THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT Florida

DEVELOPMENT REVIEW

Property Information

Property address or Location: 5560 South US Highway 1

Parcel ID #(s): 3403-502-0302-000-4

Project description: Proposed showroom and dealership building and additional parking lot with associated drainage.

Application Type

☐ Site Plan ■ Minor Site Plan ☐ Innovative Residential Development

☐ Minor Amendment ☐ Major Amendment ☐ Conditional Use w/New Construction

Site Information

Non-Residential: Proposed Sq. Ft.: 419,506 Site Acreage: 9.63

Residential: Proposed Units: _____ Proposed Sq. Ft.: _____ Site Acreage: _____

Mr. Nicholas S. Smith
Property Owner(s)

7845 SW Ellipse Way
Street Address

Stuart FL 34997
City State Zip

Phone Number

Email Address

Mr. Michael Smith
Applicant/Representative, Title, Company

5655 US Hwy 1
Street Address

Fort Pierce FL 34982
City State Zip

561-818-2847
Phone Number

msmith@bevsmithtoyota.com
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.*

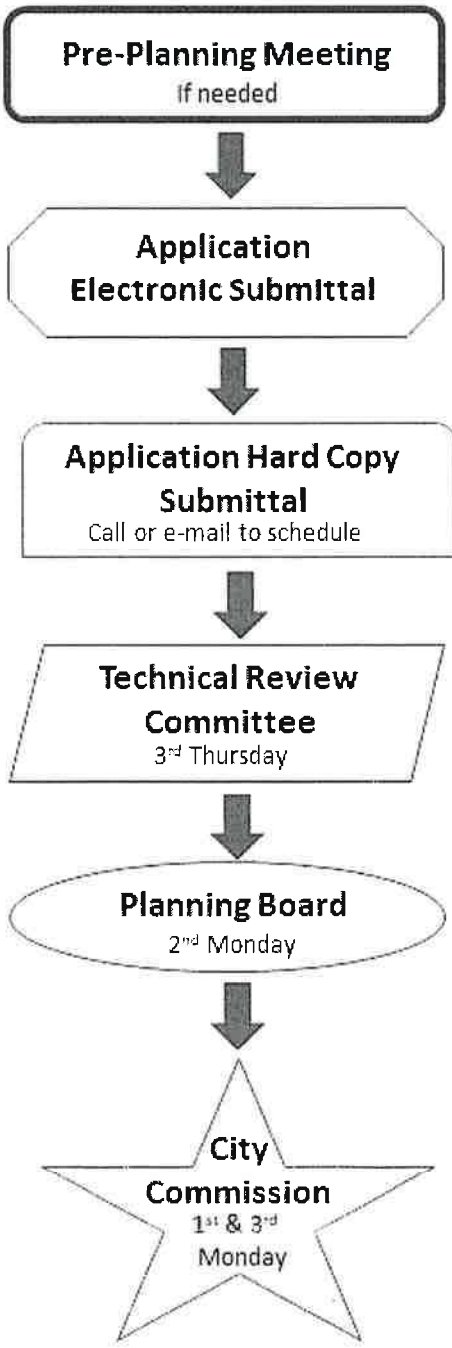
Michael Smith 7/15/24

Property Owner(s) Signature(s) *Date*

APPOINTMENTS ARE REQUIRED FOR APPLICATION SUBMITTALS
CALL 772.467.3737 OR E-MAIL PLANNING@CITYOFFORTPIERCE.COM
For more information, please refer to the website:
https://www.cityoffortpierce.com/971/Application-Submittal-for-Technical-Revi

General Information

- **Incomplete application packets will not be accepted.**
- Appointments are required for application hard copy submittals.
- Site plan approval is valid for one (1) year following City Commission approval. To maintain site plan approval, vertical improvements, permitted by the Building Department must commence prior to the 12-month expiration date.
- Fee Schedule - https://www.cityoffortpierce.com/DocumentCenter/View/2620/Fee-Schedule-
- Public Notice Fees - https://www.cityoffortpierce.com/DocumentCenter/View/8818/Public-Notice-Fees-



Site Plan submittal requirements:

Submit one (1) original, one (1) hard copy and one (1) Flash Drive of the following. Additional copies will be required of subsequent submittals.

- ✓ ■ Complete application
- ✓ ■ Warranty Deed
- ✓ ■ SLC Property Record Card
- ✓ ■ Detailed project description (Narrative)
- ✓ ■ General location map (see Section 125-313) see Civil Plans
- ✓ ■ Survey (see Section 125-313)
- ✓ ■ Site Plan (see Section 125-313)
- ✓ ■ Landscaping Plan (see Section 123-37)
- ✓ ■ Conceptual Drainage Plan (see Section 125-313)
- ✓ ■ Environmental Impact Report
- N/A ■ Beach/Dune System protection plan, if applicable (see Section 125-313)
- ✓ ■ Lighting Plan (see Section 125-313)
- ■ Design Review submittals (see Design Review application)
- N/A ■ Traffic Impact Report
- ■ Concurrency Review submittals (see Concurrency Review application)

EDWIN M. FRY, Jr., CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
FILE # 2787119 OR BOOK 2471 PAGE 2370, Recorded 01/26/2006 at 02:42 PM
Doc Tax: $21000.00

This instrument prepared by:

Name: Burt Bruton, Esq.
Address: Greenberg Traurig, P.A.
1221 Brickell Avenue
Miami, FL 33131

Property Appraiser's Parcel ID#:
3403-502-0302-000/4

(Space reserved for Clerk of Court)

WARRANTY DEED

THIS INDENTURE, made this 9th day of January, A.D. 2006 between **BEAN FAMILY INVESTMENTS, LTD.**, a Florida limited partnership (the "**Grantor**"), and **NICHOLAS S. SMITH** (the "**Grantee**"), whose mailing address is 1210 Northlake Boulevard, Lake Park, FL 33403;

WITNESSETH, that the Grantor, for and in consideration of the sum of TEN DOLLARS ($10.00), to the Grantor in hand paid by the Grantee and other good and valuable consideration, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the Grantee and the Grantee's heirs and assigns forever, the following described land situate, lying and being in St. Lucie County, Florida, to-wit:

SEE EXHIBIT "A" ATTACHED HERETO AND INCORPORATED HEREIN

SUBJECT TO zoning and other governmental regulations; any recorded easements, covenants, restrictions and limitations; and real property taxes for the year 2006 and subsequent years.

AND THE GRANTOR DOES HEREBY FULLY WARRANT the title to said land, and will defend the same against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, the Grantor has caused this instrument to be signed by its duly authorized sole general partner the day and year first above written.

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

Property Identification

Site Address: 5560 S US HIGHWAY 1
Sec/Town/Range: 10/36S/40E
Parcel ID: 3403-502-0302-000-4
Jurisdiction: Fort Pierce

Use Type: 2700
Account #: 39301
Map ID: 34/10N
Zoning: General Co

Ownership

Nicholas S Smith

7845 SW Ellipse Way
Stuart, FL 34997

Legal Description

WHITE CITY S/D 10 36 40 S 1/2 OF LOT 234 AND N 300 FT OF LOT 241 LYG E OF US #1 AND S 175 FT OF N 475 FT OF W 425 FT OF LOT 241 LYG E OF US #1-LESS RD AND CANAL RS/W- (9.63 AC) (MAP 34/10N) (REFERENCE DB 223-268)

Current Values

Just/Market Value:	$1,548,400
Assessed Value:	$1,548,400
Exemptions:	$0
Taxable Value:	$1,548,400

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):	5,200
Gross Sketched Area (SF):	6,000
Land Size (acres):	9.63
Land Size (SF):	419,482.8

Building Design Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	160	170

Sources/links:

Sale History

Date	Book/Page	Sale Code	Deed	Grantor	Price
Jan 9, 2006	2471 / 2370	XX00	WD	Bean Family Investments Ltd	$3,000,000
Feb 25, 1997	1063 / 0778	XX01	WD	R AND B HOLDING CO INC	$900,000
Sep 1, 1984	0480 / 1512	XX01	CV		$0
Nov 1, 1977	0277 / 1685	XX00	CV		$203,500
Oct 1, 1977	0276 / 0908	XX00	CV		$203,500
Jan 1, 1973	0210 / 0449	XX01	CV		$70,000

Building Information (1 of 1)

Finished Area: 5,200 SF

Gross Sketched Area: 6,000 SF

Special Features and Yard Items

DOUBLE LIGHT	1	6	1973

Exterior Data

View:
Building Type: SRCT
Grade: Y_D-
Story Height: 1 Story

Roof Cover: Metal
Year Built: 1989
Effective Year: 1989
No. Units: 1

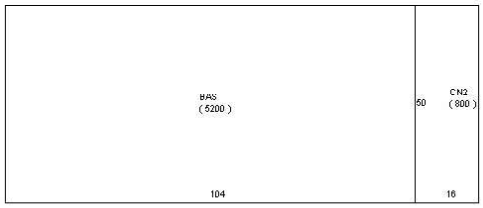
Roof Structure: Steel Truss
Frame:
Primary Wall: Corr Metal
Secondary Wall: Conc Block

Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0
A/C %: 26%

Electric: MAXIMUM
Heat Type: FrcdHotAir
Heat Fuel: ELEC
Heated %: 26%

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: CONC GRD
Sprinkled %: 0%



Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
BAS	BASE AREA	5200	5200	308
CN2	CANOPY	800	0	132

Type	Qty	Units	Year Blt
ASP1 HIGH	1	42000	1977
CHAINLINK 4'	1	620	1977

Current Year Values

Current Values Breakdown

Building:	$206,100
Land:	$1,342,300
Just/Market:	$1,548,400
Ag Credit:	$0
Save Our Homes or 10% Cap:	$0
Assessed:	$1,548,400
Exemption(s):	$0
Taxable:	$1,548,400

Current Year Exemption Value Breakdown

Current Year Special Assessment Breakdown

Start Year	AssessCode	Units	Description	Amount
2013	0054	9.63	North St. Lucie Water Management District	$207.05
Start Year	AssessCode	Units	Description	Amount
2022	0041	51.4	Fort Pierce Stormwater Charge	$3,546.60

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
2021	$1,548,400	$1,548,400	$0	$1,548,400
2020	$1,460,200	$1,460,200	$0	$1,460,200
2019	$1,457,000	$1,457,000	$0	$1,457,000
2018	$1,459,000	$1,459,000	$0	$1,459,000

Permits

Number	Issue Date	Description	Amount	Fee
C47038	Aug 1, 1988	Commercial New Construction	$66,000	$66,000
C24090228	Sep 17, 2004	Unknown	$14,000	$252
C24113125	Nov 24, 2004	Demolition	$2,450	$77
C11110065	Nov 7, 2011	Electric	$0	$0
C1802-0055	Feb 2, 2018	Electric	$0	$0
C2007-0625	Jul 29, 2020	Garage Door	$2,317	$0

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.
© Copyright 2022 Saint Lucie County Property Appraiser. All rights reserved.

MBV
ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
www.mbveng.com CA#3728

BEV SMITH KIA USED CAR DEALERSHIP
PROJECT NARRATIVE

OVERALL SITE:

The applicant has an existing site of 9.63 acres located at 5560 South U.S Highway 1 in Fort Pierce, Florida. The site is comprised of one parcel and therefore a Unity of Title will not be required to construct the proposed improvements. The improvements include constructing a 4,230 sf (5,542 sf under roof) used auto dealership building with associated parking lot for inventory. Stormwater management facilities, water, sewer, lighting and landscaping improvements are also planned.

The project is proposed to have 2 phases: The first for the overall site and the second to do an additional 20,788 sf of pavement east of the proposed building. All the stormwater management and utilities infrastructure will be installed for Phase 1, that is required for the entire project. The only item that will remain in Phase 2 is the additional asphalt and some additional parking lot lights.

EXISTING CONDITIONS:

The current site is an automobile care center with an existing metal building of 5,274 sf. MBV has participated in the recent improvements including adding a wash down area for vehicles and connecting the existing building to a private lift station. Approximately only a quarter of the site is developed currently, the rest is wooded. Wetlands have been identified on site and are in the process of being flagged and documented.

STORMWATER:

The stormwater management system will consist of a series of drainage inlets and pipes in the parking lot that will collect runoff and discharge it into bubble-up structures in a dry pond. A concrete weir, 30 feet wide at elevation 11.00 NAVD will allow water to discharge from the dry pond to a wet detention pond. The bottom of the dry pond is at 10.0, allowing a volume of water to be retained and treated. Additionally treatment and attenuation of stormwater will happen within the wet pond. The stormwater calculations demonstrate this wet pond will handle the

site's treatment. A control structure at the southeast end of the lake will discharge water through a pipe and into the North St. Lucie River Water Control District's (NSLRWCD) Canal #7.

UTILITIES:

Water and sewer service is currently on site. The existing building is serviced by 6 and 4" gravity sewer laterals and water service. The new building will be required to have fire coverage by a fire hydrant. Therefore, a directional bore is planned under U.S.1 to bring an 8" water main to the west side of the property. From here, a 1" line will be saddled off this main and brought to the building. For sewer, the 6" lateral will be extended to the new building. Electric will be extended from the power pole on site and under easement. No gas has been planned for. The water and sewer utility is FPUA, while the electric utility is F.P.&L.

LANDSCAPING:

The landscaping is in accordance with the City of Ft. Pierce Land Development's regulations for the commercial zoned parcels and as depicted on the landscape plans.

ENVIRONMENTAL:

An environmental assessment was done on the property and the results from Drew Gatewood, MS, PSW, from Advanced Restoration Ecology were put in a report dated September 2020. Wetlands were found along the east property line and the bulk of the wetlands will be left undisturbed with this site plan. A formal wetland determination will be made at the time of application to South Florida Water Management District (SFWMD).

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT Florida

DESIGN REVIEW

Property Information

Property address or Location 5560 South US Highway 1

Parcel ID #(s) 3403-502-0302-000-4

Project description Proposed showroom and dealership building and additional parking lot with associated drainage.

Mr. Nicholas S. Smith	Mr. Michael Smith
Property Owner(s)	**Applicant/Representative, Title, Company**
7845 SW Ellipse Way	5655 US Hwy 1
Street Address	Street Address
Stuart FL 34997	Fort Pierce FL 34982
City State Zip	City State Zip
	561-848-2847
Phone Number	Phone Number
	msmith@bevsmithtoyota.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.*

Michael Smith

Property Owner(s) Signature(s)

APPOINTMENTS ARE REQUIRED FOR APPLICATION SUBMITTALS
CALL 772.467.3737 OR E-MAIL PLANNING_DL@CITYOFFORTPIERCE.COM
For more information, please refer to the website:
https://www.cityoffortpierce.com/971/Application-Submittal-for-Technical-Revi

Design Review Application Checklist
(City Code of Ordinances 125-314)

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 123-66, 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 125-313 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 125-313.
c. A final site lighting plan that meets the requirements of subsection 125-313(d)(8).
d. A final landscape plan that meets the requirements of articles II and III of chapter 123.
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.

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT
Florida

CONCURRENCY
CAPACITY ANALYSIS

I. Site Data:

	Existing Use	Future Land Use	Zoning
North	Commercial Office	GC	C-3
South	Commercial Business	(SLC) COM	(SLC) CG
East	Undeveloped, residential	(SLC) RU	(SLC) RM-S, PUD
West	Commercial	GC	G-S

	Future Land Use	Zoning Classification	Maximum Intensity Residential: Dwelling Units per Acre Other: Square Footage	Total Acreage	Flood Zone
Current	RL	C-3	5274	9.63	x
****Proposed**	RL	C-3	9504	9.63	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 9,504 sf x 0.125 = 1,188 gpd
Demand Analysis	Maximum Peaking Factor = 4; therefore 1,188 gpd x 4 = 4,752 gpd
Current Zoning/FLU	Total gallons per day 2,640 pgd
**Proposed Zoning/FLU	Total gallons per day 4,752 gpd (no change in Zoning or FLU)
**Change in Demand	Total gallons per day 2,112 gpd

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 9,504 sf x 0.125 = 1,188 gpd
Demand Analysis	MaximumPeaking Factor = 4; therefore 1,188 gpd x 4 = 4,752 gpd
Current Zoning/FLU	Total gallons per day2,640 gpd
**Proposed Zoning/FLU	Total gallons per day4,752 gpd
**Change in Demand	Total gallons per day2,112 gpd

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			
Urban District	5 acres per 1,000 people			
Community	2.5 acres per 1,000 people			
Neighborhood	1.36 acres per 1,000 people			

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)

	K-8	High
School Name		
City		
Distance		
Current Zoning/FLU Enrollment Demand		
****Proposed Zoning/FLU Enrollment Demand**		
****Change in Demand**		

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	
****Proposed Zoning/FLU**	
***Change in Demand**	

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	No impact

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	C-3/RL	C-3/RL
****Proposed Zoning/FLU**	No change in Zoning/FLU	No Change in Zoning/FLU
***Change in Demand**	Trips114	Trips18/21
Impact to Capacity	No impacts	

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: 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					
Single-family, attached					
Multi-family					
Other (specify)					

NON-RESIDENTIAL DATA					
Type(s) specify	**Phase**	**Square footage**	**Acres**	**Expecting beginning date**	**Expected completion date**
Phase 1 - total	1	9504	0.22	10/24	10/25

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? _____

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

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES

PHOTO INSPECTION LOG

Project Number: 22-0496
Project Name: Bev Smith Kia
Type of Inspection: **Off site pictures**

Picture No.: **1**	DESCRIPTION: **looking west at Bev Smith Kia new car dealership from US1 right-of-way**

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES

PHOTO INSPECTION LOG

Project Number: 22-0496
Project Name: Bev Smith Kia
Type of Inspection: **Off site pictures**

Picture No. **2**	DESCRIPTION: **East property line looking south. Adjacent to the NSLRWCD canal**

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES

PHOTO INSPECTION LOG

Project Number: 22-0496
Project Name: Bev Smith Kia
Type of Inspection: **Off site pictures**

Picture No.: **3**	DESCRIPTION: **Front of the adjacent property to the south, looking north**

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES

PHOTO INSPECTION LOG

Project Number: 22-0496
Project Name: Bev Smith Kia
Type of Inspection: **Pictures of site**

Picture No.: **1**	DESCRIPTION: **Front of site facing east on 4/27/23. After site improvements for sewer were completed.**

Picture No. **2**	DESCRIPTION: **Front of site facing northeast on 4/27/23.**

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES

PHOTO INSPECTION LOG

Project Number: 22-0496
Project Name: Bev Smith Kia
Type of Inspection: **Pictures of site**

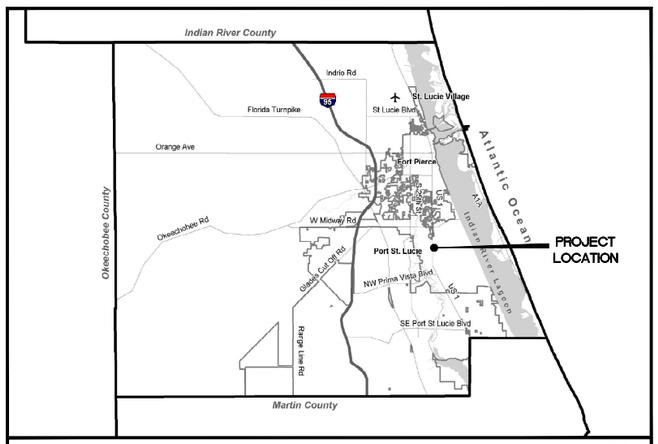
Picture No.: **3**	DESCRIPTION: **North side of building facing east. The car wash down area right after it was installed.**

Picture No. **4**	DESCRIPTION: **Northwest of building looking to the southeast**

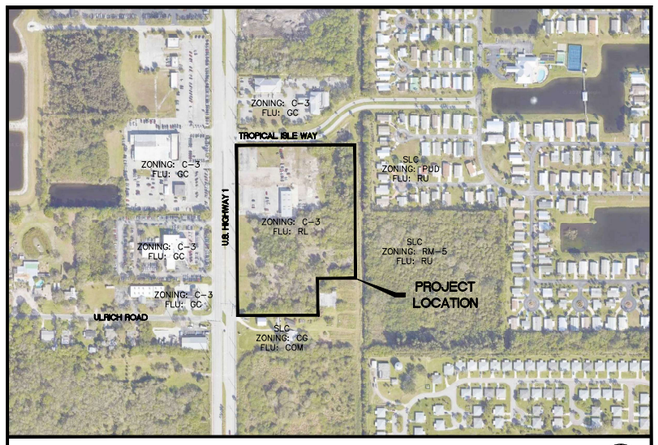
BEV SMITH KIA
USED CAR CENTER

SECTION 10, TOWNSHIP 36S, RANGE 40E
CITY OF FORT PIERCE, FLORIDA

JULY 2024



LOCATION MAP



VICINITY MAP

OWNER

NICHOLAS S. SMITH
7845 SW ELLIPSE WAY
STUART, FLORIDA 34997
PH: (561) 818-2847

APPLICANT

MICHAEL SMITH
7845 SW ELLIPSE WAY
STUART, FLORIDA 34997
PH: (561) 818-2847

ENGINEER

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
CIVIL ▪ STRUCTURAL ▪ SURVEYING ▪ ENVIRONMENTAL
1835 20TH STREET
VERO BEACH, FL 32960
PH: (772) 569-0035
MELBOURNE, FL - PH: (321) 253-1510
FT. PIERCE, FL - PH: (772) 468-9055

SURVEYOR

ALEXANDER J. PIAZZA PSM, INC.
619 SW BILTMORE STREET
PORT ST. LUCIE, FLORIDA 34983
PH: (772) 340-7770

ARCHITECT

GCP ARCHITECTURE, LLC
601 HERITAGE DRIVE, SUITE 410
JUPITER, FLORIDA 33458
PH: (561) 331-5036

INDEX OF DRAWINGS

C1	COVER SHEET
C2	GENERAL NOTES
C3	EXISTING CONDITIONS PLAN
C4	DEMOLITION PLAN
C5	EROSION CONTROL PLAN
C6	SITE PLAN
C7	PAVING, GRADING AND DRAINAGE PLAN
C8	CROSS SECTIONS
C9	UTILITY PLAN
C10	FIRE PROTECTION PLAN
C11	EROSION CONTROL DETAILS
C12	SITE, PAVING & GRADING DETAILS
C13	UTILITY DETAILS
C14	UTILITY DETAILS

LEGAL DESCRIPTION

PARCEL 1:

THE SOUTH ONE-HALF (1/2) OF LOT 234, IN SECTION 10, TOWNSHIP 36 SOUTH, RANGE 40 EAST, ACCORDING TO THE PLAT OF WHITE CITY SUBDIVISION, RECORDED IN PLAT BOOK 1, PAGE 23, OF THE PUBLIC RECORDS OF LUCIE COUNTY, FLORIDA, LESS AND EXCEPTING THEREFROM THE EAST 30 FEET DEEDED TO THE STATE OF FLORIDA.

