THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT Florida

TO: JACK ANDREWS, PE, CITY ENGINEER
MIKE REALS, FP PUBLIC WORKS MANAGER
CHIEF HOBLEY-BURNEY, FP POLICE DEPARTMENT
PAUL THOMAS, FP BUILDING OFFICIAL
JAMES CARNES, PE, FPUA ENGINEERING (WATER/WASTEWATER)
PAUL LAGUERRE, PE, FPUA ENGINEERING (ELECTRIC)
ROD REED, PLS, SLC SURVEYING
GRANT CHAMBERS, PE, SLC ENGINEERING
LESLIE OLSON, AICP, SLC PLANNING & DEVELOPMENT DIRECTOR
DIVISION CHIEF PAUL LANGEL, SLC FIRE DISTRICT
PEGGY ARRAIZ, FP CODE ENFORCEMENT
PETER BUCHWALD, AICP, SLC TRANSPORTATION PLANNING ORGANIZATION
MURRIAH DECKLE, AICP, SLC TRANSIT SERVICES

FROM: BRANDON CREAGAN, LEED GREEN ASSOCIATE, PLANNER

RE: TECHNICAL REVIEW PROJECT# 21-43900001 & 21-09000001

DATE: APRIL30, 2021

Planned Development – Oleander Oaks – Parcel ID: 2433-144-0002-000-3

This is an application for a Zoning Atlas Map Amendment to a Planned Development, Subdivision, and Design Review. The development will consist of 50 single family homes along with associated site improvements. The current zoning on the property is Medium Density Residential (R-4) with a Future Land Use of Medium Density Residential (RM). The property size is approximately 13.18 acres. The parcel ID is 2433-144-0002-000-3.

Please review and provide comments on the project. Please send all comments to my email Bcreagan@cityoffortpierce.com or through interoffice mail to the Planning Department. If you have comments, please respond by May 18, 2021.

Please do not hesitate to contact me should you require any additional information at 772-467-3742.

Thank you.

Brandon Creagan

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT Florida

Application for Zoning Atlas Map Amendment

Application submission shall include the following:

•**TRC** (*Initial Submission): One (1) original and (8) paper copies of the application and support documents and provide one (1) electronic copy of the application packet as described below.

•**Planning Board**: One (1) original and (16) paper copies of the application and support documents and provide one (1) electronic copy of the application packet as described below.

•**City Commission**: One (1) original and (11) paper copies of the application and support documents and provide one (1) electronic copy of the application packet as described below.

In addition to a complete application, packets shall include:

- ☐ Warranty Deed & Legal Description
- ☐ St. Lucie County Property Record Card
- ☐ Statement of why there is a need for the proposed future land use map amendment and how the amendment will result in an orderly and logical development pattern; statements how amendment(s) are consistent with Comprehensive Plan; how future land use designation is compatible with future land use designations and existing land uses surrounding the amended lands; identify future land use designations and existing land uses within a ½ mile of the subject property that have the same or greater type of proposed future land use designation; data and analysis to support conclusions.
- ☐ Current Survey
- ☐ Environmental Study
- ☐ Traffic Impact Report
- ☐ *** Capacity Analysis-Separate Form
- ☐ Drainage Analysis
- ☐ Historical Report
- ☐ 1 CD of all documents submitted in PDF
- ☐ Other_____

1. Property Address/Location: 0 Oleander Avenue, Fort Pierce, FL
2. Property Tax ID(s): 2433-144-0002-000-3
3. Total Acreage: 13.18 Acres
4. Existing Future Land Use Designation: RM - Medium Density Residential
5. Existing Zoning Classification: RM-4 Single Family
6. Proposed Zoning Classification: PD
7. Other applications being submitted concurrent with this application, if any: _____

8. Describe the existing uses, improvements and structures on the amendment lands: Currently a vacant site, proposing to develop into a Single Family Site.

9. Are there any identified or possible historical structures on the amendment lands? No

10. The reason for making this request: Currently the site is Zoned RM 4 with a Future Land Use of RM (Medium Density Residential)

11. **CAPACITY ANALYSIS**

I. Site Data:

	Existing Use	Future Land Use	Zoning
North	Vacant Commercial	General Commercial	Fort Pierce, General Commercial
South	Sing Family Residential	Medium Density Residential	Fort Pierce, Medium Density
East	Single Family Residential	Low Density Residential and High Density Residential	Fort Pierce - Medium Density and SLC - RM -11
West	Single Family Residential	Single Family Residential	SLC - RS-3

	Future Land Use	Zoning Classification	Maximum Intensity Residential: Dwelling Units per Acre Other: Square Footage	Total Acreage	Flood Zone
Current	RM	RS-4-Single Family	6.5-12 DU/AC	12.92	X
Proposed	PD	PD	3.87 DU/AC	12.92	N/A

II. Public Facilities Information:

A. Potable Water:	
Average Use	Residential: 100 gallons per day per person (du x 2.6 = persons x 100 gpd = demand) Other: 0.125 gallons per day per square foot
Demand Analysis	Maximum
Current Zoning	Total gallons per day 40,000
Proposed Zoning	Total gallons per day 40,000
Change in Demand	**Total gallons per day** 0

B. Wastewater:	
Average Use	Residential: 100 gallons per day per person (du x 2.6= persons x 100 gpd = demand) Other: 0.1 gallons per day per square foot
Demand Analysis	Maximum
Current Zoning	Total gallons per day 40,000
Proposed Zoning	Total gallons per day 40,000
Change in Demand	**Total gallons per day** 0

C. Parks and Recreation (Residential Classifications Only):
(Du x 2.6 = persons + 44,227 = population /LOS)

Park Type	LOS	Existing Population Park Demand	Proposed Population Park Demand	Change in Demand
Regional	20 acres per 1,000 people	8	8	0
Urban District	5 acres per 1,000 people	2	2	0
Community	2.5 acres per 1,000 people	1	1	0
Neighborhood	1.36 acres per 1,000 people	.55	.55	0

D. Public Schools (Residential Classifications Only):
Single Family: (du x 0.405 = students/70% K-8/30% High)
Multi-family: (du x 0.207 = students/70% K-8/30% High) N/A

	K-8	High
School Name	Savanna Ridge Elementary	Port St. Lucie High
City	Port St. Lucie	Port St. Lucie, FL
Distance	4 Miles	8 Miles
Current Zoning Enrollment Demand	44	19
Proposed Zoning Enrollment Demand	44	19
Change in Demand	0	0

E. Solid Waste:
2 yard serves 15 units, 4 yard serves 30 units, 6 yard serves 45 units, 8 yard serves 60 units

Demand Analysis	Maximum
Current Zoning	20 Yards
Proposed Zoning	20 Yard
Change in Demand	0

F. Stormwater:
Potential increase in volume discharged due to increased impervious coverage, reduced groundwater seepage or loss of surface water storage impacting Adopted LOS of 25-year 3-day storm Pre vs. Post Runoff (Storm sewers to convey 5 year- 1 day storm event; Canals to convey 3 year – 1 day storm event)

Impact	The impervious area will be increased but the 25 year 3 day will be less in the post development than it is in the pre development

III. Transportation Analysis

G. Traffic Most recent ITE Code for use; HCM Roadway Capacity		
	AADT	**AM/PM Peak Hour Trips**
Demand Analysis	Maximum	Maximum
Current Zoning	680	50/65
Proposed Zoning	680	50/65
Change in Demand	Trips 0	Trips 0
Impact to Capacity	No change to overall capacity	

12. Name of Owner(s): Alva Stone Group LLC
Mailing Address: 591 Evernia St #1603
City West Palm Beach State FL Zip 33401
Phone # 954-850-0618
E-mail: pedro@alvastonegroup.com

13. Name of Applicant: Diego Quijada, Alva Stone Group
Mailing Address: 2030 S Ocean Dr #2221
City Hallandale Beach State FL Zip 33009
Phone # 954-850-0619 Fax #
E-mail: diego@alvastonegroup.com

14. Name of Representative: Blaine Bergstresser, P.E.
Mailing Address: 445 24th Street, Suite 200
City Vero Beach State FL Zip 32960
Phone # 772-794-4061 Fax #
E-mail: Blaine.Bergstresser@Kimley-Horn.com

15. Applicant Acknowledgements (Owner's signature must be notarized)

I certify that: (Check One)

☐ I (we) do hereby certify that I (we) own in fee simple the above referenced described property for which a change in Zoning Classification is requested.

☑ I (we) are not the owner of the above described property; however, the owners signature below authorizes the applicants the authority to act as agent for the owner(s) of record.

Applicant's Signature Date

2030 S Ocean Drive, #2221	FL	33009
Address	State	Zip

954-850-0619		diego@alvastonegroup.com
Phone	Fax	E-mail Address

16. Property Owners Acknowledgements: - This application will not be considered complete without the signature of all property owners of record, which shall serve as an acknowledgement of the submission of this application for a change in zoning classification. The property owner's signature below shall also authorize the Applicant (if other than the property owner) and/or Agent to act in his/her behalf for the purposes of seeking this change to the City' Land Development Regulations for the property described herein.

Diego Quijada	954-850-0618
Property Owner's Name (Please Print)	Phone

591 Evernia Street #1603, West Palm Beach	FL	33401
Address	State	Zip

Property Owner's Signature — Date: 4/28/21

STATE OF FLORIDA)
ST LUCIE COUNTY)

The foregoing instrument was acknowledged before me this 28 day of April, 2021, by Diego Quijada who is personally known to me or has produced _____ as id

Signature of Notary (seal)

Marina Renom
Notary Public
State of Florida
Comm# HH014256
Expires 6/24/2024

OFFICE USE:		
DATE RECEIVED: _____	Signed: _____	
File Number: _____	Check No: _____	Receipt No: _____
TRC Review: _____	Planning Board Review: _____	City Commission: _____
Ordinance No: _____	Date Approved: _____	

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT
Florida

DEVELOPMENT REVIEW

Property address or Location 0 Oleander Avenue, Fort Pierce FL

Parcel ID #(s) 2433-144-0002-000-3

Project description Single Family Residential Development

Alva Stone Group LLC	Diego Quijada, Alva Stone Group
Property Owner(s)	**Applicant/Representative, Title, Company**
591 Evernia Street #1603	2030 S Ocean Dr #2221
Street Address	Street Address
West Palm Beach FL 33401	Hallandale FL 33009
City State Zip	City State Zip
954-850-0618	954-850-0619
Phone Number	Phone Number
Pedro@Alvastonegroup.com	Diego@Alvastonegroup.com
Email Address	Email Address

Property Owner(s) Acknowledgements: *- This application will not be considered complete without the signature of all property owners of record, which shall serve as an acknowledgement of the submission of this application. The property owner's signature below shall also authorize the Applicant (if other than the property owner) and/or Representative to act in his/her behalf for the purposes of seeking approval for the application described herein. The undersigned consents to inspection and photographing of the subject property by the Planning staff for purposes of consideration of this Application and/or presentation to the Planning Board and City Commission.*

Property Owner(s) Signature(s)

STATE OF FLORIDA -- COUNTY

The foregoing instrument was acknowledged before me this 21 day of April, 2021, by Diego Quijada who is personally known to me or has produced _____ as identification.

Signature of Notary

Marina Renon
Notary Public
State of Florida (seal)
Comm# HH014256
Expires 6/24/2024

INTAKE MEETINGS ARE REQUIRED FOR ALL SUBMITTALS. CALL (772) 467-3729

TO BE COMPLETED BY STAFF

Zoning	Future Land Use	Total Acres	Historic District	Historic Designation
				Contributing Individual Non-Contributing None

Pre-Application Meeting Date_____ Fees_____ Control #_____ B. Permit #_____

Intake Planner_____

Planner Assigned_____

Approved By_____ Date _____

Comments_____

Intake Date Stamp

❑ DEVELOPMENT REVIEW

General Information

- ❑ Incomplete application packets cannot be accepted.
- ❑ Site Plan approval is valid for one (1) year following City Commission approval. In order to maintain site plan approval, vertical improvements, permitted by the Building Department must commence prior to the 12-month expiration date, and building permits must be maintained until site plan is completed, per plans, or approval shall lapse.

Choose Application Type:

Application Type		
■ Site Plan	❑ Conditional Use with New Const.	❑ Major Amendment
❑ Conceptual Development Plan		❑ Minor Amendment

Site Information:

Non-Residential: Proposed Sq. Ft.: _____ Residential: Proposed Units: 50

Surrounding Uses: *(i.e. single family home, retail, industrial, etc.)*

North	South	East	West
VACANT INDUSTRIAL	SINGE FAMILY RES	SINGLE FAMILY RES	SINGLE FAMILY RES

Application Outlook



Site Plan submittal requirements:

Submit one (1) original & thirteen (13) hard copies and one (1) CD of the following. Additional copies will be required of subsequent submittals.

- ❑ Complete notarized application
- ❑ Warranty Deed
- ❑ SLC Property Record Card
- ❑ Statements of ownership & control of proposed development. Statement describing in detail: character & intended use.
- ❑ General location map (see Section 22-58.d.2)
- ❑ Survey (see Section 22-58.d.3)
- ❑ Site Plan (see Section 22-58.d.4)
- ❑ Landscaping Plan (see Section 22-187)
- ❑ Storm Drainage Plan (see Section 22-58.d.6)
- ❑ Environmental Impact Report
- ❑ Beach/Dune System protection plan, if applicable (see Section 22-58.d.7)
- ❑ Lighting Plan (see Section 22-58.d.8)
- ❑ Design Review submittals (see Design Review application)
- ❑ Traffic Impact Report
- ❑ Concurrency Review submittals (see Concurrency Review application)

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT
Florida

CONCURRENCY
CAPACITY ANALYSIS

I. Site Data:

	Existing Use	Future Land Use	Zoning
North	Vacant Industrial	Industrial	FP - General Commercial
South	Single Family Residential	Single Family Residential	FP - Medium Density
East	Single Family Residential	Single Family Residential	FP - Medium Density and SLC - RM - 11
West	Single Family Residential	Single Family Residential	SLC - RS-3

	Future Land Use	Zoning Classification	Maximum Intensity Residential: Dwelling Units per Acre Other: Square Footage	Total Acreage	Flood Zone
Current	RM	R-4	6.5-12 DU/AC	12.92	X
****Proposed**	RM	R-4	3.87 DU/AC	12.92	N/A

II. Public Facilities Information:

A. Potable Water:	
Average Use	Residential: 100 gallons per day per person (du x 2.6= persons x 100 gpd = demand) Other: 0.125 gallons per day per square foot
Demand Analysis	Maximum
Current Zoning/FLU	Total gallons per day 40,000
**Proposed Zoning/FLU	Total gallons per day 40,000
**Change in Demand	Total gallons per day 0

B. Wastewater:	
Average Use	Residential: 100 gallons per day per person (du x 2.6= persons x 100 gpd = demand) Other: 0.1 gallons per day per square foot
Demand Analysis	Maximum
Current Zoning/FLU	Total gallons per day 40,000
**Proposed Zoning/FLU	Total gallons per day 40,000
**Change in Demand	Total gallons per day 0

C. Parks and Recreation (Residential Classifications Only):
(Du x 2.6 = persons + 44,227 = population /LOS)

Park Type	LOS	Existing Population Park Demand	Proposed Population Park Demand	Change in Demand
Regional	20 acres per 1,000 people	8	8	0
Urban District	5 acres per 1,000 people	2	2	0
Community	2.5 acres per 1,000 people	1	1	0
Neighborhood	1.36 acres per 1,000 people	.55	.55	0

D. Public Schools (Residential Classifications Only): 50*0.405= 20.25
Single Family: (du x 0.405 = students/70% K-8/30% High)
Multi-family: (du x 0.207 = students/70% K-8/30% High)

	K-8	High
School Name	Savanna Ridge Elementary	Port St. Lucie High
City	Port St. Lucie	Port St. Lucie
Distance	4 Miles	8 Miles
Current Zoning/FLU Enrollment Demand	44	19
****Proposed Zoning/FLU Enrollment Demand**	44	19
****Change in Demand**	0	0

E. Solid Waste: Residential (2 yard serves 15 units, 4 yard serves 30 units, 6 yard serves 45 units, 8 yard serves 60 units)	
Demand Analysis	Maximum
Current Zoning/FLU	20 Yards
****Proposed Zoning/FLU**	20 Yards
***Change in Demand**	0

F. Stormwater:
Potential increase in volume discharged due to increased impervious coverage, reduced groundwater seepage or loss of surface water storage impacting Adopted LOS of 25-year 3-day storm Pre vs. Post Runoff (Storm sewers to convey 5 year- 1 day storm event; Canals to convey 3 year – 1 day storm event)

Impact	Potential increase in volume discharged due to increased impervious coverage, reduced groundwater seepage or loss of surface water storage impacting Adopted LOS of 25-year 3-day storm Pre vs. Post Runoff (Storm sewers to convey 5 year- 1 day storm event; Canals to convey 3 year – 1 day storm event)

III. Transportation Analysis: *Complete ITE Trip Generation Form (Attached)*

G. Transportation Analysis: Complete ITE Trip Generation Data Form Most recent ITE Code for use; HCM Roadway Capacity		
	AADT	**AM/PM Peak Hour Trips**
Demand Analysis	Maximum	Maximum
Current Zoning/FLU	680	50/65
****Proposed Zoning/FLU**	680	50/65
***Change in Demand**	Trips 0	Trips 0
Impact to Capacity	No change to overall capacity	

IV. Project Description

PHASING					
Is this project (phase) part of a larger project? ☐ Yes ☑ No					
If yes, enumerate each phase, the number of units or square footage in each phase and beginning/completion date.					
Total Project: Residential Units:		Single Family: 50		Multifamily:	
	Non-residential (square footage):				
	Mixed-use (describe use):				
(If this is a single phase project, name it Phase I – Total)					

RESIDENTIAL DATA					
Type	**Phase**	**Number of Units**	**Acres**	**Expected beginning date**	**Expected completion date**
Single-family, detached	1	50	12.92	TBD	TBD
Single-family, attached					
Multi-family					
Other (specify)					

NON-RESIDENTIAL DATA					
Type(s) specify	**Phase**	**Square footage**	**Acres**	**Expecting beginning date**	**Expected completion date**

A. Indicate whether the proposed project will be eliminating any existing recreational facilities. If yes, detail the number and type being eliminated. ☐ Yes ☑ No

B. 1. Does this application involve demolition or re-use of any structure(s)? ☐ Yes ☑ No
If yes, what is the size of the structure(s) to be demolished or re-used? N/A

2. What is the current use of the structure to be demolished or re-used? N/A

3. Are you claiming trip credits for the demolition or re-use of a structure(s) at the site? ☐ Yes ☑ No
If yes, provide estimates of credits for each previous use at the site. (Attach sheet with calculations)

C. Exemptions Requested:

** Complete section if requesting a change in zoning, future land use, or expanding

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT
Florida

Subdivision

Property address or Location 0 Oleander Avenue, Fort Pierce FL

Parcel ID #(s) 2433-144-0002-000-3

Project description Single Family Residential Development

Alva Stone Group LLC	Diego Quijada, Alva Stone Group
Property Owner(s)	**Applicant/Representative, Title, Company**
591 Evernia St #1603	2030 S Ocean Dr #2221
Street Address	Street Address
West Palm Beach, FL, 33401	Hallandale Beach FL 33009
City State Zip	City State Zip
954-850-0618	954-850-0619
Phone Number	Phone Number
pedro@alvastonegroup.com	diego@alvastonegroup.com
Email Address	Email Address

Property Owner(s) Acknowledgements: *- This application will not be considered complete without the signature of all property owners of record, which shall serve as an acknowledgement of the submission of this application. The property owner's signature below shall also authorize the Applicant (if other than the property owner) and/or Representative to act in his/her behalf for the purposes of seeking approval for the application described herein.*

Property Owner(s) Signature(s)

STATE OF FLORIDA -- COUNTY

The foregoing instrument was acknowledged before me this 21 day of April, 20 21, by Diego Quijada who is personally known to me or has produced _____ as identification.

Signature of Notary

Marina Renom
Notary Public
State of Florida (Seal)
Comm# HH014256
Expires 6/24/2024

INTAKE MEETINGS ARE REQUIRED FOR ALL SUBMITTALS. CALL (772) 467-3729

To Be Completed by Staff

Zoning	Future Land Use	Total Acres	Historic District	Historic Designation
				Contributing Individual Non-Contributing None

Pre-Application Meeting Date_____
Intake Planner_____
Planner Assigned_____
Approved By_____Date _____
Comments_____

Fees_____ Control #_____ B. Permit #_____

Intake Date Stamp

☑ SUBDIVISION: PRELIMINARY PLAT

Please submit one (1) original and thirteen (13) hard copies and one (1) CD of the following:

- ☐ Preliminary Plat prepared by a surveyor registered in the State of Florida meeting the requirements of Sections 18-5, & 18-10 (a) (1-3) & (c)
- ☐ A copy of the deed
- ☐ **Signed and sealed survey**
- ☐ Concurrency application, complete
- ☐ Complete, notarized application

☐ SUBDIVISION: INFRASTRUCTURE PLAN REVIEW

Please submit one (1) original and four (4) hard copies and one (1) CD of the following, stamped by a state of Florida registered engineer meeting the requirements of 18-10 (a) (4) :

- ☐ Street construction plans
- ☐ Water & Sewer system construction plans
- ☐ Stormwater Retention plans
- ☐ Electric Infrastructure plans
- ☐ Gas Infrastructure plans
- ☐ Complete, notarized application

☐ SUBDIVISION: FINAL PLAT

Please submit one (1) original and thirteen (13) hard copies and one (1) CD of the following:

- ☐ A copy of the deed
- ☐ **Signed and sealed survey**
- ☐ Final Plat stamped by a state of Florida registered surveyor meeting the requirements of 18-5, & 18-10 (b & c):
- ☐ Complete, notarized application

☐ SUBDIVISION: MINOR REPLAT

Please submit one (1) original and thirteen (13) hard copies and one (1) CD of the following:

- ☐ A copy of the deed
- ☐ As-built survey of original parcel stamped by a registered surveyor in the State of Florida
- ☐ Scaled drawing, stamped by a registered surveyor in the State of Florida, of surveyed parcel indicating
  - proposed lots, including acreage, square footage, & dimensions.
  - any & all easements, rights-of-way, or similar instruments found on or adjacent to the subject property
- ☐ Complete, notarized application

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT
Florida

Design Review

Property address or Location 0 Oleander Avenue, Fort Pierce FL

Parcel ID #(s) 2433-144-0002-000-3

Project Description Single Family Residential Development

Alva Stone Group LLC	Diego Quijada, Alva Stone Group
Property Owner(s)	Applicant/Representative, Title, Company
591 Evernia Street #1603	2030 S Ocean Dr #2221
Street Address	Street Address
West Palm Beach FL 33401	Hallandale Beach FL 33009
City State Zip	City State Zip
954-850-0618	954-850-0619
Phone Number	Phone Number
pedro@alvastonegroup.com	Diego@Alvastonegroup.com
Email Address	Email Address

Property Owner(s) Acknowledgements: *- This application will not be considered complete without the signature of all property owners of record, which shall serve as an acknowledgement of the submission of this application. The property owner's signature below shall also authorize the Application (if other than the property owner) and/or Representative to act in his/her behalf for the purposes of seeking approval for the application described herein.*

Amy T.

Property Owner(s) Signature(s)

STATE OF FLORIDA -- COUNTY

The foregoing instrument was acknowledged before me this 21 day of April, 2021, by

Diego Quijada who is personally known to me or has produced

_____ as identification.

Signature of Notary

Marina Reno
Notary Public
State of Florida
Comm# HH014296
Expires 6/24/2024

(seal)

TO BE COMPLETED BY STAFF

Zoning	Future Land Use	Total Acres	Historic Districts	Historic Designation

Pre-Application Meeting Date_____ Fees _____ Control #_____ B. Permit _____

Intake Planner_____

Planner Assigned_____

Approved _____ Date_____

Comments _____

Intake Date Stamp

Design Review Application Checklist
(City Code of Ordinances 22-59)

Submittal for Administrative Approval

a. A survey (1" = 30' minimum scale) of property lines, existing topography and the location of trees meeting the tree protection regulations of section 22-194, location of bordering streets and, if applicable, wetlands and beaches.
b. A site analysis study to include a discussion of specimen trees and other natural vegetation, access, significant topography, wetlands, buffers, setbacks, views, orientation, the surrounding built environment and other site features that may influence design elements.
c. A draft written narrative describing the design intent of the project, its goals and objectives and how it reflects the site analysis study results.
d. Context photographs of neighboring uses and architectural styles.
e. Photographs and/or drawings of architectural buildings or objects that serve as a precedent for the proposed building design. Models should be taken from local exemplary buildings, either existing or demolished. Documentation of such buildings is available in the city's planning department.
f. Photographs of all existing structures located on the property. If existing structures on the property are more than fifty (50) years of age, documentation of these structures with data from the Florida Master Site File form is also required.
g. Conceptual site plan (to scale) showing proposed location of all buildings, structures, parking areas, signs and landscaping.
h. Landscape plan, at the same scale as the site plan. The planning director or designee may request enlarged plans of detailed planting areas. Planting schedule with sizes of proposed plantings must be included.
i. Accurate color rendering of proposed signs showing dimensions, type of lettering, materials and actual color samples that demonstrates cohesiveness with the project design.
j. Exterior elevations showing architectural character, external architectural features and streetscape of the proposed development, including materials, colors, shadow lines and landscaping. The street elevation shall encompass the entire proposed project and generally identify the major elements of the adjacent two (2) properties on either side of the site. If the adjacent properties are vacant or underutilized, a diagram shall be provided that identifies the mass and form that is allowable under current zoning. If the street elevation must be drawn at such a scale as to render architectural details of the building unreadable, drawings of individual buildings at a larger scale should be provided as well.
k. Design review concurrent with conceptual development plan procedure according to subsection 22-58(e) is also available.

Submittal for Board Approval

a. A written narrative describing how the project conforms to administrative approval and design review guidelines of this section.
b. A final site plan meeting the requirements of section 22-58
c. A final site lighting plan that meets the requirements of subsection 22-58(d)(8).
d. A final landscape plan that meets the requirements of Article XII, Landscaping and Trees.
e. Final floor plans and elevation drawings (1/8" = 1'-0" minimum scale), as detailed under administrative approval, showing exterior building materials and colors with architectural sections and details to adequately describe the project.
f. A color board (11"x17" maximum) containing actual color samples of all exterior finishes, keyed to the elevations, and indicating the manufacturer's name and color designation.

Kimley»Horn

April 23, 2021

Jennifer Hofmeister, AICP
City of Fort Pierce
Planning Director
100 N. U.S. Highway 1
Fort Pierce, FL 34950
(772) 567-8000

Re: Oleander Oaks- Design and Development Review Project Narrative

Dear Ms. Hofmeister:

We are proposing fifty (50) single family homes on approximately 12.92 acres of land on Oleander Avenue (Parcel ID # 2433-144-0002-000-3). Currently the site is a vacant wooded lot that has single family zoning to the west and south with commercial zoning to the north. The layout of the site consists of a divide entrance off of Oleander Avenue with a looped road throughout the development. There is a proposed wet pond in the middle of the looped road that will be used for stormwater storage but also act as an amenity for the neighborhood. An amenity parcel is proposed north of the wet pond which will give the residents an open space area with views of the wet pond.

There is an existing 1.42-acre wetland on the northern portion of the site that borders a North St. Lucie Water Control District canal. We are proposing to preserve the wetland as well as a twenty-five foot buffer. This will preserve a large portion of specimen trees as well as add an enhanced buffer between the neighborhood and the commercial zoned parcel to the north. It will also act as an amenity for the neighborhood as the houses that back up to it will have a view of natural habitat for local wildlife. The four corners of the property will contain large open space areas that will be planted with large trees to buffer the project from surrounding parcels.

We performed a Traffic Impact Study to look at the potential impact of the project on the surrounding roadways. We looked at the intersections along Oleander Avenue from Midway Road to Edwards Road. All intersections are projected to operate at an acceptable Level of Service (LOS) at 2026 buildout conditions, we also looked at the proposed site entrance off of Oleander Avenue. Based off the AM and PM peak trips neither a northbound left-turn lane or southbound right-turn lane are warranted for the project.

As part of our application we are requesting to rezone the property from R-4 to a Planned Development (PD). The reason for the request is due to the proposed right-of-way width.

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City code requires a 60’ right-of-way for a local road. We are proposing a 50’ right-of-way with a 24’ wide asphalt road. This is typical of what we see in other municipalities as well as existing single-family projects in Fort Pierce. This will the neighborhood to have 82’ deep lots instead of the code minimum 70’ and allow us to preserve the wetland to the north.

Very truly yours,

KIMLEY-HORN AND ASSOCIATES, INC.
Very truly yours,



Blaine Bergstresser, P.E.

K:\VRB_LDEV\147811000 - Oleander Oaks\PERMITTING\APPLICATIONS\City of Fort Pierce\Project Narrative.doc

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Prepared By and Return To:
Global Closing Company LLC
Attn: Benjamin Bell
1056 Willa Springs Drive
Winter Springs, FL 32708

Order No.: 1526-18FL-0330

Property Appraiser's Parcel I.D. (folio) Number:
243314400020003

WARRANTY DEED

THIS WARRANTY DEED dated March 19, 2021, by Oleander Oaks LLC, a Florida limited liability company, existing under the laws of Florida, and having its principal place of business at 5801 S US Highway 1, Fort Pierce, Florida 34982 (the "Grantor"), to Alva Stone Group LLC, a Florida Limited Liability Company, whose post office address is 591 Evernia Street Apt 1603, West Palm Beach, Florida 33401 (the "Grantee").

(Wherever used herein the terms "Grantor" and "Grantee" include all the parties to this instrument and the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporations)

WITNESSETH: That the Grantor, for and in consideration of the sum of Ten And No/100 Dollars ($10.00) and other valuable consideration, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys, and confirms unto the Grantee, all that certain land situated in County of Saint Lucie, State of Florida, viz:

A portion of the East One Half of the Northeast One Quarter of the Southeast One Quarter of Section 33, Township 35 South, Range 40 East and the Southeast One Quarter of the Southeast One Quarter of the Northeast One Quarter of Section 33, Township 35 South, Range 40 East, being more particularly described as follows:

Commence at the East One Quarter corner of said Section 33, thence South 89 degrees 46 minutes 13 seconds West, a distance of 90.00 feet to the Point of Beginning: thence continue South 89 degrees 46 minutes 13 seconds West, a distance of 32.00 feet; thence South 00 degrees 17 minutes 01 seconds West, along the West line of the North Saint Lucie River Water Control District Canal 14, a distance of 701.78 feet, said canal 14 being shown and described in that certain fee simple deed of donation, as recorded in Official Records Book 4480, Page 2690 of the Public Records of Saint Lucie County. Said West line being parallel to and 62.00 feet West of as measured at right angles to the West right of way line of Oleander Avenue, Also Known As State Road 605, as shown on that certain Florida Department of Transportation right of way Map Section 9456, dated June 19, 1952. Said West right of way line being parallel to and 60.00 feet West of as measured at right angles to the centerline of said Oleander Avenue; thence South 89 degrees 47 minutes 15 seconds West, along a line parallel to and 630.00 feet North of as measured at right angles to the South line of the said East One Half of the Northeast One Quarter of the Southeast One Quarter of Section 33, a distance of 548.98 feet, said South line also being the centerline of Tumblin King Road; thence North 00 degrees 21 minutes 03

seconds West, along the West line of said East One Half a distance of 701.59 feet to the North line of the said East One Half, said West line also being the East line of the Revised Plat of "The Tropics Pete Robinson Subdivision, according to the plat thereof as recorded in Plat Book 6, Page 21 of the Public Records of Saint Lucie County; thence North 89 degrees 46 minutes 13 seconds East along the North line of said East One Half, a distance of 12.40 feet; thence North 00 degrees 00 minutes 21 seconds West, along a livestock fence 0.3 feet to the West of the West line of the said Southeast One Quarter of the Southeast One Quarter of the Northeast One Quarter of Section 33, a distance of 275.98 feet to the South top of bank of the North Saint Lucie River Water Control District Canal 15, Also Known As Platts Branch; thence meandering along the South top of bank of said Platts Branch, the following Ten courses, North 83 degrees 47 minutes 48 seconds East, a distance of 43.46 feet; thence North 86 degrees 49 minutes 25 seconds East, a distance of 72.02 feet; thence South 85 degrees 07 minutes 47 seconds East, a distance of 48.47 feet; thence North 74 degrees 57 minutes 21 seconds East, a distance of 44.51 feet; thence North 80 degrees 24 minutes 14 seconds East, a distance of 92.67 feet, thence North 82 degrees 38 minutes 55 seconds East, a distance of 67.53 feet; thence North 85 degrees 47 minutes 34 seconds East, a distance of 117.62 feet; thence North 85 degrees 35 minutes 04 seconds East, a distance of 70.14 feet; thence North 73 degrees 25 minutes 57 seconds East a distance of 15.73 feet; thence North 55 degrees 26 minutes 14 seconds East, a distance of 12.85 feet to the West line of said canal 14, said West line being parallel to and 30.000 feet West of the West right of way line of said State Road 605, said West right of way line being parallel to and 60.000 feet West of as measured at right angles to the East line of said Northeast One Quarter of Section 33; thence South 00 degrees 12 minutes 46 seconds West, along the West line of said canal 14 a distance of 339.69 feet to the Point of Beginning.

Said lands lying in Saint Lucie County, Florida.

Subject to easements, restrictions, reservations and limitations of record, if any.

TOGETHER with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

TO HAVE AND TO HOLD the same in Fee Simple forever.

AND the Grantor hereby covenants with said Grantee that the Grantor is lawfully seized of said land in fee simple; that the Grantor has good right and lawful authority to sell and convey said land; that the Grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to: 2020.

IN WITNESS WHEREOF, the said Grantor has signed and sealed these presents the day and year first above written.

Signed, sealed and delivered in presence of

Oleander Oaks LLC, a Florida limited liability company

BY: _____
Michael J Bradley, JR
Manager

Witness Signature

Candy Quintall

Printed Name of First Witness

Witness Signature

PETER QUINTALL

Printed Name of Second Witness

BY: _____

Grantor Address:
632 SE Starflower Avenue
Port Saint Lucie, FL 34983

STATE OF FLORIDA

COUNTY OF St Lucie

The foregoing instrument was acknowledged before me by means of ✓ physical presence or ____ online notarization, this 19th of March, 2021 by Oleander Oaks LLC, a Florida limited liability company, who is personally known to me or who has produced drivers license as identification.

Witness my hand and official seal, this the 19th of March, 2021.

_____
Notary Public

My Commission Expires: 01/10/2023

(SEAL)

Notary Public State of Florida
Candy Quintall
My Commission GG 290488
Expires 01/10/2023

Michelle Franklin, CFA -- Saint Lucie County Property Appraiser -- All rights reserved.

Property Identification

Site Address: OLEANDER AVE
Sec/Town/Range: 33/35S/40E
Parcel ID: 2433-144-0002-000-3
Jurisdiction: Fort Pierce

Use Type: 0000
Account #: 185292
Map ID: 24/33S
Zoning: RM-9 Count

Ownership

Oleander Oaks LLC
5801 S US Highway 1
Fort Pierce, FL 34982-3946

Legal Description

33 35 40 E 1/2 OF NE 1/4 OF SE 1/4 - LESS S 630 FT AND LESS RD AND CANAL RS/W - AND THAT PART OF SE 1/4 OF SE 1/4 OF NE 1/4 LYG S OF CANAL NO. 15 (13.18 AC - 574,121 SF) (OR 3988 - 1547; 3994 - 1479: 3995 - 2451; 4050 - 2327)



Current Values

Just/Market Value:	$480,800
Assessed Value:	$480,800
Exemptions:	$0
Taxable Value:	$480,800

Property taxes are subject to change upon change of ownership.

- **Past taxes are not a reliable projection of future taxes.**
- **The sale of a property will prompt the removal of all exemptions, assessment caps, and special classifications.**

Taxes for this parcel: SLC Tax Collector's Office
Download TRIM for this parcel: Download PDF

Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	13.18
Land Size (SF):	574,121

Building Design Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	160	160

Sources/links:

Sale History

Date	Book/Page	Sale Code	Deed	Grantor	Price
Oct 5, 2017	4050 / 2327	0111	QC	MJT Holdings Inc	$100

Building Information (1 of 1)

Finished Area: 0 SF

Gross Sketched Area: 0 SF

Exterior Data

View:	Roof Cover:	Roof Structure:
Building Type:	Year Built: N/A	Frame:
Grade:	Effective Year: N/A	Primary Wall:
Story Height:	No. Units: 0	Secondary Wall:

Interior Data

Bedrooms: 0	Electric:	Primary Int Wall:

Full Baths: 0	Heat Type:	Avg Hgt/Floor: 0
Half Baths: 0	Heat Fuel:	Primary Floors:
A/C %: 0%	Heated %: N/A%	Sprinkled %: 0%



Image or Sketch unavailable for display

Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter

Special Features and Yard Items

Type	Qty	Units	Year Blt

Current Year Values

Current Values Breakdown

Building:	$0
Land:	$480,800
Just/Market:	$480,800
Ag Credit:	$0
Save Our Homes or 10% Cap:	$0
Assessed:	$480,800
Exemption(s):	$0
Taxable:	$480,800

Current Year Exemption Value Breakdown

Current Year Special Assessment Breakdown

Start Year	AssessCode	Units	Description	Amount
2019	0054	13.18	North St. Lucie Water Management District	$243.83

Start Year	AssessCode	Units	Description	Amount
2019	0041	35.9	Fort Pierce Stormwater Charge	$2,477.10

This does not necessarily represent the total Special Assessements that could be charged against this property. The total amount charged for special assessments is reflected on the most current tax statement and information is available with the SLC Tax Collector's Office.

Historical Values

Year	Just/Market	Assessed	Exemptions	Taxable
2020	$480,800	$480,800	$0	$480,800
2019	$527,200	$527,200	$0	$527,200

Permits

Number	Issue Date	Description	Amount	Fee

Notice: This does not necessarily represent all the permits for this property.
Click the following link to check for additional permit data in Fort Pierce

All information is believed to be correct at this time, but is subject to change and is provided without any warranty.
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BOUNDARY SURVEY

LOCATED IN SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST

CITY OF FORT PIERCE, FLORIDA

LEGAL DESCRIPTION PARENT TRACT

PARCEL 1:

ALL OF THE EAST 1/2 OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LYING NORTH OF LAND OWNED BY MRS. HARRY E. KESLER ON THE 7TH DAY OF MARCH 1956, LESS LAND FOR ROADS AND DRAINAGE CANALS. THE SAID LAND IS ALSO DESCRIBED AS THE EAST ½ OF THE NORTHEAST ¼ OF THE SOUTHEAST ¼ OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LESS THE SOUTH 630.00 FEET THEREOF.

AND

PARCEL 2:

THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LESS AND EXCEPTING THEREFROM ALL RIGHTS OF WAY AND EASEMENTS FOR PUBLIC ROAD AND DRAINAGE CANALS.

TOGETHER WITH A PARCEL OF LAND NOT DESCRIBED BY DEED OR PLAT

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST ¼ OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, THENCE RUN S89°36'52"W ALONG THE NORTH LINE OF THE AFORESAID SOUTHEAST ¼, A DISTANCE OF 650.33 FEET TO THE POINT OF BEGINNING; THENCE RUN S00°38'52"W, ALONG THE WEST LINE OF THE EAST 1/2 OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SAID SECTION 33, A DISTANCE OF 701.88 FEET; THENCE S89°47'29W, A DISTANCE OF 13.30 FEET TO THE EAST LINE OF TROPIC ACERS AS RECORDED IN PLAT BOOK 6, PAGE 21, OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA; THENCE N00°16'22"E ALONG THE EAST LINE OF SAID PLAT, A DISTANCE OF 701.77 FEET TO THE NORTH LINE OF THE SOUTHEAST ¼ OF SAID SECTION 33; THENCE N89°36'52"E A DISTANCE OF 17.89 FEET TO THE POINT OF BEGINNING.

CONTAINING 17.93 ACRES MORE OR LESS.

LEGAL DESCRIPTION NEW PARCEL "A"

ALL OF THE EAST 1/2 OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LYING NORTH OF LAND OWNED BY MRS. HARRY E. KESLER ON THE 7TH DAY OF MARCH 1956, LESS LAND FOR ROADS AND DRAINAGE CANALS. THE SAID LAND IS ALSO DESCRIBED AS THE EAST ½ OF THE NORTHEAST ¼ OF THE SOUTHEAST ¼ OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LESS THE SOUTH 630.00 FEET THEREOF.

AND TOGETHER WITH A PARCEL OF LAND NOT DESCRIBED BY DEED OR PLAT

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST ¼ OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, THENCE RUN S89°36'52"W ALONG THE NORTH LINE OF THE AFORESAID SOUTHEAST ¼, A DISTANCE OF 650.33 FEET TO THE POINT OF BEGINNING; THENCE RUN S00°38'52"W, ALONG THE WEST LINE OF THE EAST 1/2 OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SAID SECTION 33, A DISTANCE OF 701.88 FEET; THENCE S89°47'29W, A DISTANCE OF 13.30 FEET TO THE EAST LINE OF TROPIC ACERS AS RECORDED IN PLAT BOOK 6, PAGE 21, OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA; THENCE N00°16'22"E ALONG THE EAST LINE OF SAID PLAT, A DISTANCE OF 701.77 FEET TO THE NORTH LINE OF THE SOUTHEAST ¼ OF SAID SECTION 33; THENCE N89°36'52"E A DISTANCE OF 17.89 FEET TO THE POINT OF BEGINNING.

AND TOGETHER WITH THE FOLLOWING DESCRIBED PARCEL

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST ¼ OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, THENCE RUN S89°36'52"W ALONG THE NORTH LINE OF THE AFORESAID SOUTHEAST ¼, A DISTANCE OF 92.00 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE ALONG SAID NORTH LINE S89°36'52"W, A DISTANCE OF 558.33 FEET; THENCE N00°38'52"E, A DISTANCE OF 277.18 FEET TO THE SOUTH TOP OF BANK OF PLATTS BRANCH; THENCE ALONG SAID TOP OF BANK N85°42'13"E, A DISTANCE OF 29.58 FEET; THENCE N87°07'45"E, A DISTANCE OF 77.61 FEET; THENCE N82°42'45"E, A DISTANCE OF 308.22 FEET; THENCE N83°52'02"E, A DISTANCE OF 144.57 FEET TO THE WEST RIGHT OF WAY OF A 32 FEET DRAINAGE DITCH; THENCE ALONG SAID RIGHT OF WAY S00°12'40"W, A DISTANCE OF 334.05 FEET TO THE POINT OF BEGINNING.

CONTAINING 13.16 ACRES MORE OR LESS.

LEGAL DESCRIPTION NEW PARCEL "B"

THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LESS AND EXCEPTING THEREFROM ALL RIGHTS OF WAY AND EASEMENTS FOR PUBLIC ROAD AND DRAINAGE CANALS.

LESS AND EXCEPT ALL LANDS SOUTH OF THE FOLLOWING DESCRIBED LINE;

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST ¼ OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, THENCE RUN S89°36'52"W ALONG THE NORTH LINE OF THE AFORESAID SOUTHEAST ¼, A DISTANCE OF 650.33 FEET; THENCE N00°38'52"E, A DISTANCE OF 317.33 FEET TO THE NORTH TOP OF BANK OF PLATTS BRANCH ALSO BEING THE POINT OF BEGINNING; THENCE N85°42'13"E, ALONG SAID TOP OF BANK A DISTANCE OF 26.61 FEET; THENCE N87°07'45"E, A DISTANCE OF 76.56 FEET; THENCE N82°42'45"E, A DISTANCE OF 307.08 FEET; THENCE N83°52'02"E, A DISTANCE OF 123.44 FEET; THENCE N27°27'44"E, A DISTANCE OF 56.38 FEET TO THE WEST RIGHT OF WAY OF A 32 FEET DRAINAGE DITCH ALSO BEING THE POINT OF TERMINATION.

CONTAINING 4.24 ACRES MORE OR LESS.

GLOBAL POSITIONING SYSTEM (GPS) NOTES

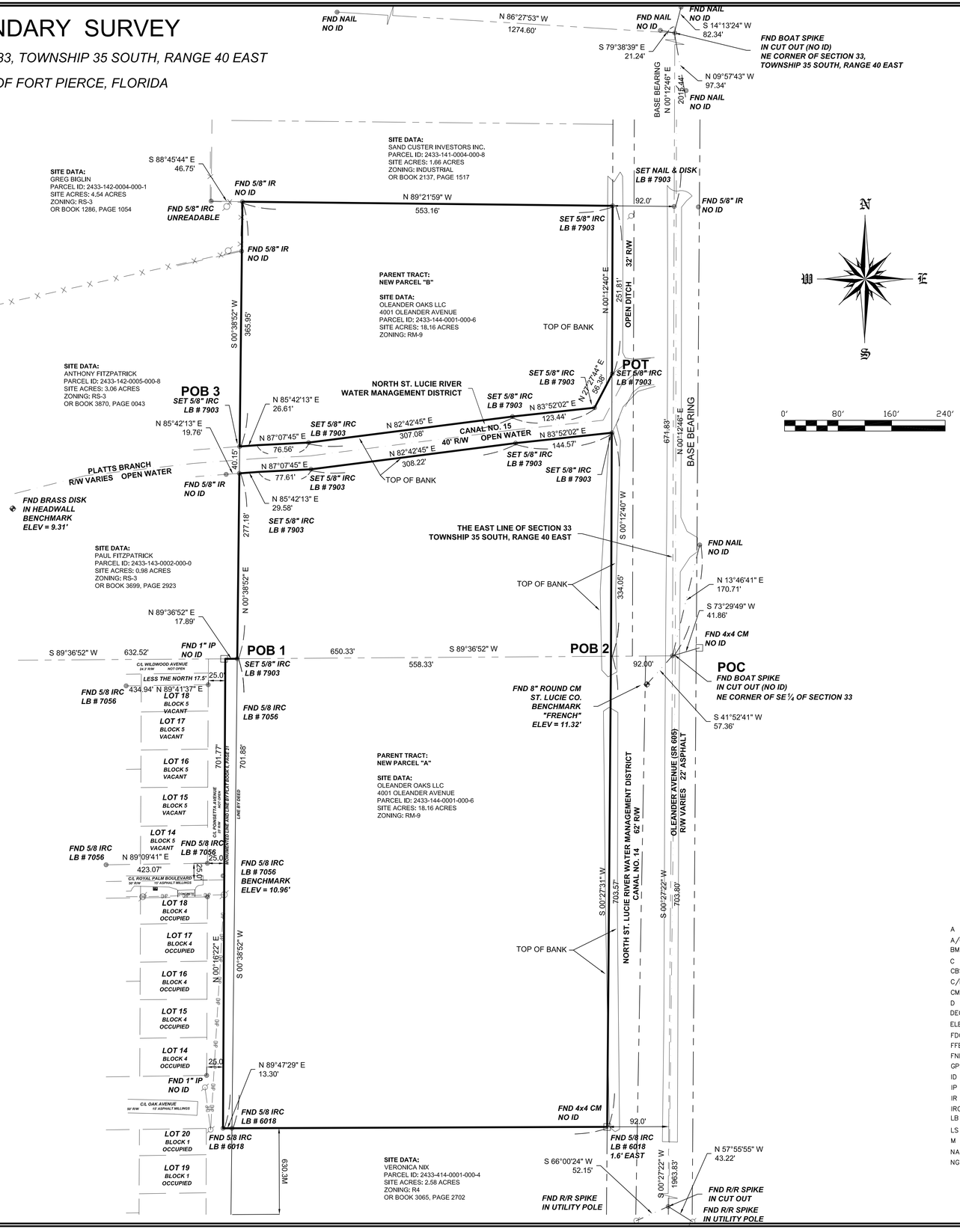
1. G.P.S. SURVEY METHOD: REAL TIME KINEMATICS (RTK)

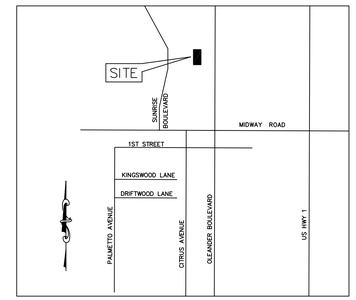
2. G.P.S. RECEIVER TYPE: TWO (2) DUAL FREQUENCY TOPCON HIPER GA-II SYSTEM WITH CHANNELS (L1 & L2).

3. THE ORIGINAL GPS RTK MEASUREMENTS LOCATED ON DECEMBER 25, 2018. TYPICALLY, A BASE RECEIVER IS SET UP ON AN ESTABLISHED CONTROL STATION WHILE A ROVING RECEIVER LOCATES EXISTING MONUMENTS, IMPROVEMENTS AND/OR TOPOGRAPHIC DATA AND CONTROL THROUGHOUT THE PROJECT AREA. REAL-TIME COORDINATE COMPUTATIONS AND PRECISION INFORMATION ARE DETERMINED VIA RADIO/MODEM LINK WITH THE BASE STATION AND RECORDED AS THREE DIMENSIONAL (3D) POSITIONS.

4. G.P.S. SURVEY MEASUREMENTS WERE PROCESSED AND ADJUSTED USING CARLSON SURVEY 2008 AND A CARLSON SURVEY + DATA COLLECTOR.

5. THE HORIZONTAL TARGET ACCURACY FOR THIS SURVEY IS AS FOLLOWS:
HORIZONTAL: 10MM + 1PPM (RMS)
VERTICAL: 20MM + 1PPM (RMS).





LOCATION MAP

NOT TO SCALE

STREET ADDRESS

4001 OLEANDER AVENUE, FORT PIERCE, FL 34982

GENERAL NOTES

1. THE BEARINGS SHOWN HEREON ARE BASED UPON THE EAST LINE OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, (ASSUMED DATUM). BETWEEN TWO MONUMENTS, AS SHOWN.

2. ALL ABOVE GROUND FIXED IMPROVEMENTS, IF ANY, HAVE BEEN LOCATED AND SHOWN HEREON.

3. THE SURVEYOR HAS NO KNOWLEDGE OF UNDERGROUND FOUNDATIONS WHICH MAY OCCUPY LANDS OF OTHERS.

4. UNDERGROUND UTILITIES AND UTILITY SERVICES HAVE NOT BEEN LOCATED ON THIS SURVEY.

5. FLOOD NOTE: BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONES "X & AE", ACCORDING TO THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 12111 C 0189 J.

6. REPRODUCTIONS OF THIS MAP ARE NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR & MAPPER.

7. ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.

8. INFORMATION SHOWN HEREON IS BASED ON DEED AND FIELD MEASURED DATA, ALL MEASUREMENTS ARE IN ACCORDANCE WITH THE UNITED STATES STANDARD FEET.

9. THE LAST DATE OF FIELD WORK WAS DECEMBER 27, 2018.

10. LANDS SHOWN HEREON WERE NOT ABSTRACTED BY THIS OFFICE FOR RIGHTS-OF-WAY, EASEMENTS OF RECORD, OWNERSHIP, ABANDONMENT'S DEED RESTRICTIONS OF MURPHY ACT DEEDS.

11. ELEVATIONS IF SHOWN HEREON ARE IN FEET AND BASED UPON NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988, BASED ON ST. LUCIE COUNTY BENCHMARK "FRENCH", WITH AN ELEVATION OF 11.32' .

12. THE PROPOSED USE OF THIS SURVEY IS FOR A LOT SPLIT.

13. THE PROPOSED USAGE OF THE PROPERTY IS RESIDENTIAL.

LEGEND & ABBREVIATIONS

A	ARC LENGTH	NO OR #	NUMBER
A/C	AIR CONDITIONER	NTS	NOT TO SCALE
BM OR ⌖	BENCHMARK	OHP	OVERHEAD UTILITIES
C	CALCULATED FROM FIELD MEASUREMENTS	ORB	OFFICIAL RECORDS BOOK
CBS	CONCRETE BLOCK STRUCTURE	P	PLAT DATA
C/L	CENTERLINE	PG(S)	PAGE(S)
CM	CONCRETE MONUMENT	PLS	PROFESSIONAL LAND SURVEYOR
D	DEED	POB	POINT OF BEGINNING
DEG OR °	DEGREE	POC	POINT OF COMMENCEMENT
ELEV	ELEVATION	POT	POINT OF TERMINATION
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION	PRM	PERMANENT REFERENCE MONUMENT
FFE	FINISH FLOOR ELEVATION	PSM	PROFESSIONAL SURVEYOR AND MAPPER
FND	FOUND	R	RADIUS
GPS	GLOBAL POSITIONING SYSTEM	RLS	REGISTERED LAND SURVEYOR
ID	IDENTIFICATION NUMBER	R/W	RIGHT-OF-WAY
IP	IRON PIPE	Ⓜ	WATER METER
IR	IRON ROD	&	AND
IRC	IRON ROD & CAP	@	AT
LB	LICENSED BUSINESS	△	DELTA
LS	LICENSED SURVEYOR	∅	UTILITY POLE
M	MEASURED DATA	Ⓜ	MANHOLE
NAVD	NORTH AMERICAN VERTICAL DATUM		
NGVD	NATIONAL GEODETIC VERTICAL DATUM		

ARNOLD SURVEYING, INC.
PROFESSIONAL SURVEYORS & MAPPERS
FLORIDA LICENSED BUSINESS NUMBER 7903
4888 N. KINGS HIGHWAY #425, FORT PIERCE, FLORIDA 34951
24 VERDE VISTA, FORT PIERCE, FLORIDA 34951
PHONE (772) 708-1819 SURVEY@ASI-SURVEY.COM

DATE	BY	REVISIONS

CERTIFICATIONS
MATTHEW TOENISKOETTER
MJT HOLDINGS, INC.
ANCHOR LAND TITLE, INC.
ST LUCIE COUNTY FLORIDA

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DRAWN BY: CA
CHECKED BY: CA
DATE: JANUARY 01, 2019
HORIZONTAL SCALE: 1"=80'

NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR & MAPPER.

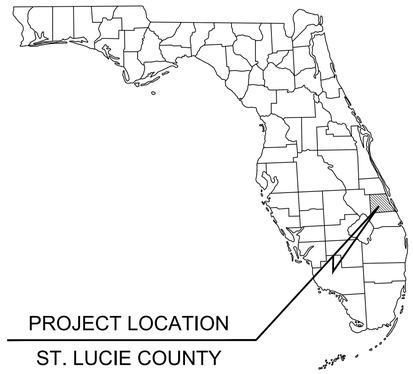
SEAL

CHARLES ARNOLD
PROFESSIONAL SURVEYOR & MAPPER
FLORIDA LICENSE NO. 4971

PRINTED DATE

SHEET 1 OF 1

PROJECT NO. 18-705



CONSTRUCTION PLANS

FOR

OLEANDER OAKS

LOCATED AT

OLEANDER AVENUE, FORT PIERCE, FLORIDA

SECTION 33, TOWNSHIP 35S, RANGE 40E

PROJECT LOCATION



LOCATION MAP

1"=1000'

LEGAL DESCRIPTION

PER OFFICIAL RECORDS BOOK 4050, PAGE 2327

PARCEL ONE:
ALL OF THE EAST 1/2 OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LYING NORTH OF LAND OWNED BY MRS. HARRY E KESLER ON THE 7TH DAY OF MARCH 1956, LESS LAND FOR ROADS AND DRAINAGE CANALS. THE SAID LAND IS ALSO DESCRIBED AS THE EAST 1/2 OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LESS THE SOUTH 630 FEET THEREOF.

PARCEL TWO: THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LESS AND EXCEPTING THEREFROM ALL RIGHTS OF WAY AND EASEMENTS FOR PUBLIC ROAD AND DRAINAGE CANALS.

METES AND BOUNDS DESCRIPTION PREPARED BY THE UNDERSIGNED:

A PORTION OF THE EAST ONE-HALF OF THE NORTHEAST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST AND THE SOUTHEAST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER OF THE NORTHEAST ONEQUARTER OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE EAST ONE-QUARTER CORNER OF SAID SECTION 33, THENCE SOUTH 89°46'13" WEST, A DISTANCE OF 90.00 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE SOUTH 89°46'13" WEST, A DISTANCE OF 32.00 FEET; THENCE SOUTH 00°17'01" WEST, ALONG THE WEST LINE OF THE NORTH ST. LUCIE RIVER WATER CONTROL DISTRICT CANAL 14, A DISTANCE OF 701.78 FEET, SAID CANAL 14 BEING SHOWN AND DESCRIBED IN THAT CERTAIN FEE SIMPLE DEED OF DONATION, AS RECORDED IN OFFICIAL RECORDS BOOK 4480, PAGE 2690 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY. SAID WEST LINE BEING PARALLEL TO AND 62.00 FEET WEST OF AS MEASURED AT RIGHT ANGLES TO THE WEST RIGHT-OF-WAY LINE OF OLEANDER AVENUE, ALSO KNOWN AS STATE ROAD 605, AS SHOWN ON THAT CERTAIN FLORIDA DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY MAP SECTION 9456, DATED JUNE 19, 1952. SAID WEST RIGHT-OF-WAY LINE BEING PARALLEL TO AND 60.00 FEET WEST OF AS MEASURED AT RIGHT ANGLES TO THE CENTERLINE OF SAID OLEANDER AVENUE; THENCE SOUTH 89°47'15" WEST, ALONG A LINE PARALLEL TO AND 630.00 FEET NORTH OF AS MEASURED AT RIGHT ANGLES TO THE SOUTH LINE OF THE SAID EAST ONE-HALF OF THE NORTHEAST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER OF SECTION 33, A DISTANCE OF 548.98 FEET, SAID SOUTH LINE ALSO BEING THE CENTERLINE OF TUMBLIN KING ROAD; THENCE NORTH 00°21'03" WEST, ALONG THE WEST LINE OF SAID EAST ONE-HALF A DISTANCE OF 701.59 FEET TO THE NORTH LINE OF THE SAID EAST ONE-HALF, SAID WEST LINE ALSO BEING THE EAST LINE OF THE REVISED PLAT OF "THE TROPICS" PETE ROBINSON SUBDIVISION, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 6, PAGE 21 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY; THENCE NORTH 89°46'13" EAST ALONG THE NORTH LINE OF SAID EAST ONE-HALF, A DISTANCE OF 12.40 FEET; THENCE NORTH 00°00'21" WEST, ALONG A LIVESTOCK FENCE 0.3' TO THE WEST OF THE WEST LINE OF THE SAID SOUTHEAST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER OF SECTION 33, A DISTANCE OF 275.98 FEET TO THE SOUTH TOP OF BANK OF THE NORTH ST. LUCIE RIVER WATER CONTROL DISTRICT CANAL 15, ALSO KNOWN AS PLATTS BRANCH; THENCE MEANDERING ALONG THE SOUTH TOP OF BANK OF SAID PLATTS BRANCH, THE FOLLOWING TEN COURSES; NORTH 83°47'48" EAST, A DISTANCE OF 43.46 FEET; THENCE NORTH 86°49'25" EAST, A DISTANCE OF 72.02 FEET; THENCE SOUTH 85°07'47" EAST, A DISTANCE OF 48.47 FEET; THENCE NORTH 74°57'21" EAST, A DISTANCE OF 44.51 FEET; THENCE NORTH 80°24'14" EAST, A DISTANCE OF 92.67 FEET; THENCE NORTH 82°38'55" EAST, A DISTANCE OF 67.53 FEET; THENCE NORTH 85°47'34" EAST, A DISTANCE OF 117.62 FEET; THENCE NORTH 85°35'04" EAST, A DISTANCE OF 70.14 FEET; THENCE NORTH 73°25'57" EAST, A DISTANCE OF 15.73 FEET; THENCE NORTH 55°26'14" EAST, A DISTANCE OF 12.85 FEET TO THE WEST LINE OF SAID CANAL 14, SAID WEST LINE BEING PARALLEL TO AND 30.000 FEET WEST OF THE WEST RIGHT-OF-WAY LINE OF SAID STATE ROAD 605, SAID WEST RIGHT-OF-WAY LINE BEING PARALLEL TO AND 60.000 FEET WEST OF AS MEASURED AT RIGHT ANGLES TO THE EAST LINE OF SAID NORTHEAST ONE-QUARTER OF SECTION 33; THENCE SOUTH 00°12'46" WEST, ALONG THE WEST LINE OF SAID CANAL 14 A DISTANCE OF 339.69 FEET TO THE POINT OF BEGINNING.

SAID LANDS LYING IN ST. LUCIE COUNTY AND CONTAIN 12.919 ACRES MORE OR LESS.

PROJECT TEAM

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THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811

Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY BLAINE BERGSTRESSER, P.E. ON THE DATE ADJACENT TO THE SEAL.

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

No.	REVISIONS	DATE	BY

Kimley»Horn

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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM CA 00000696

BLAINE R. BERGSTRESSER — LICENSE NO. 84998 — STATE OF FLORIDA — PROFESSIONAL ENGINEER — DATE: 4/2/2021

KHA PROJECT	147811000
DATE	04/12/2021
SCALE	AS SHOWN
DESIGNED BY	BRB
DRAWN BY	TJE
CHECKED BY	BRB

COVER SHEET

OLEANDER OAKS
PREPARED FOR
ALVA STONE GROUP
CITY OF FORT PIERCE FL

SHEET NUMBER
C-000

Plotted By: Enright, Tyler Sheet Set: OLEANDER OAKS Layout: C-000 COVER SHEET April 23, 2021 09:45:31am K:\VRB_LDE\147811000 - oleander oaks\CAD\plansheets\C-000 COVER SHEET.dwg
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GENERAL

1. THE CONTRACTOR AND SUBCONTRACTORS SHALL OBTAIN A COPY OF THE FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" (LATEST EDITION) AND BECOME FAMILIAR WITH THE CONTENTS PRIOR TO COMMENCING WORK, AND, UNLESS OTHERWISE NOTED, ALL WORK SHALL CONFORM AS APPLICABLE TO THESE STANDARDS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES, SPECIFICATIONS AND REQUIREMENTS. CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS UNLESS OTHERWISE INDICATED, REMOVING TREES, STUMPS, ROOTS, MUCK, EXISTING PAVEMENT AND ALL OTHER DELETERIOUS MATERIAL.
3. EXISTING UTILITIES SHOWN ARE LOCATED ACCORDING TO THE INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME OF THE TOPOGRAPHIC SURVEY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE ENGINEER. GUARANTEE IS NOT MADE THAT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN OR THAT THE LOCATION OF THOSE SHOWN ARE ENTIRELY ACCURATE. FINDING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE DONE BEFORE HE COMMENCES ANY WORK IN THE VICINITY. FURTHERMORE, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, NOR FOR TEMPORARY BRACING AND SHORING OF SAME. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PROVIDE 48 HOURS MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION. A LIST OF THE UTILITY COMPANIES WHICH THE CONTRACTOR MUST CALL BEFORE COMMENCING WORK IS PROVIDED ON THE COVER SHEET OF THESE CONSTRUCTION PLANS. THIS LIST SERVES AS A GUIDE ONLY AND IS NOT INTENDED TO LIMIT THE UTILITY COMPANIES WHICH THE CONTRACTOR MAY WISH TO NOTIFY.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED CONSTRUCTION PERMITS AND BONDS IF REQUIRED PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF THE CONSTRUCTION DOCUMENTS INCLUDING PLANS, SPECIFICATIONS, AND SPECIAL CONDITIONS AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
7. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE OWNER AND NOTIFICATION TO THE ENGINEER.
8. ALL COPIES OF COMPACTION, CONCRETE AND OTHER REQUIRED TEST RESULTS ARE TO BE SENT TO THE OWNER AND DESIGN ENGINEER OF RECORD DIRECTLY FROM THE TESTING AGENCY.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING TO THE ENGINEER A CERTIFIED RECORD SURVEY SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA DEPICTING THE ACTUAL FIELD LOCATION OF ALL CONSTRUCTED IMPROVEMENTS THAT ARE REQUIRED BY THE JURISDICTIONAL AGENCIES FOR THE CERTIFICATION PROCESS. ALL SURVEY COSTS WILL BE THE CONTRACTORS RESPONSIBILITY.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING AND MAINTAINING AS-BUILT INFORMATION WHICH SHALL BE RECORDED AS CONSTRUCTION PROGRESSES OR AT THE COMPLETION OF APPROPRIATE CONSTRUCTION INTERVALS AND SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS TO THE OWNER FOR THE PURPOSE OF CERTIFICATION TO JURISDICTIONAL AGENCIES AS REQUIRED. ALL AS-BUILT DATA SHALL BE COLLECTED BY A STATE OF FLORIDA PROFESSIONAL LAND SURVEYOR WHOSE SERVICES ARE ENGAGED BY THE CONTRACTOR.
11. ANY WELLS DISCOVERED ON SITE THAT WILL HAVE NO USE MUST BE PLUGGED BY A LICENSED WELL DRILLING CONTRACTOR IN A MANNER APPROVED BY ALL JURISDICTIONAL AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY WELL ABANDONMENT PERMITS REQUIRED.
12. ANY WELL DISCOVERED DURING EARTH MOVING OR EXCAVATION SHALL BE REPORTED TO THE APPROPRIATE JURISDICTIONAL AGENCIES WITHIN 24 HOURS AFTER DISCOVERY IS MADE.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK THAT WOULD BE AFFECTED. FAILURE TO NOTIFY OWNER OF AN IDENTIFIABLE CONFLICT PRIOR TO PROCEEDING WITH INSTALLATION RELIEVES OWNER OF ANY OBLIGATION TO PAY FOR A RELATED CHANGE ORDER.

EROSION CONTROL

1. THE STORM WATER POLLUTION PREVENTION PLAN ("SWPPP") IS COMPRISED OF THE EROSION CONTROL PLAN, THE STANDARD DETAILS, THE PLAN NARRATIVE, ATTACHMENTS INCLUDED IN SPECIFICATIONS OF THE SWPPP, PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.
2. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OF FLORIDA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.
3. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST TO THE OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
4. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY THE PERMITTING AGENCY OR OWNER.
5. EROSION CONTROL PLAN MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
6. THE CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.
7. CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.
8. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
9. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL ON SITE. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
11. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
12. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THE PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.
13. STABILIZATION PRACTICES SHOULD BE INITIATED AS SOON AS PRACTICAL, BUT IN NO CASE MORE THAN 7 DAYS WHERE CONSTRUCTION HAS TEMPORARILY CEASED.
14. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRED IN THESE AREAS. REFER TO SECTION 981 OF THE STANDARD SPECIFICATIONS FOR SEEDING AND MAINTENANCE REQUIREMENTS.
15. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
16. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED AS SOON AS POSSIBLE.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
18. ON-SITE & OFF SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE EROSION CONTROL PLAN AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
19. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
20. DUE TO GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION.
21. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACK FILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.

POTABLE WATER AND SANITARY SEWER SYSTEM

1. THE CONTRACTOR SHALL CONSTRUCT GRAVITY SEWER LATERALS, MANHOLES GRAVITY SEWER LINES AND DOMESTIC WATER AND FIRE PROTECTION SYSTEM AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS, EQUIPMENT, MACHINERY, TOOLS, MEANS OF TRANSPORTATION AND LABOR NECESSARY TO COMPLETE THE WORK IN FULL AND COMPLETE ACCORDANCE WITH THE SHOWN, DESCRIBED AND REASONABLY INTENDED REQUIREMENTS OF THE CONTRACT DOCUMENTS AND JURISDICTIONAL AGENCY REQUIREMENTS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
2. ALL EXISTING UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS FOR UTILITY LOCATION AND COORDINATION IN ACCORDANCE WITH THE NOTES CONTAINED IN THE GENERAL CONSTRUCTION SECTION OF THIS SHEET.
3. THE CONTRACTOR SHALL RESTORE ALL DISTURBED VEGETATION IN KIND, UNLESS SHOWN OTHERWISE.
4. DEFLECTION OF PIPE JOINTS AND CURVATURE OF PIPE SHALL NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS. SECURELY CLOSE ALL OPEN ENDS OF PIPE AND FITTINGS WITH A WATERTIGHT PLUG WHEN WORK IS NOT IN PROGRESS. THE INTERIOR OF ALL PIPES SHALL BE CLEAN AND JOINT SURFACES WIPED CLEAN AND DRY AFTER THE PIPE HAS BEEN LOWERED INTO THE TRENCH. VALVES SHALL BE PLUMB AND LOCATED ACCORDING TO THE PLANS.
5. ALL PHASES OF INSTALLATION, INCLUDING UNLOADING, TRENCHING, LAYING AND BACK FILLING, SHALL BE DONE IN A FIRST CLASS WORKMANLIKE MANNER. ALL PIPE AND FITTINGS SHALL BE CAREFULLY STORED FOLLOWING MANUFACTURER'S RECOMMENDATIONS. CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE COATING OR LINING IN ANY D.I. PIPE FITTINGS. ANY PIPE OR FITTING WHICH IS DAMAGED OR WHICH HAS FLAWS OR IMPERFECTIONS WHICH, IN THE OPINION OF THE ENGINEER OR OWNER, RENDERS IT UNFIT FOR USE, SHALL NOT BE USED. ANY PIPE NOT SATISFACTORY FOR USE SHALL BE CLEARLY MARKED AND IMMEDIATELY REMOVED FROM THE JOB SITE, AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
6. WATER FOR FIRE FIGHTING SHALL BE AVAILABLE FOR USE PRIOR TO COMBUSTIBLES BEING BROUGHT ON SITE.
7. ALL UTILITY AND STORM DRAIN TRENCHES LOCATED UNDER AREAS TO RECEIVE PAVING SHALL BE COMPLETELY BACK FILLED IN ACCORDANCE WITH THE GOVERNING JURISDICTIONAL AGENCY'S SPECIFICATIONS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
8. UNDERGROUND LINES SHALL BE SURVEYED BY A STATE OF FLORIDA PROFESSIONAL LAND SURVEYOR PRIOR TO BACK FILLING.
9. CONTRACTOR SHALL PERFORM, AT HIS OWN EXPENSE, ANY AND ALL TESTS REQUIRED BY THE SPECIFICATIONS AND/OR ANY AGENCY HAVING JURISDICTION. THESE TESTS MAY INCLUDE, BUT MAY NOT BE LIMITED TO, INFILTRATION AND EXFILTRATION, TELEVISION INSPECTION AND A MANDREL TEST ON GRAVITY SEWER. A COPY OF THE TEST RESULTS SHALL BE PROVIDED TO THE UTILITY PROVIDER, OWNER AND JURISDICTIONAL AGENCY AS REQUIRED.

MAINTENANCE

ALL MEASURES STATED ON THE EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A 0.5" RAINFALL EVENT, AND CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

1. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.
2. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED AND RESEEDED AS NEEDED. FOR MAINTENANCE REQUIREMENTS REFER TO SECTION 981 OF THE OF THE FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" (LATEST EDITION).
3. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.
4. THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.
5. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.
6. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED TO 55 CUBIC YARDS / ACRE.
7. ALL MAINTENANCE OPERATIONS SHALL BE DONE IN A TIMELY MANNER BUT IN NO CASE LATER THAN 2 CALENDAR DAYS FOLLOWING THE INSPECTION.

STORM DRAINAGE SYSTEM

1. STANDARD INDEXES REFER TO THE 2021/2022 EDITION OF F.D.O.T. "STANDARD PLANS FOR ROADWAY CONSTRUCTION"

2. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE CLASS III (ASTM C-76) UNLESS OTHERWISE NOTED ON PLANS. ALL DRAINAGE STRUCTURES SHALL BE IN ACCORDANCE WITH F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS UNLESS OTHERWISE NOTED ON PLANS.

3. PIPE LENGTHS SHOWN ARE APPROXIMATE AND TO CENTER OF DRAINAGE STRUCTURES, WITH THE EXCEPTION OF MITERED END AND FLARED END SECTIONS, WHICH ARE NOT INCLUDED IN LENGTHS.

4. ALL DRAINAGE STRUCTURE GRATES AND COVERS, EITHER EXISTING OR PROPOSED SHALL BE TRAFFIC RATED FOR H-20 LOADINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY UPGRADES TO EXISTING DRAINAGE STRUCTURES.

5. CONSTRUCTION OF THE ENTIRE STORMWATER MANAGEMENT SYSTEM SHOWN ON THE PLANS MUST BE COMPLETE AND ALL DISTURBED AREAS STABILIZED IN ACCORDANCE WITH THE PERMITTED PLANS AND CONDITIONS PRIOR TO ANY OF THE FOLLOWING: ISSUANCE OF THE FIRST CERTIFICATE OF OCCUPANCY FOR ANY LOT; INITIATION OF INTENDED USE OF THE INFRASTRUCTURE; OR TRANSFER OF RESPONSIBILITY FOR MAINTENANCE OF THE SYSTEM TO A LOCAL GOVERNMENT OR OTHER RESPONSIBLE ENTITY.

6. THE CONTRACTOR SHALL INSTALL ALL UNDERGROUND STORM WATER PIPING PER JURISDICTION REGULATIONS (MANUFACTURER'S RECOMMENDATIONS SHALL BE UTILITIZED IF MORE STRINGENT).

7. STORM WATER PIPES, STRUCTURES, MINIMUM COVER AND INSTALLATION PROCEDURES TO BE IN ACCORDANCE WITH SOUTH FLORIDA WATER MANAGEMENT DISTRICT STANDARDS.

PAVING/GRADING TESTING AND INSPECTION

1. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING APPLICABLE TESTING WITH THE SOILS ENGINEER. TESTS WILL BE REQUIRED PURSUANT WITH THE SOILS REPORT. UPON COMPLETION OF WORK THE SOILS ENGINEER WILL SUBMIT CERTIFICATIONS TO THE OWNER AND OWNER'S ENGINEER STATING THAT ALL REQUIREMENTS HAVE BEEN MET.

2. A QUALIFIED TESTING LABORATORY SHALL PERFORM ALL TESTING NECESSARY TO ASSURE COMPLIANCE OF THE IN-PLACE MATERIALS AS REQUIRED BY THESE PLANS AND GEOTECHNICAL REPORT, THE VARIOUS AGENCIES AND PERMIT CONDITIONS. SHOULD ANY RETESTING BE REQUIRED DUE TO THE FAILURE OF ANY TESTS TO MEET THESE REQUIREMENTS, THE CONTRACTOR WILL BEAR ALL COSTS OF SAID RETESTING.

DRAINAGE SYSTEM TESTING AND INSPECTION

1. THE STORM DRAINAGE PIPING SYSTEM SHALL BE SUBJECT TO A VISUAL INSPECTION BY THE OWNER'S ENGINEER PRIOR TO THE PLACEMENT OF BACKFILL. CONTRACTOR TO NOTIFY THE ENGINEER 2 FULL BUSINESS DAYS IN ADVANCE TO SCHEDULE INSPECTION.

2. THE CONTRACTOR SHALL MAINTAIN AND PROTECT FROM MUD, DIRT, DEBRIS, ETC. THE STORM DRAINAGE SYSTEM UNTIL FINAL ACCEPTANCE OF THE PROJECT. THE STORM SYSTEM WILL BE REINSPECTED BY THE OWNER'S ENGINEER PRIOR TO APPROVAL FOR CERTIFICATE OF OCCUPANCY PURPOSES. THE CONTRACTOR MAY BE REQUIRED TO RECLEAN PIPES AND INLETS AT THE CONTRACTORS EXPENSE AND PRIOR TO FINAL ACCEPTANCE.

