the hallways were lined with patients. The hospital claimed that they are not going to improve with only two hospitals. Ms. Ryals stated that when the development order was done the neighborhood was told by the City Commission that the golf course was needed for holding and draining the water to be able to put it back into the aquifer. She added putting rows of the houses with concrete and asphalt roads will have sewer drains and it will end up in the Tomoka Basin. They were told they could not add too many chemicals to the golf course so that it would not get into the Tomoka Basin. Ms. Ryals commented on the million and a half gallon water that had to be added to the reclaimed water, in which 250 of it came from St. Johns, and 250,000 came from her husband's pocket. The mylar-rubber liners was not paid for so her husband had to pay a lot of money to put the liners in, which could be an EPA problem.

Mr. John Rhoades, 39 N. St. Andrews Drive, stated that on his property, the city sewer and water/electricity come in from Nova Road through his yard/easement. He was aware when he purchased the property. He added that the infrastructure is going to have to come in from somewhere through easements or the main road which will tear up roads and create a miserable quality of life. He continued that the traffic and noise will be horrible and wants people to be aware of it when they are coming through resident's yards. Mr. Rhoades concluded that he appreciates the Boards time and trouble.

Mr. Paul Hughes, 4 Lauren Court, stated that he has taken 30 years of Oaths with the Government as an officer and added that his Oath is his bond. He commented that Tomoka Oaks is the body and the donut hole looks more like the large intestines. He remarked that hope is not a good plan for investments and added that there is no detailed entrance, drawing or plans that have put up to the gated, private, profit-motivated, smaller lot community. Mr. Hughes stated that the Escondido neighborhood has not seen any drawings to see how their lives will be altered with all of the underground utilities, sewers, that are max capacity now will all have to be altered at an extreme cost. He spoke on the northeast section where it has been cleared already on the plans and asked how they got a land use variance to alter the neighborhood standard to demolish a house or use for a rear entrance for EMS. Mr. Hughes remarked that he sees the issue with the watering for the plants and claims it will not be water that is treated. He referenced the Misners Branch Bridge and the overweight trucks that will be going over it and asked who will pay the construction costs when it has to be closed down for maintenance. He added that the plans do not include the utilities, and concluded that a person with nothing to hide, hides nothing.

Mr. John Measel, 16 Eagle Court, spoke on not irrigating the buffer and commented that if you do not water grass, you will get nothing but weeds and sandspurs. He added his concern with the traffic diamond and the thought that it will be suitable to add another 500-600 cars daily. He stated that it is not suitable now. Mr. Measel suggested to put a traffic circle and concluded that the traffic will be horrible.

Applicant's Rebuttal

Mr. Merrell thanked the residents for being there and spoke on the number of units that were reduced and stated that it started at 300 and is at 272. He reiterated the

straight zoning concept, the alternative in negotiating the zoning. He referenced the Snyder Case law and stated that it has nothing to do with rezoning of property that is surrounded by the exact same zoning. The limit of what you can ask for was talked about and it was said that you cannot think you are going to get the limit of what the Comprehensive Plan allows. Mr. Merrell referenced Mr. Spraker's report in that the Comprehensive Plan allowance is 4.3 units per acre, 632 units, which was their starting point.

Mr. Merrell referenced Mr. Harowski and thanked him and his input and suggestions on architecture and commented that they did not do all of what was suggested and remarked if the Board wants a particular thing to let the applicants know. On the traffic signal timing, Mr. Merrell remarked that if the light was not put in based on the DOT's timing that they would put the money up to have it built when the permit was issued and Mr. Lassiter will process the FDOT request. Mr. Merrell advised the Planning Board that if they feel differently to make it part of the motion.

Mr. Merrell referenced Ms. Flavia's remarks and stated that they have proposed construction time limits, on the cover sheet of the plan, Monday – Saturday, 7am – 7pm. He advised that it will not be 24/7 and it will not take place on Sundays.

Mr. Merrell refenced Ms. Lauren and Mr. Ned Huhta's inquiries on signage and answered that the plan is to have a sign like what was exhibited at the first hearing, at the entrance to the Tomoka Reserve community, not the entrance to Tomoka Oaks. The City Utility Department will have the answer on reclaimed water. Mr. Merrell stated that they are happy to discuss the types of trees.

Mr. Merrell thanked Mr. Travis for his remarks.

Tomoka Oaks HOA Rebuttal

Mr. Bayer referenced the Board members comments over the last couple of Board meetings that the project is too dense, with no significant reduction, as well as staff's comments on why the Type 6 buffer is appropriate and why it needs to be maintained and irrigated. He remarked that he understands a natural look and does not think it is a natural area with issues. Mr. Bayer spoke on the traffic circle and how it should be a requirement. He added that there has not been any substantive change since the last meeting and based on that he agrees with staff's recommendation of denial with it being time to go to City Commission. Mr. Bayer concluded that he respects the request that it go with the recommendation of the Planning Board of no, that it is not adequate and the way the property should be developed.

Live Stream Update

Mr. Spraker stated that staff is aware the livestream cut out from one link and are not able to re-establish that link. He stated a new live link has been established that is on the city's Facebook page and the city website. He stated he is aware that audience members are getting e-mails and texts and the city Public Information Officer (PIO) is also providing the new link.