TOGETHER WITH:

PARCEL 2:

A PARCEL OF LAND LYING AND BEING IN THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 10, TOWNSHIP 36 SOUTH, RANGE 40 EAST, ST. LUCIE COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF LOT 241 OF WHITE CITY, ACCORDING TO SHEEN'S SURVEY THEREOF RECORDED IN PLAT BOOK 1, PAGE 23 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA, RUN SOUTH 89~50'27" EAST ALONG THE NORTH LINE OF SAID LOT 241 A DISTANCE OF 78 FEET TO THE POINT OF INTERSECTION OF SAID NORTH LINE WITH THE EAST RIGHT-OF-WAY LINE OF U.S. HIGHWAY NO. 1 (STATE ROAD NO. 5)(A 120-FOOT RIGHT-OF-WAY, THE EAST LINE OF WHICH LIES 78 FEET EAST OF THE QUARTER-SECTION LINE OF SAID SECTION 10), SAID POINT OF INTERSECTION BEING THE POINT OF BEGINNING; THENCE RUN SOUTH 00~00'15" WEST ALONG THE EAST RIGHT-OF-WAY LINE OF SAID HIGHWAY A DISTANCE OF 475 FEET; THENCE RUN SOUTH 89~50'27" EAST ALONG A LINE PARALLEL WITH AND 475 FEET SOUTH OF THE NORTH LINE OF SAID LOT 241, A DISTANCE OF 380 FEET; THENCE RUN NORTH 00~00'15" EAST A DISTANCE OF 175 FEET TO A POINT 300 FEET SOUTH OF THE NORTH LINE OF SAID LOT 241; THENCE RUN SOUTH 89~50'27" EAST ALONG A LINE PARALLEL WITH AND 300 FEET SOUTH OF SAID NORTH LINE OF LOT 241 A DISTANCE OF 179.14 FEET MORE OR LESS TO A POINT ON THE WEST LINE OF A 60-FOOT CANAL RIGHT-OF-WAY (SAID WEST LINE LIES 30 FEET WEST OF THE EAST LINE OF LOT 241); THENCE RUN NORTH 00~04'23" EAST ALONG SAID WEST CANAL RIGHT-OF-WAY LINE A DISTANCE OF 300 FEET TO THE NORTH LINE OF SAID LOT 241; THENCE RUN NORTH 89~50'27" WEST ALONG THE NORTH LINE OF SAID LOT 241 A DISTANCE OF 559.50 FEET TO THE POINT OF BEGINNING.

CONTAINING 419,485 SQUARE FEET OR 9.630 ACRES, MORE OR LESS.

Aaron Stanton

Digitally signed by Aaron Stanton
Date: 2024.07.19 13:54:39 -04'00'

AARON STANTON No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460

DATE: 7/19/2024

PROJECT: 22-0496

SHEET
C1

This item has been digitally signed & sealed by Aaron Stanton, P.E. on the date adjacent to the seal.

Printed copies of this document are not considered signed & sealed and the signature must be verified on any electronic copies.

72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.

C:\DRAWINGS\2022\22-0496 Bev Smith Kia - Site Development\4 - Drawings\22-0496 COVER - SET FILE.dwg, 7/19/2024 11:43 AM AARON STANTON

PRE-CONSTRUCTION REQUIREMENTS:

1. THE CONTRACTOR IS REQUIRED TO PERFORM HIS WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE VARIOUS PERMITS WHICH WILL BE OBTAINED PRIOR TO BEGINNING CONSTRUCTION.
2. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE (SEQUENCE OF OPERATIONS) PRIOR TO THE PRE-CONSTRUCTION MEETING.
3. CONTRACTOR WILL ATTEND A PRE-CONSTRUCTION MEETING WITH THE DESIGN ENGINEER, MUNICIPALITY AND/ OR OWNER PRIOR TO LAND DISTURBANCE.
4. SHOP DRAWINGS SHALL BE SUBMITTED BEFORE ORDERING MATERIAL FOR PLANNED PROJECT, CORRESPONDING SHALL BE BETWEEN THE DESIGN ENGINEER AND THE LOCAL GOVERNING AGENCY AND IS THE RESPONSIBILITY OF THE CONTRACTOR.

CONSTRUCTION NOTES:

1. THE CONTRACTOR IS ADVISED TO THOROUGHLY REVIEW THIS PLAN PACKAGE SO AS TO BE TOTALLY PREPARED TO PRESENT HIS BID PRICES IN THE CONTRACT DOCUMENTS. THE PLAN PACKAGE SUFFICIENTLY DELINEATES THE SCOPE AND INTENT OF THE ROADWAY WORK TO BE ACCOMPLISHED. IT WILL, THEREFORE, BE INCUMBENT ON THE CONTRACTOR TO ADJUST HIS FEE DOLLARS TO REFLECT ANY AND ALL ITEMS WHICH MAY NOT BE CLEARLY OUTLINED OR THOSE ITEMS WHICH MAY NOT BE INDICATED BUT WHICH ARE NECESSARY FOR THE SUCCESSFUL COMPLETION OF THIS PROJECT WITHOUT ADDITIONAL COSTS TO THE OWNER.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF FORT PIERCE AND FDOT STANDARDS AND SPECIFICATIONS.
3. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS BASED ON AVAILABLE RECORDS AND IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO AND IS RESPONSIBLE FOR THE COORDINATION OF UTILITY RELOCATION.
4. CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES IN THE FIELD WITH UTILITY OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY ALL UTILITY COMPANIES A MINIMUM OF TWO WORKING DAYS PRIOR TO EXCAVATION, AS REQUIRED BY THE UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT, NOTIFY SUNSHINE AT 811.
6. CONTRACTOR SHALL TAKE EXTREME CAUTION WHEN EXCAVATING NEARBY EXISTING UTILITIES.
7. CONTRACTOR SHALL INFORM ENGINEER OF ANY CONFLICT BEFORE ANY FURTHER WORK IS COMPLETED.
8. UTILITIES ARE TO BE ADJUSTED BY UTILITY OWNER OR AS DIRECTED BY THE ENGINEER.
9. SURFACE INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FOR USE IN ESTABLISHING DESIGN CRITERIA FOR THE PROJECT. THE ACCURACY OF THIS INFORMATION IS NOT GUARANTEED AND IS NOT TO BE CONSTRUED AS PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INQUIRE OF THE ENGINEER IF ADDITIONAL INFORMATION IS AVAILABLE, TO MAKE ARRANGEMENTS TO REVIEW SAME PRIOR TO BIDDING, AND IS TO MAKE HIS OWN DETERMINATION AS TO ALL SUBSURFACE CONDITIONS.
10. CONTRACTOR SHALL NOTIFY THE ENGINEER IF SOIL OR SUBSURFACE CONDITIONS UNSUITABLE FOR CONSTRUCTION ARE ENCOUNTERED.
11. ALL EXCAVATED SOILS DEEMED SUITABLE AS FILL MATERIAL AS DETERMINED BY THE ENGINEER SHALL BE UTILIZED ON SITE BY THE CONTRACTOR AT HIS OWN EXPENSE, THE EXACT LOCATION OF DELIVERY ON SITE SHALL BE DETERMINED BY THE ENGINEER, ALL EXCAVATED SOILS DEEMED UNSUITABLE SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS OWN EXPENSE.
12. ITEM IN CONFLICT WITH DESIGN SUCH AS EXISTING CURBS AND GUTTERS, SIDEWALKS, DRAINAGE STRUCTURES, PAVEMENT AND EXCESS EXCAVATIONS ARE TO BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A LEGAL AND PROPER MANNER AWAY FROM THE JOB SITE AT HIS OWN EXPENSE.
13. CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS FOR CONSTRUCTION.
14. IT SHOULD BE NOTED THAT THE OCCUPATIONAL SAFETY AND HEALTH ACT PROHIBITS THE OPERATING OF EQUIPMENT OR MACHINES CLOSER THAN TEN (10) FEET TO ENERGIZED ELECTRIC LINES RATES AT FIFTY KILOVOLTS OR BELOW, ALSO, NO EXCAVATION IS PERMITTED WITHIN FIVE (5) FEET OF POWER POLE FACILITIES.
15. ALL IRONS AND MONUMENTS (P,R,M,'S) SHOWN ON PLANS, OR FOUND, SHALL BE PRESERVED, THOSE SHOWN IN PROPOSED PAVEMENT SHALL BE PROTECTED WITH A CAST IRON VALVE BOX.
16. ANY PUBLIC LAND CORNERS WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED OR DISTURBED, THE CONTRACTOR WILL NOTIFY THE ENGINEER.
17. ALL EXISTING TREES WITHIN THE RIGHT OF WAY ARE TO BE REMOVED AS CLEARING AND GRUBBING UNLESS OTHERWISE NOTED.
18. WHEN REFERENCED TO, FDOT REFERS TO FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS,CURRENT EDITION.
19. THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY CONSTRUCTION TO A CONDITION EQUAL TO, OR BETTER THAN THAT WHICH IS NOW EXISTING.
20. BACKFILL, GRADE AND SOD AS REQUIRED AROUND ALL NEW CONSTRUCTION AND ALL DEVELOPED LOTS TO PREVENT EROSION. SEED AND MULCH WILL ONLY BE ALLOWED TO RESTORE UNDEVELOPED LOTS AFFECTED BY CONSTRUCTION OR AS DIRECTED BY THE ENGINEER.
21. SODDING TO BE USED AT LOCATIONS AS DIRECTED BY THE ENGINEER. SOD ALL DISTURBED AREAS UPON COMPLETION.
22. ALL EXCESS CONSTRUCTION MATERIAL AND WASTE TO BE HAULED OFF-SITE AND DISPOSED OF PROPERLY AT CONTRACTOR'S EXPENSE.
23. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH FDOT STANDARDS FOR TRAFFIC CONTROL THROUGH WORK ZONES AND MUTCD (PART VI).
24. PROPERTY OWNERS AND BUSINESSES WITHIN THE AREA OF CONSTRUCTION SHALL BE GIVEN ACCESS TO THEIR PROPERTY AT ALL TIMES DURING THE PERIOD OF CONSTRUCTION.
25. ALL MAILBOXES SHALL BE RELOCATED BY THE CONTRACTOR AS DIRECTED BY THE U.S. POSTAL MAIL CARRIER.
26. THE CONTRACTOR SHALL REMOVE, COVER OR OBLITERATE EXISTING ROADWAY SIGN AND PAVEMENT MARKINGS THAT CONFLICT WITH THE CONSTRUCTION TRAFFIC CONTROL PLANS.
27. CONTRACTOR TO PROTECT ALL SPRINKLER HEADS NOT IN CONFLICT WITH DESIGN AND RELOCATE ALL THOSE WHICH ARE IN CONFLICT TO A LOCATION DETERMINED IN FIELD.
28. SOD TWO (2) FEET MINIMUM ALONG SIDE PROPOSED EDGE OF PAVEMENT.
29. THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY DRAINAGE MEASURES AS REQUIRED TO ADEQUATELY DRAIN THE PROJECT AND ANY TEMPORARILY TRAVELED ROADWAYS. TEMPORARY DRAINAGE DESIGN, CONSTRUCTION AND MAINTENANCE IS THE CONTRACTOR'S RESPONSIBILITY; HOWEVER, ALL SUCH MEASURES MUST BE APPROVED BY THE ENGINEER.
30. THE EXISTING SIDEWALK SHALL NOT BE DISTURBED UNLESS OTHERWISE NOTED.
31. GRADES SHOWN ARE FINISHED GRADES.
32. SAWCUT CONCRETE OR ASPHALT DRIVEWAYS AS REQUIRED FOR REPLACEMENT.
33. ALL ABANDONED UTILITIES (INCLUDING PIPES, CABLES AND STRUCTURES) FOUND IN THE RIGHT OF WAY AND NOT SHOWN ON THE PLANS, ARE TO BE REMOVED AND PROPERLY DISPOSED OF AT THE EXPENSE OF THE CONTRACTOR. THIS INCLUDES ALL EXOTIC PIPES LIKE ASBESTOS-CEMENT PIPE, COST TO BE INCLUDED IN CLEARING AND GRUBBING ITEM.
34. DRIVEWAY LOCATIONS AND WIDTHS ARE APPROXIMATE AND ARE TO BE ADJUSTED AS NECESSARY OR AS DIRECTED BY THE ENGINEER.
35. BENCHMARK DATUM IN NAVD 88.
36. BACKFILL AND SOD AS REQUIRED BEYOND RIGHT OF WAY LINES ON INDIVIDUAL LOTS TO MAINTAIN POSITIVE DRAINAGE FLOW INTO CURB AND GUTTER.
37. GRADE AND SOD SWALES TEN (10) FEET FROM PROPOSED DITCH BOTTOM INLETS AND MITERED END SECTIONS ON SIDE STREETS AS REQUIRED.
38. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ℄ (BASELINE) AND ℄ (CENTERLINE) CONSTRUCTION THROUGHOUT THE PROJECT.
39. THE CONTRACTOR SHALL REMOVE DRIVEWAY APRONS AND DRIVEWAY CULVERTS AND SHALL MAINTAIN ROUGH GRADE FOR UTILITY MODIFICATIONS.
40. ALL EXISTING SWALES SHALL BE PROTECTED BY THE CONTRACTOR. ANY DAMAGE TO THE SWALE LINE SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE.
41. PAYMENT FOR INCIDENTAL ITEMS NOT SPECIFICALLY COVERED IN THE INDIVIDUAL BID ITEMS SHALL BE INCLUDED IN THE CONTRACT PRICES FOR BID ITEMS.
42. MAINTAIN A MINIMUM OF ONE (1) FOOT CLEARANCE BETWEEN POWER POLE AND EDGE OF SIDEWALK.
43. WHEN ALL OTHER PERMANENT CONSTRUCTION IS COMPLETE, THE FINAL SURFACE COURSE SHALL BE PLACED.
44. CONSTRUCTION OPERATIONS FOR PLACEMENT OF THE FINAL SURFACE COURSE SHALL BE LIMITED TO A DISTANCE, AS DIRECTED BY THE ENGINEER. THE CONTRACTOR CAN COMPLETE IN ONE (1) DAY.
45. THE CONTRACTOR SHALL IMPLEMENT TEMPORARY PAVEMENT MARKINGS UNTIL THE FINAL SURFACE COURSE HAS CURED (MINIMUM THIRTY (30) DAYS AFTER FINAL SURFACE COURSE PLACEMENT). ANY TEMPORARY PAINTED MARKINGS PLACED ON THE FINAL.
46. PAVEMENT TRANSITION SHALL BE MADE IN ACCORDANCE WITH PAVEMENT TRANSITION DETAIL.
47. ALL APPROVED PERMIT CONDITIONS, INCLUDING BUT NOT LIMITED TO FDOT, FDEP AND CITY OF FORT PIERCE, SHALL BE MET BY CONTRACTOR PRIOR TO CERTIFICATION OF COMPLETION BY ENGINEER.

ROADWAY SPECIFICATIONS

GENERAL

IT IS INTENDED THAT THE FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" MOST CURRENT EDITION BE USED WHERE APPLICABLE FOR VARIOUS WORK, AND THAT WHERE SUCH WORDING THEREIN REFERS TO THE STATE OF FLORIDA AND ITS DEPARTMENT OF TRANSPORTATION AND PERSONNEL SUCH WORDING IS INTENDED TO BE REPLACED WITH THAT WORDING WHICH WOULD PROVIDE PROPER TERMINOLOGY, THEREBY MAKING SUCH "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AS THE "STANDARD SPECIFICATIONS" FOR THIS PROJECT.

IF WITHIN THAT PARTICULAR SECTION ANOTHER SECTION, ARTICLE OR PARAGRAPH IS REFERRED TO, IT SHALL BE A PART OF THE STANDARD SPECIFICATIONS ALSO.

THE CONTRACTOR SHALL GIVE THE ENGINEER 48 HOURS NOTICE PRIOR TO REQUESTING INSPECTIONS AND SHALL SUPPLY ALL EQUIPMENT NECESSARY TO PROPERLY TEST AND INSPECT THE COMPLETED WORK.

THE CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR A PERIOD OF TWO YEARS FROM THE DATE OF PROJECT ACCEPTANCE, DURING WHICH ALL FAULTY CONSTRUCTION AND/OR MATERIALS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

GRADING

THE CONTRACTOR SHALL PERFORM ALL GRADING NECESSARY TO ACHIEVE THE PROPOSED PLAN GRADES INCLUDING TYPICAL SECTIONS.

ALL WORK SHALL BE IN ACCORDANCE WITH SECTION 120 OF THE STANDARD SPECIFICATIONS.

STAKING

CONSTRUCTION STAKING WILL BE PERFORMED BY THE CONTRACTOR.

STABILIZING

STABILIZED SUBGRADE SHALL BE CONSTRUCTED TO THE FLORIDA BEARING VALUE AS PER PLAN FOR THE DEPTH AND LIMITS SHOWN ON THE PLAN, AND IN ACCORDANCE WITH SECTION 160 OF THE STANDARD SPECIFICATIONS.

(TYPE C STABILIZATION). ALL STABILIZED AREAS SHALL BE COMPACTED TO AT LEAST 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.

BASE COURSE

THE BASE SHALL BE CONSTRUCTED OF EITHER LIMEROCK MATERIAL IN ACCORDANCE WITH SECTION 911 OR CEMENTED COQUINA SHELL MATERIAL IN ACCORDANCE WITH SECTION 915 OF THE STANDARD SPECIFICATIONS.

LIMEROCK BASE AND CEMENTED COQUINA SHELL BASE SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 200 OF THE STANDARD SPECIFICATIONS, THE CONTRACTOR SHALL PROVIDE ROCK PIT CERTIFICATION FOR CEMENTED COQUINA SHELL MATERIAL. BASE SHALL BE COMPACTED BY AT LEAST 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180. BASE SHALL BE APPROVED PRIOR TO PRIME COAT.

PRIME AND TACK COAT

PRIME AND TACK COAT FOR THE BASE SHALL BE IN ACCORDANCE WITH SECTION 300 OF THE STANDARD SPECIFICATIONS.

ASPHALTIC CONCRETE SURFACE COURSE (A,C,S,C.)

TYPE S-III ACSC SHALL BE CONSTRUCTED FOR THE DEPTH AND LIMITS SHOWN ON THE PLAN, IN ACCORDANCE WITH SECTIONS 320, AND 330 OF THE STANDARD SPECIFICATIONS.

TESTING

THE CONTRACTOR SHALL RETAIN THE SERVICES OF AN APPROVED INDEPENDENT TESTING LABORATORY TO CONDUCT ALL REQUIRED TESTS ON SUBGRADE, BASE AND SURFACE COURSE MATERIALS. TEST RESULTS MUST BE SUBMITTED PRIOR TO ANY REQUEST FOR PAYMENT ON THE ABOVE ITEMS.

THE SCHEDULE FOR TESTING OF THE ROAD CONSTRUCTION SHALL BE AS FOLLOWS:

A. SUBGRADE:
1. FLORIDA BEARING VALUE TESTS SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 200 FEET, OR CLOSER AS MIGHT BE NECESSARY IN THE EVENT OF VARIATIONS IN SUBSOIL CONDITIONS.
2. DENSITY TESTS SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 200 FEET OR CLOSER AS MIGHT BE NECESSARY.

B. BASE:
1. DENSITY TESTS SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 500 FEET OR CLOSER AS MIGHT BE NECESSARY.

ALL TESTING SHALL BE TAKEN IN A STAGGERED SAMPLING PATTERN FROM A POINT 1 1/2 INCHES INSIDE THE LEFT EDGE, TO THE CENTER, TO A POINT 12 INCHES INSIDE THE RIGHT EDGE OF THE ITEM TESTED.

IF ANY TEST INDICATES THAT THE WORK DOES NOT MEET THE SPECIFICATIONS, THE SUBSTANDARD AREA SHALL BE REWORKED OR CORRECTED AND RETESTED, AT THE CONTRACTOR'S EXPENSE, UNTIL THE PROVISIONS OF THESE SPECIFICATIONS ARE MET.

ALL PASSING TESTS SHALL BE PAID FOR BY THE OWNER. ALL FAILING TESTS SHALL BE PAID FOR BY THE CONTRACTOR.

CLEAN-UP

THE CONTRACTOR MUST PROVIDE CLEAN-UP OF EXCESS CONSTRUCTION MATERIAL UPON COMPLETION OF THE PROJECT. THE SITE MUST BE LEFT IN A NEAT, CLEAN, GRADED CONDITION.

CONSTRUCTION IN STREETS AND ROAD RIGHT-OF-WAYS

1. OPEN ROAD CUTS REQUIRES PRIOR APPROVAL OF THE CITY, COUNTY, STATE OR ANY OTHER AGENCY WHICH MAY HAVE JURISDICTION.
2. ALL CONSTRUCTION, MATERIALS AND WORKMANSHIP ARE TO BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND STANDARDS.
3. ALL AREAS IN EXISTING RIGHT-OF-WAYS DISTURBED BY CONSTRUCTION SHALL RECEIVE SOLID SOD.
4. STREET RESTORATION TO BE DONE AS PER CITY OF FORT PIERCE STANDARDS.
5. THE CONTRACTOR SHALL COMPLY WITH ALL RULES AND REGULATIONS OF THE STATE, COUNTY AND CITY AUTHORITIES REGARDING CLOSING OR RESTRICTING THE USE OF PUBLIC STREETS OR HIGHWAYS.
6. TRAFFIC CONTROL ON ALL COUNTY AND STATE HIGHWAY RIGHT-OF-WAYS 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.

DRAINAGE SPECIFICATIONS

STORM INLETS AND MANHOLES SHALL BE CONSTRUCTED IN GENERAL ACCORDANCE WITH SECTION 425 OF THE STANDARD SPECIFICATIONS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION.

CONCRETE SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 3000 PSI.

ALL REINFORCING STEEL TO BE ASTM A 615-72 GRADE 40, FYP = 40,000 PSI, AND SHALL BE HANDLED AND PLACED IN ACCORDANCE WITH ACI 315-71.

PRECAST CONCRETE MANHOLES AND STORM INLETS MAY BE USED UPON THE ENGINEER'S APPROVAL OF THE MANUFACTURER'S SHOP DRAWINGS.

STORM SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 430 AND RELATED SECTIONS OF THE STANDARD SPECIFICATIONS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION.

CONCRETE

UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 3000 PSI. ALL WORK SHALL COMPLY WITH THE CURRENT EDITION OF THE AMERICAN CONCRETE INSTITUTE (ACI) BUILDING CODE AND THE APPLICABLE BUILDING CODES HAVING JURISDICTION IN THE AREA.

CULVERT PIPES

REINFORCED CONCRETE PIPE (R,C,P,) SHALL BE IN ACCORDANCE WITH SECTION 449 OF THE STANDARD SPECIFICATIONS.

PRECAST CONCRETE DRAINAGE PRODUCTS

ALL PRECAST CONCRETE DRAINAGE PRODUCTS (INCLUDING BUT NOT LIMITED TO ROUND CONC. PIPE, ELLIPTICAL CONC. PIPE, UNDERDRAINS, MANHOLES, INLETS, ENDWALLS, JUNCTION BOXES, THREE SIDED CONC, CULVERTS, AND CONC, BOX CULVERTS) SHALL BE IN ACCORDANCE WITH SECTION 449 OF THE STANDARD SPECIFICATIONS.