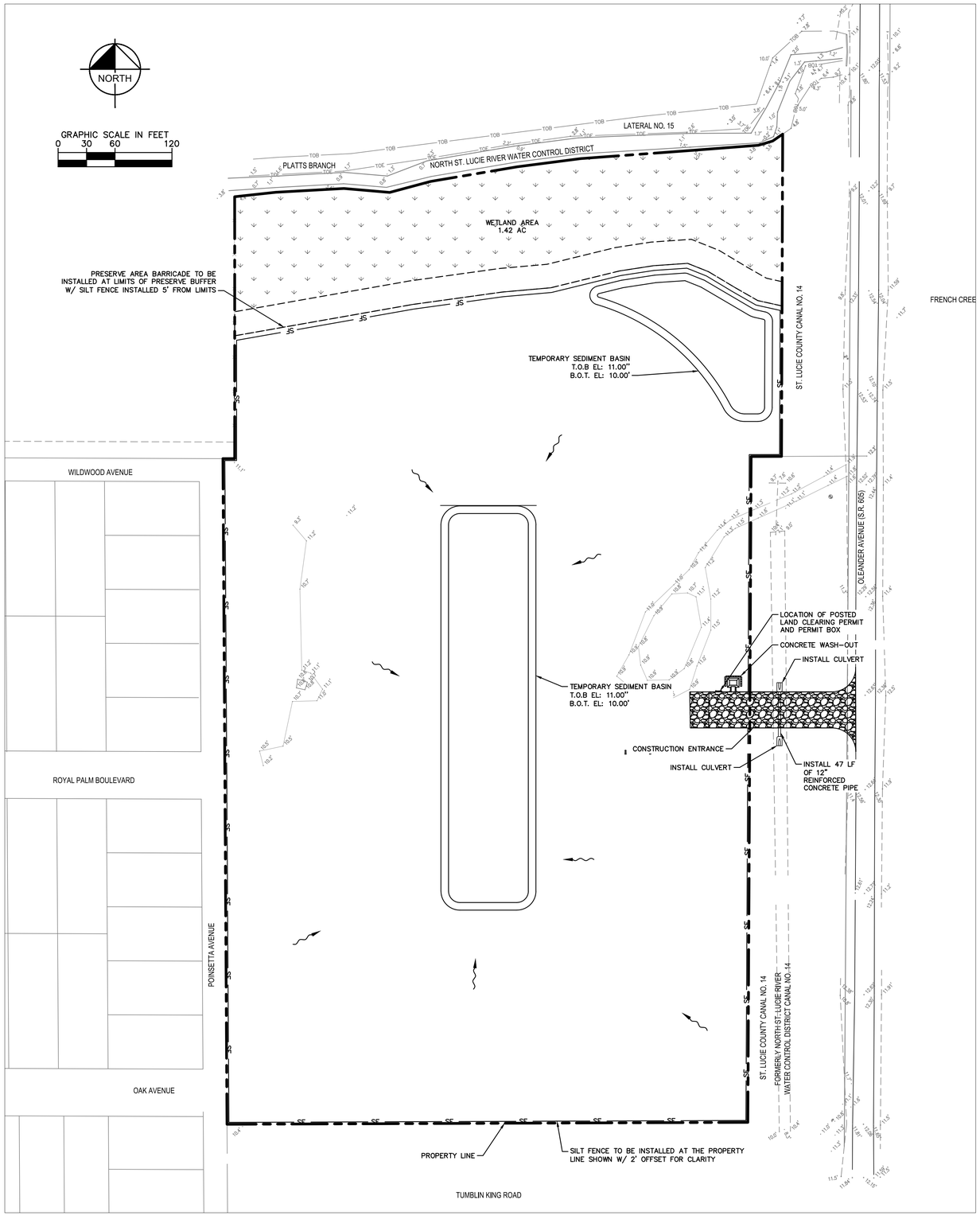
PAVING, GRADING AND DRAINAGE

1. ALL PAVING, CONSTRUCTION, MATERIALS, AND WORKMANSHIP WITHIN COUNTY'S RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH LOCAL OR COUNTY SPECIFICATIONS AND STANDARDS (LATEST EDITION) OR FDOT SPECIFICATIONS AND STANDARDS (LATEST EDITION) IF NOT COVERED BY LOCAL OR COUNTY REGULATIONS.
2. ALL UNPAVED AREAS IN EXISTING RIGHTS-OF-WAY DISTURBED BY CONSTRUCTION SHALL BE REGRADED AND SODDED.
3. TRAFFIC CONTROL ON ALL FDOT, LOCAL AND COUNTY RIGHTS-OF-WAY SHALL MEET THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (U.S. DOT/FHA) AND THE REQUIREMENTS OF THE STATE AND ANY LOCAL AGENCY HAVING JURISDICTION. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
4. THE CONTRACTOR SHALL GRADE THE SITE TO THE ELEVATIONS INDICATED AND SHALL REGRADE WASHOUTS WHERE THEY OCCUR AFTER EVERY RAINFALL UNTIL A GRASS STAND IS WELL ESTABLISHED OR ADEQUATE STABILIZATION OCCURS.
5. ALL OPEN AREAS WITHIN THE PROJECT SITE SHALL BE SODDED UNLESS INDICATED OTHERWISE ON THE LANDSCAPE PLAN.
6. ALL AREAS INDICATED AS PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TYPICAL PAVEMENT SECTIONS AS INDICATED ON THE DRAWINGS.
7. WHERE EXISTING PAVEMENT IS INDICATED TO BE REMOVED AND REPLACED, THE CONTRACTOR SHALL SAW CUT A MINIMUM 2" DEEP FOR A SMOOTH AND STRAIGHT JOINT AND REPLACE THE PAVEMENT WITH THE SAME TYPE AND DEPTH OF MATERIAL AS EXISTING OR AS INDICATED.
8. WHERE NEW PAVEMENT MEETS THE EXISTING PAVEMENT, THE CONTRACTOR SHALL SAW CUT THE EXISTING PAVEMENT A MINIMUM 2" DEEP FOR A SMOOTH AND STRAIGHT JOINT AND MATCH THE EXISTING PAVEMENT ELEVATION WITH THE PROPOSED PAVEMENT UNLESS OTHERWISE INDICATED.
9. THE CONTRACTOR SHALL INSTALL FILTER FABRIC OVER ALL DRAINAGE STRUCTURES FOR THE DURATION OF CONSTRUCTION AND UNTIL ACCEPTANCE OF THE PROJECT BY THE OWNER. ALL DRAINAGE STRUCTURES SHALL BE CLEANED OF DEBRIS AS REQUIRED DURING AND AT THE END OF CONSTRUCTION TO PROVIDE POSITIVE DRAINAGE FLOWS.
10. IF DEWATERING IS REQUIRED, THE CONTRACTOR SHALL OBTAIN ANY APPLICABLE REQUIRED PERMITS. THE CONTRACTOR IS TO COORDINATE WITH THE OWNER AND THE DESIGN ENGINEER PRIOR TO ANY EXCAVATION.
11. STRIP TOPSOIL AND ORGANIC MATTER FROM ALL AREAS OF THE SITE AS REQUIRED. IN SOME CASES TOPSOIL MAY BE STOCKPILED ON SITE FOR PLACEMENT WITHIN LANDSCAPED AREAS BUT ONLY AS DIRECTED BY THE OWNER.
12. FIELD DENSITY TESTS SHALL BE TAKEN AT INTERVALS IN ACCORDANCE WITH THE LOCAL JURISDICTIONAL AGENCY OR TO FDOT STANDARDS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
13. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED AS PER PLANS. THE AREAS SHALL THEN BE SODDED OR SEEDED AS SPECIFIED IN THE PLANS, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE JOB SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. ALL EARTHEN AREAS WILL BE SODDED OR SEEDED AND MULCHED AS SHOWN ON THE LANDSCAPING PLAN.
14. ALL CUT OR FILL SLOPES SHALL BE 4 (HORIZONTAL) :1 (VERTICAL) OR FLATTER UNLESS OTHERWISE SHOWN.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND DIRT RISING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING OR OTHER SUITABLE METHODS OF CONTROL. THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
16. THE CONTRACTOR SHALL TAKE ALL REQUIRED MEASURES TO CONTROL TURBIDITY, INCLUDING BUT NOT LIMITED TO THE INSTALLATION OF TURBIDITY BARRIERS AT ALL LOCATIONS WHERE THE POSSIBILITY OF TRANSFERRING SUSPENDED SOLIDS INTO THE RECEIVING WATER BODY EXISTS DUE TO THE PROPOSED WORK. TURBIDITY BARRIERS MUST BE MAINTAINED IN EFFECTIVE CONDITION AT ALL LOCATIONS UNTIL CONSTRUCTION IS COMPLETED AND DISTURBED SOIL AREAS ARE STABILIZED. THEREAFTER, THE CONTRACTOR MUST REMOVE THE BARRIERS. AT NO TIME SHALL THERE BE ANY OFF-SITE DISCHARGE WHICH VIOLATES THE WATER QUALITY STANDARDS IN CHAPTER 17-302, FLORIDA ADMINISTRATIVE CODE.
17. SOD, WHERE CALLED FOR, MUST BE INSTALLED AND MAINTAINED ON EXPOSED SLOPES WITHIN 48 HOURS OF COMPLETING FINAL GRADING, AND AT ANY OTHER TIME AS NECESSARY, TO PREVENT EROSION, SEDIMENTATION OR TURBID DISCHARGES.
18. THE CONTRACTOR MUST REVIEW AND MAINTAIN A COPY OF THE ENVIRONMENTAL RESOURCE PERMIT COMPLETE WITH ALL CONDITIONS, ATTACHMENTS, EXHIBITS, AND PERMIT MODIFICATIONS IN GOOD CONDITION AT THE CONSTRUCTION SITE. THE COMPLETE PERMIT MUST BE AVAILABLE FOR REVIEW UPON REQUEST BY WATER MANAGEMENT DISTRICT REPRESENTATIVES.
19. THE CONTRACTOR SHALL ENSURE THAT ISLAND PLANTING AREAS AND OTHER PLANTING AREAS ARE NOT COMPACTED AND DO NOT CONTAIN ROAD BASE MATERIALS. THE CONTRACTOR SHALL ALSO EXCAVATE AND REMOVE ALL UNDESIRABLE MATERIAL FROM ALL AREAS ON THE SITE TO BE PLANTED AND PROPERLY DISPOSED OF IN A LEGAL MANNER.
20. THE CONTRACTOR SHALL INSTALL ALL UNDERGROUND STORM WATER PIPING PER MANUFACTURER'S RECOMMENDATIONS.

DEMOLITION

1. CONTRACTOR SHALL SUBMIT DEMOLITION SCHEDULE TO OWNER PRIOR TO PROCEEDING WITH DEMOLITION ACTIVITIES.
2. EXTENT OF SITE CLEARING IS SHOWN ON DRAWINGS.
3. CONTRACTOR SHALL CONDUCT SITE DEMOLITION OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS OR OTHER OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM AUTHORITIES HAVING JURISDICTION.
4. CONTRACTOR SHALL PROVIDE PROTECTION NECESSARY TO PREVENT DAMAGE TO EXISTING IMPROVEMENTS INDICATED ON PLAN "EXISTING TO REMAIN".
5. CONTRACTOR SHALL RESTORE DAMAGED IMPROVEMENTS TO THEIR ORIGINAL CONDITION, AS ACCEPTABLE TO PARTIES HAVING JURISDICTION.
6. CONTRACTOR SHALL REMOVE WASTE MATERIALS AND UNSUITABLE AND EXCESS TOPSOIL FROM PROPERTY AND DISPOSE OF OFF-SITE IN A LEGAL MANNER.
7. CONTRACTOR SHALL DEMOLISH AND COMPLETELY REMOVE FROM SITE MATERIAL INDICATED ON PLAN OR NOTES "TO BE REMOVED".
8. CONTRACTOR SHALL PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS CREATED BY THE DEMOLITION OPERATION
9. ALL MATERIAL REMOVED FROM THIS SITE BY THE CONTRACTOR SHALL BE DISPOSED OF BY THE CONTRACTOR IN A LEGAL MANNER.
10. REFER TO THE TOPOGRAPHIC SURVEY FOR ADDITIONAL DETAILS OF EXISTING STRUCTURES, ETC., LOCATED WITHIN THE PROJECT SITE. UNLESS OTHERWISE NOTED, ALL EXISTING BUILDINGS, STRUCTURES, SLABS, CONCRETE, ASPHALT, DEBRIS PILES, SIGNS, AND ALL APPURTENANCES ARE TO BE REMOVED FROM THE SITE BY THE CONTRACTOR AND PROPERLY DISPOSED OF IN A LEGAL MANNER AS PART OF THIS CONTRACT. SOME ITEMS TO BE REMOVED MAY NOT BE DEPICTED ON THE TOPOGRAPHIC SURVEY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND DETERMINE THE FULL EXTENT OF ITEMS TO BE REMOVED. IF ANY ITEMS ARE IN QUESTION, THE CONTRACTOR SHALL CONTACT THE OWNER PRIOR TO REMOVAL OF SAID ITEMS.
11. THE CONTRAC

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



SEQUENCE OF CONSTRUCTION

UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILER, PARKING, LAYDOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY DENOTE THEM ON THE SITE MAPS AND NOTE ANY CHANGES IN LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS.

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6. PREPARE CLEARING AND GRUBBING OF THE SITE, IF APPLICABLE.

PHASE 2:

7. PERFORM MASS GRADING. ROUGH GRADE TO ESTABLISH PROPOSED DRAINAGE PATTERNS.
8. START CONSTRUCTION OF THE BUILDING PAD AND STRUCTURES.
9. TEMPORARILY SEED WITH PURE LIVE SEED, THROUGHOUT CONSTRUCTION, DISTURBED AREAS THAT WILL BE INACTIVE FOR 7 DAYS OR MORE OR AS REQUIRED BY GENERIC PERMIT.
10. INSTALL UTILITIES, UNDERDRAINS, STORM SEWERS, AND CURBS.
11. INSTALL INLET PROTECTION AT ALL STORM DRAIN INLETS AS EACH INLET IS INSTALLED. PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE.
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15. CONTINUE DAILY INSPECTION REPORTS UNTIL THE FINAL DAILY INSPECTION IS SIGNED OFF BY THE CONSTRUCTION MANAGER THAT THE SITE IS FULLY STABILIZED AND THE PERMIT MAY BE TERMINATED.

HALT ALL ACTIVITIES AND CONTACT THE CONSULTANT TO PERFORM INSPECTION AND CERTIFICATION OF BMPS. GENERAL CONTRACTOR SHALL SCHEDULE AND CONDUCT STORM WATER PRE-CONSTRUCTION MEETING WITH CONSULTANT AND ALL GROUND-DISTURBING CONTRACTORS BEFORE PROCEEDING WITH CONSTRUCTION.

CONTRACTOR TO BE RESPONSIBLE FOR OBTAINING ALL DEWATERING PERMITS NECESSARY FOR CONSTRUCTION

EROSION & SEDIMENTATION CONTROL

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10. TO THE EXTENT NECESSARY, SEDIMENT IN RUNOFF WATER MUST BE TRAPPED BY THE USE OF DEBRIS BASINS, SEDIMENT BASINS, SILT TRAPS OR SIMILAR MEASURES UNTIL THE DISTURBED AREA IS STABILIZED
11. CUTS AND FILLS MUST BE CONSTRUCTED IN SUCH A MANNER THAT EROSION AND RUNOFF FROM THE SITES DOES NOT ENDANGER ADJOINING PROPERTY
12. FILLS MAY NOT ENCROACH UPON NATURAL WATERCOURSES OR CONSTRUCTED CHANNELS IN A MANNER SO AS TO ADVERSELY AFFECT OTHER PROPERTY OWNERS WITHOUT ADEQUATE PROVISIONS FOR AN EQUIVALENT ALTERNATE SYSTEM WITH A POSITIVE OUTFALL
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1" OVER 562,732 SF SITE = 46,895 CF OF RUNOFF
SEDIMENT BASIN = 51,353 CF OF STORAGE

SOIL EROSION/SEDIMENTATION CONTROL OPERATION TIME SCHEDULE

NOTE: GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR SPECIFIC PROJECT SCHEDULE

CONSTRUCTION SEQUENCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
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EROSION CONTROL LEGEND

SF — PROPOSED SILT FENCE

PROPOSED PRESERVE AREA BARRICADE

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811

Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY BLAINE BERGSTRESSER, P.E. ON THE DATE ADJACENT TO THE SEAL.

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

BLAINE BERGSTRESSER ☆ LICENSE ☆ No. 84598 ☆ DATE: 4/2/2021 ☆ STATE OF FLORIDA ☆ PROFESSIONAL ENGINEER

No.	REVISIONS	DATE	BY

Kimley»Horn
445 24TH STREET, SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT 147811000
DATE
SCALE AS SHOWN
DESIGNED BY
DRAWN BY
CHECKED BY

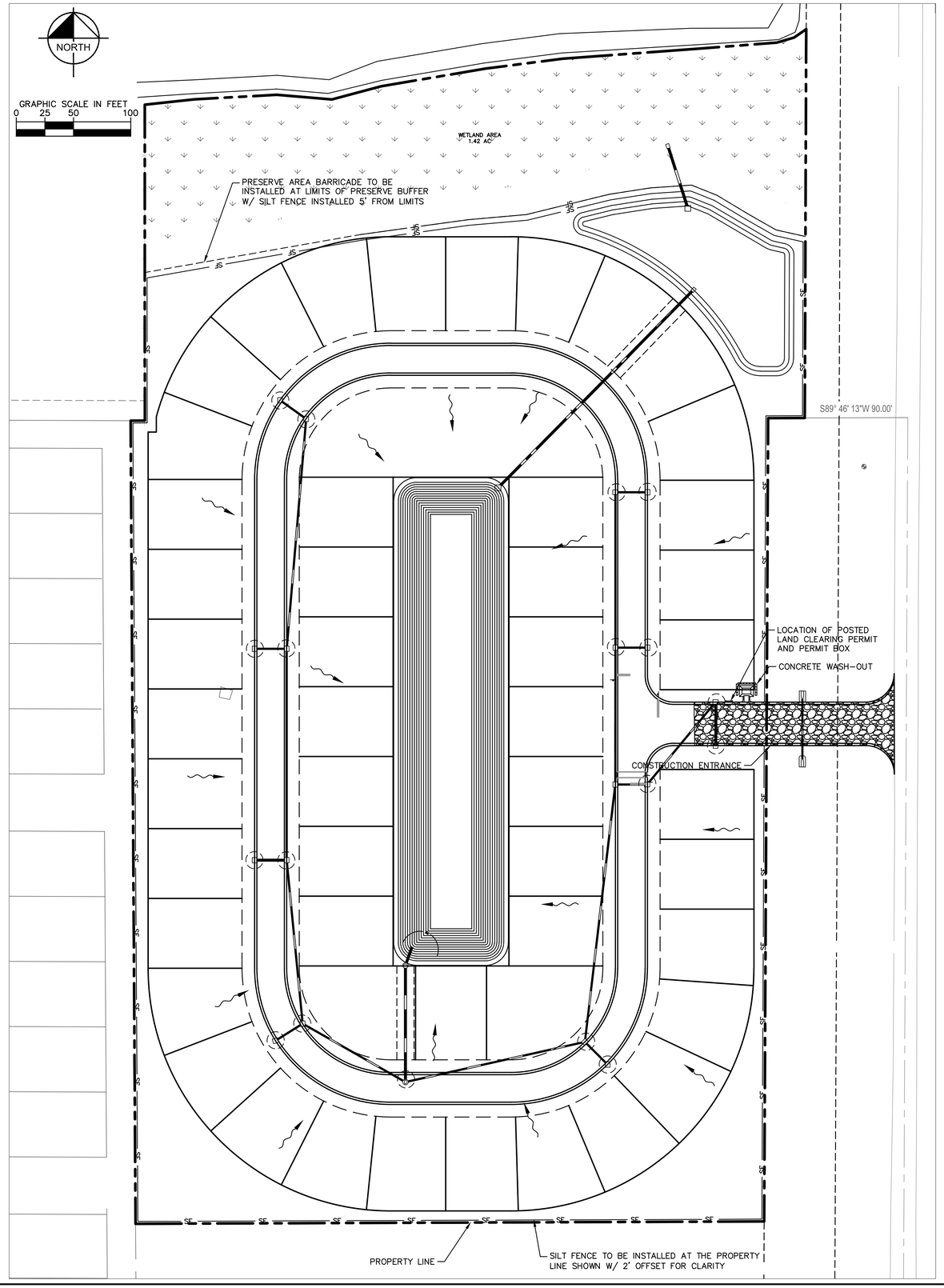
DEMOLITION AND EROSION CONTROL PLAN - PHASE 1

OLEANDER OAKS

PREPARED FOR
ALVA STONE GROUP

CITY OF FORT PIERCE

SHEET NUMBER
C-004



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EROSION CONTROL LEGEND

- SF — PROPOSED SILT FENCE
- TB — PROPOSED TURBIDITY BARRIER
- SURFACE WATER FLOW DIRECTION
- PROPOSED TREE PROTECTION
- PROPOSED INLET PROTECTON
- PROPOSED PRESERVE AREA BARRICADE

SEE LANDSCAPE PLAN FOR TREE REMOVAL/RELOCATION AND TREE PROTECTION

SITE PREPARATION SHOULD BE IN ACCORDANCE WITH GEOTECHNICAL INVESTIGATION

CONTRACTOR TO BE RESPONSIBLE FOR OBTAINING ALL DEWATERING PERMITS NECESSARY FOR CONSTRUCTION

HALT ALL ACTIVITIES AND CONTACT THE CONSULTANT TO PERFORM INSPECTION AND CERTIFICATION OF BMPS. GENERAL CONTRACTOR SHALL SCHEDULE AND CONDUCT STORM WATER PRE-CONSTRUCTION MEETING WITH CONSULTANT AND ALL GROUND-DISTURBING CONTRACTORS BEFORE PROCEEDING WITH CONSTRUCTION.

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

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IT'S THE LAW! DIAL 811

811 Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

No.	REVISIONS	DATE	BY

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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM CA 00000696

BLAINE BERGSTRESSER — LICENSE NO. 84998 — STATE OF FLORIDA — PROFESSIONAL ENGINEER — DATE: 4/2/2021

KHA PROJECT 147811000
DATE 04/12/2021
SCALE AS SHOWN
DESIGNED BY BRB
DRAWN BY TJE
CHECKED BY BRB

DEMOLITION AND EROSION CONTROL PLAN - PHASE 2

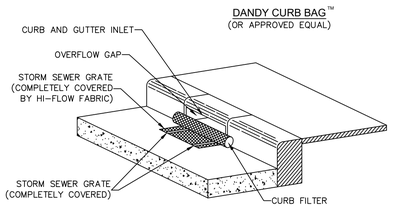
OLEANDER OAKS

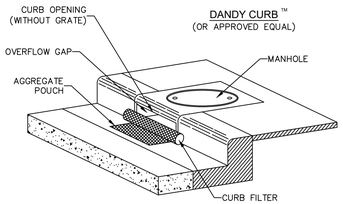
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ALVA STONE GROUP

CITY OF FORT PIERCE FL

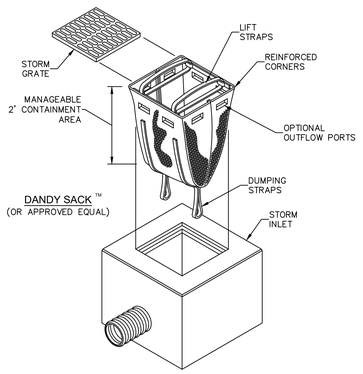
SHEET NUMBER
C-005

Plotted By:Enright, Tyler Sheet Set:OLEANDER OAKS Layout:C-007 DEMOLITION AND EROSION CONTROL PLAN - PHASE 2 April 23, 2021 10:37:28am K:\VRB_LDEV\147811000 - Oleander oaks\CAD\Plansheets\C-007 DEMOLITION AND EROSION CONTROL PLAN - PHASE 2.dwg
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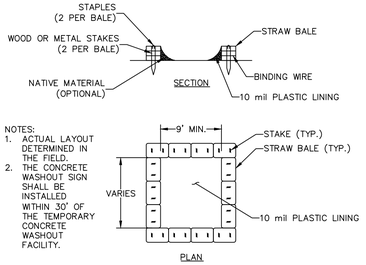




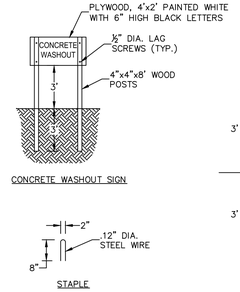
CURB INLET SEDIMENT CONTROL
N.T.S

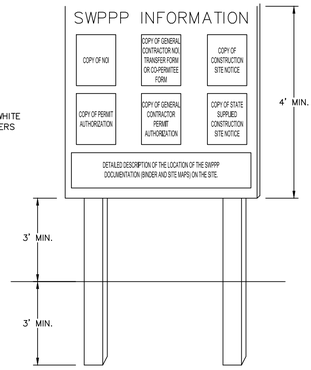


INLET INSERT
N.T.S



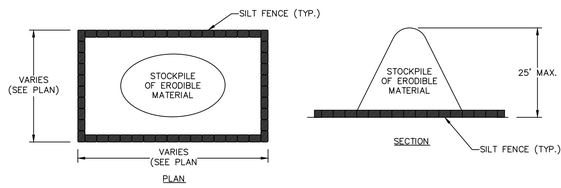
CONCRETE & STUCCO WASTE MANAGEMENT
N.T.S





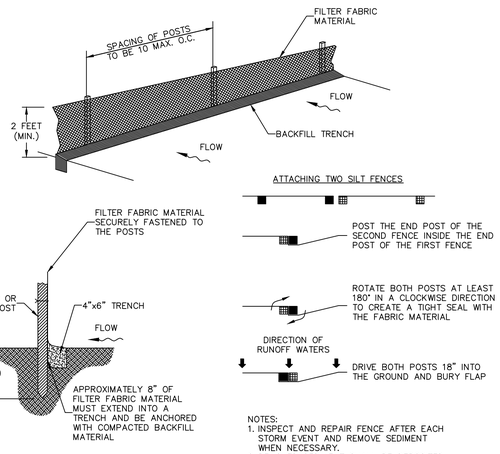
NOTES:
1. "SWPPP INFORMATION" MUST BE DISPLAYED PROMINENTLY ACROSS THE TOP OF THE SIGN, AS SHOWN IN THE DETAIL.
2. SIGN TO BE CONSTRUCTED OF A RIGID MATERIAL, SUCH AS PLYWOOD OR OUTDOOR SIGN BOARD. SIGN MUST BE CONSTRUCTED IN A MANNER TO PROTECT DOCUMENTS FROM DAMAGE DUE TO WEATHER (WIND, SUN, MOISTURE, ETC.).
3. THE SWPPP INFORMATION SIGN MUST BE LOCATED NEAR THE ENTRANCE/EXIT OF THE SITE, SUCH THAT IT IS ACCESSIBLE/VIEWABLE BY THE GENERAL PUBLIC, BUT NOT OBSTRUCTING VIEWS AS TO CAUSE A SAFETY HAZARD.
4. ALL POSTED DOCUMENTS MUST BE MAINTAINED IN A CLEARLY READABLE CONDITION AT ALL TIMES THROUGHOUT CONSTRUCTION AND UNTIL THE NOTICE-OF-TERMINATION (NOT) IS FILED FOR THE PERMIT.
5. CONTRACTOR SHALL POST OTHER STORM WATER AND/OR EROSION AND SEDIMENT CONTROL RELATED PERMITS ON THE SIGN AS REQUIRED BY THE LOCAL AGENCY.
6. SIGN SHALL BE LOCATED OUTSIDE OF PUBLIC RIGHT-OF-WAY AND EASEMENTS UNLESS APPROVED BY THE GOVERNING AGENCY.
7. CONTRACTOR IS RESPONSIBLE FOR ENSURING STABILITY OF THIS SWPPP INFORMATION SIGN.

SWPPP INFORMATION SIGN
N.T.S



SEDIMENT CONTROL FOR STOCKPILING OF ERODIBLE MATERIAL
N.T.S

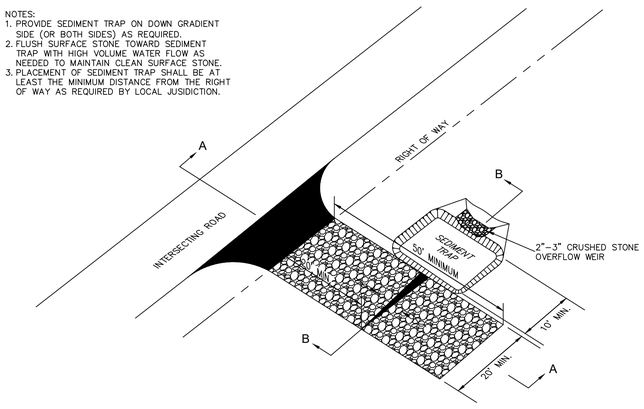
NOTE:
WHEN STOCKPILING ERODIBLE MATERIAL FOR EXTENDED PERIODS, THE AREA SHALL BE SEEDED AND MULCHED.



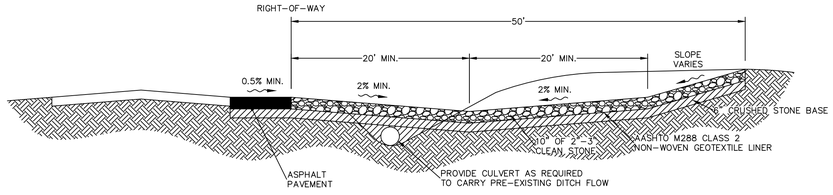
NOTES:
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

SILT FENCE INSTALLATION
N.T.S

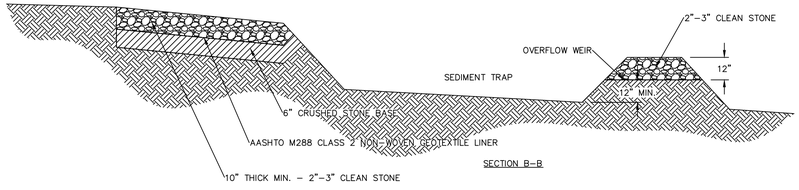
NOTES:
1. PROVIDE SEDIMENT TRAP ON DOWN GRADIENT SIDE (OR BOTH SIDES) AS REQUIRED.
2. FLUSH SURFACE STONE TOWARD SEDIMENT TRAP WITH HIGH VOLUME WATER FLOW AS NEEDED TO MAINTAIN CLEAN SURFACE STONE.
3. PLACEMENT OF SEDIMENT TRAP SHALL BE AT LEAST THE MINIMUM DISTANCE FROM THE RIGHT OF WAY AS REQUIRED BY LOCAL JUSIDICTION.



VIEW

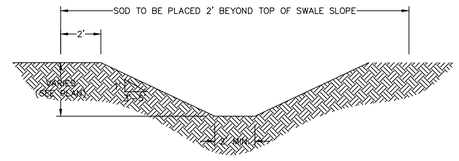


SECTION A-A

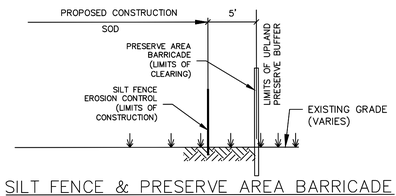


SECTION B-B

CONSTRUCTION EXIT
N.T.S



TYPICAL SWALE SECTION
N.T.S



SILT FENCE & PRESERVE AREA BARRICADE TYPICAL SECTION
NTS

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

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SUNSHINE STATE ONE CALL OF FLORIDA, INC.

No.	REVISIONS	DATE	BY

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ROBERT BLAINE BERGSTRESSER
LICENSE NUMBER 84688
STATE OF FLORIDA
PROFESSIONAL ENGINEER
DATE: 4/12/2021

KHA PROJECT	147811000
DATE	04/12/2021
SCALE	AS SHOWN
DESIGNED BY	BRB
DRAWN BY	T&E
CHECKED BY	BRB

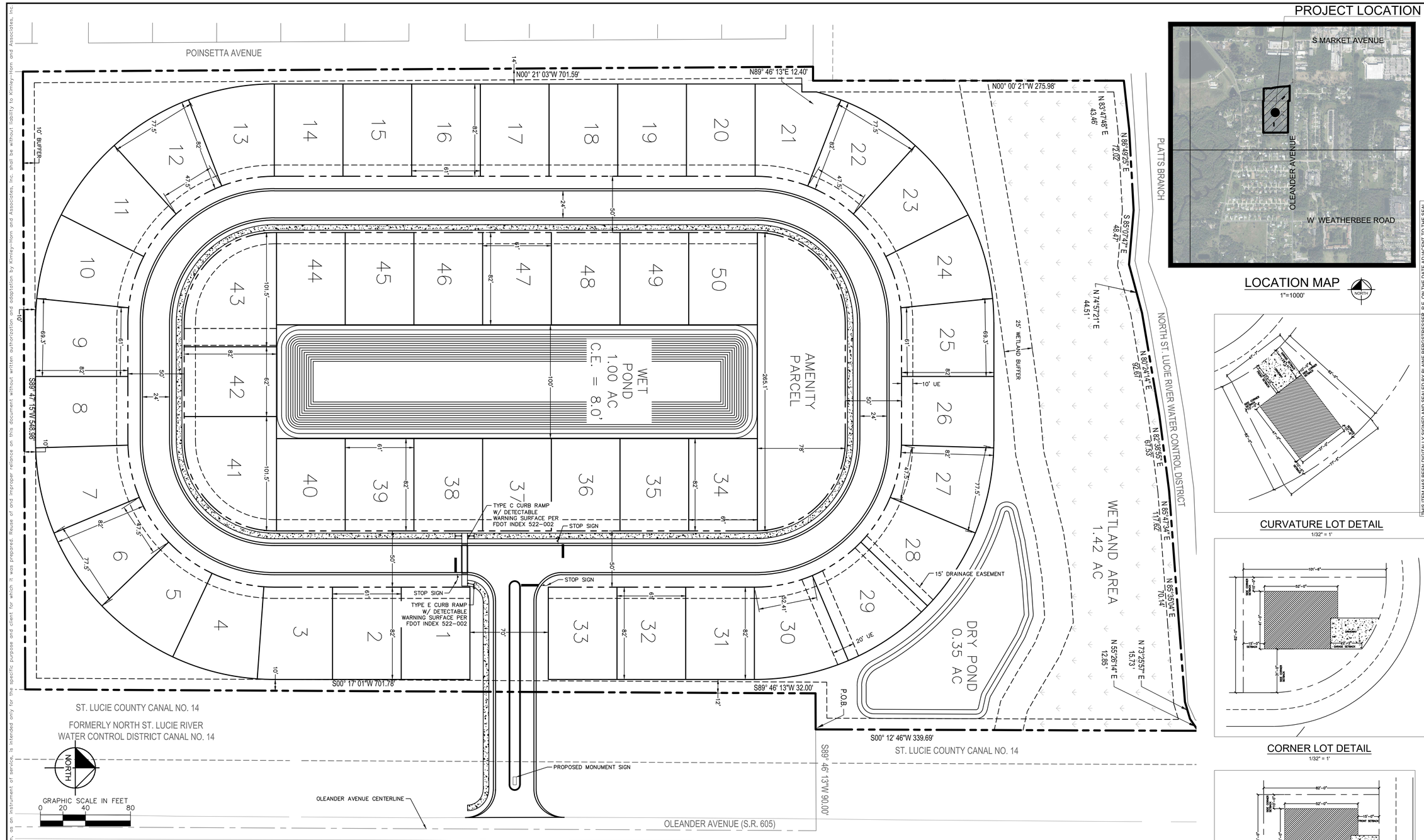
EROSION CONTROL DETAILS

OLEANDER OAKS
PREPARED FOR
ALVA STONE GROUP

CITY OF FORT PIERCE FL

SHEET NUMBER
C-006

Plotted By:Enright, Tyler Sheet Set:OLEANDER OAKS Layout:C-005 EROSION CONTROL DETAILS April 23, 2021 09:45:56am K:\VRB_LDE\147811000 - oleander oaks\CAD\plantsheets\C-005 EROSION CONTROL DETAILS.dwg
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PROJECT LOCATION

LOCATION MAP

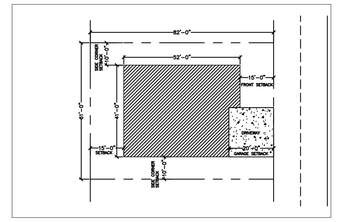
1"=1000'

CURVATURE LOT DETAIL

1/32" = 1'

CORNER LOT DETAIL

1/32" = 1'



REGULAR LOT DETAIL

1/32" = 1'

OWNER/DEVELOPER

ALVA STONE GROUP
224 PALERMO AVENUE
CORAL GABLES, FL 33134

CIVIL ENGINEER

KIMLEY-HORN AND ASSOCIATES. INC.
445 24TH STREET, SUITE 200
VERO BEACH, FL 32960

FLOOD ZONE

PROPERTY LIES WITHIN FLOOD ZONE "X" & "AE", ACCORDING TO THE F.I.R.M. MAP NO. 12111C0189J.

LEGAL DESCRIPTION

PER OFFICIAL RECORDS BOOK 4050, PAGE 2327

PARCEL ONE:
ALL OF THE EAST 1/2 OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LYING NORTH OF LAND OWNED BY MRS. HARRY E KESLER ON THE 7TH DAY OF MARCH 1956, LESS LAND FOR ROADS AND DRAINAGE CANALS. THE SAID LAND IS ALSO DESCRIBED AS THE EAST 1/2 OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LESS THE SOUTH 630 FEET THEREOF.

PARCEL TWO: THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST, LESS AND EXCEPTING THEREFROM ALL RIGHTS OF WAY AND EASEMENTS FOR PUBLIC ROAD AND DRAINAGE CANALS.

DEVELOPMENT DATA	
PROJECT NAME	OLEANDER OAKS
TAX PARCEL ID NO.	2433-144-0002-000-3
EXISTING FUTURE LAND USE	MEDIUM DENSITY RESIDENTIAL (RM)
PROPOSED FUTURE LAND USE	MEDIUM DENSITY RESIDENTIAL (RM)
EXISTING ZONING	MEDIUM DENSITY RESIDENTIAL (R-4)
PROPOSED ZONING	PLANNED DEVELOPMENT ZONE (PD)
PROJECT USE	SINGLE-FAMILY RESIDENTIAL
MAXIMUM ALLOWABLE DENSITY	6.5 - 12 DU/AC
PROPOSED DENSITY	3.87 DU/AC

TOTAL AREA OF TRACT	562,732 SF	12.92 AC	100%
AREA OF PROPOSED BUILDINGS	100,000 SF	2.30 AC	17.80%
AREA OF PROPOSED PAVEMENT	75,000 SF	1.72 AC	13.33%
TOTAL PROPOSED IMPERVIOUS AREA	175,000 SF	4.02 AC	31.13%
AREA OF WETLAND	62,025 SF	1.42 AC	10.99%
AREA OF WETLAND BUFFER	14,855 SF	0.34 AC	2.63%
AREA OF PROPOSED POND	43,560 SF	1.00 AC	7.77%
AREA OF PROPOSED OPEN SPACE	270,628 SF	6.17 AC	47.76%
TOTAL PROPOSED OPEN SPACE AREA	387,732 SF	8.89 AC	68.86%
REQUIRED OPEN SPACE AREA	112,547 SF	2.58 AC	20.00%

PROPOSED MINIMUM SETBACKS	
FRONT	15'
FRONT GARAGE	20'
SIDE (INTERIOR)	10'
SIDE (CORNER)	15'
REAR	10'

R-4 ZONING REQUIREMENTS	
MIN. LOT AREA	5,000 SF
MIN. LOT WIDTH	60'
MIN. LOT DEPTH	70'
MAX. LOT COVERAGE	40% OF LOT AREA
MIN. STREET FRONTAGE	15'

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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM CA 00000696

BLAINE RUSSELL BERGSTRESSER LICENSE No. 84598 STATE OF FLORIDA PROFESSIONAL ENGINEER
DATE: 4/2/2021

KHA PROJECT 147811000
DATE 04/12/2021
SCALE AS SHOWN
DESIGNED BY BRB
DRAWN BY TJE
CHECKED BY BRB

SITE PLAN

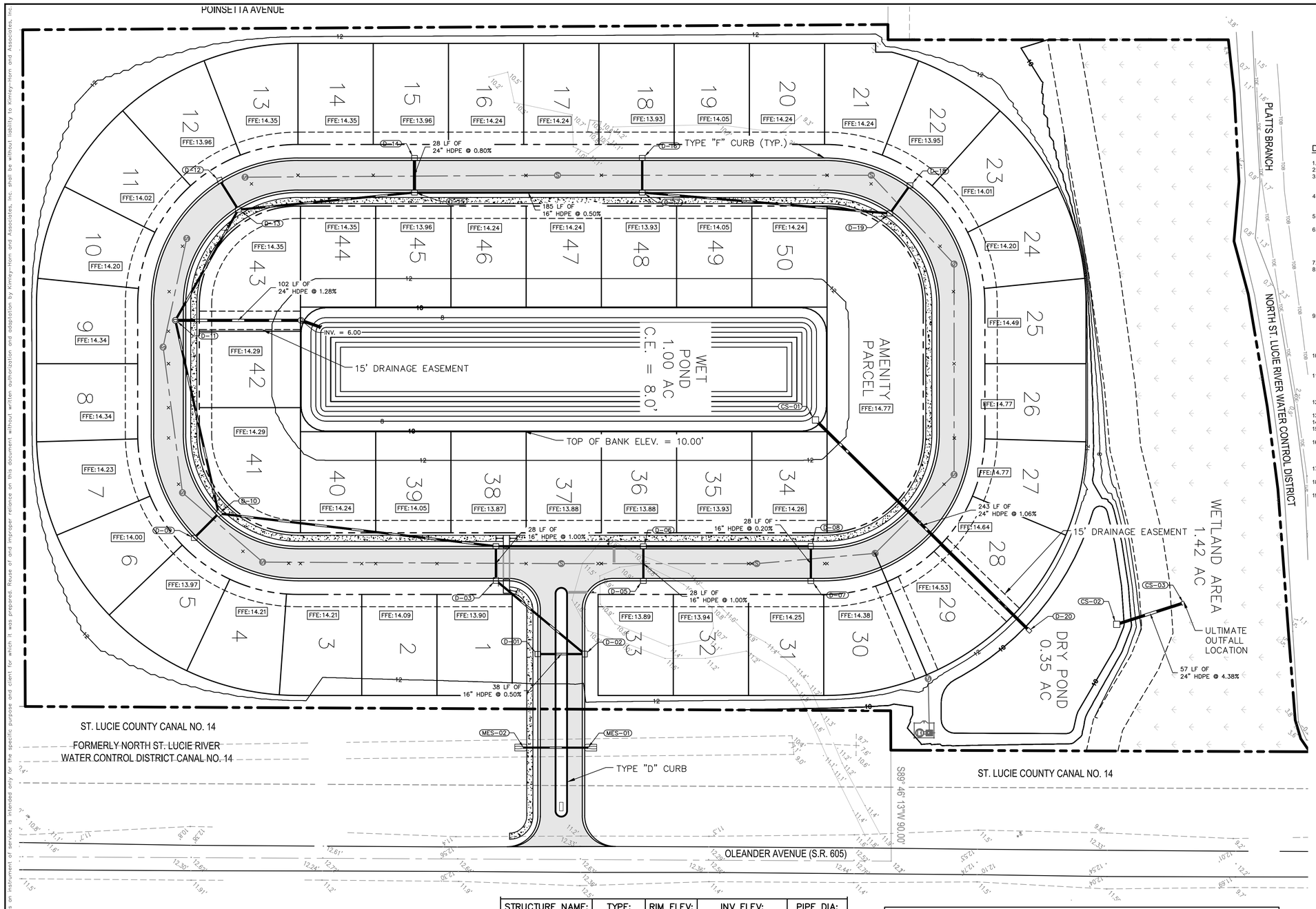
OLEANDER OAKS

PREPARED FOR
ALVA STONE GROUP

CITY OF FORT PIERCE FL

SHEET NUMBER
C-100

Plotted By:Enright, Tyler Sheet Set:OLEANDER OAKS Layout:C-100 SITE PLAN April 23, 2021 10:39:04am K:\VRB_LDEV\147811000 - oleander oaks\CAD\plansheets\C-100 SITE PLAN.dwg
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DRAINAGE NOTES

1. ELEVATIONS SHOWN HERON ARE REFERENCED TO NAVD 1988.
2. SURVEY INFORMATION SHOWN HEREON WAS PROVIDED BY HSQ GROUP, INC.
3. CONTRACTOR TO CONSTRUCT DRAINAGE STRUCTURES WITH USF GRATES, RIMS AND COVERS AS CALLED OUT OR APPROVED EQUAL. SHOP DRAWINGS ARE TO BE PROVIDED TO ENGINEER FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
4. CONTRACTOR TO REFER TO FDOT DESIGN STANDARD (AND NOT LIMITED TO) INDEX'S 200, 201, 210, 211, 214, 232 & 233 FOR MANHOLE, INLET AND GRATE SPECIFICATIONS.
5. ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED WITH (4) SIDED BEARING HEAVY DUTY H-20 RATED TRAFFIC RIMS AND GRATES.
6. CONTRACTOR TO VERIFY ALL EXISTING UTILITY RINGS AND COVERS ON SITE ARE HEAVY DUTY TRAFFIC RATED. CONTRACTOR TO REPLACE DEFICIENT RINGS AND COVERS WITH HEAVY DUTY TRAFFIC RATED RINGS AND COVERS. CONTRACTOR TO ADJUST RIM ELEVATIONS OF ANY UTILITIES THAT CHANGE IN ELEVATION DURING CONSTRUCTION.
7. ALL CLEAN-OUT COVERS SHOULD BE RATED FOR HEAVY DUTY TRAFFIC.
8. SIDEWALKS AND CROSSWALKS SHALL NOT EXCEED 2% CROSS SLOPE NOR 5% LONGITUDINALLY. GRADES IN ACCESSIBLE PARKING SPACES SHALL NOT EXCEED 2% IN ANY DIRECTION. IN CASES OF SIDEWALK LANDINGS AT BUILDING ENTRANCES, GRADES SHALL NOT EXCEED 2% IN ANY DIRECTION. ACCESSIBLE CURB RAMPS SHALL NOT EXCEED 6' IN LENGTH AND 1:12 SLOPE. LANDINGS AT CHANGES IN DIRECTION SHALL BE MINIMUM 60"x60" AND SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION.
9. ROOF DRAIN CONNECTIONS TO DRAINAGE PIPE SHALL BE AS FOLLOWS:
   A. FOR ADS N-12 CORRUGATED POLYETHYLENE DRAINAGE PIPE USE ADS DUAL WALL FABRICATED REDUCING SADDLE TEE 4"-24" DIAMETER.
   B. FOR RCP DRAINAGE PIPE MAKE CONNECTION PER FDOT INDEX 280,CONCRETE COLLAR FOR JOINING MAINLINE PIPE AND STUB PIPE DETAIL
   C. NOTIFY CONSULTANT FOR CONNECTION METHOD TO STEEL PIPE.
10. ALL DRAINAGE PIPE JOINTS SHALL BE FILTER FABRIC WRAPPED PER FDOT INDEX #280. ALL DRAINAGE PIPE JOINTS NEED TO BE FILTER FABRIC WRAPPED REGARDLESS OF MATERIAL.
11. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
12. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING STRUCTURES INCLUDING REMOVAL OF ANY EXISTING UTILITIES SERVING THE STRUCTURE.
13. EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
14. PRECAST STRUCTURES MAY BE USED AT CONTRACTORS OPTION.
15. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
16. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER".
17. ALL CATCH BASINS WITHIN PROPOSED TRAFFIC AREAS SHALL HAVE BICYCLE PROOF GRATES.
18. CONTRACTOR TO FLUSH AND VACUUM ENTIRE ON-SITE STORM WATER SYSTEM UPON COMPLETION OF PROPOSED WORK.
19. MINIMUM DRAINAGE PIPE SHALL BE 15 INCHES PER CITY OF FORT PIERCE LAND DEVELOPMENT ORDINANCE SEC 119-3 DESIGN STANDARDS; STORMWATER MANAGEMENT; APPROVALS.

LEGEND

- TYPE "F" CURB AND GUTTER
- TYPE "D CURB
- 6' OPAQUE SCREENING WALL
- HEAVY DUTY ASPHALT PAVEMENT
- STANDARD DUTY ASPHALT PAVEMENT
- HEAVY DUTY CONCRETE PAVEMENT
- STANDARD DUTY CONCRETE PAVEMENT

DRAINAGE LEGEND

- PROPOSED STORM INLET
- PROPOSED MITERED END SECTION
- PROPOSED DRAINAGE PIPE
- PROPOSED DIRECTION OF SURFACE WATER RUNOFF
- PROPOSED SURFACE ELEVATION (XX.X)
- EXISTING CONTOUR

STRUCTURE TABLE

STRUCTURE NAME:	TYPE:	RIM ELEV:	INV ELEV:	PIPE DIA:
71	HEADWALL	2.60	INV IN: 5.000 (S)	DIA IN: 24"
CS-01	FDOT TYPE "C" CONTROL STRUCTURE	10.08	INV OUT: 7.500 (NE)	DIA OUT: 24"
CS-02	FDOT TYPE "C" CONTROL STRUCTURE	10.08	INV OUT: 8.000 (N)	DIA OUT: 24"
CS-03	FDOT TYPE "C" CONTROL STRUCTURE	9.24	INV IN: 5.500 (S)	DIA IN: 24"
D-01	CURB INLET	13.15	INV OUT: 6.778 (N)	DIA OUT: 16"
D-02	CURB INLET	13.15	INV IN: 6.588 (S) INV OUT: 6.488 (SW)	DIA IN: 16" DIA OUT: 16"
D-03	CURB INLET	12.31	INV IN: 6.020 (NE) INV OUT: 9.513 (W)	DIA IN: 16" DIA OUT: 16"
D-04	CURB INLET	12.32	INV IN: 9.235 (E) INV IN: 9.235 (N) INV OUT: 9.235 (S)	DIA IN: 16" DIA IN: 16" DIA OUT: 16"

STRUCTURE TABLE

STRUCTURE NAME:	TYPE:	RIM ELEV:	INV ELEV:	PIPE DIA:
D-05	CURB INLET	12.32	INV IN: 9.833 (W)	DIA IN: 16"
D-06	CURB INLET	12.32	INV IN: 9.833 (N) INV OUT: 10.113 (E) INV OUT: 9.833 (S)	DIA IN: 16" DIA OUT: 16" DIA OUT: 16"
D-07	CURB INLET	12.32	INV IN: 10.152 (W)	DIA IN: 16"
D-08	CURB INLET	12.32	INV OUT: 10.208 (E) INV OUT: 10.512 (S)	DIA OUT: 16" DIA OUT: 16"
D-09	CURB INLET	12.33	INV OUT: 8.383 (NW)	DIA OUT: 16"
D-10	CURB INLET	12.25	INV IN: 8.103 (SE) INV IN: 8.103 (N) INV OUT: 8.103 (W)	DIA IN: 16" DIA IN: 16" DIA OUT: 16"
D-11	MANHOLE	12.61	INV IN: 7.300 (NW) INV IN: 7.300 (E) INV OUT: 7.300 (N)	DIA IN: 16" DIA IN: 16" DIA OUT: 24"
D-12	CURB INLET	12.33	INV OUT: 8.040 (NE)	DIA OUT: 16"

STRUCTURE TABLE

STRUCTURE NAME:	TYPE:	RIM ELEV:	INV ELEV:	PIPE DIA:
D-13	CURB INLET	12.27	INV IN: 7.900 (SW) INV IN: 7.893 (N) INV OUT: 7.893 (SE)	DIA IN: 16" DIA IN: 16" DIA OUT: 16"
D-14	CURB INLET	12.32	INV OUT: 9.174 (E)	DIA OUT: 24"
D-15	CURB INLET	12.32	INV IN: 8.950 (W) INV IN: 8.687 (N) INV OUT: 8.687 (S)	DIA IN: 24" DIA IN: 16" DIA OUT: 16"
D-16	CURB INLET	12.32	INV OUT: 9.890 (E)	DIA OUT: 16"
D-17	CURB INLET	12.32	INV IN: 9.750 (W) INV IN: 9.610 (N) INV OUT: 9.610 (S)	DIA IN: 16" DIA IN: 16" DIA OUT: 16"
D-18	CURB INLET	12.33	INV OUT: 10.730 (SE)	DIA OUT: 16"
			INV IN: 9.890 (NW)	DIA IN: 16"

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

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No.	REVISIONS	DATE	BY

Kimley»Horn
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445 24TH STREET, SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM CA 00000696

ROBERT BLAINE BERGSTRESSER LICENSE NO. 84998 STATE OF FLORIDA PROFESSIONAL ENGINEER DATE: 4/2/2021

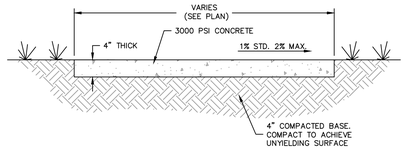
KHA PROJECT	147811000
DATE	04/12/2021
SCALE	AS SHOWN
DESIGNED BY	BRB
DRAWN BY	TJE
CHECKED BY	BRB

PAVING GRADING AND DRAINAGE PLAN

OLEANDER OAKS
PREPARED FOR
ALVA STONE GROUP
CITY OF FORT PIERCE FL

SHEET NUMBER
C-200

Plotted By:Enright, Tyler Sheet Set:OLEANDER OAKS Layout:C-200 PAVING GRADING AND DRAINAGE PLAN April 23, 2021 09:46:23am K:\VRB_LDEV\147811000 - oleander oaks\CAD\plansheets\C-200 PAVING GRADING AND DRAINAGE PLAN.dwg
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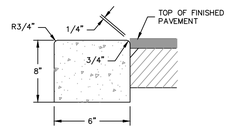


NOTE
SEE SITE PLAN FOR SPECIFIC SIDEWALK LOCATIONS.

SIDEWALK CONSTRUCTION SHALL BE PER FDOT DESIGN STANDARDS INDEX 522-001. DETECTABLE WARNINGS AND CURB RAMPS SHALL BE PER INDEX 522-002.

TYPICAL 4" SIDEWALK SECTION

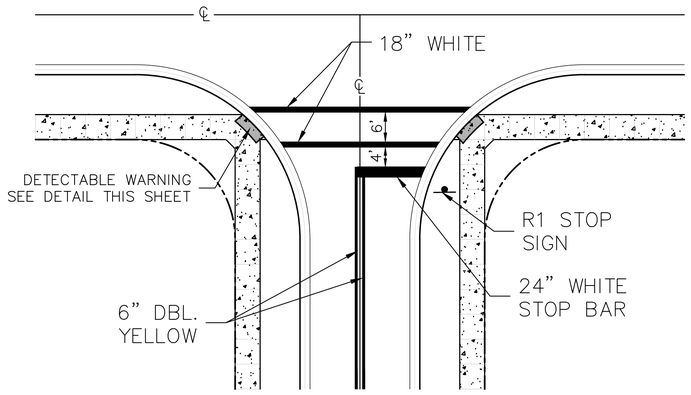
N.T.S.



ALL CONCRETE SHALL BE 3,000 PSI

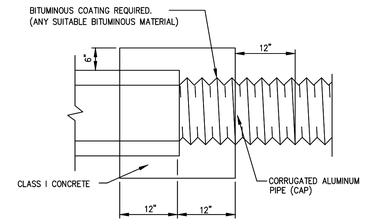
6" EDGE CURB

PGKH24A.DWG N.T.S.



TYPICAL CROSSWALK AND STOP BAR DETAIL

N.T.S.



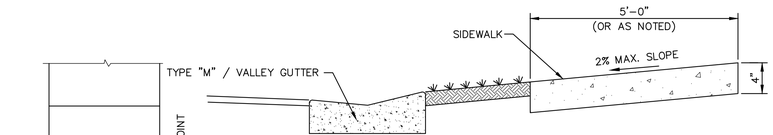
CONCRETE COLLAR DETAIL

N.T.S.

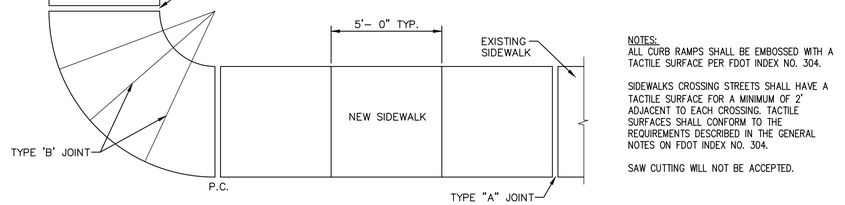
TABLE OF SIDEWALK THICKNESS - 'T'	
LOCATION	'T'
RESIDENTIAL AREAS	4"
AT DRIVEWAYS AND OTHER AREAS	6"

NOTE: CONCRETE TO BE 3,000 P.S.I. AT 28 DAYS

TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
'A'	P.C. AND P.T. OF CURVES.
'B'	5'- 0" CENTER TO CENTER ON SIDEWALKS. (NOT LESS THAN 4' AND NOT GREATER THAN 10')
'C'	WHERE SIDEWALK ABUTS CONCRETE CURBS, DRIVEWAYS AND SIMILAR STRUCTURES. JUNCTION OF EXISTING AND NEW SIDEWALKS AT INTERVALS NOT GREATER THAN 100'.



SECTION VIEW

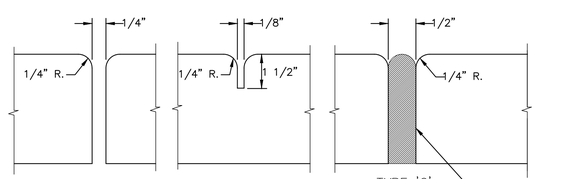


NOTES:
ALL CURB RAMPS SHALL BE EMBOSSED WITH A TACTILE SURFACE PER FDOT INDEX NO. 304.

SIDEWALKS CROSSING STREETS SHALL HAVE A TACTILE SURFACE FOR A MINIMUM OF 2' ADJACENT TO EACH CROSSING. TACTILE SURFACES SHALL CONFORM TO THE REQUIREMENTS DESCRIBED IN THE GENERAL NOTES ON FDOT INDEX NO. 304.

SAW CUTTING WILL NOT BE ACCEPTED.

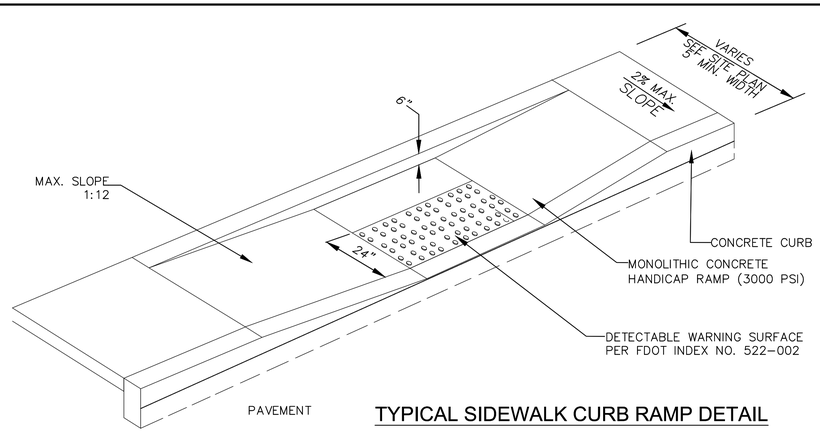
PLAN



SIDEWALK JOINTS

SIDEWALK CONSTRUCTION

N.T.S.



TYPICAL SIDEWALK CURB RAMP DETAIL

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

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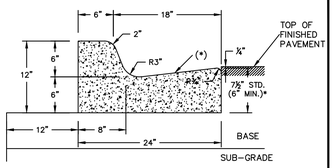
PAVING GRADING AND DRAINAGE DETAILS

OLEANDER OAKS
PREPARED FOR
ALVA STONE GROUP

CITY OF FORT PIERCE FL

SHEET NUMBER
C-201

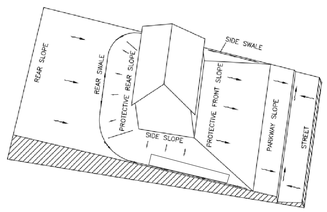
Plotted By:Enright, Tyler Sheet Set:OLEANDER OAKS Layout:C-201 PAVING GRADING AND DRAINAGE DETAILS April 23, 2021 09:46:23am K:\VRB_LDEV\147811000 - oleander oaks\CAD\plansheets\C-200 PAVING GRADING AND DRAINAGE PLAN.dwg
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* WHEN USED ON HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT AND THE THICKNESS OF THE LIP SHALL BE 6" UNLESS OTHERWISE SHOWN ON THE PLANS. ASPHALT SURFACE ON HIGH SIDE TO BE FLUSH WITH LIP OF CURB OR CURB & GUTTER.

TYPE "F" CURB AND GUTTER

N.T.S



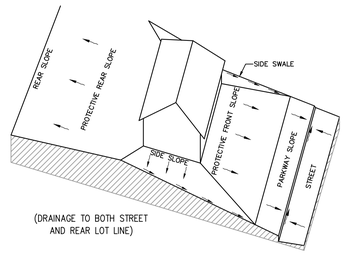
(DRAINAGE TO STREET)

NOTES

1. ALL SLOPES GREATER THAN 6:1 SHALL BE SODDED.
2. ROOF RUNOFF FROM SIDES AND REAR OF HOUSES SHALL BE DIRECTED TOWARD SIDE AND REAR YARD SWALES ACCORDINGLY.

TYPE 'A' LOT GRADING DETAIL

N.T.S.



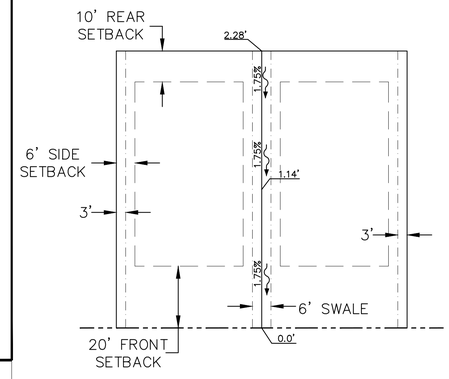
(DRAINAGE TO BOTH STREET AND REAR LOT LINE)

NOTES

1. ALL SLOPES GREATER THAN 6:1 SHALL BE SODDED.
2. ROOF RUNOFF FROM SIDES AND REAR OF HOUSES SHALL BE DIRECTED TOWARD SIDE AND REAR YARD SWALES ACCORDINGLY.

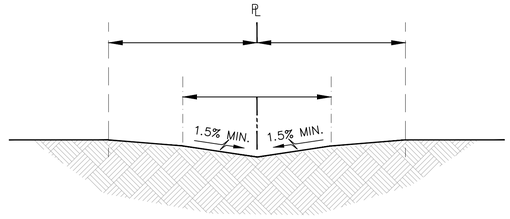
TYPE 'B' LOT GRADING DETAIL

N.T.S.



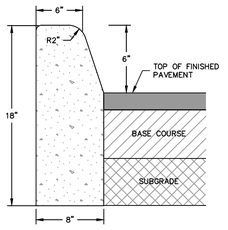
TYPICAL LOT SWALE DETAIL

N.T.S.



TYPICAL LOT SWALE SECTION

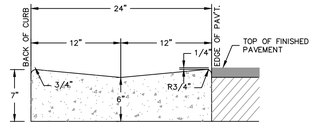
N.T.S.



ALL CONCRETE SHALL BE 3,000 PSI

TYPE "D" CURB

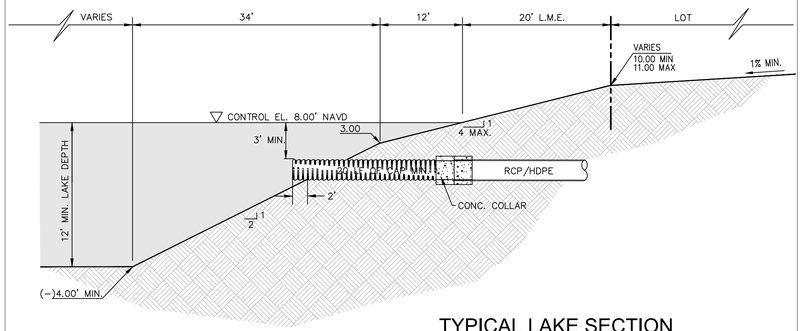
PGKH22A.DWG N.T.S.



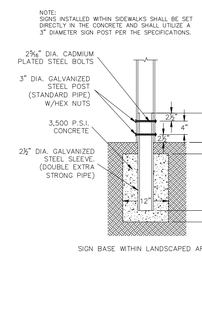
ALL CONCRETE SHALL BE 3,000 PSI

VALLEY GUTTER SECTION

PGKH21A.DWG N.T.S.

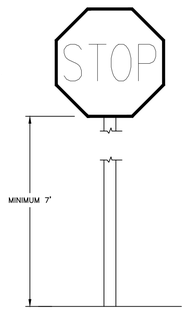


TYPICAL LAKE SECTION



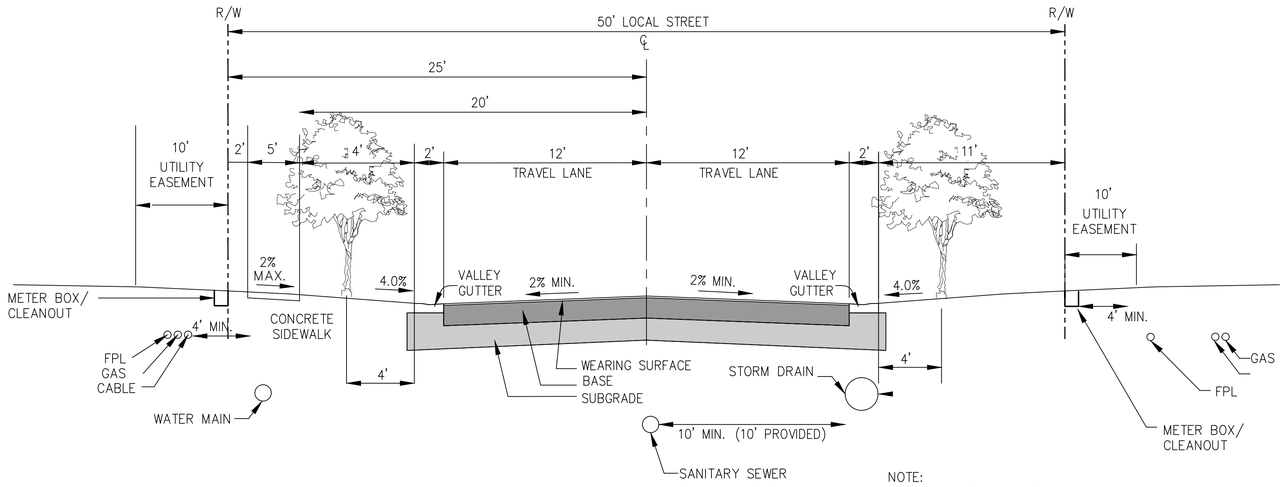
SIGN BASE

N.T.S



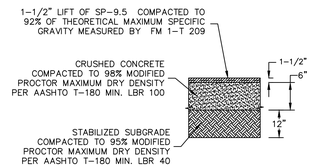
REQUIRED SIGN HEIGHT

N.T.S



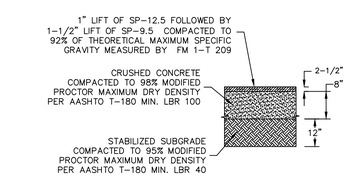
NOTE:
1. THE MIN. SEPARATION BETWEEN CITY UTILITY LINES AND OTHER UNDERGROUND UTILITIES, AS MEASURED FROM THE OUTSIDE OF EACH PIPE, SHALL BE FIVE (5) FEET.

2. PER CITY CODE, SIDEWALK IS ONLY REQUIRED ON ONE SIDE OF THE ROAD.



STANDARD DUTY ASPHALT

N.T.S



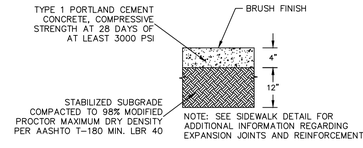
HEAVY DUTY ASPHALT

N.T.S

NOTE:
CONTRACTOR TO REFER TO THE GEOTECHNICAL REPORT FOR SITE WORK SPECIFICATIONS.

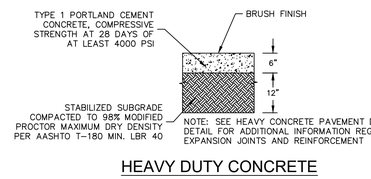
CRUSHED CONCRETE SHALL BE FROM AN FDOT APPROVED PLANT.

CRUSHED CONCRETE GRADATION SHALL BE AVAILABLE ON SITE AND SUBMITTED FOR THE AS-BUILT.



STANDARD DUTY CONCRETE

N.T.S



HEAVY DUTY CONCRETE

N.T.S

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DRAWN BY	TJE
CHECKED BY	BRB

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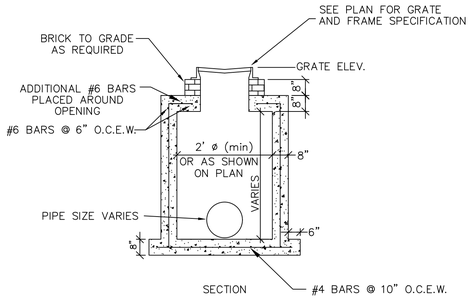
OLEANDER OAKS

PREPARED FOR
ALVA STONE GROUP

CITY OF FORT PIERCE FL

SHEET NUMBER
C-202

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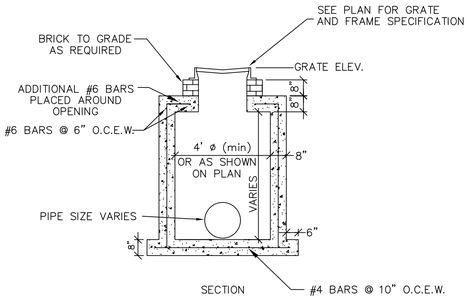
NOTE:

1. TYPE II CEMENT 4000 P.S.I.

2. WALL REINFORCEMENT A.S.T.M. DESIGNATION A185-64 OR EQUAL TO A.S.T.M. C-478.

TYPE C STORM INLET DETAIL

N.T.S



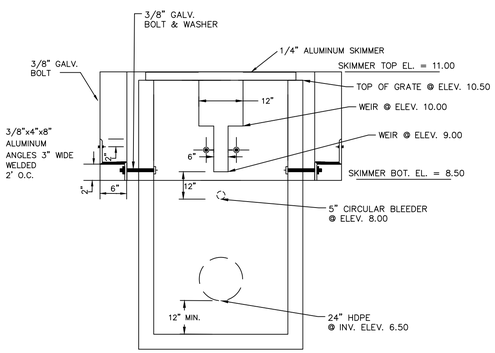
NOTE:

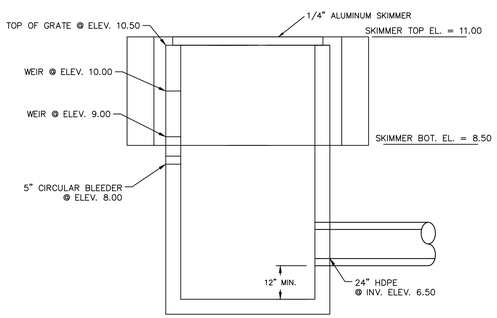
1. TYPE II CEMENT 4000 P.S.I.

2. WALL REINFORCEMENT A.S.T.M. DESIGNATION A185-64 OR EQUAL TO A.S.T.M. C-478.

TYPE D STORM INLET DETAIL

N.T.S

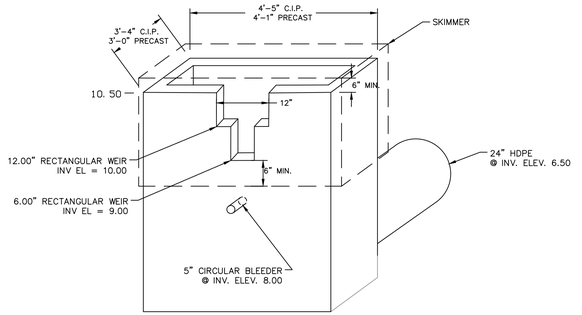




CONTROL STRUCTURE NOTES:
1. CONTRACTOR TO REFER TO FDOT FY 2021-22 STANDARD PLANS INDEX 425-052 FOR REBAR SPACING AND SIZING.