Applicant's Rebuttal

Mr. Merrell stated at the end of the day, in response to Mr. Bayer, he pretty much repeated what has been talked about all along which is what to do with the lot sizes and the buffer in terms how it is planted and maintained. Mr. Merrell stated you heard a difference of opinion and they were professional opinions, very well thought out. He stated that there were hopes that the Board listened to them and looked at the

package that was in front of them, because if they said, "yes, but.." Mr. Merrell stated that is the safe route and then the City Commission knows that the Planning Board is willing to say the proposed houses can be built, but on suggested terms. Mr. Merrell continued that if the Planning Board says no for them to say why and explain because there are things in the reasons presented to you that you could say why and that it may not be the type of evidence that is needed to say no. He asked the Board to think about those things.

Break

Chairman Thomas stated that the Board is going to take a break at 8:14 p.m. The meeting resumed at 8:27 p.m.

Board Discussion

Chairman Thomas thanked all of those who spoke and for their input. He stated it is very important that the Board gets that and hopes that they all feel that over the three meetings that they have all been treated with dignity and respect and that true feeling that the Board really does care about their thoughts, wants to hear from them, and considers their opinions. Chairman Thomas stated that he wanted to remind the audience, "we are you - we are no different than you, we are just the volunteer people who sit up here and want to do what is best for our overall community." He thanked the audience for attending and for their participation. Chairman Thomas stated they are bringing the discussion up to the Board and the Board will have the discussion among themselves. He stated that the public hearing is closed, and cannot acknowledge anybody in the audience without the Board asking for them, and commented to please not raise any hands because it is closed for the public participation.

Mr. Jorczak stated that in the staff report it was discussed for the replacement of any of the plantings that may die and the two-year bond being put up to replace those issues. He stated that he noticed in some developments where there are dead trees long after the development has been completed and wondered if the city has any information with respect to developers who are responsible for going to do replacements in a certain time period and what the evidence generally is throughout the community. Mr. Jorczak stated that there have been a lot of developments that he has not gone through after they have been built to see what the propensity is for that to happen irrespective of the information that had been presented as to what it takes for the shrubbery to mature and then survive without any irrigation. Mr. Jorczak inquired if there was any data that could be shared as to an incidence of that happening and the time period to resolve it if another development was under no compunction or no city responsibility to do that replacement.

Mr. Spraker stated that staff does not have any empirical data to answer this question. He stated that typically a subdivision is constructed by a developer with inspections of landscaping at the end of construction to ensure whatever was supposed to be built is there and then it is turned over to a Homeowners' Association (HOA) for maintenance. Mr. Spraker continued if there are complaints about gaps in buffers or dead material, Neighborhood Improvement staff will investigate and look at the approved plans and seek to come to a resolution. The city Landscape Architect is often times included in the review. Mr. Spraker stated that there is a method for enforcement. Attorney Hayes stated that there are conditions in the development order and the obligations for maintenance are with the Homeowners' Association

(HOA). Staff seeks to work with the respective parties to find a solution. Attorney Hayes continued that there are enforcement provisions that code enforcement staff can enforce.

Mr. Jorczak asked if irrigation is a typical part of a development order. Mr. Spraker referenced the example of the Pineland subdivision that used a natural area that did not require new irrigation. He stated that wherever there are landscape plantings there is a requirement for irrigation.

Ms. Shull asked about long-term irrigation for other properties and referenced the applicant's request not to use an irrigation system. Mr. Spraker stated that if it is planted then there is an irrigation system and if it is a natural area, it is already established and no additional irrigation is installed. He referenced the natural areas and wetlands within the Pineland subdivision. Mr. Spraker stated that Tomoka Reserve has areas that will not need irrigation based on the natural areas. He continued that the city Landscape Architect advised that as new landscape material is planted, irrigation is required.

Ms. Shull asked why the plan did not want to include groundcover material and asked Mr. Spraker elaborate. Mr. Spraker stated that a buffer is sought between two developments and the groundcover is a tool to accomplish the buffer. Mr. Spraker stated in staff's opinion, the type 6 is an appropriate buffer. He concluded that if there is a desire to trade groundcover material for more trees or shrubs, that it is possible through the development order process. The groundcover is one of three layers that make up a landscape buffer.

Ms. Shull asked about maintenance and vine maintenance. Mr. Spraker stated that a normal course of maintenance would include managing vines and such material. He explained that he understood that the desire of the buffer is to let it grow natural and that SPRC staff are focused on the gaps in the buffer and filling the gaps. Ms. Shull inquired if the maintenance would be taken over by the HOA. Mr. Spraker confirmed that is correct.

Mr. Scudiero remarked that this is an applicant who appears before us quite often, and the least that can be done is to provide direction. Mr. Scudiero commented that he does not love the plan and did not think that was a secret. He stated that his biggest hang-up is the density. He continued, not just density in general, because of some of the lots being larger throughout the perimeter, commenting at least you cannot always see in other neighborhoods around the city where the density is higher. Mr. Scudiero stated that his concern is the references to the donut, which is not a completely inaccurate description. He stated if you are going to fill the donut in, it has to be with the same material as the rest of the donut. Mr. Scudiero stated his concern here is that the lot sizes, not just lot widths, need to be consistent throughout. He stated that would be his biggest suggestion to the attorney.

Mr. Scudiero added that when you take a neighborhood that is 50 or 60 years old, there is no way to re-create every style of home and architecture as so much has change in that time period. Mr. Scudiero stated that the homes today, even if they are the same square footage, they are vastly different than what was built originally in Tomoka Oaks. Mr. Scudiero continued that it is owed to the surrounding residents to make the development as close as possible – make the donut as contiguous as possible. He added and as consistent as possible. Mr. Scudiero concluded explaining his heartburn is that the development plan does not get anywhere close, especially with the 60' wide lots in the center, to the existing development.