GROUNDWATER

GROUNDWATER MAY BE ENCOUNTERED ON THIS SITE. THE CONTRACTOR IS TO PLAN ACCORDINGLY.

RECORD DRAWINGS

CONTRACTOR SHALL KEEP AND MAINTAIN RECORD DRAWINGS ON THE PROJECT SITE AT ALL TIMES WHICH SHALL BE ANNOTATED BY THE CONTRACTOR DEPICTING ANY CHANGES MADE IN THE FIELD WHICH DIFFER FROM THE CONTRACT DRAWINGS, RECORD DRAWINGS SHALL INCLUDE, BUT NOT LIMITED TO, INVERT AND TOP ELEVATIONS OF CULVERTS AND INLET STRUCTURES, CONTRACTOR SHALL SUBMIT COMPLETE AND FINAL RECORD DRAWINGS TO ENGINEER UPON COMPLETION OF PROJECT AND PRIOR TO FINAL INSPECTION AND FINAL PAYMENT.

INSPECTION

MINIMUM CONSTRUCTION INSPECTION CHECKPOINTS

THE ENGINEER SHALL BE NOTIFIED:
1. PRIOR TO ANY MAJOR DEVIATION FROM THE APPROVED PLANS.
2. PRIOR TO BACKFILLING ANY PIPE TRENCHES.
3. UPON COMPLETION OF SUBGRADE GRADING AND COMPACTION.
4. UPON BEGINNING OF SPREADING OF ROCK BASE MATERIAL.
5. UPON COMPLETION OF GRADING AND COMPACTION OF THE BASE MATERIAL AND PRIOR TO PRIMING.
6. IMMEDIATELY PRIOR TO AND UPON APPLICATION OF A,C,S,C.
7. UPON COMPLETION OF CONSTRUCTION.

FDEP SEPARATION CRITERIA:

(1) HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610,F.A.C.
(B)NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.
(C) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610,F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.
(D) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6,002. F.A.C.,

(2) VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY OR VACUUME-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
(C) AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL THE WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORM WATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

(3) SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES

(A) NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A SANITARY SEWER MANHOLE.
(B)EFFECTIVE AUGUST 28, 2003, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A STORM SEWER MANHOLE OR INLET STRUCTURE.

(4) SEPARATION BETWEEN FIRE HYDRANT DRAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. AT LEAST THREE FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER, AT LEAST SIX FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED GRAVITY-OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6,002. F.A.C.

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR CHECKING ACTUAL SITE CONDITIONS BEFORE STARTING CONSTRUCTION.
2. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK.
3. ALL WORK SHALL BE IN WORKMANLIKE MANNER AND SHALL CONFORM WITH ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL REGULATIONS AND/OR CODES, THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND LICENSES REQUIRED TO BEGIN WORK.
4. ALL MATERIALS AND LABOR UNDER THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH REQUIREMENTS OF THE CITY OF FORT PIERCE, WATER MANAGEMENT DISTRICT, FDEP AND THESE PLANS AND SPECIFICATIONS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF ALL EXISTING UTILITIES, THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST 48 HOURS IN ADVANCE FOR CONSTRUCTION OPERATIONS.
6. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN TO BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.
7. CONTRACTOR SHALL SUPPLY DENSITY TESTS TO ENGINEER ON ALL SUB-GRADE AND BASE, TESTS SHALL BE PREPARED PER AASHTO T-180 METHOD.
8. SLOPE GRADES FROM ELEVATIONS SHOWN TO EXISTING GRADE AT PROPERTY LINE. MAXIMUM SLOPE 4:1.
9. ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE FOR ANY INSPECTION.
10. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH M,U,T,C,D, STANDARDS, CITY OF FORT PIERCE AND F,D,O,T.
11. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", LATEST EDITION.
12. THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTORS BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE, WHEN GROUNDWATER IS ENCOUNTERED THE CONTRACTOR SHALL PLAN ACCORDINGLY.
13. ALL INLETS SHALL HAVE A 6" MIN. SUMP BELOW LOWEST INVERT.
14. EROSION CONTROL FENCING MUST BE IN PLACE PRIOR TO GRADING.
15. PIPE LENGTHS AND SLOPES SHOWN ARE APPROXIMATE.
16. 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 CONDITION OR BETTER.
17. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
18. CONTRACTOR SHALL ADJUST INLET/STRUCTURE OR CONNECTION LOCATION AS REQUIRED TO ENSURE PROPOSED STRUCTURES AND PIPES ARE IN PROPER ALIGNMENT AND MATCH SLOPE OF EXISTING PIPES OR CONNECTIONS.
19. THIS PLAN CONTEMPLATES ACCESS CONNECTIONS TO ADJACENT ROADS AS SHOWN.
20. FILL MATERIAL MAY NOT BE STOCKPILED HIGHER THAN SIX (6) VERTICAL FEET ONSITE PER CITY OF FORT PIERCE CODE.
21. DIMENSIONS SHOWN ARE TO EDGE OF GUTTER OR PAVEMENT, RADII SHOWN ARE TO FACE OF CURB.
22. ALL SIGNS SHALL BE PER M,U,T,C,D, STANDARDS.
23. ALL PAVEMENT MARKINGS, EXCEPT PARKING STALL STRIPING, SHALL BE THERMOPLASTIC PER CITY OF FORT PIERCE REQUIREMENTS.
24. THE USES PROPOSED AS PART OF THIS PLAN DO NOT REQUIRE A SUBMITTAL OF A RISK MANAGEMENT PLAN PURSUANT TO U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) REGULATIONS AND SHALL NOT EXCEED THE EPA'S RMP THRESHOLD QUANTITIES OF LISTED SUBSTANCES.
25. WATER FOR FIRE FIGHTING PURPOSES SHALL BE INDICATED WITH A BLUE ROADWAY REFLECTOR, PLACE ONE FOOT OFF OF THE CENTERLINE OF THE ROAD FACING THE FIRE HYDRANT, THIS INCLUDES NEW AND EXISTING SOURCES.
26. REGARDLESS OF PRIVATE OR PUBLIC DEDICATIONS, THERE SHALL BE NO UTILITY

EXISTING CONDITIONS PLAN

SCALE: 1" = 40'

GRAPHIC SCALE

0 40 80

(IN FEET)

1 inch = 40 ft.

LEGEND

- EXISTING CONCRETE
- EXISTING ASPHALT
- EXISTING ASPHALT MILLINGS
- x 12.70 EXISTING ELEVATION

LEGAL DESCRIPTION:

PARCEL 1:

THE SOUTH ONE–HALF (1/2) OF LOT 234, IN SECTION 10, TOWNSHIP 36 SOUTH, RANGE 40 EAST, ACCORDING TO THE PLAT OF WHITE CITY SUBDIVISION, RECORDED IN PLAT BOOK 1, PAGE 23, OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA, LESS AND EXCEPTING THEREFROM THE EAST 30 FEET DEEDED TO THE STATE OF FLORIDA.

TOGETHER WITH:

PARCEL 2:

A PARCEL OF LAND LYING AND BEING IN THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 10, TOWNSHIP 36 SOUTH, RANGE 40 EAST, ST. LUCIE COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF LOT 241 OF WHITE CITY, ACCORDING TO SHEEN'S SURVEY THEREOF RECORDED IN PLAT BOOK 1, PAGE 23 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA, RUN SOUTH 89~50'27" EAST ALONG THE NORTH LINE OF SAID LOT 241 A DISTANCE OF 78 FEET TO THE POINT OF INTERSECTION OF SAID NORTH LINE WITH THE EAST RIGHT–OF–WAY LINE OF U.S. HIGHWAY NO. 1 (STATE ROAD NO. 5)(A 120–FOOT RIGHT–OF–WAY, THE EAST LINE OF WHICH LIES 78 FEET EAST OF THE QUARTER–SECTION LINE OF SAID SECTION 10), SAID POINT OF INTERSECTION BEING THE POINT OF BEGINNING; THENCE RUN SOUTH 00~00'15" WEST ALONG THE EAST RIGHT–OF–WAY LINE OF SAID HIGHWAY A DISTANCE OF 476 FEET; THENCE RUN SOUTH 89~50'27" EAST ALONG A LINE PARALLEL WITH AND 475 FEET SOUTH OF THE NORTH LINE OF SAID LOT 241, A DISTANCE OF 380 FEET; THENCE RUN NORTH 00~00'15" EAST A DISTANCE OF 175 FEET TO A POINT 300 FEET SOUTH OF THE NORTH LINE OF SAID LOT 241; THENCE RUN SOUTH 89~50'27" EAST ALONG A LINE PARALLEL WITH AND 300 FEET SOUTH OF SAID NORTH LINE OF LOT 241 A DISTANCE OF 179.14 FEET MORE OR LESS TO A POINT ON THE WEST LINE OF A 60–FOOT CANAL RIGHT–OF–WAY (SAID WEST LINE LIES 30 FEET WEST OF THE EAST LINE OF LOT 241); THENCE RUN NORTH 00~04'23" EAST ALONG SAID WEST CANAL RIGHT–OF–WAY LINE A DISTANCE OF 300 FEET TO THE NORTH LINE OF SAID LOT 241; THENCE RUN NORTH 89~50'27" WEST ALONG THE NORTH LINE OF SAID LOT 241 A DISTANCE OF 559.50 FEET TO THE POINT OF BEGINNING.

CONTAINING 419,485 SQUARE FEET OR 9.630 ACRES, MORE OR LESS.

SURVEY REPORT:

1. THIS IS A BOUNDARY & TOPOGRAPHIC SURVEY AS DEFINED IN CHAPTER 5J–17.050(11), FLORIDA ADMINISTRATIVE CODE.
2. SURVEY BASED ON A BOUNDARY SURVEY PERFORMED BY DONALD D. DANIELS, INC., JOB NUMBER: 05–087, DATED 9–28–05.
3. BEARING BASIS: A DEED BEARING OF N00°00'15"E ALONG THE MONUMENTED WEST PROPERTY LINE.
4. NO UNDERGROUND UTILITIES OR IMPROVEMENTS WERE LOCATED UNLESS OTHERWISE SHOWN.
5. THIS SITE LIES WITHIN FLOOD ZONE "X", ACCORDING TO THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 12111C0277 J, EFFECTIVE DATE 2–16–12.
6. FLOOD ZONE SHOWN HEREON IS AN INTERPRETATION BY THE SURVEYOR AND IS PROVIDED AS A COURTESY. THE FLOOD ZONE SHOULD BE VERIFIED BY A DETERMINATION AGENCY.
7. THERE MAY BE ADDITIONAL EASEMENTS AND/OR RESTRICTIONS NOT SHOWN ON THIS SURVEY THAT MAY BE FOUND IN THE PUBLIC RECORDS OF ST. LUCIE COUNTY. NO SEARCH OF THE PUBLIC RECORDS HAS BEEN PERFORMED BY ALEXANDER J. PIAZZA PSM, INC.
8. THE EXPECTED USE OF THE SUBJECT PROPERTY IS FOR FUTURE CONSTRUCTION AND ENGINEERING DESIGN OF A PARKING LOT AND LIFT STATION AND FALLS WITHIN THE COMMERCIAL HIGH RISK CATEGORY AS CLASSIFIED IN CHAPTER 5J–17.051(2), FLORIDA ADMINISTRATIVE CODE. ALL FIELD–MEASURED CONTROL MEASUREMENTS EXCEEDED 1:10,000 FEET ACCURACY REQUIREMENTS FOR THIS CLASSIFICATION. ALL SURVEY MEASUREMENTS ARE IN ACCORDANCE WITH THE UNITED STATES STANDARD IN FEET.
9. ALL MAPPED FEATURES SHOWN HEREON ARE UNDER THE DIRECT SUPERVISION AND RESPONSIBILITY OF ALEXANDER J. PIAZZA PSM, INC.
10. THE TREES SHOWN HEREON ARE FOR GRAPHICAL REPRESENTATION ONLY AND PRIOR TO CONSTRUCTION, A FIELD VERIFICATION SHOULD BE PERFORMED IF NOT DOING A FULL CLEAR OF THE PROPERTY. THE DATA WAS SUPPLIED BY ADVANCED RESTORATION ECOLOGY, TREES WERE LOCATED ON SPETEMBER 26, 2020.
11. SURVEY MAP AND REPORT OR THE COPIES THEREOF ARE NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
12. ADDITIONS OR DELETIONS TO THE SURVEY MAP OR REPORT BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.
13. THE BEARINGS SHOWN HEREON ARE RELATIVE TO THE STATE PLANE COORDINATE SYSTEM OF THE NORTH AMERICAN DATUM OF 1983 (2007 ADJUSTMENT) AND THE ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 AND ARE REFERENCED TO THE LENGEMANN OF FLORIDA'S L–NET GPS NETWORK DEVELOPED WHICH MEETS OR EXCEEDS THE FEDERAL GEODETIC CONTROL COMMITTEE (FGCC) GUIDELINES FOR "GEOMETRIC GEODETIC ACCURACY STANDARDS AND SPECIFICATIONS FOR USING GPS RELATIVE POSITIONING TECHNIQUES" AS WELL AS THE STANDARDS OF PRACTICE SET FORTH BY THE FLORIDA BOARD OF LAND SURVEYORS IN CHAPTER 5J–17.051 FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472.027 FLORIDA STATUTES. PRIMARY BENCHMARK: NGS "W 403" NAVD88 ELEVATION = 13.40, LOCATED AT THE NW CORNER OF THE INTERSECTION OF US HIGHWAY NO. 1 AND ULRICH ROAD, 1.5' EAST OF UTILTIY POLE #6 6370 7124 05. BENCHMARKS SET OR FOUND FOR THIS SURVEY ARE NOTED ON THE SKETCH.

ABBREVIATIONS:

(C) = CALCULATED
CBS = CONCRETE BLOCK STRUCTURE
CONC = CONCRETE
CLF = CHAIN LINK FENCE
(D) = DEED
FFE = FINISHED FLOOR ELEVATION
FND = FOUND
IP = IRON PIPE
INV = INVERT
IR = IRON ROD
IRC = IRON ROD WITH PLASTIC CAP
LB = LICENSE BUSINESS
LS = LICENSE SURVEY
(M) = MEASURED
MON = MONUMENT
NSLRWCD = NORTH ST. LUCIE RIVER WATER CONTROL DISTRICT
ORB = OFFICIAL RECORD BOOK
(P) = PLAT
PB = PLAT BOOK
PG = PAGE
PCOR = PROPERTY CORNER
PL = PROPERTY LINE
POB = POINT OF BEGINNING
POC = POINT OF COMMENCEMENT
R/W = RIGHT–OF–WAY
RCP = REINFORCED CONCRETE PIPE
RGE = RANGE
SEC = SECTION
TWP = TOWNSHIP
UE = UTILITY EASEMENT
PUDE = PUBLIC UTITILTY & DRAINAGE EASEMENT

SYMBOLS:

= GUY WIRE ANCHOR
= CABLE TELEVISION BOX
= CATCH BASIN
= CATCH BASIN INLET
= CLEANOUT
= ELECTRIC BOX
= TELEPHONE BOX
= SIGN
= SANITARY MANHOLE
= STORM MANHOLE
= NUMBER OF PARKING SPACES
= FIRE HYDRANT
= LIGHT POLE
= CONCRETE POWER POLE
= BACKFLOW PREVENTOR
= MAIL BOX
= IRRIGATION VALVE
= GAS VALVE
= SEWER VALVE
= WATER VALVE
= WELL
= WATER METER
= WOOD POWER POLE
= SET 5/8" IRON ROD WITH PLASTIC CAP PSM#6330
2" = DENOTES TREE SIZE
= DENOTES PALM TREE
= DENOTES SIMPSON STOPPER TREE
= DENOTES PINE TREE
= DENOTES OAK TREE
= DENOTES CABBAGE PALM

72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.

NO.	DATE	REVISIONS
8		
7		
6		
5		
4		
3		
2		
1		

JOB NO.	22-0496	
DESIGNED		AS
DRAWN		GWR
DATE	MAY 2024	
CHECKED		AS
DATE ISSUED	7/19/2024	

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES CONSULTING ENGINEERING CA #5728
1515 20TH STREET VERO BEACH, FL 32960 PH: (772) 770-0177 FX: (772) 778-0417
1515 ROYAL PL, PH / 321.215.1151 FT. PIERCE FL, PH (772) 466-3003

EXISTING CONDITIONS PLAN

BEV SMITH KIA
USED CAR CENTER

CITY OF FORT PIERCE FLORIDA

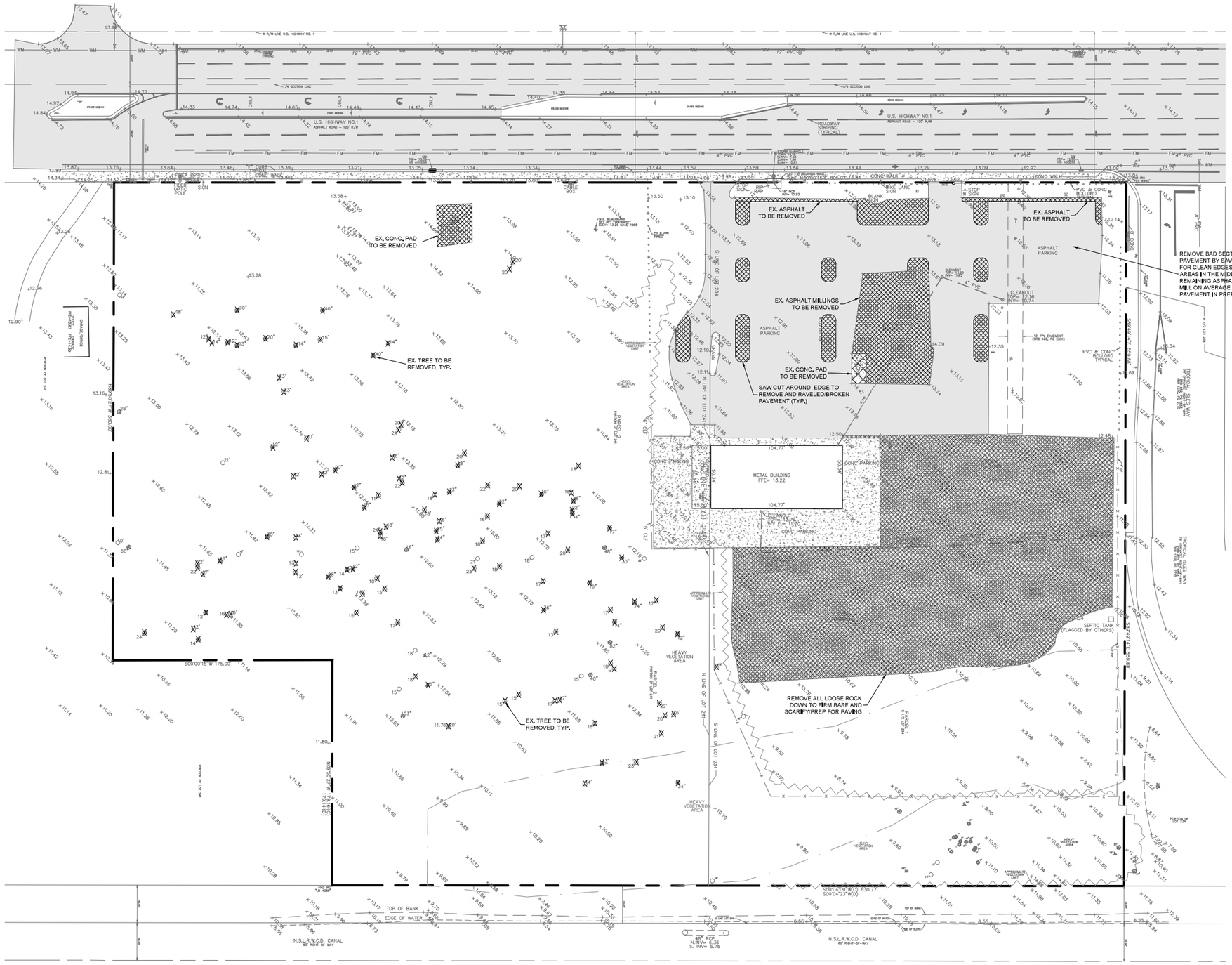
AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460

SHEET
C3

22-0496

O:\DRAWINGS\2022\22-0496 Bev Smith Kia - Ste Development\4 - Drawings\22-0496 C3 EX COND.dwg 7/19/2024 11:47 AM



DEMOLITION PLAN

SCALE: 1" = 40'

GRAPHIC SCALE

0 40 80

(IN FEET)

1 inch = 40 ft.

LEGEND

- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING CONCRETE, ASPHALT, STABILIZED ROCK TO BE REMOVED
- EXISTING TREE TO BE REMOVED

DEMOLITION NOTES

1. ALL EXOTIC AND INVASIVE SPECIES TO BE REMOVED THAT ARE INCONGRUENT WITH DEVELOPMENT.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE ATTAINMENT OF ALL DEMOLITION PERMITS NECESSARY FOR PROPOSED CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY / ALL NECESSARY EROSION CONTROL MEASURES AS PRESENTED ON THIS SHEET AND INCLUDED IN THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
4. ALL BARRIERS AND PROTECTION MEASURES FOR TREES BEING SAVED SHALL BE PLACED BEFORE ANY DEMOLITION ACTIVITY BEGINS. LARGE TREES ON ADJACENT PROPERTIES, NEAR THE PROPERTY LINE, SHOULD ALSO BE PROTECTED.
5. ALL IMPACTS TO THE RIGHT-OF-WAYS SHALL BE SODDED WITHIN (3) DAYS OF FINAL GRADING.
6. "TRUCKS ENTERING ROADWAY" SIGNS SHALL BE INSTALLED IN ADVANCE BOTH DIRECTIONS OF CONSTRUCTION ENTRANCE PER MUTCD STANDARDS.
7. FOR MORE DETAILS ON EXISTING TREES AND TREE SURVEY, REFER TO THE ENVIRONMENTAL ASSESSMENT DONE BY ADVANCED RESTORATION ECOLOGY DATED SEPTEMBER 2020.