CONTROL STRUCTURE (CS-01)
FDOT TYPE 'C' STRUCTURE

NTS



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ROBERT BLAINE BERGSTRESSER — LICENSE NO. 84998 — STATE OF FLORIDA — PROFESSIONAL ENGINEER — DATE: 4/2/2021

No.	REVISIONS	DATE	BY

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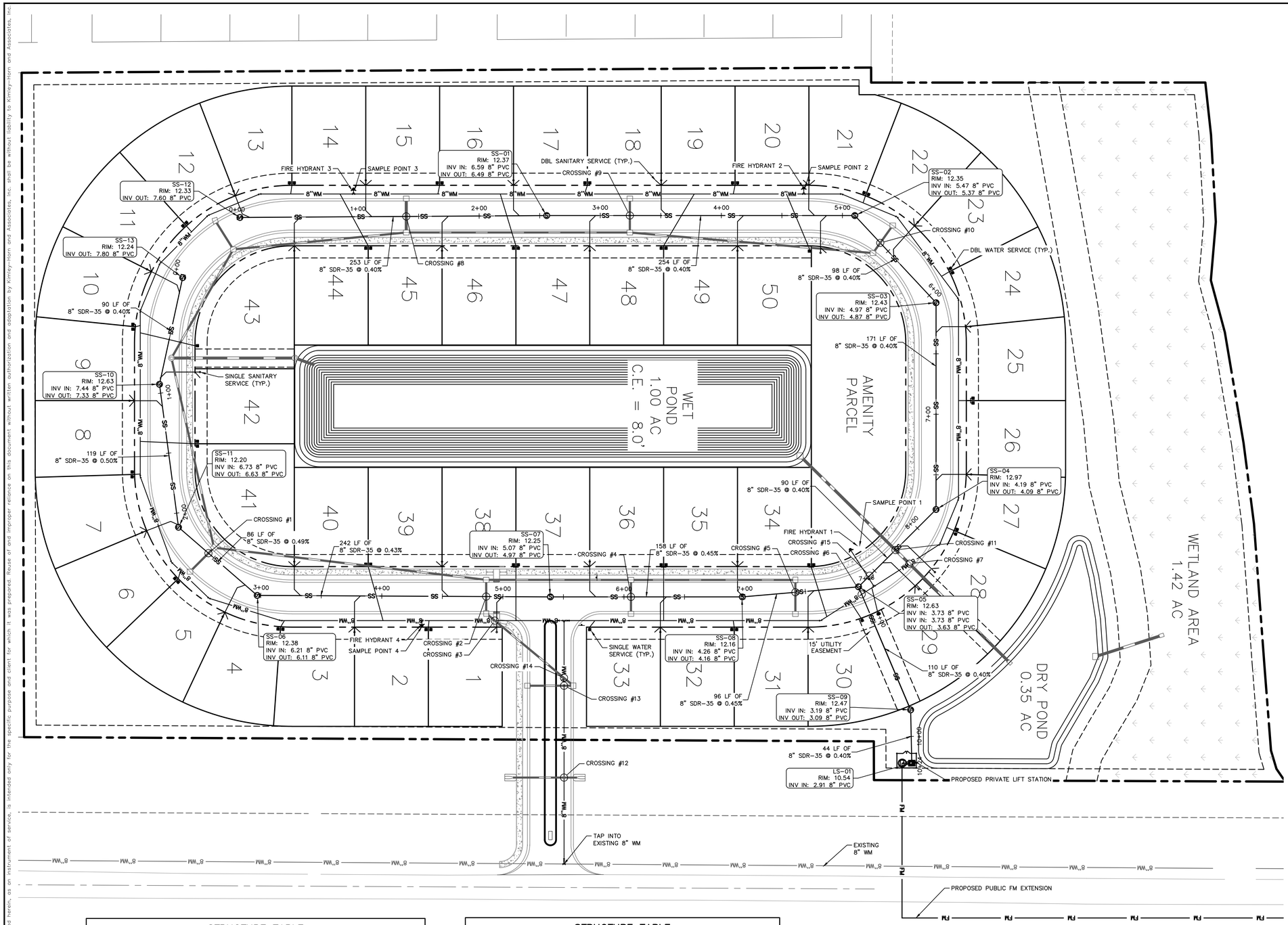
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C-203

Plotted By:Enright, Tyler Sheet Set:OLEANDER OAKS Layout:C-203 PAVING GRADING AND DRAINAGE DETAILS April 23, 2021 09:46:25am K:\VRB_LDEV\147811000 - oleander oaks\CAD\plansheets\C-200 PAVING GRADING AND DRAINAGE PLAN.dwg
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UTILITY LEGEND

- PROPOSED WATER LINE
- PROPOSED GATE VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED SINGLE WATER SERVICE (1" LINE W/ 5/8" METER UNLESS OTHERWISE NOTED)
- PROPOSED DOUBLE WATER SERVICE (1.5" LINE W/ (2) 5/8" METERS UNLESS OTHERWISE NOTED)
- PROPOSED SINGLE SEWER SERVICE W/ CO
- PROPOSED DOUBLE SEWER SERVICE W/ CO
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SEWER
- PROPOSED WATER CAP
- PROPOSED TEE

UTILITY NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD, THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
3. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
4. SANITARY SEWER PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON THE PLANS:
   8" PVC SDR26 PER ASTM D 3034 DEPTHS LESS THAN 15'
   8" PVC C900 FOR DEPTHS GREATER THAN 15'
5. WATER LINES SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON PLANS:
   6" AND LARGER, PVC C-900 PER ASTM D 2241 CLASS 200 UNDER ROADS, OTHERWISE CLASS 150
6. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
7. ALL WATER JOINTS ARE TO BE MECHANICAL JOINTS AND RESTRAINED AS REQUIRED BY THE CITY OF PORT ST. LUCIE.
8. ALL UTILITIES SHOULD BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 18" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).
9. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 36" COVER ON ALL WATERLINES AND FORCEMAINS.
10. CROSSINGS AND CONFLICTS MUST BE PER CITY OF PSL SPECIFICATIONS.
11. LINES UNDERGROUND SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
12. ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 COMPRESSION STRENGTH AT 3000 P.S.I.
13. CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL AUTHORITIES WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
14. ALL WATER MAIN INSTALLATIONS SHALL COMPLY WITH THE COLOR CODING REQUIREMENTS OF CHAPTER 62-555.320 FAC.
15. VALVES ARE NOT TO BE PLACED IN CURBS, SIDEWALKS, OR DRIVEWAYS.
16. ALL MANHOLES SHALL BE ADJUSTED TO FINAL GRADE PRIOR TO BEGINNING PAVING.
17. DRIVEWAY APRON IS SHOWN FOR REFERENCE ONLY. DRIVEWAYS ARE TO BE CONSTRUCTED AND PERMITTED AS PART OF THE BUILDING PERMIT PROCESS.
18. EACH PULL BOX MUST HAVE A MIN. 50' OF SLACK OF FIBER OPTIC CABLE PER CITY SPEC.
19. EACH SPLICE BOX MUST HAVE A MIN. 100' OF SLACK OF FIBER OPTIC CABLE PER CITY SPEC.
20. TRACER WIRE MUST BE INSTALLED PER CITY SPEC./QPL.
21. THE PROPERTY OWNER, CONTRACTOR,AND AUTHORIZED REPRESENTATIVES SHALL PROVIDE PICK UP, REMOVAL, AND DISPOSAL OF LITTER WITHIN THE PROPERTY LIMITS AND SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE AREA FORM THE EDGE OF PAVEMENT TO THE PROPERTY LINE.

STRUCTURE TABLE

STRUCTURE NAME:	TYPE:	RIM ELEV:	INV ELEV:	PIPE DIA:
LS-01	LIFT STATION	10.54	INV IN: 2.911 (W)	DIA IN: 8"
SS-01	MH	12.37	INV IN: 6.586 (S) INV OUT: 6.486 (N)	DIA IN: 8" DIA OUT: 8"
SS-02	MH	12.35	INV IN: 5.468 (S) INV OUT: 5.368 (NE)	DIA IN: 8" DIA OUT: 8"
SS-03	MH	12.43	INV IN: 4.974 (SW) INV OUT: 4.874 (E)	DIA IN: 8" DIA OUT: 8"
SS-04	MH	12.97	INV IN: 4.191 (W) INV OUT: 4.091 (SE)	DIA IN: 8" DIA OUT: 8"
SS-05	MH	12.63	INV IN: 3.729 (NW) INV IN: 3.726 (S) INV OUT: 3.629 (NE)	DIA IN: 8" DIA IN: 8" DIA OUT: 8"

STRUCTURE TABLE

STRUCTURE NAME:	TYPE:	RIM ELEV:	INV ELEV:	PIPE DIA:
SS-06	MH	12.38	INV IN: 6.205 (SW) INV OUT: 6.105 (N)	DIA IN: 8" DIA OUT: 8"
SS-07	MH	12.25	INV IN: 5.073 (S) INV OUT: 4.973 (N)	DIA IN: 8" DIA OUT: 8"
SS-08	MH	12.16	INV IN: 4.260 (S) INV OUT: 4.160 (N)	DIA IN: 8" DIA OUT: 8"
SS-09	MH	12.47	INV IN: 3.187 (SW) INV OUT: 3.087 (E)	DIA IN: 8" DIA OUT: 8"
SS-10	MH	12.63	INV IN: 7.439 (W) INV OUT: 7.330 (E)	DIA IN: 8" DIA OUT: 8"
SS-11	MH	12.20	INV IN: 6.730 (W) INV OUT: 6.630 (NE)	DIA IN: 8" DIA OUT: 8"

STRUCTURE TABLE

STRUCTURE NAME:	TYPE:	RIM ELEV:	INV ELEV:	PIPE DIA:
SS-12	MH	12.33	INV OUT: 7.600 (N)	DIA OUT: 8"
SS-13	MH	12.24	INV OUT: 7.800 (E)	DIA OUT: 8"

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No.	REVISIONS	DATE	BY

Kimley»Horn
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445 24TH STREET, SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM CA 00000696

ROBERT BLAINE BERGSTRESSER LICENSE NUMBER 86998 STATE OF FLORIDA PROFESSIONAL ENGINEER
DATE: 4/2/2021

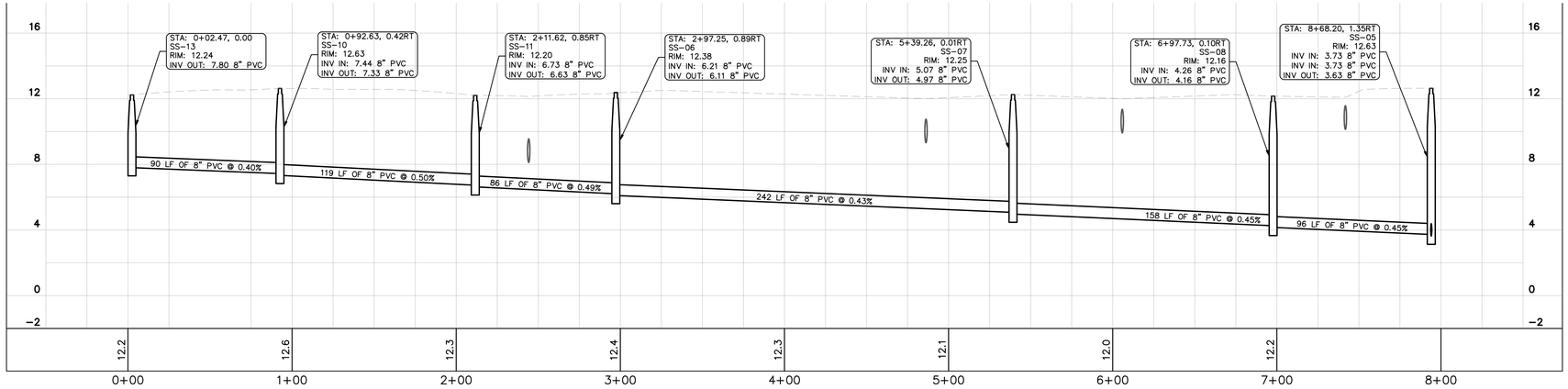
KHA PROJECT 147811000
DATE 04/12/2021
SCALE AS SHOWN
DESIGNED BY BRB
DRAWN BY TJE
CHECKED BY BRB

UTILITY PLAN

OLEANDER OAKS
PREPARED FOR
ALVA STONE GROUP
CITY OF FORT PIERCE FL

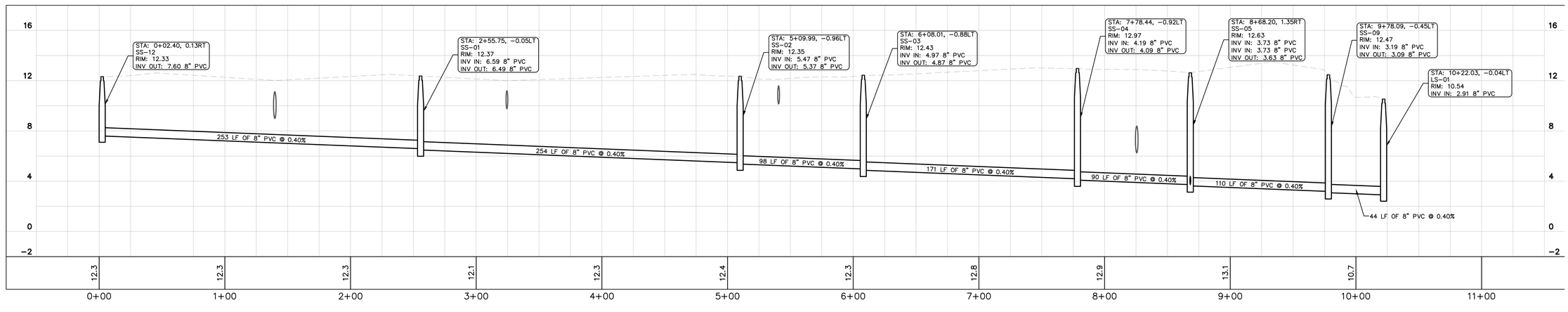
SHEET NUMBER
C-300

Plotted By:Enright, Tyler Sheet Set:OLEANDER OAKS Layout:C-300 UTILITY PLAN April 23, 2021 09:46:35am K:\VRB_LDEV\147811000 - oleander oaks\CAD\plansheets\C-300 UTILITY PLAN.dwg
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SEWER PROFILE STA. 0+00 TO 8+00

SCALE: 1"=40' HORIZONTAL
1"=10' VERTICAL



SEWER PROFILE STA. 300+00 TO 11+00

SCALE: 1"=40' HORIZONTAL
1"=10' VERTICAL

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NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

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BLAINE R. BERGSTRESSER ☆ LICENSE NO. 84998 ☆ STATE OF FLORIDA ☆ PROFESSIONAL ENGINEER
DATE: 4/2/2021

KHA PROJECT	147811000
DATE	04/12/2021
SCALE	AS SHOWN
DESIGNED BY	BRB
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CHECKED BY	BRB

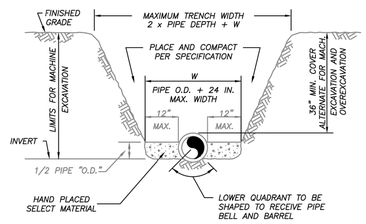
SANITARY PROFILES

OLEANDER OAKS
PREPARED FOR
ALVA STONE GROUP

CITY OF FORT PIERCE FL

SHEET NUMBER
C-301

Plotted By:Enright, Tyler Sheet Set:OLEANDER OAKS Layout:C-301 SANITARY PROFILE April 23, 2021 09:46:37am K:\VRB_LDEV\147811000 - oleander oaks\CAD\plansheets\C-300 UTILITY PLAN.dwg
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NOTES:

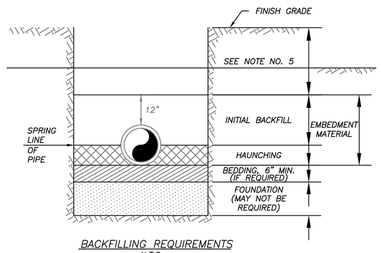
1) THE CONTRACTOR SHALL COMPLY WITH REQUIREMENTS OF THE FLORIDA TRENCH SAFETY ACT.

2) INITIAL BACKFILL SHALL BE HAND PLACED TO 12" ABOVE THE PIPE. BACKFILL SHALL BE MECHANICALLY TAMPED TO A MINIMUM OF 100% OF MAX. DENSITY AS DETERMINED BY AASHTO METHOD T-99.

TYPICAL TRENCH DETAIL

N.T.S.

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING, 1701 SOUTH 25TH STREET, FT. PIERCE, FLORIDA 34947, 772-466-1600	TYPICAL TRENCH DETAIL	M-1
03-09 CONCRETE SLAB — DATE: / REVISION: / BY: / APPD: SLL / JLC		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE #: MISC. DETAILS 200602.DWG		FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:		
APPROVED: JLC — DATE: 2015 — SHEET: 1 OF 1		



BACKFILLING REQUIREMENTS

N.T.S.

NOTES:

1) IN CERTAIN SOIL CONDITIONS A FOUNDATION MAY BE REQUIRED.

2) BEDDING IS REQUIRED PRIMARILY TO BRING THE TRENCH BOTTOM UP TO GRADE. BEDDING MATERIALS SHALL PROVIDE A UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE.

3) HAUNCHING MATERIAL SHALL BE HAND PLACED TO THE SPRINGLINE OF THE PIPE. MATERIAL SHALL BE CONSOLIDATED UNDER THE PIPE AND HAND TAMPED TO PROVIDE ADEQUATE SIDE SUPPORT.

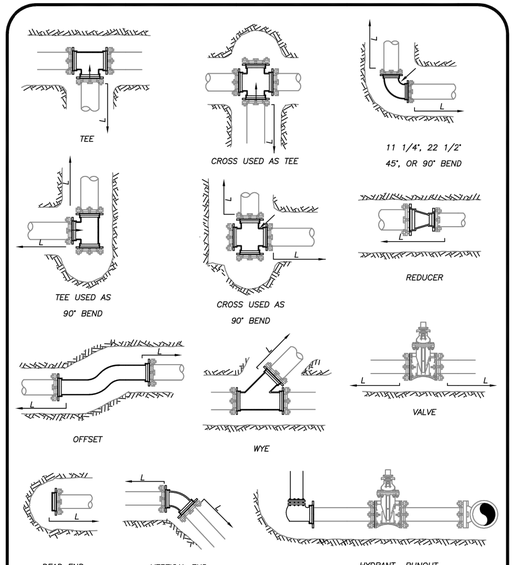
4) INITIAL BACKFILL MATERIAL SHALL BE HAND PLACED TO 12" ABOVE THE TOP OF PIPE. THE SOIL SHALL BE COMPACTED TO 100% MAX. DENSITY.(AASHTO T-99)

5) BACKFILL SHALL BE COMPACTED TO 100% OF MAX. DENSITY AS PER AASHTO T-99, TO A POINT 30" BELOW PROPOSED PROFILE GRADE OR EXISTING GRADE. THE FINAL 30" OF BACKFILL SHALL BE COMPACTED TO 98% OF MAX. DENSITY AS PER AASHTO T-180.

6) DENSITY TEST SHALL BE PERFORMED AT AREAS DETERMINED BY THE UTILITIES ENGINEER OR PERMIT AGENCY HAVING JURISDICTION, AT THE CONTRACTORS EXPENSE.

7) CONTRACTOR TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL TRENCH SAFETY REGULATIONS.

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03-09 CONCRETE SLAB — DATE: / REVISION: / BY: / APPD: SLL / JLC		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE #: MISC. DETAILS 200602.DWG		FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:		
APPROVED: JLC — DATE: 2015 — SHEET: 1 OF 1		



MECHANICAL JOINT ANCHORING REQUIREMENTS

N.T.S.

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03-09 CONCRETE SLAB — DATE: / REVISION: / BY: / APPD: SLL / JLC		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE #: MISC. DETAILS 200602.DWG		FT. PIERCE UTILITIES AUTHORITY
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MECHANICAL JOINT RESTRAINT NOTES

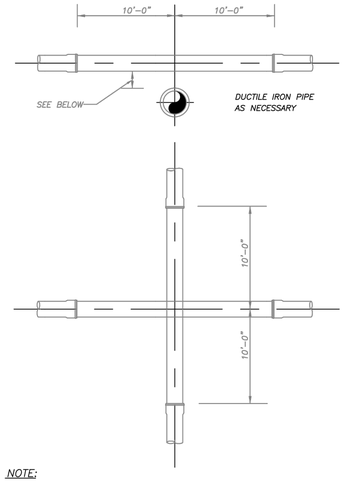
NOTES:

1) THE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE REQUIRED LENGTH TO BE RESTRAINED BASED UPON THE PROJECT AREA SOIL TYPE, PROPOSED TRENCH CONDITIONS AND DEPTH, PRESSURE OF 150 PSI, AND A SAFETY FACTOR OF TWO (2). A DRAWING OF EVERY TYPICAL FITTING ASSEMBLY WITHIN THE PROJECT SHALL BE SUBMITTED WHICH REFLECTS THE RESTRAINT DETAIL PROPOSED FOR USE, INCLUDING LENGTH OF PIPE RESTRAINT.

2) REQUIRED RESTRAINED LENGTH CALCULATIONS SHALL ALSO CONSIDER THE CONDITIONS OF OTHER BENDS OR FITTINGS THAT WILL BE LOCATED WITHIN THE CALCULATED RESTRAINED LENGTH (L) OF THE BEND OR FITTING IN QUESTION.

3) EVERY JOINT OR FITTING MUST BE RESTRAINED ON BOTH SIDES OF THE BEND AND FOR TEES ALONG THE BEND ALSO.

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING, 1701 SOUTH 25TH STREET, FT. PIERCE, FLORIDA 34947, 772-466-1600	MECHANICAL JOINT RESTRAINT NOTES	M-4
03-09 CONCRETE SLAB — DATE: / REVISION: / BY: / APPD: SLL / JLC		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE #: MISC. DETAILS 200602.DWG		FT. PIERCE UTILITIES AUTHORITY
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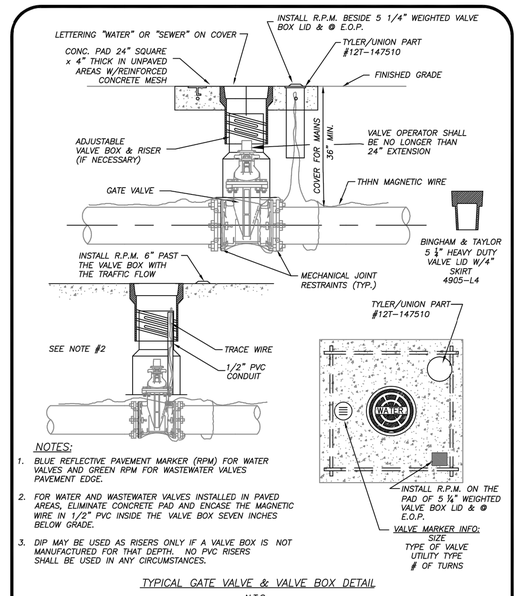
NOTE:

PLEASE REFER TO FORT PIERCE UTILITIES STANDARD SEPARATION STATEMENT FOR WATER / SEWER CONFLICTS.

UTILITY CROSSING DETAIL

N.T.S.

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING, 1701 SOUTH 25TH STREET, FT. PIERCE, FLORIDA 34947, 772-466-1600	UTILITY CROSSING DETAIL	M-5
03-09 CONCRETE SLAB — DATE: / REVISION: / BY: / APPD: SLL / JLC		WATER/WASTEWATER ENGINEERING
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DRAWN BY: SLL — SCALE:		
APPROVED: JLC — DATE: 2015 — SHEET: 1 OF 1		



NOTES:

1. BLUE REFLECTIVE PAVEMENT MARKER (RPM) FOR WATER VALVES AND GREEN RPM FOR WASTEWATER VALVES PAVEMENT EDGE.
2. FOR WATER AND WASTEWATER VALVES INSTALLED IN PAVED AREAS, ELIMINATE CONCRETE PAD AND ENCASE THE MAGNETIC WIRE IN 1/2" PVC INSIDE THE VALVE BOX SEVEN INCHES BELOW GRADE.
3. DIP MAY BE USED AS RISERS ONLY IF A VALVE BOX IS NOT MANUFACTURED FOR THAT DEPTH. NO PVC RISERS SHALL BE USED IN ANY CIRCUMSTANCES.

TYPICAL GATE VALVE & VALVE BOX DETAIL

N.T.S.

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING, 1701 SOUTH 25TH STREET, FT. PIERCE, FLORIDA 34947, 772-466-1600	TYPICAL GATE VALVE & VALVE BOX DETAIL	M-6
03-09 CONCRETE SLAB — DATE: / REVISION: / BY: / APPD: SLL / JLC		WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE #: MISC. DETAILS 200602.DWG		FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:		
APPROVED: JLC — DATE: 2015 — SHEET: 1 OF 1		

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445 24TH STREET, SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM CA 00000696

ROBERT BERGSTRESSER — LICENSE NO. 84998 — STATE OF FLORIDA — PROFESSIONAL ENGINEER — BLAINE — DATE: 4/2/2021

KHA PROJECT 147811000
DATE 04/12/2021
SCALE AS SHOWN
DESIGNED BY BRB
DRAWN BY TJE
CHECKED BY BRB

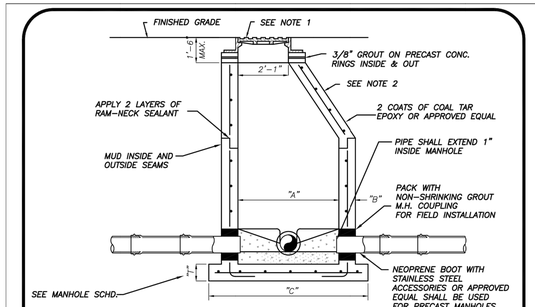
FPUA DETAILS

OLEANDER OAKS
PREPARED FOR
ALVA STONE GROUP

CITY OF FORT PIERCE FL

SHEET NUMBER
C-400

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PIPE DIA.	"A"	"B"	"C"	BOT. SLAB "T"
8"-24"	4'-0"	"8"	76"	8"
30"-36"	5'-0"	"8"	88"	10"
42"-48"	6'-0"	"8"	100"	12"

TYPICAL MANHOLE DIMENSIONS

NOTES:

1) MANHOLE FRAME & COVER WITH THE WORDS " SANITARY SEWER" CAST IN THE COVER. U.S. FOUNDRY 170 OR APPROVED EQUAL.

2) ALL CONCRETE MANHOLES TO BE 4000 P.S.I. TO MEET OR EXCEED ASTM C478 ALL CEMENT TO BE TYPE II ACID RESISTANT. REINFORCING AREA OF 0.02 SQ. IN/FT FOR WALL SECTION MIN. TO MEET OR EXCEED ASTM A 185.

3) A MAXIMUM OF 2 LAYERS OF PRECAST CONCRETE RINGS, IF REQUIRED.

4) RAIN GUARDS SHALL BE INSTALLED IN MANHOLES THAT HAVE GRAVITY MAINS 12" OR LESS.

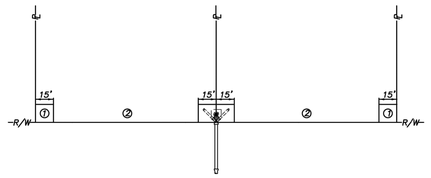
STANDARD MANHOLE
DEPTH 5'-0" AND GREATER
(N.T.S.)

FPUA COMMUNITY PROUD	PRECAST MANHOLE DEPTH 5'- 0" & GREATER	S-7
02-06 DATE:	REVISION: BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JJM	COMPUTER FILE # SEWER DETAIL 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: JJM	SCALE: N.T.S.	
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

FT. PIERCE UTILITIES AUTHORITY / WATER/WASTEWATER ENGINEERING / 1701 SOUTH 5TH STREET / FT. PIERCE, FLORIDA 34947 / 772-466-1600

GENERAL POLICY

WHERE COST JUSTIFIED AND OPERATIONALLY FEASIBLE, IT IS THE GENERAL POLICY OF THE F.P.U.A. TO PROVIDE WATER, ELECTRIC, SEWER AND GAS SERVICE FROM THE STREET SIDE OF A PIECE OF PROPERTY. DEPENDING ON FACTORS SUCH AS LOCATION OF EXISTING SUPPLY SOURCE FACILITIES, REAR OR SIDE LOT LINE SUPPLY MAY BE AUTHORIZED, BUT ONLY WITH PRIOR APPROVAL FROM THE F.P.U.A.



NOTES:

1. THE PREFERRED POINT OF CONNECTION TO THE F.P.U.A. SEWER LATERAL, AREA ① , SHALL BE LOCATED IN THE CORNER OF THE PROPERTY SELECTED BY THE F.P.U.A. AS THE BEST LOCATION FOR THE LATERAL. EVERY EFFORT WILL BE MADE TO SELECT THE CORNER WHERE TWO LATERALS CAN BE CONNECTED IN A "Y" CONFIGURATION AS SHOWN.

2. IF PHYSICAL BARRIERS OR OTHER OBSTACLES PREVENT THE CONNECTION OF THE BUILDING SERVICE LINE TO THE F.P.U.A. SEWER LATERAL, WITHIN AREA ① , THE F.P.U.A. ENGINEERING DEPARTMENT MAY AUTHORIZE THE CONNECTION ALONG THE PORTION OF THE R/W LINE MARKED AREA ② .

3. HORIZONTAL SEPARATION OF WATER AND WASTEWATER SERVICES SHOULD BE A MINIMUM OF SIX FEET AND PREFERABLY 10 FEET.

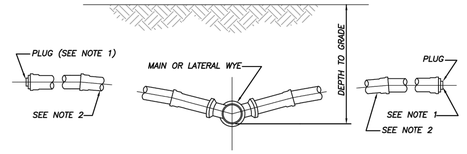
4. THE WASTEWATER LATERAL SHALL BE LOCATED WITHIN RIGHT-OF-WAY AND TERMINATE AT THE PROPERTY LINE.

5. THE F.P.U.A. SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF THE WASTEWATER LATERAL WITHIN THE EASEMENT OR RIGHT-OF-WAY, UP TO THE POINT OF CONNECTION.

WASTEWATER SERVICE PLACEMENT
(N.T.S.)

FPUA COMMUNITY PROUD	WASTEWATER SERVICE PLACEMENT POLICY	S-1
02-06 02-15 DATE:	REVISION: SLL BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: AJM	COMPUTER FILE # SEWER DETAIL 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE: N.T.S.	
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

FT. PIERCE UTILITIES AUTHORITY / WATER/WASTEWATER ENGINEERING / 1701 SOUTH 5TH STREET / FT. PIERCE, FLORIDA 34947 / 772-466-1600



NOTES:

1) BALL TYPE WASTEWATER LOCATOR BY 3M CORP. OR APPROVED EQUAL.

2) MINIMUM SLOPE OF 1/8" PER FOOT, USE GREATER SLOPE WHERE POSSIBLE.

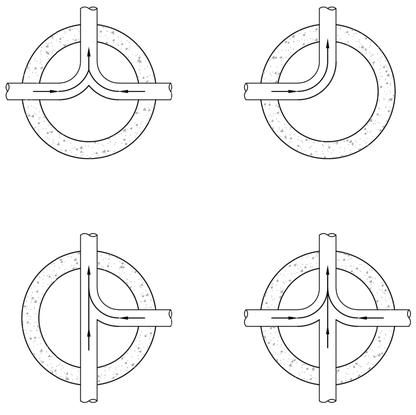
3) SERVICE LATERAL SHALL TERMINATE WITH A CLEANOUT.

4) INSTALL CLEANOUT AT THE PROPERTY LINE. REFER TO DETAIL S-1 FOR SPECIFIC PROPERTY LAYOUT.

SERVICE CONNECTION
(N.T.S.)

FPUA COMMUNITY PROUD	SERVICE CONNECTION WASTEWATER	S-2
02-06 DATE:	REVISION: BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE: N.T.S.	
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1

FT. PIERCE UTILITIES AUTHORITY / WATER/WASTEWATER ENGINEERING / 1701 SOUTH 5TH STREET / FT. PIERCE, FLORIDA 34947 / 772-466-1600



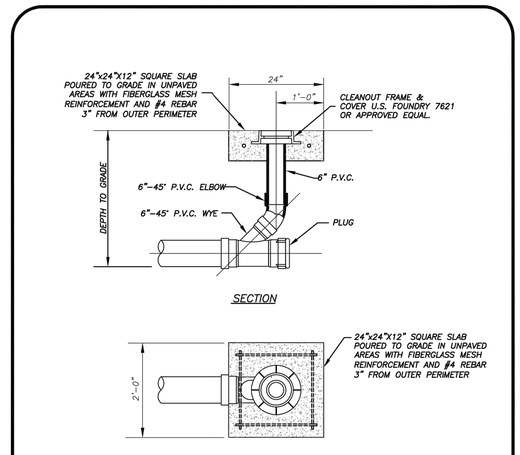
NOTES:

1) INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.

2) SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOWS.

FPUA COMMUNITY PROUD	FLOW PATTERNS FOR INVERT CHANNELS	S-12
DATE:	REVISION: BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JJM	COMPUTER FILE # SEWER DETAIL 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: JJM	SCALE: N.T.S.	
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

FT. PIERCE UTILITIES AUTHORITY / WATER/WASTEWATER ENGINEERING / 1701 SOUTH 5TH STREET / FT. PIERCE, FLORIDA 34947 / 772-466-1600



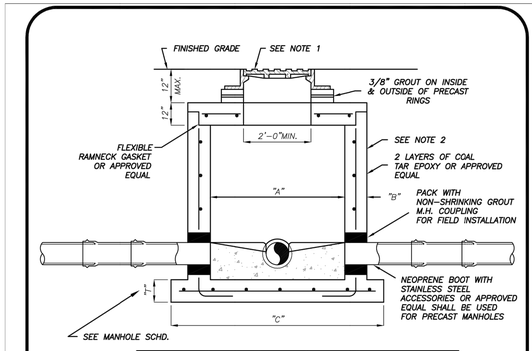
NOTES:

1) SEE DETAIL S-3 FOR DOUBLE SERVICE CONNECTION.

RESIDENTIAL CLEANOUT DETAIL
(N.T.S.)

FPUA COMMUNITY PROUD	TERMINAL CLEANOUT DETAIL RESIDENTIAL	S-4A
10-06 DATE:	REVISION: RBE BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE: N.T.S.	
APPROVED: JLC	DATE: 2010	SHEET 1 OF 3

FT. PIERCE UTILITIES AUTHORITY / WATER/WASTEWATER ENGINEERING / 1701 SOUTH 5TH STREET / FT. PIERCE, FLORIDA 34947 / 772-466-1600



PIPE DIA.	"A"	"B"	"C"	BOT. SLAB "T"
8"-24"	4'-0"	"8"	76"	8"
30"-36"	5'-0"	"8"	88"	10"
42"-48"	6'-0"	"8"	100"	12"

TYPICAL MANHOLE DIMENSIONS

NOTES:

1) MANHOLE FRAME & COVER WITH THE WORDS " SANITARY SEWER" CAST IN THE COVER. U.S. FOUNDRY 170 OR APPROVED EQUAL.

2) ALL CONCRETE MANHOLES TO BE 4000 P.S.I. TO MEET OR EXCEED ASTM C478 ALL CEMENT TO BE TYPE II ACID RESISTANT. REINFORCING AREA OF 0.02 SQ. IN/FT FOR WALL SECTION MIN. TO MEET OR EXCEED ASTM A 185.

3) A MAXIMUM OF 2 LAYERS OF PRECAST CONCRETE RINGS, IF REQUIRED.

4) RAIN GUARDS SHALL BE INSTALLED IN MANHOLES THAT HAVE GRAVITY MAINS 12" OR LESS.

SHALLOW MANHOLE
DEPTH OF LESS THAN 5'-0"
(N.T.S.)

FPUA COMMUNITY PROUD	PRECAST MANHOLE DEPTH OF LESS THAN 5'- 0"	S-6
02-06 DATE:	REVISION: BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE: N.T.S.	
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

FT. PIERCE UTILITIES AUTHORITY / WATER/WASTEWATER ENGINEERING / 1701 SOUTH 5TH STREET / FT. PIERCE, FLORIDA 34947 / 772-466-1600

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811

811 Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY BLAINE BERGSTRESSER, P.E. ON THE DATE ADJACENT TO THE SEAL.

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No.	REVISIONS	DATE	BY

Kimley»Horn

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445 24TH STREET, SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM CA 00000696

ROBERT BLAINE BERGSTRESSER — LICENSE NO. 84998 — STATE OF FLORIDA — PROFESSIONAL ENGINEER — DATE: 4/2/2021

KHA PROJECT	147811000
DATE	04/12/2021
SCALE	AS SHOWN
DESIGNED BY	BRB
DRAWN BY	TJE
CHECKED BY	BRB

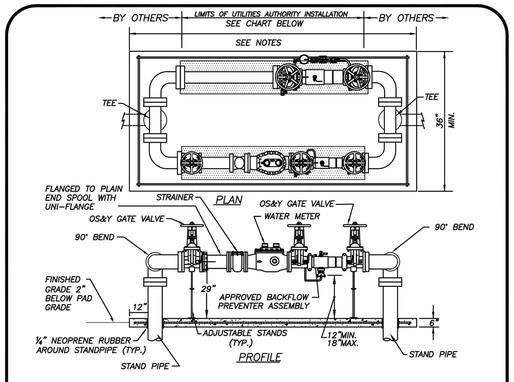
FPUA DETAILS

OLEANDER OAKS
PREPARED FOR
ALVA STONE GROUP

CITY OF FORT PIERCE FL

SHEET NUMBER
C-401

Plotted By:Enright, Tyler Sheet Set:OLEANDER OAKS Layout:C-401 FPUA DETAILS April 23, 2021 09:46:57am K:\VRB_LDEV\147811000 - oleander oaks\CAD\plansheets\C-400 CITY OF FORT PIERCE DETAILS.dwg
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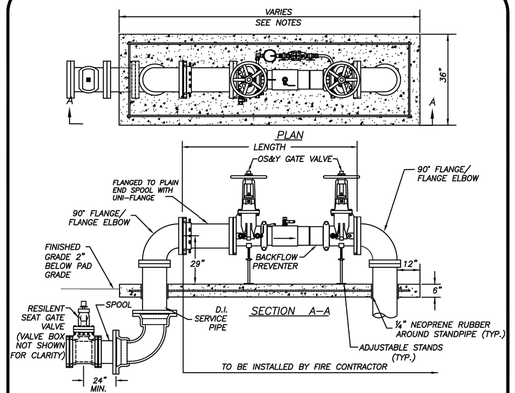
NOTES:
1. LANDSCAPING IS REQUIRED PER CITY OF FORT PIERCE OR ST. LUCIE COUNTY ORDINANCE. NO PLANTS OR TREES WITHIN 36" AROUND METER TO ALLOW MAINTENANCE WITHOUT DAMAGE TO PLANTS ETC.
2. CONTRACTOR TO INSTALL APPROPRIATE SIZED SPOOL PIECES TO FIT BETWEEN 90° BENDS UNTIL METERS ARE APPROVED FOR INSTALLATION. ALL SPOOL PIECES SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE IN ACCORDANCE WITH THE CHART BELOW.
3. PRIOR TO POURING CONCRETE PAD, VERIFY THAT THE STANDPIPES ARE PLUMB, TRUE AND ARE INSTALLED AT THE SAME ELEVATION IN THE PRESENCE OF THE FPUA INSPECTOR.
4. ALL CONCRETE SHALL HAVE FIBERGLASS MESH REINFORCEMENT WITH #4 REBAR 3" FROM THE OUTER PERIMETER.

SIZE	SERVICE	LENGTH
3	COMPOUND	83 INCHES
4	COMPOUND	95 INCHES
6	COMPOUND	106 INCHES

WATER METER/BACKFLOW PREVENTER ASSEMBLY
COMMERCIAL WATER METER SERVICES (METER SIZE > 3")

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING, 1701 SOUTH 37TH STREET, FT. PIERCE, FLORIDA 34947, 772-466-1600

WATER METER/BACKFLOW PREVENTER DOMESTIC SERVICE (METER SIZE ≥ 3")				W-9
03-09	CONCRETE SLAB	SLL	JLC	
DATE:	REVISION:	BY:	APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 200602.DWG			FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE: N.T.S.			
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1		

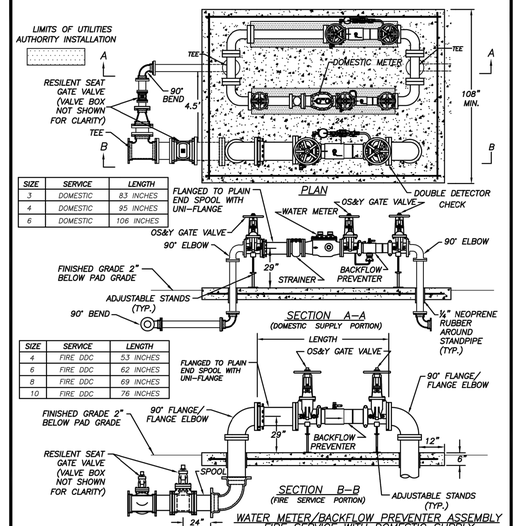


NOTES:
1. LANDSCAPING IS REQUIRED PER CITY OF FORT PIERCE OR ST. LUCIE COUNTY ORDINANCE.
2. ASSEMBLY TO BE 29" FROM FINISH GRADE TO CENTERLINE OF THE FLANGED 90° BEND.
3. PRIOR TO POURING THE CONCRETE PAD, VERIFY THAT THE STANDPIPES ARE PLUMB, TRUE AND INSTALLED AT THE SAME ELEVATIONSIN THE PRESENCE OF AN FPUA INSPECTOR.
4. ALL CONCRETE SHALL HAVE FIBERGLASS MESH REINFORCEMENT WITH #4 REBAR 3" FROM THE OUTER PERIMETER.

SIZE	SERVICE	LENGTH
4	DOUBLE DETECTOR	53 INCHES
6	DOUBLE DETECTOR	62 INCHES
8	DOUBLE DETECTOR	69 INCHES
10	DOUBLE DETECTOR	76 INCHES

BACKFLOW PREVENTER ASSEMBLY-4"-10" FIRE SERVICE
(N.T.S.)

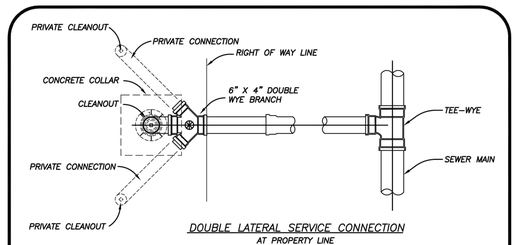
BACKFLOW PREVENTER ASSEMBLY 4"-10" FIRE SERVICE				W-10
03-09	CONCRETE PAD	SLL	JLC	
DATE:	REVISION:	BY:	APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 200602.DWG			FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE: N.T.S.			
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1		



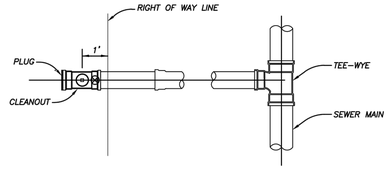
WATER METER/BACKFLOW PREVENTER ASSEMBLY
FIRE SERVICE WITH DOMESTIC SUPPLY
(N.T.S.)

NOTES:
1. LANDSCAPING IS REQUIRED PER CITY OF FORT PIERCE OR ST. LUCIE COUNTY ORDINANCE. NO PLANTS OR TREES WITHIN 36" AROUND METER TO ALLOW MAINTENANCE WITHOUT DAMAGE TO PLANTS ETC.
2. NO SOLDER JOINTS.
3. ASSEMBLY TO BE 29" FROM FINISH GRADE TO CENTERLINE OF THE FLANGED 90° BEND.
4. DOMESTIC SERVICE 2" OR LESS, USE 2" POLY STUBBED 12" ABOVE GRADE.
5. ALL CONCRETE SHALL HAVE FIBERGLASS MESH REINFORCEMENT WITH #4 REBAR 3" FROM THE OUTER PERIMETER

WATER METER/BACKFLOW PREVENTER FIRE SERVICE WITH DOMESTIC SUPPLY				W-11
03-09	CONCRETE PAD	SLL	JLC	
DATE:	REVISION:	BY:	APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 200602.DWG			FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE: N.T.S.			
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1		



DOUBLE LATERAL SERVICE CONNECTION
AT PROPERTY LINE

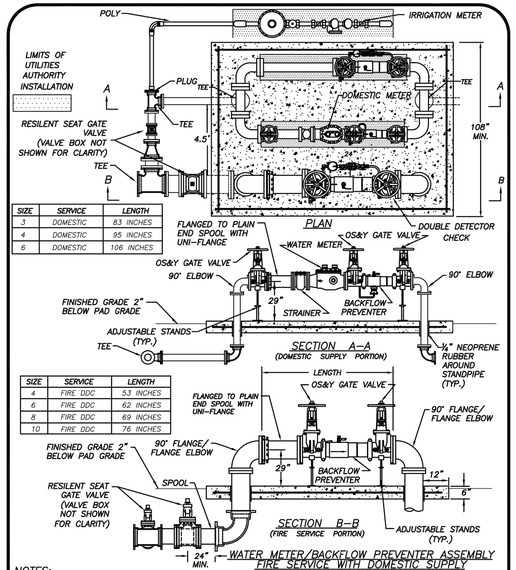


SINGLE SERVICE LATERAL CONNECTION

⊛ = BALL TYPE WASTEWATER LOCATOR INSTALLED ABOVE THIS POINT
BALL BY 3M CORP. OR APPROVED EQUAL
SERVICE LATERAL SHALL TERMINATE WITH A CLEANOUT

SERVICE CONNECTION
(N.T.S.)

SERVICE CONNECTION WASTEWATER				S-3
02-08				
DATE:	REVISION:	BY:	APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG			FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE: N.T.S.			
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1		



WATER METER/BACKFLOW PREVENTER ASSEMBLY
FIRE SERVICE WITH DOMESTIC SUPPLY
(N.T.S.)

NOTES:
1. LANDSCAPING IS REQUIRED PER CITY OF FORT PIERCE OR ST. LUCIE COUNTY ORDINANCE. NO PLANTS OR TREES WITHIN 36" AROUND METER TO ALLOW MAINTENANCE WITHOUT DAMAGE TO PLANTS ETC.
2. NO SOLDER JOINTS.
3. ASSEMBLY TO BE 29" FROM FINISH GRADE TO CENTERLINE OF THE FLANGED 90° BEND.
4. DOMESTIC SERVICE 2" OR LESS, USE 2" POLY STUBBED 12" ABOVE GRADE.
5. ALL CONCRETE SHALL HAVE FIBERGLASS MESH REINFORCEMENT WITH #4 REBAR 3" FROM THE OUTER PERIMETER.

WATER METER/BACKFLOW PREVENTER FIRE SERVICE WITH DOMESTIC SUPPLY PLUS IRRIGATION				W-11A
12-09	DOC. VALVE	SLL	JLC	
DATE:	REVISION:	BY:	APP'D:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 200602.DWG			FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE: N.T.S.			
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1		

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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM CA 00000696

No.	REVISIONS	DATE	BY

BLAINE ROBERT BERGSTRESSER, LICENSE NO. 84998, STATE OF FLORIDA, PROFESSIONAL ENGINEER, DATE: 4/2/2021

KHA PROJECT 147811000
DATE 04/12/2021
SCALE AS SHOWN
DESIGNED BY BRB
DRAWN BY TJE
CHECKED BY BRB

FPUA DETAILS

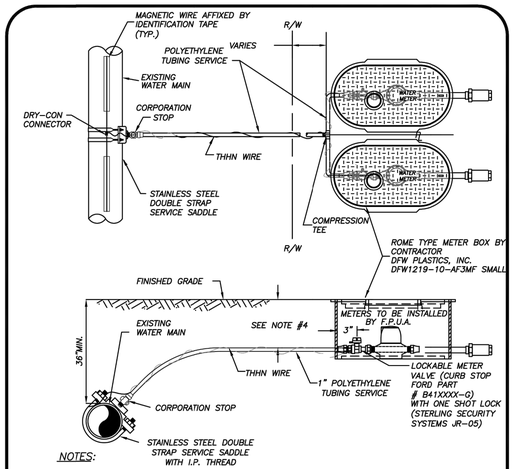
OLEANDER OAKS
PREPARED FOR
ALVA STONE GROUP
CITY OF FORT PIERCE FL

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

SHEET NUMBER
C-402

Plotted By:Enright, Tyler Sheet Set:OLEANDER OAKS Layout:C-402 FPUA DETAILS April 23, 2021 09:47:02am K:\VRB_LDEV\147811000 - oleander oaks\CAD\plansheets\C-400 CITY OF FORT PIERCE DETAILS.dwg
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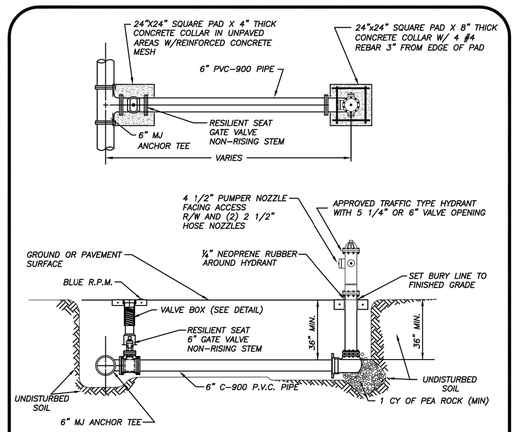


NOTES:

1. BLUE 10 GAUGE THHN WIRE SHALL BE ATTACHED TO THE SERVICE LINE.
2. WHERE SERVICES UNDER PAVEMENT ARE REQUIRED, THE POLYETHYLENE TUBING SHALL BE INSTALLED WITHIN SCHEDULE 40 PVC CASING PIPE.
3. 1" & 3/4" METER SIZES SHALL REQUIRE A LOCKABLE METER VALVE. (CURB STOP)
4. MINIMUM COVER IN UNPAVED AREAS SHALL BE 30", IN PAVED AREAS OR PLANNED ROADWAYS OR SWALES MIN. COVER SHALL BE 36".

TYPICAL DOUBLE WATER SERVICE CONNECTION
(N.T.S.)

FPUA COMMUNITY PROUD	TYPICAL DOUBLE WATER SERVICE CONNECTION		W-3
FT. PIERCE UTILITIES AUTHORITY WATER/WASTEWATER ENGINEERING 1701 SOUTH 6TH STREET FT. PIERCE, FLORIDA 34947 772-466-1600	03-09 DESIGN SLL JLC DATE: REVISION: BY: APP'D:		WATER/WASTEWATER ENGINEERING
	DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
	DRAWN BY: SLL	SCALE: N.T.S.	
	APPROVED: JLC	DATE: 2020	SHEET 1 OF 1

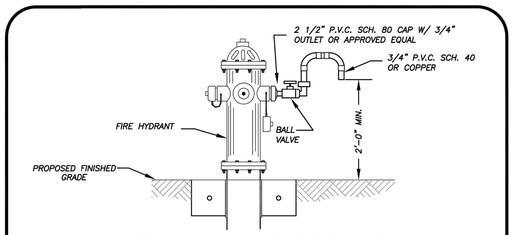


NOTES:

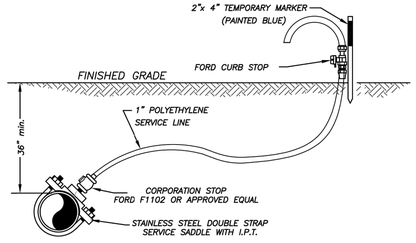
1. HYDRANT SHALL BE INSTALLED PLUMB & TRUE.
2. HYDRANT SHALL BE PAINTED CARNIVAL RED FROM FACTORY.
3. HEEL TO REST IN UNDISTURBED SOIL.
4. THE ONLY HYDRANTS ACCEPTABLE ARE: MUELLER SUPER CENTURION 250 OR AMERICAN DARLING B-84-B-5.
5. HYDRANT ASSEMBLY MUST BE RESTRAINED TO TEE.
6. ALL FITTINGS SHALL BE MECHANICAL JOINT.
7. ENTIRE ASSEMBLY TO BE MECHANICALLY RESTRAINED.
8. BLUE LOCATOR SHALL BE PLACED IN CENTER OF TRAVEL LANE CLOSEST TO HYDRANT.
9. ALL HYDRANT VALVE BOX COVERS SHALL BE PAINTED CARNIVAL RED.
10. LOCATE WIRE SHALL TERMINATE AT HYDRANT ISOLATION VALVE
11. HYDRANTS SHALL BE NO MORE THAN FIFTEEN FEET (15 FT.) FROM THE CURB OF ROADWAYS OR FROM THE EDGE OF PAVEMENT. CLEARANCES OF SEVEN AND ONE HALF FEET (7FT-6IN.) IN FRONT OF AND TO THE SIDES OF THE FIRE HYDRANTS. WITH FOUR FOOT (4 FT.) CLEARANCE TO THE REAR OF HYDRANTS SHALL BE MAINTAINED.

TYPICAL FIRE HYDRANT ASSEMBLY
(N.T.S.)

FPUA COMMUNITY PROUD	TYPICAL FIRE HYDRANT ASSEMBLY		W-5
FT. PIERCE UTILITIES AUTHORITY WATER/WASTEWATER ENGINEERING 1701 SOUTH 6TH STREET FT. PIERCE, FLORIDA 34947 772-466-1600	03-09 DESIGN SLL JLC DATE: REVISION: BY: APP'D:		WATER/WASTEWATER ENGINEERING
	DESIGNED: JLC	COMPUTER FILE # WATERDETAILS.DWG	FT. PIERCE UTILITIES AUTHORITY
	DRAWN BY: SLL	SCALE: N.T.S.	
	APPROVED: JLC	DATE: 2010	SHEET 1 OF 1



BACTERIOLOGICAL SAMPLING POINT @ FIRE HYDRANT
(N.T.S.)



BACTERIOLOGICAL SAMPLING POINT @ WATER MAIN
(N.T.S.)

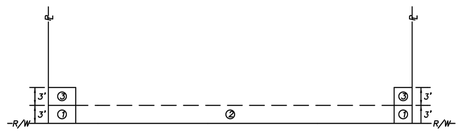
NOTE:

AFTER TESTING REMOVE 1" P.E. LINE AND CAP WITH BRASS PLUG AT CORPORATION STOP.

FPUA COMMUNITY PROUD	BACTERIOLOGICAL SAMPLING PONIT DETAIL		W-6
FT. PIERCE UTILITIES AUTHORITY WATER/WASTEWATER ENGINEERING 1701 SOUTH 6TH STREET FT. PIERCE, FLORIDA 34947 772-466-1600	03-09 02-15 SLL JLC DATE: REVISION: BY: APP'D:		WATER/WASTEWATER ENGINEERING
	DESIGNED: SLL	COMPUTER FILE # WATERDETAIL.DWG	FT. PIERCE UTILITIES AUTHORITY
	DRAWN BY: SLL	SCALE: N.T.S.	
	APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

GENERAL POLICY

WHERE COST JUSTIFIED AND OPERATIONALLY FEASIBLE, IT IS THE GENERAL POLICY OF THE F.P.U.A. TO PROVIDE WATER, ELECTRIC, SEWER AND GAS SERVICE FROM THE STREET SIDE OF A PIECE OF PROPERTY. DEPENDING ON FACTORS SUCH AS LOCATION OF EXISTING SUPPLY SOURCE FACILITIES, REAR OR SIDE LOT LINE SUPPLY MAY BE AUTHORIZED, BUT ONLY WITH PRIOR APPROVAL FROM THE F.P.U.A.

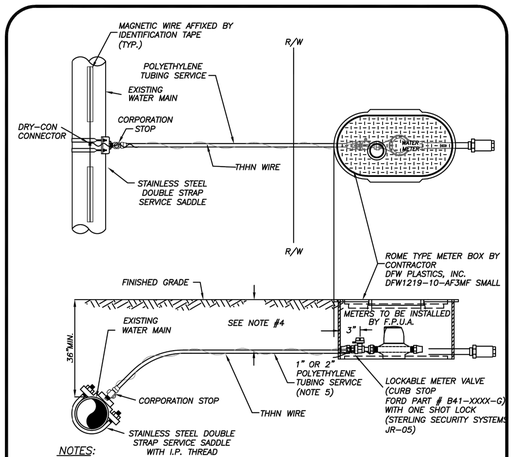


NOTES:

1. THE PREFERRED POINT OF CONNECTION TO THE F.P.U.A. WATER METER, AREA ① SHALL BE LOCATED IN THE CORNER OF THE PROPERTY SELECTED BY THE F.P.U.A. AS THE BEST LOCATION FOR THE WATER METER. EVERY EFFORT WILL BE MADE TO SELECT THE CORNER WHERE TWO WATER SERVICES AND METERS CAN BE CONNECTED.
2. IF PHYSICAL BARRIERS OR OTHER OBSTACLES PREVENT THE CONNECTION OF THE BUILDING SERVICE LINE TO THE F.P.U.A. WATER SERVICE, WITHIN AREA ① , THE F.P.U.A. ENGINEERING DEPARTMENT MAY AUTHORIZE THE CONNECTION ALONG THE PORTION OF THE R/W LINE MARKED AREA ② , OR ALONG THE PROPERTY LINES MARKED AREA ⑤.
3. HORIZONTAL SEPARATION OF WATER AND WASTEWATER SERVICES SHOULD BE A MINIMUM OF 6 FEET AND PREFERABLY 10 FEET.
4. ALL METERS SHALL BE INSTALLED IN AN UNRESTRICTED AREA FOLLOWING EASE OF ACCESS AND PROVIDING ADEQUATE PROTECTION.
5. THE F.P.U.A. SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF THE WATER LATERAL WITHIN THE EASEMENT OR RIGHT-OF-WAY, UP TO THE POINT OF CONNECTION.

WATER METER PLACEMENT
(N.T.S.)

FPUA COMMUNITY PROUD	WATER METER PLACEMENT POLICY		W-1
FT. PIERCE UTILITIES AUTHORITY WATER/WASTEWATER ENGINEERING 1701 SOUTH 6TH STREET FT. PIERCE, FLORIDA 34947 772-466-1600	03-09 02-15 SLL DATE: REVISION: BY: APP'D:		WATER/WASTEWATER ENGINEERING
	DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
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	APPROVED: JLC	DATE: 2010	SHEET 1 OF 1



NOTES:

1. BLUE 10 GAUGE THHN WIRE SHALL BE ATTACHED TO THE SERVICE LINE.
2. WHERE SERVICES UNDER PAVEMENT ARE REQUIRED, THE POLYETHYLENE TUBING SHALL BE INSTALLED WITHIN SCHEDULE 40 PVC CASING PIPE.
3. 1" & 3/4" METER SIZES SHALL REQUIRE A LOCKABLE METER VALVE. (CURB STOP)
4. MINIMUM COVER IN UNPAVED AREAS SHALL BE 30", IN PAVED AREAS OR PLANNED ROADWAYS OR SWALES MIN. COVER SHALL BE 36".
5. FOR 2" COMMERCIAL SERVICE INSTALLATIONS, FPUA WILL INSTALL ABOVE GROUND METER PER DETAIL W-8.

TYPICAL SINGLE WATER SERVICE CONNECTION
(N.T.S.)

FPUA COMMUNITY PROUD	TYPICAL SINGLE WATER SERVICE CONNECTION		W-2
FT. PIERCE UTILITIES AUTHORITY WATER/WASTEWATER ENGINEERING 1701 SOUTH 6TH STREET FT. PIERCE, FLORIDA 34947 772-466-1600	03-09 DESIGN SLL JLC DATE: REVISION: BY: APP'D:		WATER/WASTEWATER ENGINEERING
	DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
	DRAWN BY: SLL	SCALE: N.T.S.	
	APPROVED: JLC	DATE: 2020	SHEET 1 OF 1

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

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445 24TH STREET, SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM CA 00000696

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ROBERT BLAINE BERGSTRESSER
LICENSE: No. 84598
DATE: 4/2/2021
STATE OF FLORIDA
PROFESSIONAL ENGINEER

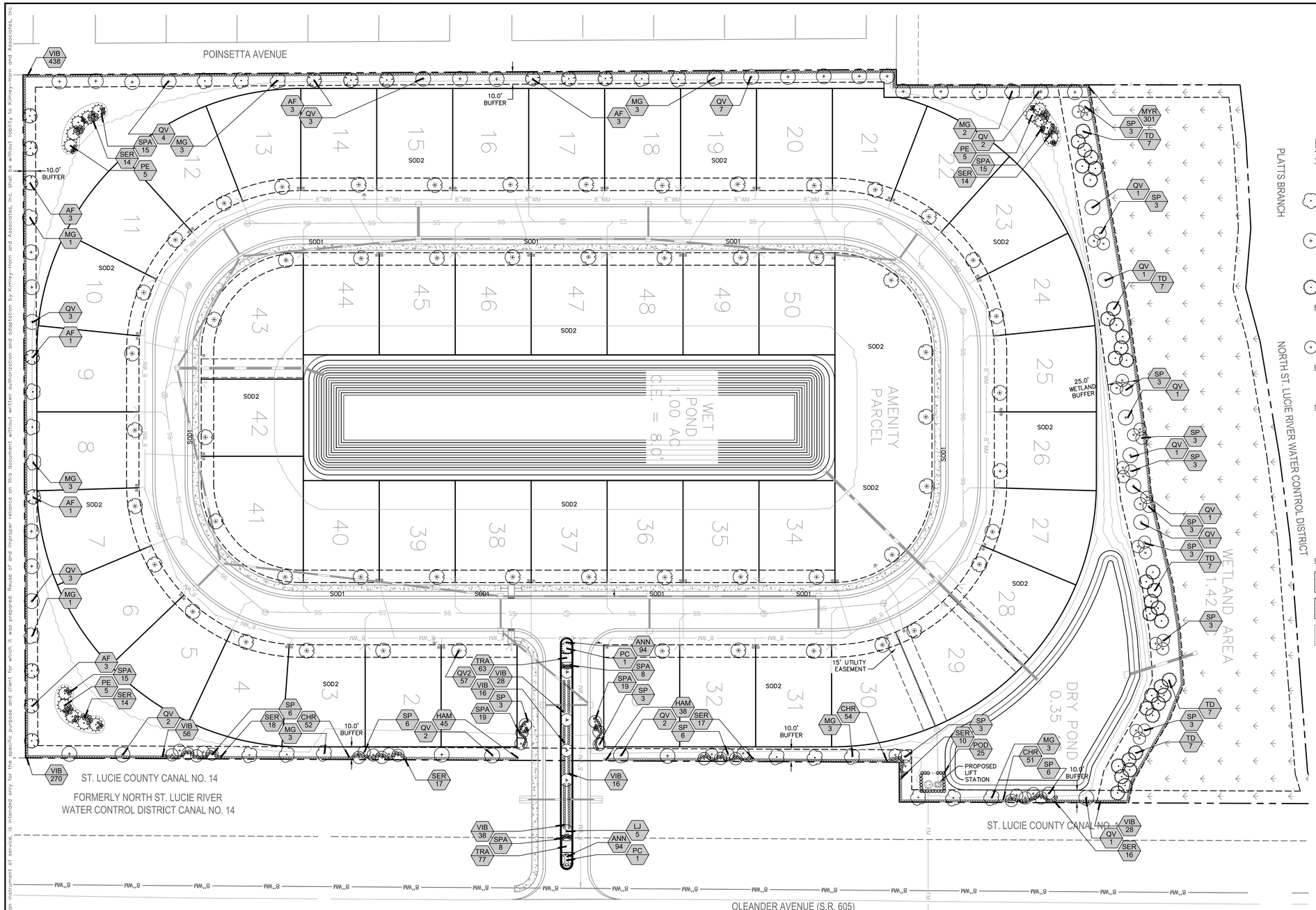
KHA PROJECT 147811000
DATE 04/12/2021
SCALE AS SHOWN
DESIGNED BY BRB
DRAWN BY TJE
CHECKED BY BRB

FPUA DETAILS

OLEANDER OAKS
PREPARED FOR
ALVA STONE GROUP
CITY OF FORT PIERCE FL

SHEET NUMBER
C-403

Plotted By:Enright, Tyler Sheet Set:OLEANDER OAKS Layout:C-403 FPUA DETAILS April 23, 2021 09:47:05am K:\VRB_LDEV\147811000 - oleander oaks\CAD\plansheets\C-403 FPUA DETAILS.dwg
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GRAPHIC SCALE IN FEET
0 20 40 80

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL / COMMON NAME
	AF	14	Acer rubrum `Florida Flame` / Florida Flame Red Maple
	MG	22	Magnolia grandiflora / Southern Magnolia
	PE	15	Pinus elliotti / Slash Pine
	QV	35	Quercus virginiana / Southern Live Oak
	QV2	57	Quercus virginiana `Cathderal` / Cathedral Live Oak
	TD	35	Taxodium distichum / Bald Cypress

PALM TREES	CODE	QTY	BOTANICAL / COMMON NAME
	PC	2	Phoenix canariensis / Canary Island Date Palm
	SP	60	Sabal palmetto / Palmetto

UNDERSTORY TREES	CODE	QTY	BOTANICAL / COMMON NAME
	LJ	5	Ligustrum japonicum / Japanese Privet

SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME
	CHR	157	Chrysobalanus icaco `Red Tip` / Red Tip Cocoplum
	HAM	83	Hamelia patens / Fire Bush
	MYR	301	Myrica cerifera / Wax Myrtle
	POD	25	Podocarpus macrophyllus / Podocarpus
	SER	120	Serenoa repens / Saw Palmetto
	SPA	99	Spartina bakeri / Sand Cord Grass
	VIB	890	Viburnum odoratissimum / Walter`s Viburnum

GROUND COVERS	CODE	QTY	BOTANICAL / COMMON NAME
	ANN	188	Annuals / Annuals
	TRA	140	Trachelospermum asiaticum / Dwarf Confederate Jasmine
	MULCH	TBD	'FLORIMULCH' Shredded Grade B
	SOD1		Stenotaphrum secundatum 'FLORITAM'/ St. Augustine Grass
	SOD2		Paspalum notatum / Bahia Grass

PLANTING NOTES

1. ALL PLANT MATERIAL SHALL BE INSTALLED ACCORDING TO SOUND NURSERY PRACTICES AND SHALL MEET ALL STANDARDS AS STATED IN THE LATEST EDITION OF "AMERICAN STANDARD FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
2. ALL LANDSCAPING SHALL BE INSTALLED ACCORDING TO SOUND NURSERY PRACTICES, AND SHALL BE FLORIDA NO. 1 OR BETTER AS GIVEN IN "GRADES AND STANDARDS FOR NURSERY PLANTS, PARTS I AND II," STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADVISE THE OWNER'S REPRESENTATIVE OF ANY CONDITION FOUND ON SITE WHICH PROHIBITS INSTALLATION AS SHOWN ON THESE PLANS.
4. NO SUBSTITUTIONS IN PLANT MATERIALS SHALL BE MADE WITHOUT WRITTEN AUTHORIZATION FROM OWNER OR LANDSCAPE DESIGNER. IN THE EVENT OF DISCREPANCIES BETWEEN THE DRAWING AND THE PLANT LIST, THE DRAWING SHALL PREVAIL.
6. ALL PLANT MATERIAL IN SHOCK HAS TO BE REPLACED PRIOR TO A CO.
7. LOCATE ALL UTILITIES PRIOR TO ANY DIGGING OPERATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO EXISTING UTILITIES INCURRED BY HIS WORK.
8. ALL LANDSCAPED AREAS SHALL BE FULLY IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM.
9. STAKING AND GUYING ALTERNATIVES: METHODS INDICATED IN DRAWING DETAILS ARE PREFERRED. CONTRACTOR MAY SUGGEST ALTERNATE METHODS, ASSUMING FULL RESPONSIBILITY FOR THEIR IMPLEMENTATION. CONTRACTOR SHALL REPLACE, PLANT, OR UPRIGHT ANY TREES BLOWN OVER OR DAMAGED DUE TO INADEQUATE STAKING AT NO ADDITIONAL COST TO THE OWNER.
10. PLANTS MASSED IN BEDS SHALL BE ARRANGED USING TRIANGULAR SPACING.
11. PROVIDE A METAL EDGE BETWEEN ALL PLANTING BEDS AND LAWN AREAS.
12. EXISTING SOIL SHALL BE REASONABLY FREE OF STONE, LUMPS OF CLAY, ROOTS AND OTHER FOREIGN MATTER. ACIDITY TO BE BETWEEN 5.0 AND 7.0 pH. CONTRACTOR TO VERIFY SOIL ACIDITY AND AMEND AS NECESSARY TO BRING SOIL WITHIN RANGE.
13. TREE PLANTING PITS SHALL BE BACKFILLED WITH TOP SOIL, AND CLEARED OF ALL ROCKS, LUMPS OF CLAY AND OTHER FOREIGN MATERIAL. PLACE 1" OF COMPOST AND 3" OF MULCH ON TOP OF ROOT BALL.
14. PROVIDE GRASS SEEDING OR LAY SOD FOR PROPOSED LAWN AREAS TO ALL EDGES OF PAVEMENT AND/ OR LIMITS OF DISTURBANCE OUTSIDE R.O.W. OR PROPOSED LANDSCAPE EASEMENT.
15. THE CONTRACTOR, SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPING FOR 90 DAYS AFTER FINAL ACCEPTANCE. ALL REQUIRED LANDSCAPING SHALL BE MAINTAINED IN A NEAT AND ORDERLY MANNER AT ALL TIMES. THE WORK SHALL INCLUDE, BUT NOT TO BE LIMITED TO, MOWING, EDGING, PRUNING, FERTILIZING, WATERING, WEEDING, AND OTHER SUCH ACTIVITIES COMMON TO THE MAINTENANCE OF LANDSCAPING. ALL PLANT MATERIALS SHALL BE MAINTAINED IN A HEALTHY AND GROWING CONDITION AS IS APPROPRIATE FOR THE SEASON OF THE YEAR. PLANT MATERIAL THAT DIES SHALL BE REPLACED WITH THE PLANT MATERIAL OF SIMILAR SIZE AND VARIETY.
16. TREES OVERHANGING WALKS AND PARKING AREAS SHALL HAVE A CLEAR TRUNK HEIGHT OF 7 FEET FROM FINISH SURFACE GRADE.
17. TREES PLANTED ON SLOPES SHALL BE PLACED IN PLANTING PITS OF ADEQUATE DEPTH SUCH THAT THE SOIL STAIN AT THE BASE OF THE TRUNK MATCHES THAT OF THE AVERAGE GRADE OR SLOPE.
18. CONTRACTOR SHALL WARRANTY PLANT MATERIAL TO REMAIN ALIVE AND HEALTHY FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE. WARRANTY SHALL NOT INCLUDE DAMAGE FOR LOSS OF PLANT MATERIAL DUE TO NATURAL CAUSES, ACTS OF VANDALISM OR NEGLIGENCE ON THE PART OF THE OWNER.
19. EXISTING LANDSCAPE THAT IS DAMAGED, NOT SCHEDULED FOR REMOVAL, SHALL BE REPLACED TO EXISTING CONDITION.
20. ALL EXISTING TREES TO BE PRUNED/ CLEANED-UP BY A CERTIFIED ARBORIST.
21. ALL INVASIVE / EXOTIC SPECIES ONSITE TO BE REMOVED.
22. QUANTITIES ARE APPROXIMATE AND ARE PROVIDED ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITIES AND PROVIDING SUFFICIENT QUANTITIES OF MATERIAL FOR COVERAGE BASED ON THE AREAS TO BE COVERED AND PLANT SPACING CALLED FOR.
23. ALL DISTURBED AREAS ON SITE NOT CALLED TO BE SODDED, SHALL BE REESTABLISHED WITH SEED OR HYDROMULCH.
24. AN AUTOMATIC IRRIGATION SYSTEM SHALL BE PROVIDED TO MAINTAIN ALL LANDSCAPE AREAS. OVER SPRAY ON STREETS AND WALKS IS PROHIBITED.
25. ALL BED AREAS TO BE MULCHED WITH SHREDDED HARDWOOD MULCH AT 3" MIN.. DEPTH. (FLORA MULCH OR APPROVED EQUAL.)
26. NOTIFY LANDSCAPE DESIGNER 772-794-4100 SHOULD AVAILABILITY ISSUE(S) ARISE.
27. MINIMUM 5 FOOT TREE SETBACK FROM ALL UTILITIES & 7.5' CLEARANCE AROUND FIRE HYDRANTS & FDC'S FROM LANDSCAPING.
28. IN THOSE INSTANCES WHERE A TREE(S) IS PLANTED CLOSER THAN FIVE (5) FEET FROM A SIDEWALK, STRUCTURE, OR UNDERGROUND UTILITY A ROOT BARRIER(S) SHALL BE INSTALLED. ROOT BARRIERS FOR TREES SHALL BE INSTALLED ALONG THE EDGE OF STRUCTURE, PAVING, OR CURB. THE ROOT BARRIER SHALL BE A MINIMUM OF TWENTY-FOUR (24) INCHES DEEP, BUT DEPENDING ON THE SIZE, LOCATION, AND SPECIES OF TREE TO BE PLANTED, A LARGER BARRIER MAY BE REQUIRED. THE ROOT BARRIER SHALL BE INSTALLED WITH TWENTY (20) LINEAR FEET, CENTERED FROM THE TRUNK, FOR LARGE TREES AND FIFTEEN (15) LINEAR FEET FOR SMALLER TREES. ALL ROOT BARRIERS SHALL BE LINEAR.

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

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KEVIN BARRETT — FLORIDA CERTIFICATE NO. 79999 — STATE OF FLORIDA — REGISTERED LANDSCAPE ARCHITECT
DATE: 4/23/2021

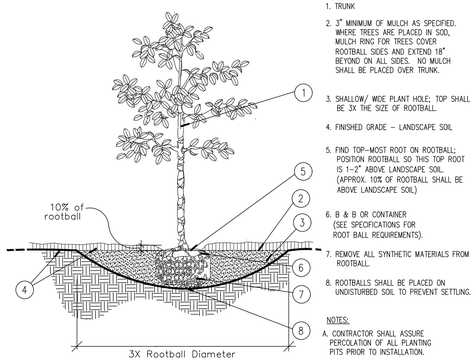
KHA PROJECT 147811000
DATE 04/12/2021
SCALE AS SHOWN
DESIGNED BY KPB
DRAWN BY KPB
CHECKED BY KPB

LANDSCAPE PLAN

OLEANDER OAKS
PREPARED FOR
ALVA STONE GROUP
CITY OF FORT PIERCE FL

SHEET NUMBER
L-100

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Plotted By: Enright, Tyler Sheet Set: OLEANDER OAKS Layout: L-100 LANDSCAPE PLAN April 23, 2021 09:47:24am K:\VRB_LDEV\147811000 - oleander oaks\CAD\plotsheets\L-1100 LANDSCAPE PLAN.dwg



1. TRUNK
2. 3" MINIMUM OF MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES COVER ROOTBALL SIDES AND EXTEND 18" BEYOND ON ALL SIDES. NO MULCH SHALL BE PLACED OVER TRUNK.
3. SHALLOW/ WIDE PLANT HOLE; TOP SHALL BE 3X THE SIZE OF ROOTBALL.
4. FINISHED GRADE – LANDSCAPE SOIL
5. FIND TOP-MOST ROOT ON ROOTBALL; POSITION ROOTBALL SO THIS TOP ROOT IS 1-2" ABOVE LANDSCAPE SOIL. (APPROX. 10% OF ROOTBALL SHALL BE ABOVE LANDSCAPE SOIL)
6. B & B OR CONTAINER (SEE SPECIFICATIONS FOR ROOT BALL REQUIREMENTS).
7. REMOVE ALL SYNTHETIC MATERIALS FROM ROOTBALL.
8. ROOTBALLS SHALL BE PLACED ON UNDISTURBED SOIL TO PREVENT SETTLING.

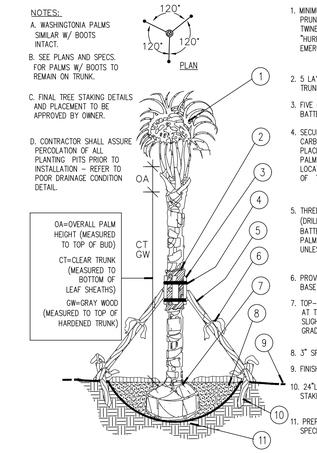
NOTES:
A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
C. SEE PRE-APPROVED STAKING METHODS, THIS SHEET

* ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

A Tree Planting
SECTION NTS

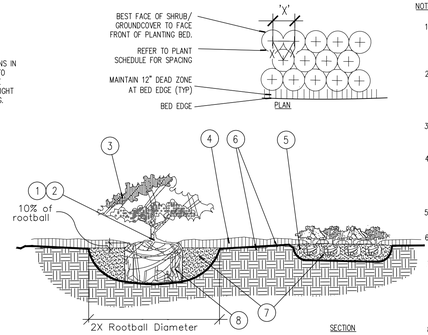
NOTES:
A. WASHINGTONIA PALMS SIMILAR W/ BOOTS INTACT.
B. SEE PLANS AND SPECS. FOR PALMS W/ BOOTS TO REMAIN ON TRUNK.
C. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
D. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION – REFER TO POOR DRAINAGE CONDITION DETAIL.