Mr. Railsback commented that he concurred with Mr. Scudiero's comments. He stated that he read the application and all of the submittals. He stated that he previously lived in the Trails and was familiar with this area, which was one of the residents' concerns. He stated that he believed the Board members have a very intimate perspective of that area of the community. Mr. Railsback added that he served on the Quality-of-Life Board and that elements such as traffic and continuity are important to his decision-making process. He stated that in his review he could not ignore the fact that there is an open question of should the property always be a golf course. Mr. Railsback compared it to someone who bought on a lake or on the river and if someone was going to develop a houseboat development behind them. He stated that would invade on their original thought process of where they wanted to live and what they decided to purchase.

Mr. Railsback stated that if something goes in there that is not a golf course, considering the conformity and compatibility discussed and whether concessions were made. He commented that from the perspective of what could go there, 632 units are allowed under the land use and there are other concurrency issues that would pair that number down. Mr. Railsback stated that he is works in the area of HOA/condo unit development and has been thinking of the issues of development and what should of or could have been done that would be better for the surrounding area. He identified parking as an issue. Mr. Railsback expressed concern with so many vehicles with short driveways and two or three cars parking in the street when you have guests. He stated that he did not want this to be an afterthought and wishes there were longer driveways.

Mr. Railsback commented that he would like much less density and how that is his major concern. He offered the estate home concept as an alternative concept that would be more compatible. He continued that it is going to take an established neighborhood with larger lots and homes that are not 7 ½ feet offset from the property line, effectively 156' apart, then something greater than that should be in place, adding that there are no homes in Tomoka Oaks that are 15' apart or that have the same building elevations. Mr. Railsback stated in order to get his support there would need to be enhanced architectural standards that separate similar building elevations and much less density. He remarked that if you have a larger home price per square foot, rather than a ton of smaller homes, you can get to the same range and get a project that is better conforming to the area. Mr. Railsback expressed concerns about the traffic flow, including the thoroughfare leading into Rio Pinar, Iroquois, and Main Trail and out to SR40. He stated it will become a racetrack at different times of the day with safety concerns. Mr. Railsback expressed his concerns with Rio Pinar and North/South St. Andrews Drive. He expressed that a higher density project would provide additional traffic impacts and does not know how that many cars would work through that area.

Mr. Railsback stated he agreed with the donut comments. He stated the new development should be the same design or better. Mr. Railsback expressed support for greater sized lots or a greater size home and the rising tide will bring everything up.

Mr. du Moulin stated he rode his bike from Winding Woods through the area and Tomoka Oaks is a unique community with the houses beautifully maintained with its own character. Mr. du Moulin expressed that he is still shaky on the legal issues on whether or not the former golf course can be built upon. He stated that if the

developers want to be good stewards to their neighbors, the community, and to Ormond Beach that they should consider a larger scope for the housing development. Mr. du Moulin recalled at the last Planning Board meeting that there was a project called the "Enclave" which had larger lots sizes, 12 homes on 26 acres. He stated that the only problem was that it had septic systems and that is not applicable here. He suggested if something was to go on the former golf course, if it legally can go in there, the developers need to expand the acreage per lot.

Mr. du Moulin continued that he was concerned with the traffic and suggests that the traffic studies are flawed. He stated that the Fishkind study was also flawed. Mr. du Moulin expressed additional concerns with the traffic patterns and expressed that the traffic studies do not cut it. He stated the project needs to consider larger lots that would reduce the overall traffic demand and suggested a rotary at Tomoka Oaks Boulevard and Saint Andrews Drive diamond.

Mr. Jorczak stated that he has spent a considerable amount of time reviewing this project and concurs that it is unique. He expressed a concern that the proposed houses would be cookie-cutter homes which is quite a bit different than the existing neighborhood surrounding the project. Mr. Jorczak stated if this project were 5 miles from the center of town, it may be appropriate, but this is dropped into an existing residential subdivision that has an atmosphere. Mr. Jorczak stated that he understood the business model that the developer is working with and what homes that they believe that they can sell. He commented that the elephant in the room for him has been the change in lot size. Mr. Jorczak stated that this property could be even better than the existing Tomoka Oaks homes. He encouraged the developer to take a look at other potential economic models with larger lot sizes. Mr. Jorczak continued that the former golf course is such a unique piece of property and how he would like to see what is already there expanded as opposed to a standard development model.

Mr. Jorczak expressed concerns about traffic from the project and traffic in general. He stated that traffic is a common issue that happens everywhere - the infrastructure does not catch up to the level of development. Mr. Jorczak continued that traffic is astounding and getting worse by the year, and it will continue to get worse. He stated these elements have to be dealt with in a fashion to minimize the effects, including the use of larger lots. He stated that both issues of traffic and density can be helped with larger lots. Mr. Jorczak commented that the land area's limited access should also be considered. He stated that there is not one project before the Planning Board that has not discussed access. He acknowledged that the property will likely be developed in some residential fashion. Mr. Jorczak stated that density, traffic/safety, diversity of building styles, and compatibility with the surrounding neighborhood are all key issues and concerns. He concluded that the comments of the other Board members are valid comments and there needs to be a better job of mitigating the impacts of this development than what is in front of them.

Mr. Galloway commented that he wanted to be clear that he has friends, professionally and long term, on both sides of this equation. Mr. Galloway stated to the resident who asked about the board members familiarity with this area, that he and his family have spent a lot of time in Tomoka Oaks and the Trails.