ABBREVIATIONS:

(C) = CALCULATED
CBS = CONCRETE BLOCK STRUCTURE
CONC = CONCRETE
CLF = CHAIN LINK FENCE
(D) = DEED
FFE = FINISHED FLOOR ELEVATION
FND = FOUND
IP = IRON PIPE
INV = INVERT
IR = IRON ROD
IRC = IRON ROD WITH PLASTIC CAP
LB = LICENSE BUSINESS
LS = LICENSE SURVEY
(M) = MEASURED
MON = MONUMENT
NSLRWCD = NORTH ST. LUCIE RIVER WATER CONTROL DISTRICT
ORB = OFFICIAL RECORD BOOK
(P) = PLAT
PB = PLAT BOOK
PG = PAGE
PCOR = PROPERTY CORNER
PL = PROPERTY LINE
POB = POINT OF BEGINNING
POC = POINT OF COMMENCEMENT
R/W = RIGHT-OF-WAY
RCP = REINFORCED CONCRETE PIPE
RGE = RANGE
SEC = SECTION
TWP = TOWNSHIP
UE = UTILITY EASEMENT
PUDE = PUBLIC UTILITY & DRAINAGE EASEMENT

SYMBOLS:

= GUY WIRE ANCHOR
= CABLE TELEVISION BOX
= CATCH BASIN
= CATCH BASIN INLET
= CLEANOUT
= ELECTRIC BOX
= TELEPHONE BOX
= SIGN
= SANITARY MANHOLE
= STORM MANHOLE
= NUMBER OF PARKING SPACES
= FIRE HYDRANT
= LIGHT POLE
= CONCRETE POWER POLE
= BACKFLOW PREVENTOR
= MAIL BOX
= IRRIGATION VALVE
= GAS VALVE
= SEWER VALVE
= WATER VALVE
= WELL
= WATER METER
= WOOD POWER POLE
= SET 5/8" IRON ROD WITH PLASTIC CAP PSM#6330
2" = DENOTES TREE SIZE
= DENOTES PALM TREE
= DENOTES SIMPSON STOPPER TREE
= DENOTES PINE TREE
= DENOTES OAK TREE
= DENOTES CABBAGE PALM

72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.

O:\DRAWING\2022\22-0496 Bev Smith Kia - Site Development\4 - Drawing\22-0496 C4 DEMO PLAN.dwg 7/19/2024 11:47 AM

NO.	REVISIONS	DATE
8	-	-
7	-	-
6	-	-
5	-	-
4	-	-
3	-	-
2	-	-
1	-	-

JOB NO.	22-0496	
DESIGNED	AS	
DRAWN	GWR	
DATE	MAY 2024	
CHECKED	AS	
DATE ISSUED	7/19/2024	

MBV ENGINEERING INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES CONSULTING ENGINEERING CA #5728
1915 - 25TH STREET VERO BEACH, FL 32960 PH: (772) 794-0177 FX: (772) 778-2417
1475 BOURNE PL, PH: (321) 253-1151 FT. PIERCE FL, PH: (772) 466-3993

DEMOLITION PLAN

BEV SMITH KIA
USED CAR CENTER

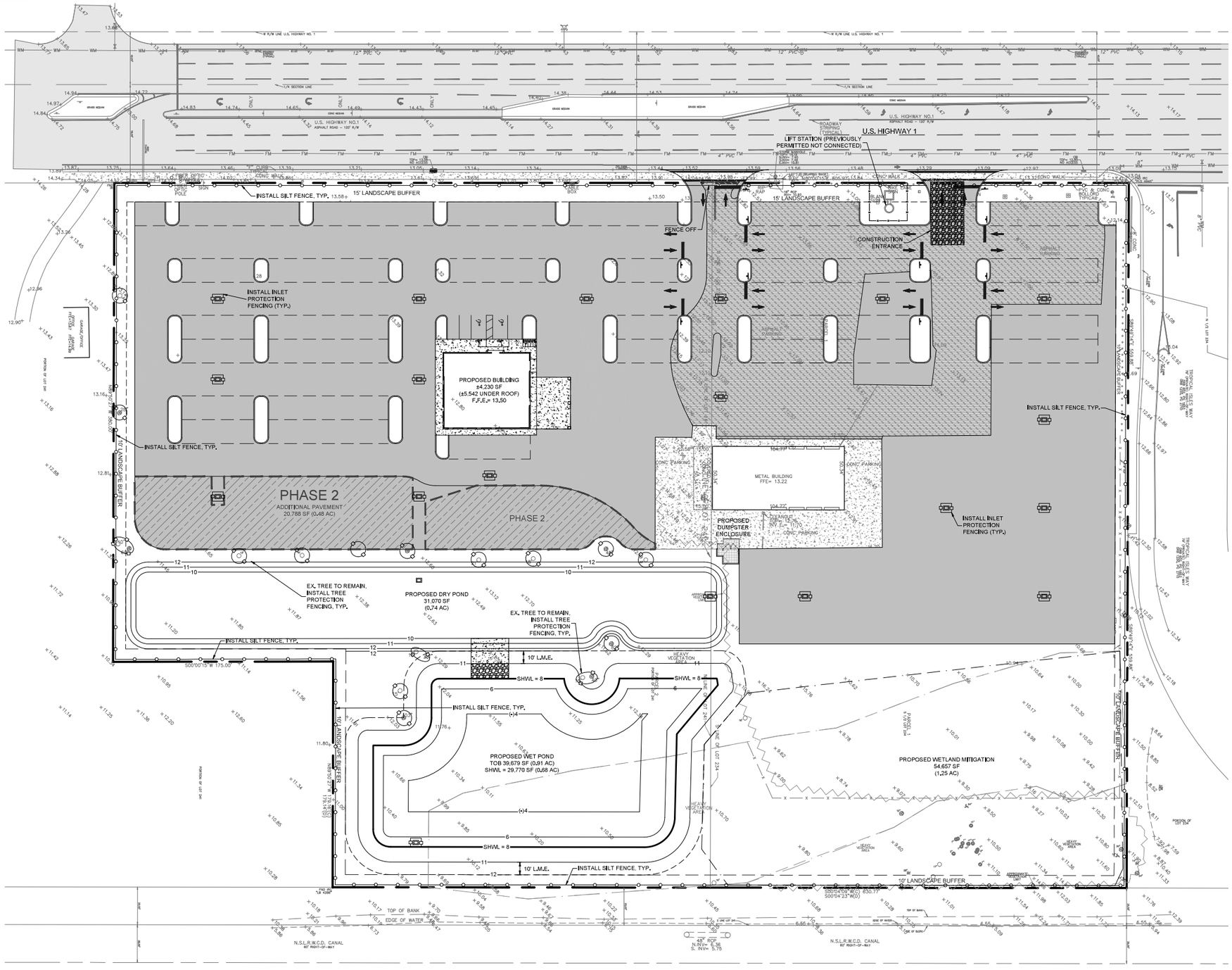
CITY OF FORT PIERCE FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460

SHEET
C4

22-0496



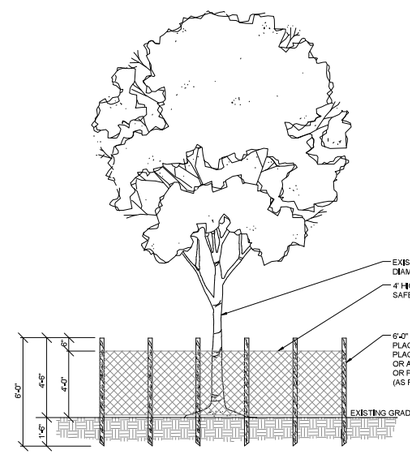
EROSION CONTROL PLAN

SCALE: 1" = 40'

GRAPHIC SCALE
0 40 80
(IN FEET)
1 inch = 40 ft.

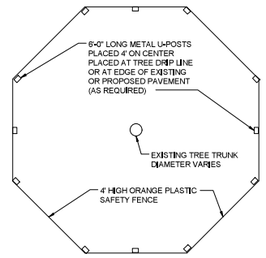
LEGEND

- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING CONCRETE, ASPHALT, STABILIZED ROCK TO BE REMOVED
- SILT FENCE
- TREE PROTECTION FENCE
- INLET PROTECTION FENCING



ELEVATION

TREE PROTECTION NOTES:
1. ALL TREES RETAINED ON A SITE SHALL BE PROTECTIVELY BARRICADED BEFORE AND DURING CONSTRUCTION ACTIVITIES.
2. UNDERGROUND UTILITY LINES SHALL BE ROUTED AROUND EXISTING TREES TO THE OUTSIDE OF THE DRIPLINE WHERE ABLE.
3. INSTALLATION OF FENCES AND WALLS SHALL TAKE INTO CONSIDERATION THE ROOT SYSTEMS OF EXISTING TREES.
4. FENCES/ BARRICADE SHALL BE INSTALLED AT PERIMETER OF ALL TREES OR GROUP OF TREES TO BE PRESERVED. FENCE SHALL BE MAINTAINED DURING CONSTRUCTION.



PLAN VIEW

TREE PROTECTION BARRIER DETAIL

NTS

ABBREVIATIONS:

(C) = CALCULATED
CBS = CONCRETE BLOCK STRUCTURE
CONC = CONCRETE
CLF = CHAIN LINK FENCE
(D) = DEED
FFE = FINISHED FLOOR ELEVATION
FND = FOUND
IP = IRON PIPE
INV = INVERT
IR = IRON ROD
IRC = IRON ROD WITH PLASTIC CAP
LB = LICENSE BUSINESS
LS = LICENSE SURVEY
(M) = MEASURED
MON = MONUMENT
NSLRWCD = NORTH ST. LUCIE RIVER WATER CONTROL DISTRICT
ORB = OFFICIAL RECORD BOOK
(P) = PLAT
PB = PLAT BOOK
PG = PAGE
POCR = PROPERTY CORNER
PL = PROPERTY LINE
POB = POINT OF BEGINNING
POC = POINT OF COMMENCEMENT
R/W = RIGHT-OF-WAY
RCP = REINFORCED CONCRETE PIPE
RGE = RANGE
SEC = SECTION
TWP = TOWNSHIP
UE = UTILITY EASEMENT
PUDE = PUBLIC UTILITY & DRAINAGE EASEMENT

SYMBOLS:

= GUY WIRE ANCHOR
= CABLE TELEVISION BOX
= CATCH BASIN
= CATCH BASIN INLET
= CLEANOUT
= ELECTRIC BOX
= TELEPHONE BOX
= SIGN
= SANITARY MANHOLE
= STORM MANHOLE
= NUMBER OF PARKING SPACES
= FIRE HYDRANT
= LIGHT POLE
= CONCRETE POWER POLE
= BACKFLOW PREVENTOR
= MAIL BOX
= IRRIGATION VALVE
= GAS VALVE
= SEWER VALVE
= WATER VALVE
= WELL
= WATER METER
= WOOD POWER POLE
= SET 5/8" IRON ROD WITH PLASTIC CAP PSM#6330
2" = DENOTES TREE SIZE
= DENOTES PALM TREE
= DENOTES SIMPSON STOPPER TREE
= DENOTES PINE TREE
= DENOTES OAK TREE
= DENOTES CABBAGE PALM

72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.

O:\DRAWING\2022\22-0496\ Bev Smith Kia - Site Dev\plansmit4 - Drawings\22-0496 C5 EROSION CONTROL PLAN.dwg

NO.	DATE	REVISIONS
8	-	-
7	-	-
6	-	-
5	-	-
4	-	-
3	-	-
2	-	-
1	-	-

JOB NO.	22-0496
DESIGNED	AS
DRAWN	GWR
DATE	MAY 2024
CHECKED	AS
DATE ISSUED	7/19/2024

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES CONSULTING ENGINEERING CA #5728
1515 - 25TH STREET VERO BEACH, FL 32960 PH: (772) 778-0646 FX: (772) 778-0417
1515 ROUSE CT., PH | 321.213.1110 FT. PIERCE FL, PH (772) 466-3003

EROSION CONTROL PLAN

BEV SMITH KIA
USED CAR CENTER

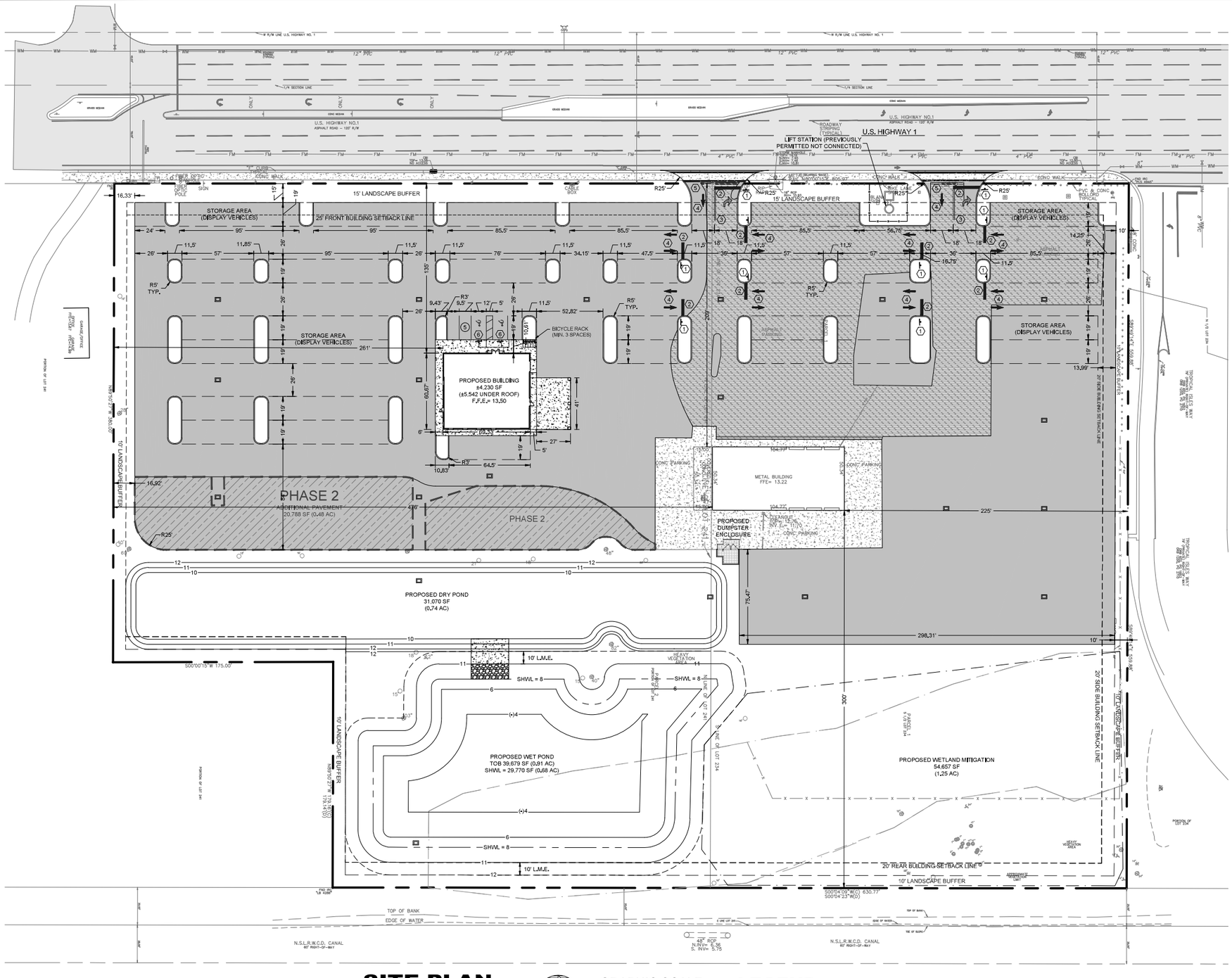
CITY OF FORT PIERCE FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON FL, P.E., #72460

SHEET
C5

22-0496



PROJECT INFORMATION

SITE ADDRESS
5560 SOUTH US HIGHWAY 1
FORT PIERCE, FLORIDA 34982

OWNER
NICHOLAS SMITH
7845 SW ELLIPSE WAY
STUART, FLORIDA 34997
PHONE (561) 818 2847

APPLICANT
MICHAEL SMITH
7845 SW ELLIPSE WAY
STUART, FLORIDA 34997
PHONE (561) 818-2847

ENGINEER
MBV ENGINEERING, INC.
1835 20TH STREET
VERO BEACH, FLORIDA 32960
PHONE (772) 569-0035

ARCHITECT
GCP ARCHITECTURE
601 HERITAGE DRIVE, SUITE 410
JUPITER, FLORIDA 33458
PHONE (561) 331-5036

SURVEYOR
ALEXANDER J. PIAZZA PSM, INC.
619 SW BILTMORE STREET
PORT ST. LUCIE, FLORIDA 34983
PHONE (772) 340-7770

TAX PARCEL I.D NUMBER(S)
3403-502-0302-000-4

ZONING	LAND USE	OVERLAY DISTRICT
C-3	RL	N/A

LATITUDE	LONGITUDE
27°21'49.43"N	80°19'30.63"W

PROJECT DESCRIPTION
PROPOSED SHOWROOM AND DEALERSHIP BUILDING AND ADDITIONAL PARKING LOT WITH ASSOCIATED DRAINAGE, WATER, SEWER AND LANDSCAPING IMPROVEMENTS.

SITE DATA

EXISTING SITE DATA

	SF	AC	%
SITE AREA	419,506 SF	9.63 AC	100%
IMPERVIOUS AREA	114,551 SF	2.63 AC	27.31%
EXISTING BUILDING	5,274 SF	0.12 AC	1.26%
EXISTING COVERED CONCRETE	755 SF	0.02 AC	0.18%
EXISTING CONCRETE	11,057 SF	0.25 AC	2.64%
EXISTING ASPHALT	47,765 SF	1.10 AC	11.39%
EXISTING ASPHALT MILLINGS	49,700 SF	1.14 AC	11.85%
PERVIOUS AREA	304,955 SF	7.00 AC	72.69%

PROPOSED SITE DATA

SITE AREA	419,506 SF	9.63 AC	100%
IMPERVIOUS AREA	228,541 SF	5.25 AC	54.48%
EXISTING BUILDING	5,274 SF	0.12 AC	1.26%
PROPOSED BUILDING	4,230 SF	0.10 AC	1.01%
EXISTING COVERED CONCRETE	755 SF	0.02 AC	0.18%
PROP. COVERED CONCRETE	1,312 SF	0.03 AC	0.31%
EXISTING CONCRETE	9,889 SF	0.23 AC	2.36%
PROPOSED CONCRETE	3,038 SF	0.07 AC	0.72%
EXISTING ASPHALT	42,979 SF	0.99 AC	10.25%
PROPOSED ASPHALT PH 1	140,276 SF	3.22 AC	33.44%
PROPOSED ASPHALT PH 2	20,788 SF	0.48 AC	4.96%
PERVIOUS AREA	190,965 SF	4.38 AC	45.52%
OPEN SPACE	190,965 SF	4.38 AC	45.52%
NET NEW IMPERVIOUS	+ 113,990 SF	2.62 AC	

ZONING DATA

CRITERIA	REQUIRED	EXISTING	PROPOSED
LOT SIZE	10,000 SF	419,506	419,506 SF
LOT WIDTH	70-FT	606-FT	606-FT
LOT DEPTH	90-FT	560-FT	560-FT
BUILDING SETBACKS			
FRONT	25-FT	209-FT	135-FT
SIDE (NORTH)	15-FT	225-FT	225-FT
(SOUTH)	15-FT	476-FT	261-FT
REAR	15-FT	300-FT	300-FT
MAX BUILDING COVERAGE	60%	1.26%	2.27%
OPEN SPACE	N/A	72.69%	45.52%
BUILDING HEIGHT	45-FT	< 45-FT	< 45-FT
FAR	N/A	0.01	0.02

TRAFFIC STATEMENT
PER ITE, 11TH EDITION:
USE 942: AUTOMOBILE CARE CENTER - 2.25 ADT PER 1,000 SF GFA
2.25 X 5.3 KSF = 12 AADT
USE 841: AUTOMOBILE SALES (USED) - 27.06 ADT PER 1,000 SF GFA
27.06 X 4.2 KSF = 114 AADT
TOTAL = 126 AADT

DRAINAGE STATEMENT
STORMWATER TO BE COLLECTED VIA INLETS IN PARKING LOT AND ROUTED TO A DRY POND AND THEN VIA A CONCRETE WEIR, TO A WET POND, PRIOR TO DISCHARGE TO THE N.S.L.R.W.C.D. CANAL 21.

PERMITS REQUIRED
CoFP DEVELOPMENT REVIEW APPLICATION
CoFP DESIGN REVIEW APPLICATION
CoFP CONCURRENCY CAPACITY ANALYSIS FORM
CoFP EROSION AND SEDIMENT CONTROL
CoFP DRIVEWAY, SIDEWALK & DRAINAGE PERMIT
SLC FIRE REVIEW
FORT PIERCE UTILITY AUTHORITY (FPUA)
NSLRWMD CONNECTION PERMIT
SFWMD ENVIRONMENTAL RESOURCES PERMIT
FDEP WATER DISTRIBUTION PERMIT
FDEP WASTEWATER COLLECTION PERMIT
FDEP NPDES NOI PERMIT
FDOT DRIVEWAY PERMIT
FDOT DRAINAGE PERMIT
FDOT UTILITY PERMIT

FLOOD ZONE
THE SUBJECT PROPERTY IS LOCATED IN FLOOD ZONE X PER FLOOD INSURANCE RATE MAP #12111C0277K, DATED FEBRUARY 19, 2020.

WASTEWATER SOURCE
FPUA

POTABLE WATER SOURCE
FPUA

CONSTRUCTON SCHEDULE
START: OCTOBER 2024
FINISH: OCTOBER 2025

SITE PLAN

SCALE: 1" = 40'

GRAPHIC SCALE
0 40 80
(IN FEET)
1 inch = 40 ft.

LEGEND

- EXISTING CONCRETE
- EXISTING ASPHALT
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED HEAVY DUTY CONCRETE
- EXISTING ASPHALT TO BE MILLED AND RESURFACED

SIGNAGE & PAVEMENT MARKING SCHEDULE

SIGN ID NUMBER	SIZE	DESIGNATION / NOTES
1	30"	R1-1 "STOP" SIGN
2	24"	SOLID WHITE STOP BAR
3	6"	25 LF THERMOPLASTIC DOUBLE YELLOW STRIPING
4		PAVEMENT MARKINGS PER FDOT INDEX #711-001
5	12"	6' WIDE CROSS WALK W/12" SOLID WHITE STRIPES, THERMOPLASTIC
6	12"	FTP-20-06 HC PARKING SIGN, SEE DETAIL SHEET C11

72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.