OA=OVERALL PALM HEIGHT (MEASURED TO TOP OF BUD)
CT=CLEAR TRUNK (MEASURED TO BOTTOM OF LEAF SHEATHS)
GW=GRAY WOOD (MEASURED TO TOP OF HARDENED TRUNK)



1. MINIMUM OF NINE (9) GOOD PALM FRONDS; PRUNE AND TIE FRONDS WITH HEMP TWINE. SABAL PALMS TO BE SELECTIVELY "HURRICANE CUT", LEAVING ONLY NEWLY-EMERGING GROWTH.
2. 5 LAYERS OF BURLAP TO PROTECT TRUNK.
3. FIVE (5) 18"L, 2X4 WOOD BATTENS. UNTREATED, #2
4. SECURE BATTENS WITH TWO (2) 3/4" CARBON STEEL BANDS TO HOLD BATTENS IN PLACE. NO NAILS SHALL BE DRIVEN INTO PALM. HEIGHT OF BATTENS SHALL BE LOCATED PROPORTIONATELY TO THE HEIGHT OF THE PALM FOR ADEQUATE BRACING.
5. THREE (3) 8'L 2X4 SUPPORTS. NAIL (DRILL AND NAIL IF NECESSARY) TO BATTENS AND 2" X 4" STAKES. PALMS SHALL BE PLUMB VERTICALLY UNLESS OTHERWISE NOTED.
6. PROVIDE FLAGGING AT MIDPOINT AND BASE OF SUPPORTS.
7. TOP-MOST ROOT SHALL BE VISIBLE AT THE SURFACE OF THE ROOTBALL, SLIGHTLY ABOVE SURROUNDING GRADE.
8. 3" SPECIFIED MULCH
9. FINISH GRADE
10. 24"L (MIN.) 2X4 P.T. WOOD STAKES, NAIL TO SUPPORT POLES
11. PREPARED PLANTING SOIL AS SPECIFIED

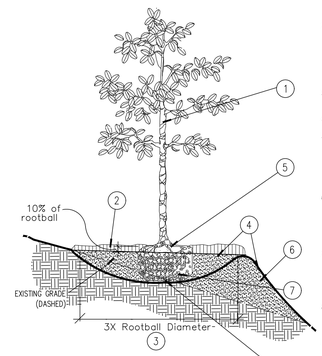
B Palm Planting and Staking
SECTION NTS



NOTES:
1. FIND POINT WHERE TOPMOST ROOT EMERGES FROM TRUNK WITHIN 2" OF SURFACE. CLEAR EXCESS SOIL IF NECESSARY.
2. TOP 10% OF SHRUB AND GROUNDCOVER ROOTBALLS TO BE PLANTED ABOVE THE LANDSCAPE GRADE. DO NOT COVER EXPOSED 10% ON SIDES WITH SOIL.
3. PRUNE ALL LIKE SHRUBS WITHIN A PLANTED MASS TO ACHIEVE A UNIFORM MASS/HEIGHT.
4. 3" MINIMUM MULCH AS SPECIFIED – DO NOT COVER ENTIRE SHRUB ROOTBALL OR CREATE 'WATER RINGS' ONLY COVER SIDES OF ROOTBALL WITH MULCH
5. EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER BED.
6. FINISHED GRADE (SEE GRADING PLAN).
7. PREPARED PLANTING SOIL AS SPECIFIED. NOTE: WHEN GROUND- COVERS AND SHRUBS USED IN MASSES, ENTIRE BED TO BE AMENDED WITH PLANTING SOIL MIX AS SPECIFIED.
8. SCARIFY ROOTBALL SIDES AND BOTTOM.

* ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

C Shrub / Groundcover Planting
PLAN/SECTION NTS

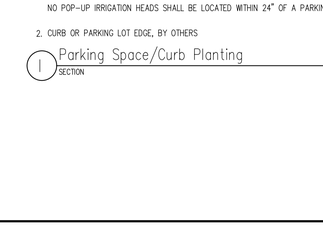


1. TREES, PALMS, AND LARGE SHRUBS (15 GAL OR GREATER) SHALL BE PLANTED IN SIMILAR MANNER
2. 3" MINIMUM OF MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES COVER ROOTBALL SIDES AND EXTEND 18" BEYOND ON ALL SIDES. NO MULCH SHALL BE PLACED OVER TRUNK.
3. SHALLOW/ WIDE PLANT HOLE; TOP SHALL BE 3X THE SIZE OF ROOTBALL.
4. FINISHED GRADE – LANDSCAPE SOIL
5. FIND TOP-MOST ROOT ON ROOTBALL; POSITION ROOTBALL SO THIS TOP ROOT IS 1-2" ABOVE LANDSCAPE SOIL. (APPROX. 10% OF ROOTBALL SHALL BE ABOVE LANDSCAPE SOIL)
6. BERM SOIL SO THAT TOP OF BERM IS JUST BELOW THE TOP 10% OF THE TOP OF THE ROOTBALL. SLOPE DOWNHILL PORTION OF BERM AS REQUIRED TO MEET EXISTING GRADE.
7. B & B OR CONTAINER REMOVE ALL SYNTHETIC MATERIALS FROM ROOTBALL (SEE SPECIFICATIONS FOR OTHER ROOT BALL REQUIREMENTS)
8. ROOTBALLS SHALL BE PLACED ON UNDISTURBED SOIL TO PREVENT SETTLING.

NOTES:
A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
C. SEE PRE-APPROVED STAKING METHODS, THIS SHEET

* ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

D Planting on a Slope
SECTION NTS

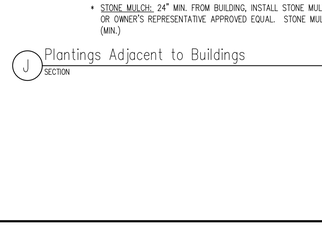


1. FINISH GRADE
2. HORIZONTAL 2X2 SCREWED TO 2X2 STAKE. ALL WOOD SHALL BE #2 UNTREATED.
3. 3-1/2" DRYWALL SCREW, THREAD SIZE 12, SHARP POINT, FULL THREAD, BLACK PHOSPHATE FINISH
4. VERTICAL STAKES SHALL ABUT SIDE OF ROOTBALL
5. STAKES TO EXTEND INTO NATIVE SOIL BY 1-1/2 X THE ROOTBALL DEPTH MIN.

NOTE:
IF SPATIAL REQUIREMENTS PRECLUDE STAKING WITH THIS METHOD, SUBMIT ALTERNATE FOR LANDSCAPE ARCHITECT'S APPROVAL PRIOR TO INSTALLING PLANT.

* Refer to details B and D for planting

E Staking – up to 65 gal. or B&B to 3-1/2" Cal.
PLAN/SECTION NTS



1. FIVE (5) LAYERS OF BURLAP TO PROTECT TRUNK
2. TWO STEEL BANDS TO SECURE BATTENS
3. FIVE 2 X 4 X 18"L WOOD BATTENS
4. THREE (3) 2" X 8' LODGE POLES. DRILL, USING GALVANIZED SCREWS, TO BATTENS AND 2" X 4" STAKES. NO SCREWS SHALL PENETRATE TREE. FLAG AT MIDPOINT AND AT BASE.
10. 2" x 4" x 3' (MIN), P.T. WOOD STAKES BURIED 3" BELOW FINISHED GRADE.
7. FINISHED GRADE (SEE GRADING PLAN)

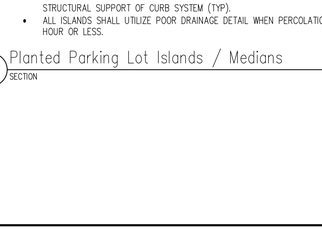
NOTES:
A. ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.
B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
C. ALTERNATE TREE ANCHORING SYSTEMS MAY BE SUBSTITUTED FOR WOOD STAKING SYSTEM UPON APPROVAL BY OWNER OR OWNER'S REPRESENTATIVE.

PRE-APPROVED SYSTEMS:
*BROOKS TREE BRACE SYSTEM
*ARBOR TIE TREE BRACING

D. RUBBER HOSE/WIRE SYSTEMS ARE NOT ALLOWED.

* Refer to details B and D for planting

F Large Tree Staking – 100 Gal + or B&B 4" +
SECTION NTS



1. FINISH GRADE
2. BACKFILL WITH PREPARED PLANTING SOIL MIX AS SPECIFIED.
3. FILTER CLOTH, MIRAFI 500X OR BETTER
4. 12" CLEAN SAND, COMPACTED. ADJUST LAYER THICKNESS SO TOP OF ROOTBALL IS AT LEAST 1" ABOVE FINISHED GRADE.
5. SLOPE BOTTOM TO DRAIN
6. ±18"ø AUGURED HOLE PENETRATE THROUGH OCCLUDING LAYER TO WATER TABLE OR TO A DEPTH OF 7' TO ASSURE PROPER PERCOLATION.
7. BACKFILL WITH 1/2" – 3/4" GRAVEL.
8. WATER TABLE. (DEPTH VARIES)

NOTE:
FOR A PARKING ISLAND PLANTING SITUATION, CONTRACTOR TO BACKFILL ENTIRE LENGTH OF PLANTING AREA TO WITHIN 6" OF BACK OF CURB OR EDGE OF PAVEMENT.

REFER TO NOTE 0.3 OF WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION.

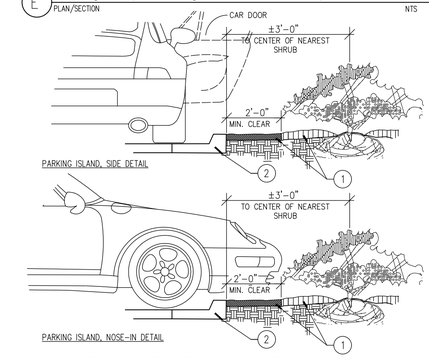
G Poor Drainage Condition
PLAN/SECTION NTS

1. 6'H "PERIMETER PLUS" CONSTRUCTION FENCE BY CONWED PLASTICS OR OWNER'S REPRESENTATIVE APPROVED EQUAL. SUBMIT PRODUCT INFORMATION FOR APPROVAL PRIOR TO INSTALLATION.
2. 8' TALL METAL "T" POSTS OR 2" x 2" X 8' PRESSURE TREATED WOOD POSTS WITH 24" BURIAL BELOW GRADE.

INSTALLATION NOTES:
A. POST SELECTION SHOULD BE BASED ON EXPECTED STRENGTH NEEDS AND THE LENGTH OF TIME FENCE WILL BE IN PLACE. FLEXIBLE FIBERGLASS ROD POSTS ARE RECOMMENDED FOR PARKS, ATHLETIC EVENTS AND CROWD CONTROL INSTALLATIONS. METAL "T" POSTS OR TREATED WOOD POSTS ARE TYPICALLY USED FOR CONSTRUCTION AND OTHER APPLICATIONS.
B. POSTS SHOULD BE DRIVEN INTO THE GROUND TO A DEPTH OF 1/4 OF THE HEIGHT OF THE POST. FOR EXAMPLE, A 8' POST SHOULD BE SET AT LEAST 2' INTO THE GROUND.
C. SPACE POSTS EVERY 6' (MIN.) TO 8' (MAX.).
D. SECURE FENCING TO POST WITH NYLON CABLE TIES (AVAILABLE FROM CONWED PLASTICS). WOOD STRIPS MAY BE ALSO BE USED TO PROVIDE ADDITIONAL SUPPORT AND PROTECTION BETWEEN TIES AND POSTS.

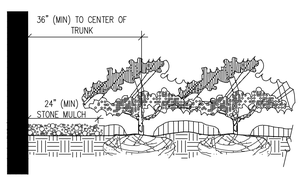
NOTE: IF WIRE TIES ARE USED, AVOID DIRECT CONTACT WITH FENCE. WIRE MAY DAMAGE FENCE OVER TIME.

H Tree/Shrub Protector
Barrier Detail NTS



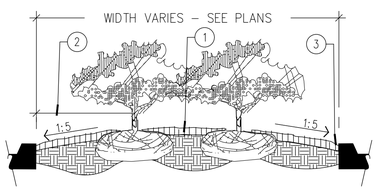
1. INSTALL CONTINUOUS MULCH BED ADJACENT TO PARKING SPACES AS SHOWN. MULCH SHALL BE MIN. 3" DEEP.
   NO POP-UP IRRIGATION HEADS SHALL BE LOCATED WITHIN 24" OF A PARKING SPACE ON ANY SIDE
2. CURB OR PARKING LOT EDGE, BY OTHERS

I Parking Space/Curb Planting
SECTION NTS



NOTES
- CLEAR ZONE: 36" MIN. FROM BUILDING TO CENTER OF NEAREST SHRUB.
- STONE MULCH: 24" MIN. FROM BUILDING, INSTALL STONE MULCH. MULCH TYPE TO BE RED LAVA ROCK OR OWNER'S REPRESENTATIVE APPROVED EQUAL. STONE MULCH TO BE INSTALLED TO A DEPTH OF 3" (MIN.)

J Plantings Adjacent to Buildings
SECTION NTS



PLANTER ISLAND NOTES
1. CROWN ISLANDS @ 5:1 SLOPES (OR AS SPECIFIED ON THE LANDSCAPE PLANS).
2. CLEAR ZONE: 36" MIN. FROM BACK OF CURB TO CENTER OF NEAREST SHRUB. CLEAR ZONE SHALL CONTAIN 3" CONTINUOUS MULCH OR TURF, SEE PLANS. SEE DETAIL 'I' FOR PLANTER MEDIANS ADJACENT TO PARKING SPACES.
3. 1" MIN VERTICAL CLEARANCE, TOP OF CURB TO TOP OF MULCH.

- EXCAVATE CONTINUOUS 36" DEEP (FROM TOP OF CURB) FOR ENTIRE LENGTH AND WIDTH OF ISLAND & BACKFILL WITH APPROVED PLANTING MIX.
- PROTECT AND RETAIN ALL CURBS AND BASE. COMPACTED SUBGRADE TO REMAIN FOR STRUCTURAL SUPPORT OF CURB SYSTEM (TYP).
- ALL ISLANDS SHALL UTILIZE POOR DRAINAGE DETAIL WHEN PERCOLATION RATES ARE 2" PER HOUR OR LESS.

K Planted Parking Lot Islands / Medians
SECTION NTS

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY KEVIN BARRETT, FCLD. 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.

No.	REVISIONS	DATE	BY

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KHA PROJECT 147811000
DATE 04/12/2021
SCALE AS SHOWN
DESIGNED BY KPB
DRAWN BY KPB
CHECKED BY KPB

LANDSCAPE DETAILS

OLEANDER OAKS
PREPARED FOR
ALVA STONE GROUP
CITY OF FORT PIERCE FL

SHEET NUMBER
L-101

Plotted By:Enright, Tyler Sheet Set:OLEANDER OAKS Layout:L-101 LANDSCAPE DETAILS April 23, 2021 08:47:27am K:\VRB_LDEV\147811000 - oleander oaks\CAD\plansheets\L-100 LANDSCAPE PLAN.dwg
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GENERAL LANDSCAPE SPECIFICATIONS AND NOTES

A. SCOPE OF WORK

1. THE WORK CONSISTS OF FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS, AS INCLUDED IN THE PLANT LIST, AND AS HEREIN SPECIFIED.

2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL PLANTING AREAS OF THIS CONTRACT UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER.

B. PROTECTION OF EXISTING STRUCTURES

ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, AND OTHER ITEMS OF CONSTRUCTION AND PLANTING ALREADY COMPLETED OR ESTABLISHED SHALL BE PROTECTED FROM DAMAGE BY THIS CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER.

C. PROTECTION OF EXISTING PLANT MATERIALS OUTSIDE LIMIT OF WORK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS EXISTING OR OTHERWISE, CAUSED BY CARELESS OPERATION OF EQUIPMENT, STOCKPILING OF MATERIALS, ETC. THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIP-LINE OR THE SPILLING OF OIL, GASOLINE, OR OTHER DELETERIOUS MATERIALS WITHIN THE DRIP-LINE. NO MATERIALS SHALL BE BURNED WHERE THE HEAT WILL DAMAGE ANY PLANT. TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPEN AND/ OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF ONE HUNDRED DOLLARS ($100) PER CALIPER INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY (20) PER CENT PER INCH OVER FOUR (4) INCHES CALIPER AS FIXED AND AGREED LIQUIDATED DAMAGES. CALIPER SHALL BE MEASURED SIX (6) INCHES ABOVE GROUND LEVEL FOR TREES UP TO AND INCLUDING FOUR (4) INCHES IN CALIPER AND TWELVE (12) INCHES ABOVE GROUND LEVEL FOR TREES OVER FOUR (4) INCHES IN CALIPER.

D. MATERIALS

1. GENERAL

SAMPLES OF MATERIALS AS LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL, ON THE SITE OR AS OTHERWISE DETERMINED BY THE OWNER. UPON APPROVAL OF SAMPLES, DELIVERY OF MATERIALS MAY BEGIN.

MATERIALS	SAMPLES
MULCH	ONE (1) CUBIC FOOT
TOPSOIL	ONE (1) CUBIC YARD
PLANTS	ONE (1) OF EACH VARIETY

2. PLANT MATERIALS

A. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARDIZED PLANT NAMES, 1942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS PARTS I AND II, LATEST EDITION PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL PLANTS SHALL BE FRESHLY DUG, SOUND, HEALTHY, VIGOROUS, WELL-BRANCHED AND FREE OF DISEASE AND INSECTS, INSECT EGGS AND LARVAE AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. WHERE ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY UPON THE APPROVAL OF THE OWNER.
B. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.

C. INSPECTION: PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER, FOR QUALITY, SIZE, AND VARIETY. SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF BALLS OR ROOTS, LATENT DEFECTS OR INJURIES. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. NOTICE REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.

E. TOPSOIL AND SAND

TOPSOIL FOR USE IN PREPARING SOIL FOR BACKFILLING PLANT PITS SHALL BE THIRTY PERCENT (30%) MUCK AND SEVENTY PERCENT (70%) SAND AND BE FERTILE, FRIABLE, AND OF A LOAMY CHARACTER, WITHOUT MIXTURE OF SUBSOIL MATERIALS, AND OBTAINED FROM A WELL-DRAINED, ARABLE SITE. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER AND SHALL BE FREE FROM HEAVY CLAY, COARSE SAND, STONES, LIME, LUMPS, PLANTS, ROOTS OR OTHER FOREIGN MATERIALS, OR NOXIOUS WEEDS. IT SHALL NOT CONTAIN TOXIC SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH. PH RANGE SHALL BE 5.0 TO 7.0 INCLUSIVE. FOUR (4) INCHES OF TOPSOIL TO BE PROVIDED FOR ALL TURF AREAS. TWENTY FOUR (24) INCHES OF TOPSOIL TO BE PROVIDED FOR ALL PLANTING BEDS.

SAND SHALL BE COARSE, CLEAN, WELL DRAINING NATIVE SAND. CONTRACTOR SHALL SUBMIT RESULTS OF SOIL TESTS FOR TOPSOIL AND SAND PROPOSED FOR USE UNDER THIS CONTRACT FOR APPROVAL BY THE OWNER.

TREES SHALL BE PLANTED IN THE EXISTING NATIVE SOIL ONSITE UNLESS DETERMINED TO BE UNSUITABLE AT WHICH POINT THE CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT TO DISCUSS ALTERNATE RECOMMENDATION PRIOR TO PLANTING.

F. WATER

WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN AN ADEQUATE GROWTH OF PLANTS AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC. IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SUCH SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.

G. COMMERCIAL FERTILIZER

COMMERCIAL FERTILIZER SHALL BE A COMPLETE FORMULA; IT SHALL BE UNIFORM IN COMPOSITION, DRY AND FREE FLOWING. THIS FERTILIZER SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL UNOPENED CONTAINERS, EACH BEARING THE MANUFACTURER'S GUARANTEED STATEMENT OF ANALYSIS.

FIFTY PERCENT (50%) OF THE NITROGEN SHALL BE DERIVED FROM NATURAL ORGANIC SOURCES. THE FOLLOWING FERTILIZERS SHALL BE USED AND APPLIED AT RATES AS SUGGESTED BY MANUFACTURER'S SPECIFICATIONS:

1. SHRUBS AND TREES - MILORGANITE, OR APPROVED EQUAL
2. ANNUALS AND GROUNDCOVERS - OSMOCOTE/SIERRA BLEND 14-14-14
3. SOD - 8-8-8 FERTILIZER

IN ADDITION TO SURFACE APPLIED FERTILIZERS, ALL CONTAINER GROWN AND FIELD GROWN PLANT MATERIAL SHALL RECEIVE "AGRIFORM" PLANTING TABLETS 24-10-5 FORMULA, 21 GRAM OR EQUAL. THESE TABLETS SHALL BE PLACED AT A DEPTH OF ROOT BALL AT THE RATE AS SPECIFIED BY MANUFACTURER.

H. MULCH

MULCH MATERIAL SHALL BE MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED AT A DEPTH OF 3 INCHES. MULCH SHALL BE PLACED DIRECTLY ON SOIL OR LANDSCAPING FABRIC AND BE PROPERLY EDGED TO RETAIN MULCH. ALL MULCH SHALL BE ORGANIC MATERIAL WITH HARDWOOD OR PINE BARK RECOMMENDED. CYPRESS SHALL NOT BE USED AS MULCH. NO PLASTIC OR OTHER NON-BIODEGRADABLE WEED CLOTH OR SURFACE COVERS SHALL BE USED WERE MULCH IS REQUIRED.

I. DIGGING AND HANDLING

1. PROTECT ROOTS OR BALLS OF PLANTS AT ALL TIMES FROM SUN AND DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT BREAKAGE AND DRYING OUT DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO SITE SHALL BE SPRAYED WITH AN ANTI-TRANSPIRANT PRODUCT ("WILTPRUF" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.

2. BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN. PLANTS BALLED AND BURLAPPED OR CONTAINER GROWN SHALL NOT BE HANDLED BY STEMS.

3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS. THE ROOTS SHALL NOT BE CUT WITHIN THE MINIMUM SPREAD SPECIFIED IN THE PLANT LIST. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT IN MOVING AND PRIOR TO PLANTING.

4. PROTECTION OF PALMS (IF APPLICABLE): ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS SPECIFIED AFTER THE MINIMUM OF FRONDS HAVE BEEN REMOVED. ALL PALMS SHALL BE BRACED PER DETAIL.

5. EXCAVATION OF TREE PITS SHALL BE DONE USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB- BASES.

J. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION.

2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.

3. PLANT ROOTS BOUND IN CONTAINERS SHALL NOT BE ACCEPTABLE.

4. SUBSTITUTION OF NON-CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE CONTAINER GROWN WILL NOT BE PERMITTED UNLESS WRITTEN APPROVAL IS OBTAINED FROM THE OWNER AND LANDSCAPE ARCHITECT.

K. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED ON THE PLANT LIST SCHEDULE, THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

L. NATIVE STOCK

PLANTS COLLECTED FROM WILD OR NATIVE STANDS SHALL BE CONSIDERED NURSERY GROWN WHEN THEY HAVE BEEN SUCCESSFULLY REESTABLISHED IN A NURSERY ROW AND GROWN UNDER REGULAR NURSERY CULTURAL PRACTICES FOR A MINIMUM OF TWO (2) GROWING SEASONS AND HAVE ATTAINED ADEQUATE ROOT AND TOP GROWTH TO INDICATE FULL RECOVERY FROM TRANSPLANTING INTO THE NURSERY ROW.

M. MATERIALS LIST

QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE LANDSCAPE ARCHITECT OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN THE BIDDERS TAKE OFF AND THE PLANT LIST QUANTITY, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION PRIOR TO THE SUBMISSIONS OF BIDS. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE

N. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR, UNLESS OTHERWISE NOTED.

2. THE LANDSCAPE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH. THIS CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.

3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS.

O. PLANTING PROCEDURES

1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN UP WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE REMOVED FROM THE SURFACE OF ALL PLANT BEDS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, HE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT OR OWNER. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.

2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS (LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER LINES, CABLE AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES.

3. SUBGRADE EXCAVATION: SITE CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36". SITE CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY SITE CONTRACTOR, AND POSITIVE DRAINAGE CAN NOT BE ACHIEVED, LANDSCAPE CONTRACTOR SHALL UTILIZE PLANTING DETAIL THAT ADDRESSES POOR DRAINAGE.

4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS HEREIN SPECIFIED AND REQUIRED. INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.

5. GENERAL: COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. PLANTS SHALL BE PROTECTED UPON ARRIVAL AT THE SITE BY BEING THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS SHALL NOT REMAIN UNPROTECTED FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS. AT ALL TIMES WORKMANLIKE METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.

6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE THE PLANTING WITH THE IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION ITEMS AND PLANTS.

7. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD FOR NURSERY STOCK 260.1, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACKFILLED WITH THE PREPARED PLANTING SOIL AS SPECIFIED HEREIN BEFORE (SECTION E). TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER DRAINAGE. IF POOR DRAINAGE EXISTS, UTILIZE PLANTING DETAIL THAT ADDRESSES THIS CONDITION. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURE AND UNDER THE SUPERVISION OF A QUALIFIED PLANTING FOREMAN. PROPER "JETTING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.

8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.

9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION E OF THESE SPECIFICATIONS. IN ADDITION, EACH PLANTING PIT SHALL RECEIVE 21-GRAM "AGRIFORM" PLANTING TABLETS PER MANUFACTURER'S SPECIFICATIONS OR AS FOLLOWS:

- TWO (2) TABLETS PER 1 GAL. PLANT
- THREE (3) TABLETS PER 3 GAL. PLANT
- FOUR (4) TABLETS PER 10 GAL. PLANT
- LARGER MATERIAL - TWO (2) TABLETS PER 1/2" OF TRUNK CALIPER

10. TREES AND SHRUBS SHALL BE SET STRAIGHT AND AT SUCH A LEVEL THAT AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. PLANTING SOIL MIXTURE SHALL BE BACKFILLED AND THOROUGHLY TAMPED AROUND THE BALL AND SHALL BE SETTLED BY WATER AFTER TAMPING.

11. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES, STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET. ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE, ONLY WITH MULCH. ALL BURLAP, ROPE, WIRES, ETC., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS, BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.

12. PRUNING: EACH TREE SHALL BE PRUNED TO PRESERVE THE NATURAL CHARACTER OF THE PLANT AS SHOWN ON THE DRAWINGS. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT.

13. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6", REMOVE AND DISPOSE ALL DEBRIS. TILL INTO TOP 4" THE PLANTING SOIL MIX AS SPECIFIED IN SECTION E. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.

14. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE LANDSCAPE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE LANDSCAPE CONTRACTOR AND OWNER DECIDE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING OF THEIR INTENTIONS AND AGREE TO HOLD HARMLESS THE LANDSCAPE ARCHITECT IN THE EVENT ANY TREES FALL DOWN AND DAMAGE PERSON OR PROPERTY.

15. MULCHING: PROVIDE A THREE (3) INCH MINIMUM LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER AND VINE BED AND TREE PIT.

16. HERBICIDE WEED CONTROL: ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "ROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER.

P. LAWN SODDING

1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A GRASS LAWN ACCEPTABLE TO THE OWNER.

2. LAWN BED PREPARATION: ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS, AND THE GROUND BROUGHT TO AN EVEN GRADE. THE WHOLE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT OF ROLLING SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH THAT IS UP TO THE REQUIRED GRADE.

3. SOIL PREPARATION: PREPARE LOOSE BED FOUR (4) INCHES DEEP. APPLY FERTILIZER AT RATE OF TWENTY (20) POUNDS PER ONE THOUSAND (1000) SQUARE FEET. APPLICATION SHALL BE UNIFORM, UTILIZING APPROVED MECHANICAL SPREADERS. MIX FERTILIZER THOROUGHLY WITH THE SOIL TO A DEPTH OF THREE (3) INCHES. HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.

4. SODDING

A. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.

B. THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.

C. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS. ADJACENT TO BUILDINGS, A FOUR INCH MULCH STRIP SHALL BE PROVIDED. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND AS APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN.

5. DURING DELIVERY, PRIOR TO AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF TET ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.

6. LAWN MAINTENANCE:

A. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS UNTIL CERTIFICATION OF ACCEPTABILITY BY THE LANDSCAPE ARCHITECT OR OWNER. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING REGRADING IF NECESSARY).

B. WATER EVERY DAY FOR TEN (10) SUCCESSIVE DAYS, THEN WATER THREE (3) TIMES PER WEEK (AT EVEN INTERVALS) FOR TWO (2) ADDITIONAL WEEKS. ALL WATERING SHALL BE OF SUFFICIENT QUANTITY TO WET OR RESTORE WATER TO DEPTH OF FOUR (4) INCHES.

Q. CLEAN-UP

UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE BROOM CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

R. PLANT MATERIAL MAINTENANCE

ALL PLANTS AND PLANTING INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SUPPORTS) NECESSARY TO INSURE A HEALTHY CONDITION BY THE CONTRACTOR UNTIL CERTIFICATION OF ACCEPTABILITY BY THE LANDSCAPE ARCHITECT OR OWNER. MAINTENANCE AFTER THE CERTIFICATION OF ACCEPTABILITY SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS IN THIS SECTION. CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE TO COVER LANDSCAPE AND IRRIGATION MAINTENANCE FOR A PERIOD OF 90 CALENDAR DAYS COMMENCING AFTER ACCEPTANCE.

S. MAINTENANCE (ALTERNATE BID ITEM)

1. CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE FOR MAINTENANCE FOLLOWING THE INITIAL 90-DAY MAINTENANCE PERIOD ON A COST PER MONTH BASIS.

T. GUARANTEE

1. THE LIFE AND SATISFACTORY CONDITION OF ALL PLANT MATERIAL INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE GUARANTEED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE LANDSCAPE ARCHITECT OR OWNER.

2. THE LIFE AND SATISFACTORY CONDITION OF ALL OTHER PLANT MATERIAL (INCLUDING SOD) INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE GUARANTEED BY THE CONTRACTOR FOR A MINIMUM OF 90 CALENDAR DAYS, COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE LANDSCAPE ARCHITECT OR OWNER.

3. REPLACEMENT: ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE GUARANTEE PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED PLANTED AND MULCHED AS SPECIFIED UNDER "PLANTING", AT NO ADDITIONAL COST TO THE OWNER.

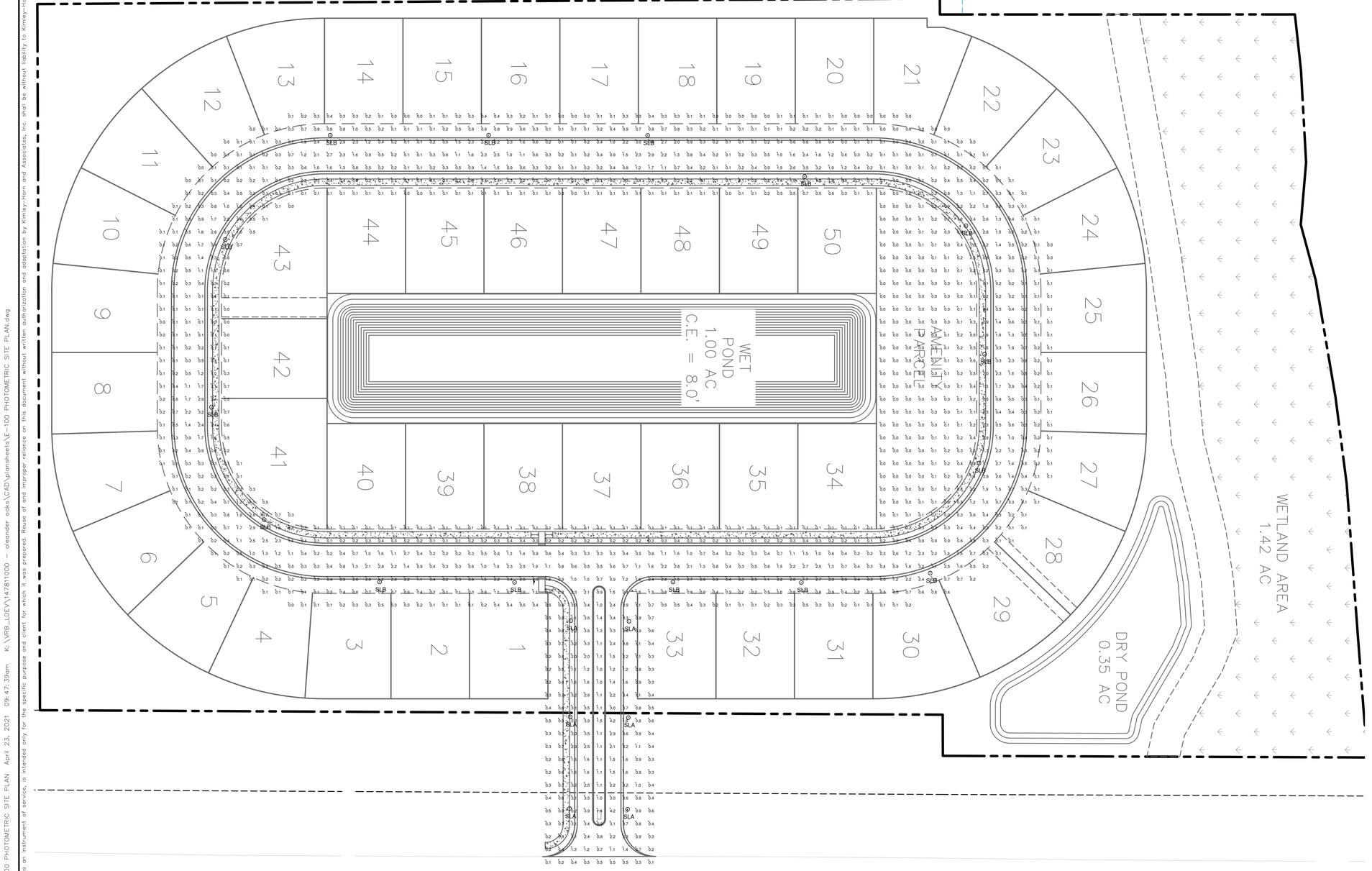
4. IN THE EVENT THE OWNER DOES NOT CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE (AND IRRIGATION) MAINTENANCE, THE CONTRACTOR IS ENCOURAGED TO VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER, AND SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREATEN VIGOROUS AND HEALTH PLANT GROWTH. IT IS SUGGESTED SUCH SITE VISITS SHALL BE CONDUCTED A MINIMUM OF ONCE PER MONTH FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF ACCEPTANCE.

U. FINAL INSPECTION AND ACCEPTANCE OF WORK

FINAL INSPECTION AT THE END OF THE GUARANTEE PERIOD SHALL BE ON PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY REPLACEMENT AT THIS TIME SHALL BE SUBJECT TO THE SAME ONE (1) YEAR GUARANTEE (OR AS SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER IN WRITING) BEGINNING WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL / COMMON NAME	SPECIFICATIONS	REMARKS
	AF	14	Acer rubrum `Florida Flame` / Florida Flame Red Maple	2.5" cal, 12` ht, 4` spr	FG, Straight, Single leader, Full, FL#1
	MG	22	Magnolia grandiflora / Southern Magnolia	2.5" cal, 12` ht, 4` spr	FG, Straight, Single leader, Full, FL#1
	PE	15	Pinus elliotti / Slash Pine	2.5" cal, 12` ht, 4` spr	FG,Straight, Single leader, Full,







LIGHT POLE DETAIL
N.T.S.

Landreth Lighting Luminaire Schedule									
Symbol	[MANUFAC]	Qty	Label	Arrangement	Description	LLF	Lum. Watts	Lum. Lumens	BUG Rating
⊙	Sternberg Lighting	6	SLA	SINGLE	PT-E350LED-16L45T2-MDL14-SV1/550T5-412-188-DB/BK; MOUNTED ON A 12' POLE	1.000	80.6	5212	B2-U0-G2
⊙	Sternberg Lighting	15	SLB	SINGLE	PT-E350LED-16L45T3-MDL14-SV1/550T5-412-188-DB/BK; MOUNTED ON A 12' POLE	1.000	81.1	4885	B1-U0-G2

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

CALL 48 HOURS BEFORE YOU DIG

IT'S THE LAW! DIAL 811

Know what's **below.** **Call** before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY BLAINE BERGSTRESSER, P.E. ON THE DATE ADJACENT TO THE SEAL.

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

No.	REVISIONS	DATE	BY

Kimley»Horn

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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM CA 00000696

ROBERT BLAINE BERGSTRESSER LICENSE NUMBER 56458 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE: 4/2/2021

KHA PROJECT 147811000
DATE 04/12/2021
SCALE AS SHOWN
DESIGNED BY BRB
DRAWN BY TJE
CHECKED BY BRB

PHOTOMETRIC SITE PLAN

OLEANDER OAKS

PREPARED FOR
ALVA STONE GROUP

CITY OF FORT PIERCE FL

SHEET NUMBER
E-100

Plotted By:Enright, Tyler Sheet Set:OLEANDER OAKS Layout:E-100 PHOTOMETRIC SITE PLAN April 23, 2021 09:47:39am K:\VRB_LDEV\147811000 - oleander oaks\CAD\plansheets\E-100 PHOTOMETRIC SITE PLAN.dwg
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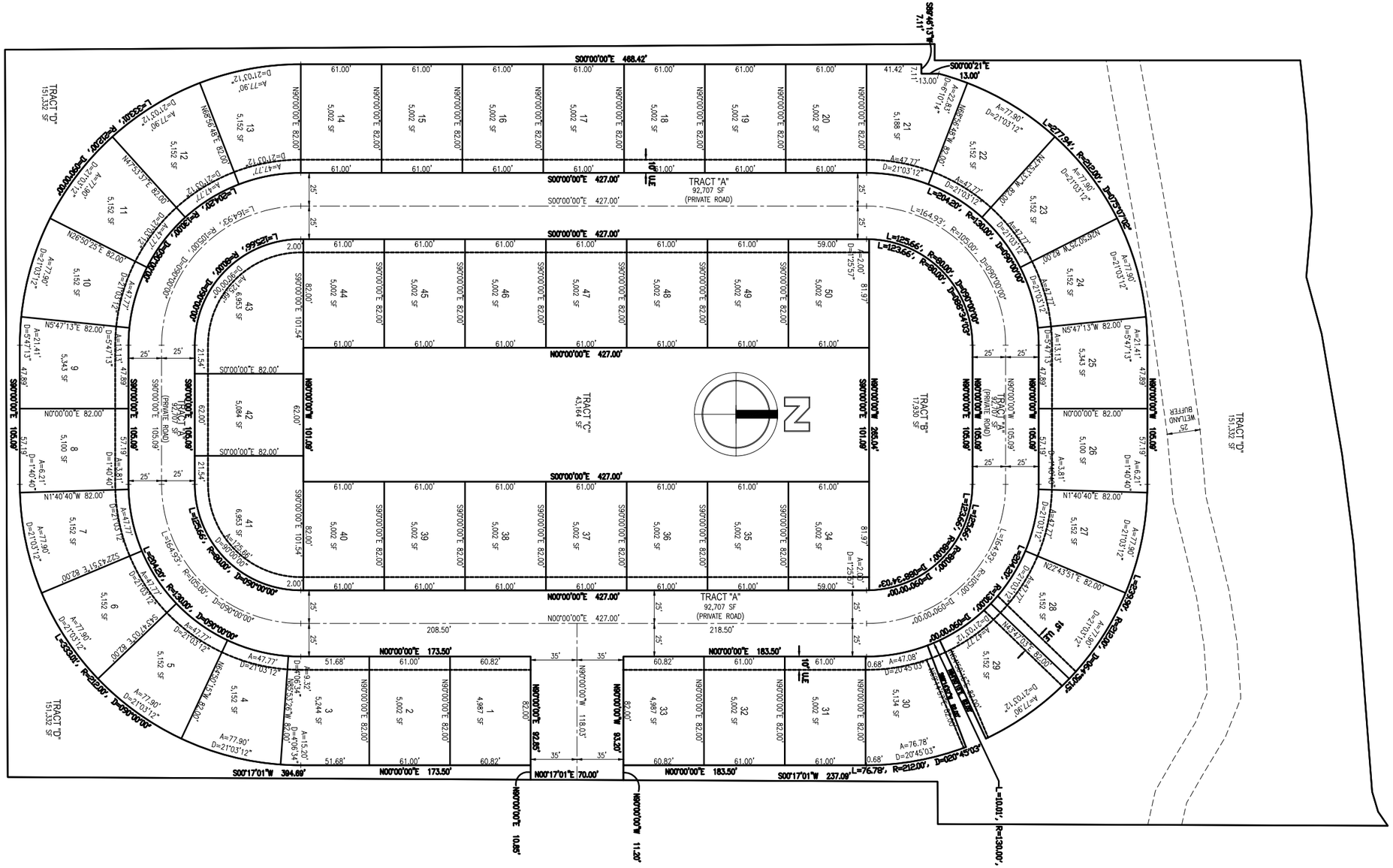
PREPARED BY:
HSQ GROUP, INC.
Engineers · Planners · Surveyors
1001 Yamato Road, Suite 105
Boca Raton, Florida 33431 · 561.392.0221
CA26258 · LB7924

APRIL 2021

OLEANDER OAKS

A PORTION OF THE EAST ONE-HALF OF THE NORTHEAST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST AND THE SOUTHEAST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER OF SECTION 33, TOWNSHIP 35 SOUTH, RANGE 40 EAST
IN THE CITY OF FORT PIERCE, ST. LUCIE COUNTY, FLORIDA

PLAT BOOK _____ PAGE _____
SHEET 3 OF 3



031-MP-18


38-1

Natural Resource Assessment

Oleander Oaks

St. Lucie County, Florida

Prepared for:
Alva Stone Group
591 Evernia Street, #1603
West Palm Beach, FL 33401

147811000
February 2021
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445 24th Street, Suite 200
Vero Beach, FL 32960

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Natural Resource Assessment
Technical Memorandum

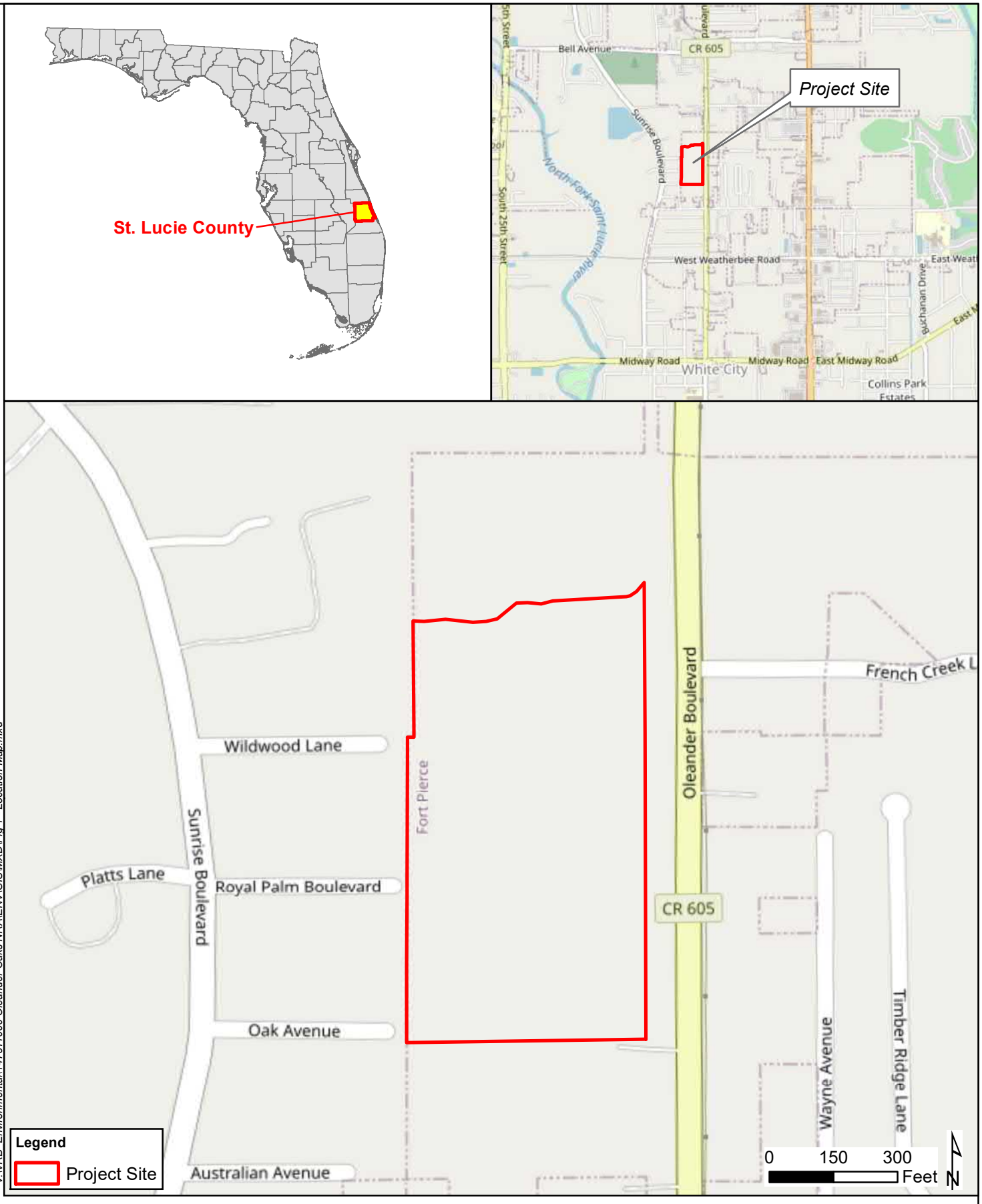
Oleander Oaks
St. Lucie County, Florida

1.0 INTRODUCTION

The following technical memorandum summarizes a review of readily available documentation and the results of field reconnaissance conducted at the project site. The purpose of this Natural Resource Assessment was to characterize the existing conditions of the above-referenced project site relative to threatened and endangered species and their habitat, ecological communities, land cover and vegetation, wetlands, soils, hydrology, archaeological and historical resources, and floodplains.

The scope of this assessment included field reconnaissance to determine habitat present and to determine environmental regulatory constraints for this project site.

The project site is approximately 13 acres and is located in Fort Pierce, near the northwest corner of Tumblin Kling Road and Oleander Avenue in Section 33, Township 35 South, Range 40 East, St. Lucie County, Florida. A location map is attached as ***Figure 1***. A portion of the U.S. Geological Service (USGS) 7.5-Minute Providence, Florida quadrangle map depicting the location of the project site is attached as ***Figure 2***. Based on review of the USGS quadrangle map, elevations on the project site range from approximately 5 to 10 feet.



V:\IVRB Environmental\147811000 Oleander Oaks NRA\ENV\GIS\MXD\Fig 1 - Location Map.mxd

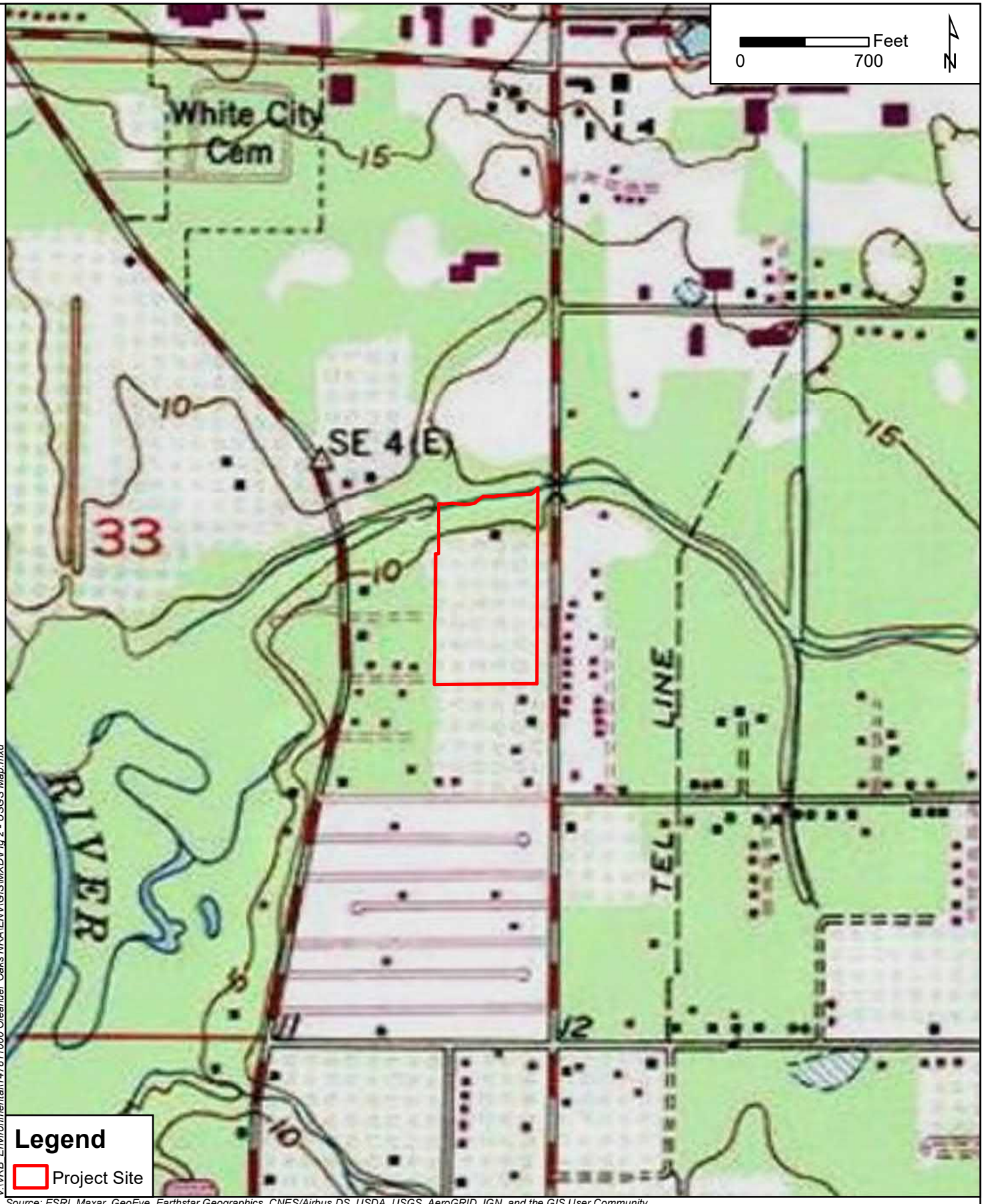
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Project Location Map

Oleander Oaks Natural Resource Assessment
St. Lucie County, Florida

1 inch = 300 feet	PROJECT NUMBER:147811000	FEBRUARY 2021	FIGURE 1



Source: ESRI, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

V:\VRB Environmental\147811000 Oleander Oaks NRA\ENV\GIS\MXD\Fig 2 - USGS Map.mxd

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USGS 7.5 Minute Quadrangle Map

Oleander Oaks Natural Resource Assessment
St. Lucie County, Florida

1 inch = 700 feet	PROJECT NUMBER:147811000	FEBRUARY 2021	FIGURE 2

2.0 METHODOLOGY

The methodology for this assessment included a review of the following resources:

- Florida Natural Areas Inventory (FNAI) Biodiversity Matrix (http://www.fnai.org/biointro.cfm)
- Various Geographic Information System (GIS) data layers from the U.S. Fish and Wildlife Service (USFWS), U.S. Geological Survey (USGS), Florida Fish and Wildlife Conservation Commission (FWC) [(https://public.myfwc.com/FWRI/EagleNests/nestlocator.aspx)]
- USFWS IPaC data [(https://ecos.fws.gov/ipac/)]
- U.S. Department of Agriculture (USDA)/Natural Resources Conservation Service (NRCS) Soil Survey of St. Lucie County, Florida (http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx)
- State Historic Preservation Officer (SHPO), Florida Master Site File (http://www.flheritage.com/)
- USFWS National Wetlands Inventory (NWI) Maps (Web-based maps available from http://www.fws.gov/wetlands/Data/mapper.html)
- Federal Emergency Management Agency (FEMA) Digital Flood Insurance Rate Maps (FIRM; Web-based maps available from http://msc.fema.gov/)
- United States Geological Survey (USGS) Quadrangle Maps, Land Boundary Information System (LABINS; http://www.labins.org)
- South Florida Water Management District Interactive GIS Map (SFWMD.gov)
- Florida Department of Environmental Protection (FDEP) MapDirect GIS (https://floridadep.gov)
- St. Lucie County Land Development Code

On February 3, 2021 a field review of the project limits was conducted by environmental scientists to document the existing habitat conditions and determine potential wildlife utilization. The field review also included a 15% gopher tortoise survey.

3.0 EXISTING CONDITIONS

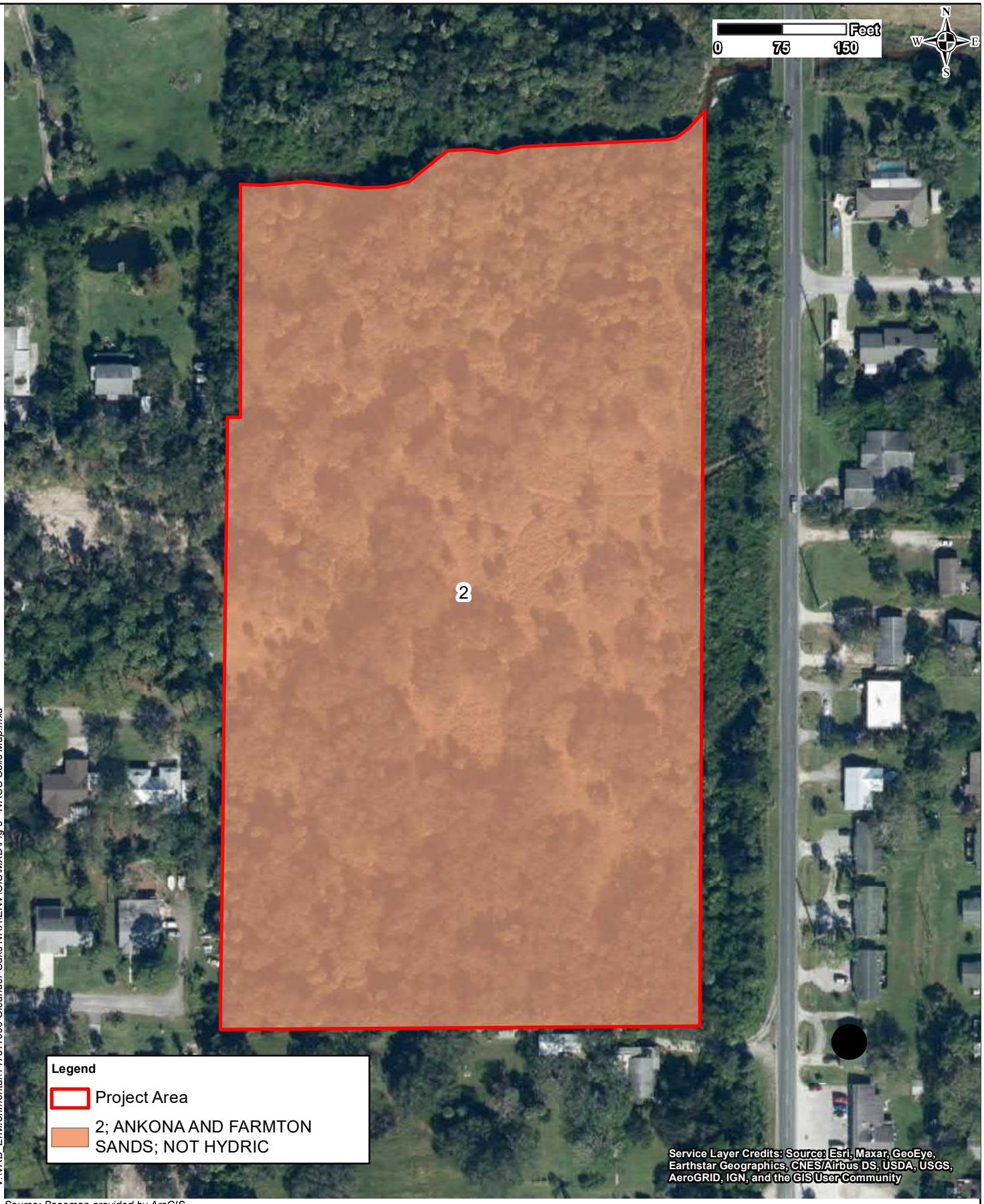
3.1 SOILS

The USDA/NRCS *Soil Survey of St. Lucie County, Florida,* maps the following soil on the property: (2) Ankona and Farmton Sands. A copy of the digital USDA/NRCS soils mapping data is illustrated in ***Figure 3*** and details regarding each soil are provided in ***Table 1***.

Table 1
NRCS Soils Identified Within Study Area

Soil ID Number[1]	Soil Name	Occurrence[2]	Characteristics	Drainage Class	Groundwater Depth	Hydric, Hydric Inclusions, or Non-hydric
2	Ankona and Farmton Sands	Broad flats and depressional areas	Very slow or slow permeability	Very poorly and poorly drained	6-18 inches	Non-hydric

[1] Reference: https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/florida/FL111/0/lucie.pdf
[2] Reference: https://soilseries.sc.egov.usda.gov/OSD_Docs/A/ANKONA.html



V:\IVRB_Environmental\147811000 Oleander Oaks NRA\ENV\GIS\MXD\Fig 3 - NRCS Soils Map.mxd

Source: Basemap provided by ArcGIS

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NRCS Soils Map

Oleander Oaks Natural Resource Assessment
St. Lucie County, Florida

1 inch = 150 feet	PROJECT NUMBER: 147811000	FEBRUARY 2021	FIGURE 3

3.2 LAND COVER AND NATURAL COMMUNITIES

Vegetative communities on the project site were identified through pedestrian transects and aerial photograph interpretation. Vegetative communities were classified using the *Florida Land Use, Cover, and Forms Classification System* (FLUCFCS, Florida Department of Transportation, 1999). A FLUCFCS map of the project site is attached as ***Figure 4***. The description of the upland land cover provided below characterizes dominant vegetation observed along random pedestrian transects and does not represent an all-inclusive vegetative inventory.

FLUCFCS 310 – HERBACEOUS (DRY PRAIRIE)

This cover type encompassed approximately 3.5 acres of the project site and was primarily made up of guinea grass (*Megathyrsus maximus*), broomsedge (*Andropogon virginicus*), Caesar's weed (*Urena lobate*), dogfennel (*Eupatorium capillifolium*), and beautyberry (*Callicarpa Americana*). Cabbage palm (*Sabal palmetto*), Brazilian pepper (*Schinus terebinthifolius*), wild grape (*Vitis spp*.), saw palmetto (*Serenoa repens*), and chapman's oak (*Quercus chapmanii*) were also observed throughout this landcover.

FLUCFCS 420 – UPLAND HARDWOOD FOREST

This cover type encompassed approximately 7.5 acres of the project site. The canopy was primarily made up of live oak (*Quercus virginiana*), laurel oak (*Quercus laurifolia*), and cabbage palm. The understory included Caesar's weed, Brazilian pepper, dogfennel, beautyberry, carrotwood (*Cupaniopsis anacardioides*), and chapman's oak.

3.3 WETLANDS, TIDAL WATERS AND OTHER SURFACE WATERS

The presence of wetlands was evaluated based on the Florida unified wetland delineation methodologies in accordance with Chapter 62-340, Florida Administrative Code (FAC) and Chapter 62-331 FAC under the State 404 Program. These methods consider prevalence of wetland vegetation, hydric soil indicators, and wetland hydrology. Surface waters include both natural and manmade bodies of water, such as streams, lakes, ponds, canals, and ditches. Based on initial database review and subsequent assessment of the vegetative communities, hydrologic conditions, and soils observed during on-site reconnaissance, there appears to be approximately 1.8 acres of wetlands and surface waters on-site.

FLUCFCS 510 – STREAMS AND WATERWAYS

This cover type encompassed approximately 0.1 acres of the project site and encompasses a small stream along the northern portion of the project area, which connects to the St. Lucie River just over half a mile to the west.

FLUCFCS 615 – STREAM AND LAKE SWAMPS (BOTTOMLAND)

This cover type encompassed approximately 1.7 acres of the project site and was primarily made up of cabbage palm, Brazilian pepper, Virginia chain fern (*Woodwardia virginica*), lizard's tail (*Saururus cernuus*), and wild coffee (*Psychotria nervosa*).

3.4 WILDLIFE UTILIZATION

Wildlife observed included the American robin (*Turdus migratorius*), downy woodpecker (*Dryobates pubescens*), red-tailed hawk (*Buteo jamaicensis*), and turkey vulture (*Cathartes aura*). Gopher tortoise (*Gopherus polyphemus*) burrows were also observed on-site.

3.5 ENDANGERED, THREATENED, AND SPECIES OF SPECIAL CONCERN

A list of protected species potentially occurring within the project vicinity was generated using the databases described in Section 2.0 Methodology. Information regarding previously documented occurrences, on-site observations conducted as part of this assessment, and likelihood of occurrence is summarized below.

FNAI – The FNAI report includes data from FNAI Matrix Units 66369 and 66370 **(Appendix A**). Based on the FNAI report, there are no documented listed species within the vicinity of the site. FNAI lists wood storks (*Mycteria Americana*) as likely to occur in both matrix units.

FWC – There are no known wading bird colonies on, or within one mile of, the project site. Two species, the black skimmer (*Rynchops niger*) and least tern (*Sternula antillarum*), were documented approximately 1 mile southeast of the project site. Habitat for these species is not found on-site. No further coordination regarding the black skimmer or least tern is anticipated.

USFWS Consultation Areas – The project site is in the below-listed USFWS Consultation Areas. However, habitat for these species does not occur on-site, and thus no further coordination regarding these species is anticipated.

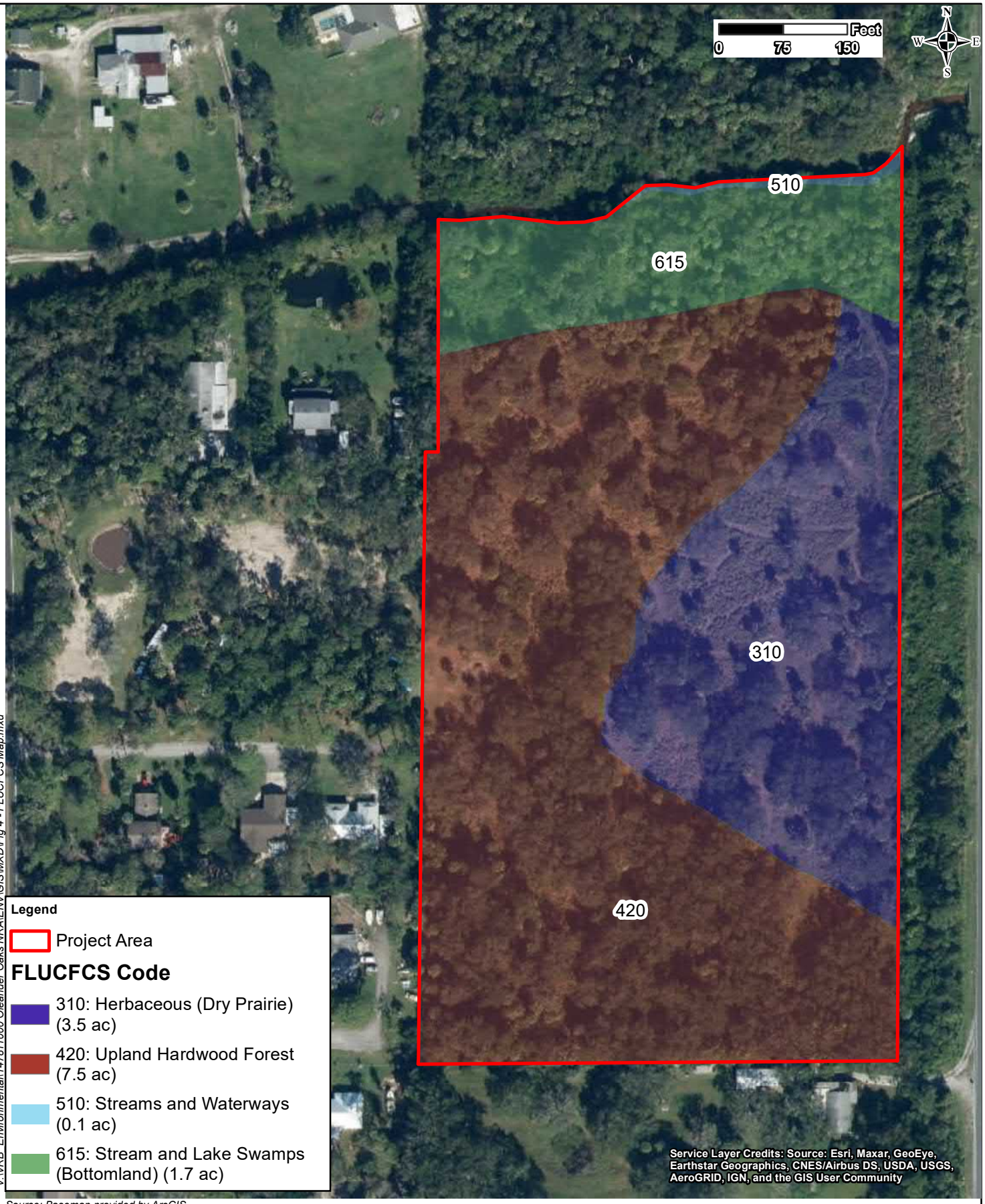
- Florida scrub-jay
- Audubon's crested caracara
- Everglade snail kite
- Grasshopper sparrow

USFWS Wood Stork Colonies – The project site is within the core foraging area (CFA) of two known wood stork colonies, North Fork St. Lucie River and Sewal Point MC2 - Bird Island. The CFA for an active wood stork colony is defined as a circular area within an 18.6-mile radius from the wood stork colony. Potential wood stork foraging habitat exists within the stream on-site. More on this is discussed below.

USFWS IPaC Data – The IPaC Trust Resources includes historical data in their reporting, which results in some species findings that do not reflect current on-site conditions. The following species is listed in the data and has suitable habitat within the project site: wood stork. Species listed in the data that do not have suitable habitat on-site include: Audubon's crested caracara, Everglade snail kite, Florida grasshopper sparrow, whooping crane, Florida scrub-jay, American alligator, Atlantic salt marsh snake, hawksbill sea turtle, leatherback sea turtle, loggerhead sea turtle, Miami blue butterfly, West Indian manatee, Florida panther, and southeastern beach mouse. This dataset confirmed that the project site is not within any USFWS designated Critical Habitat (***Appendix A***).

Based on field reconnaissance and database reviews, a list of state and federally listed species potentially occurring on, or within the immediate vicinity of, the project site has been compiled. ***Table 2*** lists species that may occur and their likelihood of occurrence. Likelihood of occurrence is based on actual observation of the species, signs of the species (burrows, tracks, scat, etc.), observance of suitable habitat, or documented occurrences of the species within various databases.

Table 2						
Potential Listed Species Occurrence						
Common Name		Scientific Name	Federal Status	State Status	Comments	Likelihood of Occurrence
Birds	Wood Stork	*Mycteria americana*	T	FT	Observed On-site: No Observed in Proximity: No Habitat Present: Marginal Habitat Type: Foraging	Low
	Burrowing Owl	*Athene cunicularia*	NL	ST	Observed On-site: No Observed in Proximity: No Habitat Present: None Habitat Type: N/A	None
	American Kestrel	*Falco sparverius paulus*	NL	ST	Observed On-site: No Observed in Proximity: No Habitat Present: None Habitat Type: N/A	None
Reptiles	Eastern Indigo Snake	*Drymarchon corais couperi*	T	FT	Observed On-site: No Observed in Proximity: No Habitat Present: Marginal Habitat Type: Nesting/foraging	Low
	Gopher Tortoise	*Gopherus polyphemus*	C	ST	Observed On-site: No Observed in Proximity: No Habitat Present: Yes Habitat Type: Burrowing/foraging	High
*Species in bold were observed on-site. Federal Status: E = Endangered; T = Threatened; T(S/A) = Threatened due to Similarity of Appearance; C = Candidate Species; NL = Not Listed. State Status: FE-Federally Endangered; FT – Federally Threatened; FT(S/A) – Federally Threatened due to Similarity of Appearance; ST- State Threatened; SSC = Species of Special Concern. Note: Coordination is not required with FWC for Federally listed species.						



V:\VRB Environmental\147811000 Oleander Oaks NRA\ENV\GIS\MXD\Fig 4 - FLUCFCS Map.mxd

Source: Basemap provided by ArcGIS

Kimley»Horn

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FLUCFCS Map

Oleander Oaks Natural Resource Assessment
St. Lucie County, Florida

1 inch = 150 feet	PROJECT NUMBER: 147811000	FEBRUARY 2021	FIGURE 4

Based on the database review and field reconnaissance, the following species could occur on-site or require additional evaluation, survey, or permitting.

Wood Stork

The wood stork inhabits both fresh and saltwater habitats, such as fresh and saltwater marshes, tidal flats, wet prairies, cypress swamps, and drainage features. As part of the Effect Determination Key for the Wood Stork in South Florida, 18.6-mile core foraging area (CFA) buffers were established around known wood stork colonies. These buffers monitor proposed impacts to suitable foraging habitats (SFH) for the wood stork, which include shallow-water areas containing relatively open (<25% aquatic vegetation) water with a permanent or seasonal water depth between 2 and 15 inches. No wood storks were observed during field reconnaissance; however, the stream provides SFH for wood storks. Therefore, if impacts are anticipated for the on-site stream, coordination regarding the wood stork will be required with the SFWMD and a wood stork foraging assessment may be required. Further discussion is provided in Section 4.3 below.

Eastern Indigo Snake

The eastern indigo snake occurs in a range of habitats, including pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes, and human-altered habitats. The snake requires large tracts of land to survive and often winters in burrows of gopher tortoises, armadillos, cotton rats, and land crabs (in coastal areas) and forages in hydric habitats. No individuals were observed during field reconnaissance; however, marginal habitat for the eastern indigo snake does exist on-site. Thus, per the Eastern Indigo Snake Effect Determination Key (August 13, 2013), if the USFWS *Standard Protection Measures for the Eastern Indigo Snake* (***Appendix B***) are implemented during construction, impacts to the Eastern indigo snake are not anticipated to occur, and no further action is anticipated.

Gopher Tortoise

The gopher tortoise is a burrowing tortoise that inhabits upland habitats such as pine flatwoods, xeric oak hammocks, and open sandy pastures, but can also often occur in disturbed areas. A 15% gopher tortoise burrow survey was conducted, and seven gopher tortoise burrowswere observed (***Figure 5***). A 100% gopher tortoise survey will need to be completed no more than 90 days prior to construction. Impacts to or within 25 feet of gopher

tortoise burrows require a relocation permit from FWC. This permit authorizes gopher tortoises to be relocated by an authorized agent off the development property to a protected certified recipient area.

Listed Plant Species

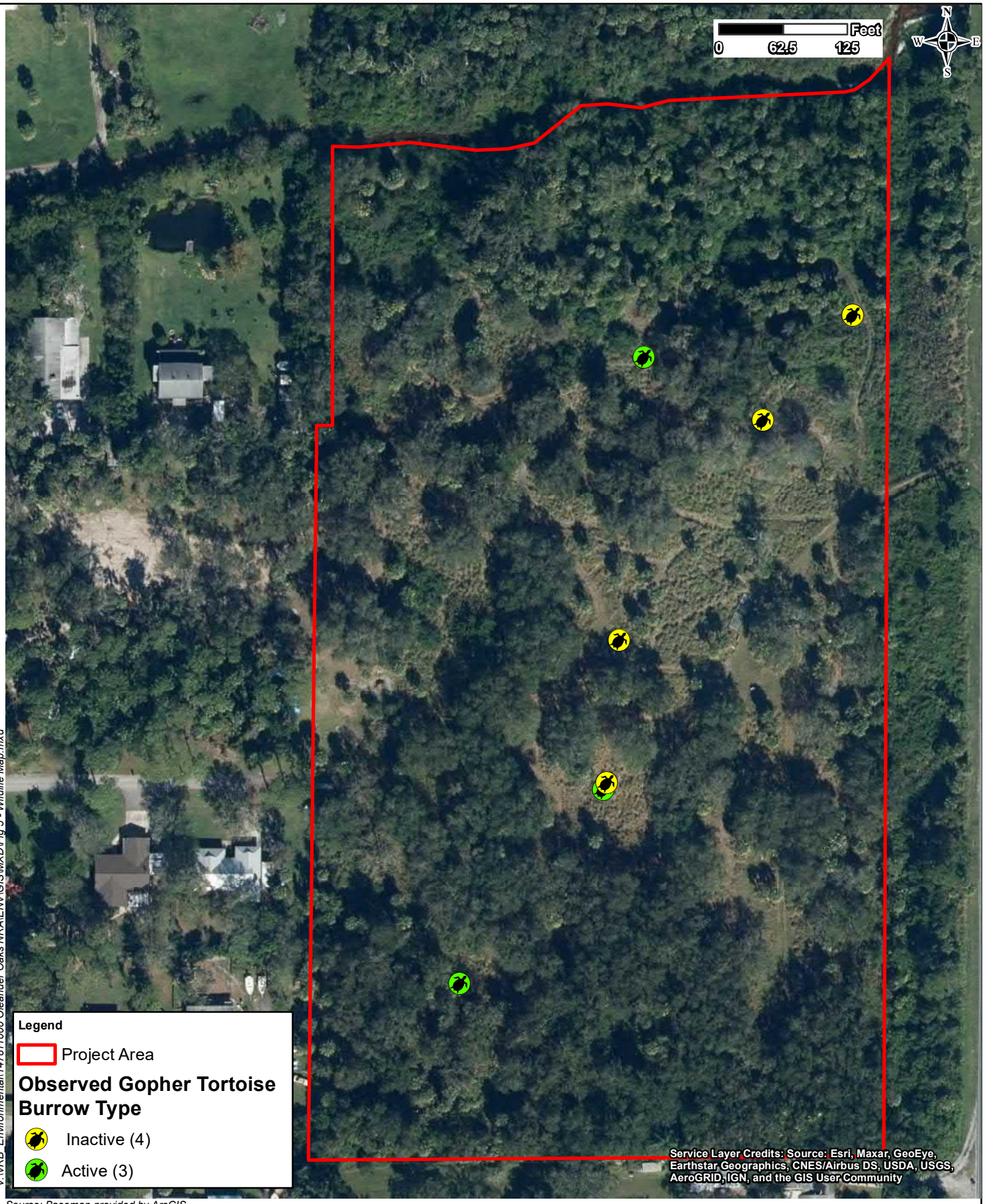
The Florida Department of Agriculture and Consumer Service's *Notes on Florida's Threatened and Endangered Plants*, and Richard Wunderlin's *Guide to Vascular Plants of Florida*, were consulted to assess habitat requirements for listed plant species. Although six state-listed plants were noted by FNAI as possibly occurring in this area, none were observed during field reconnaissance. No further action is required regarding listed plant species.

3.6 HISTORIC AND ARCHAEOLOGICAL RESOURCES

Kimley-Horn requested an inquiry from the Department of State, State Historic Preservation Officer (SHPO) Division of Historical Resources Florida Master Site File (FMSF) regarding the presence of known historical or archaeological findings on the project site, or in the immediate vicinity (***Appendix C***). The FMSF lists three standing structures and two resource groups within a 0.25-mile radius of the project area, however, none are within the project site, thus no historic or archaeological resources are anticipated to be impacted by development of the project site.

3.7 FLOODPLAIN INFORMATION

The FEMA FIRM panel [12061C0166E] indicates that approximately 10 acres of the project site are located within Flood Zone X – defined as areas determined to be outside of the special flood hazard area. Approximately 0.5 acres of the project area are located within Flood Zone X – within the 500-year floodplain, and 2 acres are within Flood Zone AE – within the 100-year floodplain. A FEMA flood zone map is attached as ***Figure 6***. Additional engineering analysis will be required to address effects to floodplain, including design and construction of flood compensation areas. This topic will be evaluated during civil engineering design and permitting with the SFWMD.