Mr. Galloway stated he has done research in relation to this application and lots being built in this area. The first thing is that not a single developer has been able to develop to maximum land use density allowed. He added that it seems that developers ask for the moon and we pull back the density. He stated that 60 to 70 percent of the lots that

his company pulled were between 55' and 65' in width. He continued that 30 to 40 percent were 70' to 80' in width. Mr. Galloway stated that they could not find any new subdivisions with 100' wide lots. He stated that a 50' wide lot would probably cost the builder $100,000 today. There are no more $25,000 lots. Mr. Galloway continued that a 100' wide lot, not on the water, would likely cost between $185,000 and $250,000, and then there is the cost of the house construction.

Mr. Galloway recalled he did a tape measurement prior to the meeting and the buffer would go from the stage to the curtain at the end of the seating area. The new house would have a 30' setback, plus the 50' buffer, and the Tomoka Oaks 25' setback. Mr. Galloway stated that there would 115' from house to house. He commented that he never has seen an inner-city neighborhood have that much space between the back of the houses. He expressed his concerns including the potential of neighbors to take down trees.

Mr. Galloway stated that the applicant did what he had asked of them by putting in a combination of lot sizes. He remarked that what they did not do was listen. He continued expressing that everyone has property rights – the developer has property rights and homeowners have property rights – what they did not do was listen to the neighborhood. Mr. Galloway stated that he could vote for this project if it had less density. He continued that he thought that the project would come back with 220, 230, 240 – maybe 250 lots. Mr. Galloway stated he was a little shocked and a little disappointed that the number of lots was not less. He stated he is not sure if they are still asking for the moon or if they will take what the City Commission will give.

Mr. Galloway commented that he believed that something would be built on the property. He continued that there is always an ability to buy property, at the right price, and encouraged residents to continue the purchase option. Mr. Galloway encouraged the HOA and residents to pursue a purchase through a community development bond over 30 years. He stated it would cost about $129 a month per homeowner and that they can buy it. He asked the audience how many individuals would be willing to participate in a purchase. Mr. Galloway stated if the residents bought it, they could decide what to do with the land. He continued to encourage the residents to seek to buy the property. Mr. Galloway concluded that he is for this project, but not at this density.

Mr. Jorczak asked if every single lot was 100' in width, what would that do to reduce the density in terms of the number of lots as it currently sits. Mr. Spraker stated he believes that the applicant has done an analysis and would prefer that the applicant address this question. City staff have not reviewed any plans where all lots are 100' in width. Mr. Spraker speculated that between 280 and 300 lots would be possible. Mr. Spraker stated the applicant would likely have a better answer.

Mr. Jorczak clarified that all the other parameters would be the same. Mr. Merrell questioned which perimeters and Mr. Jorczak stated all of them. Mr. Merrell replied that they have a plan adhering to the Land Development Code that allowed 300 lots. Mr. Jorczak stated that he is not talking about the code. Mr. Merrell continued that the project engineers developed a code compliant plan for the benefit of the property owner and the answer is 300.

Mr. Jorczak stated that he is looking for the 100' wide lot within the context of the PRD application, including the buffer and recreational area. Mr. Merrell stated the question mixes apples and oranges. Mr. Merrell stated a 100' wide project would utilize a different set of standards other than the PRD and the buffers and recreation

areas. Mr. Jorczak stated his fundamental question was within the PRD development plan, if the lots were all 100' in width, what the total number be. Mr. Merrell replied that they do not have the answer to that question and concluded that they mixed the lots up and brought the other things along – these all go together.

Attorney Hayes stated that the lot number question would require other site-specific analysis which is not before the Board tonight. He continued that if it is of belief that the density is too much on this project, then the Board can talk a little bit about it, but that it is a development application under a PRD zoning. Chairman Thomas sought clarification if the question was to maintain the PRD site plan layout and require a minimum lot size of 100' in width and depth. Mr. Railsback stated it would be approximately 240 lots based on the existing lot areas in the site plan. Mr. Galloway questioned if that impacted the buffer. Mr. Railsback replied with the calculated lot sizes in the site plan (60' X 125' and 80' X 125') and then divided by 10,000 square feet which came to approximately 240 lots. Mr. Galloway confirmed that there would still be a 50' buffer.

Ms. Shull reviewed the case studies provided about other golf courses provided by the applicant. She stated the studies looked good with a 9-hole course and how one golf course added estate homes. She continued that one in Boca left the part of the golf course and added a 55+ community with 120 homes. Ms. Shull stated that other things can be done with the property. She expressed that she understood the intention was not to rebuild a golf course. She stated that the other densities are not anywhere near what is being proposed. She stated that she concurred with other board members on the density. Ms. Shull expressed concern that traffic is going to be too much, concerns with children in other neighborhoods with no sidewalks, Tomoka Reserve cut through traffic. She stated that no matter what is said, that it is 600 more cars. Ms. Shull added that the stoplight is an issue and commented that the traffic signal should be in place before the homes are finished, just as the WaWa did the traffic signal first.

Ms. Shull stated that the density is a big concern and how the buffer needs to be installed as a type 6 with irrigation. Ms. Shull remarked that the HOA should not bear the burden of future buffer costs. She added that the ground cover needs to be installed.

Ms. Shull stated that she does not like the different lot sizes of 60' and 80' in width and explained that the lot widths need to be larger. She continued that the length of the driveways and having options for side entry garages are important for neighborhoods. Ms. Shull concluded that if there is not enough parking, individuals will park on the street and the community will not look good.