NO.	DATE	REVISIONS
8		
7		
6		
5		
4		
3		
2		
1		

JOB NO.	22-0496	
DESIGNED	AS	
DRAWN	GWR	
DATE	MAY 2024	
CHECKED	AS	
DATE ISSUED	7/19/2024	

MBV ENGINEERING INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES CONSULTING ENGINEERING CA #5728
1835 20TH STREET
VERO BEACH, FL 32960
PH: (772) 569-0035
FX: (772) 778-0417
MBVENGINEERING.COM
1835 ROYALE EL PH I 333 LILLIE
FT. PIERCE FL PH (772) 466-3033

SITE PLAN

BEV SMITH KIA
USED CAR CENTER

CITY OF FORT PIERCE FLORIDA

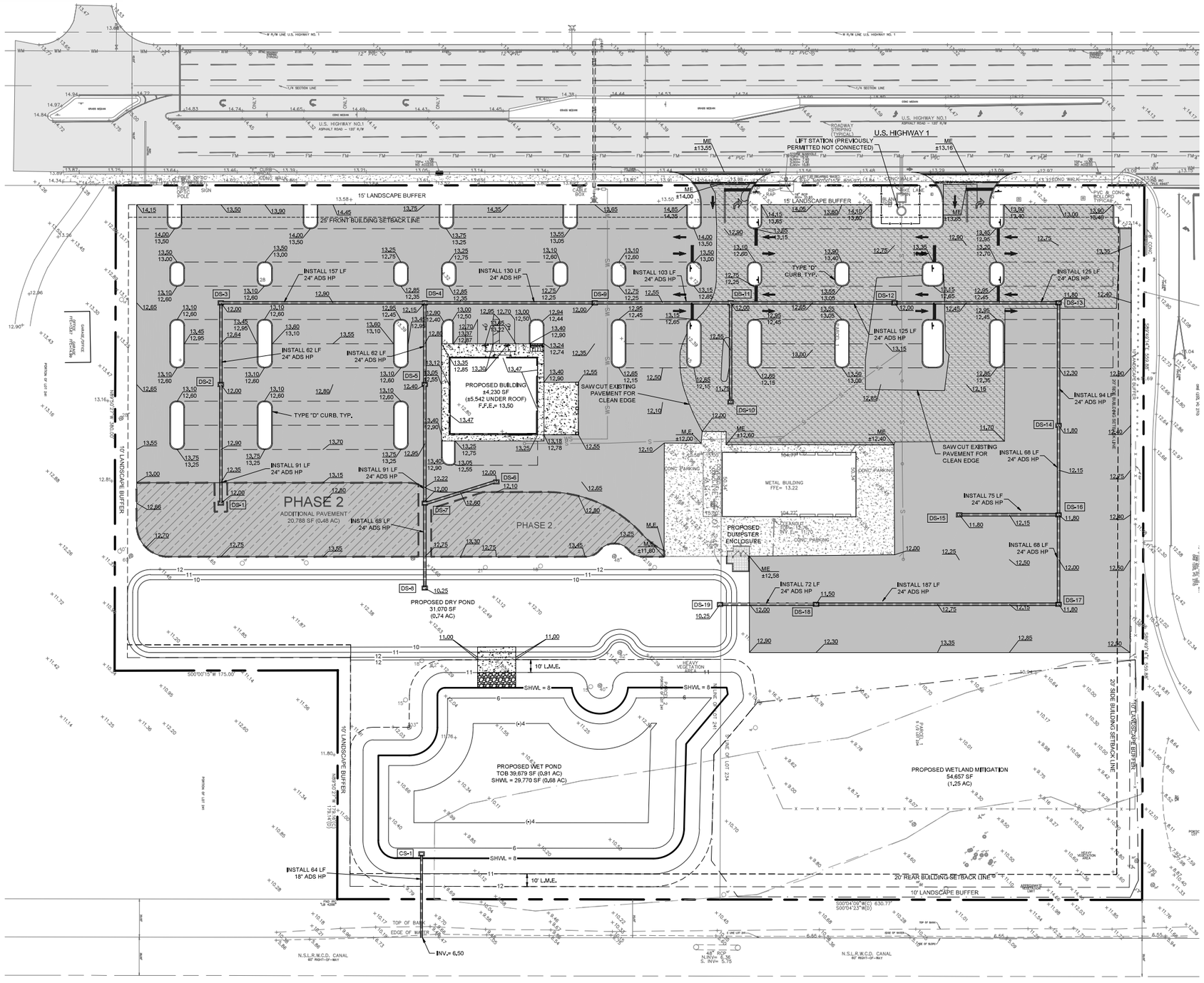
AARON G. STANTON
LICENSE
No. 72460
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

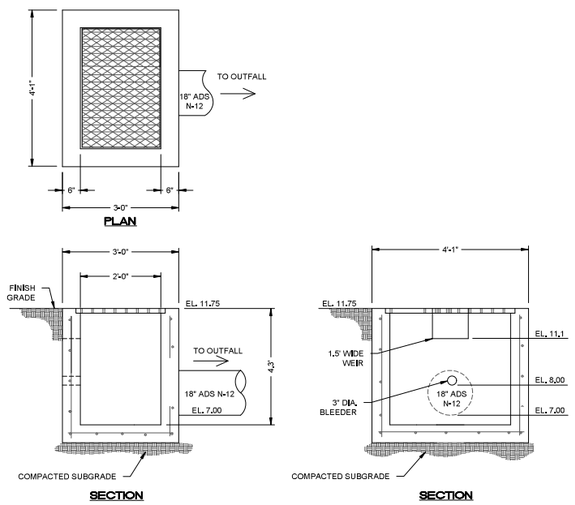
AARON G. STANTON
FL. P.E. #72460

SHEET
C6

22-0496

O:\DRAWINGS\2022\22-0496 Bev Smith Kia - Site Development\4 - Drawings\22-0496 C6 SITE PLAN.dwg 7/19/2024 1:07 PM





CONTROL STRUCTURE (MODIFIED TYPE 'C' INLET, CS-1) DETAIL
N.T.S.

PAVING, GRADING AND DRAINAGE PLAN

SCALE: 1" = 40'

GRAPHIC SCALE
0 40 80
(IN FEET)
1 inch = 40 ft.

LEGEND

- EXISTING CONCRETE
- EXISTING ASPHALT
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- EXISTING ASPHALT TO BE MILLED AND RESURFACED

72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.

DRAINAGE STRUCTURE TABLE

	STRUCTURE NUMBER	DS-1	DS-2	DS-3	DS-4	DS-5	DS-6	DS-7	DS-8	DS-9	DS-10	DS-11	DS-12	DS-13	DS-14	DS-15	DS-16	DS-17	DS-18	DS-19
	FDOT INDEX #	# 425-053	# 425-053	# 425-053	# 425-053	# 425-053	# 425-053	# 425-053	# 425-053	# 425-053	# 425-053	# 425-053	# 425-053	# 425-053	# 425-052	# 425-052	# 425-052	# 425-052	# 425-052	# 425-052
	DESCRIPTION	TYPE "F" DITCH INLET W/ H.D.M. INLET FT	TYPE "F" DITCH INLET W/ H.D.M. INLET FT	TYPE "F" DITCH INLET W/ H.D.M. INLET FT	TYPE "F" DITCH INLET W/ H.D.M. INLET FT	TYPE "F" DITCH INLET W/ H.D.M. INLET FT	TYPE "F" DITCH INLET W/ H.D.M. INLET FT	TYPE "F" DITCH INLET W/ H.D.M. INLET FT	TYPE "F" DITCH INLET W/ H.D.M. INLET FT	TYPE "F" DITCH INLET W/ H.D.M. INLET FT	TYPE "F" DITCH INLET W/ H.D.M. INLET FT	TYPE "F" DITCH INLET W/ H.D.M. INLET FT	TYPE "F" DITCH INLET W/ H.D.M. INLET FT	TYPE "F" DITCH INLET W/ H.D.M. INLET FT	TYPE "C" DITCH INLET W/ H.D.M. INLET FT	TYPE "C" DITCH INLET W/ H.D.M. INLET FT	TYPE "C" DITCH INLET W/ H.D.M. INLET FT	TYPE "C" DITCH INLET W/ H.D.M. INLET FT	TYPE "C" DITCH INLET W/ H.D.M. INLET FT	TYPE "C" DITCH INLET W/ H.D.M. INLET FT
	RIM ELEV.	12.00'	12.00'	12.00'	12.15'	12.40'	12.00'	12.00'	10.25'	12.00'	11.75'	12.00'	12.00'	11.80'	11.80'	11.80'	11.80'	11.80'	11.50'	10.25'
	PIPE DIA.	24.00"	24.00"	24.00"	24.00"	24.00"	24.00"	24.00"	24.00"	24.00"	24.00"	24.00"	24.00"	24.00"	24.00"	24.00"	24.00"	24.00"	24.00"	24.00"
	COVER	2.00'	2.10'	2.30'	2.85'	3.10'	2.20'	2.40'	1.50'	2.50'	2.05'	2.50'	1.55'	1.85'	2.30'	2.30'	2.40'	2.50'	2.40'	1.50'
INVERT ELEVATION	N			7.60 N	7.50 N					7.50 N		7.50 N	8.45 N				7.50 N	7.50 N	7.40 N	6.75 N
	S				7.50 S		7.80 S	7.60 S		7.50 S		7.50 S	7.50 S	8.15 S			7.40 S	7.20 S	7.00 S	
	E		7.90 E		7.40 E	7.20 E		7.00 E				7.50 E		7.50 E	7.50 E		7.40 E			
	W	8.00 W	7.80 W	7.70 W		7.30 W		7.10 W	6.75 W		7.70 W							7.30 W		
	BOTTOM ELEV.	7.50'	7.30'	7.10'	6.90'	6.70'	7.30'	6.50'	6.25'	7.00'	7.20'	7.00'	7.00'	7.00'	7.00'	7.00'	6.90'	6.70'	6.50'	6.25'

	DATE	REVISIONS
8	-	-
7	-	-
6	-	-
5	-	-
4	-	-
3	-	-
2	-	-
1	-	-

JOB NO.	22-0496
DESIGNED	AS
DRAWN	GWR
DATE	MAY 2024
CHECKED	AS
DATE ISSUED	7/19/2024

MBV ENGINEERING INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES CONSULTING ENGINEERING CA #5728
1951 - 25TH STREET VERO BEACH, FL 32960 PH: (772) 770-0651 FX: (772) 778-2417
1515 ROUSE, FL • PH: (321) 333-3110 FT. PIERCE FL • PH: (772) 466-3993

PAVING, GRADING AND DRAINAGE PLAN

BEV SMITH KIA
USED CAR CENTER

CITY OF FORT PIERCE, FLORIDA

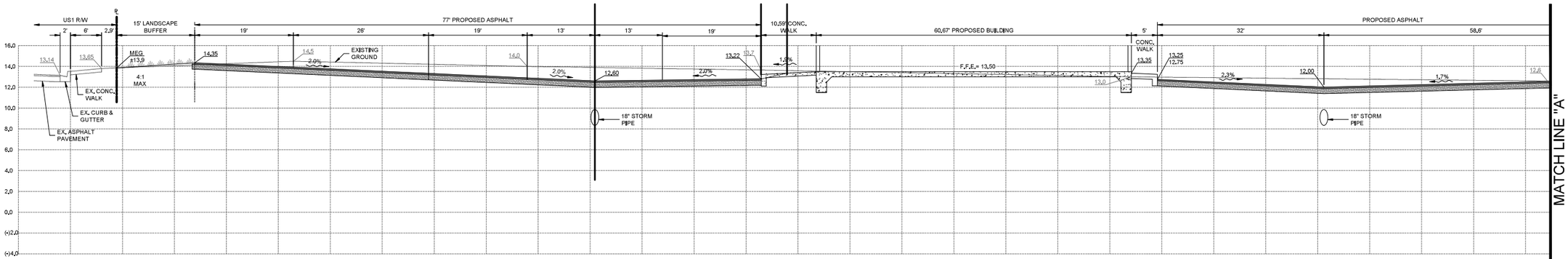
AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460

SHEET
C7

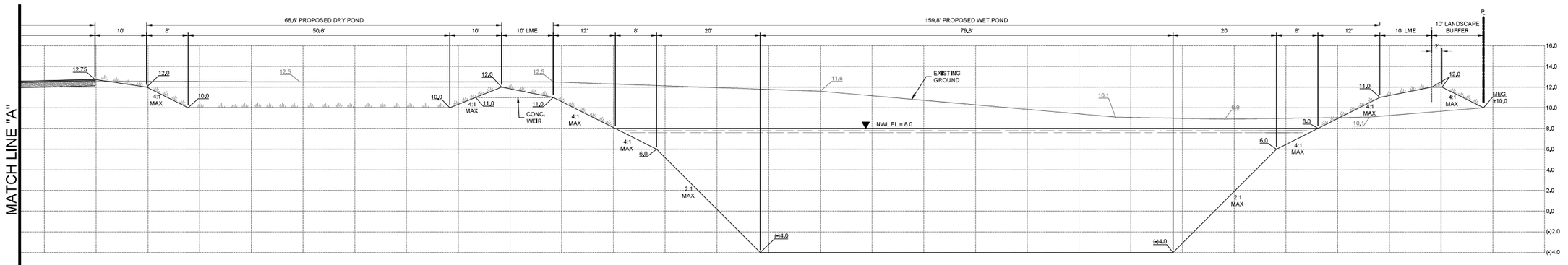
22-0496

O:\DRAWINGS\2022\22-0496 Bev Smith Kia - Site Development\4 - Drawings\22-0496 C7 PAVING PLAN.dwg 7/19/2024 1:16 PM



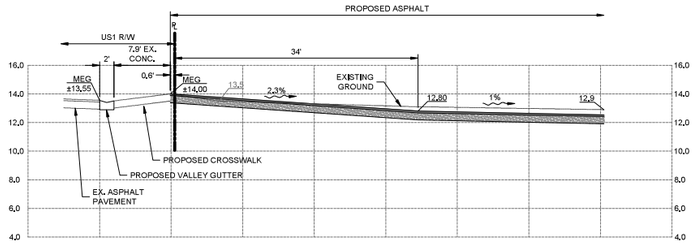
SECTION A-A

SCALE:
VERT. 1"= 5'
HORIZ. 1"=10'



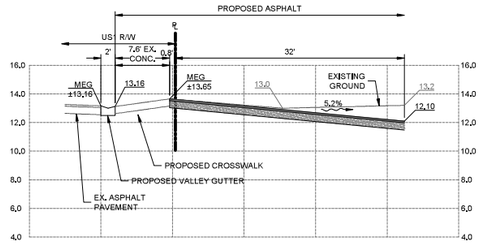
SECTION A-A

SCALE:
VERT. 1"= 5'
HORIZ. 1"=10'



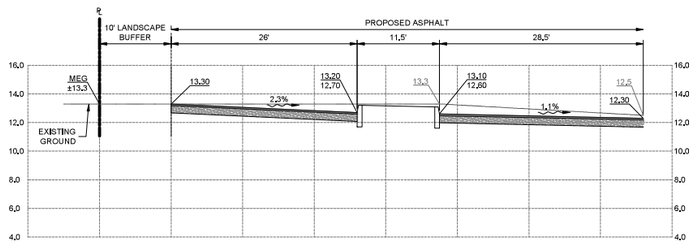
SECTION B-B

SCALE:
VERT. 1"= 5'
HORIZ. 1"=10'



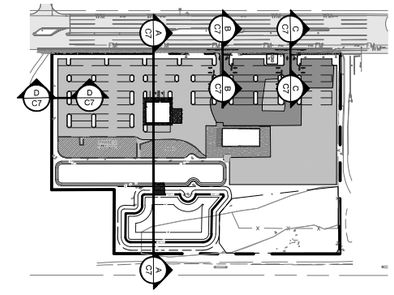
SECTION C-C

SCALE:
VERT. 1"= 5'
HORIZ. 1"=10'



SECTION D-D

SCALE:
VERT. 1"= 5'
HORIZ. 1"=10'



KEY MAP

SCALE: 1" = 200'

GRAPHIC SCALE
0 200 400
(IN FEET)
1 inch = 200 ft.

72 HOURS BEFORE DIGGING CALL TOLL FREE 811
Know what's below. Call before you dig.

NO.	REVISIONS	DATE
8	-	-
7	-	-
6	-	-
5	-	-
4	-	-
3	-	-
2	-	-
1	-	-

JOB NO.	22-0496
DESIGNED	AS
DRAWN	GWR
DATE	MAY 2024
CHECKED	AS
DATE ISSUED	7/19/2024

MBV ENGINEERING INC.
MOA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1185 - 25TH STREET
VERO BEACH, FL 32960
PH: (772) 778-0616
FX: (772) 778-0617
1185 SOUTHEAST FL-PKY (SR) 15/A (SR)
FT. PIERCE FL • PH (772) 466-3003

CROSS SECTIONS

BEV SMITH KIA
USED CAR CENTER

CITY OF FORT PIERCE FLORIDA

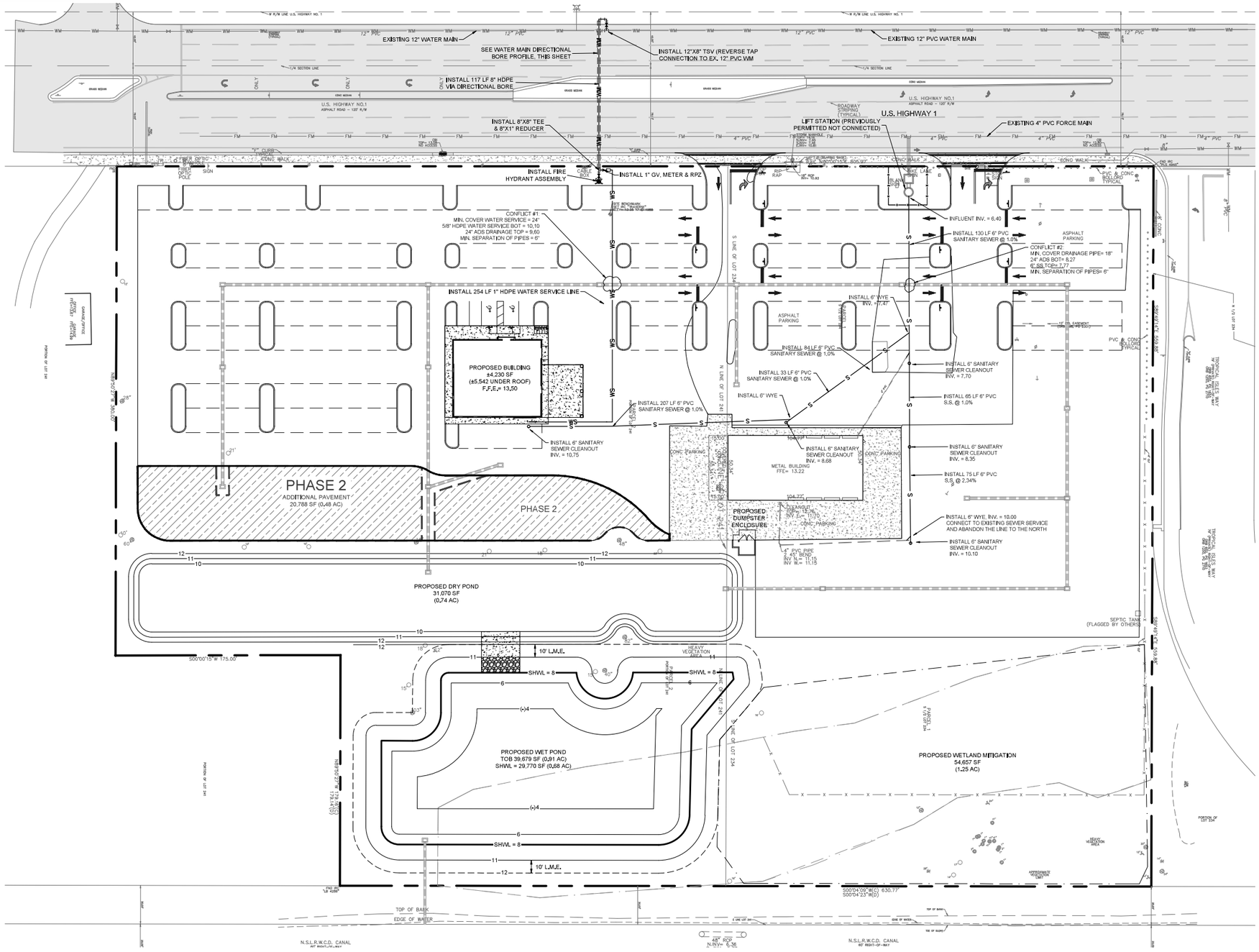
AARON G. STANTON
LICENSE
No. 72460
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

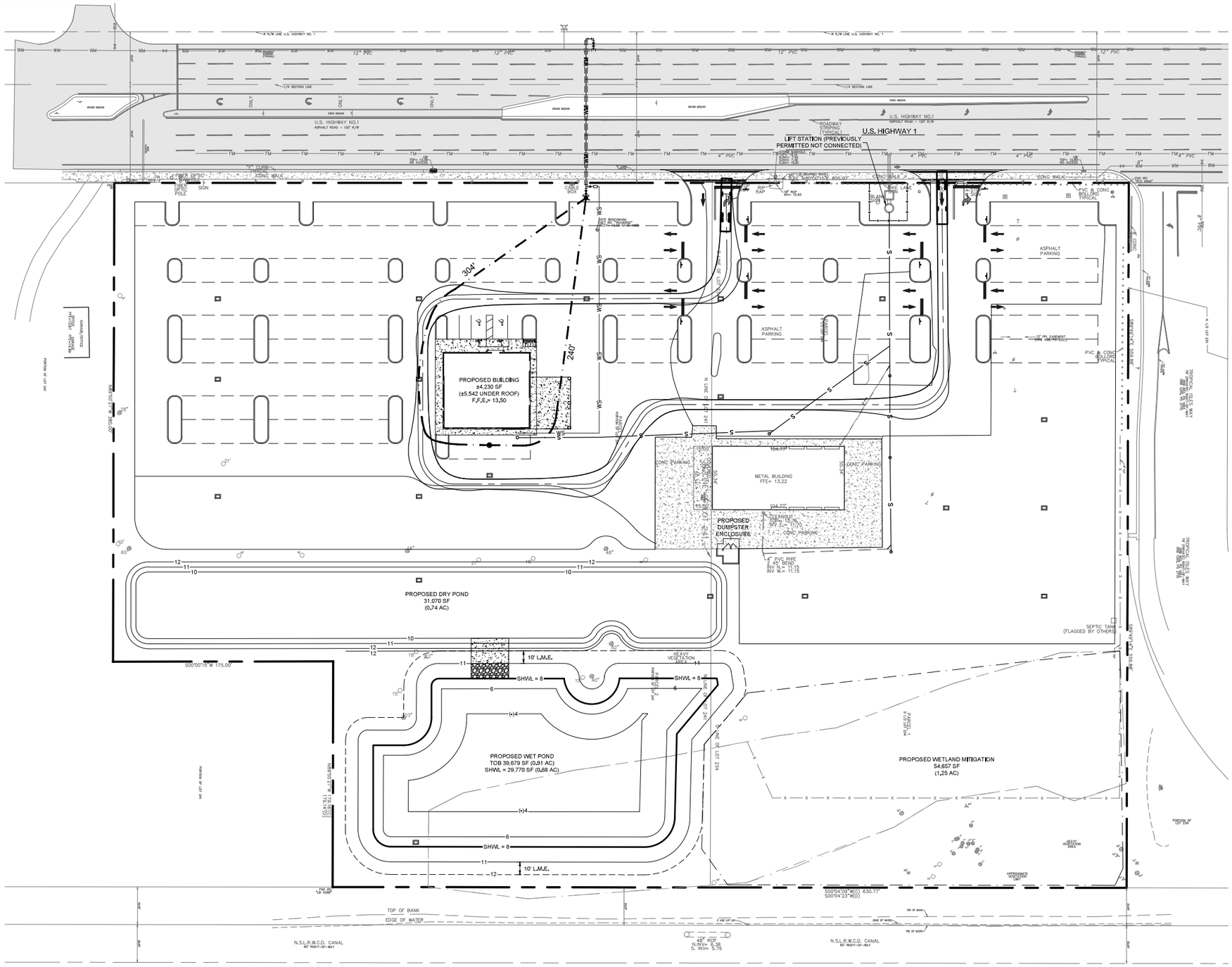
AARON G. STANTON
FL. P.E. #72460

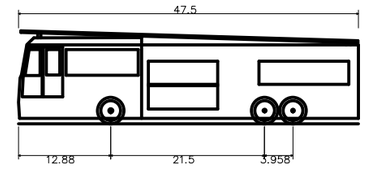
SHEET
C8

22-0496

O:\DRAWINGS\2022\22-0496 Bev Smith Kia - Site Development\4 - Drawings\22-0496 C7 PSD PLAN-TO REPLACE.dwg