V:\VRB Environmental\147811000 Oleander Oaks NRA\ENV\GIS\MXD\Fig 5 - Wildlife Map.mxd

Source: Basemap provided by ArcGIS

Kimley»Horn

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Wildlife Map

Oleander Oaks Natural Resource Assessment
St. Lucie County, Florida

1 inch = 125 feet	PROJECT NUMBER: 147811000	FEBRUARY 2021	FIGURE 5



V:\VRB_Environmental\147811000 Oleander Oaks NRA\ENV\GIS\MXD\Fig 6 - FEMA Map.mxd

Source: Basemap provided by ArcGIS

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FEMA Floodplain Map

Oleander Oaks Natural Resource Assessment
St. Lucie County, Florida

1 inch = 200 feet	PROJECT NUMBER: 147811000	FEBRUARY 2021	FIGURE 6

4.0 REGULATORY REQUIREMENTS

4.1 LOCAL ENVIRONMENTAL ORDINANCES

Based on a review of the municipal codes and ordinances for St. Lucie County, existing permitting requirements and regulations of state and federal regulatory agencies must be followed and applied. Additionally, per the Land Development Code of St. Lucie County, vegetation removal activities of native species in unincorporated areas requires a Vegetation Removal Permit from the Public Works Director. A tree survey will be required to determine status of trees on-site.

The St. Lucie County Land Development Code also gives St. Lucie County regulatory authority over all wetlands, however this authority is carried out via coordination with state and federal agencies. Thus, a state or federal permit required for construction, dredging, filling, or alteration within jurisdictional wetlands will supersede the county permitting mechanism. Mitigation must demonstrate no net losses due to impacts of these areas. Additionally, a minimum 10-foot buffer zone of native upland transitional vegetation is required around any isolated wetlands preserved on development sites.

4.2 STATE REGULATORY REQUIREMENTS

Environmental Resource Permit

An Environmental Resource Permit (ERP) will be required for the project if impacts to the on-site wetland or stream is proposed. The ERP evaluates the project impacts to wetlands, surface waters, and stormwater management design including floodplain impacts. An ERP may also be required from the SFWMD if any stormwater improvements are proposed as part of this project. Drainage design and stormwater management is not discussed further in this report as the scope was limited to natural resources. SFWMD will also coordinate with the Florida Department of State Division of Historical Resources regarding potential impacts to historical or archaeological resources, and a site-specific cultural resource assessment survey may be required.

It should be noted that the FDEP has assumed administration of the Clean Water Act (CWA) Section 404 program. FDEP will process Section 404 permits within State-assumed Waters

of the US (WOTUS) rather than the US Army Corps of Engineers (USACE). Based on a preliminary review, there may be WOTUS present on-site, and therefore, authorization under Section 404 may be required.

Listed Species Permitting

The following state-listed species may potentially occur on-site:

- Gopher tortoise

Gopher Tortoise

Gopher tortoise habitat is present on-site, and burrows were observed during field reconnaissance (see ***Figure 5 – Wildlife Map***). Based on the presence of habitat and burrows, a 100% gopher tortoise burrow survey is required to be conducted within 90 days prior to construction commencement, and a gopher tortoise relocation permit will be required from FWC if any relocation is required.

4.3 FEDERAL REGULATORY REQUIREMENTS

Section 404 Dredge and Fill Permitting

Please refer to State Regulatory Requirements above. Based on a preliminary review, WOTUS appear to be present on-site, and therefore, authorization under Section 404 may be required. This project is not within 300 ft. of a USACE retained water, so permitting under Section 404 can be authorized under the DEP State 404 Program.

Federal Listed Species

The following federally listed species were observed or potentially occur on-site:

- Wood Stork
- Eastern indigo snake

Wood Stork

The proposed project occurs within the CFA of two wood stork colonies. Foraging habitat is present in the stream on the northern boundary of the property. In accordance with USFWS's 2010 South Florida Programmatic Concurrence and Key, a wood stork foraging

analysis may be required if impacts to SFH are proposed. Mitigation requirements will be based on this analysis.

Eastern Indigo Snake

Per the Eastern Indigo Snake Effect Determination Key (August 13, 2013), if the USFWS Standard Protection Measures for the Eastern Indigo Snake (***Appendix B***) are implemented during construction, impacts to the Eastern indigo snake are not anticipated to occur, and no further action is anticipated to be required.

5.0 SUMMARY AND RECOMMENDATIONS

- An ERP from SFWMD will be required to authorize stormwater improvements and any wetland or stream impacts as part of site development. Based on the FMSF, there were no historic or archaeological resources within the study area.
- Authorization under Section 404 may be required through a State 404 Program permit if impacts to WOTUS are expected.
- A tree survey and Vegetation Removal Permit from St. Lucie County may be required for tree removal prior to development.
- The following state and federally listed species were observed or potentially occur on-site: wood stork, gopher tortoise, and Eastern indigo snake. Additional surveys and permits may be required for the gopher tortoise and wood stork and implementation of the Standard Protection Measures is recommended for the eastern indigo snake.
- The project site is partially within a FEMA designated floodplain. Additional engineering analysis will be required to address effects to the floodplain, including design and construction of flood compensation areas. This topic will be evaluated during civil engineering design and permitting with the SFWMD.

APPENDIX A

FNAI BIODIVERSITY MATRIX

IPaC Species List

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
850-224-8207
850-681-9364 fax
www.fnai.org

Florida Natural Areas Inventory

Biodiversity Matrix Query Results

UNOFFICIAL REPORT

Created 2/8/2021

(Contact the FNAI Data Services Coordinator at 850.224.8207 or kbrinegar@fnai.fsu.edu for information on an official Standard Data Report)

NOTE: The Biodiversity Matrix includes only rare species and natural communities tracked by FNAI.

Report for 2 Matrix Units: 66369 , 66370



Descriptions

DOCUMENTED - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit.

DOCUMENTED-HISTORIC - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit; however the occurrence has not been observed/reported within the last twenty years.

LIKELY - The species or community is *known* to occur in this vicinity, and is considered likely within this Matrix Unit because:

1. documented occurrence overlaps this and adjacent Matrix Units, but the documentation isn't precise enough to indicate which of those Units the species or community is actually located in; *or*
2. there is a documented occurrence in the vicinity and there is suitable habitat for that species or community within this Matrix Unit.

POTENTIAL - This Matrix Unit lies within the known or predicted range of the species or community based on expert knowledge and environmental variables such as climate, soils, topography, and landcover.

Matrix Unit ID: 66369

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

3 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Blackwater stream	G4	S3	N	N
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	LT	FT

Matrix Unit ID: 66370

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

1 **Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mycteria americana Wood Stork	G4	S2	LT	FT

Matrix Unit IDs: 66369 , 66370

17 **Potential** Elements Common to Any of the 2 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Athene cunicularia floridana Florida Burrowing Owl	G4T3	S3	N	SSC
Coelorachis tuberculosa Piedmont Jointgrass	G3	S3	N	T
Conradina grandiflora Large-flowered Rosemary	G3	S3	N	T
Corynorhinus rafinesquii Rafinesque's Big-eared Bat	G3G4	S2	N	N
Drymarchon couperi Eastern Indigo Snake	G3	S3	LT	FT
Glandularia maritima Coastal Vervain	G3	S3	N	E
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST
Lechea cernua Nodding Pinweed	G3	S3	N	T
Linum carteri var. smallii Small's Flax	G2T2	S2	N	E
Nemastylis floridana Celestial Lily	G2	S2	N	E
Pituophis melanoleucus mugitus Florida Pine Snake	G4T3	S3	N	SSC
Polygala smallii Tiny Polygala	G1	S1	LE	E
Pteroglossaspis ecristata Giant Orchid	G2G3	S2	N	T
Rostrhamus sociabilis Snail Kite	G4G5	S2	LE	N
Sceloporus woodi Florida Scrub Lizard	G2G3	S2S3	N	N
Sciurus niger shermani Sherman's Fox Squirrel	G5T3	S3	N	SSC
Trichechus manatus West Indian Manatee	G2	S2	LE	FE

Disclaimer

The data maintained by the Florida Natural Areas Inventory represent the single most comprehensive source of information available on the locations of rare species and other significant ecological resources statewide. However, the data are not always based on comprehensive or site-specific field surveys. Therefore, this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. FNAI shall not be held liable for the accuracy and completeness of these data, or opinions or conclusions drawn from these data. FNAI is not inviting reliance on these data. Inventory data are designed for the purposes of conservation planning and scientific research and are not intended for use as the primary criteria for regulatory decisions.

Unofficial Report

These results are considered unofficial. FNAI offers a Standard Data Request option for those needing certifiable data.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Field Office
1339 20th Street
Vero Beach, FL 32960-3559
Phone: (772) 562-3909 Fax: (772) 562-4288
http://fws.gov/verobeach

In Reply Refer To: February 02, 2021
Consultation Code: 04EF2000-2021-SLI-0334
Event Code: 04EF2000-2021-E-00867
Project Name: Oleander

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

South Florida Ecological Services Field Office
1339 20th Street
Vero Beach, FL 32960-3559
(772) 562-3909

Project Summary

Consultation Code: 04EF2000-2021-SLI-0334
Event Code: 04EF2000-2021-E-00867
Project Name: Oleander
Project Type: DEVELOPMENT
Project Description: Development
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@27.38836585,-80.33513419481258,14z



Counties: St. Lucie County, Florida

Endangered Species Act Species

There is a total of 17 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Florida Panther *Puma (=Felis) concolor coryi* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1763	Endangered
Puma (=mountain Lion) *Puma (=Felis) concolor (all subsp. except coryi)* Population: FL No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6049	Similarity of Appearance (Threatened)
Southeastern Beach Mouse *Peromyscus polionotus niveiventris* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3951	Threatened

Birds

NAME	STATUS
Audubon's Crested Caracara *Polyborus plancus audubonii* Population: FL pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8250	Threatened
Everglade Snail Kite *Rostrhamus sociabilis plumbeus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7713	Endangered
Florida Grasshopper Sparrow *Ammodramus savannarum floridanus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/32	Endangered
Florida Scrub-jay *Aphelocoma coerulescens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6174	Threatened
Whooping Crane *Grus americana* Population: U.S.A. (CO, ID, FL, NM, UT, and the western half of Wyoming) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/758	Experimental Population, Non-Essential
Wood Stork *Mycteria americana* Population: AL, FL, GA, MS, NC, SC No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8477	Threatened

Reptiles

NAME	STATUS
American Alligator *Alligator mississippiensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/776	Similarity of Appearance (Threatened)
Hawksbill Sea Turtle *Eretmochelys imbricata* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3656	Endangered
Leatherback Sea Turtle *Dermochelys coriacea* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1493	Endangered
Loggerhead Sea Turtle *Caretta caretta* Population: Northwest Atlantic Ocean DPS There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1110	Threatened

Insects

NAME	STATUS
Miami Blue Butterfly *Cyclargus (=Hemiargus) thomasi bethunebakeri*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/3797

Flowering Plants

NAME	STATUS
Fragrant Prickly-apple *Cereus eriophorus var. fragrans*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/982

Lakela's Mint *Dicerandra immaculata*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/6390

Tiny Polygala *Polygala smallii*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/996

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

APPENDIX B

STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE
U.S. Fish and Wildlife Service
August 12, 2013

The eastern indigo snake protection/education plan (Plan) below has been developed by the U.S. Fish and Wildlife Service (USFWS) in Florida for use by applicants and their construction personnel. At least **30 days prior** to any clearing/land alteration activities, the applicant shall notify the appropriate USFWS Field Office via e-mail that the Plan will be implemented as described below (North Florida Field Office: jaxregs@fws.gov; South Florida Field Office: verobeach@fws.gov; Panama City Field Office: panamacity@fws.gov). As long as the signatory of the e-mail certifies compliance with the below Plan (including use of the attached poster and brochure), no further written confirmation or "approval" from the USFWS is needed and the applicant may move forward with the project.

If the applicant decides to use an eastern indigo snake protection/education plan other than the approved Plan below, written confirmation or "approval" from the USFWS that the plan is adequate must be obtained. At least 30 days prior to any clearing/land alteration activities, the applicant shall submit their unique plan for review and approval. The USFWS will respond via e-mail, typically within 30 days of receiving the plan, either concurring that the plan is adequate or requesting additional information. A concurrence e-mail from the appropriate USFWS Field Office will fulfill approval requirements.

The Plan materials should consist of: 1) a combination of posters and pamphlets (see **Poster Information** section below); and 2) verbal educational instructions to construction personnel by supervisory or management personnel before any clearing/land alteration activities are initiated (see **Pre-Construction Activities** and **During Construction Activities** sections below).

POSTER INFORMATION

Posters with the following information shall be placed at strategic locations on the construction site and along any proposed access roads (a final poster for Plan compliance, to be printed on 11" x 17" or larger paper and laminated, is attached):

DESCRIPTION: The eastern indigo snake is one of the largest non-venomous snakes in North America, with individuals often reaching up to 8 feet in length. They derive their name from the glossy, blue-black color of their scales above and uniformly slate blue below. Frequently, they have orange to coral reddish coloration in the throat area, yet some specimens have been reported to only have cream coloration on the throat. These snakes are not typically aggressive and will attempt to crawl away when disturbed. Though indigo snakes rarely bite, they should NOT be handled.

SIMILAR SNAKES: The black racer is the only other solid black snake resembling the eastern indigo snake. However, black racers have a white or cream chin, thinner bodies, and WILL BITE if handled.

LIFE HISTORY: The eastern indigo snake occurs in a wide variety of terrestrial habitat types throughout Florida. Although they have a preference for uplands, they also utilize some wetlands

and agricultural areas. Eastern indigo snakes will often seek shelter inside gopher tortoise burrows and other below- and above-ground refugia, such as other animal burrows, stumps, roots, and debris piles. Females may lay from 4 - 12 white eggs as early as April through June, with young hatching in late July through October.

PROTECTION UNDER FEDERAL AND STATE LAW: The eastern indigo snake is classified as a Threatened species by both the USFWS and the Florida Fish and Wildlife Conservation Commission. "Taking" of eastern indigo snakes is prohibited by the Endangered Species Act without a permit. "Take" is defined by the USFWS as an attempt to kill, harm, harass, pursue, hunt, shoot, wound, trap, capture, collect, or engage in any such conduct. Penalties include a maximum fine of $25,000 for civil violations and up to $50,000 and/or imprisonment for criminal offenses, if convicted.

Only individuals currently authorized through an issued Incidental Take Statement in association with a USFWS Biological Opinion, or by a Section 10(a)(1)(A) permit issued by the USFWS, to handle an eastern indigo snake are allowed to do so.

IF YOU SEE A <u>LIVE</u> EASTERN INDIGO SNAKE ON THE SITE:

- Cease clearing activities and allow the live eastern indigo snake sufficient time to move away from the site without interference;
- Personnel must NOT attempt to touch or handle snake due to protected status.
- Take photographs of the snake, if possible, for identification and documentation purposes.
- Immediately notify supervisor or the applicant's designated agent, **and** the appropriate USFWS office, with the location information and condition of the snake.
- If the snake is located in a vicinity where continuation of the clearing or construction activities will cause harm to the snake, the activities must halt until such time that a representative of the USFWS returns the call (within one day) with further guidance as to when activities may resume.

IF YOU SEE A <u>DEAD</u> EASTERN INDIGO SNAKE ON THE SITE:

- Cease clearing activities and immediately notify supervisor or the applicant's designated agent, **and** the appropriate USFWS office, with the location information and condition of the snake.
- Take photographs of the snake, if possible, for identification and documentation purposes.
- Thoroughly soak the dead snake in water and then freeze the specimen. The appropriate wildlife agency will retrieve the dead snake.

Telephone numbers of USFWS Florida Field Offices to be contacted if a live or dead eastern indigo snake is encountered:

North Florida Field Office – (904) 731-3336
Panama City Field Office – (850) 769-0552
South Florida Field Office – (772) 562-3909

PRE-CONSTRUCTION ACTIVITIES

1. The applicant or designated agent will post educational posters in the construction office and throughout the construction site, including any access roads. The posters must be clearly visible to all construction staff. A sample poster is attached.

2. Prior to the onset of construction activities, the applicant/designated agent will conduct a meeting with all construction staff (annually for multi-year projects) to discuss identification of the snake, its protected status, what to do if a snake is observed within the project area, and applicable penalties that may be imposed if state and/or federal regulations are violated. An educational brochure including color photographs of the snake will be given to each staff member in attendance and additional copies will be provided to the construction superintendent to make available in the onsite construction office (a final brochure for Plan compliance, to be printed double-sided on 8.5" x 11" paper and then properly folded, is attached). Photos of eastern indigo snakes may be accessed on USFWS and/or FWC websites.

3. Construction staff will be informed that in the event that an eastern indigo snake (live or dead) is observed on the project site during construction activities, all such activities are to cease until the established procedures are implemented according to the Plan, which includes notification of the appropriate USFWS Field Office. The contact information for the USFWS is provided on the referenced posters and brochures.

DURING CONSTRUCTION ACTIVITIES

1. During initial site clearing activities, an onsite observer may be utilized to determine whether habitat conditions suggest a reasonable probability of an eastern indigo snake sighting (example: discovery of snake sheds, tracks, lots of refugia and cavities present in the area of clearing activities, and presence of gopher tortoises and burrows).

2. If an eastern indigo snake is discovered during gopher tortoise relocation activities (i.e. burrow excavation), the USFWS shall be contacted within one business day to obtain further guidance which may result in further project consultation.

3. Periodically during construction activities, the applicant's designated agent should visit the project area to observe the condition of the posters and Plan materials, and replace them as needed. Construction personnel should be reminded of the instructions (above) as to what is expected if any eastern indigo snakes are seen.

POST CONSTRUCTION ACTIVITIES

Whether or not eastern indigo snakes are observed during construction activities, a monitoring report should be submitted to the appropriate USFWS Field Office within 60 days of project completion. The report can be sent electronically to the appropriate USFWS e-mail address listed on page one of this Plan.



ATTENTION:

THREATENED EASTERN INDIGO SNAKES MAY BE PRESENT ON THIS SITE!!!

IF YOU SEE A LIVE EASTERN INDIGO SNAKE ON THE SITE:

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Panama City Field Office – (850) 769-0552
South Florida Field Office – (772) 562-3909

Killing, harming, or harassing indigo snakes is strictly prohibited and punishable under State and Federal Law.

DESCRIPTION: The eastern indigo snake is one of the largest non-venomous snakes in North America, with individuals often reaching up to 8 feet in length. They derive their name from the glossy, blue-black color of their scales above and uniformly slate blue below. Frequently, they have orange to coral reddish coloration in the throat area, yet some specimens have been reported to only have cream coloration on the throat. These snakes are not typically aggressive and will attempt to crawl away when disturbed. Though indigo snakes rarely bite, they should NOT be handled.

SIMILAR SNAKES: The black racer is the only other solid black snake resembling the eastern indigo snake. However, black racers have a white or cream chin, thinner bodies, and WILL BITE if handled.

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August 12, 2013

ATTENTION:

THREATENED EASTERN INDIGO SNAKES MAY BE PRESENT ON THIS SITE!!!



Photo: Dirk Stevenson

Please read the following information provided by the U.S. Fish and Wildlife Service to become familiar with standard protection measures for the eastern indigo snake.

APPENDIX C

SHPO FLORIDA MASTER SITE FILE REPORT

This record search is for informational purposes only and does NOT constitute a project review. This search only identifies resources recorded at the Florida Master Site File and does NOT provide project approval from the Division of Historical Resources. Contact the Compliance and Review Section of the Division of Historical Resources at CompliancePermits@dos.MyFlorida.com for project review information.

February 8, 2021

Chloe Gossett
Kimley-Horn | 1920 Wekiva Way, Suite 200
West Palm Beach, FL 33411
Direct: 561 840 0217 | Mobile: 816 916 2233

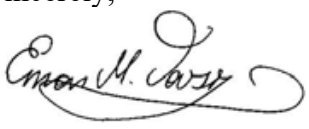
In response to your request on February 8, 2021, the Florida Master Site File lists three standing structures and two resource groups recorded at designated property of South Lucy County, Florida.

When interpreting the results of our search, please consider the following information:

- **This search area may contain *unrecorded* archaeological sites, historical structures or other resources even if previously surveyed for cultural resources.**
- **Because vandalism and looting are common at Florida sites, we ask that you limit the distribution of location information on archaeological sites.**
- **While many of our records document historically significant resources, the documentation of a resource at the Florida Master Site File does not necessarily mean the resource is historically significant.**
- **Federal, state and local laws require formal environmental review for most projects. This search DOES NOT constitute such a review. If your project falls under these laws, you should contact the Compliance and Review Section of the Division of Historical Resources at** CompliancePermits@dos.MyFlorida.com

Please do not hesitate to contact us if you have any questions regarding the results of this search.

Sincerely,

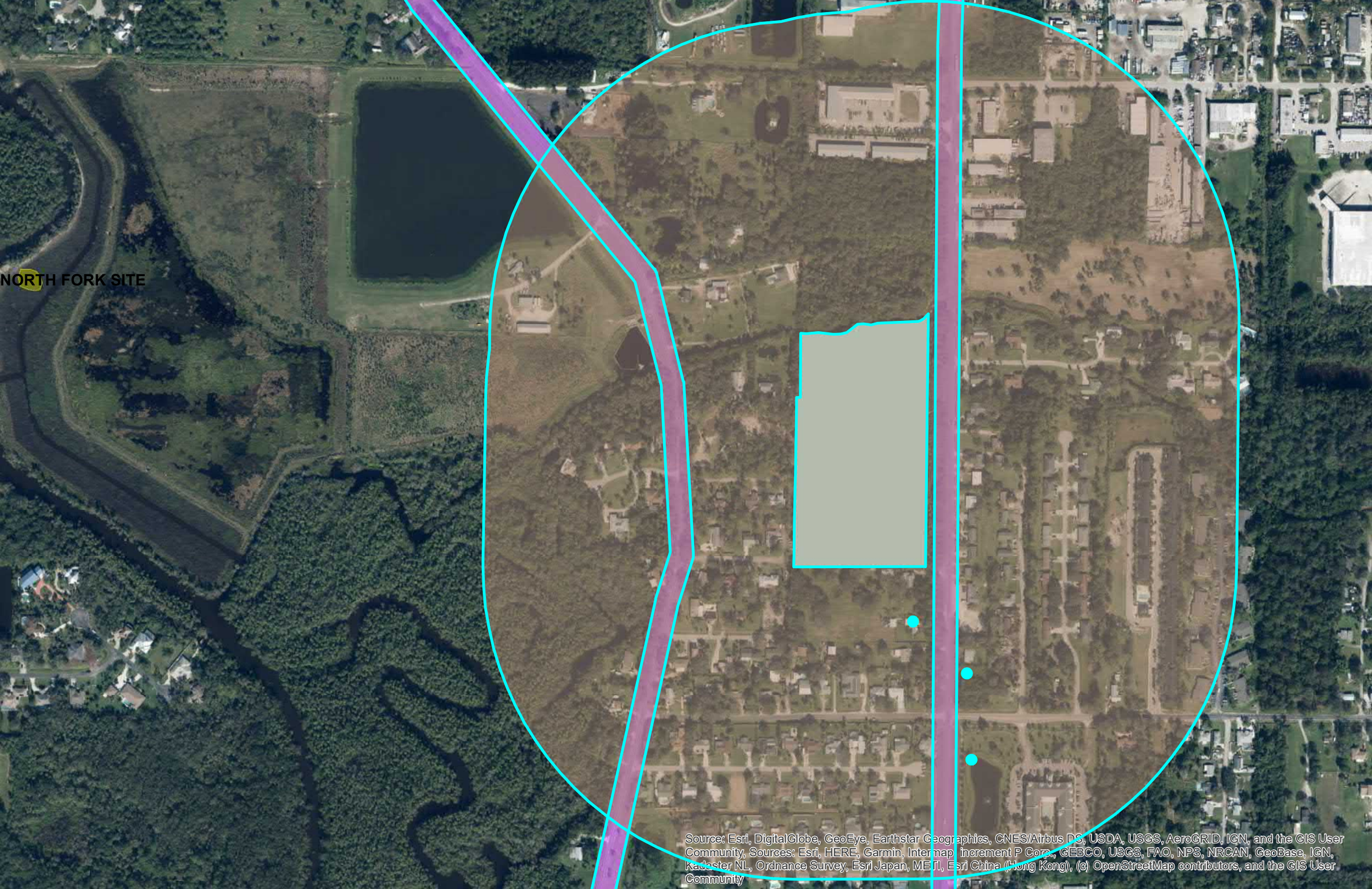


Eman M. Vovsi, Ph.D.
Florida Master Site File
Eman.Vovsi@DOS.MyFlorida.com

AR=0
SS=3
CM=0
RG=2
BR=0
Total=5

Cultural Resource Roster

SiteID	Type	Site Name	Address	Additional Info	SHPO Eval	NR Status
SL00179	SS	4111 OLEANDER AVENUE	4111 Oleander AVE, Fort Pierce G.V.	1915 Frame Vernacular		
SL00180	SS	4122 OLEANDER AVENUE		-RESOURCE DESTROYED- c1915 Frame Vernacular		
SL00181	SS	4200 OLEANDER AVENUE		-RESOURCE DESTROYED- c1915 Frame Vernacular		
SL01660	RG	Oleander Avenue	Fort Pierce	Linear Resource - 1 Contrib Resources	Not Eligible	
SL01662	RG	Sunrise Boulevard	Fort Pierce	Linear Resource - 1 Contrib Resources	Not Eligible	


NORTH FORK SITE
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

OLEANDER OAKS (Fort Pierce, FL)

Traffic Impact Study

April 2021

Kimley»Horn

TRAFFIC IMPACT STUDY

Oleander Oaks

City of Fort Pierce, FL

Prepared for:

Alva Stone Group

Prepared by:

Kimley-Horn and Associates, Inc.

Blaine Bergstresser, P.E.

PE #84598

April 2021

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Appendix D: Excerpts from St. Lucie TPO Traffic Counts and Level of Service Report

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Appendix F: FDOT's Florida Traffic Online 2019 Peak Season Factor Category Report

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Appendix H: Signal Timing/Phasing Plans

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Appendix J: Midway Road Improvement Design

Appendix K: NCHRP Report 457 Outputs

1.0 INTRODUCTION

Kimley-Horn has been retained by Alva Stone Group to analyze and document the traffic impacts associated with the development of Oleander Oaks in the City of Fort Pierce, Florida. The following is a Traffic Impact Study (TIS) that generally conforms to the policies and guidelines of the St. Lucie Transportation Planning Organization (TPO), St. Lucie County Land Development Code (LDC) Section 11.02.09, and the City of Fort Pierce LDC.

Oleander Oaks is a proposed single-family residential development generally located on the east side of Oleander Avenue, north of Kling Road in City of Fort Pierce, Florida. The project property is currently vacant. The development is proposed to consist of ±63 single-family dwelling units and anticipated to be built by Year 2026.

Access to the site will be provided via one full-access driveway onto Oleander Avenue. This access point is shown on the conceptual site plan provided in **Appendix A**.

2.0 STUDY AREA DETERMINATION

2.1 TRIP GENERATION

Trip generation for the proposed project was calculated per procedures published in the 10th Edition of the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*. The Land Use Code (LUC) used for the proposed site is:

- LUC 210, Single-Family Detached Housing

Table 1 provides the Daily, AM peak hour, and PM peak hour trip generation summary for the project. Excerpts from the ITE Trip Generation Manual is included in **Appendix B**.

Table 1: Trip Generation Summary

	Land Use	ITE LUC	Size	Units	Trip Rate[1]	Daily Trip Generation				
						Total	In[1]		Out[1]	
DAILY	Single-Family Detached Housing	210	**63**	DU	10.79	680	*50%*	340	*50%*	340
	Total Generated Trips					**680**	**340**		**340**	

	Land Use	ITE LUC	Size	Units	Trip Rate[1]	AM Peak Hour Trip Generation				
						Total	In[1]		Out[1]	
AM PEAK HOUR	Single-Family Detached Housing	210	**63**	DU	0.79	50	*25%*	13	*75%*	37
	Total Generated Trips					**50**	**13**		**37**	

	Land Use	ITE LUC	Size	Units	Trip Rate[1]	PM Peak Hour Trip Generation				
						Total	In[1]		Out[1]	
PM PEAK HOUR	Single-Family Detached Housing	210	**63**	DU	1.03	65	*63%*	41	*37%*	24
	Total Generated Trips					**65**	**41**		**24**	

[1] Vehicle trip rates and directional splits per data and procedures outlined in ITE Trip Generation, 10th Edition

2.2 TRIP DISTRIBUTION AND TRIP ASSIGNMENT

Projected traffic demand of project trips on study roadways was derived with use of the adopted regional travel demand model. Land use data for the project was entered into a new traffic analysis zone (TAZ) within the Greater Treasure Coast Regional Planning Model (GTCRPM) set and situated within the existing roadway network to appropriately represent project access. The model was used to assign trips for all trip purposes between allocated origin and destination pairs using project buildout year model data. Trip distribution for the project was extracted from the completed model assignment and reviewed for logic. The resulting model plots showing percent of daily project distribution are provided in **Appendix C**.

Daily model project distribution was referenced to manually assign project distribution at the study area intersections and driveways in general accordance with model output. **Figure 1** shows the intersection movement project distribution surrounding Oleander Oaks used in this TIS.

Project trip distribution percentages were used to assign anticipated project trips to the study area roadways and intersections. **Figure 2** shows the anticipated AM and PM peak hour project volumes at the study area intersections.

Figure 1: Project Trip Distribution

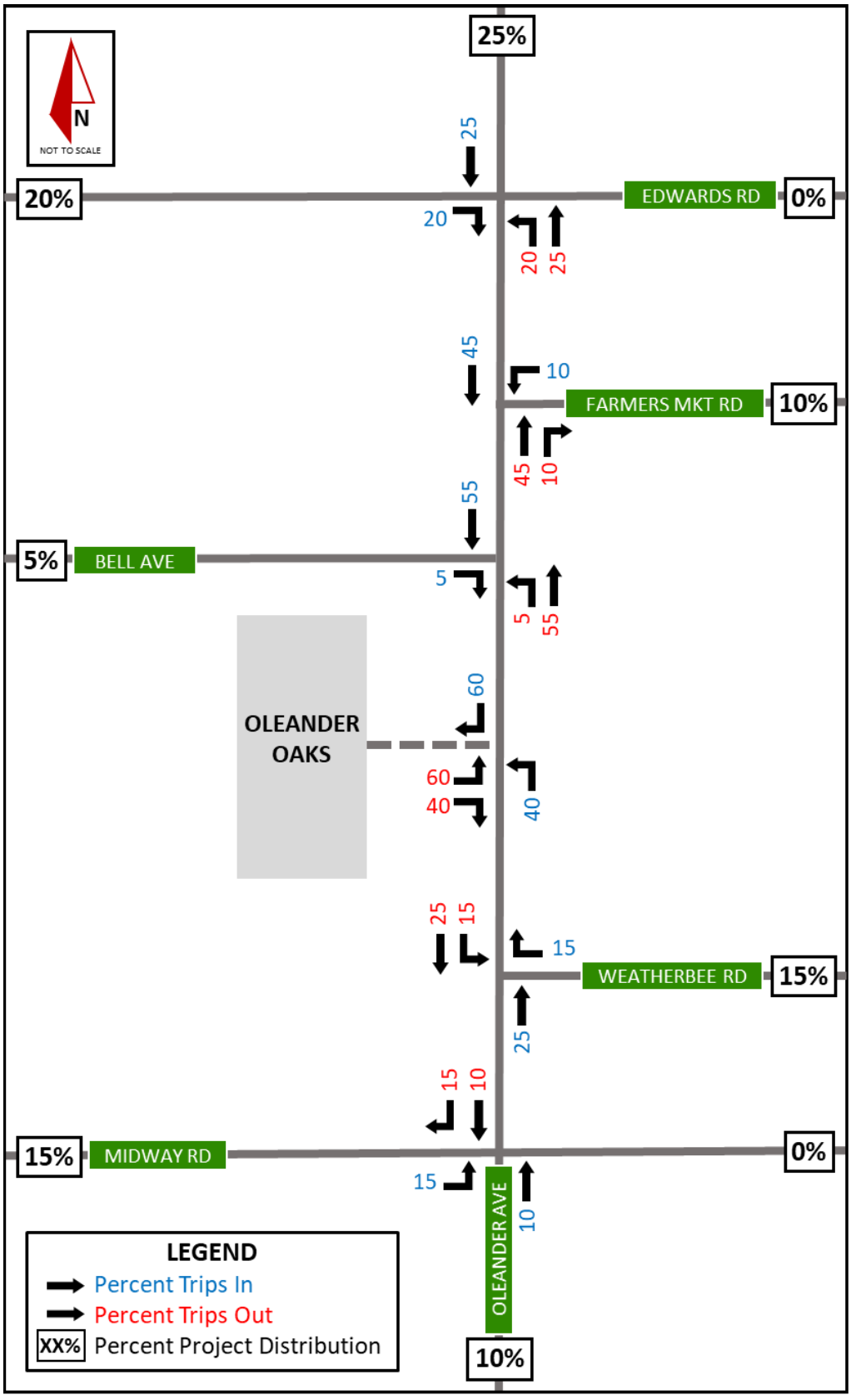
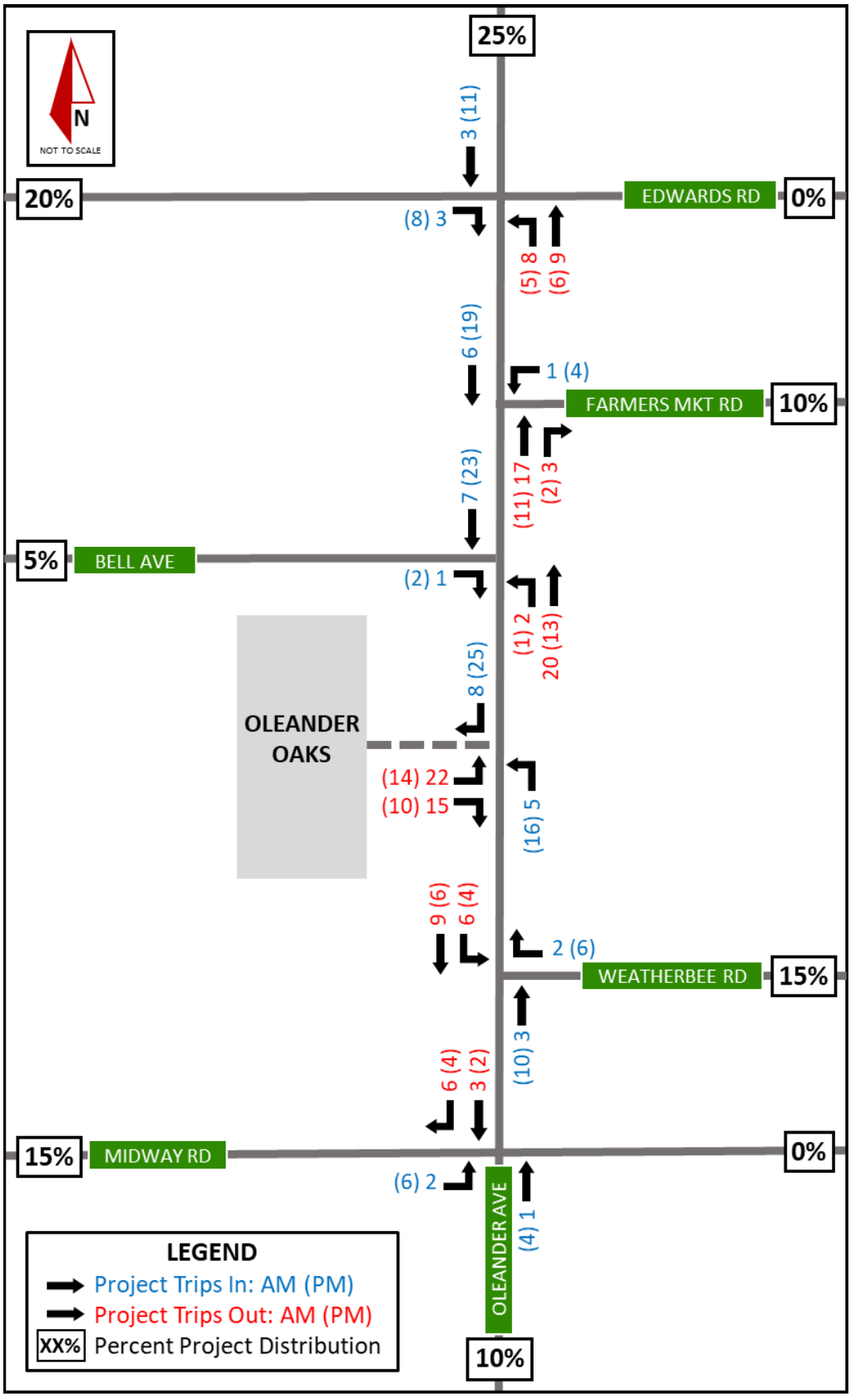


Figure 2: Project Trip Assignment



2.3 STUDY AREA

To determine roadway segments to be included in this TIA, a 1.0% significance test was performed for all major roadway segments within a 2-mile radius of the project site. The results of the 1.0% significance test are shown in **Table 2**. The percent significance for project trips was determined by comparing the maximum directional peak hour project trips to the directional peak hour service capacity as provided in the latest St. Lucie TPO Traffic Counts and Level of Service Report. Excerpts from the St. Lucie TPO traffic count report are included in **Appendix D**.

The resulting study area roadway segments are listed below and displayed on **Figure 3**:

- Oleander Avenue, from Midway Road to Weatherbee Road
- Oleander Avenue, from Weatherbee Road to Bell Avenue
- Oleander Avenue, from Bell Avenue to Farmers Market Road
- Oleander Avenue, from Farmers Market Road to Edwards Road
- Oleander Avenue, from Edwards Road to Wisteria Avenue

The project driveway and intersections along study area roadway segments will be included in this TIA. The resulting study area intersections are listed below and displayed on **Figure 3**.

- Oleander Avenue & Midway Road
- Oleander Avenue & Weatherbee Road
- Oleander Avenue & Project Driveway
- Oleander Avenue & Bell Avenue
- Oleander Avenue & Farmers Market Road
- Oleander Avenue & Edwards Road

Table 2: Roadway Segment Significance Test

Roadway		Directional Peak Hour Service Capacity	% Project Distribution	% Project Significance
From	To			
Bell Avenue				
25th Street	Sunrise Boulevard	790	1%	0.1%
Sunrise Boulevard	Oleander Avenue	600	2%	0.1%
Edwards Road				
Selvitz Road	25th Street	880	6%	0.3%
25th Street	Sunrise Boulevard	1,630	19%	0.5%
Sunrise Boulevard	Oleander Avenue	1,630	19%	0.5%
Oleander Avenue	US 1	1,630	0%	0.0%
Farmers Market Road				
Oleander Avenue	US 1	750	6%	0.3%
Midway Road				
Selvitz Road	Christensen Road	920	7%	0.3%
Christensen Road	25th Street	790	7%	0.4%
25th Street	Sunrise Boulevard	790	14%	0.7%
Sunrise Boulevard	Oleander Avenue	790	15%	0.8%
Oleander Avenue	US 1	790	0%	0.0%
US 1	Wallace Street	790	3%	0.2%
Wallace Street	Weatherbee Road	920	3%	0.1%
Weatherbee Road	Indian River Drive	630	1%	0.1%
Oleander Avenue				
Kitterman Road	Midway Road	750	9%	0.5%
Midway Road	Weatherbee Road	750	26%	**1.4%**
Weatherbee Road	Bell Avenue	540	59%	**4.5%**
Bell Avenue	Farmers Market Road	540	55%	**4.2%**
Farmers Market Road	Edwards Road	750	49%	**2.7%**
Edwards Road	Wisteria Avenue	750	25%	**1.4%**
Sunrise Boulevard				
Midway Road	Bell Avenue	540	0%	0.0%
Bell Avenue	Edwards Road	750	1%	0.1%
Edwards Road	Cortez Boulevard	600	0%	0.0%
US 1				
Easy Street	Midway Road	3,170	8%	0.1%
Midway Road	Weatherbee Road	2,100	11%	0.2%
Weatherbee Road	Farmers Market Road	2,000	2%	0.0%
Farmers Market Road	Edwards Road	2,000	4%	0.1%
Edwards Road	Savannah Road	2,000	3%	0.1%
Weatherbee Road				
Oleander Avenue	US 1	750	15%	0.8%
US 1	Midway Road	750	3%	0.2%
25th Street				
Midway Road	Bell Avenue	2,100	1%	0.0%
Bell Avenue	Edwards Road	2,100	0%	0.0%
Edwards Road	Cortez Boulevard	2,000	13%	0.3%

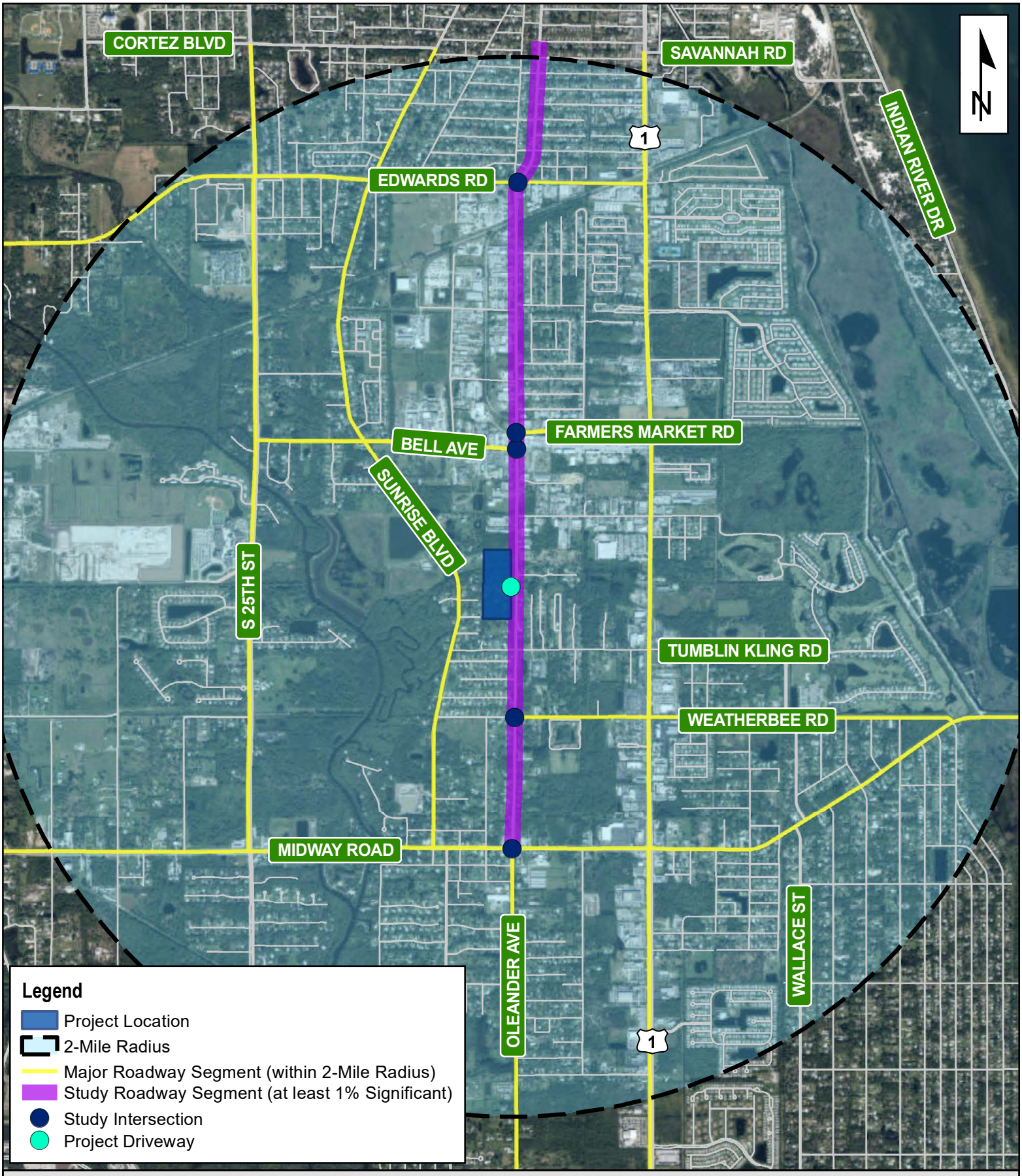


Figure 3 - Project Location and Study Area Roadway Segments/Intersections

Oleander Oaks - Traffic Impact Study

Kimley»Horn
© 2021 Kimley-Horn and Associates, Inc.
189 S Orange Ave, Suite 1000, Orlando FL 32801
Phone: (407) 898-1511

Project Number: 147811000
Date: April 2021

0 2,500 5,000 Ft

3.0 EXISTING CONDITIONS ANALYSIS – YEAR 2021

3.1 EXISTING TRAFFIC

Turning movement counts (TMCs) were collected at the study intersections on Tuesday, April 6, 2021 and are provided in **Appendix E**. Data was collected during the AM (7:00 AM to 9:00 AM) and PM (4:00 PM to 6:00 PM) peak periods.

The existing turning movement volumes were adjusted to peak season using a 1.01 adjustment factor published by the Florida Department of Transportation (FDOT). The data referenced from FDOT's Florida Traffic Online 2019 Peak Season Factor Category Report is included in **Appendix F**. Adjusted turning movement volume worksheets for all intersections are included in **Appendix G**. The AM and PM peak hour intersection turning movement volumes at the study area intersections are illustrated on **Figures 4 and 5**, respectively.

3.2 EXISTING ROADWAY SEGMENT CONDITIONS

A roadway segment analysis was performed within the study area to determine existing AM and PM peak hour conditions. The analysis was conducted by comparing Year 2021 peak hour peak direction (PHPD) traffic volumes to the PHPD service capacities per the latest St. Lucie TPO Traffic Counts and Level of Service Report (excerpts included in **Appendix D**).

The existing roadway segment data is included in **Tables 3 and 4** for AM and PM peak hour roadway segment conditions, respectively. As shown in the tables, the analysis identifies an existing capacity deficiency for both scenarios at the following roadway segment:

- Oleander Avenue, from Bell Avenue to Farmers Market Road

Table 3: Existing (2021) AM Peak Hour Roadway Segment Analysis

Roadway Segment	Roadway Attributes [1]				PHPD Service Capacity [2]	2020 AM PHPD [2]	Annual Growth Rate	2021 Existing AM PHPD [3]	V/C Ratio	LOS
	Functional Classification	Area Type	Adopted LOS	Number of Lanes						
Oleander Avenue										
Midway Road to Weatherbee Road	Urban Minor Arterial	Urban	D	2U	750	388	1.55%	394	0.53	D
Weatherbee Road to Bell Avenue	Urban Minor Arterial	Urban	D	2U	540	388	1.55%	394	0.73	D
Bell Avenue to Farmers Market Road	Urban Minor Arterial	Urban	D	2U	540	671	1.55%	681	**1.26**	**F**
Farmers Market Road to Edwards Road	Urban Minor Arterial	Urban	D	2U	750	671	1.55%	681	0.91	D
Edwards Road to Wisteria Avenue	Urban Minor Arterial	Urban	D	2U	750	611	1.55%	620	0.83	D

1. Roadway attributes were obtained from the 2010 FDOT St. Lucie County Federal Functional Classification Map, St. Lucie County Transportation Element, and supplemented with the 2020 FDOT Quality/LOS Tables.
2. Obtained from the latest St. Lucie TPO Traffic Counts and Level of Service Report
3. 2020 PHPD values were grown annually by 1.55% to reach 2021 PM PHPD values.

Table 4: Existing (2021) PM Peak Hour Roadway Segment Analysis

Roadway Segment	Roadway Attributes [1]				PHPD Service Capacity [2]	2020 PM PHPD [2]	Annual Growth Rate	2021 Existing PM PHPD [3]	V/C Ratio	LOS
	Functional Classification	Area Type	Adopted LOS	Number of Lanes						
Oleander Avenue										
Midway Road to Weatherbee Road	Urban Minor Arterial	Urban	D	2U	750	421	1.55%	428	0.57	D
Weatherbee Road to Bell Avenue	Urban Minor Arterial	Urban	D	2U	540	421	1.55%	428	0.79	D
Bell Avenue to Farmers Market Road	Urban Minor Arterial	Urban	D	2U	540	647	1.55%	657	**1.22**	**F**
Farmers Market Road to Edwards Road	Urban Minor Arterial	Urban	D	2U	750	647	1.55%	657	0.88	D
Edwards Road to Wisteria Avenue	Urban Minor Arterial	Urban	D	2U	750	554	1.55%	563	0.75	D

1. Roadway attributes were obtained from the 2010 FDOT St. Lucie County Federal Functional Classification Map, St. Lucie County Transportation Element, and supplemented with the 2020 FDOT Quality/LOS Tables.
2. Obtained from the latest St. Lucie TPO Traffic Counts and Level of Service Report
3. 2020 PHPD values were grown annually by 1.55% to reach 2021 PM PHPD values.

3.3 EXISTING INTERSECTION CONDITIONS

Intersection operational analyses were performed for 2021 existing conditions in the AM and PM peak hour using procedures outlined in the *Highway Capacity Manual (2010)* with Synchro (v10) software. Signal timing and phasing plans were provided by St. Lucie County staff and are included in **Appendix H**. A summary of intersection level of service (LOS), delay, and maximum volume/capacity (v/c) ratios for AM and PM peak hour existing conditions are provided in **Tables 5 and 6**, respectively. Synchro outputs are provided in **Appendix I**.

As shown in the tables, the study area intersections operate at an acceptable LOS with turning movements demonstrating maximum v/c ratios of less than one (1.0) in both scenarios.

Table 5: Existing (2021) AM Peak Hour Intersection Conditions

Intersection	AM Peak Hour Existing Conditions		
	LOS	Delay (Sec)	Max V/C Ratio
Oleander Avenue & Midway Road	C	25.8	0.72
Oleander Avenue & Weatherbee Road	C	6.5	0.41
Oleander Avenue & Bell Avenue	C	4.3	0.40
Oleander Avenue & Farmers Market Road	C	1.9	0.20
Oleander Avenue & Edwards Road	C	22.4	0.76

Notes:
1. Intersection LOS and delay at unsignalized intersections are reported for the most critical stop-controlled approach only.

Table 6: Existing (2021) PM Peak Hour Intersection Conditions

Intersection	**PM Peak Hour Existing Conditions**		
	LOS	**Delay (Sec)**	**Max V/C Ratio**
Oleander Avenue & Midway Road	C	27.0	0.71
Oleander Avenue & Weatherbee Road	C	5.7	0.36
Oleander Avenue & Bell Avenue	C	4.4	0.45
Oleander Avenue & Farmers Market Road	C	2.5	0.32
Oleander Avenue & Edwards Road	C	24.5	0.80

Notes:
1. Intersection LOS and delay at unsignalized intersections are reported for the most critical stop-controlled approach only.

4.0 BACKGROUND CONDITIONS ANALYSIS – YEAR 2026

4.1 BACKGROUND TRAFFIC

Background traffic conditions, without the impact of project trips on the roadway network, were evaluated for Year 2026. Background volumes on study area intersections and roadway segments were derived by applying an annual growth rate to existing traffic counts. Turning movement volume worksheets for all intersections are provided in **Appendix E**. The AM and PM peak hour intersection turning movement volumes at the study area intersections are illustrated on **Figures 4 and 5**, respectively.

4.2 BACKGROUND GROWTH RATE

The University of Florida's Bureau of Economic and Business Research (BEBR) analyzes population growth trends in counties throughout the state, along with other statistical metrics. To determine a reasonable background growth rate for the study area, the medium BEBR growth rate for St. Lucie County was calculated.

As shown in **Table 7**, the medium BEBR growth rate for Year 2025 is approximately 1.55%. Therefore, a 1.55% annual background growth rate was used in this analysis to provide conservative results.

Table 7: BEBR Growth Rate Calculation

County	BEBR Pop Estimate April 1, 2019	BEBR Population Projections (April 1)		2025
		Range	2025	
St. Lucie	309,359	Low	319,300	0.46%
		Medium	342,900	**1.55%**
		High	364,600	2.55%

4.3 COMMITTED IMPROVEMENTS

Based on the St. Lucie TPO 2045 Long Range Transportation Plan (LRTP), the TPO's Transportation Improvement Program (TIP), and FDOT's 5-year work program, the following roadway improvement was located within the study area of the development:

- Midway Road, from 25th Street to US 1 – Add Lanes & Reconstruct
  (the improvement design is included in **Appendix J**)

This improvement was included in all intersection operational analyses (existing, background, and buildout scenarios).

4.4 BACKGROUND ROADWAY SEGMENT ANALYSIS

A roadway segment analysis was performed within the study area to determine background AM and PM peak hour conditions. The analysis was conducted by comparing Year 2026 peak hour peak direction (PHPD) traffic volumes to the PHPD service capacities per the latest St. Lucie TPO Traffic Counts and Level of Service Report (excerpts included in **Appendix D**). Year 2026 PHPD volumes were derived by applying a 1.55% annual growth rate to Year 2021 PHPD volumes.

The background roadway segment data is included in **Tables 8 and 9** for AM and PM peak hour roadway segment conditions, respectively. As shown in the tables, the analysis identifies a background capacity deficiency (that is also identified in the existing Year 2021 scenario) for both scenarios at the following roadway segment:

- Oleander Avenue, from Bell Avenue to Farmers Market Road (existing Year 2021 deficiency)

Table 8: Background (2026) AM Peak Hour Roadway Segment Analysis

Roadway Segment	Adopted LOS	PHPD Service Capacity [1]	2021 Existing AM PHPD	Annual Growth Rate	2026 Bkgrd AM PHPD [2]	V/C Ratio	LOS
Oleander Avenue							
Midway Road to Weatherbee Road	D	750	394	1.55%	425	0.57	D
Weatherbee Road to Bell Avenue	D	540	394	1.55%	425	0.79	D
Bell Avenue to Farmers Market Road	D	540	681	1.55%	734	**1.36**	**F**
Farmers Market Road to Edwards Road	D	750	681	1.55%	734	0.98	D
Edwards Road to Wisteria Avenue	D	750	620	1.55%	668	0.89	D

1. Obtained from the latest St. Lucie TPO Traffic Counts and Level of Service Report
2. 2021 PHPD values were grown annually by 1.55% to reach 2026 PM PHPD values.

Table 9: Background (2026) PM Peak Hour Roadway Segment Analysis

Roadway Segment	Adopted LOS	PHPD Service Capacity [1]	2021 Existing PM PHPD	Annual Growth Rate	2026 Bkgrd PM PHPD [2]	V/C Ratio	LOS
Oleander Avenue							
Midway Road to Weatherbee Road	D	750	428	1.55%	461	0.61	D
Weatherbee Road to Bell Avenue	D	540	428	1.55%	461	0.85	D
Bell Avenue to Farmers Market Road	D	540	657	1.55%	708	**1.31**	**F**
Farmers Market Road to Edwards Road	D	750	657	1.55%	708	0.94	D
Edwards Road to Wisteria Avenue	D	750	563	1.55%	607	0.81	D

1. Obtained from the latest St. Lucie TPO Traffic Counts and Level of Service Report
2. 2021 PHPD values were grown annually by 1.55% to reach 2026 PM PHPD values.

4.5 BACKGROUND INTERSECTION ANALYSIS

Intersection operational analyses were performed for 2026 background conditions in the AM and PM peak hour using procedures outlined in the *Highway Capacity Manual (2010)* with Synchro (v10) software. Signal timing and phasing plans were provided by St. Lucie County staff and are included in **Appendix H**. A summary of intersection level of service (LOS), delay, and maximum volume/capacity (v/c) ratios for AM and PM peak hour existing conditions are provided in **Tables 10 and 11**, respectively. Synchro outputs are provided in **Appendix I**.

As shown in the tables, the study area intersections operate at an acceptable LOS with turning movements demonstrating maximum v/c ratios of less than one (1.0) in both scenarios.

Table 10: Background (2026) AM Peak Hour Intersection Conditions

Intersection	AM Peak Hour Background Conditions		
	LOS	Delay (Sec)	Max V/C Ratio
Oleander Avenue & Midway Road	C	26.9	0.74
Oleander Avenue & Weatherbee Road	C	7.3	0.48
Oleander Avenue & Bell Avenue	C	4.7	0.45
Oleander Avenue & Farmers Market Road	C	2.0	0.23
Oleander Avenue & Edwards Road	C	23.1	0.78

Notes:
1. Intersection LOS and delay at unsignalized intersections are reported for the most critical stop-controlled approach only.

Table 11: Background (2026) PM Peak Hour Intersection Conditions

Intersection	PM Peak Hour Background Conditions		
	LOS	Delay (Sec)	Max V/C Ratio
Oleander Avenue & Midway Road	C	28.1	0.73
Oleander Avenue & Weatherbee Road	C	6.5	0.43
Oleander Avenue & Bell Avenue	D	5.4	0.55
Oleander Avenue & Farmers Market Road	C	2.9	0.38
Oleander Avenue & Edwards Road	C	25.8	0.81

Notes:
1. Intersection LOS and delay at unsignalized intersections are reported for the most critical stop-controlled approach only.

5.0 BUILDOUT CONDITIONS ANALYSIS – YEAR 2026

5.1 BUILDOUT TRAFFIC

Buildout traffic conditions were evaluated for Year 2026. Buildout volumes were developed by adding anticipated project trips to background volumes. Turning movement volume worksheets for all intersections can be found in **Appendix G**.

5.2 BUILDOUT ROADWAY SEGMENT ANALYSIS

A roadway segment analysis was performed within the study area to determine buildout AM and PM peak hour conditions. The analysis was conducted by comparing Year 2026 peak hour peak direction (PHPD) traffic volumes to the PHPD service capacities per the latest St. Lucie TPO Traffic Counts and Level of Service Report (excerpts included in **Appendix D**). Year 2026 PHPD volumes were derived by adding anticipated project trips to background volumes.

For the AM and PM peak hour buildout analyses, the LOS standard and corresponding peak hour service capacity for the segment of Oleander Avenue, from Farmers Market Road to Edwards Road was increased from LOS D to E as the St. Lucie County Comprehensive Plan Transportation Element (October 26, 2010) states the following:

> *"The County wishes to maintain a LOS D or better for all roadways but recognizes that allowing a LOS E allows development to proceed while a minimum of LOS D might cause severe constraints on private development. However, a LOS D will be utilized for these roadways when establishing transportation impact fees."*

The buildout roadway segment data is included in **Tables 12 and 13** for AM and PM peak hour roadway segment conditions, respectively. As shown in the tables, the analysis identifies a buildout capacity deficiency (that is also identified in the existing Year 2021 scenario) for both scenarios at the following roadway segment:

- Oleander Avenue, from Bell Avenue to Farmers Market Road (existing Year 2021 deficiency)

The roadway segment capacity deficiency for both the buildout scenario AM and PM peak hours are not due to the addition of project trips.

Table 12: Buildout (2026) AM Peak Hour Roadway Segment Analysis

Roadway Segment	Adopted LOS	PHPD Service Capacity [1, 2]	2026 Bkgrd AM PHPD	Project Dist.	Project Trips AM PHPD	2026 Buildout AM PHPD	V/C Ratio	LOS
Oleander Avenue								
Midway Road to Weatherbee Road	D	750	425	26%	10	435	0.58	D
Weatherbee Road to Bell Avenue	D	540	425	59%	22	447	0.83	D
Bell Avenue to Farmers Market Road	D	540	734	55%	20	754	**1.40**	**F**
Farmers Market Road to Edwards Road	E[2]	800	734	49%	18	752	0.94	D
Edwards Road to Wisteria Avenue	D	750	668	25%	9	677	0.90	D

1. Obtained from the latest St. Lucie TPO Traffic Counts and Level of Service Report
2. LOS standard and correspoding service capacity were increased per the St. Lucie County Comprehensive Plan (October 26, 2010)

Table 13: Buildout (2026) PM Peak Hour Roadway Segment Analysis

Roadway Segment	Adopted LOS	PHPD Service Capacity [1, 2]	2026 Bkgrd PM PHPD	Project Dist.	Project Trips PM PHPD	2026 Buildout PM PHPD	V/C Ratio	LOS
Oleander Avenue								
Midway Road to Weatherbee Road	D	750	461	26%	11	472	0.63	D
Weatherbee Road to Bell Avenue	D	540	461	59%	24	485	0.90	D
Bell Avenue to Farmers Market Road	D	540	708	55%	23	731	**1.35**	**F**
Farmers Market Road to Edwards Road	E[2]	800	708	49%	20	728	0.91	D
Edwards Road to Wisteria Avenue	D	750	607	25%	10	617	0.82	D

1. Obtained from the latest St. Lucie TPO Traffic Counts and Level of Service Report
2. LOS standard and correspoding service capacity were increased per the St. Lucie County Comprehensive Plan (October 26, 2010)

5.3 BUILDOUT INTERSECTION ANALYSIS

Intersection operational analyses were performed for 2026 buildout conditions in the AM and PM peak hour using procedures outlined in the *Highway Capacity Manual (2010)* with Synchro (v10) software. Signal timing and phasing plans were provided by St. Lucie County staff and are included in **Appendix H**. A summary of intersection level of service (LOS), delay, and maximum volume/capacity (v/c) ratios for AM and PM peak hour existing conditions are provided in **Tables 14 and 15**, respectively. Synchro outputs are provided in **Appendix I**.

As shown in the tables, the study area intersections operate at an acceptable LOS with turning movements demonstrating maximum v/c ratios of less than one (1.0) in both scenarios.

The AM and PM peak hour intersection turning movement volumes at buildout for the study area intersections are illustrated on **Figures 4 and 5**, respectively.

Table 14: Buildout (2026) AM Peak Hour Intersection Conditions

Intersection	AM Peak Hour Buildout Conditions		
	LOS	Delay (Sec)	Max V/C Ratio
Oleander Avenue & Midway Road	C	27.0	0.74
Oleander Avenue & Weatherbee Road	C	7.6	0.50
Oleander Avenue & Bell Avenue	C	4.8	0.47
Oleander Avenue & Farmers Market Road	C	2.1	0.25
Oleander Avenue & Edwards Road	C	23.2	0.78
Oleander Avenue & Project Driveway	B	0.7	0.09

Notes:
1. Intersection LOS and delay at unsignalized intersections are reported for the most critical stop-controlled approach only.

Table 15: Buildout (2026) PM Peak Hour Intersection Conditions

Intersection	PM Peak Hour Buildout Conditions		
	LOS	Delay (Sec)	Max V/C Ratio
Oleander Avenue & Midway Road	C	28.4	0.74
Oleander Avenue & Weatherbee Road	D	6.8	0.46
Oleander Avenue & Bell Avenue	D	5.8	0.59
Oleander Avenue & Farmers Market Road	C	3.1	0.41
Oleander Avenue & Edwards Road	C	26.1	0.82
Oleander Avenue & Project Driveway	B	0.6	0.07

Notes:
1. Intersection LOS and delay at unsignalized intersections are reported for the most critical stop-controlled approach only.

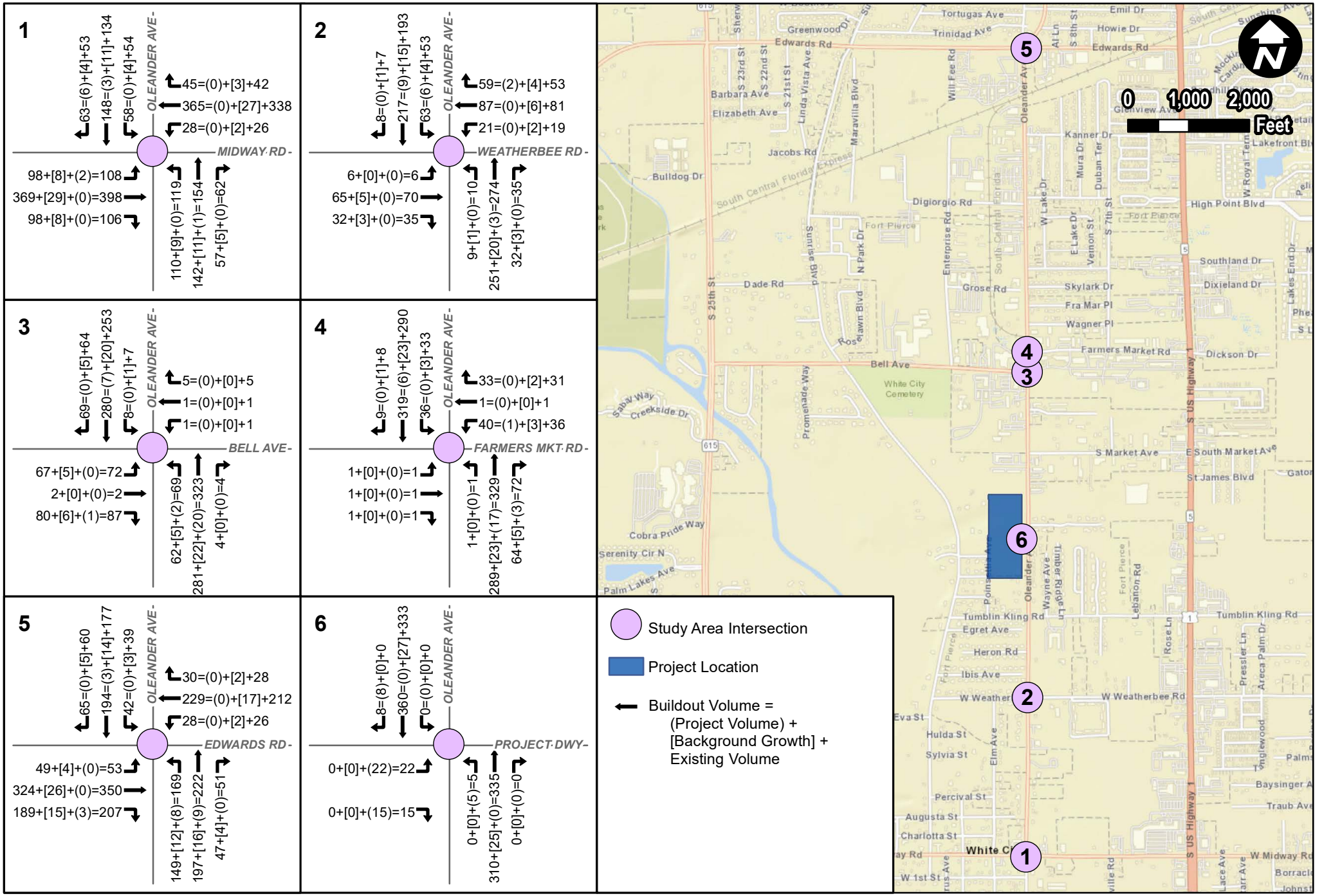


Figure 4: Buildout (2026) Traffic Volumes: AM Peak Hour

Oleander Oaks - Traffic Impact Study | City of Fort Pierce, FL

Project Number: 147811000
Date: April 2021

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189 S Orange Ave, Suite 1000, Orlando FL 32801
Phone: (407) 898-1511

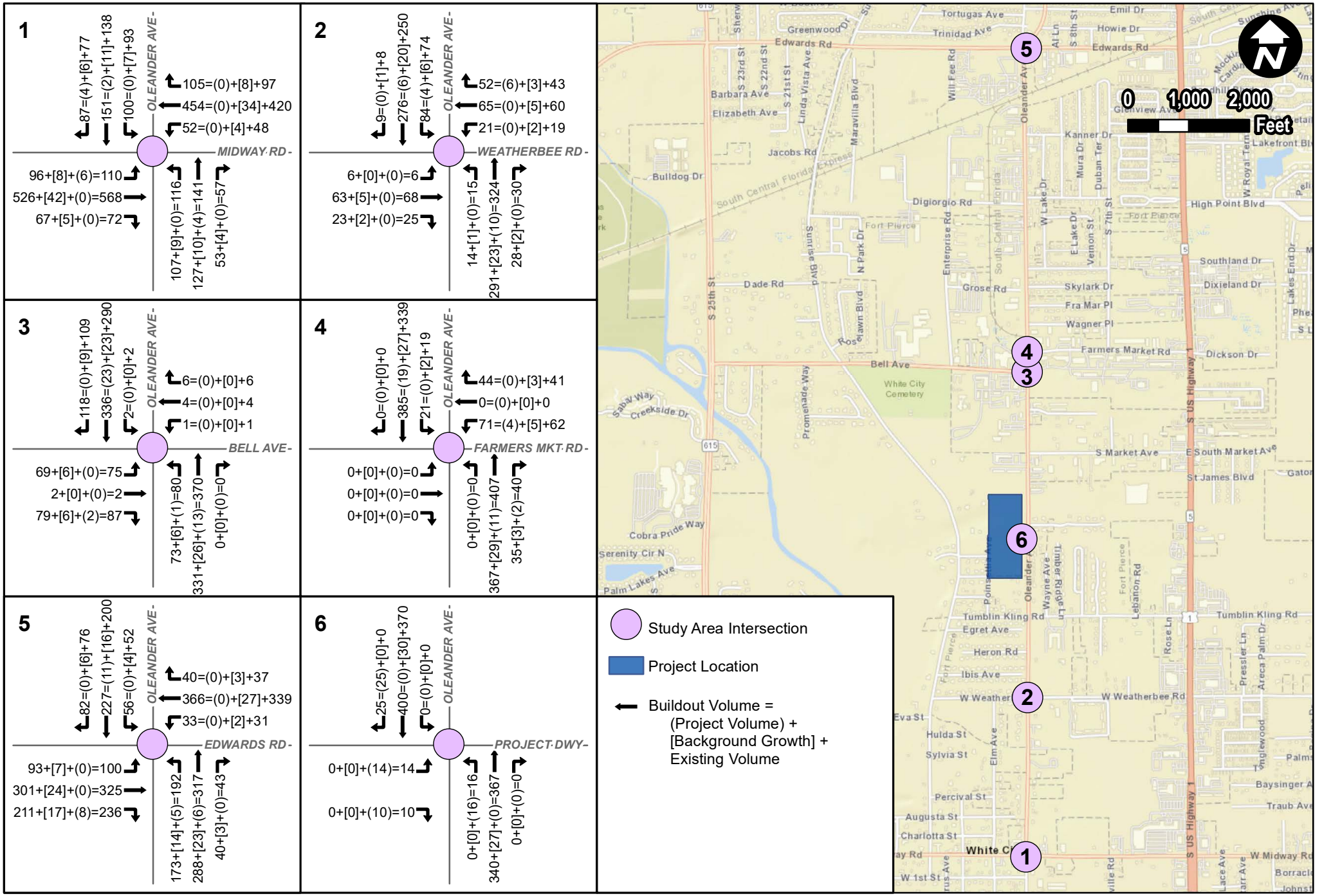


Figure 5: Buildout (2026) Traffic Volumes: PM Peak Hour

Oleander Oaks - Traffic Impact Study | City of Fort Pierce, FL

Project Number: 147811000
Date: April 2021

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189 S Orange Ave, Suite 1000, Orlando FL 32801
Phone: (407) 898-1511

6.0 SITE ACCESS ANALYSIS

Access to the site will be provided via one full-access driveway onto Oleander Avenue. The need for exclusive ingress turn lanes was evaluated at the proposed project driveway using National Cooperative of Highway Research Programs (NCHRP) Report 457 criteria.

The projected buildout year 2026 traffic volumes on Oleander Avenue, as well as the projected northbound ingress turning movement volumes at the proposed project driveway, were compared to the thresholds of the NCHRP Report 457 for determination of whether a major road left-turn lane is required at a stop-controlled minor street intersection. Report NCHRP 457 compares the major street speed, approach volume, opposing volume, and left-turning volume to determine whether a dedicated left-turn lane is warranted on the major street approach. Based on the low ingress left-turn volumes projected at the project driveway, and the low existing traffic volumes on Oleander Avenue during the AM and PM peak hours, an exclusive northbound left-turn lane at the project driveway is not warranted based on the criteria within the NCHRP 457 analysis.

The observed traffic volumes on Oleander Avenue, as well as the projected southbound ingress turning volumes at the proposed project driveway, were compared to the thresholds of the NCHRP Report 457 for determination of whether a major road right-turn lane is required at a stop-controlled minor street intersection. Report NCHRP 457 compares the major street speed, approach volume, and right-turning volume to determine whether a dedicated right-turn lane is warranted on the major street approach. Based on the low ingress right-turn volumes projected at the project driveway, and the low existing traffic volumes on Oleander Avenue during the AM and PM peak hours, an exclusive southbound right-turn lane at the project driveway is not warranted based on the criteria within the NCHRP 457 analysis.

The NCRHP Report 457 outputs for the northbound left-turn lane and southbound right-turn lane for the projected buildout AM and PM peak hour scenarios are provided in **Appendix K**.

7.0 CONCLUSION

This traffic impact study was performed to assess the transportation impacts of associated with the development of Oleander Oaks in the City of Fort Pierce, Florida. Oleander Oaks is a proposed single-family residential development generally located on the east side of Oleander Avenue, north of Kling Road in City of Fort Pierce, Florida. The development is proposed to consist of ±63 single-family dwelling units and anticipated to be built by Year 2026. Access to the site will be provided via one full-access driveway onto Oleander Avenue.

The project is expected to generate 50 (13 in, 37 out) new external vehicular trips in the AM peak hour and 65 (41 in, 24 out) new external vehicular trips in the PM peak hour based on ITE trip generation data and procedures. Project trips were distributed onto the surrounding roadway network using the latest adopted regional travel demand model and manual assignment at the study area intersections.