Chairman Thomas stated that the traffic engineer for the project does a very good job for traffic studies, but the system is so flawed that it is unreal. He continued that the studies are not reality, totally not reality. Chairman Thomas stated the density is a concern, as well as the traffic with the biggest problem coming out Main Trail to West Granada Boulevard. He stated this will be a nightmare. He stated that when the school is rebuilt and how right now coming out of the Trails where there is no bus pickup for elementary kids so they are either taken by their parents or riding bikes – most will go by car. Chairman Thomas asked the traffic engineer if they did the traffic study at school hours with the elementary school at Main Trail to West Granada Boulevard and commented that he doubted it. Chairman Thomas acknowledged the traffic engineer nodded yes, that the study was done. Chairman Thomas stated that people are not going want to wait the time they are going to have to wait because of

the way that intersection is right now you have going out to Granada. He stated that you have people wanting to turn right and you have people wanting to go straight and people wanting to turn left. He continued if somebody wants to turn left, nobody will be able to go anywhere. Chairman Thomas stated especially when school is coming out after people drop their kids off in the morning and people are still trying to get there and to the little Christian School to the west on Granada Boulevard that also has people stacked up waiting to turn right. Chairman Thomas stated that the traffic nightmare in his opinion is not going to be at Tomoka Oaks and Nova Road, but it is going to be a nightmare because people coming out of Tomoka Oaks now are going down on Rio Pinar and turning on Main Trail or on Iroquois. Chairman Thomas stated that the school will have more kids going to it because the school will be bigger. He reiterated that traffic will be a nightmare. He asked who will pay for needed improvements at the intersection and asked if the developer is going to pay for the intersection improvements.

Chairman Thomas asked the acreage of Tomoka Oaks minus the Tomoka Reserve property. He stated that there are over 500 homes in Tomoka Oaks. Mr. Spraker recalled there was a density analysis provided that showed Tomoka Oaks had a density of 2.09 units per acre. The acreage would be 547 homes divided by 2.09 units per acre.

Chairman Thomas stated that he has a problem with the density that has been discussed several times. He agreed with the applicant that there is a demand for 50 and 60' wide lots, but he did not believe that this demand is in the heart of an existing development of 100' wide lots. Chairman Thomas recalled he was on the Board in 2006 and the development plan at that time saved the golf course, allowed 117 condominiums, and three single-family lots. He stated that the 2006 approval recognized the property as a collection point of water to recharge the aquifer. Chairman Thomas stated that he understands times have changed, costs have risen, and housing types have changed. He stated that he wished the project team could come back with a plan similar to the 2006 plans because everyone got what they wanted.

Chairman Thomas added that 117 units will not work and now he can understand 220 to 230 residential units. Chairman Thomas stated that this is zoned as PRD now and it does not necessarily need to change.

Attorney Hayes asked to summarize a few points before answering the question. He stated this is a legal proceeding and there are rules that do apply and explained the Planning Board-role as a decision maker to weigh the competent and substantial evidence that was described at the July meeting. He stated the role of the Planning Board to weigh the testimony provided and determine which evidence is more credible. Attorney Hayes stated the initial burden is on the applicant to establish the application is consistent with the Comprehensive Plan and the requirements of the Land Development Code. The Planning staff's report is part of the evidence to consider. Attorney Hayes continued that application tonight is for a development within the Planned Residential Development zoning designation. The R-2 zoning district is not applicable tonight and may be a future application, but it is not before the Board tonight.

Attorney Hayes stated he wanted to point out some observations and his comments are not testimony. He continued that his role is to provide legal advice and counsel.

Attorney Hayes stated this is a unique piece of property and Tomoka Oaks was designed around this golf course and provided the following observations:

- Tomoka Oaks had an R-2 zoning designation;
- The R-2 zoning district also applied to the former golf course property for decades. The golf course operated for decades. He stated one may ask why was it not zoned separately. Attorney Hayes stated no additional zoning was in place because of restrictive covenants;
- The restrictive covenants for the former golf course were released by the HOA. The protection went away and the land continued to operate as a golf course;
- There was an application in 2005/2006 to rezone the golf course property from R-2 to PRD. This was reviewed by the Planning Board and approved by the City Commission. The approval allowed 119 multi-family units and three single-family units and certain conditions such as a covenant to restrict the use to a golf course with development;
- The 2006 development order expired with no construction. The 2006 covenant for use as a golf course was never recorded.

Attorney Hayes stated that these demonstrate the unique characteristics of this property. He continued that it is another application for development under the PRD zoning. He stated that there is probably a difference in why it is not separated out in the early years as described and how it is his speculation and it can be taken it for what it is worth. Attorney Hayes explained where the Board was and that the Board has to weigh the competent and substantial evidence and if the application is consistent with the Comprehensive Plan and the requirements of the Land Development Code. The initial burden is on the applicant and it shifts over to the HOA. Attorney Hayes stated that the Board gets to make that final determination.

Attorney Hayes stated that if the Board does not believe the application meets the criteria then the motion should be for denial. If it is believed to meet the criteria, then the motion should be for approval, and if it falls somewhere in between, a creative motion can be made, including a denial, and provide conditions. Attorney Hayes concluded that the Board has discretion, because as stated by the applicant, this a negotiated development order.

Chairman Thomas asked if there is a legal requirement if this application does not go through, does the city have to re-zone the property. Attorney Hayes stated that there is no rezoning application before the board. He continued if the Planning Board and the City Commission deny the current application, the question becomes what options does the applicant have. Attorney Hayes stated the applicant can present another PRD site plan under the PRD zoning or they can file an application to rezone the property to R-2. Attorney Hayes stated the rezoning to the R-2 is not before the board tonight.