EXISTING 12" WATER MAIN
SEE WATER MAIN DIRECTIONAL BORE PROFILE, THIS SHEET
INSTALL 12"X8" TSV (REVERSE TAP CONNECTION TO EX. 12" PVC WM
EXISTING 12" PVC WATER MAIN
INSTALL 117 LF 8" HDPE VIA DIRECTIONAL BORE
U.S. HIGHWAY NO.1
ASPHALT ROAD – 120' R/W
U.S. HIGHWAY 1
INSTALL 8"X8" TEE & 8"X1" REDUCER
LIFT STATION (PREVIOUSLY PERMITTED NOT CONNECTED)
EXISTING 4" PVC FORCE MAIN
INSTALL FIRE HYDRANT ASSEMBLY
INSTALL 1" GV, METER & RPZ
CONFLICT #1:
MIN. COVER WATER SERVICE = 24"
5/8" HDPE WATER SERVICE BOT = 10.10
24" ADS DRAINAGE TOP = 9.60
MIN. SEPARATION OF PIPES = 0"
INSTALL 254 LF 1" HDPE WATER SERVICE LINE
INFLUENT INV. = 6.40
INSTALL 130 LF 6" PVC SANITARY SEWER @ 1.0%
CONFLICT #2:
MIN. COVER DRAINAGE PIPE= 18"
24" ADS BOT= 8.27
6" SS TOP= 7.77
MIN. SEPARATION OF PIPES= 6"
INSTALL 6" WYE INV. =7.47
INSTALL 84 LF 6" PVC SANITARY SEWER @ 1.0%
INSTALL 33 LF 6" PVC SANITARY SEWER @ 1.0%
INSTALL 6" SANITARY SEWER CLEANOUT INV. = 7.70
INSTALL 65 LF 6" PVC S.S. @ 1.0%
INSTALL 6" WYE
INSTALL 207 LF 6" PVC SANITARY SEWER @ 1.0%
PROPOSED BUILDING
±4,230 SF
(±5,542 UNDER ROOF)
F.F.E.= 13.50
INSTALL 6" SANITARY SEWER CLEANOUT INV. = 10.75
INSTALL 6" SANITARY SEWER CLEANOUT INV. = 8.68
METAL BUILDING TFE= 13.22
INSTALL 6" SANITARY SEWER CLEANOUT INV. = 8.35
INSTALL 75 LF 6" PVC S.S. @ 2.34%
PROPOSED DUMPSTER ENCLOSURE
INSTALL 6" WYE, INV. = 10.00
CONNECT TO EXISTING SEWER SERVICE AND ABANDON THE LINE TO THE NORTH
INSTALL 6" SANITARY SEWER CLEANOUT INV. = 10.10
4" PVC PIPE 45° BEND INV. IN = 11.15 INV. W. = 11.15
PHASE 2
ADDITIONAL PAVEMENT
20,788 SF (0,48 AC)
PROPOSED DRY POND
31,070 SF
(0,74 AC)
10' L.M.E.
SHWL = 8
PROPOSED WET POND
TOB 39,679 SF (0,91 AC)
SHWL = 29,770 SF (0,68 AC)
PROPOSED WETLAND MITIGATION
54,657 SF
(1.25 AC)
SEPTIC TANK (FLAGGED BY OTHERS)
S00°00'15"W 175.00'
S00°04'09"W(C) 630.77'
S00°04'23"W(D)
TOP OF BANK
EDGE OF WATER
N.S.L.R.W.C.D. CANAL
48" RCP
N.N.I.V.= 6.36
CONC. WALK
ASPHALT PARKING
CONC. PARKING
PVC & CONC BOLLARD TYPICAL
SIGN
FIBER OPTIC MARKER
FIBER OPTIC POLE
CABLE BOX
CURB INLET
DRAINAGE MANHOLE
SANITARY MANHOLE
CLEANOUT
GRASS MEDIAN
ROADWAY STRIPING (TYPICAL)
SOUTH LINE OF LOT 224
NORTH LINE OF LOT 224
POINT OF BEGINNING
POINT OF COMMENCEMENT
NW COR. OF LOT 224
NE COR. OF LOT 224
SE COR. OF LOT 224
SW COR. OF LOT 224
POB
POC
PORTION OF LOT 224
HEAVY VEGETATION (TYP.)
APPROXIMATE WETLAND LINE
LIFT STATION
SIGN
ROOF DRAIN
CONC. MEDIAN
ASPHALT RAMP
CONC. RAMP
BACK OF CURB
EDGE OF PAVEMENT
TOP OF SLOPE
TOE OF SLOPE
INV. IN= 10.83
INV. OUT= 10.63
INV. IN= 10.83
INV. OUT= 10.63
INV. IN= 10.83
INV. OUT= 10.63





St. Lucie County Fire Dept. Truck

Overall Length	47.500ft
Overall Width	10.500ft
Overall Body Height	13.000ft
Min Body Ground Clearance	0.782ft
Track Width	10.500ft
Lock-to-lock time	6.00s
Wall to Wall Turning Radius	40.428ft

ELEVATION VIEW
VEHICLE DETAIL
N.T.S.

FIRE PROTECTION PLAN

SCALE: 1" = 40'

GRAPHIC SCALE
0 40 80
(IN FEET)
1 inch = 40 ft.

LEGEND

- EXISTING CONCRETE
- EXISTING ASPHALT
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- EXISTING ASPHALT TO BE MILLED AND RESURFACED
- PROPOSED FIRE HOSE DISTANCE

72 HOURS BEFORE DIGGING
CALL TOLL FREE
811
Know what's **below.**
Call before you dig.

NO.	REVISIONS	DATE
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-

JOB NO.	22-0496
DESIGNED	AS
DRAWN	GWR
DATE	MAY 2024
CHECKED	AS
DATE ISSUED	7/19/2024

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #5728
1185 - 20TH STREET
VERO BEACH, FL 32960
PH: (772) 778-5100
FX: (772) 778-5147
1515 SOUTHPARK DR., PH I 331, 333 & 335
FT. PIERCE FL, PH (772) 468-3993

BEV SMITH KIA
USED CAR CENTER

CITY OF FORT PIERCE FLORIDA

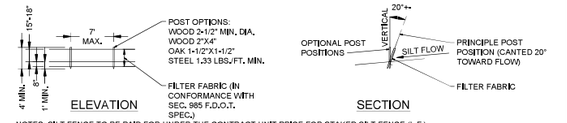
AARON G. STANTON
LICENSE
No. 72460
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460

SHEET
C10

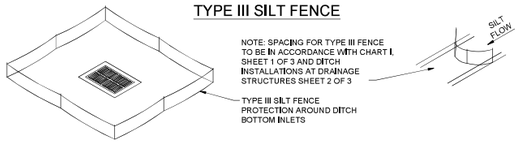
22-0496

© C:\DRAWINGS\2022\22-0496 Bev Smith Kia - Site Development\4 - Drawings\22-0496 C10 FIRE PROTECTION.dwg 7/19/2024



NOTES: SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE (L.F.)

TYPE III SILT FENCE



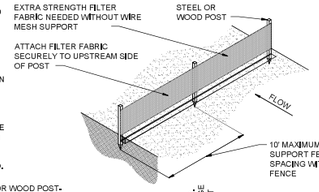
DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

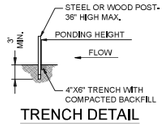
SILT FENCE APPLICATIONS

N.T.S.

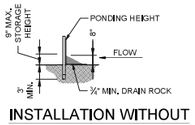
NOTES:

1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.





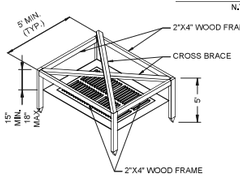
TRENCH DETAIL



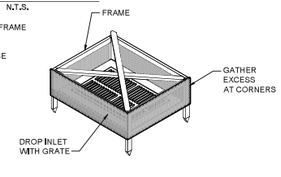
INSTALLATION WITHOUT TRENCHING

TYPE IV SILT FENCE

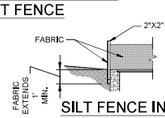
N.T.S.



VIEW OF FRAME WITHOUT SILT FENCE

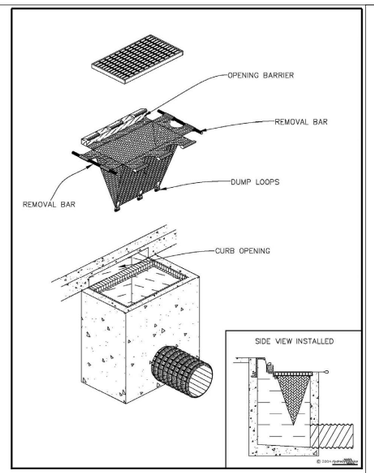


VIEW OF FRAME WITH SILT FENCE



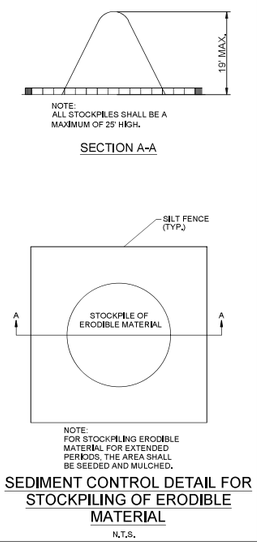
SILT FENCE INLET PROTECTION

N.T.S.



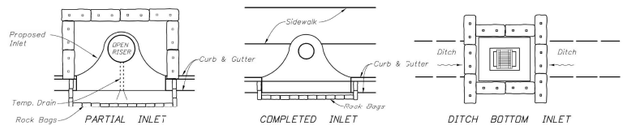
INLET INSERT SEDIMENT CONTAINMENT SYSTEM

N.T.S.

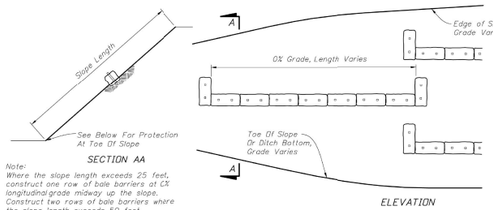


SEDIMENT CONTROL DETAIL FOR STOCKPILING OF ERODIBLE MATERIAL

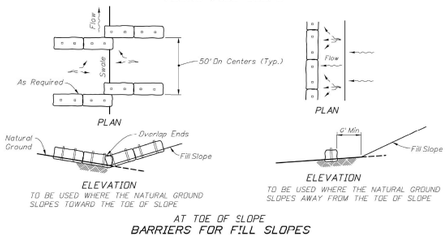
N.T.S.



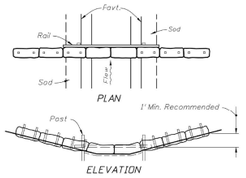
PROTECTION AROUND INLETS OR SIMILAR STRUCTURES



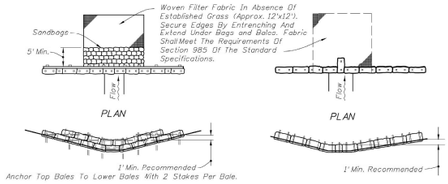
ALONG FILL SLOPE



AT TOE OF SLOPE BARRIERS FOR FILL SLOPES



SYNTHETIC BALES OR BALE TYPE BARRIERS FOR PAVED DITCHES



SYNTHETIC BALES OR BALE TYPE BARRIERS FOR UNPAVED DITCHES

NOTES FOR SYNTHETIC BALES OR BALE TYPE BARRIERS

1. Type I and II Synthetic Barrier should be spaced in accordance with Chart 1, Sheet 1.
2. Bales shall be anchored with 2-1" x 2" (or 1" dia.) x 4' wood stakes. Stakes of other material or shape providing equivalent strength may be used if approved by the Engineer. Stakes other than wood shall be removed upon completion of the project.
3. Rails and posts shall be 2" x 4" wood. Other materias providing equivalent strength may be used if approved by the Engineer.
4. Adjacent bales shall be butted firmly together.
5. Where used in conjunction with silt fence, bales shall be placed on the upstream side of the fence.
6. Bales to be paid for under the contract unit price for: Synthetic Bales, LF. The unit price shall include the cost of filter fabric for Type I and II Barriers. Sandbags shall be paid for under the unit price for Sandbagging, CY. Rock bags to be paid for under the contract unit price for Rock Bags, EA.

CITY OF FORT PIERCE EROSION CONTROL NOTES

(a) THE CITY ENGINEERING DEPARTMENT SHALL MAKE INSPECTIONS AS HEREINAFTER REQUIRED AND NOTIFY THE BUILDING OFFICIAL UPON INSPECTION APPROVAL OR IF THE WORK FAILS TO COMPLY WITH THE EROSION AND SEDIMENT CONTROL PLAN AS APPROVED TO REQUEST A STOP-WORK ORDER. PLANS FOR GRADING / STRIPPING / EXCAVATING AND FILLING WORK BEARING THE STAMP OF APPROVAL OF THE CITY ENGINEER SHALL BE MAINTAINTED AT THE SITE DURING THE DURATION OF WORK. TO OBTAIN INSPECTIONS, THE PERMITTEE SHALL NOTIFY THE CITY ENGINEERING DEPARTMENT AT LEAST TWO WORKING DAYS BEFORE THE FOLLOWING:

(1) START OF CONSTRUCTION
(2) INSTALLATION OF SEDIMENT AND EROSION CONTROL MEASURES
(3) COMPLETION OF SITE CLEARING
(4) COMPLETION OF ROUGH GRADING
(5) COMPLETION OF FINAL GRADING
(6) CLOSE OF THE CONSTRUCTION SEASON
(7) COMPLETION OF FINAL LANDSCAPING.

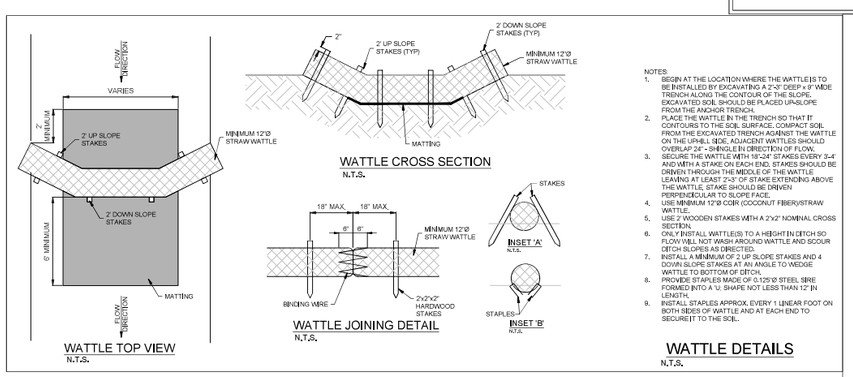
(b) THE PERMITTEE SHALL BE RESPONSIBLE FOR THE FUNCTIONALITY OF ALL CONTROL MEASURES IN ACCORDANCE WITH THE INSPECTION SCHEDULE OUTLINED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

THE PURPOSE OF SUCH INSPECTIONS WILL BE TO DETERMINE THE OVERALL EFFECTIVENESS OF THE CONTROL PLAN AND POSSIBLE NEED FOR ADDITIONAL CONTROL MEASURES.

(c) THE CITY ENGINEER OR HIS DESIGNEE SHALL ENTER THE PROPERTY OF THE APPLICANT AS DEEMED NECESSARY TO MAKE REGULAR INSPECTIONS TO ENSURE THE EFFECTIVENESS OF THE CONTROL PLAN AND THE POSSIBLE NEED FOR ADDITIONAL CONTROL MEASURES.

MINIMUM STANDARDS

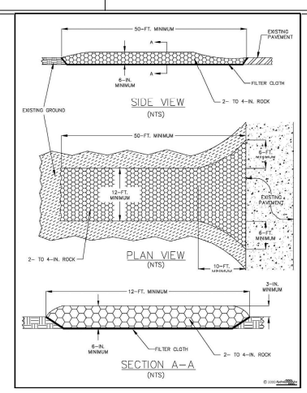
1. SEDIMENT BASIN AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UNSLOPE LAND DISTURBANCE TAKES PLACE.
2. ALL SEDIMENT CONTROL MEASURES ARE TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON BALANCE OF SITE. PERIMETER SEDIMENT BARRIERS SHALL BE CONSTRUCTED TO PREVENT SEDIMENT OR TRASH FROM FLOWING OR FLOATING ON TO ADJACENT PROPERTIES.
3. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT UNDISTURBED FOR MORE THAN ONE YEAR.
4. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
5. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE REVIEWER, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
6. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
7. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE SEDIMENT BASIN SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE THE ANTICIPATED SEDIMENT LOADING FROM THE LAND-DISTURBING ACTIVITY. THE OUTFALL DEVICE OR SYSTEM DESIGN SHALL TAKE INTO ACCOUNT THE TOTAL DRAINAGE AREA FLOWING THROUGH THE DISTURBED AREA TO BE SERVED BY THE BASIN.
8. AFTER ANY SIGNIFICANT RAINFALL, SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED FOR INTEGRITY, ANY DAMAGED DEVICES SHALL BE CORRECTED IMMEDIATELY.
9. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.
10. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
11. SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM DRAIN SYSTEM, DITCH OR CHANNEL. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
12. BEFORE TEMPORARY OR NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
13. WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.
14. WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES, A TEMPORARY STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.
15. THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.
16. PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES MUST BE PROVIDED TO ENSURE INTENDED PURPOSE IS ACCOMPLISHED. THE DEVELOPER, OWNER AND/OR CONTRACTOR SHALL BE CONTINUALLY RESPONSIBLE FOR ALL SEDIMENT LEAVING THE PROPERTY. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
17. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
    A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
    B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
    C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
    D. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
18. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE WITH CURBS AND GUTTERS, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL SUBDIVISION LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.
19. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, IN THE OPINION OF THE REVIEWER. DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
20. PROPERTIES AND WATERWAYS DOWNSTREAM FROM CONSTRUCTION SITE SHALL BE PROTECTED FROM SEDIMENT DISPOSITION AND EROSION.
21. PHASED PROJECTS SHOULD BE CLEARED IN CONJUNCTION WITH CONSTRUCTION OF EACH PHASE.
22. EROSION CONTROL DESIGN AND CONSTRUCTION SHALL FOLLOW THE REQUIREMENTS IN INDEX NOS. 104 AND 105 OF FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS.
23. THE REVIEWER MAY APPROVE MODIFICATIONS OR ALTER PLANS TO THESE EROSION CONTROL CRITERIA DUE TO SITE SPECIFIC CONDITIONS.



NOTES:
1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2"x2" DEEP x 6" WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UP-SLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD OVERLAP 24" - SHINGLE IN DIRECTION OF FLOW.
3. SECURE THE WATTLE WITH 18"-24" STAKES EVERY 3'-4' AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE, LEAVING AT LEAST 2"-3" OF STAKE EXTENDING ABOVE THE WATTLE. STAKE SHOULD BE DRIVEN PERPENDICULAR TO SLOPE FACE.
4. USE MINIMUM 12"Ø COIR (COCONUT FIBER)/STRAW WATTLE.
5. USE 2' WOODEN STAKES WITH A 2"x2" NOMINAL CROSS SECTION.
6. ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AS DIRECTED.
7. INSTALL A MINIMUM OF 2 UP SLOPE STAKES AND 4 DOWN SLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
8. PROVIDE STAPLES MADE OF 0.125"Ø STEEL WIRE FORMED INTO A 'U' SHAPE NOT LESS THAN 12" IN LENGTH.
9. INSTALL STAPLES APPROX. EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE DETAILS

N.T.S.



SOIL TRACKING PREVENTION DEVICE DETAIL

N.T.S.