AM and PM peak hour roadway segment capacity analyses were performed for study area roadway segments for existing (2021), background (2026), and buildout (2026) conditions. The analyses identified one (1) deficient roadway segment in the existing condition AM and PM peak hours. All capacity deficiencies are present in the existing conditions and are not due to the addition of project trips. The deficient roadway segment was identified as:

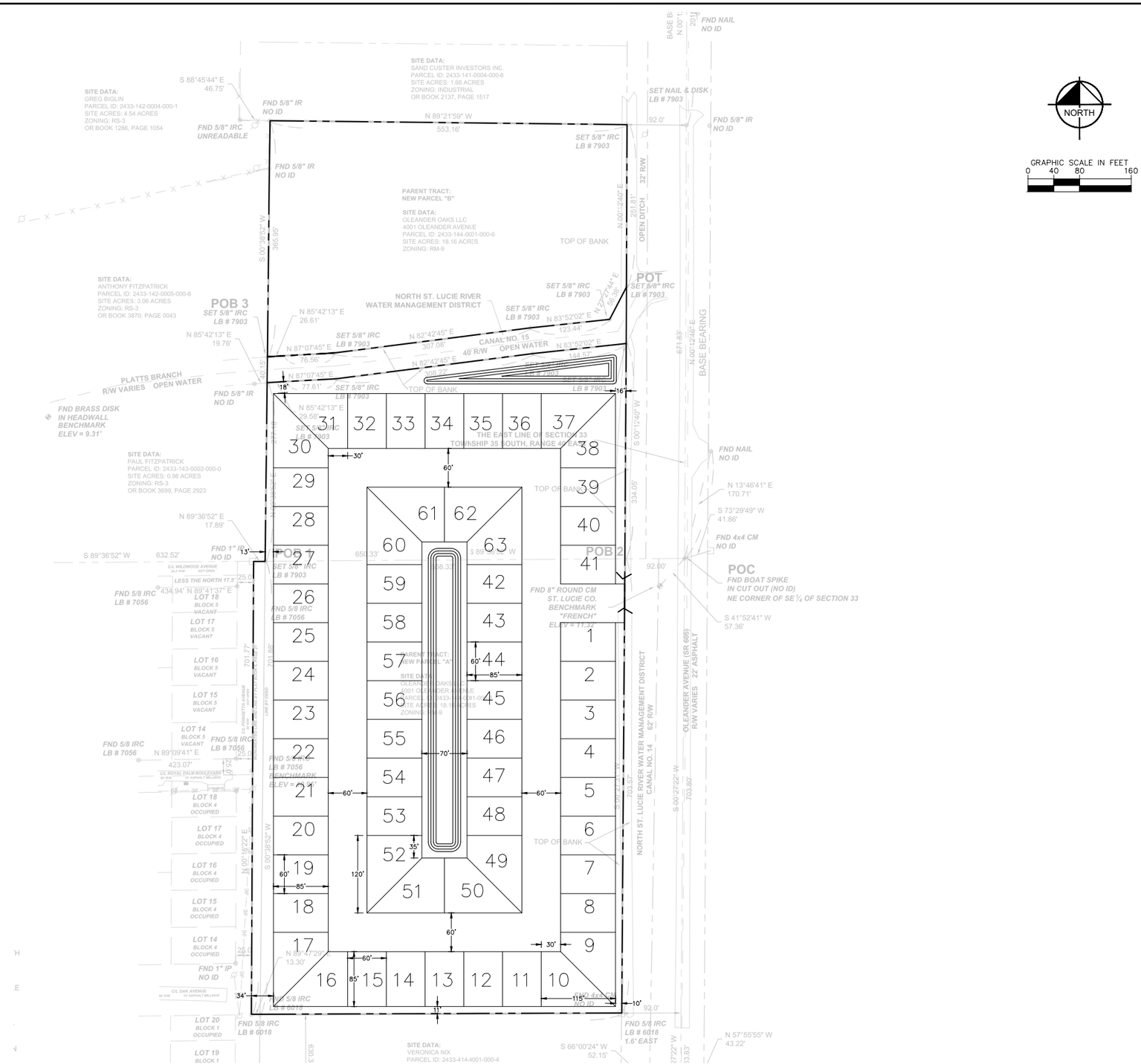
- Oleander Avenue, from Bell Avenue to Farmers Market Road (existing Year 2021 deficiency)

AM and PM peak hour operational analyses for existing (2021), background (2026), and buildout (2026) conditions were performed at study area intersections. All study area intersections are projected operate at an acceptable LOS with overall v/c ratios of less than one (1.0) in the AM and PM peak hours for all analysis scenarios.

Based on the criteria within the NCHRP 457 analysis, neither an exclusive northbound left-turn lane or southbound right-turn lane are warranted at the project access driveway on Oleander Avenue.

The results within this report satisfy the requirements set forth by St. Lucie County for evaluating proposed development impacts.

APPENDIX A
Conceptual Site Plan



Plotted By:Dougherty, Alex Sheet Set:Kho Layout:Layout1 February 15, 2021 04:30:28pm K:\VRB_LDEV\142811000 – Oleander Oaks\CAD\Concepts\Concept 1 – 60Wx85D.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

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OLEANDER OAKS

CONCEPT SITE PLAN

SHEET NUMBER
CSP-1

APPENDIX B
Excerpts from ITE Trip Generation Manual

Single-Family Detached Housing
(210)

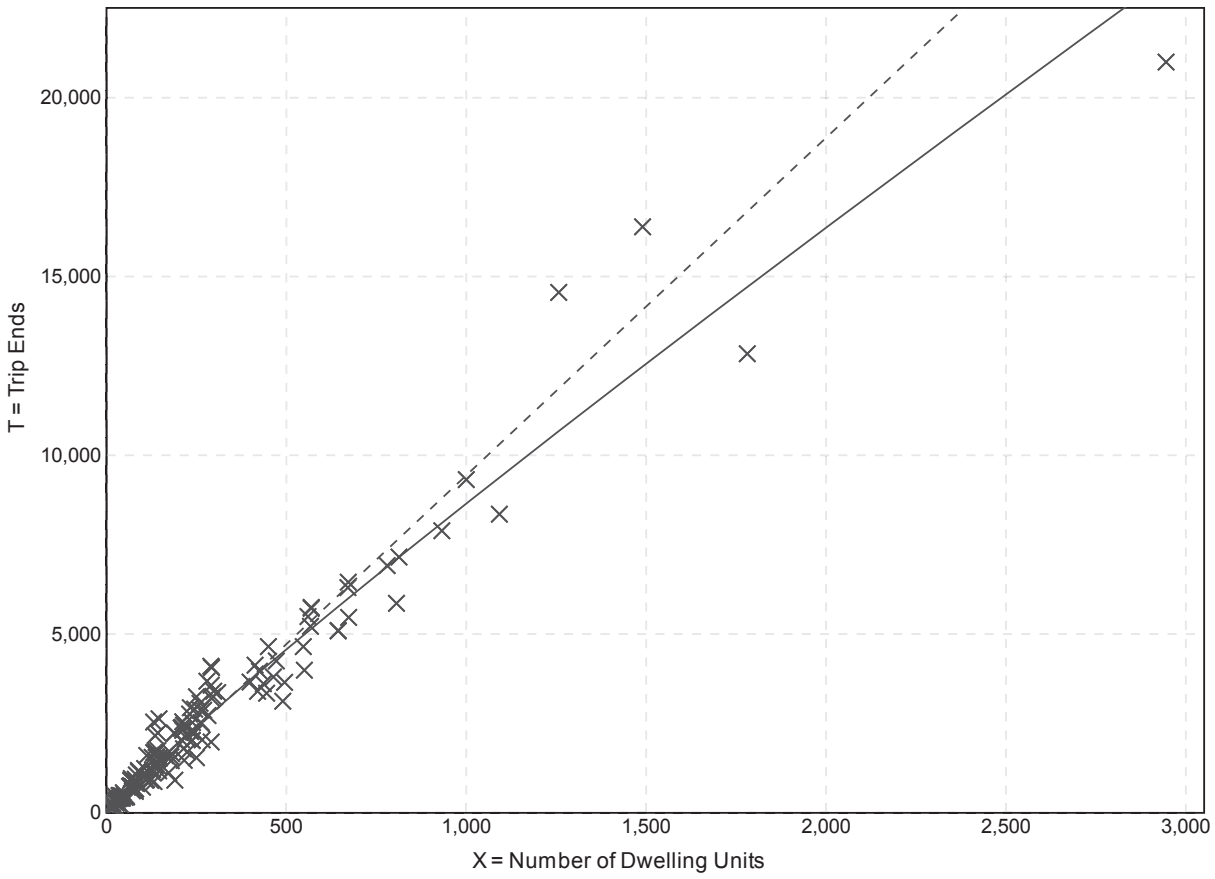
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 159
Avg. Num. of Dwelling Units: 264
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	4.81 - 19.39	2.10

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.92 Ln(X) + 2.71

R^2= 0.95

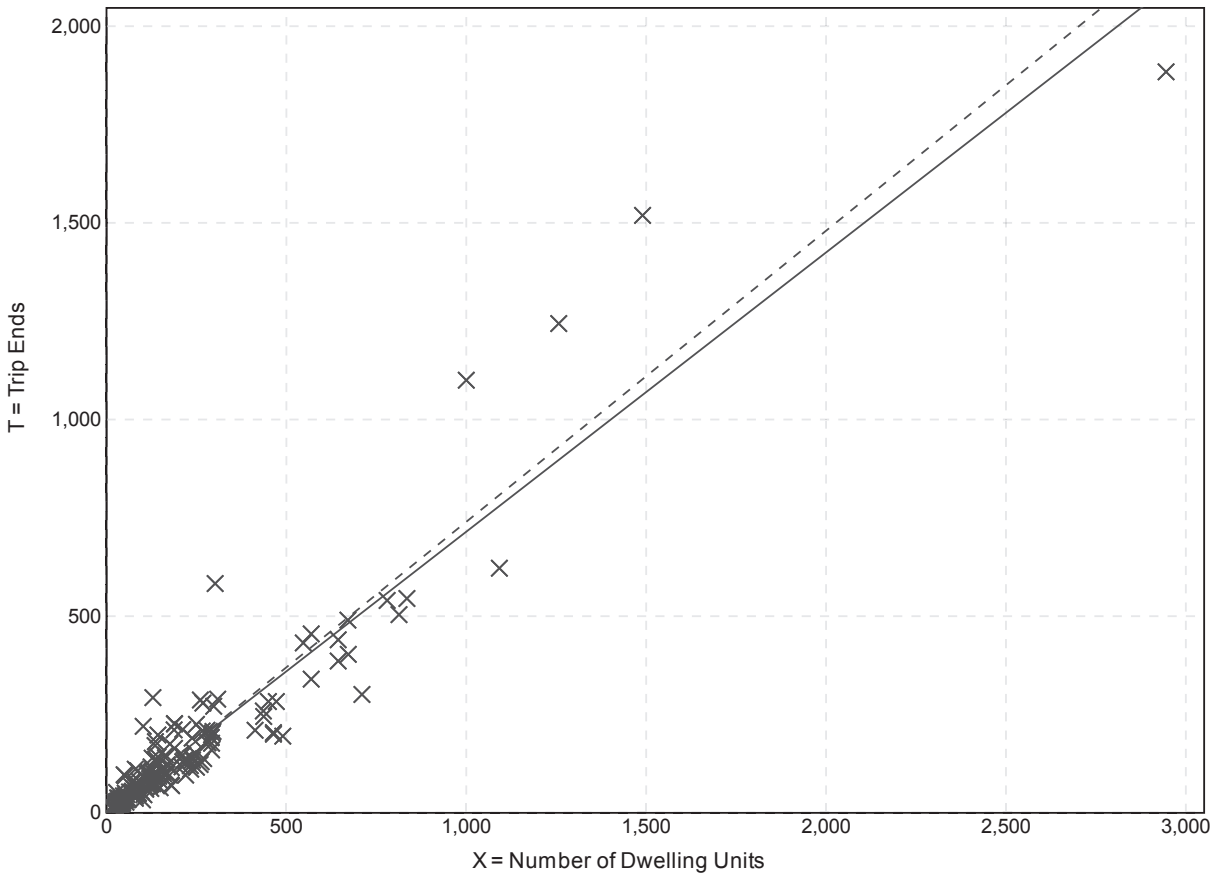
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	173
Avg. Num. of Dwelling Units:	219
Directional Distribution:	25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

Data Plot and Equation



Fitted Curve Equation: T = 0.71(X) + 4.80

R^2= 0.89

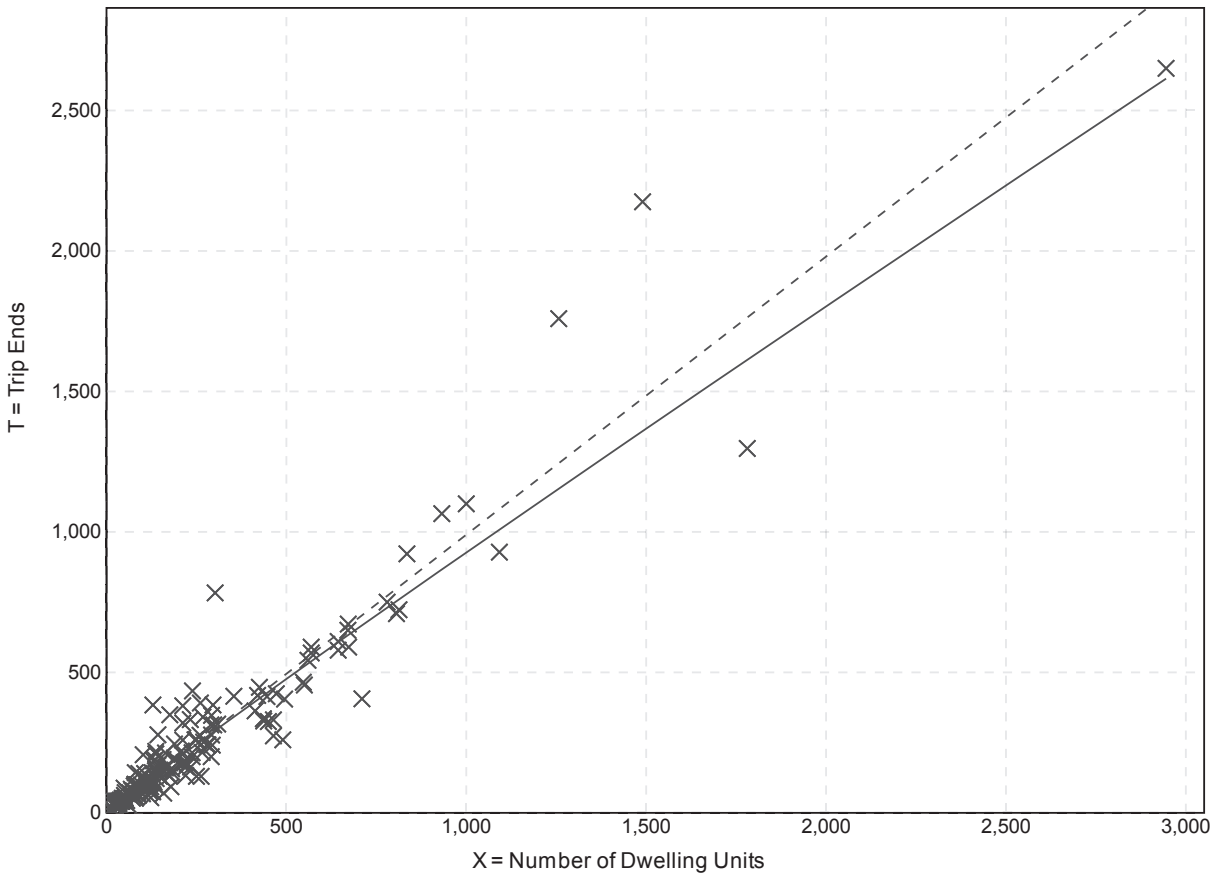
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	190
Avg. Num. of Dwelling Units:	242
Directional Distribution:	63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

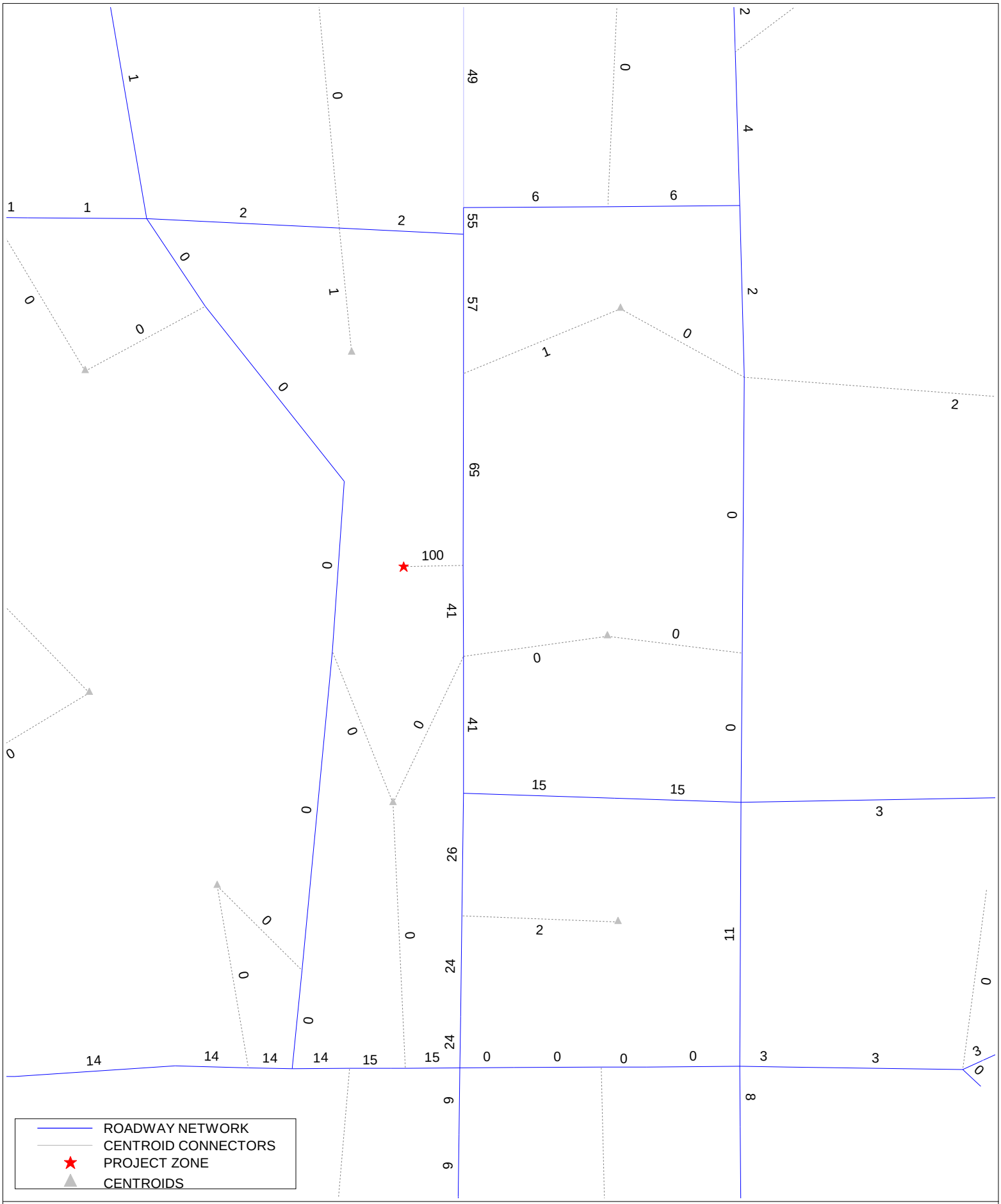
Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.96 Ln(X) + 0.20

R^2= 0.92

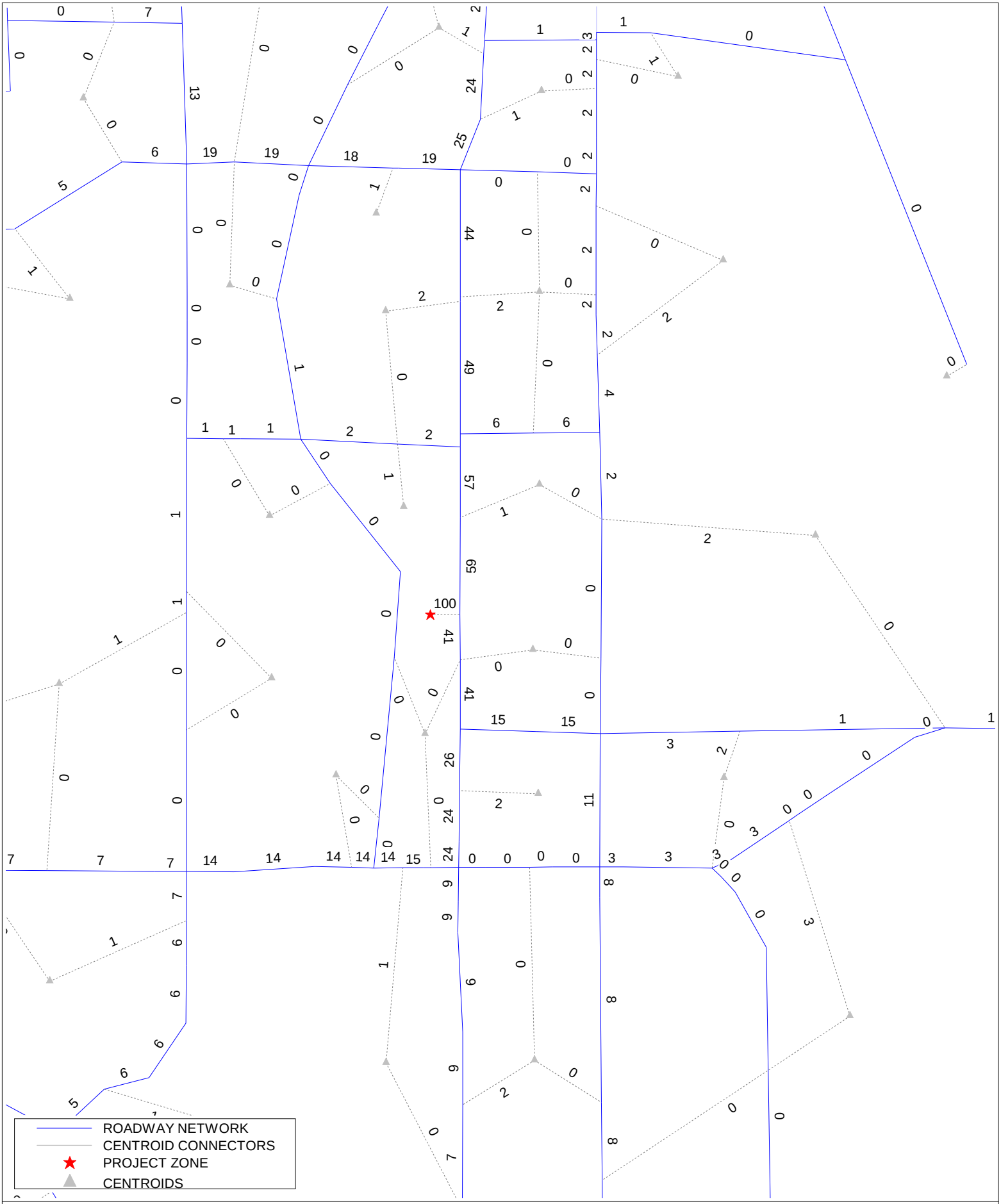
APPENDIX C
Greater Treasure Coast Regional Planning Model (GTCRPM) Model Plots



MODEL RUN - OLEANDER OAKS
TRAFFIC DISTRIBUTION (PERCENTAGES)
2/16/2021
C:\FSUTMS\D4\GTCRPM\NGTC33\Base\minor mods\OUTPUT\FINAL_LOADED_A05.NET

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MODEL RUN - OLEANDER OAKS
TRAFFIC DISTRIBUTION (PERCENTAGES)
2/22/2021
C:\FSUTMS\D4\GTCRPM\NGTC33\Base\minor mods\OUTPUT\FINAL_LOADED_A05.NET

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APPENDIX D

St. Lucie TPO
Traffic Counts and Level of Service Report
Fall/Winter 2019/2020 (Excerpts)

St. Lucie Transportation Planning Organization

Coco Vista Centre
466 SW Port St. Lucie Blvd, Suite 111
Port St. Lucie, FL 34953
772-462-1593 www.stlucietpo.org

Traffic Counts and Level of Service Report
Fall/Winter 2019/2020

Roadway Name	Location	STATION ID	AADT	Last Count Year	Pk Hr Service Capacity	AM Pk Hr Pk Dir			PM Pk Hr Pk Dir		
						Volume	LOS	V/C	Volume	LOS	V/C
17TH ST	ORANGE AVE to AVENUE D	608	4,033	2016	750	236	C	0.638	225	C	0.608
17TH ST	AVENUE D to AVENUE Q	608	4,033	2016	750	236	C	0.638	225	C	0.608
25TH ST	MIDWAY RD to BELL AVE	940016	19,000	2019	2,100	1,362	C	0.678	1,270	C	0.632
25TH ST	BELL AVE to EDWARDS RD	159	19,040	2019	2,100	1,056	C	0.525	1,053	C	0.524
25TH ST	EDWARDS RD to CORTEZ BLVD	940021	21,500	2019	2,000	1,370	C	0.717	1,366	C	0.715
25TH ST	CORTEZ BLVD to VIRGINIA AVE	529	21,000	2020	2,000	1,182	C	0.619	1,261	C	0.660
25TH ST	VIRIGINIA AVE to NEBRASKA AVE	940015	23,000	2019	2,000	1,319	C	0.691	1,182	C	0.619
25TH ST	NEBRASKA AVE to OKEECHOBEE RD	940015	23,000	2019	2,000	1,319	C	0.691	1,182	C	0.619
25TH ST	OKEECHOBEE RD to GEORGIA AVE	609	23,000	2020	1,630	1,196	D	0.734	1,159	D	0.711
25TH ST	GEORGIA AVE to DELAWARE AVE	609	23,000	2020	1,630	1,196	D	0.734	1,159	D	0.711
25TH ST	DELAWARE AVE to ORANGE AVE	940014	22,000	2019	1,630	1,145	D	0.702	1,139	D	0.699
25TH ST	ORANGE AVE to AVENUE D	610	19,000	2020	1,630	877	D	0.538	904	D	0.555
25TH ST	AVENUE D to AVENUE Q	940050	19,700	2019	1,630	1,037	D	0.636	1,008	D	0.618
25TH ST	AVENUE Q to JUANITA AVE	945152	18,000	2019	2,000	1,017	C	0.532	932	C	0.488
25TH ST	JUANITA AVE to ST LUCIE BLVD	940791	14,647	2013	2,100	794	C	0.395	745	C	0.371
25TH ST	ST LUCIE BLVD to US 1	945165	9,800	2019	2,100	563	C	0.280	628	C	0.312
33RD ST	OKEECHOBEE RD to DELAWARE AVE	611	7,000	2020	750	419	D	0.559	368	C	0.995
33RD ST	DELAWARE AVE to ORANGE AVE	948507	6,200	2019	790	286	C	0.773	286	C	0.773
35TH ST	KIRBY LOOP RD to CORTEZ BLVD	612	6,300	2020	540	497	D	0.920	406	D	0.752
35TH ST	CORTEZ BLVD to VIRGINIA AVE	612	6,300	2020	790	497	D	0.629	406	D	0.514
35TH ST	VIRGINIA AVE to OKEECHOBEE RD	613	4,600	2016	750	279	C	0.754	280	C	0.757
53RD ST	ANGLE RD to JUANITA AVE	614	2,767	2016	540	148	C	0.548	163	C	0.604
AE BACKUS AVE	7TH ST to US 1	632	1,033	2017	750	70	C	0.189	81	C	0.219
AIROSO BLVD	PORT ST LUCIE BLVD to THORNHILL DR	303	15,500	2019	2,100	1,011	C	0.503	851	C	0.423
AIROSO BLVD	THORNHILL DR to CROSSTOWN PKWY	303	15,500	2019	2,100	1,011	C	0.503	851	C	0.423

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AVENUE Q	17TH ST to 13TH ST	701	3,937	2016	540	281	D	0.520	314	D	0.581
AVENUE O	13TH ST to US 1	685	1,867	2017	540	105	C	0.389	108	C	0.400
AVENUE C	10TH ST to 7TH ST	631	350	2017	540	20	C	0.074	21	C	0.078
BAYSHORE BLVD	MOUNTWELL ST to PORT ST LUCIE BLVD	621	6,000	2019	830	373	C	0.478	324	C	0.415
BAYSHORE BLVD	PORT ST LUCIE BLVD to THORNHILL DR	309	28,260	2018	2,100	1,335	C	0.664	1,297	C	0.645
BAYSHORE BLVD	THORNHILL DR to CROSSTOWN PKWY	948508	20,100	2019	2,100	928	C	0.486	928	C	0.486
BAYSHORE BLVD	CROSSTOWN PKWY to PRIMA VISTA BLVD	307	27,000	2019	2,100	1,394	C	0.694	1,356	C	0.675
BAYSHORE BLVD	PRIMA VISTA BLVD to FLORESTA DR	305	17,500	2019	920	829	C	0.953	858	C	0.986
BAYSHORE BLVD	FLORESTA DR to SELVITZ RD	622	13,000	2019	790	707	C	0.943	623	C	0.831
BAYSHORE BLVD	SELVITZ RD to 25TH ST	622	13,000	2019	750	707	D	0.943	623	D	0.831
BEACH AVE	OLEANDER AVE to RIO MAR DR	623	3,500	2017	540	247	C	0.915	211	C	0.781
BECKER RD	VILLAGE PKWY to I-95	624	2,500	2017	3,170	196	C	0.063	178	C	0.058
BECKER RD	I-95 to SAVONA BLVD	625	21,000	2019	2,000	1,809	C	0.947	1,616	C	0.846
BECKER RD	SAVONA BLVD to PORT ST LUCIE BLVD	626	18,000	2019	2,100	1,142	C	0.568	1,083	C	0.539
BECKER RD	ALBACORE ST to DARWIN BLVD	302	13,500	2019	1,500	863	C	0.603	842	C	0.589
BECKER RD	PORT ST LUCIE BLVD to ALBACORE ST	302	13,500	2019	2,100	863	C	0.429	842	C	0.419
BECKER RD	ATHENA DR to FLORIDA'S TURNPIKE	627	15,000	2019	1,500	1,320	C	0.923	1,244	C	0.870
BECKER RD	DARWIN BLVD to ATHENA DR	627	15,000	2019	2,000	1,320	C	0.691	1,244	C	0.651
BECKER RD	FLORIDA'S TURNPIKE to SOUTHBEND BLVD	628	20,000	2019	2,100	1,333	C	0.663	1,657	C	0.824
BECKER RD	SOUTHBEND BLVD to GILSON RD	629	15,000	2019	920	956	F	1.039	1,182	F	1.285
BELL AVE	25TH ST to SUNRISE BLVD	104	4,758	2019	790	313	C	0.803	326	C	0.836
BELL AVE	SUNRISE BLVD to OLEANDER AVE	102	3,854	2019	600	217	C	0.723	223	C	0.743
CASHMERE BLVD	PEACOCK BLVD to TORINO PKWY	676	10,159	2018	630	714	F	1.133	589	C	0.982
CALIFORNIA BLVD	CAMEO BLVD to DEL RIO BLVD	633	7,813	2018	750	503	D	0.671	429	D	0.572
CALIFORNIA BLVD	DEL RIO BLVD to SAVONA BLVD	634	14,000	2019	920	774	C	0.890	771	C	0.886

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EAST TORINO PKWY	TORINO PKWY to MIDWAY RD	237	14,500	2020	880	1,030	F	1.170	978	F	1.111
EASY ST	US 1 to BUCHANAN DR	106	8,029	2018	750	601	D	0.801	483	D	0.644
EASY ST	BUCHANAN DR to YUCCA DR	106	8,029	2018	540	601	F	1.036	483	D	0.894
EDWARDS RD	JENKINS RD to MCNEIL RD	174	11,500	2020	630	573	C	0.955	594	C	0.990
EDWARDS RD	MCNEIL RD to SELVITZ RD	174	11,500	2020	700	573	C	0.868	594	C	0.900
EDWARDS RD	SELVITZ RD to 25TH ST	110	15,000	2020	880	755	C	0.910	771	C	0.929
EDWARDS RD	25TH ST to SUNRISE BLVD	108	16,697	2019	1,630	877	D	0.538	867	D	0.532
EDWARDS RD	SUNRISE BLVD to OLEANDER AVE	502	15,207	2019	1,630	754	D	0.463	735	D	0.451
EDWARDS RD	OLEANDER AVE to US 1	173	9,581	2019	1,630	527	C	0.722	460	C	0.630
FARMER'S MARKET RD	OLEANDER AVE to US 1	112	1,876	2019	750	130	C	0.351	127	C	0.343
FLORESTA DR	OAKLYN ST to PORT ST LUCIE BLVD	317	13,000	2019	920	900	D	0.978	687	C	0.790
FLORESTA DR	THORNHILL DR to CROSSTOWN PKWY	315	12,500	2019	880	810	C	0.976	738	C	0.889
FLORESTA DR	PORT ST LUCIE BLVD to THORNHILL DR	315	12,500	2019	880	810	C	0.976	738	C	0.889
FLORESTA DR	CROSSTOWN PKWY to PRIMA VISTA BLVD	109	11,000	2019	920	671	C	0.771	576	C	0.662
FLORESTA DR	PRIMA VISTA BLVD to AIROSO BLVD	107	9,600	2019	920	559	C	0.643	601	C	0.691
FLORESTA DR	SELVITZ RD to BAYSHORE BLVD	313	4,467	2018	630	349	C	0.582	365	C	0.608
FLORESTA DR	AIROSO BLVD to SELVITZ RD	313	4,467	2018	880	349	C	0.420	365	C	0.440
FT PIERCE BLVD	INDRIO RD to EMERSON AVE	226	3,555	2019	540	267	C	0.989	273	D	0.506
GARDENIA AVE	OLEANDER AVE to US 1	666	2,817	2017	750	188	C	0.508	200	C	0.541
GATLIN BLVD	W OF I-95 to E OF I-95	945075	50,500	2019	3,170	3,800	F	1.199	3,098	D	0.977
GATLIN BLVD	E OF I-95 to SAVAGE BLVD	945075	50,500	2019	3,170	3,800	F	1.199	3,098	D	0.977
GATLIN BLVD	SAVAGE BLVD to ROSSER BLVD	945075	50,500	2019	3,170	3,800	F	1.199	3,098	D	0.977
GATLIN BLVD	ROSSER BLVD to SAVONA BLVD	945075	50,500	2019	3,170	3,800	F	1.199	3,098	D	0.977
GATLIN BLVD	SAVONA BLVD to PORT ST LUCIE BLVD	945075	50,500	2019	3,170	3,800	F	1.199	3,098	D	0.977
GEORGIA AVE	25TH ST to OKEECHOBEE RD	667	4,700	2020	600	290	C	0.967	262	C	0.873

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MCNEIL RD	OKEECHOBEE RD to KIRBY LOOP RD	682	4,600	2020	790	281	C	0.721	280	C	0.718
MCNEIL RD	KIRBY LOOP RD to EDWARDS RD	682	4,600	2020	540	281	D	0.520	280	D	0.519
MCCARTY RD	WILLIAMS RD to MIDWAY RD	680	375	2017	540	33	C	0.122	35	C	0.130
MCCARTY RD	MIDWAY RD to OKEECHOBEE RD	681	400	2020	540	34	C	0.126	35	C	0.130
MELALEUCA BLVD	LENNARD RD to GREEN RIVER PKWY	683	9,804	2018	920	648	C	0.745	584	C	0.671
MIDWAY RD	EAST TORINO PKWY to MILNER DR	134	22,500	2020	880	1,216	F	1.382	1,304	F	1.482
MIDWAY RD	MILNER DR to W OF SELVITZ RD	134	22,500	2020	790	1,216	F	1.539	1,304	F	1.651
MIDWAY RD	OKEECHOBEE RD to SHINN RD	940732	8,400	2019	760	485	C	0.724	617	C	0.921
MIDWAY RD	SHINN RD to MCCARTY RD	940732	8,400	2019	630	485	C	0.808	617	D	0.979
MIDWAY RD	MCCARTY RD to I-95	940732	8,400	2019	700	485	C	0.735	617	C	0.935
MIDWAY RD	I-95 to GLADES CUT-OFF RD	945140	21,000	2019	2,100	1,168	C	0.581	1,295	C	0.644
MIDWAY RD	GLADES CUT-OFF RD to EAST TORINO PKWY	228	21,500	2020	2,100	1,226	C	0.610	1,281	C	0.637
MIDWAY RD	W OF SELVITZ RD to SELVITZ RD	134	22,500	2020	920	1,216	F	1.322	1,304	F	1.417
MIDWAY RD	SELVITZ RD to CHRISTENSEN RD	132	18,500	2020	920	973	F	1.058	940	F	1.022
MIDWAY RD	CHRISTENSEN RD to 25TH ST	132	18,500	2020	790	973	F	1.158	940	F	1.119
MIDWAY RD	25TH ST to SUNRISE BLVD	130	18,791	2016	790	1,025	F	1.220	942	F	1.121
MIDWAY RD	SUNRISE BLVD to OLEANDER AVE	130	18,791	2016	790	1,025	F	1.220	942	F	1.121
MIDWAY RD	OLEANDER AVE to US 1	242	15,309	2016	790	808	E	0.962	800	E	0.952
MIDWAY RD	US 1 to WALLACE ST	940023	3,800	2019	790	294	C	0.754	325	C	0.833
MIDWAY RD	WALLACE ST to WEATHERBEE RD	940023	3,800	2019	920	294	C	0.338	325	C	0.374
MIDWAY RD	WEATHERBEE RD to INDIAN RIVER DR	940023	3,800	2019	630	294	C	0.490	325	C	0.542
MORNINGSIDE BLVD	WESTMORELAND BLVD to PORT ST LUCIE BLVD	333	2,654	2017	920	159	C	0.183	152	C	0.175
MORNINGSIDE BLVD	PORT ST LUCIE BLVD to LYNGATE DR	331	2,900	2020	880	230	C	0.277	244	C	0.294
NEBRASKA AVE	25TH ST to 13TH ST	684	3,767	2017	1,710	234	C	0.304	197	C	0.256
OAKRIDGE DR	MOUNTWELL ST to OAKLYN ST	621	6,000	2019	700	373	C	0.565	324	C	0.491

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OLD DIXIE HWY	ST LUCIE BLVD to INDRIO RD	227	2,041	2016	790	150	C	0.385	116	C	0.297
OLD DIXIE HWY	INDRIO RD to INDIAN RIVER C.L.	948523	1,350	2019	870	63	C	0.076	63	C	0.076
OLEANDER AVE	BEACH AVE to KITTERMAN RD	692	2,900	2017	540	175	C	0.648	193	C	0.715
OLEANDER AVE	KITTERMAN RD to MIDWAY RD	141	6,498	2017	750	406	D	0.541	426	D	0.568
OLEANDER AVE	MIDWAY RD to WEATHERBEE RD	139	7,100	2020	750	388	D	0.517	421	D	0.561
OLEANDER AVE	WEATHERBEE RD to BELL AVE	139	7,100	2020	540	388	D	0.719	421	D	0.780
OLEANDER AVE	BELL AVE to FARMER'S MARKET RD	240	12,500	2020	540	671	F	1.157	647	F	1.116
OLEANDER AVE	FARMER'S MARKET RD to EDWARDS RD	240	12,500	2020	750	671	D	0.895	647	D	0.863
OLEANDER AVE	EDWARDS RD to WISTERIA AVE	505	10,000	2020	750	611	D	0.815	554	D	0.739
OLEANDER AVE	WISTERIA AVE to GARDENIA AVE	505	10,000	2020	540	611	F	1.053	554	E	0.955
OLEANDER AVE	GARDENIA AVE to VIRGINIA AVE	505	10,000	2020	790	611	D	0.773	554	D	0.701
OLEANDER AVE	VIRGINIA AVE to SUNRISE BLVD	503	4,561	2019	600	259	C	0.863	270	C	0.900
ORANGE AVE	OKEECHOBEE C.L. to SNEED RD	144	4,780	2019	390	300	C	0.769	293	C	0.751
ORANGE AVE	SNEED RD to HEADER CANAL RD	144	4,780	2019	390	300	C	0.769	293	C	0.751
ORANGE AVE	SHINN RD to CAMPBELL RD	940144	2,689	2019	380	147	B	0.35	147	B	0.35
ORANGE AVE	CAMPBELL RD to KINGS HWY	940144	2,689	2019	1,070	147	B	0.35	147	B	0.35
ORANGE AVE	KINGS HWY to I-95	940041	19,800	2019	2,000	853	C	0.424	859	C	0.427
ORANGE AVE	I-95 to JENKINS RD	940035	15,300	2019	2,000	1,051	C	0.523	988	C	0.492
ORANGE AVE	JENKINS RD to HARTMAN RD	940028	15,000	2019	2,000	807	C	0.401	751	C	0.374
ORANGE AVE	HARTMAN RD to ANGLE RD	940028	15,000	2019	2,000	807	C	0.401	751	C	0.374
ORANGE AVE	ANGLE RD to 25TH ST	940151	10,749	2013	1,710	847	D	0.495	985	D	0.576
ORANGE AVE	25TH ST to 17TH ST	945040	12,300	2019	1,630	643	C	0.881	705	C	0.966
ORANGE AVE	17TH ST to 13TH ST	945040	12,300	2019	1,710	643	C	0.835	705	C	0.916
ORANGE AVE	13TH ST to 10TH ST	945040	12,300	2019	370	643	D	0.857	705	D	0.940
ORANGE AVE	10TH ST to 7TH ST	940155	9,600	2019	300	485	D	0.808	558	D	0.930

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ST LUCIE WEST BLVD	CASHMERE BLVD to BAYSHORE BLVD	316	46,000	2019	3,170	2,446	C	0.792	2,308	C	0.747
SUNRISE BLVD	MIDWAY RD to BELL AVE	155	3,590	2016	540	249	C	0.922	233	C	0.863
SUNRISE BLVD	BELL AVE to EDWARDS RD	153	3,814	2016	750	253	C	0.684	286	C	0.773
SUNRISE BLVD	EDWARDS RD to CORTEZ BLVD	511	7,300	2020	600	647	F	1.011	515	D	0.858
SUNRISE BLVD	CORTEZ BLVD to VIRGINIA AVE	511	7,300	2020	750	647	D	0.863	515	D	0.687
SUNRISE BLVD	VIRGINIA AVE to OLEANDER AVE	509	5,300	2020	750	417	D	0.556	411	D	0.548
SUNRISE BLVD	OLEANDER AVE to 7TH ST	708	3,900	2017	1,540	243	C	0.352	282	C	0.409
SUNRISE BLVD	7TH ST to US 1	708	3,900	2017	1,710	243	C	0.316	282	C	0.366
TIFFANY AVE	US 1 to HILLMOOR DR	322	15,000	2019	2,100	855	C	0.425	862	C	0.429
TIFFANY AVE	HILLMOOR DR to VILLAGE GREEN DR	322	15,000	2019	2,100	855	C	0.425	862	C	0.429
TIFFANY AVE	VILLAGE GREEN DR to LENNARD RD	320	4,666	2017	2,100	242	C	0.120	261	C	0.130
TORINO PKWY	CASHMERE BLVD to CALIFORNIA BLVD	709	7,800	2018	630	404	C	0.673	443	C	0.738
TORINO PKWY	CALIFORNIA BLVD to EAST TORINO PKWY	238	4,314	2018	630	255	C	0.425	223	C	0.372
TRADITION PKWY	COMMUNITY BLVD to VILLAGE PKWY	711	8,367	2018	1,710	996	D	0.582	1,144	D	0.669
TRADITION PKWY	VILLAGE PKWY to W OF I-95	712	36,500	2019	3,170	2,021	C	0.654	1,924	C	0.623
TULIP BLVD	DARWIN BLVD to PORT ST LUCIE BLVD	713	8,200	2019	790	524	D	0.663	456	D	0.577
TULIP BLVD	PORT ST LUCIE BLVD to PAAR DR	714	9,133	2018	790	639	D	0.809	493	D	0.624
TULIP BLVD	PAAR DR to DARWIN BLVD	714	9,133	2018	790	639	D	0.809	493	D	0.624
TURNPIKE FEEDER RD	TURNPIKE FEEDER RD SB RAMP to US 1	940078	4,989	2015	660	653	C	0.989	653	C	0.989
TURNPIKE FEEDER RD	INDIAN PINES BLVD to TURNPIKE FEEDER RD SB R...	940269	11,200	2019	870	739	C	0.849	677	C	0.778
TURNPIKE FEEDER RD	INDRIO RD to INDIAN PINES BLVD	940745	13,200	2019	870	714	C	0.821	751	C	0.863
US 1	MARTIN C.L. to LENNARD RD	945071	59,500	2019	4,240	2,709	C	0.650	3,186	C	0.764
US 1	LENNARD RD to PORT ST LUCIE BLVD	945071	59,500	2019	4,040	2,709	C	0.682	3,186	C	0.803
US 1	PORT ST LUCIE BLVD to JENNINGS RD	945070	31,000	2019	3,020	1,488	C	0.506	1,580	C	0.537
US 1	JENNINGS RD to TIFFANY AVE	945070	31,000	2019	3,020	1,488	C	0.506	1,580	C	0.537

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* Volumes shown were adjusted using FDOT Seasonal Factors
* AADT = Annual Average Daily Traffic (volumes for both directions where applicable)
*** Counts with an ID format of 6 digits have data extracted from FDOT count stations.**

St. Lucie Transportation Planning Organization

Coco Vista Centre
466 SW Port St. Lucie Blvd, Suite 111
Port St. Lucie, FL 34953
772-462-1593 www.stlucietpo.org

Traffic Counts and Level of Service Report
Fall/Winter 2019/2020

Roadway Name	Location	STATION ID	AADT	Last Count Year	Pk Hr Service Capacity	AM Pk Hr Pk Dir			PM Pk Hr Pk Dir		
						Volume	LOS	V/C	Volume	LOS	V/C
US 1	TIFFANY AVE to WALTON RD	945070	31,000	2019	3,020	1,488	C	0.506	1,580	C	0.537
US 1	WALTON RD to VILLAGE GREEN DR	945150	46,500	2019	3,020	2,519	C	0.857	2,258	C	0.768
US 1	VILLAGE GREEN DR to SPANISH LAKES BLVD	940265	52,500	2019	3,170	2,789	C	0.903	2,611	C	0.845
US 1	SPANISH LAKES BLVD to PRIMA VISTA BLVD	940265	52,500	2019	3,170	2,789	C	0.903	2,611	C	0.845
US 1	PRIMA VISTA BLVD to RIO MAR DR	940264	36,000	2019	3,170	1,665	C	0.539	1,639	C	0.530
US 1	RIO MAR DR to KITTERMAN RD	940266	35,000	2019	3,170	1,711	C	0.554	1,549	C	0.501
US 1	KITTERMAN RD to S OF SAEGER AVE	940266	35,000	2019	3,020	1,711	C	0.582	1,549	C	0.527
US 1	S OF SAEGER AVE to EASY ST	940266	35,000	2019	3,170	1,711	C	0.554	1,549	C	0.501
US 1	EASY ST to MIDWAY RD	945156	31,000	2019	3,170	1,445	C	0.468	1,405	C	0.455
US 1	MIDWAY RD to WEATHERBEE RD	940012	33,000	2019	2,100	1,551	C	0.772	1,569	C	0.781
US 1	WEATHERBEE RD to FARMER'S MARKET RD	940012	33,000	2019	2,000	1,551	C	0.812	1,569	C	0.821
US 1	FARMER'S MARKET RD to EDWARDS RD	940012	33,000	2019	2,000	1,551	C	0.812	1,569	C	0.821
US 1	EDWARDS RD to SAVANNAH RD	945002	30,000	2019	2,000	1,375	C	0.720	1,348	C	0.706
US 1	GARDENIA AVE to VIRGINIA AVE	945002	30,000	2019	2,000	1,375	C	0.720	1,348	C	0.706
US 1	SAVANNAH RD to GARDENIA AVE	945002	30,000	2019	2,000	1,375	C	0.720	1,348	C	0.706
US 1	VIRGINIA AVE to OHIO AVE	945003	28,500	2019	2,000	1,372	C	0.718	1,383	C	0.724
US 1	OHIO AVE to GEORGIA AVE	945003	28,500	2019	1,630	1,372	D	0.842	1,383	D	0.848
US 1	GEORGIA AVE to DELAWARE AVE	945008	36,500	2019	1,630	1,882	F	1.107	1,799	F	1.058
US 1	DELAWARE AVE to CITRUS AVE	945014	33,500	2019	1,630	1,697	E	0.998	1,654	E	0.973
US 1	CITRUS AVE to ORANGE AVE	940118	25,000	2019	1,630	1,244	D	0.763	1,122	D	0.688
US 1	ORANGE AVE to AVENUE A	945014	33,500	2019	1,630	1,697	E	0.998	1,654	E	0.973
US 1	AVENUE A to AE BACKUS AVE	945014	33,500	2019	1,630	1,697	E	0.998	1,654	E	0.973
US 1	AE BACKUS AVE to AVENUE D	945014	33,500	2019	1,630	1,697	E	0.998	1,654	E	0.973
US 1	AVENUE D to SR A1A SOUTH	945014	33,500	2019	1,630	1,697	E	0.998	1,654	E	0.973
US 1	SR A1A SOUTH to AVENUE H	715	33,500	2020	2,100	1,766	C	0.879	1,742	C	0.867

* Note: A six digit number in the "STATION ID" column identifies segment counted by FDOT
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* AADT = Annual Average Daily Traffic (volumes for both directions where applicable)
*** Counts with an ID format of 6 digits have data extracted from FDOT count stations.**

St. Lucie Transportation Planning Organization

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Traffic Counts and Level of Service Report
Fall/Winter 2019/2020

Roadway Name	Location	STATION ID	AADT	Last Count Year	Pk Hr Service Capacity	AM Pk Hr Pk Dir			PM Pk Hr Pk Dir		
						Volume	LOS	V/C	Volume	LOS	V/C
VILLAGE PKWY	WESTCLIFFE LN to CROSSROADS PKWY	720	12,000	2019	1,540	640	C	0.928	634	C	0.919
WALTON RD	US 1 to VILLAGE GREEN DR	330	15,156	2019	1,710	915	D	0.535	841	D	0.492
WALTON RD	VILLAGE GREEN DR to LENNARD RD	328	13,000	2019	1,710	690	C	0.896	684	C	0.888
WALTON RD	LENNARD RD to GREEN RIVER PKWY	326	9,382	2018	880	569	C	0.686	627	C	0.755
WALTON RD	GREEN RIVER PKWY to INDIAN RIVER DR	324	5,402	2018	630	416	C	0.693	430	C	0.717
WESTCLIFFE LN	TREMONTE AVE to VILLAGE PKWY	722	6,267	2018	1,470	439	C	0.665	338	C	0.512
WEATHERBEE RD	OLEANDER AVE to US 1	721	3,574	2019	750	265	C	0.716	242	C	0.654
WEATHERBEE RD	US 1 to MIDWAY RD	158	6,300	2020	750	431	D	0.575	461	D	0.615
WESTMORELAND BLVD	MORNINGSIDE BLVD to PORT ST LUCIE BLVD	339	13,000	2019	920	685	C	0.787	729	C	0.838
WESTMORELAND BLVD	MARTIN C.L. to MORNINGSIDE BLVD	245	9,700	2019	920	540	C	0.621	598	C	0.687

Countywide Performance

Weighted V/C = **0.72**

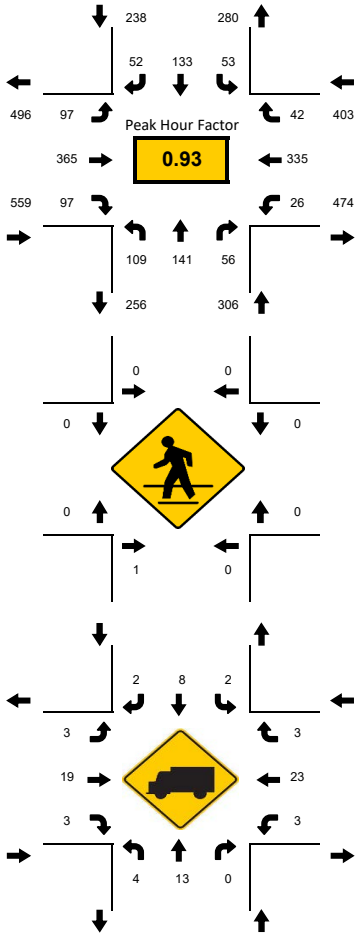
% VMT below Standard = **6.66%**

* Note: A six digit number in the "STATION ID" column identifies segment counted by FDOT
* Volumes shown were adjusted using FDOT Seasonal Factors
* AADT = Annual Average Daily Traffic (volumes for both directions where applicable)
*** Counts with an ID format of 6 digits have data extracted from FDOT count stations.**

APPENDIX E
Turning Movement Counts

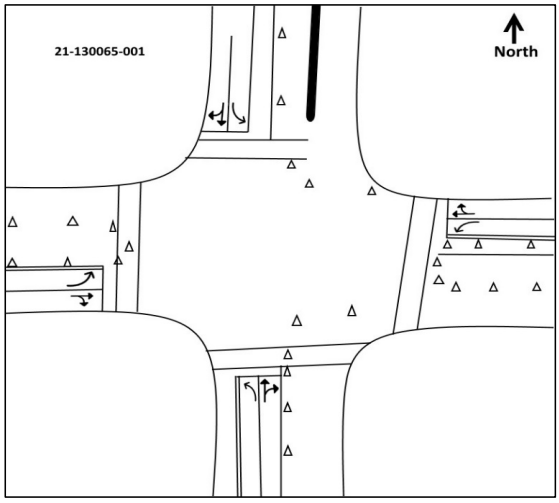
LOCATION: Oleander Ave & Midway Rd
CITY/STATE: Fort Pierce, FL

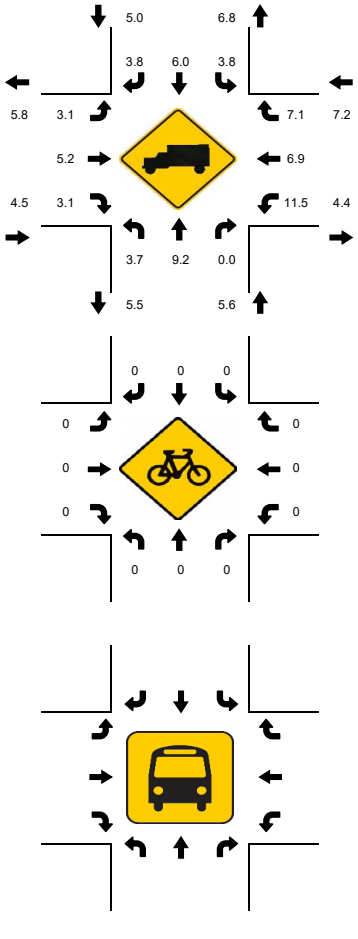
PROJECT ID: 21-130065-001
DATE: Tue, Apr 06, 2021



Peak-Hour: 08:00 AM - 09:00 AM
Peak 15-Minute: 08:45 AM - 09:00 AM

National Data & Surveying Services

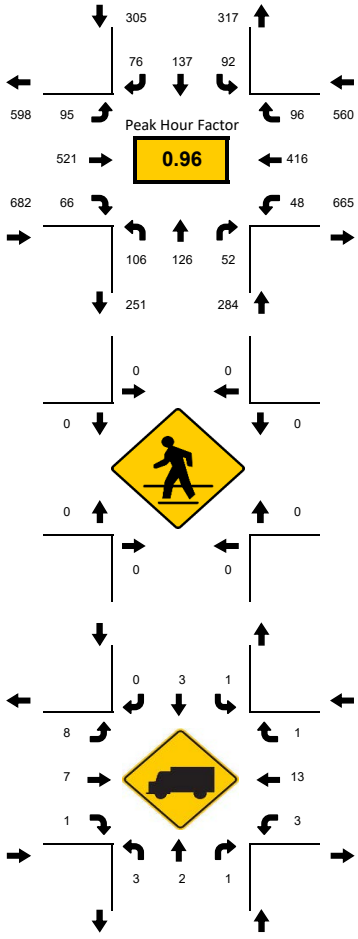




15-Min Count Period Beginning At	Oleander Ave Northbound					Oleander Ave Southbound					Midway Rd Eastbound					Midway Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	12	17	8	0		7	17	20	0		13	66	11	1		1	69	4	0		246	1247
07:15 AM	17	20	3	0		6	22	18	0		17	78	15	0		3	63	15	0		277	1354
07:30 AM	25	21	11	0		21	30	11	0		25	85	10	0		6	101	7	0		353	1432
07:45 AM	24	28	8	0		10	36	15	0		22	102	17	0		4	92	13	0		371	1471
08:00 AM	24	27	11	0		17	24	12	0		21	96	23	1		4	87	6	0		353	1506
08:15 AM	31	22	17	0		13	28	16	0		21	82	23	0		6	86	10	0		355	1153
08:30 AM	29	43	15	0		10	38	10	0		34	83	22	0		7	90	11	0		392	798
08:45 AM	25	49	13	0		13	43	14	0		20	104	29	0		9	72	15	0		406	406
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***		
All Vehicles	124	196	68	0		68	172	64	0		136	416	116	4		36	360	60	0		**1820**	
Heavy Trucks	8	32	0	0		4	12	4	0		4	28	8	0		8	44	8	0		**160**	
Pedestrians		4					0					0					0				**4**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Buses																						
Stopped Buses																						

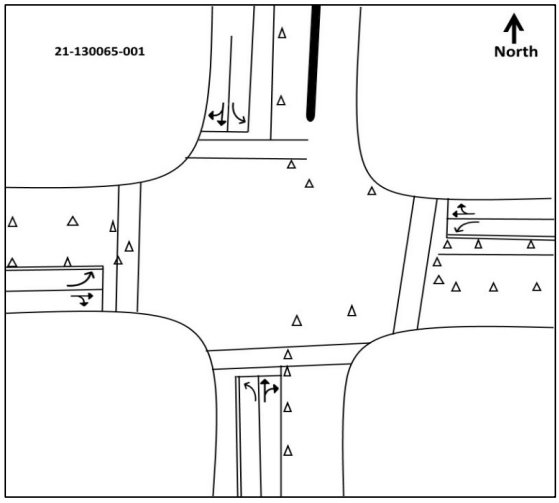
LOCATION: Oleander Ave & Midway Rd
CITY/STATE: Fort Pierce, FL

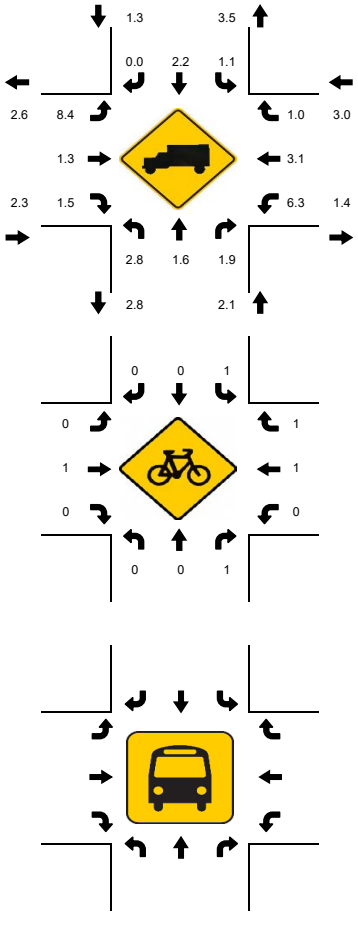
PROJECT ID: 21-130065-001
DATE: Tue, Apr 06, 2021



Peak-Hour: 04:30 PM - 05:30 PM
Peak 15-Minute: 05:15 PM - 05:30 PM

National Data & Surveying Services



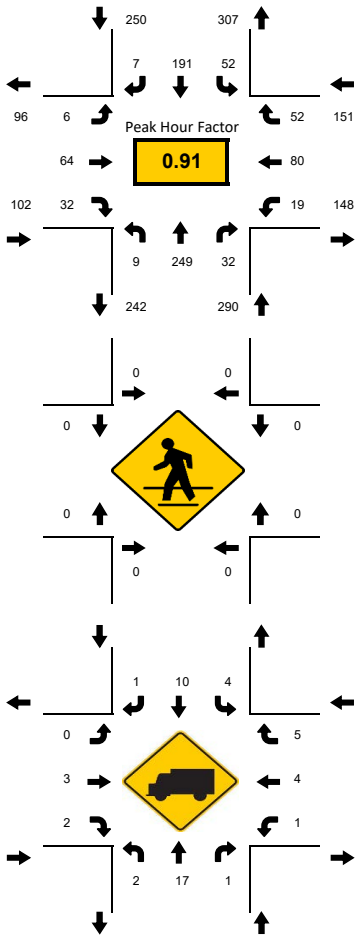


15-Min Count Period Beginning At	Oleander Ave Northbound					Oleander Ave Southbound					Midway Rd Eastbound					Midway Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	20	26	5	0		12	41	19	0		23	110	13	1		11	109	16	3		409	1783
04:15 PM	35	64	15	0		19	43	16	0		15	108	18	3		8	93	17	2		456	1812
04:30 PM	36	39	12	0		22	28	19	0		19	134	19	1		10	92	29	0		460	1831
04:45 PM	25	28	15	0		20	30	15	0		23	138	14	3		12	114	21	0		458	1820
05:00 PM	27	24	14	0		22	35	23	0		22	111	14	0		16	105	25	0		438	1721
05:15 PM	18	35	11	0		28	44	19	0		25	138	19	2		10	105	21	0		475	1283
05:30 PM	17	30	8	0		13	43	17	0		28	129	15	1		16	112	20	0		449	808
05:45 PM	13	23	14	0		22	25	16	0		22	83	13	0		9	99	19	1		359	359
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***		
All Vehicles	144	156	60	0		112	176	92	0		100	552	76	12		64	456	116	0		**2116**	
Heavy Trucks	8	8	4	0		4	8	0	0		16	16	4	0		4	20	4	0		**96**	
Pedestrians		0					0					0					0				**0**	
Bicycles	0	0	4	0		4	0	0	0		0	4	0	0		0	4	4	0		**20**	
Buses																						
Stopped Buses																						

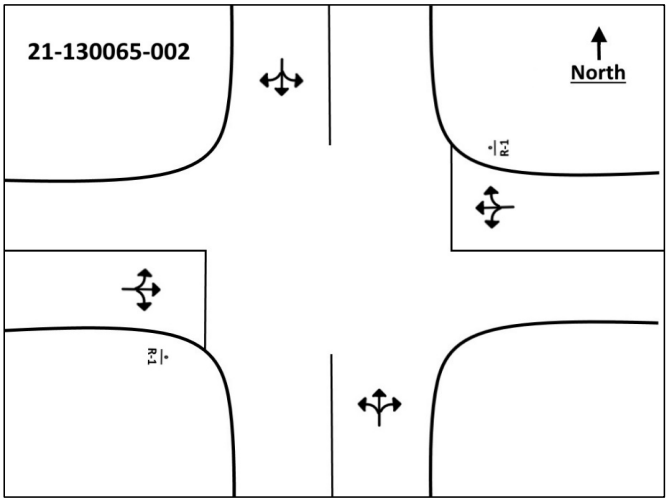
LOCATION: Oleander Ave & Weatherbee Rd
CITY/STATE: Fort Pierce, FL

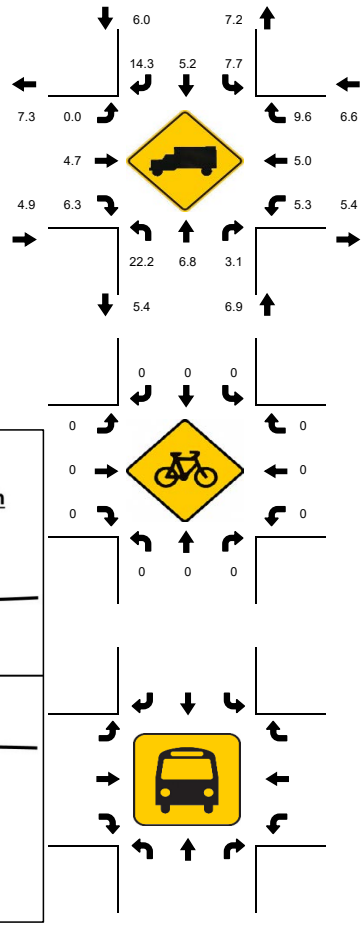
PROJECT ID: 21-130065-002
DATE: Tue, Apr 06, 2021

Peak-Hour: 08:00 AM - 09:00 AM
Peak 15-Minute: 08:45 AM - 09:00 AM



National Data & Surveying Services



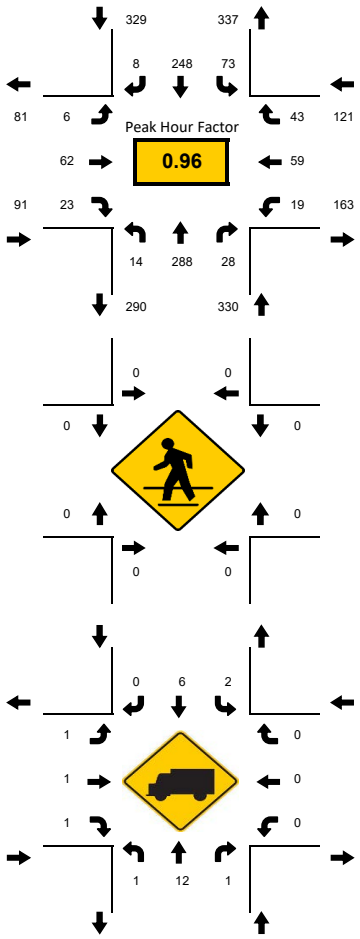


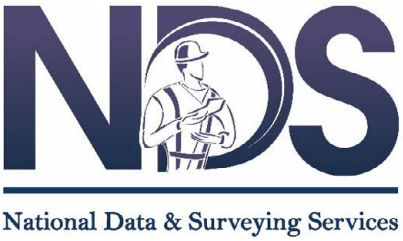
15-Min Count Period Beginning At	Oleander Ave Northbound					Oleander Ave Southbound					Weatherbee Rd Eastbound					Weatherbee Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	4	27	4	0		10	33	4	0		3	15	2	0		3	18	13	0		136	652
07:15 AM	7	42	7	0		16	47	1	0		1	15	3	0		4	19	12	0		174	696
07:30 AM	0	46	6	0		11	45	0	0		0	5	8	0		2	17	9	0		149	717
07:45 AM	2	54	5	0		14	55	1	0		1	18	9	0		5	13	16	0		193	768
08:00 AM	1	55	10	0		13	40	1	0		2	23	8	0		1	19	7	0		180	793
08:15 AM	1	43	5	0		21	55	2	0		1	11	5	0		7	27	17	0		195	613
08:30 AM	3	63	10	0		10	48	3	0		2	18	7	0		1	16	19	0		200	418
08:45 AM	4	88	7	0		8	48	1	0		1	12	12	0		10	18	9	0		218	218
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
All Vehicles	16	352	40	0		84	220	12	0		8	92	48	0		40	108	76	0		**1096**	
Heavy Trucks	8	40	4	0		8	20	4	0		0	12	4	0		4	8	16	0		**128**	
Pedestrians		0					0					0					0				**0**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Buses																						
Stopped Buses																						

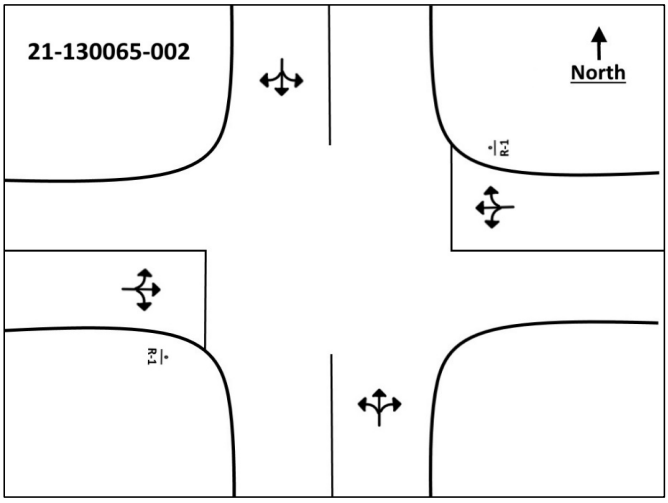
LOCATION: Oleander Ave & Weatherbee Rd
CITY/STATE: Fort Pierce, FL

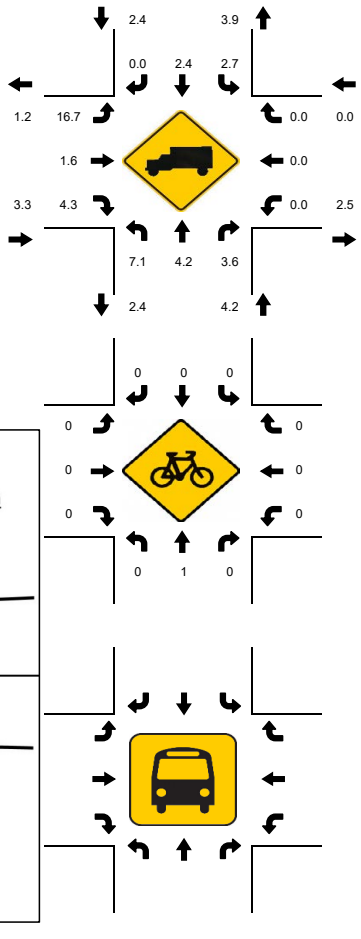
PROJECT ID: 21-130065-002
DATE: Tue, Apr 06, 2021

Peak-Hour: 04:15 PM - 05:15 PM
Peak 15-Minute: 04:15 PM - 04:30 PM







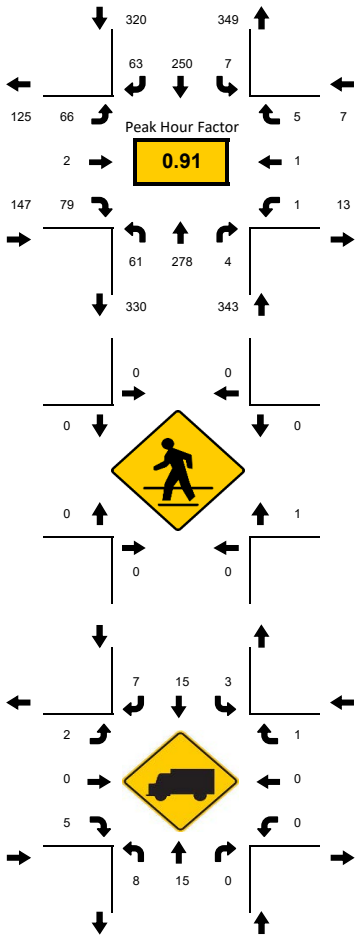


15-Min Count Period Beginning At	Oleander Ave Northbound					Oleander Ave Southbound					Weatherbee Rd Eastbound					Weatherbee Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	5	60	9	0		14	74	0	0		2	14	4	0		5	24	14	0		225	870
04:15 PM	7	79	8	0		22	60	0	0		1	13	6	0		3	12	17	0		228	871
04:30 PM	2	79	7	0		12	68	1	0		2	19	5	0		5	14	4	0		218	869
04:45 PM	4	60	6	0		17	56	3	0		3	13	6	0		4	16	11	0		199	848
05:00 PM	1	70	7	0		22	64	4	0		0	17	6	0		7	17	11	0		226	843
05:15 PM	4	67	9	0		13	81	1	0		1	14	4	0		4	14	14	0		226	617
05:30 PM	5	61	11	0		17	58	1	0		1	13	6	0		5	13	6	0		197	391
05:45 PM	1	48	13	0		16	55	2	0		1	12	4	0		9	22	11	0		194	194
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**						
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	**Total**	
All Vehicles	28	316	32	0		88	272	16	0		12	76	24	0		28	68	68	0		**1028**	
Heavy Trucks	4	24	4	0		4	8	0	0		4	4	4	0		0	0	0	0		**56**	
Pedestrians		0					0					0					0				**0**	
Bicycles	0	4	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**4**	
Buses																						
Stopped Buses																						

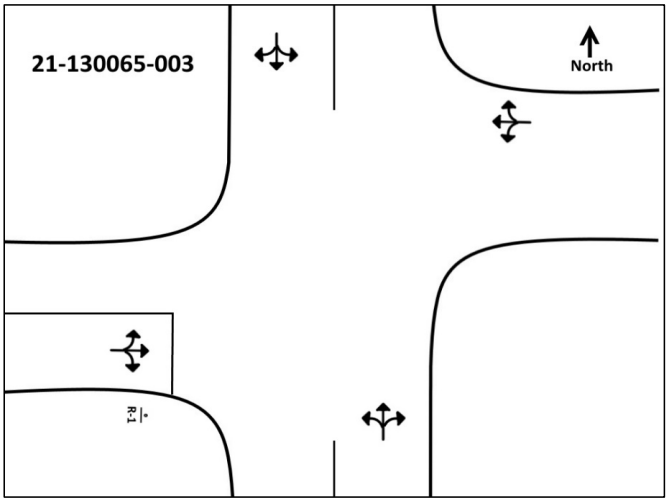
LOCATION: Oleander Ave & Bell Ave
CITY/STATE: Fort Pierce, FL

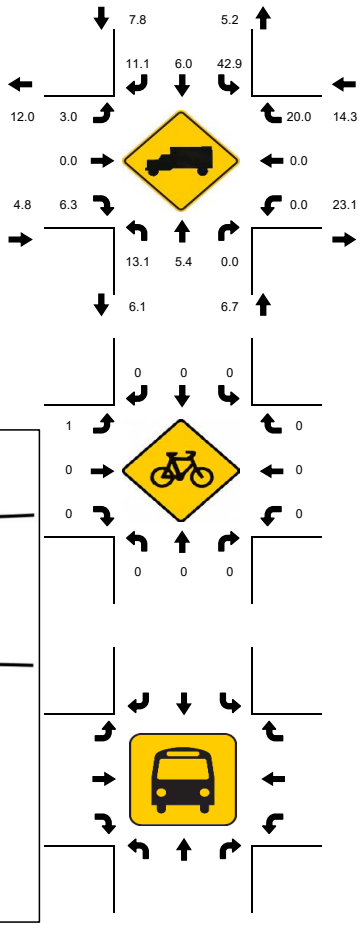
PROJECT ID: 21-130065-003
DATE: Tue, Apr 06, 2021

Peak-Hour: 08:00 AM - 09:00 AM
Peak 15-Minute: 08:45 AM - 09:00 AM



National Data & Surveying Services



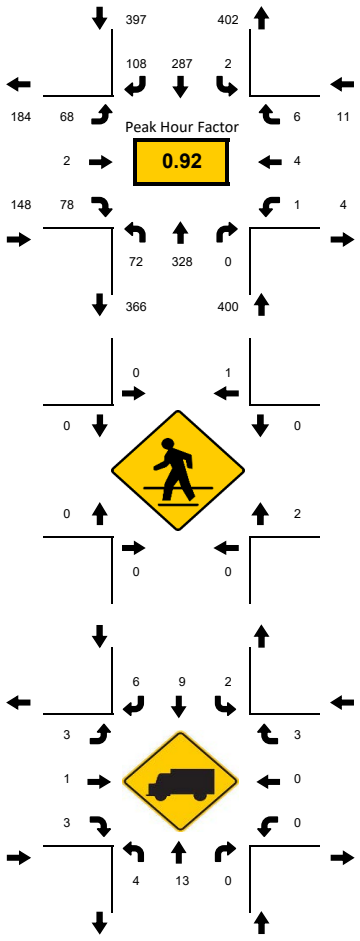


15-Min Count Period Beginning At	Oleander Ave Northbound					Oleander Ave Southbound					Bell Ave Eastbound					Bell Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	18	39	2	1		2	37	20	0		14	3	12	0		1	2	7	0		158	722
07:15 AM	18	46	2	0		3	48	20	1		23	0	18	0		0	1	3	0		183	768
07:30 AM	10	46	1	0		4	63	17	0		19	0	23	0		0	0	0	0		183	772
07:45 AM	21	62	2	0		1	56	13	0		17	0	26	0		0	0	0	0		198	791
08:00 AM	12	64	3	0		2	59	15	0		21	1	24	0		1	1	1	0		204	817
08:15 AM	19	54	0	0		1	61	10	0		19	0	23	0		0	0	0	0		187	613
08:30 AM	13	69	0	0		2	63	20	0		16	0	19	0		0	0	0	0		202	426
08:45 AM	17	91	1	0		2	67	18	0		10	1	13	0		0	0	4	0		224	224
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**						
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Total**	
All Vehicles	76	364	12	0		8	268	80	0		84	4	96	0		4	4	16	0		**1016**	
Heavy Trucks	24	32	0	0		8	28	16	0		4	0	8	0		0	0	4	0		**124**	
Pedestrians		0					0					0					4				**4**	
Bicycles	0	0	0	0		0	0	0	0		4	0	0	0		0	0	0	0		**4**	
Buses																						
Stopped Buses																						