Chairman Thomas stated he wished the applicant presented something like 2006 with some higher housing numbers. He stated at this point that he has major problems with the application.

Mr. Galloway asked Mr. Railsback what number he calculated if all were 100' wide lots. Mr. Railsback responded 240 lots. Mr. Railsback replied that it could be a little more or less based on the geometry of the property.

Mr. Galloway inquired about his interest of entertaining a motion of accepting the proposal with comments from staff for 240 homes. He stated that would give the applicant a message of where we stand and he always states that he would like to see the lot range between 220 and 240 lots. Attorney Hayes replied that the motion would require new data. Attorney Hayes commented that from what he was understanding the concern is the density. Attorney Hayes continued that a recommendation can be made for denial with details of the reasons for the denial motion so that there is a good factual basis for the recommendation. Attorney Hayes stated the detailed reasons or conditions would allow the applicant to make a decision of how they will move forward or pursue an application to R-2.

Mr. Galloway withdrew his motion.

Chairman Thomas stated his desired range was 220-225 lots. He discussed other lot range potentials and stated he would set the lot range low. He remarked that the City Commission would have some idea of what the Planning Board thought was appropriate and added at 250 lots, it is only a reduction of 22 lots.

Mr. Galloway stated he was putting a lot number out there to let the applicant know the current plan is too many lots. He commented that the City Commission will make the final determination. Chairman Thomas stated it would be in the minutes that they were looking at 220 units. Mr. Jorczak commented that if there is a denial tonight, the number is out there. Mr. Jorczak stated if the applicant wants to go to the City Commission, they can adjust the number to some extent.

Attorney Hayes stated that the Board can approve a motion with reasonable conditions. He added that the question then becomes what is reasonable based on the testimony and evidence presented. Attorney Hayes continued that it appears to that the Board does not like the density and desires something less. He stated that his recommendation is to make a motion to deny and state the reasons into the record this way the applicant has items to consider as they move forward and consider what the Board has stated.

Mr. Railsback stated that what the City Attorney and the applicant are asking the Board to do is to tell the reasons why the Board is denying the application. He provided an example that the Board denies the project because it is more than 230 units, the lack of a rotary circle, and the lots were not a minimum of 100' in width. Mr. Railsback commented that with the recommendations, the applicant could consider the revisions for the City Commission hearing.

Ms. Shull stated that she did not know that every little detail, the sprinkler system, the things that the Planning Department has said, could be put into a motion and expressed that those are the things that the Board would like taken care of. She added that that there was a lot in there that they do not know if it has been taken care of yet because the Planning Department has not had an opportunity to go over it. She continued that they have not had the opportunity to run the numbers to see how many 100' lots could go in there. Ms. Shull concluded that for them to sit there on a calculator and figure that it is around 220 is not a good way to put into a motion.

Chairman Thomas stated that this is true and he could go for no irrigation if the developer would pass the two years and maybe go to 5 or 7+ years that they would guarantee that those would last.

Ms. Shull stated that the motion is going to be three pages long. She stated that the City Commission will know what was discussed, read the notes, and know the points

of concern. Ms. Shull suggested a motion to deny and to please read the Planning Board minutes.

Chairman Thomas stated he believed that each City Commissioner or Mayor that appointed will be calling and seeking information from board members and that is totally legal. He stated that he knows that his commissioner talks to him about a lot of decisions made by the Planning Board.

Attorney Hayes reiterated what he heard and expressed that if he is wrong, for the Board to correct him. What the Board does not like as a basis for denial is:

- Density – believe that it is too much. There was talk about fuzzy numbers that the Board may be comfortable with under an appropriate plan;
- Traffic analysis is flawed based on evidence and testimony that you have heard and in the Boards own experiences;
- The traffic triangle should be a traffic circle; and
- The buffer and whether it should be a natural buffer or some other form of buffer and whether that buffer should have irrigation of some form.

Attorney Hayes asked if there were any other items.

Chairman Thomas stated a concern is the Main Trail and West Granada Boulevard intersection. He continued that is going to be a major problem. Attorney Hayes replied that would all be supported by the minutes and the record.

Attorney Hayes stated that if a motion is made with those parameters based on the evidence in the record that the application could be moved on up to the next level which would be the City Commission. He stated that the City Commission would take all the information under advisement, as they always do, and they will make their own determination after a legal proceeding just as this.

Mr. Railsback asked if the variety of elevations was included. Attorney Hayes stated that it was not, but that it could be included but not necessarily limited, because there are so many things. He reiterated that the Board's recommendation is advisory to the City Commission.

Chairman Thomas asked the Planning Director when the meeting minutes are written up and with the recommendation of the Board, if a synopsis could be included of the reasons that the vote was to deny it so that it would be in print that goes to the Mayor and City Commissioners.

Mr. Spraker explained that the way the minutes are done is more verbatim than a summary so that the entire scope of what is being said is reflected. He continued that staff always does a summary, usually brief, that hits the highlights. He concluded that yes, the minutes can reflect exactly what was said.

Mr. Scudiero stated that he would like to make a motion and if there is a second they can each give their articulated reasons both for the record and for the applicant's benefit.

Board Motion and Discussion

Mr. Scudiero motioned to deny PRD 2022-043, Tomoka Reserve – Issuance of a Development Order. Ms. Shull seconded it.

Chairman Thomas announced that the Board was going into discussion.