8								
7								
6								
5								
4								
3								
2								
1								
							REVISIONS	DATE

JOB NO.	22-0496
DESIGNED	AS
DRAWN	GWR
DATE	MAY 2024
CHECKED	AS
DATE ISSUED	7/19/2024

MBV ENGINEERING, INC.
VOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING
CA #3728
MELBOURNE FL: PH (321) 253-3101
WWW.MBVENGINEERING.COM

EROSION CONTROL DETAILS

BEV SMITH KIA
USED CAR CENTER

CITY OF FORT PIERCE FLORIDA

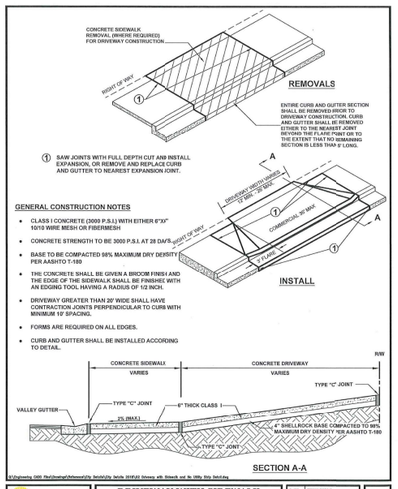
AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460

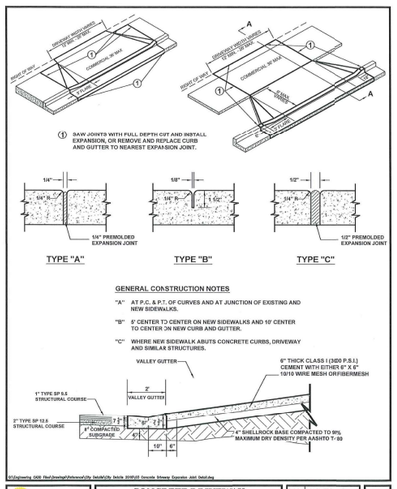
SHEET
C11

22-0496

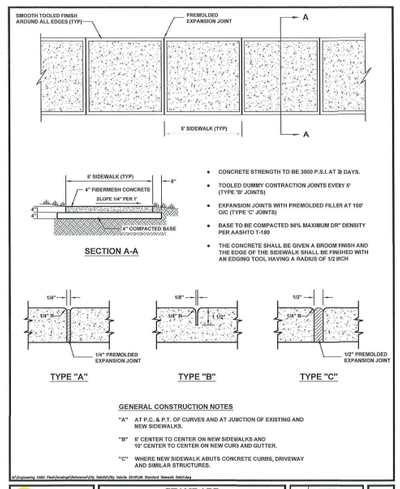
O:\DRAWINGS\2022\22-0496 Bev Smith Kia - Site Development\4 - Drawings\22-0496 COVER - DETAILS.dwg 7/19/2024 1:18 PM Aaron Stanton



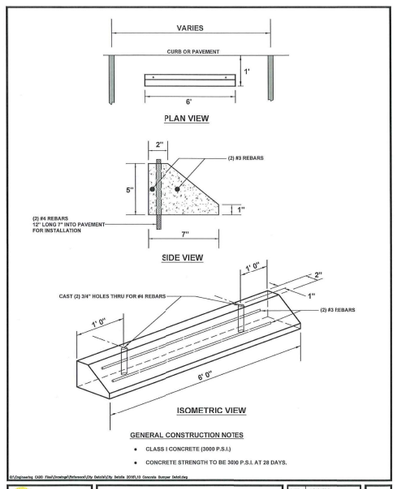
FORT PIERCE	DRIVEWAY WITH SIDEWALK AND NO UTILITY STRIP DETAIL	DATE: FEBRUARY 2020 SCALE: N.T.S. DRAWN: S.SOUSSIS	SHEET 2



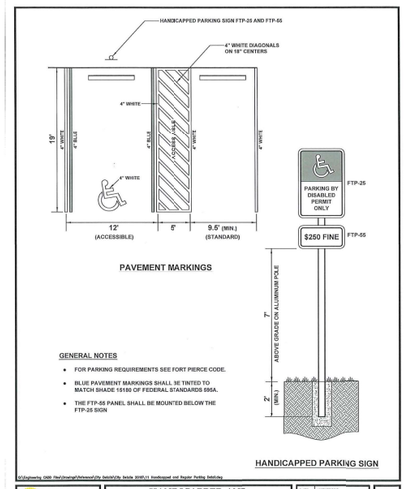
FORT PIERCE	CONCRETE DRIVEWAY EXPANSION JOINT DETAIL	DATE: FEBRUARY 2020 SCALE: N.T.S. DRAWN: S.SOUSSIS	SHEET 3



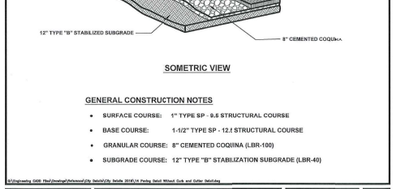
FORT PIERCE	STANDARD SIDEWALK DETAIL	DATE: FEBRUARY 2020 SCALE: N.T.S. DRAWN: S.SOUSSIS	SHEET 6



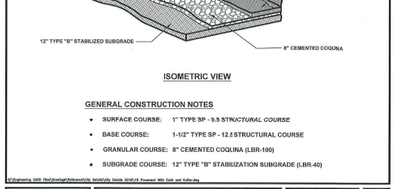
FORT PIERCE	CONCRETE BUMPER DETAIL	DATE: AUGUST 2020 SCALE: N.T.S. DRAWN: S.SOUSSIS	SHEET 10



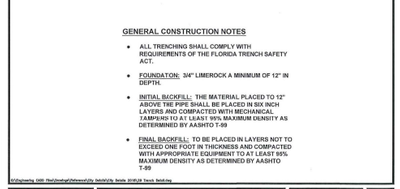
FORT PIERCE	HANDICAPPED AND STANDARD PARKING DETAIL	DATE: AUGUST 2020 SCALE: N.T.S. DRAWN: S.SOUSSIS	SHEET 11



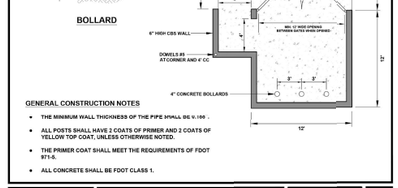
FORT PIERCE	PAVING DETAIL WITHOUT CURB AND GUTTER	DATE: JANUARY 2020 SCALE: N.T.S. DRAWN: S.SOUSSIS	SHEET 14



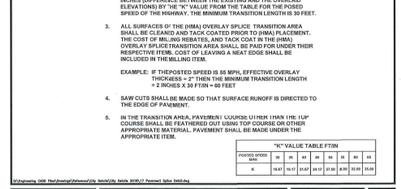
FORT PIERCE	PAVEMENT WITH CURB AND GUTTER	DATE: JANUARY 2020 SCALE: N.T.S. DRAWN: S.SOUSSIS	SHEET 15



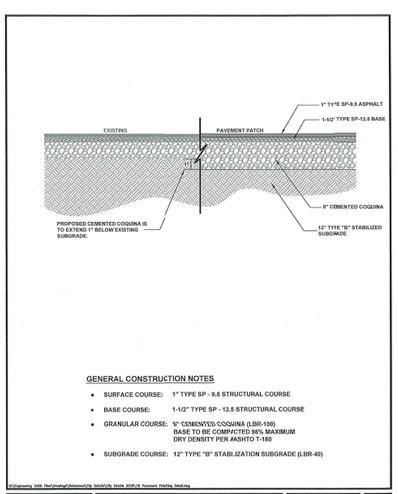
FORT PIERCE	TRENCH DETAIL	DATE: FEBRUARY 2020 SCALE: N.T.S. DRAWN: S.SOUSSIS	SHEET 29



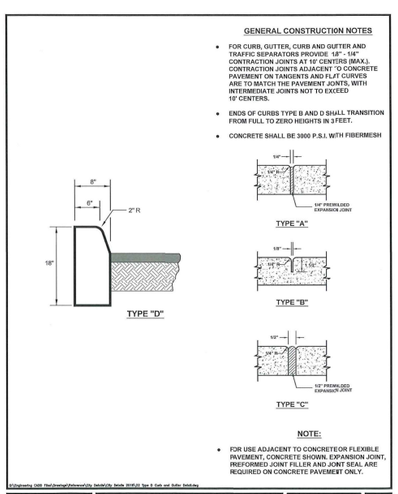
FORT PIERCE	DUMPSTER ENCLOSURE DETAIL	DATE: MAY 2022 SCALE: N.T.S. DRAWN: C.SUMNER	SHEET —



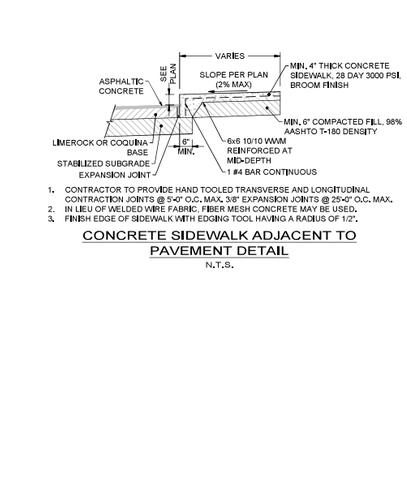
FORT PIERCE	PAVEMENT SPLICE DETAIL	DATE: MAY 2020 SCALE: N.T.S. DRAWN: S.SOUSSIS	SHEET 17

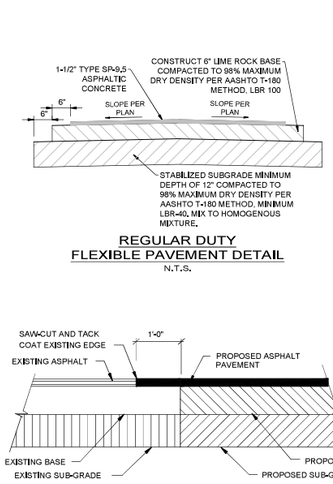


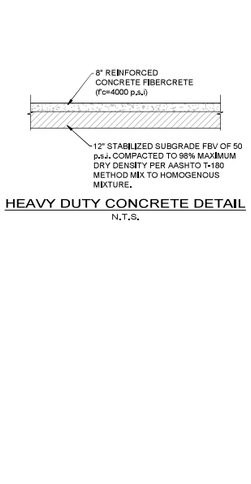
FORT PIERCE	PAVEMENT PATCHING DETAIL	DATE: FEBRUARY 2020 SCALE: N.T.S. DRAWN: S.SOUSSIS	SHEET 18

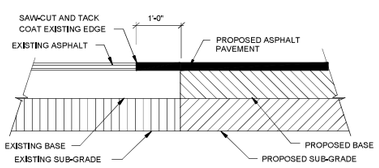


FORT PIERCE	TYPE "D" CURB AND GUTTER DETAILS	DATE: FEBRUARY 2020 SCALE: N.T.S. DRAWN: S.SOUSSIS	SHEET 22









8	—		
7	—		
6	—		
5	—		
4	—		
3	—		
2	—		
1	—		
		REVISIONS	DATE

JOB NO.	22-0496	
DESIGNED	AS	
DRAWN	GWR	
DATE	MAY 2024	AS
CHECKED		
DATE ISSUED	7/19/2024	

MBV ENGINEERING, INC.
VOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1950 BANKS ROAD, SUITE 1
VERO BEACH, FL 32960
PH. (772) 778-7378
FX. (772) 778-1447
MELBOURNE FL • PH (321) 253-3101
PORT ST. LUCIE • PH (772) 340-0823

SITE, PAVING AND GRADING DETAILS

BEV SMITH KIA
USED CAR CENTER

CITY OF FORT PIERCE — FLORIDA

AARON G. STANTON
LICENSE
No. 72460
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

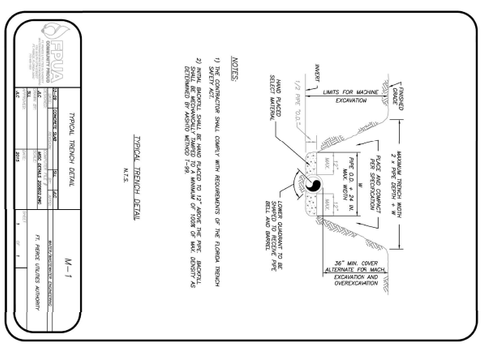
AARON G. STANTON
FL. P.E. #72460

SHEET
C12

22-0496

C:\DRAWINGS\2022\22-0496 Bev Smith Kia - Site Development\4 - Drawings\22-0496 COVER - DETAILS.dwg 7/19/2024 1:19 AM GWR

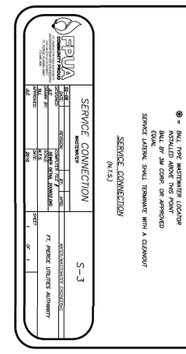
C:\DRAWINGS\2022\22-0496 Bev Smith Kia - Site Development\4 - Drawings\22-0496 COVER - DETAILS.dwg 7/19/2024 1:20 PM AARON STANTON


TRENCHED EXCAVATION
2" x PIPE DIAM. + 8"
MINIMUM TRENCH WIDTH = 2' x PIPE DIAM. + 8"
LIMITS FOR MACHINE EXCAVATION
PIPE DIAMETER IN INCHES
MAX. WIDTH
MIN. WIDTH

C:\DRAWINGS\2022\22-0496 Bev Smith Kia - Site Development\4 - Drawings\22-0496 COVER - DETAILS.dwg 7/19/2024 1:21 PM AARON STANTON

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES

1. ALL DISTRIBUTION MATERIAL INSTALLATION AND TESTING SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE FORT PIERCE UTILITIES AUTHORITY.
2. PRESSURE RATED PIPE SHALL BE AWWA C900 DR18 PVC PIPE FOR 4" THROUGH 12" PIPE AND AWWA C905 DR18 PVC PIPE FOR 14" THROUGH 24" PIPE. ALL PIPE SHALL BE MANUFACTURED IN THE USA. PIPE SHALL BE CERTIFIED TO NSF 61 AND NSF 14 FOR POTABLE WATER SERVICE. PIPE SHALL BE MARKED WITH THE NOMINAL SIZE, DR#, PRESSURE CLASS, AWWA C900 OR C905, PVC CELL CLASSIFICATION, AND THE MANUFACTURER'S NAME OR TRADEMARK. PIPE SHALL BE BLUE IN COLOR OR WHITE IN COLOR WITH BLUE STRIPES FOR DIRECT BURY (DR) 11 FOR DIRECTIONAL BORING, AND DR9 FOR 2 INCH AND SMALLER PIPE.
3. WATER MAIN, WHERE SPECIFIED IS DUCTILE IRON PIPE - SHALL CONFORM TO ANSI/AWWA C151/A21.51 FOR DIRECT BURY (DR) 11 FOR DIRECTIONAL BORING, AND DR9 FOR 2 INCH AND SMALLER PIPE.
4. POTABLE CHLORINE WATER MAIN SHALL BE BLUE IN COLOR OR WHITE IN COLOR WITH BLUE STRIPES. ON THE PIPE. ALSO GIP PIPE SHALL ENCLOSE THE USE OF IDENTIFICATION TAPE, CAST IN LIEU OF MARKING AND FACTORY CUSTO
5. FITTINGS SHALL BE DUCTILE IRON CONFORMING TO ANSI/AWWA C-110/A21.10, CLASS 350 MIN. CEMENT LINED AND FACTORY CUSTO
6. GATE VALVES SHALL BE METALLIC RESILIENT SEAT, KENNEY KEN-SEAL, MUELLER OR APPROVED EQUAL. VALVES SHALL CONFORM TO AWWA C-509.
7. CONSTRUCTION STANDARDS: THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS AND REQUIREMENTS OF OSHA, AS WELL AS STATE AND LOCAL AGENCIES. THE CONSTRUCTION REQUIREMENTS SHALL NOT BE LESS THAN THE MINIMUM REQUIREMENTS OF OSHA, AS WELL AS STATE AND LOCAL AGENCIES.
8. NO ITEMS DISMISS OR REMOVED FROM THE SYSTEM SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE FPUA ENGINEER AND CITY/COUNTY/DOT ENGINEERING AT LEAST 48 HOURS PRIOR TO CONNECTING CONSTRUCTION.
9. ALL CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF THE FLORIDA DEPARTMENT OF TRANSPORTATION, CITY/COUNTY/DOT ENGINEER SHALL BE MANDATORY PRIOR TO COMMENCEMENT OF CONSTRUCTION. CITY
10. TRAFFIC CONTROL BARRICADES, ETC. SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS.
11. MINIMUM COVER SHALL BE 36 INCHES AT PROPERTY LINES AND 48 INCHES AT THE CENTERLINE OF THE ROADWAY OR AS REQUIRED BY THE UTILITIES ENGINEER AND CITY/COUNTY/DOT ENGINEER.
12. DISTURBED ASPHALT SHALL BE RESTORED IN CONFORMANCE WITH THE APPLICABLE GOVERNING AGENCY REQUIREMENTS.
13. DISTURBED SWALES AND DRAINAGE SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND PROTECTED BY THE CONTRACTOR.
14. ALL FIRE HYDRANTS SHALL BE PAINTED WITH A MINIMUM OF 2 COATS OF RUST-OLEUM OR EQUIVALENT, COLOR TO BE DETERMINED BY THE FIRE DEPARTMENT.
15. WATERMAINS OF EMBEDMENT, PROTECTION AND ARMY C-2651 FOR INSPECTION.



WATER DISTRIBUTION	G-1
NOTES	
FT. PIERCE UTILITIES AUTHORITY	

SERVICE CONNECTION	S-3
WATER	
FT. PIERCE UTILITIES AUTHORITY	

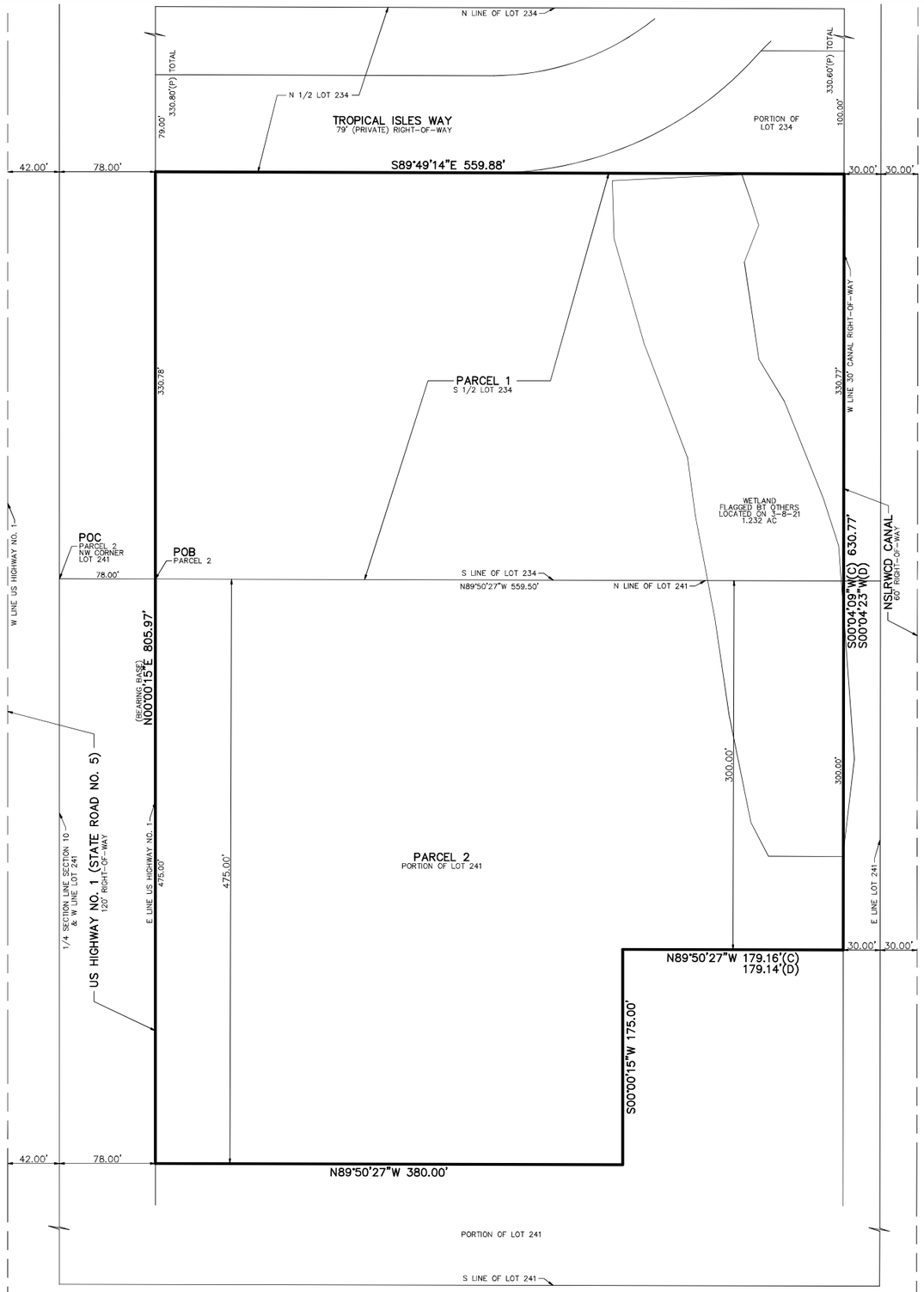
FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES CONTINUED

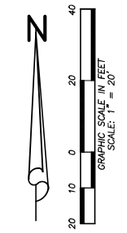
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING UTILITIES AND DRAINAGE.
17. LOCATION OF VALVES, FITTINGS, SERVICE CONNECTIONS, ELEMENTS OF APPURTENANCES MAY VARY FROM THE LOCATION SHOWN ON THE PLANS. ADJUSTMENTS TO LOCATIONS SHALL BE MADE AS REQUIRED BY THE UTILITIES ENGINEER.
18. THE CONTRACTOR SHALL TAP EXISTING LINES UNDER THE SUPERVISION OF THE FORT PIERCE UTILITIES AUTHORITY. TAPPING SLEEVE AND GATE VALVE SHALL BE INSTALLED AS SHOWN ON THE PLANS.
19. ALL VALVES AND INSULATORS SHALL BE PROTECTED BY CONCRETE THRUST BLOCKING AS SHOWN ON THE PLANS OR AS DIRECTED BY THE UTILITIES ENGINEER. THRUST BLOCKING SHALL BE PLACED SO AS TO PERMIT ACCESS TO ALL BOLTS, NUTS AND JOINTS.
20. SERVICE TAPS SHALL BE PLACED APPROXIMATELY TEN (10) FEET AWAY FROM JOINTS, FITTINGS OR OTHER SERVICE TAPS.
21. MECHANICAL RESTRAINTS TO BE USED ON ALL FITTINGS AND PLACED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS (MANUFACTURER'S MORE STRINGENT) AND FPUA REQUIREMENTS.
22. ALL PIPELINES SHALL BE TESTED AT A MINIMUM OF 150 PSI. TESTING METHODS SHALL CONFORM TO AWWA C600-10, C 605 AWWA M 23 AND AS FOLLOWS:

$$L = \frac{SD\sqrt{P}}{148{,}000}$$

L = LEAKAGE IN GPH
S = LENGTH OF PIPE IN FEET
D = NOMINAL DIAMETER IN INCHES
P = TESTING PRESSURE IN PSI

23. PRIOR TO ANY TESTING, ALL MAINS 6" X 4" DIA AND LARGER SHALL HAVE A 3/4" DIA TAPPED HOLE AT THE HIGH POINT OF EACH RUN OF PIPE. ALL SERVICES 4" AND LARGER SHALL HAVE A 3/4" DIA TAPPED HOLE AT THE END OF EACH SERVICE LINE. ALL 3/4" DIA TAPPED HOLES SHALL BE PROVIDED WITH A BRASS PLUG AND WILL BE PLACED IN BRANCH LINES AND SUCCESSFULLY SWABBED AND FLUSHED.
24. AFTER THE WATER MAIN HAS BEEN ACCEPTED AND PLACED IN SERVICE, A MINIMUM VERTICAL SEPARATION OF 12 INCHES SHALL BE MAINTAINED BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY STORM SEWER, SANITARY SEWER, OR FORCE MAIN. THE VERTICAL SEPARATION SHALL BE MEASURED FROM POINTS OF THE OUTSIDE OF PIPE TO OUTSIDE OF PIPE OR STRUCTURE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH MECHANICAL JOINTS AND THE WATER MAIN SHALL BE LOCATED A MINIMUM HORIZONTAL DISTANCE OF 3 FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, SANITARY SEWER, OR FORCE MAIN. THE CROSSING SHALL BE ARRANGED SO THAT THE WATER MAIN PIPE JOINTS WILL BE AS FAR AS POSSIBLE FROM THE SEWER OR FORCE MAIN PIPE JOINTS. THE CROSSING SHALL BE MADE SO THAT EITHER THE WATER MAIN OR THE SEWER OR FORCE MAIN CAN BE VALVED OFF AND REMOVED WITHOUT DISTURBING THE OTHER. WHERE A WATER MAIN IS TO BE INSTALLED BELOW A STORM DRAIN PIPE, A MINIMUM OF 6 INCHES OF VERTICAL CLEARANCE SHALL BE PROVIDED





LEGAL DESCRIPTION:

PARCEL 1:

THE SOUTH ONE-HALF (1/2) OF LOT 234, IN SECTION 10, TOWNSHIP 36 SOUTH, RANGE 40 EAST, ACCORDING TO THE PLAT OF WHITE CITY SUBDIVISION, RECORDED IN PLAT BOOK 1, PAGE 23, OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA, LESS AND EXCEPTING THEREFROM THE EAST 30 FEET DEEDED TO THE STATE OF FLORIDA.