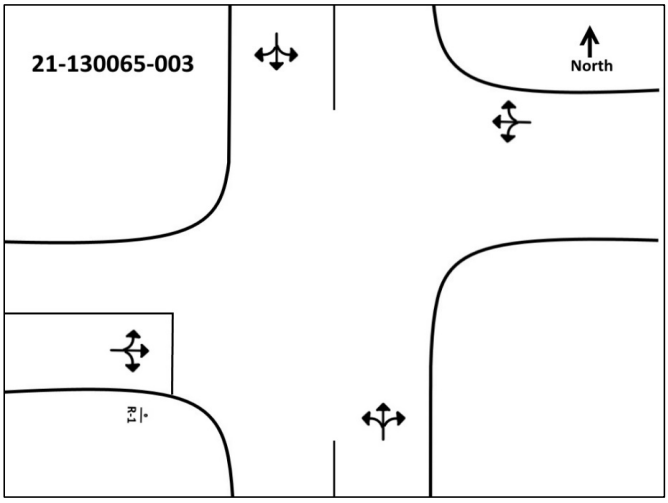
LOCATION: Oleander Ave & Bell Ave
CITY/STATE: Fort Pierce, FL

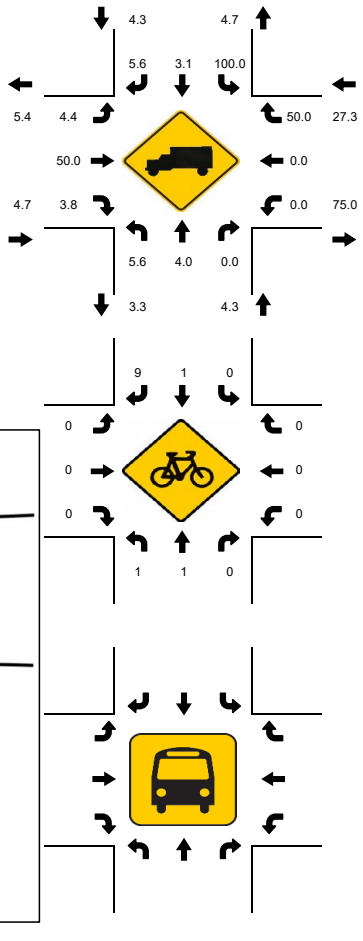
PROJECT ID: 21-130065-003
DATE: Tue, Apr 06, 2021

Peak-Hour: 04:15 PM - 05:15 PM
Peak 15-Minute: 04:15 PM - 04:30 PM



National Data & Surveying Services



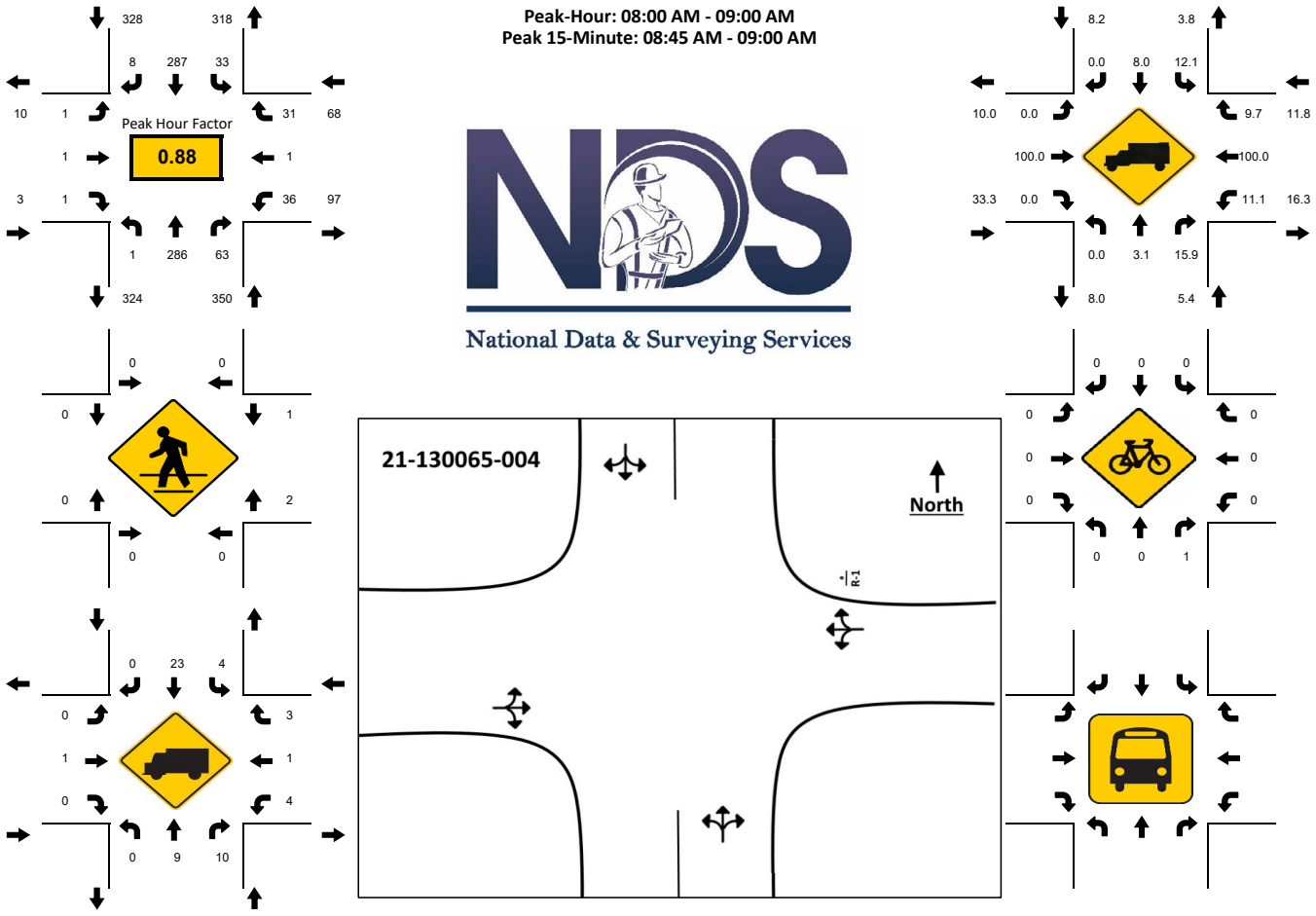


15-Min Count Period Beginning At	Oleander Ave Northbound					Oleander Ave Southbound					Bell Ave Eastbound					Bell Ave Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	14	69	0	0		0	80	32	0		11	1	13	0		1	3	3	0		227	940
04:15 PM	23	99	0	0		1	75	24	0		17	0	17	0		0	1	2	0		259	956
04:30 PM	15	79	0	0		1	80	21	0		16	0	18	0		0	0	1	0		231	938
04:45 PM	15	76	0	0		0	57	31	0		15	2	23	0		0	2	2	0		223	900
05:00 PM	19	74	0	0		0	75	32	0		20	0	20	0		1	1	1	0		243	846
05:15 PM	21	77	0	0		1	85	24	0		14	0	16	0		1	2	0	0		241	603
05:30 PM	11	74	1	0		0	60	15	0		17	0	13	0		0	0	2	0		193	362
05:45 PM	12	48	0	0		2	65	8	0		21	1	10	0		1	0	1	0		169	169
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**						
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Total**	
All Vehicles	92	396	0	0		4	320	128	0		80	8	92	0		4	8	8	0		**1140**	
Heavy Trucks	8	28	0	0		4	16	12	0		8	4	8	0		0	0	4	0		**92**	
Pedestrians		0					4					0					4				**8**	
Bicycles	4	4	0	0		0	4	16	0		0	0	0	0		0	0	0	0		**28**	
Buses																						
Stopped Buses																						

LOCATION: Oleander Ave & Farmers Market Rd
CITY/STATE: Fort Pierce, FL

PROJECT ID: 21-130065-004
DATE: Tue, Apr 06, 2021

Peak-Hour: 08:00 AM - 09:00 AM
Peak 15-Minute: 08:45 AM - 09:00 AM

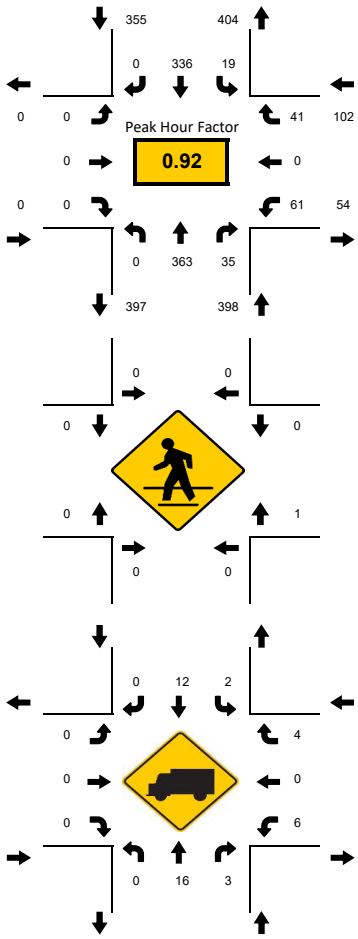


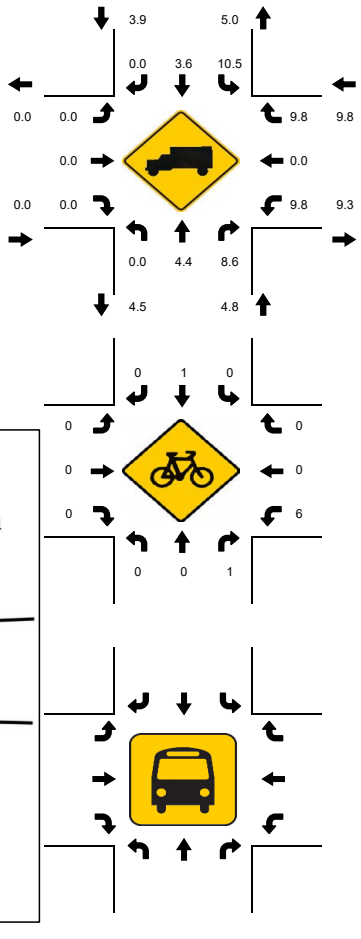
15-Min Count Period Beginning At	Oleander Ave Northbound					Oleander Ave Southbound					Farmers Market Rd Eastbound					Farmers Market Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	0	49	9	0		3	54	2	0		1	0	0	0		4	0	7	0		129	609
07:15 AM	0	59	17	0		5	67	1	0		0	0	1	0		7	0	7	0		164	665
07:30 AM	0	43	19	0		11	71	0	0		0	0	0	0		9	0	5	0		158	665
07:45 AM	0	68	12	0		7	61	1	0		1	0	0	0		6	0	2	0		158	694
08:00 AM	0	71	14	0		10	76	0	0		0	0	0	0		9	0	5	0		185	749
08:15 AM	0	62	13	0		8	63	0	0		0	0	0	0		7	0	10	1		164	564
08:30 AM	1	64	20	0		9	71	1	0		0	1	0	0		9	1	10	0		187	400
08:45 AM	0	89	16	0		6	77	7	0		1	0	1	0		10	0	6	0		213	213
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***		
All Vehicles	4	356	80	0		40	308	28	0		4	4	4	0		40	4	40	4		**916**	
Heavy Trucks	0	12	32	0		8	28	0	0		0	4	0	0		4	4	4	4		**96**	
Pedestrians		0					0					0					8				**8**	
Bicycles	0	0	4	0		0	0	0	0		0	0	0	0		0	0	0	0		**4**	
Buses																						
Stopped Buses																						

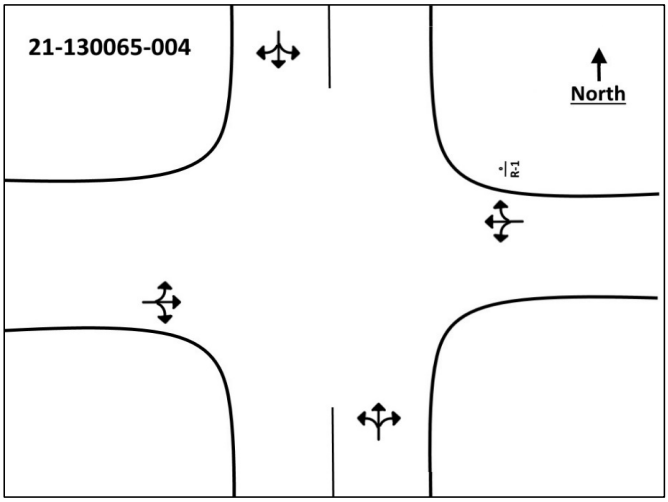
LOCATION: Oleander Ave & Farmers Market Rd
CITY/STATE: Fort Pierce, FL

PROJECT ID: 21-130065-004
DATE: Tue, Apr 06, 2021

Peak-Hour: 04:15 PM - 05:15 PM
Peak 15-Minute: 04:15 PM - 04:30 PM





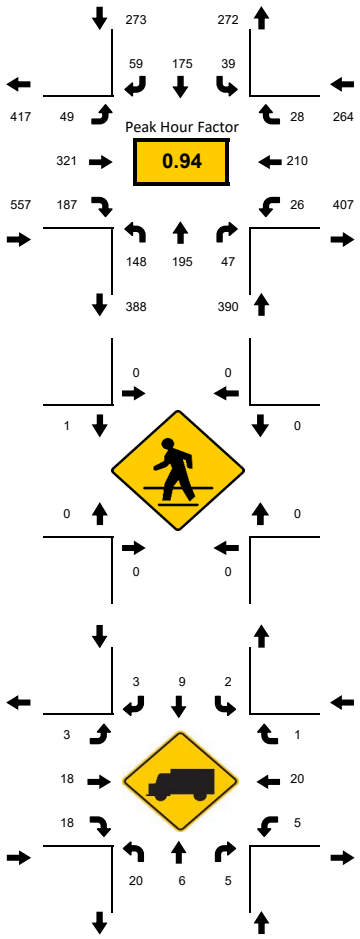


15-Min Count Period Beginning At	Oleander Ave Northbound					Oleander Ave Southbound					Farmers Market Rd Eastbound					Farmers Market Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	1	75	5	0		6	100	0	0		1	0	0	0		15	0	8	0		211	850
04:15 PM	0	107	8	0		6	87	0	0		0	0	0	0		14	0	10	0		232	855
04:30 PM	0	87	13	0		6	82	0	0		0	0	0	0		15	0	10	0		213	849
04:45 PM	0	84	6	0		5	74	0	0		0	0	0	0		15	0	10	0		194	824
05:00 PM	0	85	8	0		2	93	0	0		0	0	0	0		17	0	11	0		216	788
05:15 PM	0	93	6	0		8	94	0	0		0	0	0	0		13	0	12	0		226	572
05:30 PM	0	88	5	0		6	66	0	0		0	0	0	0		9	0	14	0		188	346
05:45 PM	0	63	7	0		6	70	0	0		0	0	0	0		7	0	5	0		158	158
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***		
All Vehicles	0	428	52	0		24	372	0	0		0	0	0	0		68	0	44	0		**988**	
Heavy Trucks	0	28	8	0		4	28	0	0		0	0	0	0		12	0	8	0		**88**	
Pedestrians		0					0					0					4				**4**	
Bicycles	0	0	4	0		0	4	0	0		0	0	0	0		12	0	0	0		**20**	
Buses																						
Stopped Buses																						

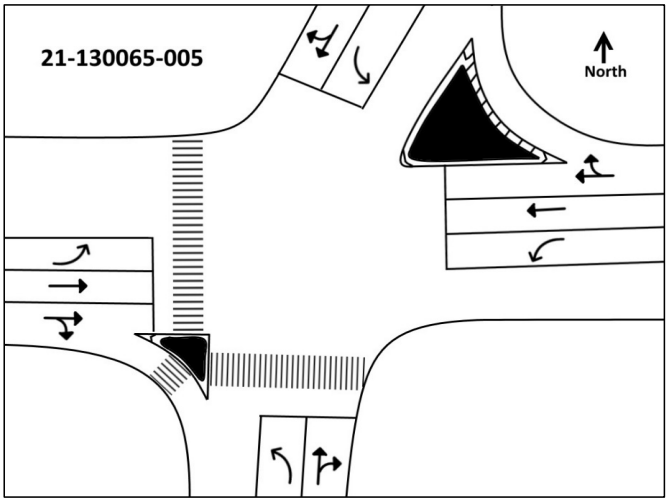
LOCATION: Oleander Ave & Edwards Rd
CITY/STATE: Fort Pierce, FL

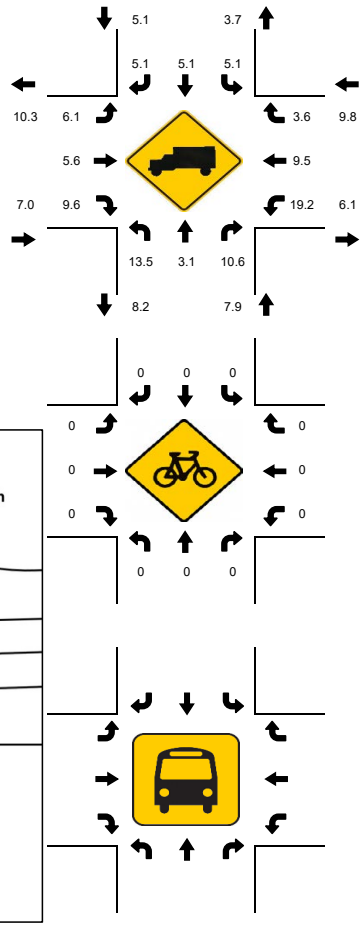
PROJECT ID: 21-130065-005
DATE: Tue, Apr 06, 2021

Peak-Hour: 08:00 AM - 09:00 AM
Peak 15-Minute: 08:45 AM - 09:00 AM



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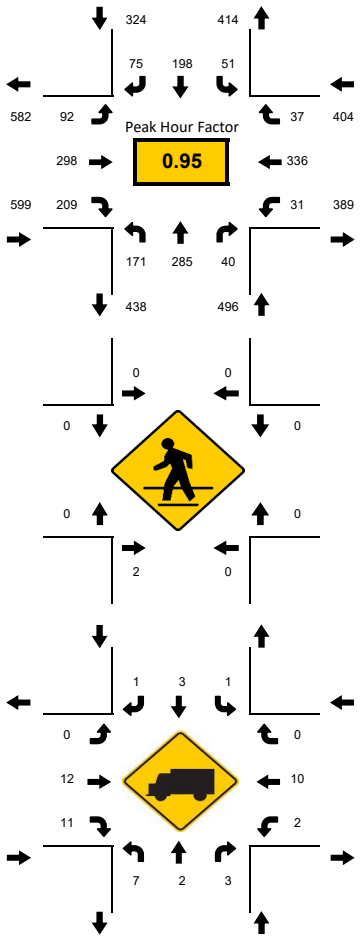


15-Min Count Period Beginning At	Oleander Ave Northbound					Oleander Ave Southbound					Edwards Rd Eastbound					Edwards Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
07:00 AM	34	30	4	0		5	28	16	0		11	72	30	0		5	41	3	0		279	1349
07:15 AM	41	36	14	0		10	29	21	0		12	75	43	0		8	45	4	0		338	1430
07:30 AM	35	29	7	0		8	29	22	0		17	74	49	0		11	64	2	0		347	1431
07:45 AM	34	55	12	0		8	45	13	0		11	81	57	0		5	60	4	0		385	1475
08:00 AM	32	44	14	0		13	40	18	0		11	79	46	0		7	51	5	0		360	1484
08:15 AM	35	38	7	0		14	38	8	0		9	80	47	0		3	53	7	0		339	1124
08:30 AM	38	52	11	0		4	50	17	0		18	85	44	0		7	57	8	0		391	785
08:45 AM	43	61	15	0		8	47	16	0		11	77	50	0		9	49	8	0		394	394
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***		
All Vehicles	172	244	60	0		56	200	72	0		72	340	200	0		36	228	32	0		**1712**	
Heavy Trucks	24	8	8	0		4	12	4	0		4	28	20	0		16	24	4	0		**156**	
Pedestrians		0					0					4					0				**4**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Buses																						
Stopped Buses																						

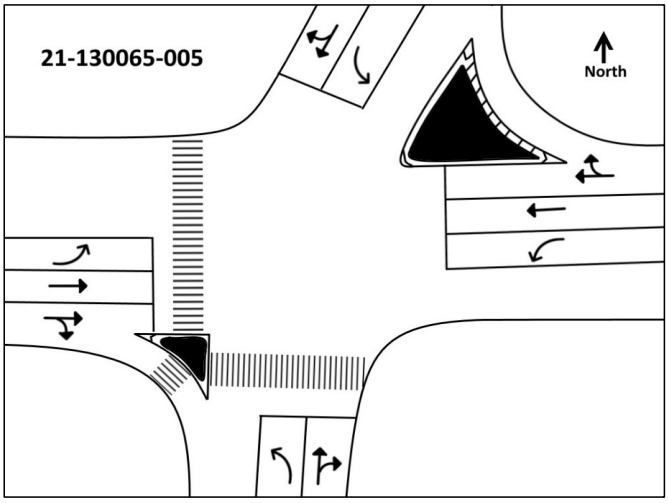
LOCATION: Oleander Ave & Edwards Rd
CITY/STATE: Fort Pierce, FL

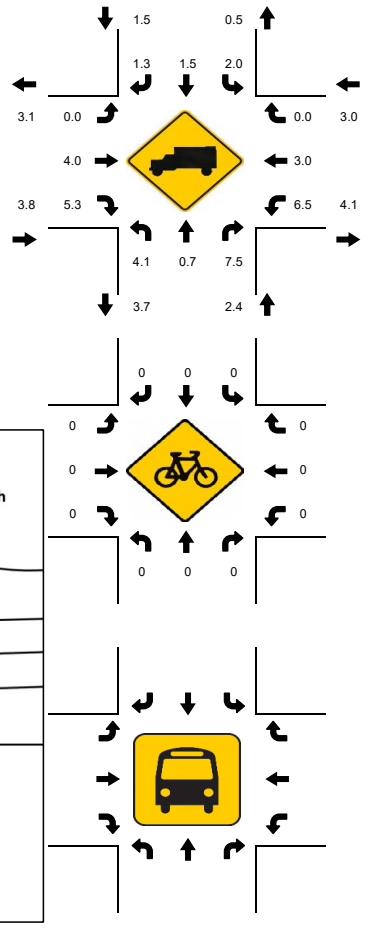
PROJECT ID: 21-130065-005
DATE: Tue, Apr 06, 2021

Peak-Hour: 04:45 PM - 05:45 PM
Peak 15-Minute: 05:30 PM - 05:45 PM



National Data & Surveying Services





15-Min Count Period Beginning At	Oleander Ave Northbound					Oleander Ave Southbound					Edwards Rd Eastbound					Edwards Rd Westbound					Total	Hourly Total
	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*	Left	Thru	Rgt	U	R*		
04:00 PM	45	66	9	0		10	67	15	0		23	56	39	0		12	69	8	0		419	1714
04:15 PM	46	73	11	0		10	42	19	0		43	64	50	0		12	71	8	0		449	1751
04:30 PM	43	74	4	0		8	45	19	0		20	79	57	0		11	61	6	0		427	1770
04:45 PM	42	70	8	0		15	33	13	0		16	77	49	0		8	78	10	0		419	1823
05:00 PM	30	72	18	0		10	58	16	0		28	78	46	0		9	81	10	0		456	1763
05:15 PM	44	69	9	0		11	46	18	0		26	89	55	0		8	87	6	0		468	1307
05:30 PM	55	74	5	0		15	61	28	0		22	54	59	0		6	90	11	0		480	839
05:45 PM	42	42	11	0		4	52	22	0		26	43	53	0		7	51	6	0		359	359
Peak 15-Min Flowrates	**Northbound**					**Southbound**					**Eastbound**					**Westbound**					**Total**	
	Left	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***	**Left**	**Thru**	**Rgt**	**U**	**R***		
All Vehicles	220	296	72	0		60	244	112	0		112	356	236	0		36	360	44	0		**2148**	
Heavy Trucks	12	4	8	0		4	8	4	0		0	16	16	0		4	12	0	0		**88**	
Pedestrians		8					0					0					0				**8**	
Bicycles	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		**0**	
Buses																						
Stopped Buses																						

APPENDIX F

FDOT's Florida Traffic Online
2019 Peak Season Factor Category Report

2019 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 9400 EAST-A1A TO US1

MOCF: 0.88

WEEK	DATES	SF	PSCF
1	01/01/2019 - 01/05/2019	1.02	1.16
2	01/06/2019 - 01/12/2019	0.98	1.11
3	01/13/2019 - 01/19/2019	0.93	1.06
* 4	01/20/2019 - 01/26/2019	0.91	1.03
* 5	01/27/2019 - 02/02/2019	0.89	1.01
* 6	02/03/2019 - 02/09/2019	0.87	0.99
* 7	02/10/2019 - 02/16/2019	0.85	0.97
* 8	02/17/2019 - 02/23/2019	0.85	0.97
* 9	02/24/2019 - 03/02/2019	0.85	0.97
*10	03/03/2019 - 03/09/2019	0.85	0.97
*11	03/10/2019 - 03/16/2019	0.85	0.97
*12	03/17/2019 - 03/23/2019	0.87	0.99
*13	03/24/2019 - 03/30/2019	0.88	1.00
*14	03/31/2019 - 04/06/2019	0.89	1.01
*15	04/07/2019 - 04/13/2019	0.90	1.02
*16	04/14/2019 - 04/20/2019	0.92	1.05
17	04/21/2019 - 04/27/2019	0.94	1.07
18	04/28/2019 - 05/04/2019	0.96	1.09
19	05/05/2019 - 05/11/2019	0.99	1.13
20	05/12/2019 - 05/18/2019	1.01	1.15
21	05/19/2019 - 05/25/2019	1.03	1.17
22	05/26/2019 - 06/01/2019	1.04	1.18
23	06/02/2019 - 06/08/2019	1.06	1.20
24	06/09/2019 - 06/15/2019	1.08	1.23
25	06/16/2019 - 06/22/2019	1.08	1.23
26	06/23/2019 - 06/29/2019	1.08	1.23
27	06/30/2019 - 07/06/2019	1.08	1.23
28	07/07/2019 - 07/13/2019	1.08	1.23
29	07/14/2019 - 07/20/2019	1.08	1.23
30	07/21/2019 - 07/27/2019	1.09	1.24
31	07/28/2019 - 08/03/2019	1.11	1.26
32	08/04/2019 - 08/10/2019	1.12	1.27
33	08/11/2019 - 08/17/2019	1.14	1.30
34	08/18/2019 - 08/24/2019	1.15	1.31
35	08/25/2019 - 08/31/2019	1.17	1.33
36	09/01/2019 - 09/07/2019	1.19	1.35
37	09/08/2019 - 09/14/2019	1.20	1.36
38	09/15/2019 - 09/21/2019	1.22	1.39
39	09/22/2019 - 09/28/2019	1.18	1.34
40	09/29/2019 - 10/05/2019	1.15	1.31
41	10/06/2019 - 10/12/2019	1.11	1.26
42	10/13/2019 - 10/19/2019	1.08	1.23
43	10/20/2019 - 10/26/2019	1.07	1.22
44	10/27/2019 - 11/02/2019	1.05	1.19
45	11/03/2019 - 11/09/2019	1.04	1.18
46	11/10/2019 - 11/16/2019	1.03	1.17
47	11/17/2019 - 11/23/2019	1.03	1.17
48	11/24/2019 - 11/30/2019	1.03	1.17
49	12/01/2019 - 12/07/2019	1.02	1.16
50	12/08/2019 - 12/14/2019	1.02	1.16
51	12/15/2019 - 12/21/2019	1.02	1.16
52	12/22/2019 - 12/28/2019	0.98	1.11
53	12/29/2019 - 12/31/2019	0.93	1.06

* PEAK SEASON

2019 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 9401 CEN.-W OF US1 TO I95

MOCF: 0.94

WEEK	DATES	SF	PSCF
1	01/01/2019 - 01/05/2019	1.01	1.07
2	01/06/2019 - 01/12/2019	0.99	1.05
3	01/13/2019 - 01/19/2019	0.96	1.02
* 4	01/20/2019 - 01/26/2019	0.95	1.01
* 5	01/27/2019 - 02/02/2019	0.94	1.00
* 6	02/03/2019 - 02/09/2019	0.93	0.99
* 7	02/10/2019 - 02/16/2019	0.92	0.98
* 8	02/17/2019 - 02/23/2019	0.92	0.98
* 9	02/24/2019 - 03/02/2019	0.93	0.99
*10	03/03/2019 - 03/09/2019	0.93	0.99
*11	03/10/2019 - 03/16/2019	0.93	0.99
*12	03/17/2019 - 03/23/2019	0.94	1.00
*13	03/24/2019 - 03/30/2019	0.94	1.00
*14	03/31/2019 - 04/06/2019	0.95	1.01
*15	04/07/2019 - 04/13/2019	0.95	1.01
*16	04/14/2019 - 04/20/2019	0.96	1.02
17	04/21/2019 - 04/27/2019	0.97	1.03
18	04/28/2019 - 05/04/2019	0.98	1.04
19	05/05/2019 - 05/11/2019	0.99	1.05
20	05/12/2019 - 05/18/2019	1.00	1.06
21	05/19/2019 - 05/25/2019	1.01	1.07
22	05/26/2019 - 06/01/2019	1.02	1.09
23	06/02/2019 - 06/08/2019	1.02	1.09
24	06/09/2019 - 06/15/2019	1.03	1.10
25	06/16/2019 - 06/22/2019	1.04	1.11
26	06/23/2019 - 06/29/2019	1.05	1.12
27	06/30/2019 - 07/06/2019	1.05	1.12
28	07/07/2019 - 07/13/2019	1.06	1.13
29	07/14/2019 - 07/20/2019	1.07	1.14
30	07/21/2019 - 07/27/2019	1.06	1.13
31	07/28/2019 - 08/03/2019	1.06	1.13
32	08/04/2019 - 08/10/2019	1.05	1.12
33	08/11/2019 - 08/17/2019	1.04	1.11
34	08/18/2019 - 08/24/2019	1.05	1.12
35	08/25/2019 - 08/31/2019	1.07	1.14
36	09/01/2019 - 09/07/2019	1.08	1.15
37	09/08/2019 - 09/14/2019	1.10	1.17
38	09/15/2019 - 09/21/2019	1.11	1.18
39	09/22/2019 - 09/28/2019	1.09	1.16
40	09/29/2019 - 10/05/2019	1.07	1.14
41	10/06/2019 - 10/12/2019	1.04	1.11
42	10/13/2019 - 10/19/2019	1.02	1.09
43	10/20/2019 - 10/26/2019	1.02	1.09
44	10/27/2019 - 11/02/2019	1.02	1.09
45	11/03/2019 - 11/09/2019	1.01	1.07
46	11/10/2019 - 11/16/2019	1.01	1.07
47	11/17/2019 - 11/23/2019	1.01	1.07
48	11/24/2019 - 11/30/2019	1.01	1.07
49	12/01/2019 - 12/07/2019	1.01	1.07
50	12/08/2019 - 12/14/2019	1.01	1.07
51	12/15/2019 - 12/21/2019	1.01	1.07
52	12/22/2019 - 12/28/2019	0.99	1.05
53	12/29/2019 - 12/31/2019	0.96	1.02

* PEAK SEASON

2019 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 9402 WEST-W OF I95

MOCF: 0.92

WEEK	DATES	SF	PSCF
1	01/01/2019 - 01/05/2019	1.05	1.14
2	01/06/2019 - 01/12/2019	1.03	1.12
3	01/13/2019 - 01/19/2019	1.00	1.09
* 4	01/20/2019 - 01/26/2019	0.97	1.05
* 5	01/27/2019 - 02/02/2019	0.93	1.01
* 6	02/03/2019 - 02/09/2019	0.90	0.98
* 7	02/10/2019 - 02/16/2019	0.86	0.93
* 8	02/17/2019 - 02/23/2019	0.87	0.95
* 9	02/24/2019 - 03/02/2019	0.88	0.96
*10	03/03/2019 - 03/09/2019	0.89	0.97
*11	03/10/2019 - 03/16/2019	0.90	0.98
*12	03/17/2019 - 03/23/2019	0.91	0.99
*13	03/24/2019 - 03/30/2019	0.93	1.01
*14	03/31/2019 - 04/06/2019	0.94	1.02
*15	04/07/2019 - 04/13/2019	0.95	1.03
*16	04/14/2019 - 04/20/2019	0.97	1.05
17	04/21/2019 - 04/27/2019	0.99	1.08
18	04/28/2019 - 05/04/2019	1.00	1.09
19	05/05/2019 - 05/11/2019	1.02	1.11
20	05/12/2019 - 05/18/2019	1.04	1.13
21	05/19/2019 - 05/25/2019	1.06	1.15
22	05/26/2019 - 06/01/2019	1.07	1.16
23	06/02/2019 - 06/08/2019	1.09	1.18
24	06/09/2019 - 06/15/2019	1.10	1.20
25	06/16/2019 - 06/22/2019	1.11	1.21
26	06/23/2019 - 06/29/2019	1.12	1.22
27	06/30/2019 - 07/06/2019	1.12	1.22
28	07/07/2019 - 07/13/2019	1.13	1.23
29	07/14/2019 - 07/20/2019	1.14	1.24
30	07/21/2019 - 07/27/2019	1.13	1.23
31	07/28/2019 - 08/03/2019	1.13	1.23
32	08/04/2019 - 08/10/2019	1.12	1.22
33	08/11/2019 - 08/17/2019	1.12	1.22
34	08/18/2019 - 08/24/2019	1.11	1.21
35	08/25/2019 - 08/31/2019	1.10	1.20
36	09/01/2019 - 09/07/2019	1.09	1.18
37	09/08/2019 - 09/14/2019	1.08	1.17
38	09/15/2019 - 09/21/2019	1.08	1.17
39	09/22/2019 - 09/28/2019	1.05	1.14
40	09/29/2019 - 10/05/2019	1.03	1.12
41	10/06/2019 - 10/12/2019	1.00	1.09
42	10/13/2019 - 10/19/2019	0.98	1.07
43	10/20/2019 - 10/26/2019	0.97	1.05
44	10/27/2019 - 11/02/2019	0.96	1.04
45	11/03/2019 - 11/09/2019	0.94	1.02
46	11/10/2019 - 11/16/2019	0.93	1.01
47	11/17/2019 - 11/23/2019	0.95	1.03
48	11/24/2019 - 11/30/2019	0.98	1.07
49	12/01/2019 - 12/07/2019	1.00	1.09
50	12/08/2019 - 12/14/2019	1.02	1.11
51	12/15/2019 - 12/21/2019	1.05	1.14
52	12/22/2019 - 12/28/2019	1.03	1.12
53	12/29/2019 - 12/31/2019	1.00	1.09

* PEAK SEASON

2019 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 9495 ST LUCIE I95

MOCF: 0.97

WEEK	DATES	SF	PSCF
1	01/01/2019 - 01/05/2019	0.92	0.95
2	01/06/2019 - 01/12/2019	0.98	1.01
3	01/13/2019 - 01/19/2019	1.03	1.06
4	01/20/2019 - 01/26/2019	1.02	1.05
5	01/27/2019 - 02/02/2019	1.01	1.04
6	02/03/2019 - 02/09/2019	1.00	1.03
7	02/10/2019 - 02/16/2019	0.99	1.02
8	02/17/2019 - 02/23/2019	0.98	1.01
9	02/24/2019 - 03/02/2019	0.97	1.00
10	03/03/2019 - 03/09/2019	0.96	0.99
11	03/10/2019 - 03/16/2019	0.95	0.98
12	03/17/2019 - 03/23/2019	0.96	0.99
13	03/24/2019 - 03/30/2019	0.96	0.99
14	03/31/2019 - 04/06/2019	0.97	1.00
15	04/07/2019 - 04/13/2019	0.97	1.00
16	04/14/2019 - 04/20/2019	0.98	1.01
17	04/21/2019 - 04/27/2019	0.99	1.02
18	04/28/2019 - 05/04/2019	1.00	1.03
19	05/05/2019 - 05/11/2019	1.00	1.03
20	05/12/2019 - 05/18/2019	1.01	1.04
21	05/19/2019 - 05/25/2019	1.01	1.04
22	05/26/2019 - 06/01/2019	1.02	1.05
23	06/02/2019 - 06/08/2019	1.02	1.05
24	06/09/2019 - 06/15/2019	1.02	1.05
25	06/16/2019 - 06/22/2019	1.02	1.05
26	06/23/2019 - 06/29/2019	1.02	1.05
27	06/30/2019 - 07/06/2019	1.02	1.05
28	07/07/2019 - 07/13/2019	1.02	1.05
29	07/14/2019 - 07/20/2019	1.02	1.05
30	07/21/2019 - 07/27/2019	1.03	1.06
31	07/28/2019 - 08/03/2019	1.03	1.06
32	08/04/2019 - 08/10/2019	1.04	1.07
33	08/11/2019 - 08/17/2019	1.04	1.07
34	08/18/2019 - 08/24/2019	1.06	1.09
35	08/25/2019 - 08/31/2019	1.08	1.11
36	09/01/2019 - 09/07/2019	1.10	1.13
37	09/08/2019 - 09/14/2019	1.12	1.15
38	09/15/2019 - 09/21/2019	1.14	1.18
39	09/22/2019 - 09/28/2019	1.11	1.14
40	09/29/2019 - 10/05/2019	1.08	1.11
*41	10/06/2019 - 10/12/2019	1.04	1.07
*42	10/13/2019 - 10/19/2019	1.01	1.04
*43	10/20/2019 - 10/26/2019	1.00	1.03
*44	10/27/2019 - 11/02/2019	0.98	1.01
*45	11/03/2019 - 11/09/2019	0.97	1.00
*46	11/10/2019 - 11/16/2019	0.95	0.98
*47	11/17/2019 - 11/23/2019	0.94	0.97
*48	11/24/2019 - 11/30/2019	0.94	0.97
*49	12/01/2019 - 12/07/2019	0.93	0.96
*50	12/08/2019 - 12/14/2019	0.93	0.96
*51	12/15/2019 - 12/21/2019	0.92	0.95
*52	12/22/2019 - 12/28/2019	0.98	1.01
*53	12/29/2019 - 12/31/2019	1.03	1.06

* PEAK SEASON

APPENDIX G
Turning Movement Volume Worksheets

INTERSECTION VOLUME DEVELOPMENT

Oleander Avenue & Midway Road

WEEKDAY AM PEAK HOUR (8:00 AM to 9:00 AM)	Oleander Avenue			Oleander Avenue			Midway Road			Midway Road		
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Counted on 4/6/2021	109	141	56	53	133	52	97	365	97	26	335	42
Peak Season Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
2021 Existing Traffic	110	142	57	54	134	53	98	369	98	26	338	42
Annual Growth Rate	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%
2026 Background Growth	9	11	5	4	11	4	8	29	8	2	27	3
Project Traffic % Assignment		10%			10%	15%	15%					
Project Traffic Direction		IN			OUT	OUT	IN					
Project Traffic		1			3	6	2					
2026 Background Traffic	119	153	62	58	145	57	106	398	106	28	365	45
2026 Total Traffic	119	154	62	58	148	63	108	398	106	28	365	45

WEEKDAY PM PEAK HOUR (4:30 PM to 5:30 PM)	Oleander Avenue			Oleander Avenue			Midway Road			Midway Road		
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Counted on 4/6/2021	106	126	52	92	137	76	95	521	66	48	416	96
Peak Season Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
2021 Existing Traffic	107	127	53	93	138	77	96	526	67	48	420	97
Annual Growth Rate	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%
2026 Background Growth	9	10	4	7	11	6	8	42	5	4	34	8
Project Traffic % Assignment		10%			10%	15%	15%					
Project Traffic Direction		IN			OUT	OUT	IN					
Project Traffic		4			2	4	6					
2026 Background Traffic	116	137	57	100	149	83	104	568	72	52	454	105
2026 Total Traffic	116	141	57	100	151	87	110	568	72	52	454	105

INTERSECTION VOLUME DEVELOPMENT

Oleander Avenue & Weatherbee Road

WEEKDAY AM PEAK HOUR (8:00 AM to 9:00 AM)	Oleander Avenue			Oleander Avenue			Weatherbee Road			Weatherbee Road		
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Counted on 4/6/2021	9	249	32	52	191	7	6	64	32	19	80	52
Peak Season Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
2021 Existing Traffic	9	251	32	53	193	7	6	65	32	19	81	53
Annual Growth Rate	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%
2026 Background Growth	1	20	3	4	15	1	0	5	3	2	6	4
Project Traffic % Assignment		25%		15%	25%							15%
Project Traffic Direction		IN		OUT	OUT							IN
Project Traffic		3		6	9							2
2026 Background Traffic	10	271	35	57	208	8	6	70	35	21	87	57
2026 Total Traffic	10	274	35	63	217	8	6	70	35	21	87	59

WEEKDAY PM PEAK HOUR (4:15 PM to 5:15 PM)	Oleander Avenue			Oleander Avenue			Weatherbee Road			Weatherbee Road		
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Counted on 4/6/2021	14	288	28	73	248	8	6	62	23	19	59	43
Peak Season Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
2021 Existing Traffic	14	291	28	74	250	8	6	63	23	19	60	43
Annual Growth Rate	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%
2026 Background Growth	1	23	2	6	20	1	0	5	2	2	5	3
Project Traffic % Assignment		25%		15%	25%							15%
Project Traffic Direction		IN		OUT	OUT							IN
Project Traffic		10		4	6							6
2026 Background Traffic	15	314	30	80	270	9	6	68	25	21	65	46
2026 Total Traffic	15	324	30	84	276	9	6	68	25	21	65	52

INTERSECTION VOLUME DEVELOPMENT

Oleander Avenue & Bell Avenue

WEEKDAY AM PEAK HOUR (8:00 AM to 9:00 AM)	Oleander Avenue			Oleander Avenue			Bell Avenue			Driveway		
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Counted on 4/6/2021	61	278	4	7	250	63	66	2	79	1	1	5
Peak Season Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
2021 Existing Traffic	62	281	4	7	253	64	67	2	80	1	1	5
Annual Growth Rate	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%
2026 Background Growth	5	22	0	1	20	5	5	0	6	0	0	0
Project Traffic % Assignment	5%	55%			55%				5%			
Project Traffic Direction	OUT	OUT			IN				IN			
Project Traffic	2	20			7				1			
2026 Background Traffic	67	303	4	8	273	69	72	2	86	1	1	5
2026 Total Traffic	69	323	4	8	280	69	72	2	87	1	1	5

WEEKDAY PM PEAK HOUR (4:15 PM to 5:15 PM)	Oleander Avenue			Oleander Avenue			Bell Avenue			Driveway		
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Counted on 4/6/2021	72	328	0	2	287	108	68	2	78	1	4	6
Peak Season Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
2021 Existing Traffic	73	331	0	2	290	109	69	2	79	1	4	6
Annual Growth Rate	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%
2026 Background Growth	6	26	0	0	23	9	6	0	6	0	0	0
Project Traffic % Assignment	5%	55%			55%				5%			
Project Traffic Direction	OUT	OUT			IN				IN			
Project Traffic	1	13			23				2			
2026 Background Traffic	79	357	0	2	313	118	75	2	85	1	4	6
2026 Total Traffic	80	370	0	2	336	118	75	2	87	1	4	6

INTERSECTION VOLUME DEVELOPMENT

Oleander Avenue & Farmers Market Road

WEEKDAY AM PEAK HOUR (8:00 AM to 9:00 AM)	Oleander Avenue			Oleander Avenue			Driveway			Farmers Market Road		
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Counted on 4/6/2021	1	286	63	33	287	8	1	1	1	36	1	31
Peak Season Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
2021 Existing Traffic	1	289	64	33	290	8	1	1	1	36	1	31
Annual Growth Rate	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%
2026 Background Growth	0	23	5	3	23	1	0	0	0	3	0	2
Project Traffic % Assignment		45%	10%		45%					10%		
Project Traffic Direction		OUT	OUT		IN					IN		
Project Traffic		17	3		6					1		
2026 Background Traffic	1	312	69	36	313	9	1	1	1	39	1	33
2026 Total Traffic	1	329	72	36	319	9	1	1	1	40	1	33

WEEKDAY PM PEAK HOUR (4:15 PM to 5:15 PM)	Oleander Avenue			Oleander Avenue			Driveway			Farmers Market Road		
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Counted on 4/6/2021	0	363	35	19	336	0	0	0	0	61	0	41
Peak Season Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
2021 Existing Traffic	0	367	35	19	339	0	0	0	0	62	0	41
Annual Growth Rate	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%
2026 Background Growth	0	29	3	2	27	0	0	0	0	5	0	3
Project Traffic % Assignment		45%	10%		45%					10%		
Project Traffic Direction		OUT	OUT		IN					IN		
Project Traffic		11	2		19					4		
2026 Background Traffic	0	396	38	21	366	0	0	0	0	67	0	44
2026 Total Traffic	0	407	40	21	385	0	0	0	0	71	0	44

INTERSECTION VOLUME DEVELOPMENT

Oleander Avenue & Edwards Road

WEEKDAY AM PEAK HOUR (8:00 AM to 9:00 AM)	Oleander Avenue			Oleander Avenue			Edwards Road			Edwards Road		
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Counted on 4/6/2021	148	195	47	39	175	59	49	321	187	26	210	28
Peak Season Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
2021 Existing Traffic	149	197	47	39	177	60	49	324	189	26	212	28
Annual Growth Rate	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%
2026 Background Growth	12	16	4	3	14	5	4	26	15	2	17	2
Project Traffic % Assignment	20%	25%			25%				20%			
Project Traffic Direction	OUT	OUT			IN				IN			
Project Traffic	8	9			3				3			
2026 Background Traffic	161	213	51	42	191	65	53	350	204	28	229	30
2026 Total Traffic	169	222	51	42	194	65	53	350	207	28	229	30

WEEKDAY PM PEAK HOUR (4:45 PM to 5:45 PM)	Oleander Avenue			Oleander Avenue			Edwards Road			Edwards Road		
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Counted on 4/6/2021	171	285	40	51	198	75	92	298	209	31	336	37
Peak Season Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
2021 Existing Traffic	173	288	40	52	200	76	93	301	211	31	339	37
Annual Growth Rate	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%
2026 Background Growth	14	23	3	4	16	6	7	24	17	2	27	3
Project Traffic % Assignment	20%	25%			25%				20%			
Project Traffic Direction	OUT	OUT			IN				IN			
Project Traffic	5	6			11				8			
2026 Background Traffic	187	311	43	56	216	82	100	325	228	33	366	40
2026 Total Traffic	192	317	43	56	227	82	100	325	236	33	366	40

INTERSECTION VOLUME DEVELOPMENT

Oleander Avenue & Project Driveway

WEEKDAY AM PEAK HOUR (8:00 AM to 9:00 AM)	Oleander Avenue			Oleander Avenue			Project Driveway			-		
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	N/A	N/A	N/A
Counted on 4/6/2021	0	307	0	0	330	0	0	0	0	0	0	0
Peak Season Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
2021 Existing Traffic	0	310	0	0	333	0	0	0	0	0	0	0
Annual Growth Rate	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%
2026 Background Growth	0	25	0	0	27	0	0	0	0	0	0	0
Project Traffic % Assignment	40%					60%	60%		40%			
Project Traffic Direction	IN					IN	OUT		OUT			
Project Traffic	5					8	22		15			
2026 Background Traffic	0	335	0	0	360	0	0	0	0	0	0	0
2026 Total Traffic	5	335	0	0	360	8	22	0	15	0	0	0

WEEKDAY PM PEAK HOUR (4:15 PM to 5:15 PM)	Oleander Avenue			Oleander Avenue			Project Driveway			-		
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	N/A	N/A	N/A
Counted on 4/6/2021	0	337	0	0	366	0	0	0	0	0	0	0
Peak Season Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
2021 Existing Traffic	0	340	0	0	370	0	0	0	0	0	0	0
Annual Growth Rate	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%
2026 Background Growth	0	27	0	0	30	0	0	0	0	0	0	0
Project Traffic % Assignment	40%					60%	60%		40%			
Project Traffic Direction	IN					IN	OUT		OUT			
Project Traffic	16					25	14		10			
2026 Background Traffic	0	367	0	0	400	0	0	0	0	0	0	0
2026 Total Traffic	16	367	0	0	400	25	14	0	10	0	0	0

APPENDIX H
Signal Timing/Phasing Plans

St. Lucie County

ECONOLITE

MOVING TRAFFIC FORWARD

00011 - EDWARDS RD @ OLEANDER AVE - Econolite Type - Cobalt

Controller Timing Plan (MM) 2-1

Q in use

Plan 1 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Min Green	8	10	6	10	8	10	6	10	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	0	0	0	0	7	0	7	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	0	0	0	0	15	0	19	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	3.0	3.0	3.0	4.0	3.0	3.0	3.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	10	30	10	30	10	30	10	30	35	35	35	35	35	35	35	35
Max2	0	0	0	0	0	0	0	0	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Timing 10/18/16

Ø in Use 1-8

Ø to LS 1-8 to 1-8, 9-12 to 2-8P

Ø	1	2	3	4	5	6	7	8
Min	8	10	8	8	8	10	8	8
Walk		7		7		7		7
Pedcl		25		30		25		30
Ext	3	4.5	3	3.5	3	4.5	3	3.5
Max	10	45	15	25	15	45	15	25
Yell	4	4	4	4	4	4	4	4
Red	3	3	3	3	3	3	3	3

Start / Flash

Pwr Start 2,6 Green

Ext start 2,6 Green

Entry 4,8

Exit 2,6

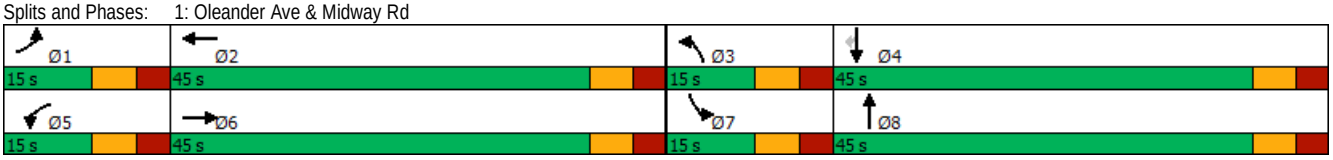
APPENDIX I
Synchro Outputs

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	369	98	26	338	42	110	142	57	54	134	53
Future Volume (vph)	98	369	98	26	338	42	110	142	57	54	134	53
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	7%	7%	7%	6%	6%	6%	5%	5%	5%
Adj. Flow (vph)	105	397	105	28	363	45	118	153	61	58	144	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	105	502	0	28	408	0	118	214	0	58	144	57
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												4
Detector Phase	1	6		5	2		3	8		7	4	4
Switch Phase												
Minimum Initial (s)	8.0	10.0		8.0	10.0		8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	15.0	17.5		15.0	17.5		15.0	15.0		15.0	15.0	15.0
Total Split (s)	15.0	45.0		15.0	45.0		15.0	45.0		15.0	45.0	45.0
Total Split (%)	12.5%	37.5%		12.5%	37.5%		12.5%	37.5%		12.5%	37.5%	37.5%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None		None	None	None
v/c Ratio	0.58	0.41		0.16	0.53		0.34	0.44		0.16	0.43	0.14
Control Delay	50.6	21.0		38.2	27.9		38.0	27.8		36.4	32.5	0.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	50.6	21.0		38.2	27.9		38.0	27.8		36.4	32.5	0.7
Queue Length 50th (ft)	48	76		12	87		26	84		12	59	0
Queue Length 95th (ft)	#142	172		42	143		61	171		35	124	0
Internal Link Dist (ft)		1626			1766			1811			2560	
Turn Bay Length (ft)	400			300			275			200		200
Base Capacity (vph)	182	1696		179	1679		351	874		354	913	857
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.58	0.30		0.16	0.24		0.34	0.24		0.16	0.16	0.07

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 76.7
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Oleander Ave & Midway Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	369	98	26	338	42	110	142	57	54	134	53
Future Volume (veh/h)	98	369	98	26	338	42	110	142	57	54	134	53
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	1826	1826	1826	1796	1796	1796	1811	1811	1811	1826	1826	1826
Adj Flow Rate, veh/h	105	397	105	28	363	45	118	153	61	58	144	57
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	5	7	7	7	6	6	6	5	5	5
Cap, veh/h	183	714	187	84	630	78	366	212	84	271	261	221
Arrive On Green	0.11	0.26	0.26	0.05	0.21	0.21	0.11	0.17	0.17	0.08	0.14	0.14
Sat Flow, veh/h	1739	2720	712	1711	3058	376	3346	1232	491	3374	1826	1547
Grp Volume(v), veh/h	105	252	250	28	201	207	118	0	214	58	144	57
Grp Sat Flow(s),veh/h/ln	1739	1735	1698	1711	1706	1728	1673	0	1723	1687	1826	1547
Q Serve(g_s), s	3.7	8.0	8.2	1.0	6.8	6.9	2.1	0.0	7.5	1.0	4.7	2.1
Cycle Q Clear(g_c), s	3.7	8.0	8.2	1.0	6.8	6.9	2.1	0.0	7.5	1.0	4.7	2.1
Prop In Lane	1.00		0.42	1.00		0.22	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	183	455	446	84	352	356	366	0	296	271	261	221
V/C Ratio(X)	0.57	0.55	0.56	0.33	0.57	0.58	0.32	0.00	0.72	0.21	0.55	0.26
Avail Cap(c_a), veh/h	217	1027	1005	213	1010	1023	417	0	1020	420	1081	916
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.3	20.4	20.5	29.5	22.9	23.0	26.4	0.0	25.1	27.6	25.6	24.5
Incr Delay (d2), s/veh	2.8	1.8	1.9	2.3	2.5	2.6	0.5	0.0	4.0	0.4	2.2	0.7
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(50%),veh/ln	1.6	3.2	3.3	0.5	2.8	2.9	0.8	0.0	3.2	0.4	2.1	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	22.2	22.4	31.8	25.5	25.5	26.9	0.0	29.1	28.0	27.8	25.2
LnGrp LOS	C	C	C	C	C	C	C	A	C	C	C	C
Approach Vol, veh/h		607			436			332			259	
Approach Delay, s/veh		23.6			25.9			28.3			27.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	20.2	14.0	16.2	10.1	23.8	12.2	18.0
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	8.0	38.0	8.0	38.0	8.0	38.0	8.0	38.0
Max Q Clear Time (g_c+I1), s	5.7	8.9	4.1	6.7	3.0	10.2	3.0	9.5
Green Ext Time (p_c), s	0.0	4.3	0.1	1.2	0.0	5.4	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	65	32	19	81	53	9	251	32	53	193	7
Future Volume (vph)	6	65	32	19	81	53	9	251	32	53	193	7
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	5%	5%	7%	7%	7%	7%	7%	7%	6%	6%	6%
Adj. Flow (vph)	7	71	35	21	89	58	10	276	35	58	212	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	113	0	0	168	0	0	321	0	0	278	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	65	32	19	81	53	9	251	32	53	193	7
Future Vol, veh/h	6	65	32	19	81	53	9	251	32	53	193	7
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	5	5	5	7	7	7	7	7	7	6	6	6
Mvmt Flow	7	71	35	21	89	58	10	276	35	58	212	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	719	663	216	699	650	294	220	0	0	311	0	0
Stage 1	332	332	-	314	314	-	-	-	-	-	-	-
Stage 2	387	331	-	385	336	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.17	6.57	6.27	4.17	-	-	4.16	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.17	5.57	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.17	5.57	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.563	4.063	3.363	2.263	-	-	2.254	-	-
Pot Cap-1 Maneuver	340	378	816	348	382	734	1320	-	-	1227	-	-
Stage 1	675	639	-	686	647	-	-	-	-	-	-	-
Stage 2	631	640	-	628	633	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	241	354	816	268	358	734	1320	-	-	1227	-	-
Mov Cap-2 Maneuver	241	354	-	268	358	-	-	-	-	-	-	-
Stage 1	669	604	-	680	641	-	-	-	-	-	-	-
Stage 2	496	634	-	501	599	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.9	19.5	0.2	1.7
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1320	-	-	416	414	1227	-	-
HCM Lane V/C Ratio	0.007	-	-	0.272	0.406	0.047	-	-
HCM Control Delay (s)	7.7	0	-	16.9	19.5	8.1	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	1.9	0.1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	5	80	1	1	5	62	281	4	7	253	64
Future Volume (vph)	67	5	80	1	1	5	62	281	4	7	253	64
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	5%	5%	14%	14%	14%	7%	7%	7%	8%	8%	8%
Adj. Flow (vph)	74	5	88	1	1	5	68	309	4	8	278	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	167	0	0	7	0	0	381	0	0	356	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	67	5	80	1	1	5	62	281	4	7	253	64
Future Vol, veh/h	67	5	80	1	1	5	62	281	4	7	253	64
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	5	5	5	14	14	14	7	7	7	8	8	8
Mvmt Flow	74	5	88	1	1	5	68	309	4	8	278	70

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	779	778	313	823	811	311	348	0	0	313	0	0
Stage 1	329	329	-	447	447	-	-	-	-	-	-	-
Stage 2	450	449	-	376	364	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.24	6.64	6.34	4.17	-	-	4.18	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.24	5.64	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.24	5.64	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.626	4.126	3.426	2.263	-	-	2.272	-	-
Pot Cap-1 Maneuver	310	324	720	279	300	702	1184	-	-	1214	-	-
Stage 1	678	641	-	568	554	-	-	-	-	-	-	-
Stage 2	583	567	-	622	603	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	289	299	720	227	277	702	1184	-	-	1214	-	-
Mov Cap-2 Maneuver	289	299	-	227	277	-	-	-	-	-	-	-
Stage 1	631	636	-	528	515	-	-	-	-	-	-	-
Stage 2	537	527	-	537	598	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19	12.9	1.5	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1184	-	-	423	462	1214	-	-
HCM Lane V/C Ratio	0.058	-	-	0.395	0.017	0.006	-	-
HCM Control Delay (s)	8.2	0	-	19	12.9	8	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.9	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	1	36	1	31	1	289	64	33	290	8
Future Volume (vph)	1	1	1	36	1	31	1	289	64	33	290	8
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	33%	33%	33%	12%	12%	12%	5%	5%	5%	8%	8%	8%
Adj. Flow (vph)	1	1	1	41	1	35	1	328	73	38	330	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	77	0	0	402	0	0	377	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

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	1	1	1	36	1	31	1	289	64	33	290	8
Future Vol, veh/h	1	1	1	36	1	31	1	289	64	33	290	8
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	33	33	33	12	12	12	5	5	5	8	8	8
Mvmt Flow	1	1	1	41	1	35	1	328	73	38	330	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	796	814	335	779	782	365	339	0	0	401	0	0
Stage 1	411	411	-	367	367	-	-	-	-	-	-	-
Stage 2	385	403	-	412	415	-	-	-	-	-	-	-
Critical Hdwy	7.43	6.83	6.53	7.22	6.62	6.32	4.15	-	-	4.18	-	-
Critical Hdwy Stg 1	6.43	5.83	-	6.22	5.62	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.43	5.83	-	6.22	5.62	-	-	-	-	-	-	-
Follow-up Hdwy	3.797	4.297	3.597	3.608	4.108	3.408	2.245	-	-	2.272	-	-
Pot Cap-1 Maneuver	271	280	641	301	314	658	1204	-	-	1126	-	-
Stage 1	561	545	-	633	605	-	-	-	-	-	-	-
Stage 2	580	550	-	598	576	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	247	268	641	290	300	658	1204	-	-	1126	-	-
Mov Cap-2 Maneuver	247	268	-	290	300	-	-	-	-	-	-	-
Stage 1	560	522	-	632	604	-	-	-	-	-	-	-
Stage 2	547	549	-	571	552	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.3	16.5	0	0.8
HCM LOS	C	C		

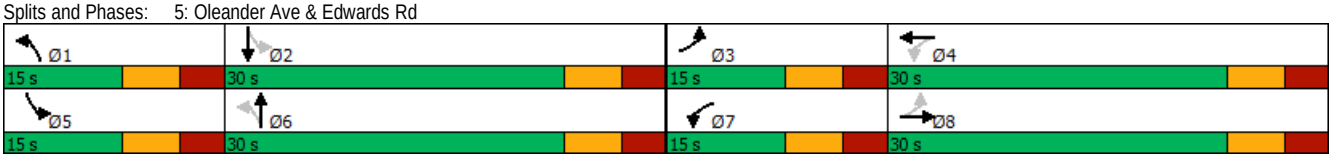
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1204	-	-	321	389	1126	-	-
HCM Lane V/C Ratio	0.001	-	-	0.011	0.199	0.033	-	-
HCM Control Delay (s)	8	0	-	16.3	16.5	8.3	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.7	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	321	187	26	210	28	148	195	47	39	175	59
Future Volume (vph)	49	321	187	26	210	28	148	195	47	39	175	59
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
Heavy Vehicles (%)	7%	7%	7%	10%	10%	10%	8%	8%	8%	5%	5%	5%
Adj. Flow (vph)	52	341	199	28	223	30	157	207	50	41	186	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	540	0	28	253	0	157	257	0	41	249	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		8.0	10.0		8.0	10.0	
Minimum Split (s)	13.0	17.0		13.0	17.0		15.0	17.0		15.0	17.0	
Total Split (s)	15.0	30.0		15.0	30.0		15.0	30.0		15.0	30.0	
Total Split (%)	16.7%	33.3%		16.7%	33.3%		16.7%	33.3%		16.7%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
v/c Ratio	0.13	0.55		0.09	0.32		0.37	0.50		0.09	0.57	
Control Delay	16.2	19.8		16.0	24.0		17.9	27.1		14.9	30.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.2	19.8		16.0	24.0		17.9	27.1		14.9	30.0	
Queue Length 50th (ft)	14	66		8	48		40	96		10	90	
Queue Length 95th (ft)	39	161		25	90		98	201		33	190	
Internal Link Dist (ft)		2737			3439			4912			1451	
Turn Bay Length (ft)	295			350			150					
Base Capacity (vph)	408	1353		339	1280		419	700		447	697	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.13	0.40		0.08	0.20		0.37	0.37		0.09	0.36	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 66
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Oleander Ave & Edwards Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	321	187	26	210	28	148	195	47	39	175	59
Future Volume (veh/h)	49	321	187	26	210	28	148	195	47	39	175	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	1796	1796	1796	1752	1752	1752	1781	1781	1781	1826	1826	1826
Adj Flow Rate, veh/h	52	341	0	28	223	0	157	207	50	41	186	63
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, %	7	7	7	10	10	10	8	8	8	5	5	5
Cap, veh/h	337	638		276	554		384	338	82	356	243	82
Arrive On Green	0.06	0.19	0.00	0.04	0.17	0.00	0.12	0.24	0.24	0.07	0.19	0.19
Sat Flow, veh/h	1711	3503	0	1668	3416	0	1697	1386	335	1739	1305	442
Grp Volume(v), veh/h	52	341	0	28	223	0	157	0	257	41	0	249
Grp Sat Flow(s),veh/h/ln	1711	1706	0	1668	1664	0	1697	0	1721	1739	0	1746
Q Serve(g_s), s	1.5	5.4	0.0	0.8	3.6	0.0	4.2	0.0	8.0	1.1	0.0	8.1
Cycle Q Clear(g_c), s	1.5	5.4	0.0	0.8	3.6	0.0	4.2	0.0	8.0	1.1	0.0	8.1
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.19	1.00		0.25
Lane Grp Cap(c), veh/h	337	638		276	554		384	0	420	356	0	326
V/C Ratio(X)	0.15	0.53		0.10	0.40		0.41	0.00	0.61	0.12	0.00	0.76
Avail Cap(c_a), veh/h	466	1306		436	1273		401	0	659	473	0	668
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	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.8	22.1	0.0	19.5	22.4	0.0	16.4	0.0	20.2	17.4	0.0	23.2
Incr Delay (d2), s/veh	0.2	1.0	0.0	0.2	0.7	0.0	0.7	0.0	1.4	0.1	0.0	3.7
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(50%),veh/ln	0.5	2.1	0.0	0.3	1.3	0.0	1.5	0.0	3.0	0.4	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.0	23.1	0.0	19.7	23.1	0.0	17.1	0.0	21.6	17.5	0.0	26.9
LnGrp LOS	B	C		B	C		B	A	C	B	A	C
Approach Vol, veh/h		393	A		251	A		414			290	
Approach Delay, s/veh		22.5			22.7			19.9			25.6	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.4	18.2	10.5	17.0	11.0	21.7	9.2	18.2
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	8.0	23.0	8.0	23.0	8.0	23.0	8.0	23.0
Max Q Clear Time (g_c+I1), s	6.2	10.1	3.5	5.6	3.1	10.0	2.8	7.4
Green Ext Time (p_c), s	0.1	1.1	0.0	1.6	0.0	1.1	0.0	2.5

Intersection Summary		
HCM 6th Ctrl Delay		22.4
HCM 6th LOS		C

Notes

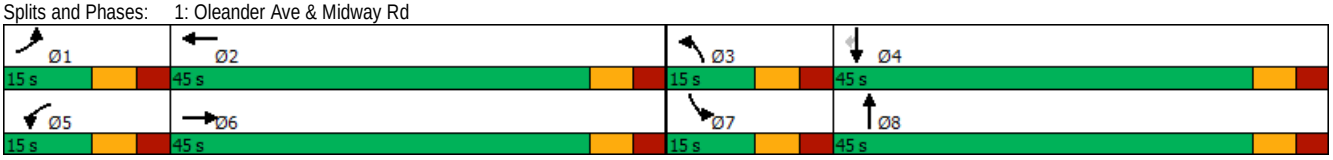
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

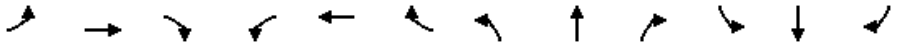
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	526	67	48	420	97	107	127	53	93	138	77
Future Volume (vph)	96	526	67	48	420	97	107	127	53	93	138	77
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	100	548	70	50	438	101	111	132	55	97	144	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	618	0	50	539	0	111	187	0	97	144	80
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												4
Detector Phase	1	6		5	2		3	8		7	4	4
Switch Phase												
Minimum Initial (s)	8.0	10.0		8.0	10.0		8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	15.0	17.5		15.0	17.5		15.0	15.0		15.0	15.0	15.0
Total Split (s)	15.0	45.0		15.0	45.0		15.0	45.0		15.0	45.0	45.0
Total Split (%)	12.5%	37.5%		12.5%	37.5%		12.5%	37.5%		12.5%	37.5%	37.5%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None		None	None	None
v/c Ratio	0.53	0.46		0.27	0.54		0.30	0.56		0.26	0.43	0.19
Control Delay	49.7	22.6		41.6	25.5		39.6	35.2		39.2	35.1	1.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	49.7	22.6		41.6	25.5		39.6	35.2		39.2	35.1	1.0
Queue Length 50th (ft)	49	138		24	115		27	79		23	66	0
Queue Length 95th (ft)	#137	212		66	180		60	158		54	132	0
Internal Link Dist (ft)		1626			1766			1811			2560	
Turn Bay Length (ft)	400			300			275			200		200
Base Capacity (vph)	190	1783		188	1752		369	918		369	952	889
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.53	0.35		0.27	0.31		0.30	0.20		0.26	0.15	0.09

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 77.7
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Oleander Ave & Midway Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	526	67	48	420	97	107	127	53	93	138	77
Future Volume (veh/h)	96	526	67	48	420	97	107	127	53	93	138	77
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	1870	1856	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	548	70	50	438	101	111	132	55	97	144	80
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	3	3	3	2	2	2	2	2	2
Cap, veh/h	176	880	112	126	713	163	353	185	77	338	268	227
Arrive On Green	0.10	0.28	0.28	0.07	0.25	0.25	0.10	0.15	0.15	0.10	0.14	0.14
Sat Flow, veh/h	1781	3171	404	1767	2849	652	3456	1254	522	3456	1870	1585
Grp Volume(v), veh/h	100	306	312	50	270	269	111	0	187	97	144	80
Grp Sat Flow(s),veh/h/ln	1781	1777	1798	1767	1763	1738	1728	0	1776	1728	1870	1585
Q Serve(g_s), s	3.7	10.4	10.5	1.9	9.4	9.5	2.1	0.0	6.9	1.8	4.9	3.1
Cycle Q Clear(g_c), s	3.7	10.4	10.5	1.9	9.4	9.5	2.1	0.0	6.9	1.8	4.9	3.1
Prop In Lane	1.00		0.22	1.00		0.38	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	176	493	499	126	441	435	353	0	262	338	268	227
V/C Ratio(X)	0.57	0.62	0.62	0.40	0.61	0.62	0.31	0.00	0.71	0.29	0.54	0.35
Avail Cap(c_a), veh/h	206	978	989	205	970	956	400	0	977	400	1029	872
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.7	21.8	21.8	30.6	22.9	23.0	28.8	0.0	28.0	28.9	27.4	26.7
Incr Delay (d2), s/veh	2.9	2.2	2.2	2.0	2.3	2.5	0.5	0.0	4.3	0.5	2.0	1.1
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(50%),veh/ln	1.7	4.4	4.4	0.8	3.9	4.0	0.8	0.0	3.1	0.7	2.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.6	24.0	24.0	32.6	25.3	25.4	29.3	0.0	32.3	29.4	29.4	27.8
LnGrp LOS	C	C	C	C	C	C	C	A	C	C	C	C
Approach Vol, veh/h		718			589			298			321	
Approach Delay, s/veh		25.2			26.0			31.2			29.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	24.3	14.0	16.9	11.9	26.2	13.8	17.2
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	8.0	38.0	8.0	38.0	8.0	38.0	8.0	38.0
Max Q Clear Time (g_c+I1), s	5.7	11.5	4.1	6.9	3.9	12.5	3.8	8.9
Green Ext Time (p_c), s	0.0	5.8	0.1	1.3	0.0	6.6	0.1	1.3

Intersection Summary	
HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	63	23	19	60	43	14	291	28	74	250	8
Future Volume (vph)	6	63	23	19	60	43	14	291	28	74	250	8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Adj. Flow (vph)	6	66	24	20	63	45	15	303	29	77	260	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	0	0	128	0	0	347	0	0	345	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

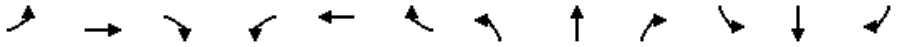
Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	63	23	19	60	43	14	291	28	74	250	8
Future Vol, veh/h	6	63	23	19	60	43	14	291	28	74	250	8
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	2	2	2	4	4	4	2	2	2
Mvmt Flow	6	66	24	20	63	45	15	303	29	77	260	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	820	780	264	811	770	318	268	0	0	332	0	0
Stage 1	418	418	-	348	348	-	-	-	-	-	-	-
Stage 2	402	362	-	463	422	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.12	6.52	6.22	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.518	4.018	3.318	2.236	-	-	2.218	-	-
Pot Cap-1 Maneuver	293	326	772	298	331	723	1284	-	-	1227	-	-
Stage 1	610	589	-	668	634	-	-	-	-	-	-	-
Stage 2	623	623	-	579	588	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	216	298	772	224	302	723	1284	-	-	1227	-	-
Mov Cap-2 Maneuver	216	298	-	224	302	-	-	-	-	-	-	-
Stage 1	601	545	-	659	625	-	-	-	-	-	-	-
Stage 2	519	614	-	457	544	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.6	20.6	0.3	1.8
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1284	-	-	342	356	1227	-	-
HCM Lane V/C Ratio	0.011	-	-	0.28	0.357	0.063	-	-
HCM Control Delay (s)	7.8	0	-	19.6	20.6	8.1	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	1.6	0.2	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	2	78	1	4	6	72	328	0	2	287	108
Future Volume (vph)	68	2	78	1	4	6	72	328	0	2	287	108
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	27%	27%	27%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	74	2	85	1	4	7	78	357	0	2	312	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	161	0	0	12	0	0	435	0	0	431	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	68	2	78	1	4	6	72	328	0	2	287	108
Future Vol, veh/h	68	2	78	1	4	6	72	328	0	2	287	108
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	27	27	27	4	4	4	4	4	4
Mvmt Flow	74	2	85	1	4	7	78	357	0	2	312	117

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	894	888	371	931	946	357	429	0	0	357	0	0
Stage 1	375	375	-	513	513	-	-	-	-	-	-	-
Stage 2	519	513	-	418	433	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.37	6.77	6.47	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.37	5.77	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.37	5.77	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.743	4.243	3.543	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	259	280	668	223	238	634	1120	-	-	1191	-	-
Stage 1	640	612	-	501	497	-	-	-	-	-	-	-
Stage 2	534	531	-	566	541	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	235	255	668	180	217	634	1120	-	-	1191	-	-
Mov Cap-2 Maneuver	235	255	-	180	217	-	-	-	-	-	-	-
Stage 1	584	611	-	457	454	-	-	-	-	-	-	-
Stage 2	478	485	-	491	540	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23	16.4	1.5	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1120	-	-	358	329	1191	-	-
HCM Lane V/C Ratio	0.07	-	-	0.449	0.036	0.002	-	-
HCM Control Delay (s)	8.5	0	-	23	16.4	8	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	2.2	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	62	0	41	0	367	35	19	339	0
Future Volume (vph)	0	0	0	62	0	41	0	367	35	19	339	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	5%	5%	5%	4%	4%	4%
Adj. Flow (vph)	0	0	0	67	0	45	0	399	38	21	368	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	112	0	0	437	0	0	389	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	62	0	41	0	367	35	19	339	0
Future Vol, veh/h	0	0	0	62	0	41	0	367	35	19	339	0
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	10	10	10	5	5	5	4	4	4
Mvmt Flow	0	0	0	67	0	45	0	399	38	21	368	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	851	847	368	828	828	418	368	0	0	437	0	0
Stage 1	410	410	-	418	418	-	-	-	-	-	-	-
Stage 2	441	437	-	410	410	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.2	6.6	6.3	4.15	-	-	4.14	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.59	4.09	3.39	2.245	-	-	2.236	-	-
Pot Cap-1 Maneuver	280	299	677	281	298	618	1174	-	-	1112	-	-
Stage 1	619	595	-	597	577	-	-	-	-	-	-	-
Stage 2	595	579	-	603	582	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	255	292	677	276	291	618	1174	-	-	1112	-	-
Mov Cap-2 Maneuver	255	292	-	276	291	-	-	-	-	-	-	-
Stage 1	619	581	-	597	577	-	-	-	-	-	-	-
Stage 2	552	579	-	589	568	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	19.8	0	0.4
HCM LOS	A	C		