Mr. Scudiero stated his summary of concerns:

- Density;
- The plan that the applicant has come up with the buffers;
- An improved traffic rotary at the entrance;
- Instead of the 60, 80, 90 and maybe 100' wide lots, they want them all to be 100' in lot width, just like the rest of the neighborhood.

Mr. Railsback added the desire for a variety of house building elevations, including colors and roofing materials. He stated at least the minimum in the application and if a greater separation was given, his thought was that was another carrot for the City Commission.

Ms. Shull stated her issues are:

- The buffer, a desire to see a type 6 buffer;
- Would like to see the irrigation system to go in;
- Traffic signal to go in;
- Not sure about the diamond and roundabout. She noted that traffic study with the fire truck trying to get around that thing and it bothered her;
- Lot sizes are too much. The 60' wide lots are too crammed into that little space and it does not conform to the rest of the neighborhood that is already there;
- The gated community was a positive; and
- The main thing is the density because of the traffic.

Mr. du Moulin stated that he is concerned with the proposed lot sizes and the rotary.

Mr. Jorczak stated the elephant in the room for him has always been the density and he thought that it had been addressed. He added that he would like to see something less for the lots than what Mr. Railsback calculated in terms of how that is going to fit within the existing community. Mr. Jorczak discussed the architectural styles that the Board talked about and expressed that it would be nice if there was something better defined as to what the flexibility would be. He stated that he supported a no vote and concurs with what the city staff has recommended with respect to irrigation. Mr. Jorczak commented that he would recommend beyond what they had indicated in terms of just the perimeter lots being 100' in frontage. He continued that he believed that there is far less density of homes. He stated what the developer wants to do with respect to reducing that and seeing whether he has an economic model, is something that they will have to work with. Mr. Jorczak concluded that the way it is proposed today, he would vote for denial.

Mr. Galloway stated that he has a problem making them all 100' in width because of the lot radiuses with no way to get 100' wide lots on a curve. He added that he is okay with 100' wide on the back side of the lots. Mr. Galloway stated that he believed that there needed to be a flexibility of 80' and 100' wide lots. He concluded that you cannot get a 100' wide lot in a circle.

Mr. Jorczak stated that you can go above 100' in lot width and that he believed that the fewer number of homes would be better.

Mr. Galloway stated that he thought that it could be done with a combination of 80 and 100' wide lots. He stated that he would hate to tie-string them with 100' wide lots.

Chairman Thomas asked if Mr. Galloway was going to put a ratio on that, and said that what he looked at was that there was ten 100' wide lots and a few 80' wide lots. Mr. Galloway stated that he did not believe that a ratio was needed and that they should let the engineers analyze that. He stated that you can say that there should be more 100' wide lots, but you cannot tie somebody down to put all 100' wide lots in.

Mr. Railsback suggested making the lot deeper with a minimum of 10,000 square feet (80' X 125'). He stated that if you have to squeeze an 80' wide frontage lot, then it needs to be deeper. Mr. Galloway concurred and commented that the Board was doing the schematics and are not engineers. Chairman Thomas stated what we are is neighbors. Mr. Galloway concluded that in this type of property you cannot make all 100' wide lots.

Attorney Hayes sought to refocus the Board. He stated that there is a motion and second for denial. He continued that most of the comments are consistent and some are a little different. Attorney Hayes explained to the Board that you can incorporate the comments as part of the motion and second for supporting purposes of the motion to deny. He stated that these comments are not going to tie anything down specifically. Attorney Hayes restated that the Board's action is a recommendation. He stated if the maker of the motion and the seconder is okay incorporating those comments as a supporting basis for the motion to deny, all of that information would go up to the City Commission.

Chairman Thomas asked for a point of clarification if any member of the Board can call any City Commissioner or Mayor. Attorney Hayes confirmed that there is no Sunshine Law requirement for a member of the Planning Board communicating with a member of the City Commission. Attorney Hayes stated that Planning Board members cannot talk with each other.

Mr. Railsback stated for the minutes that he would like to see longer driveways as parking in the street is going to be an afterthought and that he would be remiss if he did not bring it up. He continued that he is okay with deeper lots and believes that two or three spots are needed plus the garage, not one car hanging into the road.

Attorney Hayes stated that he saw the maker of the motion and the seconder nod their heads to incorporate the item as a supporting basis for the motion.

Chairman Thomas asked if Attorney Hayes had his concerns on the list. Attorney Hayes responded that he did.

Chairman Thomas stated that there is a motion and a second. He stated that the Board has had discussion and asked the recording technician to call the vote. Mr. Galloway asked the motion be repeated. Chairman Thomas stated the motion was to deny the application. Attorney Hayes confirmed that the supporting basis in the Board comments are incorporated. Chairman Thomas asked the recording technician to call the vote.

Vote was called:

Mr. du Moulin: Yes, to deny.
Mr. Scudiero: Yes.
Mr. Railsback: Yes.

Mr. Galloway: Yes.
Mr. Jorczak: Yes.
Ms. Shull: Yes.
Chairman Thomas: Yes.

The motion for denial was approved (7-0).

Chairman Thomas stated that when the Planning Board first started at the first meeting, he told them that this is one of the top five decisions that he had ever been involved in at the Planning Board. He stated that it can now be moved up to the number two slot. Chairman Thomas stated that the only one that proceeded it was voting to tear down the Ormond Hotel to which he regrets to this day.

Chairman Thomas thanked the audience for their patience and courtesy. He stated that these have been the biggest meetings they have had and that they are probably one of the nicest, most respectful groups ever. He stated there has been no hollering or hooting and that he thanked the audience for that because they made the Board's job easier.