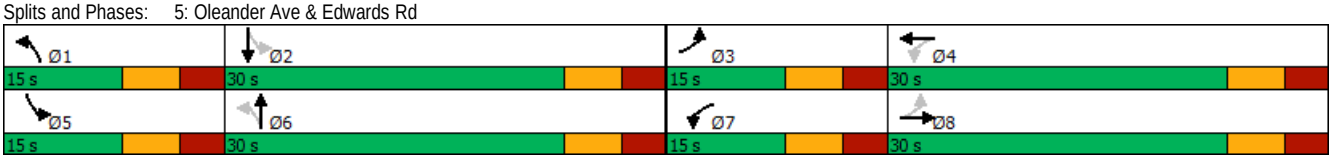
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1174	-	-	-	354	1112	-	-
HCM Lane V/C Ratio	-	-	-	-	0.316	0.019	-	-
HCM Control Delay (s)	0	-	-	0	19.8	8.3	0	-
HCM Lane LOS	A	-	-	A	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	1.3	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	301	211	31	339	37	173	288	40	52	200	76
Future Volume (vph)	93	301	211	31	339	37	173	288	40	52	200	76
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	98	317	222	33	357	39	182	303	42	55	211	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	539	0	33	396	0	182	345	0	55	291	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		8.0	10.0		8.0	10.0	
Minimum Split (s)	13.0	17.0		13.0	17.0		15.0	17.0		15.0	17.0	
Total Split (s)	15.0	30.0		15.0	30.0		15.0	30.0		15.0	30.0	
Total Split (%)	16.7%	33.3%		16.7%	33.3%		16.7%	33.3%		16.7%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
v/c Ratio	0.28	0.50		0.11	0.54		0.46	0.55		0.13	0.67	
Control Delay	18.5	17.0		16.7	29.7		19.8	29.0		15.3	33.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.5	17.0		16.7	29.7		19.8	29.0		15.3	33.8	
Queue Length 50th (ft)	31	61		10	91		54	153		15	118	
Queue Length 95th (ft)	65	141		28	140		111	#293		41	221	
Internal Link Dist (ft)		2737			3439			4912			1451	
Turn Bay Length (ft)	295			350			150					
Base Capacity (vph)	356	1268		336	1124		398	640		416	591	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.28	0.43		0.10	0.35		0.46	0.54		0.13	0.49	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 74.6
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Oleander Ave & Edwards Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	301	211	31	339	37	173	288	40	52	200	76
Future Volume (veh/h)	93	301	211	31	339	37	173	288	40	52	200	76
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	1841	1841	1841	1856	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	98	317	0	33	357	0	182	303	42	55	211	80
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	3	3	3	2	2	2	2	2	2
Cap, veh/h	318	701		312	581		378	396	55	324	265	100
Arrive On Green	0.08	0.20	0.00	0.04	0.16	0.00	0.12	0.25	0.25	0.08	0.20	0.20
Sat Flow, veh/h	1753	3589	0	1767	3618	0	1781	1607	223	1781	1292	490
Grp Volume(v), veh/h	98	317	0	33	357	0	182	0	345	55	0	291
Grp Sat Flow(s),veh/h/ln	1753	1749	0	1767	1763	0	1781	0	1830	1781	0	1782
Q Serve(g_s), s	2.9	5.1	0.0	1.0	6.1	0.0	5.0	0.0	11.3	1.5	0.0	10.0
Cycle Q Clear(g_c), s	2.9	5.1	0.0	1.0	6.1	0.0	5.0	0.0	11.3	1.5	0.0	10.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.12	1.00		0.27
Lane Grp Cap(c), veh/h	318	701		312	581		378	0	451	324	0	365
V/C Ratio(X)	0.31	0.45		0.11	0.61		0.48	0.00	0.76	0.17	0.00	0.80
Avail Cap(c_a), veh/h	400	1247		458	1257		387	0	653	406	0	635
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	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.0	22.7	0.0	20.8	25.0	0.0	17.3	0.0	22.6	17.7	0.0	24.4
Incr Delay (d2), s/veh	0.5	0.7	0.0	0.1	1.5	0.0	1.0	0.0	3.3	0.2	0.0	4.0
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(50%),veh/ln	1.1	2.0	0.0	0.4	2.5	0.0	1.9	0.0	4.8	0.6	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	23.3	0.0	20.9	26.5	0.0	18.3	0.0	25.9	18.0	0.0	28.4
LnGrp LOS	C	C		C	C		B	A	C	B	A	C
Approach Vol, veh/h		415	A		390	A		527			346	
Approach Delay, s/veh		22.7			26.1			23.2			26.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	20.2	12.0	17.6	12.0	22.9	9.7	19.9
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	8.0	23.0	8.0	23.0	8.0	23.0	8.0	23.0
Max Q Clear Time (g_c+I1), s	7.0	12.0	4.9	8.1	3.5	13.3	3.0	7.1
Green Ext Time (p_c), s	0.1	1.2	0.1	2.6	0.0	1.4	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

Notes

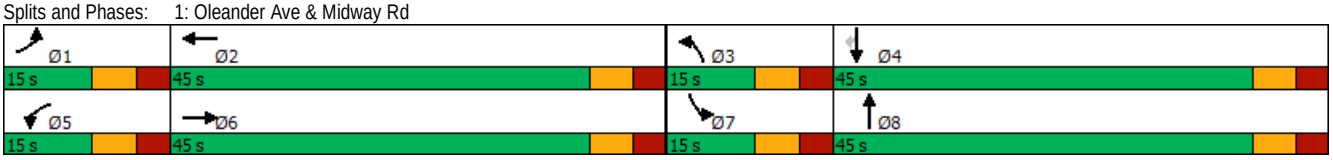
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

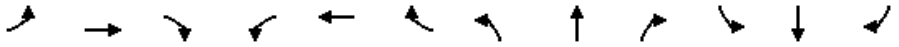
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	398	106	28	365	45	119	153	62	58	145	57
Future Volume (vph)	106	398	106	28	365	45	119	153	62	58	145	57
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	7%	7%	7%	6%	6%	6%	5%	5%	5%
Adj. Flow (vph)	114	428	114	30	392	48	128	165	67	62	156	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	542	0	30	440	0	128	232	0	62	156	61
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												4
Detector Phase	1	6		5	2		3	8		7	4	4
Switch Phase												
Minimum Initial (s)	8.0	10.0		8.0	10.0		8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	15.0	17.5		15.0	17.5		15.0	15.0		15.0	15.0	15.0
Total Split (s)	15.0	45.0		15.0	45.0		15.0	45.0		15.0	45.0	45.0
Total Split (%)	12.5%	37.5%		12.5%	37.5%		12.5%	37.5%		12.5%	37.5%	37.5%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None		None	None	None
v/c Ratio	0.65	0.44		0.18	0.54		0.38	0.54		0.18	0.44	0.14
Control Delay	57.7	21.7		40.6	28.6		40.7	32.2		38.7	33.0	0.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	57.7	21.7		40.6	28.6		40.7	32.2		38.7	33.0	0.7
Queue Length 50th (ft)	54	86		14	97		30	95		14	66	0
Queue Length 95th (ft)	#167	192		47	158		70	192		39	138	0
Internal Link Dist (ft)		1626			1766			1811			2560	
Turn Bay Length (ft)	400			300			275			200		200
Base Capacity (vph)	175	1626		171	1613		336	839		339	876	829
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.65	0.33		0.18	0.27		0.38	0.28		0.18	0.18	0.07

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 80.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Oleander Ave & Midway Rd





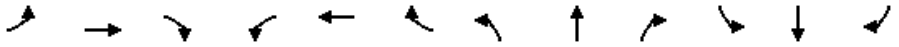
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	398	106	28	365	45	119	153	62	58	145	57
Future Volume (veh/h)	106	398	106	28	365	45	119	153	62	58	145	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1826	1826	1826	1796	1796	1796	1811	1811	1811	1826	1826	1826
Adj Flow Rate, veh/h	114	428	114	30	392	48	128	165	67	62	156	61
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	5	7	7	7	6	6	6	5	5	5
Cap, veh/h	182	730	193	87	659	80	362	222	90	275	283	240
Arrive On Green	0.10	0.27	0.27	0.05	0.22	0.22	0.11	0.18	0.18	0.08	0.16	0.16
Sat Flow, veh/h	1739	2715	717	1711	3063	373	3346	1224	497	3374	1826	1547
Grp Volume(v), veh/h	114	272	270	30	217	223	128	0	232	62	156	61
Grp Sat Flow(s),veh/h/ln	1739	1735	1697	1711	1706	1729	1673	0	1722	1687	1826	1547
Q Serve(g_s), s	4.2	9.1	9.3	1.1	7.7	7.8	2.4	0.0	8.6	1.2	5.3	2.3
Cycle Q Clear(g_c), s	4.2	9.1	9.3	1.1	7.7	7.8	2.4	0.0	8.6	1.2	5.3	2.3
Prop In Lane	1.00		0.42	1.00		0.22	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	182	466	456	87	367	372	362	0	313	275	283	240
V/C Ratio(X)	0.62	0.58	0.59	0.34	0.59	0.60	0.35	0.00	0.74	0.23	0.55	0.25
Avail Cap(c_a), veh/h	207	981	960	204	965	978	399	0	974	402	1033	875
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	21.3	21.3	30.8	23.7	23.8	27.8	0.0	26.0	28.9	26.2	25.0
Incr Delay (d2), s/veh	4.7	2.0	2.1	2.3	2.6	2.6	0.6	0.0	4.2	0.4	2.0	0.7
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(50%),veh/ln	1.9	3.7	3.7	0.5	3.2	3.3	0.9	0.0	3.6	0.5	2.3	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.5	23.3	23.4	33.1	26.3	26.4	28.4	0.0	30.2	29.3	28.2	25.6
LnGrp LOS	C	C	C	C	C	C	C	A	C	C	C	C
Approach Vol, veh/h		656			470			360			279	
Approach Delay, s/veh		25.1			26.8			29.5			27.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	21.4	14.3	17.4	10.4	25.1	12.5	19.2
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	8.0	38.0	8.0	38.0	8.0	38.0	8.0	38.0
Max Q Clear Time (g_c+I1), s	6.2	9.8	4.4	7.3	3.1	11.3	3.2	10.6
Green Ext Time (p_c), s	0.0	4.7	0.1	1.3	0.0	5.9	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	26.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	70	35	21	87	57	10	271	35	57	208	8
Future Volume (vph)	6	70	35	21	87	57	10	271	35	57	208	8
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	5%	5%	7%	7%	7%	7%	7%	7%	6%	6%	6%
Adj. Flow (vph)	7	77	38	23	96	63	11	298	38	63	229	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	122	0	0	182	0	0	347	0	0	301	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

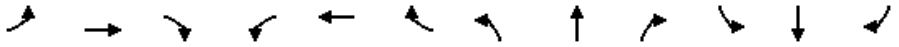
Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	70	35	21	87	57	10	271	35	57	208	8
Future Vol, veh/h	6	70	35	21	87	57	10	271	35	57	208	8
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	5	5	5	7	7	7	7	7	7	6	6	6
Mvmt Flow	7	77	38	23	96	63	11	298	38	63	229	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	779	718	234	756	703	317	238	0	0	336	0	0
Stage 1	360	360	-	339	339	-	-	-	-	-	-	-
Stage 2	419	358	-	417	364	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.17	6.57	6.27	4.17	-	-	4.16	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.17	5.57	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.17	5.57	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.563	4.063	3.363	2.263	-	-	2.254	-	-
Pot Cap-1 Maneuver	310	351	798	318	356	712	1300	-	-	1201	-	-
Stage 1	652	621	-	665	631	-	-	-	-	-	-	-
Stage 2	606	622	-	603	615	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	209	327	798	235	331	712	1300	-	-	1201	-	-
Mov Cap-2 Maneuver	209	327	-	235	331	-	-	-	-	-	-	-
Stage 1	645	584	-	658	625	-	-	-	-	-	-	-
Stage 2	463	616	-	468	578	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.5	22.7	0.2	1.7
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1300	-	-	387	382	1201	-	-
HCM Lane V/C Ratio	0.008	-	-	0.315	0.475	0.052	-	-
HCM Control Delay (s)	7.8	0	-	18.5	22.7	8.2	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.3	2.5	0.2	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	2	86	1	1	5	67	303	4	8	273	69
Future Volume (vph)	72	2	86	1	1	5	67	303	4	8	273	69
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	5%	5%	14%	14%	14%	7%	7%	7%	8%	8%	8%
Adj. Flow (vph)	79	2	95	1	1	5	74	333	4	9	300	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	176	0	0	7	0	0	411	0	0	385	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	72	2	86	1	1	5	67	303	4	8	273	69
Future Vol, veh/h	72	2	86	1	1	5	67	303	4	8	273	69
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	5	5	5	14	14	14	7	7	7	8	8	8
Mvmt Flow	79	2	95	1	1	5	74	333	4	9	300	76

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	842	841	338	888	877	335	376	0	0	337	0	0
Stage 1	356	356	-	483	483	-	-	-	-	-	-	-
Stage 2	486	485	-	405	394	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.24	6.64	6.34	4.17	-	-	4.18	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.24	5.64	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.24	5.64	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.626	4.126	3.426	2.263	-	-	2.272	-	-
Pot Cap-1 Maneuver	281	298	697	252	274	680	1156	-	-	1189	-	-
Stage 1	655	624	-	543	533	-	-	-	-	-	-	-
Stage 2	557	547	-	599	585	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	259	272	697	202	250	680	1156	-	-	1189	-	-
Mov Cap-2 Maneuver	259	272	-	202	250	-	-	-	-	-	-	-
Stage 1	603	618	-	500	491	-	-	-	-	-	-	-
Stage 2	508	504	-	511	579	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.5	13.5	1.5	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1156	-	-	391	429	1189	-	-
HCM Lane V/C Ratio	0.064	-	-	0.45	0.018	0.007	-	-
HCM Control Delay (s)	8.3	0	-	21.5	13.5	8.1	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	2.3	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	1	39	1	33	1	312	69	36	313	9
Future Volume (vph)	1	1	1	39	1	33	1	312	69	36	313	9
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	33%	33%	33%	12%	12%	12%	5%	5%	5%	8%	8%	8%
Adj. Flow (vph)	1	1	1	44	1	38	1	355	78	41	356	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	83	0	0	434	0	0	407	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	1	39	1	33	1	312	69	36	313	9
Future Vol, veh/h	1	1	1	39	1	33	1	312	69	36	313	9
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	33	33	33	12	12	12	5	5	5	8	8	8
Mvmt Flow	1	1	1	44	1	38	1	355	78	41	356	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	859	878	361	840	844	394	366	0	0	433	0	0
Stage 1	443	443	-	396	396	-	-	-	-	-	-	-
Stage 2	416	435	-	444	448	-	-	-	-	-	-	-
Critical Hdwy	7.43	6.83	6.53	7.22	6.62	6.32	4.15	-	-	4.18	-	-
Critical Hdwy Stg 1	6.43	5.83	-	6.22	5.62	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.43	5.83	-	6.22	5.62	-	-	-	-	-	-	-
Follow-up Hdwy	3.797	4.297	3.597	3.608	4.108	3.408	2.245	-	-	2.272	-	-
Pot Cap-1 Maneuver	245	256	619	274	289	634	1176	-	-	1095	-	-
Stage 1	538	526	-	610	587	-	-	-	-	-	-	-
Stage 2	557	531	-	574	556	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	221	244	619	262	275	634	1176	-	-	1095	-	-
Mov Cap-2 Maneuver	221	244	-	262	275	-	-	-	-	-	-	-
Stage 1	537	501	-	609	586	-	-	-	-	-	-	-
Stage 2	523	530	-	545	530	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.4	18.1	0	0.8
HCM LOS	C	C		

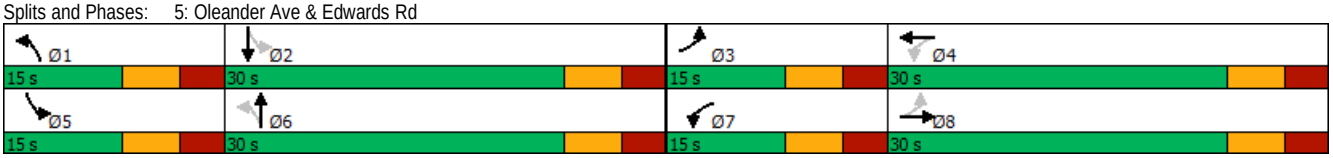
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1176	-	-	293	357	1095	-	-
HCM Lane V/C Ratio	0.001	-	-	0.012	0.232	0.037	-	-
HCM Control Delay (s)	8.1	0	-	17.4	18.1	8.4	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.9	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	350	204	28	229	30	161	213	51	42	191	65
Future Volume (vph)	53	350	204	28	229	30	161	213	51	42	191	65
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
Heavy Vehicles (%)	7%	7%	7%	10%	10%	10%	8%	8%	8%	5%	5%	5%
Adj. Flow (vph)	56	372	217	30	244	32	171	227	54	45	203	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	589	0	30	276	0	171	281	0	45	272	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		8.0	10.0		8.0	10.0	
Minimum Split (s)	13.0	17.0		13.0	17.0		15.0	17.0		15.0	17.0	
Total Split (s)	15.0	30.0		15.0	30.0		15.0	30.0		15.0	30.0	
Total Split (%)	16.7%	33.3%		16.7%	33.3%		16.7%	33.3%		16.7%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
v/c Ratio	0.15	0.62		0.11	0.37		0.42	0.47		0.10	0.65	
Control Delay	16.7	22.1		16.5	25.1		18.9	26.5		15.0	32.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.7	22.1		16.5	25.1		18.9	26.5		15.0	32.9	
Queue Length 50th (ft)	16	78		8	55		45	109		11	102	
Queue Length 95th (ft)	42	181		26	98		106	221		35	209	
Internal Link Dist (ft)		2737			3439			4912			1451	
Turn Bay Length (ft)	295			350			150					
Base Capacity (vph)	378	1202		293	1116		403	637		452	609	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.15	0.49		0.10	0.25		0.42	0.44		0.10	0.45	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 70.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Oleander Ave & Edwards Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	350	204	28	229	30	161	213	51	42	191	65
Future Volume (veh/h)	53	350	204	28	229	30	161	213	51	42	191	65
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	1796	1796	1796	1752	1752	1752	1781	1781	1781	1826	1826	1826
Adj Flow Rate, veh/h	56	372	0	30	244	0	171	227	54	45	203	69
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, %	7	7	7	10	10	10	8	8	8	5	5	5
Cap, veh/h	325	626		261	541		380	351	84	353	260	88
Arrive On Green	0.06	0.18	0.00	0.04	0.16	0.00	0.12	0.25	0.25	0.07	0.20	0.20
Sat Flow, veh/h	1711	3503	0	1668	3416	0	1697	1391	331	1739	1303	443
Grp Volume(v), veh/h	56	372	0	30	244	0	171	0	281	45	0	272
Grp Sat Flow(s),veh/h/ln	1711	1706	0	1668	1664	0	1697	0	1722	1739	0	1746
Q Serve(g_s), s	1.6	6.1	0.0	0.9	4.1	0.0	4.7	0.0	9.0	1.2	0.0	9.1
Cycle Q Clear(g_c), s	1.6	6.1	0.0	0.9	4.1	0.0	4.7	0.0	9.0	1.2	0.0	9.1
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.19	1.00		0.25
Lane Grp Cap(c), veh/h	325	626		261	541		380	0	435	353	0	348
V/C Ratio(X)	0.17	0.59		0.11	0.45		0.45	0.00	0.65	0.13	0.00	0.78
Avail Cap(c_a), veh/h	445	1276		413	1244		392	0	644	458	0	653
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	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.4	23.0	0.0	20.2	23.3	0.0	16.5	0.0	20.5	17.2	0.0	23.4
Incr Delay (d2), s/veh	0.2	1.3	0.0	0.2	0.8	0.0	0.8	0.0	1.6	0.2	0.0	3.9
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(50%),veh/ln	0.6	2.4	0.0	0.3	1.5	0.0	1.7	0.0	3.4	0.4	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.6	24.3	0.0	20.4	24.1	0.0	17.4	0.0	22.2	17.3	0.0	27.2
LnGrp LOS	B	C		C	C		B	A	C	B	A	C
Approach Vol, veh/h		428	A		274	A		452			317	
Approach Delay, s/veh		23.7			23.7			20.3			25.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	19.3	10.7	17.0	11.3	22.5	9.4	18.3
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	8.0	23.0	8.0	23.0	8.0	23.0	8.0	23.0
Max Q Clear Time (g_c+I1), s	6.7	11.1	3.6	6.1	3.2	11.0	2.9	8.1
Green Ext Time (p_c), s	0.1	1.2	0.0	1.8	0.0	1.2	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	23.1
HCM 6th LOS	C

Notes

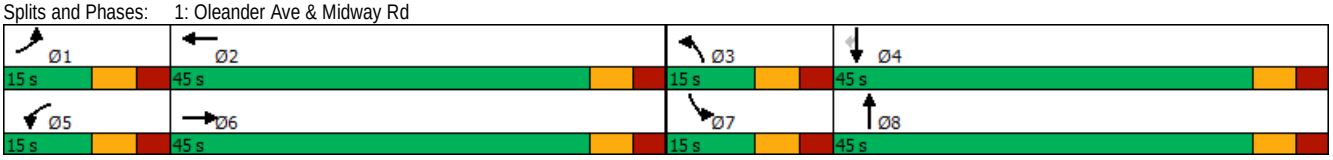
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

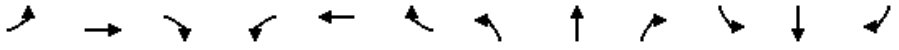
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	568	72	52	454	105	116	137	57	100	149	83
Future Volume (vph)	104	568	72	52	454	105	116	137	57	100	149	83
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	108	592	75	54	473	109	121	143	59	104	155	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	667	0	54	582	0	121	202	0	104	155	86
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												4
Detector Phase	1	6		5	2		3	8		7	4	4
Switch Phase												
Minimum Initial (s)	8.0	10.0		8.0	10.0		8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	15.0	17.5		15.0	17.5		15.0	15.0		15.0	15.0	15.0
Total Split (s)	15.0	45.0		15.0	45.0		15.0	45.0		15.0	45.0	45.0
Total Split (%)	12.5%	37.5%		12.5%	37.5%		12.5%	37.5%		12.5%	37.5%	37.5%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None		None	None	None
v/c Ratio	0.63	0.57		0.32	0.58		0.36	0.50		0.31	0.48	0.21
Control Delay	57.8	26.3		45.0	26.8		42.2	33.9		41.6	37.2	1.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	57.8	26.3		45.0	26.8		42.2	33.9		41.6	37.2	1.1
Queue Length 50th (ft)	55	155		27	129		30	89		26	74	0
Queue Length 95th (ft)	#160	235		73	199		68	177		60	145	0
Internal Link Dist (ft)		1626			1766			1811			2560	
Turn Bay Length (ft)	400			300			275			200		200
Base Capacity (vph)	172	1612		170	1585		333	832		333	859	819
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.63	0.41		0.32	0.37		0.36	0.24		0.31	0.18	0.11

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 83.8
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Oleander Ave & Midway Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	568	72	52	454	105	116	137	57	100	149	83
Future Volume (veh/h)	104	568	72	52	454	105	116	137	57	100	149	83
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	1870	1856	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	592	75	54	473	109	121	143	59	104	155	86
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	3	3	3	2	2	2	2	2	2
Cap, veh/h	174	917	116	129	753	172	348	195	80	334	283	240
Arrive On Green	0.10	0.29	0.29	0.07	0.26	0.26	0.10	0.16	0.16	0.10	0.15	0.15
Sat Flow, veh/h	1781	3174	401	1767	2849	652	3456	1258	519	3456	1870	1585
Grp Volume(v), veh/h	108	331	336	54	292	290	121	0	202	104	155	86
Grp Sat Flow(s),veh/h/ln	1781	1777	1798	1767	1763	1738	1728	0	1777	1728	1870	1585
Q Serve(g_s), s	4.2	11.8	11.9	2.1	10.6	10.7	2.4	0.0	7.9	2.0	5.6	3.5
Cycle Q Clear(g_c), s	4.2	11.8	11.9	2.1	10.6	10.7	2.4	0.0	7.9	2.0	5.6	3.5
Prop In Lane	1.00		0.22	1.00		0.38	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	174	513	520	129	466	459	348	0	276	334	283	240
V/C Ratio(X)	0.62	0.64	0.65	0.42	0.63	0.63	0.35	0.00	0.73	0.31	0.55	0.36
Avail Cap(c_a), veh/h	196	931	942	195	924	911	381	0	931	381	980	830
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	22.5	22.5	32.1	23.5	23.6	30.4	0.0	29.2	30.5	28.5	27.6
Incr Delay (d2), s/veh	4.8	2.3	2.3	2.1	2.4	2.5	0.6	0.0	4.5	0.5	2.0	1.1
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(50%),veh/ln	2.0	5.0	5.1	1.0	4.5	4.5	1.0	0.0	3.5	0.8	2.5	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	24.9	24.9	34.3	25.9	26.0	31.0	0.0	33.7	31.0	30.5	28.7
LnGrp LOS	D	C	C	C	C	C	C	A	C	C	C	C
Approach Vol, veh/h		775			636			323			345	
Approach Delay, s/veh		26.4			26.7			32.7			30.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	26.2	14.3	18.0	12.3	28.0	14.0	18.2
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	8.0	38.0	8.0	38.0	8.0	38.0	8.0	38.0
Max Q Clear Time (g_c+I1), s	6.2	12.7	4.4	7.6	4.1	13.9	4.0	9.9
Green Ext Time (p_c), s	0.0	6.2	0.1	1.4	0.0	7.1	0.1	1.4

Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	68	25	21	65	46	15	314	30	80	270	9
Future Volume (vph)	6	68	25	21	65	46	15	314	30	80	270	9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Adj. Flow (vph)	6	71	26	22	68	48	16	327	31	83	281	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	138	0	0	374	0	0	373	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	68	25	21	65	46	15	314	30	80	270	9
Future Vol, veh/h	6	68	25	21	65	46	15	314	30	80	270	9
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	2	2	2	4	4	4	2	2	2
Mvmt Flow	6	71	26	22	68	48	16	327	31	83	281	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	885	842	286	875	831	343	290	0	0	358	0	0
Stage 1	452	452	-	375	375	-	-	-	-	-	-	-
Stage 2	433	390	-	500	456	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.12	6.52	6.22	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.518	4.018	3.318	2.236	-	-	2.218	-	-
Pot Cap-1 Maneuver	265	300	751	270	305	700	1260	-	-	1201	-	-
Stage 1	585	569	-	646	617	-	-	-	-	-	-	-
Stage 2	599	606	-	553	568	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	186	271	751	193	275	700	1260	-	-	1201	-	-
Mov Cap-2 Maneuver	186	271	-	193	275	-	-	-	-	-	-	-
Stage 1	576	522	-	636	607	-	-	-	-	-	-	-
Stage 2	488	596	-	423	521	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.1	24.4	0.3	1.8
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1260	-	-	313	321	1201	-	-
HCM Lane V/C Ratio	0.012	-	-	0.329	0.428	0.069	-	-
HCM Control Delay (s)	7.9	0	-	22.1	24.4	8.2	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.4	2.1	0.2	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	2	85	1	4	6	79	357	0	2	313	118
Future Volume (vph)	75	2	85	1	4	6	79	357	0	2	313	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	27%	27%	27%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	82	2	92	1	4	7	86	388	0	2	340	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	176	0	0	12	0	0	474	0	0	470	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	75	2	85	1	4	6	79	357	0	2	313	118
Future Vol, veh/h	75	2	85	1	4	6	79	357	0	2	313	118
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	27	27	27	4	4	4	4	4	4
Mvmt Flow	82	2	92	1	4	7	86	388	0	2	340	128

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	974	968	404	1015	1032	388	468	0	0	388	0	0
Stage 1	408	408	-	560	560	-	-	-	-	-	-	-
Stage 2	566	560	-	455	472	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.37	6.77	6.47	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.37	5.77	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.37	5.77	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.743	4.243	3.543	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	228	251	640	195	211	609	1083	-	-	1160	-	-
Stage 1	614	592	-	471	472	-	-	-	-	-	-	-
Stage 2	504	506	-	540	519	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	204	225	640	153	189	609	1083	-	-	1160	-	-
Mov Cap-2 Maneuver	204	225	-	153	189	-	-	-	-	-	-	-
Stage 1	552	591	-	423	424	-	-	-	-	-	-	-
Stage 2	444	455	-	459	518	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	29.5	17.8	1.6	0
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1083	-	-	318	293	1160	-	-
HCM Lane V/C Ratio	0.079	-	-	0.554	0.041	0.002	-	-
HCM Control Delay (s)	8.6	0	-	29.5	17.8	8.1	0	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	3.2	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	67	0	44	0	396	38	21	366	0
Future Volume (vph)	0	0	0	67	0	44	0	396	38	21	366	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	5%	5%	5%	4%	4%	4%
Adj. Flow (vph)	0	0	0	73	0	48	0	430	41	23	398	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	121	0	0	471	0	0	421	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	67	0	44	0	396	38	21	366	0
Future Vol, veh/h	0	0	0	67	0	44	0	396	38	21	366	0
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	10	10	10	5	5	5	4	4	4
Mvmt Flow	0	0	0	73	0	48	0	430	41	23	398	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	919	915	398	895	895	451	398	0	0	471	0	0
Stage 1	444	444	-	451	451	-	-	-	-	-	-	-
Stage 2	475	471	-	444	444	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.2	6.6	6.3	4.15	-	-	4.14	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.59	4.09	3.39	2.245	-	-	2.236	-	-
Pot Cap-1 Maneuver	252	273	652	253	272	592	1144	-	-	1080	-	-
Stage 1	593	575	-	573	558	-	-	-	-	-	-	-
Stage 2	570	560	-	578	562	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	227	266	652	248	265	592	1144	-	-	1080	-	-
Mov Cap-2 Maneuver	227	266	-	248	265	-	-	-	-	-	-	-
Stage 1	593	559	-	573	558	-	-	-	-	-	-	-
Stage 2	524	560	-	562	547	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	22.7	0	0.5
HCM LOS	A	C		

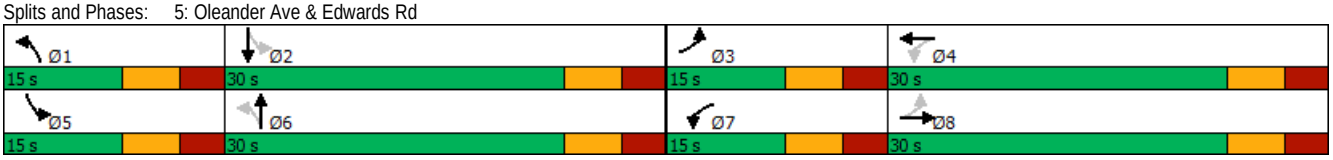
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1144	-	-	-	322	1080	-	-
HCM Lane V/C Ratio	-	-	-	-	0.375	0.021	-	-
HCM Control Delay (s)	0	-	-	0	22.7	8.4	0	-
HCM Lane LOS	A	-	-	A	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	1.7	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	325	228	33	366	40	187	311	43	56	216	82
Future Volume (vph)	100	325	228	33	366	40	187	311	43	56	216	82
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	105	342	240	35	385	42	197	327	45	59	227	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	105	582	0	35	427	0	197	372	0	59	313	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		8.0	10.0		8.0	10.0	
Minimum Split (s)	13.0	17.0		13.0	17.0		15.0	17.0		15.0	17.0	
Total Split (s)	15.0	30.0		15.0	30.0		15.0	30.0		15.0	30.0	
Total Split (%)	16.7%	33.3%		16.7%	33.3%		16.7%	33.3%		16.7%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
v/c Ratio	0.32	0.58		0.12	0.56		0.51	0.59		0.15	0.71	
Control Delay	19.1	20.2		17.0	30.2		21.7	30.6		15.8	36.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.1	20.2		17.0	30.2		21.7	30.6		15.8	36.0	
Queue Length 50th (ft)	35	97		11	103		62	175		17	135	
Queue Length 95th (ft)	69	156		29	151		120	#332		43	240	
Internal Link Dist (ft)		2737			3439			4912			1451	
Turn Bay Length (ft)	295			350			150					
Base Capacity (vph)	343	1206		310	1103		385	633		398	580	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.31	0.48		0.11	0.39		0.51	0.59		0.15	0.54	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 76.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Oleander Ave & Edwards Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	325	228	33	366	40	187	311	43	56	216	82
Future Volume (veh/h)	100	325	228	33	366	40	187	311	43	56	216	82
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	1841	1841	1841	1856	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	342	0	35	385	0	197	327	45	59	227	86
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	3	3	3	2	2	2	2	2	2
Cap, veh/h	312	721		307	607		367	406	56	312	279	106
Arrive On Green	0.08	0.21	0.00	0.04	0.17	0.00	0.12	0.25	0.25	0.08	0.22	0.22
Sat Flow, veh/h	1753	3589	0	1767	3618	0	1781	1609	221	1781	1293	490
Grp Volume(v), veh/h	105	342	0	35	385	0	197	0	372	59	0	313
Grp Sat Flow(s),veh/h/ln	1753	1749	0	1767	1763	0	1781	0	1831	1781	0	1782
Q Serve(g_s), s	3.2	5.8	0.0	1.1	6.8	0.0	5.6	0.0	12.7	1.6	0.0	11.2
Cycle Q Clear(g_c), s	3.2	5.8	0.0	1.1	6.8	0.0	5.6	0.0	12.7	1.6	0.0	11.2
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.12	1.00		0.27
Lane Grp Cap(c), veh/h	312	721		307	607		367	0	462	312	0	384
V/C Ratio(X)	0.34	0.47		0.11	0.63		0.54	0.00	0.80	0.19	0.00	0.81
Avail Cap(c_a), veh/h	387	1203		443	1213		372	0	630	383	0	613
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	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.4	23.3	0.0	21.1	25.7	0.0	17.9	0.0	23.4	18.0	0.0	25.0
Incr Delay (d2), s/veh	0.6	0.7	0.0	0.2	1.6	0.0	1.5	0.0	5.4	0.3	0.0	4.5
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(50%),veh/ln	1.3	2.3	0.0	0.4	2.8	0.0	2.2	0.0	5.7	0.6	0.0	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	24.0	0.0	21.3	27.3	0.0	19.4	0.0	28.9	18.3	0.0	29.5
LnGrp LOS	C	C		C	C		B	A	C	B	A	C
Approach Vol, veh/h		447	A		420	A		569			372	
Approach Delay, s/veh		23.3			26.8			25.6			27.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.8	21.4	12.1	18.5	12.3	23.9	9.9	20.8
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	8.0	23.0	8.0	23.0	8.0	23.0	8.0	23.0
Max Q Clear Time (g_c+I1), s	7.6	13.2	5.2	8.8	3.6	14.7	3.1	7.8
Green Ext Time (p_c), s	0.0	1.2	0.1	2.7	0.0	1.4	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Notes

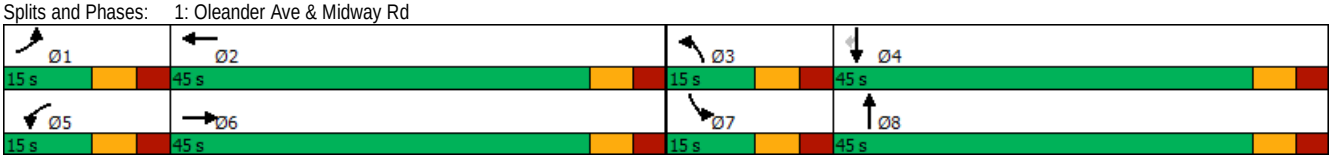
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	398	106	28	365	45	119	154	62	58	148	63
Future Volume (vph)	108	398	106	28	365	45	119	154	62	58	148	63
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	7%	7%	7%	6%	6%	6%	5%	5%	5%
Adj. Flow (vph)	116	428	114	30	392	48	128	166	67	62	159	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	542	0	30	440	0	128	233	0	62	159	68
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												4
Detector Phase	1	6		5	2		3	8		7	4	4
Switch Phase												
Minimum Initial (s)	8.0	10.0		8.0	10.0		8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	15.0	17.5		15.0	17.5		15.0	15.0		15.0	15.0	15.0
Total Split (s)	15.0	45.0		15.0	45.0		15.0	45.0		15.0	45.0	45.0
Total Split (%)	12.5%	37.5%		12.5%	37.5%		12.5%	37.5%		12.5%	37.5%	37.5%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None		None	None	None
v/c Ratio	0.66	0.44		0.18	0.54		0.38	0.54		0.18	0.44	0.16
Control Delay	58.5	21.8		40.7	28.7		40.8	32.2		38.8	33.1	0.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	58.5	21.8		40.7	28.7		40.8	32.2		38.8	33.1	0.8
Queue Length 50th (ft)	55	87		14	97		30	95		14	67	0
Queue Length 95th (ft)	#171	192		47	158		70	193		39	141	0
Internal Link Dist (ft)		1626			1766			1811			2560	
Turn Bay Length (ft)	400			300			275			200		200
Base Capacity (vph)	175	1624		171	1611		336	838		339	875	828
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.66	0.33		0.18	0.27		0.38	0.28		0.18	0.18	0.08

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 80.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Oleander Ave & Midway Rd





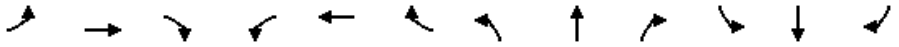
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	398	106	28	365	45	119	154	62	58	148	63
Future Volume (veh/h)	108	398	106	28	365	45	119	154	62	58	148	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1826	1826	1826	1796	1796	1796	1811	1811	1811	1826	1826	1826
Adj Flow Rate, veh/h	116	428	114	30	392	48	128	166	67	62	159	68
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	5	5	5	7	7	7	6	6	6	5	5	5
Cap, veh/h	183	731	193	87	658	80	361	223	90	275	284	241
Arrive On Green	0.11	0.27	0.27	0.05	0.21	0.21	0.11	0.18	0.18	0.08	0.16	0.16
Sat Flow, veh/h	1739	2715	717	1711	3063	373	3346	1227	495	3374	1826	1547
Grp Volume(v), veh/h	116	272	270	30	217	223	128	0	233	62	159	68
Grp Sat Flow(s),veh/h/ln	1739	1735	1697	1711	1706	1729	1673	0	1722	1687	1826	1547
Q Serve(g_s), s	4.3	9.1	9.3	1.1	7.7	7.8	2.4	0.0	8.6	1.2	5.4	2.6
Cycle Q Clear(g_c), s	4.3	9.1	9.3	1.1	7.7	7.8	2.4	0.0	8.6	1.2	5.4	2.6
Prop In Lane	1.00		0.42	1.00		0.22	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	183	467	457	87	367	372	361	0	314	275	284	241
V/C Ratio(X)	0.63	0.58	0.59	0.34	0.59	0.60	0.35	0.00	0.74	0.23	0.56	0.28
Avail Cap(c_a), veh/h	207	980	958	203	964	977	398	0	972	401	1031	874
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.9	21.3	21.4	30.8	23.8	23.8	27.8	0.0	26.0	28.9	26.3	25.1
Incr Delay (d2), s/veh	5.1	2.0	2.1	2.3	2.6	2.6	0.6	0.0	4.2	0.4	2.1	0.8
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(50%),veh/ln	2.0	3.7	3.7	0.5	3.2	3.3	0.9	0.0	3.6	0.5	2.4	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	23.3	23.5	33.2	26.4	26.4	28.4	0.0	30.2	29.3	28.3	25.9
LnGrp LOS	C	C	C	C	C	C	C	A	C	C	C	C
Approach Vol, veh/h		658			470			361			289	
Approach Delay, s/veh		25.2			26.8			29.6			28.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	21.5	14.3	17.5	10.4	25.1	12.5	19.3
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	8.0	38.0	8.0	38.0	8.0	38.0	8.0	38.0
Max Q Clear Time (g_c+I1), s	6.3	9.8	4.4	7.4	3.1	11.3	3.2	10.6
Green Ext Time (p_c), s	0.0	4.7	0.1	1.3	0.0	5.9	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	70	35	21	87	59	10	274	35	63	217	8
Future Volume (vph)	6	70	35	21	87	59	10	274	35	63	217	8
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	5%	5%	7%	7%	7%	7%	7%	7%	6%	6%	6%
Adj. Flow (vph)	7	77	38	23	96	65	11	301	38	69	238	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	122	0	0	184	0	0	350	0	0	316	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	70	35	21	87	59	10	274	35	63	217	8
Future Vol, veh/h	6	70	35	21	87	59	10	274	35	63	217	8
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	5	5	5	7	7	7	7	7	7	6	6	6
Mvmt Flow	7	77	38	23	96	65	11	301	38	69	238	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	804	742	243	780	727	320	247	0	0	339	0	0
Stage 1	381	381	-	342	342	-	-	-	-	-	-	-
Stage 2	423	361	-	438	385	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.17	6.57	6.27	4.17	-	-	4.16	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.17	5.57	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.17	5.57	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.563	4.063	3.363	2.263	-	-	2.254	-	-
Pot Cap-1 Maneuver	298	340	788	307	345	709	1290	-	-	1198	-	-
Stage 1	635	608	-	663	629	-	-	-	-	-	-	-
Stage 2	603	621	-	588	602	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	196	314	788	223	318	709	1290	-	-	1198	-	-
Mov Cap-2 Maneuver	196	314	-	223	318	-	-	-	-	-	-	-
Stage 1	628	567	-	656	622	-	-	-	-	-	-	-
Stage 2	459	614	-	451	562	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.3	23.9	0.2	1.8
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1290	-	-	373	370	1198	-	-
HCM Lane V/C Ratio	0.009	-	-	0.327	0.496	0.058	-	-
HCM Control Delay (s)	7.8	0	-	19.3	23.9	8.2	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.4	2.7	0.2	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	2	87	1	1	5	69	323	4	8	280	69
Future Volume (vph)	72	2	87	1	1	5	69	323	4	8	280	69
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	5%	5%	5%	14%	14%	14%	7%	7%	7%	8%	8%	8%
Adj. Flow (vph)	79	2	96	1	1	5	76	355	4	9	308	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	177	0	0	7	0	0	435	0	0	393	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

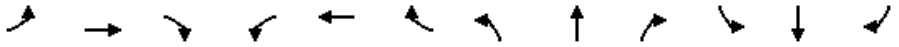
Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	72	2	87	1	1	5	69	323	4	8	280	69
Future Vol, veh/h	72	2	87	1	1	5	69	323	4	8	280	69
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	5	5	5	14	14	14	7	7	7	8	8	8
Mvmt Flow	79	2	96	1	1	5	76	355	4	9	308	76

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	876	875	346	922	911	357	384	0	0	359	0	0
Stage 1	364	364	-	509	509	-	-	-	-	-	-	-
Stage 2	512	511	-	413	402	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.24	6.64	6.34	4.17	-	-	4.18	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.24	5.64	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.24	5.64	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.626	4.126	3.426	2.263	-	-	2.272	-	-
Pot Cap-1 Maneuver	266	285	690	239	262	661	1148	-	-	1167	-	-
Stage 1	649	619	-	525	519	-	-	-	-	-	-	-
Stage 2	539	532	-	593	580	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	244	259	690	190	238	661	1148	-	-	1167	-	-
Mov Cap-2 Maneuver	244	259	-	190	238	-	-	-	-	-	-	-
Stage 1	595	613	-	481	476	-	-	-	-	-	-	-
Stage 2	489	488	-	504	574	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.9	13.9	1.5	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1148	-	-	375	411	1167	-	-
HCM Lane V/C Ratio	0.066	-	-	0.472	0.019	0.008	-	-
HCM Control Delay (s)	8.4	0	-	22.9	13.9	8.1	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	2.4	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	1	40	1	33	1	329	72	36	319	9
Future Volume (vph)	1	1	1	40	1	33	1	329	72	36	319	9
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	33%	33%	33%	12%	12%	12%	5%	5%	5%	8%	8%	8%
Adj. Flow (vph)	1	1	1	45	1	38	1	374	82	41	363	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	84	0	0	457	0	0	414	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

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	1	1	1	40	1	33	1	329	72	36	319	9
Future Vol, veh/h	1	1	1	40	1	33	1	329	72	36	319	9
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	33	33	33	12	12	12	5	5	5	8	8	8
Mvmt Flow	1	1	1	45	1	38	1	374	82	41	363	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	887	908	368	868	872	415	373	0	0	456	0	0
Stage 1	450	450	-	417	417	-	-	-	-	-	-	-
Stage 2	437	458	-	451	455	-	-	-	-	-	-	-
Critical Hdwy	7.43	6.83	6.53	7.22	6.62	6.32	4.15	-	-	4.18	-	-
Critical Hdwy Stg 1	6.43	5.83	-	6.22	5.62	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.43	5.83	-	6.22	5.62	-	-	-	-	-	-	-
Follow-up Hdwy	3.797	4.297	3.597	3.608	4.108	3.408	2.245	-	-	2.272	-	-
Pot Cap-1 Maneuver	234	245	614	262	278	616	1169	-	-	1074	-	-
Stage 1	533	522	-	594	574	-	-	-	-	-	-	-
Stage 2	542	518	-	569	552	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	211	233	614	251	264	616	1169	-	-	1074	-	-
Mov Cap-2 Maneuver	211	233	-	251	264	-	-	-	-	-	-	-
Stage 1	532	497	-	593	573	-	-	-	-	-	-	-
Stage 2	507	517	-	539	526	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18	19	0	0.8
HCM LOS	C	C		

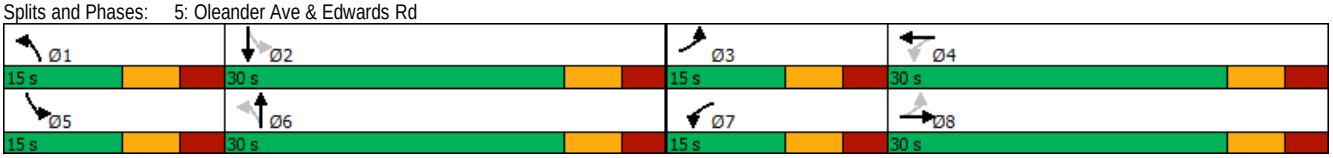
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1169	-	-	281	341	1074	-	-
HCM Lane V/C Ratio	0.001	-	-	0.012	0.247	0.038	-	-
HCM Control Delay (s)	8.1	0	-	18	19	8.5	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	1	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	350	207	28	229	30	169	222	51	42	194	65
Future Volume (vph)	53	350	207	28	229	30	169	222	51	42	194	65
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
Heavy Vehicles (%)	7%	7%	7%	10%	10%	10%	8%	8%	8%	5%	5%	5%
Adj. Flow (vph)	56	372	220	30	244	32	180	236	54	45	206	69
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	592	0	30	276	0	180	290	0	45	275	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		8.0	10.0		8.0	10.0	
Minimum Split (s)	13.0	17.0		13.0	17.0		15.0	17.0		15.0	17.0	
Total Split (s)	15.0	30.0		15.0	30.0		15.0	30.0		15.0	30.0	
Total Split (%)	16.7%	33.3%		16.7%	33.3%		16.7%	33.3%		16.7%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
v/c Ratio	0.15	0.62		0.11	0.37		0.45	0.48		0.10	0.65	
Control Delay	16.8	22.2		16.6	25.3		19.4	26.8		15.0	32.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.8	22.2		16.6	25.3		19.4	26.8		15.0	32.9	
Queue Length 50th (ft)	16	79		8	55		48	114		11	103	
Queue Length 95th (ft)	42	182		26	98		111	229		35	211	
Internal Link Dist (ft)		2737			3439			4912			1451	
Turn Bay Length (ft)	295			350			150					
Base Capacity (vph)	377	1200		291	1113		402	636		451	607	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.15	0.49		0.10	0.25		0.45	0.46		0.10	0.45	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 71.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Oleander Ave & Edwards Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	350	207	28	229	30	169	222	51	42	194	65
Future Volume (veh/h)	53	350	207	28	229	30	169	222	51	42	194	65
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	1796	1796	1796	1752	1752	1752	1781	1781	1781	1826	1826	1826
Adj Flow Rate, veh/h	56	372	0	30	244	0	180	236	54	45	206	69
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, %	7	7	7	10	10	10	8	8	8	5	5	5
Cap, veh/h	324	624		260	539		381	357	82	348	263	88
Arrive On Green	0.06	0.18	0.00	0.04	0.16	0.00	0.12	0.25	0.25	0.07	0.20	0.20
Sat Flow, veh/h	1711	3503	0	1668	3416	0	1697	1403	321	1739	1309	438
Grp Volume(v), veh/h	56	372	0	30	244	0	180	0	290	45	0	275
Grp Sat Flow(s),veh/h/ln	1711	1706	0	1668	1664	0	1697	0	1724	1739	0	1747
Q Serve(g_s), s	1.6	6.2	0.0	0.9	4.1	0.0	4.9	0.0	9.3	1.2	0.0	9.2
Cycle Q Clear(g_c), s	1.6	6.2	0.0	0.9	4.1	0.0	4.9	0.0	9.3	1.2	0.0	9.2
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.19	1.00		0.25
Lane Grp Cap(c), veh/h	324	624		260	539		381	0	439	348	0	351
V/C Ratio(X)	0.17	0.60		0.12	0.45		0.47	0.00	0.66	0.13	0.00	0.78
Avail Cap(c_a), veh/h	443	1272		411	1240		391	0	642	453	0	651
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	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.5	23.1	0.0	20.3	23.4	0.0	16.6	0.0	20.6	17.2	0.0	23.4
Incr Delay (d2), s/veh	0.3	1.3	0.0	0.2	0.8	0.0	0.9	0.0	1.7	0.2	0.0	3.9
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(50%),veh/ln	0.6	2.4	0.0	0.3	1.5	0.0	1.8	0.0	3.6	0.4	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.7	24.4	0.0	20.5	24.2	0.0	17.5	0.0	22.3	17.3	0.0	27.3
LnGrp LOS	B	C		C	C		B	A	C	B	A	C
Approach Vol, veh/h		428	A		274	A		470			320	
Approach Delay, s/veh		23.8			23.8			20.5			25.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	19.4	10.7	17.0	11.3	22.7	9.4	18.3
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	8.0	23.0	8.0	23.0	8.0	23.0	8.0	23.0
Max Q Clear Time (g_c+I1), s	6.9	11.2	3.6	6.1	3.2	11.3	2.9	8.2
Green Ext Time (p_c), s	0.1	1.2	0.0	1.8	0.0	1.2	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	23.2
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	15	5	335	360	8
Future Volume (vph)	22	15	5	335	360	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	16	5	364	391	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	0	0	369	400	0
Sign Control	Stop			Free	Free	

Intersection Summary
Control Type: Unsignalized

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	15	5	335	360	8
Future Vol, veh/h	22	15	5	335	360	8
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	16	5	364	391	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	770	396	400	0	-	0
Stage 1	396	-	-	-	-	-
Stage 2	374	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	369	653	1159	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	367	653	1159	-	-	-
Mov Cap-2 Maneuver	367	-	-	-	-	-
Stage 1	677	-	-	-	-	-
Stage 2	696	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.9	0.1	0
HCM LOS	B		

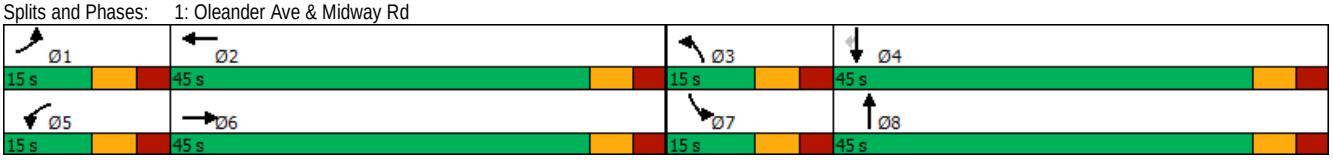
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1159	-	446	-	-
HCM Lane V/C Ratio	0.005	-	0.09	-	-
HCM Control Delay (s)	8.1	0	13.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

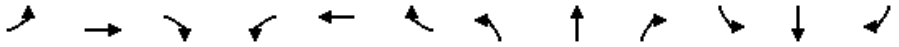
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	568	72	52	454	105	116	141	57	100	151	87
Future Volume (vph)	110	568	72	52	454	105	116	141	57	100	151	87
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	115	592	75	54	473	109	121	147	59	104	157	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	667	0	54	582	0	121	206	0	104	157	91
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases												4
Detector Phase	1	6		5	2		3	8		7	4	4
Switch Phase												
Minimum Initial (s)	8.0	10.0		8.0	10.0		8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	15.0	17.5		15.0	17.5		15.0	15.0		15.0	15.0	15.0
Total Split (s)	15.0	45.0		15.0	45.0		15.0	45.0		15.0	45.0	45.0
Total Split (%)	12.5%	37.5%		12.5%	37.5%		12.5%	37.5%		12.5%	37.5%	37.5%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None		None	None	None
v/c Ratio	0.67	0.57		0.32	0.58		0.36	0.50		0.31	0.48	0.22
Control Delay	61.1	26.4		45.2	26.9		42.4	33.9		41.8	37.1	1.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	61.1	26.4		45.2	26.9		42.4	33.9		41.8	37.1	1.2
Queue Length 50th (ft)	59	156		27	130		31	91		26	75	0
Queue Length 95th (ft)	#174	236		73	200		68	179		60	148	2
Internal Link Dist (ft)		1626			1766			1811			2560	
Turn Bay Length (ft)	400			300			275			200		200
Base Capacity (vph)	171	1608		169	1581		332	830		332	857	817
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.67	0.41		0.32	0.37		0.36	0.25		0.31	0.18	0.11

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 84.1
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Oleander Ave & Midway Rd





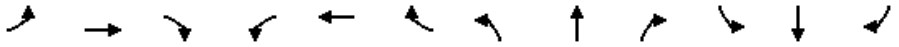
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	568	72	52	454	105	116	141	57	100	151	87
Future Volume (veh/h)	110	568	72	52	454	105	116	141	57	100	151	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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	1870	1856	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	115	592	75	54	473	109	121	147	59	104	157	91
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	3	3	3	2	2	2	2	2	2
Cap, veh/h	177	916	116	129	747	171	347	200	80	333	287	243
Arrive On Green	0.10	0.29	0.29	0.07	0.26	0.26	0.10	0.16	0.16	0.10	0.15	0.15
Sat Flow, veh/h	1781	3174	401	1767	2849	652	3456	1269	509	3456	1870	1585
Grp Volume(v), veh/h	115	331	336	54	292	290	121	0	206	104	157	91
Grp Sat Flow(s),veh/h/ln	1781	1777	1798	1767	1763	1738	1728	0	1779	1728	1870	1585
Q Serve(g_s), s	4.5	11.9	11.9	2.1	10.6	10.8	2.4	0.0	8.0	2.0	5.6	3.8
Cycle Q Clear(g_c), s	4.5	11.9	11.9	2.1	10.6	10.8	2.4	0.0	8.0	2.0	5.6	3.8
Prop In Lane	1.00		0.22	1.00		0.38	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	177	513	519	129	463	456	347	0	280	333	287	243
V/C Ratio(X)	0.65	0.65	0.65	0.42	0.63	0.64	0.35	0.00	0.74	0.31	0.55	0.37
Avail Cap(c_a), veh/h	196	928	939	194	920	907	380	0	928	380	976	827
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	22.6	22.7	32.3	23.7	23.8	30.5	0.0	29.2	30.6	28.5	27.7
Incr Delay (d2), s/veh	6.5	2.3	2.3	2.2	2.4	2.5	0.6	0.0	4.5	0.5	2.0	1.1
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(50%),veh/ln	2.2	5.0	5.1	1.0	4.5	4.5	1.0	0.0	3.6	0.8	2.6	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	25.0	25.0	34.4	26.2	26.3	31.1	0.0	33.7	31.2	30.4	28.8
LnGrp LOS	D	C	C	C	C	C	C	A	C	C	C	C
Approach Vol, veh/h		782			636			327			352	
Approach Delay, s/veh		26.9			26.9			32.8			30.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	26.1	14.3	18.2	12.3	28.0	14.0	18.5
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	8.0	38.0	8.0	38.0	8.0	38.0	8.0	38.0
Max Q Clear Time (g_c+I1), s	6.5	12.8	4.4	7.6	4.1	13.9	4.0	10.0
Green Ext Time (p_c), s	0.0	6.2	0.1	1.4	0.0	7.1	0.1	1.4

Intersection Summary	
HCM 6th Ctrl Delay	28.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	68	25	21	65	52	15	324	30	84	276	9
Future Volume (vph)	6	68	25	21	65	52	15	324	30	84	276	9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Adj. Flow (vph)	6	71	26	22	68	54	16	338	31	88	288	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	144	0	0	385	0	0	385	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	68	25	21	65	52	15	324	30	84	276	9
Future Vol, veh/h	6	68	25	21	65	52	15	324	30	84	276	9
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	3	3	2	2	2	4	4	4	2	2	2
Mvmt Flow	6	71	26	22	68	54	16	338	31	88	288	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	916	870	293	903	859	354	297	0	0	369	0	0
Stage 1	469	469	-	386	386	-	-	-	-	-	-	-
Stage 2	447	401	-	517	473	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.12	6.52	6.22	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.518	4.018	3.318	2.236	-	-	2.218	-	-
Pot Cap-1 Maneuver	252	289	744	258	294	690	1253	-	-	1190	-	-
Stage 1	573	559	-	637	610	-	-	-	-	-	-	-
Stage 2	589	599	-	541	558	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	172	259	744	182	263	690	1253	-	-	1190	-	-
Mov Cap-2 Maneuver	172	259	-	182	263	-	-	-	-	-	-	-
Stage 1	564	509	-	627	600	-	-	-	-	-	-	-
Stage 2	474	589	-	409	508	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.2	25.7	0.3	1.9
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1253	-	-	299	315	1190	-	-
HCM Lane V/C Ratio	0.012	-	-	0.345	0.456	0.074	-	-
HCM Control Delay (s)	7.9	0	-	23.2	25.7	8.3	0	-
HCM Lane LOS	A	A	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.5	2.3	0.2	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	2	87	1	4	6	80	370	0	2	336	118
Future Volume (vph)	75	2	87	1	4	6	80	370	0	2	336	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	27%	27%	27%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	82	2	95	1	4	7	87	402	0	2	365	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	179	0	0	12	0	0	489	0	0	495	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	75	2	87	1	4	6	80	370	0	2	336	118
Future Vol, veh/h	75	2	87	1	4	6	80	370	0	2	336	118
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	27	27	27	4	4	4	4	4	4
Mvmt Flow	82	2	95	1	4	7	87	402	0	2	365	128

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1015	1009	429	1058	1073	402	493	0	0	402	0	0
Stage 1	433	433	-	576	576	-	-	-	-	-	-	-
Stage 2	582	576	-	482	497	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.37	6.77	6.47	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.37	5.77	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.37	5.77	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.743	4.243	3.543	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	214	237	620	182	199	597	1060	-	-	1146	-	-
Stage 1	595	577	-	461	464	-	-	-	-	-	-	-
Stage 2	494	497	-	521	505	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	191	211	620	141	178	597	1060	-	-	1146	-	-
Mov Cap-2 Maneuver	191	211	-	141	178	-	-	-	-	-	-	-
Stage 1	532	576	-	412	415	-	-	-	-	-	-	-
Stage 2	432	444	-	439	504	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.7	18.5	1.5	0
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1060	-	-	302	278	1146	-	-
HCM Lane V/C Ratio	0.082	-	-	0.59	0.043	0.002	-	-
HCM Control Delay (s)	8.7	0	-	32.7	18.5	8.1	0	-
HCM Lane LOS	A	A	-	D	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	3.5	0.1	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	71	0	44	0	407	40	21	385	0
Future Volume (vph)	0	0	0	71	0	44	0	407	40	21	385	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	5%	5%	5%	4%	4%	4%
Adj. Flow (vph)	0	0	0	77	0	48	0	442	43	23	418	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	125	0	0	485	0	0	441	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	71	0	44	0	407	40	21	385	0
Future Vol, veh/h	0	0	0	71	0	44	0	407	40	21	385	0
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	10	10	10	5	5	5	4	4	4
Mvmt Flow	0	0	0	77	0	48	0	442	43	23	418	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	952	949	418	928	928	464	418	0	0	485	0	0
Stage 1	464	464	-	464	464	-	-	-	-	-	-	-
Stage 2	488	485	-	464	464	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.2	6.6	6.3	4.15	-	-	4.14	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.59	4.09	3.39	2.245	-	-	2.236	-	-
Pot Cap-1 Maneuver	239	260	635	240	260	582	1125	-	-	1068	-	-
Stage 1	578	564	-	563	550	-	-	-	-	-	-	-
Stage 2	561	552	-	563	550	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	215	253	635	235	253	582	1125	-	-	1068	-	-
Mov Cap-2 Maneuver	215	253	-	235	253	-	-	-	-	-	-	-
Stage 1	578	548	-	563	550	-	-	-	-	-	-	-
Stage 2	515	552	-	547	535	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	24.9	0	0.4
HCM LOS	A	C		

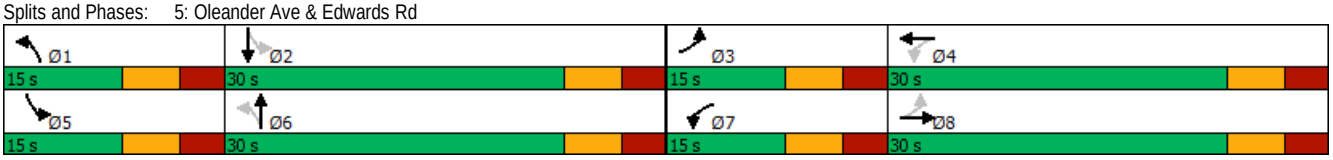
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1125	-	-	-	304	1068	-	-
HCM Lane V/C Ratio	-	-	-	-	0.411	0.021	-	-
HCM Control Delay (s)	0	-	-	0	24.9	8.4	0	-
HCM Lane LOS	A	-	-	A	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	1.9	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	325	236	33	366	40	192	317	43	56	227	82
Future Volume (vph)	100	325	236	33	366	40	192	317	43	56	227	82
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	105	342	248	35	385	42	202	334	45	59	239	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	105	590	0	35	427	0	202	379	0	59	325	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		8.0	10.0		8.0	10.0	
Minimum Split (s)	13.0	17.0		13.0	17.0		15.0	17.0		15.0	17.0	
Total Split (s)	15.0	30.0		15.0	30.0		15.0	30.0		15.0	30.0	
Total Split (%)	16.7%	33.3%		16.7%	33.3%		16.7%	33.3%		16.7%	33.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
v/c Ratio	0.32	0.59		0.13	0.56		0.54	0.60		0.15	0.73	
Control Delay	19.2	20.2		17.1	30.3		22.5	30.8		15.8	37.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.2	20.2		17.1	30.3		22.5	30.8		15.8	37.1	
Queue Length 50th (ft)	36	98		11	104		63	179		17	142	
Queue Length 95th (ft)	69	158		29	151		122	#342		43	252	
Internal Link Dist (ft)		2737			3439			4912			1451	
Turn Bay Length (ft)	295			350			150					
Base Capacity (vph)	342	1205		306	1099		376	634		394	578	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.31	0.49		0.11	0.39		0.54	0.60		0.15	0.56	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 76.5
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Oleander Ave & Edwards Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	325	236	33	366	40	192	317	43	56	227	82
Future Volume (veh/h)	100	325	236	33	366	40	192	317	43	56	227	82
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	1841	1841	1841	1856	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	342	0	35	385	0	202	334	45	59	239	86
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	3	3	3	2	2	2	2	2	2
Cap, veh/h	309	718		305	604		364	416	56	313	291	105
Arrive On Green	0.08	0.21	0.00	0.04	0.17	0.00	0.12	0.26	0.26	0.08	0.22	0.22
Sat Flow, veh/h	1753	3589	0	1767	3618	0	1781	1614	217	1781	1313	472
Grp Volume(v), veh/h	105	342	0	35	385	0	202	0	379	59	0	325
Grp Sat Flow(s),veh/h/ln	1753	1749	0	1767	1763	0	1781	0	1831	1781	0	1785
Q Serve(g_s), s	3.2	5.8	0.0	1.1	6.9	0.0	5.7	0.0	13.1	1.6	0.0	11.7
Cycle Q Clear(g_c), s	3.2	5.8	0.0	1.1	6.9	0.0	5.7	0.0	13.1	1.6	0.0	11.7
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.12	1.00		0.26
Lane Grp Cap(c), veh/h	309	718		305	604		364	0	472	313	0	395
V/C Ratio(X)	0.34	0.48		0.11	0.64		0.56	0.00	0.80	0.19	0.00	0.82
Avail Cap(c_a), veh/h	383	1192		439	1201		369	0	624	382	0	608
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	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.7	23.6	0.0	21.4	26.0	0.0	18.0	0.0	23.4	18.0	0.0	25.0
Incr Delay (d2), s/veh	0.6	0.7	0.0	0.2	1.6	0.0	1.8	0.0	5.6	0.3	0.0	5.3
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(50%),veh/ln	1.3	2.3	0.0	0.4	2.8	0.0	2.3	0.0	5.9	0.6	0.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.3	24.3	0.0	21.5	27.6	0.0	19.8	0.0	29.0	18.2	0.0	30.3
LnGrp LOS	C	C		C	C		B	A	C	B	A	C
Approach Vol, veh/h		447	A		420	A		581			384	
Approach Delay, s/veh		23.6			27.1			25.8			28.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.8	22.0	12.2	18.6	12.4	24.4	9.9	20.9
Change Period (Y+Rc), s	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Max Green Setting (Gmax), s	8.0	23.0	8.0	23.0	8.0	23.0	8.0	23.0
Max Q Clear Time (g_c+I1), s	7.7	13.7	5.2	8.9	3.6	15.1	3.1	7.8
Green Ext Time (p_c), s	0.0	1.3	0.1	2.7	0.0	1.4	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	26.1
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	10	16	367	400	25
Future Volume (vph)	14	10	16	367	400	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	11	17	399	435	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	0	0	416	462	0
Sign Control	Stop			Free	Free	

Intersection Summary
Control Type: Unsignalized

Intersection	
Int Delay, s/veh	0.6

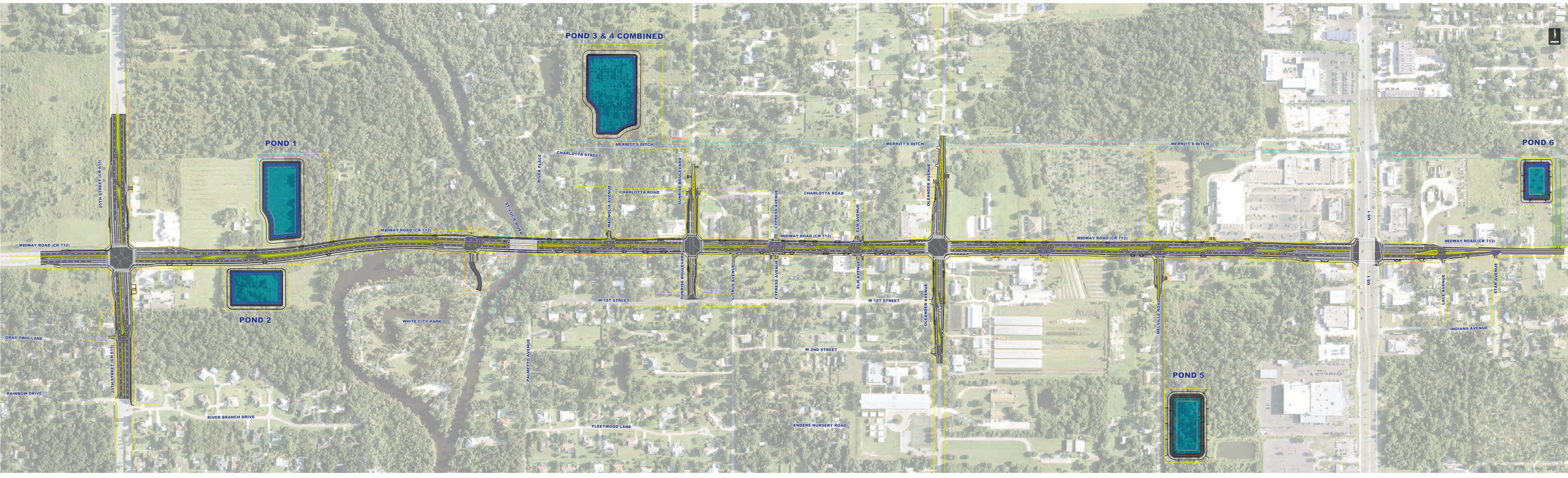
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	10	16	367	400	25
Future Vol, veh/h	14	10	16	367	400	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	11	17	399	435	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	882	449	462	0	-	0
Stage 1	449	-	-	-	-	-
Stage 2	433	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	317	610	1099	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	654	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	311	610	1099	-	-	-
Mov Cap-2 Maneuver	311	-	-	-	-	-
Stage 1	630	-	-	-	-	-
Stage 2	654	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1099	-	391	-	-
HCM Lane V/C Ratio	0.016	-	0.067	-	-
HCM Control Delay (s)	8.3	0	14.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

APPENDIX J
Midway Road Improvement Design


POND 3 & 4 COMBINED
POND 1
POND 2
POND 5
POND 6
MERRITT'S DITCH
CHARLOTTA STREET
CHARLOTTA ROAD
MIDWAY ROAD (CR 712)
25TH STREET (CR 635)
RIVER PLACE
ST LUCIE RIVER
MAGNOLIA AVENUE
SUNRISE BOULEVARD
CYPRESS AVENUE
ELM AVENUE
OLEANDER AVENUE
US 1
W 1ST STREET
W 2ND STREET
CITRUS AVENUE
PALMETTO AVENUE
MELVILLE ROAD
LACE AVENUE
STAR AVENUE
INDIANA AVENUE
WHITE CITY PARK
GRAY TWIG LANE
RAINBOW DRIVE
RIVER BRANCH DRIVE
FLEETWOOD LANE
ENDERS NURSERY ROAD

APPENDIX K
NCHRP Report 457 Outputs

Northbound Left-Turn Lane
AM Peak Hour

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

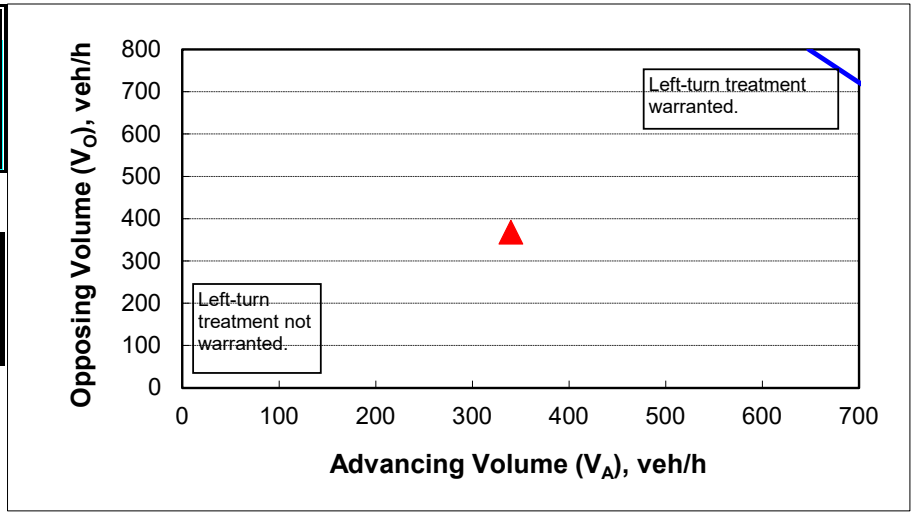
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	35
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	340
Opposing volume (V_O), veh/h:	368

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1006
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane , s:	1.9

Northbound Left-Turn Lane
PM Peak Hour

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

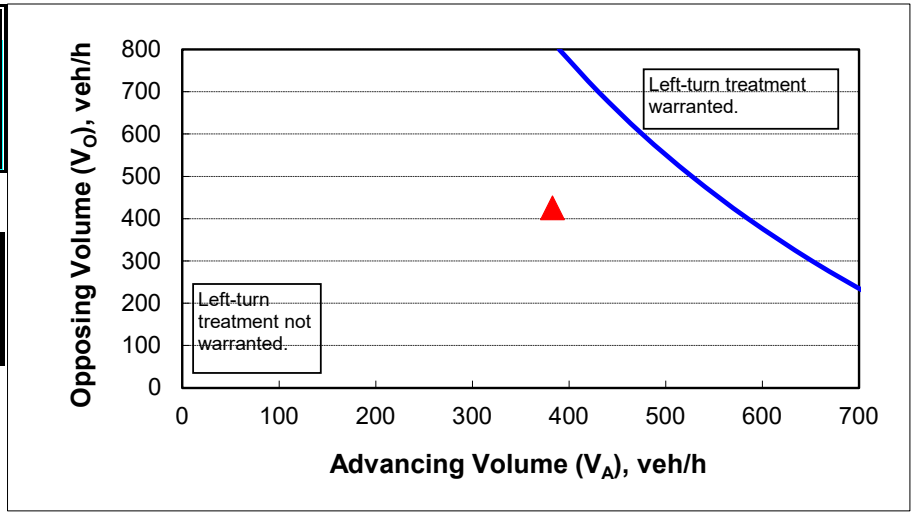
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	35
Percent of left-turns in advancing volume (V_A), %:	4%
Advancing volume (V_A), veh/h:	383
Opposing volume (V_O), veh/h:	425

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	570
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane , s:	1.9

Southbound Right-Turn Lane
AM Peak Hour

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

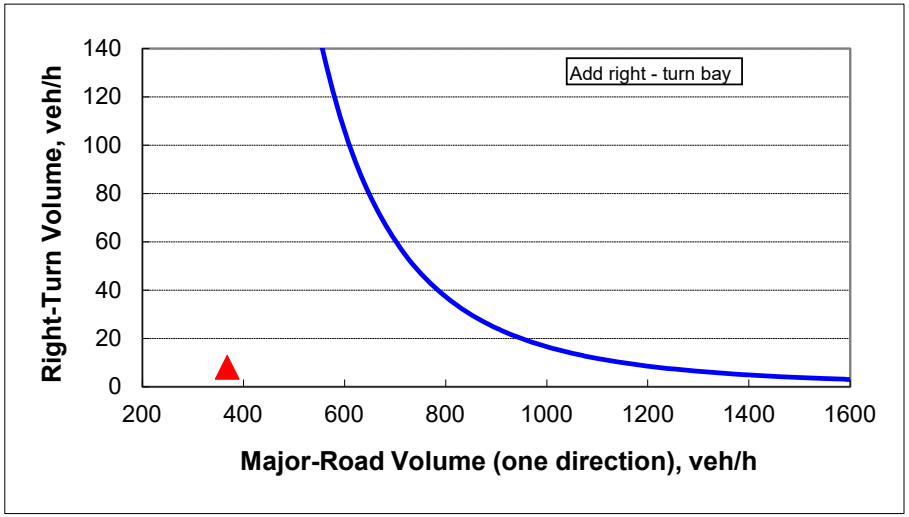
INPUT

Roadway geometry:	2-lane roadway

Variable	Value
Major-road speed, mph:	35
Major-road volume (one direction), veh/h:	368
Right-turn volume, veh/h:	8

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	626
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Southbound Right-Turn Lane
PM Peak Hour

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway

Variable	Value
Major-road speed, mph:	35
Major-road volume (one direction), veh/h:	425
Right-turn volume, veh/h:	25

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	371
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