VII. OTHER BUSINESS

No other business was discussed.

VIII. MEMBER COMMENTS

No member comments.

IX. ADJOURNMENT

The meeting was adjourned at 9:42 p.m.

Respectfully submitted,

Steven Spraker, Planning Director

ATTEST:

Doug Thomas, Chair

Minutes transcribed by Marcella Miller.

Ordinance Adoption
Business Impact Estimate

Proposed ordinance's number and legal title:

2023-55

AN ORDINANCE AUTHORIZING THE EXECUTION AND ISSUANCE OF A DEVELOPMENT ORDER FOR A PLANNED RESIDENTIAL DEVELOPMENT LOCATED AT 20 TOMOKA OAKS BOULEVARD, TO BE KNOWN AS THE "TOMOKA RESERVE" RESIDENTIAL SUBDIVISION; AUTHORIZING THE DEVELOPMENT OF 254 SINGLE-FAMILY DETACHED LOTS; ESTABLISHING CONDITIONS AND EXPIRATION OF APPROVAL; AND SETTING FORTH AN EFFECTIVE DATE.

This Business Impact Estimate is provided in accordance with section 166.041(4), Florida Statutes. If one or more boxes are checked below, this means the City is of the view that a business impact estimate is not required by state law for the proposed ordinance, but the City is, nevertheless, providing this Business Impact Estimate as a courtesy and to avoid any procedural issues that could impact the enactment of the proposed ordinance. This Business Impact Estimate may be revised following its initial posting.

- ☐ The proposed ordinance is required for compliance with Federal or State law or regulation;
- ☐ The proposed ordinance relates to the issuance or refinancing of debt;
- ☐ The proposed ordinance relates to the adoption of budgets or budget amendments, including revenue sources necessary to fund the budget;
- ☐ The proposed ordinance is required to implement a contract or an agreement, including, but not limited to, any Federal, State, local, or private grant or other financial assistance accepted by the municipal government;
- ☐ The proposed ordinance is an emergency ordinance;
- ☐ The ordinance relates to procurement; or
- ☒ The proposed ordinance is enacted to implement the following:
  a. Part II of Chapter 163, Florida Statutes, relating to growth policy, county and municipal planning, and land development regulation, including zoning, development orders, development agreements, and development permits;
  b. Sections 190.005 and 190.046, Florida Statutes, regarding community development districts;
  c. Section 553.73, Florida Statutes, relating to the Florida Building Code; or
  d. Section 633.202, Florida Statutes, relating to the Florida Fire Prevention Code.

In accordance with the provisions of controlling law, even notwithstanding the fact that an exemption noted above may apply, the City hereby publishes the following information:

1. A summary of the proposed ordinance, including a statement of the public purpose to be served by the proposed ordinance, such as serving the public health, safety, morals, and welfare of the City.

The application of Triumph Oaks of Ormond Beach I, LLC, seeks to allow the issuance of a development order for 254 single-family lots on approximately 147.94 acres, subject to certain conditions and associated subdivision improvements. The subject property is currently zoned as Planned Residential Development and is located at 20 Tomoka Oaks Boulevard.

2. An estimate of the direct economic impact of the proposed ordinance on private, for-profit businesses in the City, including the following, if any:

   a. An estimate of direct compliance costs that businesses may reasonably incur if the ordinance is enacted;

      None. The application of Triumph Oaks of Ormond Beach I, LLC, seeks to allow the issuance of a development order for 254 single-family lots on approximately 147.94 acres, subject to certain conditions and associated subdivision improvements. The subject property is currently zoned as Planned Residential Development and is located at 20 Tomoka Oaks Boulevard.

   b. Identification of any new charge or fee on businesses subject to the proposed ordinance, or for which businesses will be financially responsible; and

      None. The application of Triumph Oaks of Ormond Beach I, LLC, seeks to allow the issuance of a development order for 254 single-family lots on approximately 147.94 acres, subject to certain conditions and associated subdivision improvements. The subject property is currently zoned as Planned Residential Development and is located at 20 Tomoka Oaks Boulevard.

   c. An estimate of the City's regulatory costs, including an estimate of revenues from any new charges or fees that will be imposed on businesses to cover such costs.

      None. The application of Triumph Oaks of Ormond Beach I, LLC, seeks to allow the issuance of a development order for 254 single-family lots on approximately 147.94 acres, subject to certain conditions and associated subdivision improvements. The subject property is currently zoned as Planned Residential Development and is located at 20 Tomoka Oaks Boulevard.

3. A good faith estimates of the number of businesses likely to be impacted by the ordinance.

   None. The application of Triumph Oaks of Ormond Beach I, LLC, seeks to allow the issuance of a development order for 254 single-family lots on approximately 147.94 acres, subject to certain conditions and associated subdivision improvements. The subject property is currently zoned as Planned Residential Development and is located at 20 Tomoka Oaks Boulevard.

4. Any additional information the City determines may be useful.

   (This section may include: methodology or data used to prepare the Business Impact Estimate, e.g., City staff solicited comments from businesses as to the potential impact of the proposed ordinance by contacting the chamber of commerce, social media posting, direct mail/email, posting on the City's website, public workshop, etc.; efforts made to reduce the potential fiscal impact on businesses; and state the proposed ordinance is a generally applicable ordinance that applies to all persons similarly situated (individuals or businesses) and, therefore, the proposed ordinance does not affect only businesses.)

No business impacts proposed. The item was advertised in newspaper advertisements. Information on the application is also on the city's website.