TOGETHER WITH:

PARCEL 2:

A PARCEL OF LAND LYING AND BEING IN THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 10, TOWNSHIP 36 SOUTH, RANGE 40 EAST, ST. LUCIE COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF LOT 241 OF WHITE CITY, ACCORDING TO SHEEN'S SURVEY THEREOF RECORDED IN PLAT BOOK 1, PAGE 23 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA, RUN SOUTH 89°50'27" EAST ALONG THE NORTH LINE OF SAID LOT 241 A DISTANCE OF 78 FEET TO THE POINT OF INTERSECTION OF SAID NORTH LINE WITH THE EAST RIGHT-OF-WAY LINE OF U.S. HIGHWAY NO. 1 (STATE ROAD NO. 5)(A 120-FOOT RIGHT-OF-WAY, THE EAST LINE OF WHICH LIES 78 FEET EAST OF THE QUARTER-SECTION LINE OF SAID SECTION 10), SAID POINT OF INTERSECTION BEING THE POINT OF BEGINNING; THENCE RUN SOUTH 00°00'15" WEST ALONG THE EAST RIGHT-OF-WAY LINE OF SAID HIGHWAY A DISTANCE OF 475 FEET; THENCE RUN SOUTH 89°50'27" EAST ALONG A LINE PARALLEL WITH AND 475 FEET SOUTH OF THE NORTH LINE OF SAID LOT 241, A DISTANCE OF 380 FEET; THENCE RUN NORTH 00°00'15" EAST A DISTANCE OF 175 FEET TO A POINT 300 FEET SOUTH OF THE NORTH LINE OF SAID LOT 241; THENCE RUN SOUTH 89°50'27" EAST ALONG A LINE PARALLEL WITH AND 300 FEET SOUTH OF SAID NORTH LINE OF LOT 241 A DISTANCE OF 179.14 FEET MORE OR LESS TO A POINT ON THE WEST LINE OF A 60-FOOT CANAL RIGHT-OF-WAY (SAID WEST LINE LIES 30 FEET WEST OF THE EAST LINE OF LOT 241); THENCE RUN NORTH 00°04'23" EAST ALONG SAID WEST CANAL RIGHT-OF-WAY LINE A DISTANCE OF 300 FEET TO THE NORTH LINE OF SAID LOT 241; THENCE RUN NORTH 89°50'27" WEST ALONG THE NORTH LINE OF SAID LOT 241 A DISTANCE OF 559.50 FEET TO THE POINT OF BEGINNING.

CONTAINING 419,485 SQUARE FEET OR 9.630 ACRES, MORE OR LESS.

SURVEY REPORT:

1. THIS IS A BOUNDARY & TOPOGRAPHIC SURVEY AS DEFINED IN CHAPTER 5J-17.050(11), FLORIDA ADMINISTRATIVE CODE.
2. SURVEY BASED ON A BOUNDARY SURVEY PERFORMED BY DONALD D. DANIELS, INC., JOB NUMBER: 05-087, DATED 9-28-05.
3. BEARING BASIS: A DEED BEARING OF N00°00'15"E ALONG THE MONUMENTED WEST PROPERTY LINE.
4. NO UNDERGROUND UTILITIES OR IMPROVEMENTS WERE LOCATED UNLESS OTHERWISE SHOWN.
5. THIS SITE LIES WITHIN FLOOD ZONE "X", ACCORDING TO THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 12111C0277 J, EFFECTIVE DATE 2-16-12.
6. FLOOD ZONE SHOWN HEREON IS AN INTERPRETATION BY THE SURVEYOR AND IS PROVIDED AS A COURTESY. THE FLOOD ZONE SHOULD BE VERIFIED BY A DETERMINATION AGENCY.
7. THERE MAY BE ADDITIONAL EASEMENTS AND/OR RESTRICTIONS NOT SHOWN ON THIS SURVEY THAT MAY BE FOUND IN THE PUBLIC RECORDS OF ST. LUCIE COUNTY. NO SEARCH OF THE PUBLIC RECORDS HAS BEEN PERFORMED BY ALEXANDER J. PIAZZA PSM, INC.
8. THE EXPECTED USE OF THE SUBJECT PROPERTY IS FOR FUTURE CONSTRUCTION AND ENGINEERING DESIGN OF A PARKING LOT AND LIFT STATION AND FALLS WITHIN THE COMMERCIAL HIGH RISK CATEGORY AS CLASSIFIED IN CHAPTER 5J-17.051(2), FLORIDA ADMINISTRATIVE CODE. ALL FIELD-MEASURED CONTROL MEASUREMENTS EXCEEDED 1:10,000 FEET ACCURACY REQUIREMENTS FOR THIS CLASSIFICATION. ALL SURVEY MEASUREMENTS ARE IN ACCORDANCE WITH THE UNITED STATES STANDARD IN FEET.
9. ALL MAPPED FEATURES SHOWN HEREON ARE UNDER THE DIRECT SUPERVISION AND RESPONSIBILITY OF ALEXANDER J. PIAZZA PSM, INC.
10. THE TREES SHOWN HEREON ARE FOR GRAPHICAL REPRESENTATION ONLY AND PRIOR TO CONSTRUCTION, A FIELD VERIFICATION SHOULD BE PERFORMED IF NOT DOING A FULL CLEAR OF THE PROPERTY. THE DATA WAS SUPPLIED BY ADVANCED RESTORATION ECOLOGY, TREES WERE LOCATED ON SPETEMBER 26, 2020.
11. SURVEY MAP AND REPORT OR THE COPIES THEREOF ARE NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
12. ADDITIONS OR DELETIONS TO THE SURVEY MAP OR REPORT BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.
13. THE BEARINGS SHOWN HEREON ARE RELATIVE TO THE STATE PLANE COORDINATE SYSTEM OF THE NORTH AMERICAN DATUM OF 1983 (2007 ADJUSTMENT) AND THE ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 AND ARE REFERENCED TO THE LENGEMANN OF FLORIDA'S L-NET GPS NETWORK DEVELOPED WHICH MEETS OR EXCEEDS THE FEDERAL GEODETIC CONTROL COMMITTEE (FGCC) GUIDELINES FOR "GEOMETRIC GEODETIC ACCURACY STANDARDS AND SPECIFICATIONS FOR USING GPS RELATIVE POSITIONING TECHNIQUES" AS WELL AS THE STANDARDS OF PRACTICE SET FORTH BY THE FLORIDA BOARD OF LAND SURVEYORS IN CHAPTER 5J-17.051 FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472.027 FLORIDA STATUTES. PRIMARY BENCHMARK: NGS "W 403" NAVD88 ELEVATION = 13.40, LOCATED AT THE NW CORNER OF THE INTERSECTION OF US HIGHWAY NO. 1 AND ULRICH ROAD, 1.5' EAST OF UTILITIY POLE #6 6370 7124 05. BENCHMARKS SET OR FOUND FOR THIS SURVEY ARE NOTED ON THE SKETCH.
14. THIS SURVEY IS PREPARED ONLY FOR THE PARTIES LISTED BELOW AND IS NOT ASSIGNABLE. CERTIFIED TO: BEV SMITH OF FORT PIERCE II, INC.
15. © COPYRIGHT 2018 BY ALEXANDER J. PIAZZA PSM, INC.
THE SKETCH OF SURVEY AND SURVEY REPORT COMPRISE THE COMPLETE SURVEY.
THIS SURVEY IS NOT VALID UNLESS THE SKETCH AND REPORT ACCOMPANY EACH OTHER.
REPRODUCTIONS OF THIS SURVEY ARE NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER EMPLOYED BY ALEXANDER J. PIAZZA PSM, INC.

1-27-22
3-08-21
10-31-18

DATE OF FIELD SURVEY: 9-19-18 10-24-22

DATE OF SURVEY: 9-25-18

ALEXANDER J. PIAZZA PSM, INC.
Digitally signed by Alexander J Piazza
DN: c=US, o=Florida, dnQualifier=A01410D000001790390E72C90018278, cn=Alexander J Piazza
Date: 2022.10.25 12:43:37 -04'00'

ALEXANDER J. PIAZZA
PROFESSIONAL SURVEYOR AND MAPPER
FLORIDA CERTIFICATE No. 6330

ABBREVIATIONS:

(C) = CALCULATED
CBS = CONCRETE BLOCK STRUCTURE
CONC = CONCRETE
CLF = CHAIN LINK FENCE
(D) = DEED
FFE = FINISHED FLOOR ELEVATION
FND = FOUND
IP = IRON PIPE
INV = INVERT
IR = IRON ROD
IRC = IRON ROD WITH PLASTIC CAP
LB = LICENSE BUSINESS
LS = LICENSE SURVEY
(M) = MEASURED
MON = MONUMENT
NSLRWCD= NORTH ST. LUCIE RIVER WATER CONTROL DISTRICT
ORB = OFFICIAL RECORD BOOK
(P) = PLAT
PB = PLAT BOOK
PG = PAGE
PCOR = PROPERTY CORNER
PL = PROPERTY LINE
POB = POINT OF BEGINNING
POC = POINT OF COMMENCEMENT
R/W = RIGHT-OF-WAY
RCP = REINFORCED CONCRETE PIPE
RGE = RANGE
SEC = SECTION
TWP = TOWNSHIP
UE = UTILITY EASEMENT
PUDE = PUBLIC UTITLITY & DRAINAGE EASEMENT

SYMBOLS:

= GUY WIRE ANCHOR
= CABLE TELEVISION BOX
= CATCH BASIN
= CATCH BASIN INLET
= CLEANOUT
= ELECTRIC BOX
= TELEPHONE BOX
= SIGN
= SANITARY MANHOLE
= STORM MANHOLE
= NUMBER OF PARKING SPACES
= FIRE HYDRANT
= LIGHT POLE
= CONCRETE POWER POLE
= BACKFLOW PREVENTOR
= MAIL BOX
= IRRIGATION VALVE
= GAS VALVE
= SEWER VALVE
= WATER VALVE
= WELL
= WATER METER
= WOOD POWER POLE
= SET 5/8" IRON ROD WITH PLASTIC CAP PSM#6330

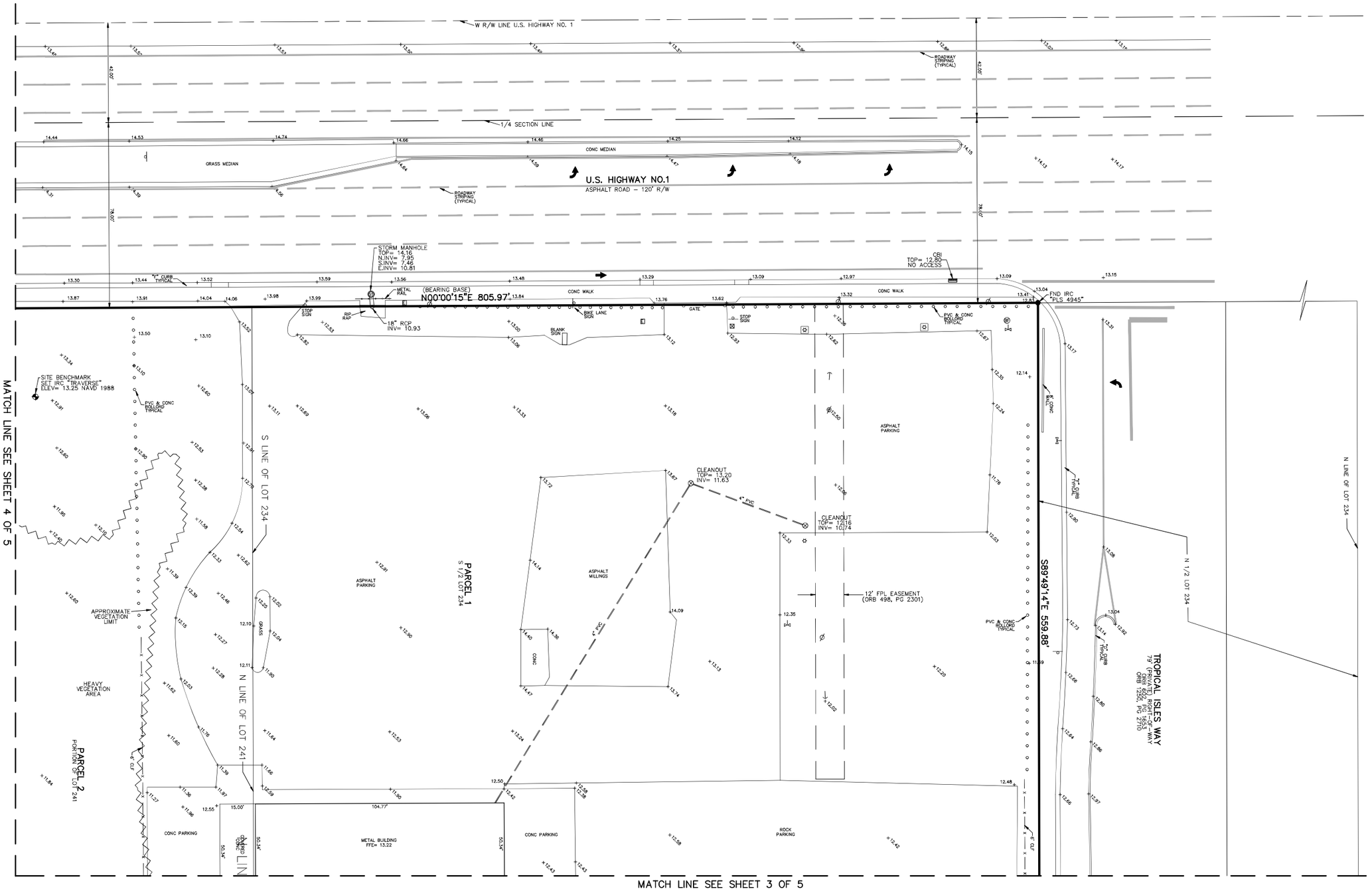
DATE:	REVISIONS:	BY:
10-25-22	ADD ADDITIONAL TOPO/TREES	AJP
2-04-22	ADD ADDITIONAL TOPO	AJP
3-17-21	ADD WETLAND	AJP
6-27-19	REVISE PER COUNTY COMMENTS	AJP
5-23-19	REVISE PER COUNTY COMMENTS	AJP
3-29-19	ADD TREES WITHIN PROPOSED DRAINAGE EASEMENT	AJP

ALEXANDER J. PIAZZA PSM, INC.
Surveying • Mapping • Consulting
619 SW Biltmore Street
Port St. Lucie, Florida 34983
Phone: (772) 340-7770
Fax: (772) 340-2250
LB#7280

BOUNDARY & TOPOGRAPHIC SURVEY
5560 S. US HIGHWAY NO.1
AS PREPARED FOR
BEV SMITH OF FORT PIERCE II, INC.

CAD	K:\BUILDERS, DWG2018\18-4187.DWG		
REF	K:\		
FLD	CJM / RP	FB. PG.	JOB 18-4187
OFF	CJM		DATE 9-25-18
CKD	AJP	SHEET 1 OF 5	DWG D-832

K:\BUILDERS\DWG2018\18-4187.dwg, 10/25/2022 12:38:17 PM



ABBREVIATIONS:

(C)	= CALCULATED
CBS	= CONCRETE BLOCK STRUCTURE
CONC	= CONCRETE
CLF	= CHAIN LINK FENCE
(D)	= DEED
FFE	= FINISHED FLOOR ELEVATION
FND	= FOUND
IP	= IRON PIPE
INV	= INVERT
IR	= IRON ROD
IRC	= IRON ROD WITH PLASTIC CAP
LB	= LICENSE BUSINESS
LS	= LICENSE SURVEY
(M)	= MEASURED
MON	= MONUMENT
NSLRWCD	= NORTH ST. LUCIE RIVER WATER CONTROL DISTRICT
ORB	= OFFICIAL RECORD BOOK
(P)	= PLAT
PB	= PLAT BOOK
PG	= PAGE
PCOR	= PROPERTY CORNER
PL	= PROPERTY LINE
POB	= POINT OF BEGINNING
POC	= POINT OF COMMENCEMENT
R/W	= RIGHT-OF-WAY
RCP	= REINFORCED CONCRETE PIPE
RGE	= RANGE
SEC	= SECTION
TWP	= TOWNSHIP
UE	= UTILITY EASEMENT
PUDE	= PUBLIC UTITLITY & DRAINAGE EASEMENT

SYMBOLS:

= GUY WIRE ANCHOR
= CABLE TELEVISION BOX
= CATCH BASIN
= CATCH BASIN INLET
= CLEANOUT
= ELECTRIC BOX
= TELEPHONE BOX
= SIGN
= SANITARY MANHOLE
= STORM MANHOLE
= NUMBER OF PARKING SPACES
= FIRE HYDRANT
= LIGHT POLE
= CONCRETE POWER POLE
= BACKFLOW PREVENTOR
= MAIL BOX
= IRRIGATION VALVE
= GAS VALVE
= SEWER VALVE
= WATER VALVE
= WELL
= WATER METER
= WOOD POWER POLE
= SET 5/8" IRON ROD WITH PLASTIC CAP PSM#6330

GRAPHIC SCALE IN FEET
SCALE: 1" = 20'

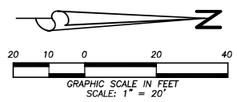
DATE:	REVISIONS:	BY:
10-25-22	ADD ADDITIONAL TOPO/TREES	AJP
2-04-22	ADD ADDITIONAL TOPO	AJP
6-27-19	REVISE PER COUNTY COMMENTS	AJP
5-23-19	REVISE PER COUNTY COMMENTS	AJP
3-29-19	ADD TREES WITHIN PROPOSED DRAINAGE EASEMENT	AJP

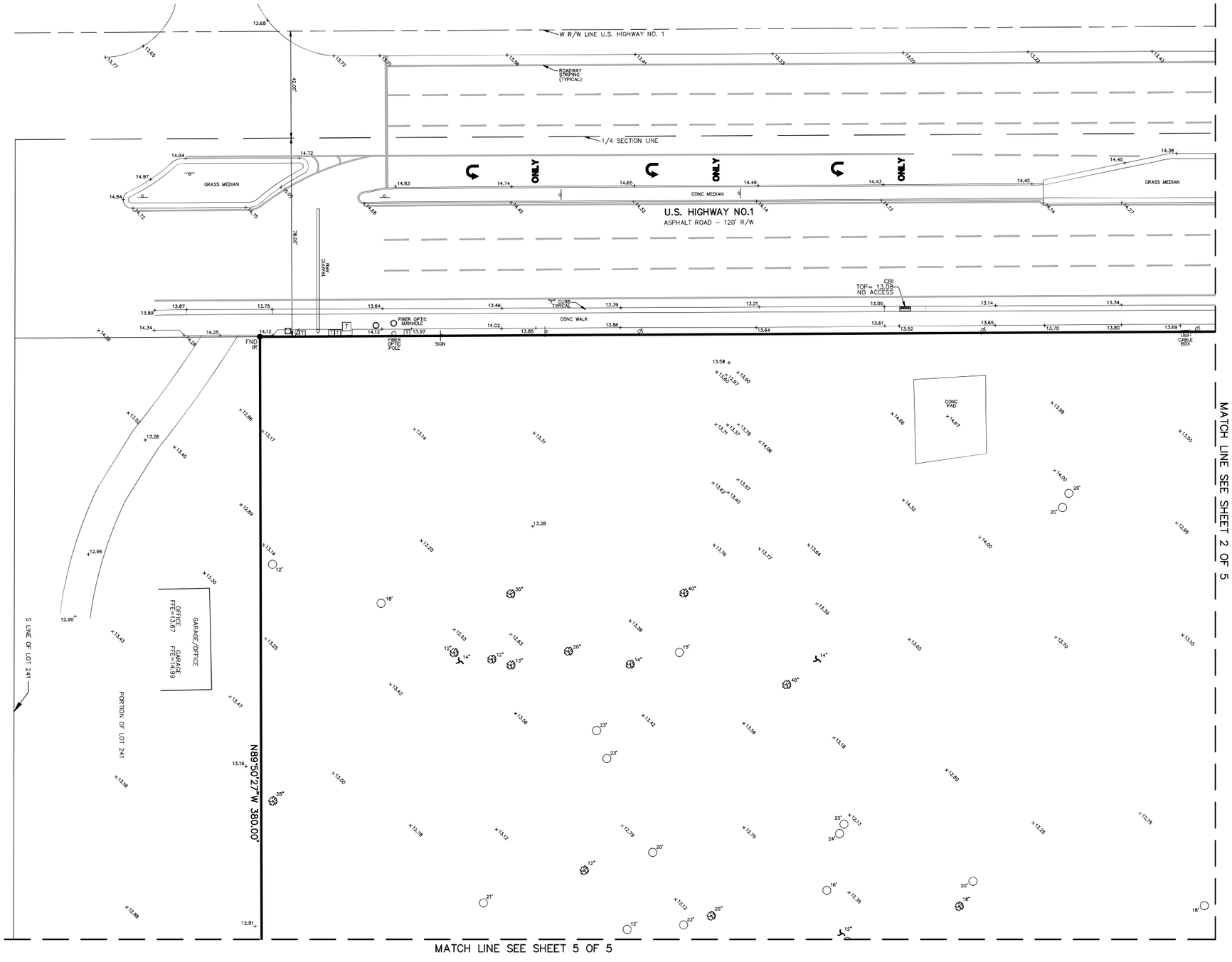
ALEXANDER J. PIAZZA PSM, INC.
Surveying • Mapping • Consulting
619 SW Biltmore Street
Port St. Lucie, Florida 34983
Phone: (772) 340-7770
Fax: (772) 340-2250
LB#7280

BOUNDARY & TOPOGRAPHIC SURVEY
5560 S. US HIGHWAY NO.1
AS PREPARED FOR
BEV SMITH OF FORT PIERCE II, INC.

CAD	K:\BUILDERS, DWG2018\18-4187.DWG		
REF	K:\		
FLD	CJM / RP	FB. PG.	JOB 18-4187
OFF	CJM		DATE 9-25-18
CKD	AJP	SHEET 2 OF 5	DWG D-832

K:\BUILDERS\DWG2018\18-4187.dwg, 10/25/2022 12:39:24 PM





MATCH LINE SEE SHEET 2 OF 5

SYMBOLS:

- = GUY WIRE ANCHOR
- = CABLE TELEVISION BOX
- = CATCH BASIN
- = CATCH BASIN INLET
- = CLEANOUT
- = ELECTRIC BOX
- = TELEPHONE BOX
- = SIGN
- = SANITARY MANHOLE
- = STORM MANHOLE
- = NUMBER OF PARKING SPACES
- = FIRE HYDRANT
- = LIGHT POLE
- = CONCRETE POWER POLE
- = BACKFLOW PREVENTOR
- = MAIL BOX
- = IRRIGATION VALVE
- = GAS VALVE
- = SEWER VALVE
- = WATER VALVE
- = WELL
- = WATER METER
- = WOOD POWER POLE
- = SET 5/8" IRON ROD WITH PLASTIC CAP PSM#6330
- 2" = DENOTES TREE SIZE
- = DENOTES PALM TREE
- = DENOTES SIMPSON STOPPER TREE
- = DENOTES PINE TREE
- = DENOTES OAK TREE
- = DENOTES CABBAGE PALM

ABBREVIATIONS:

(C)	= CALCULATED
CBS	= CONCRETE BLOCK STRUCTURE
CONC	= CONCRETE
CLF	= CHAIN LINK FENCE
(D)	= DEED
FFE	= FINISHED FLOOR ELEVATION
FND	= FOUND
IP	= IRON PIPE
INV	= INVERT
IR	= IRON ROD
IRC	= IRON ROD WITH PLASTIC CAP
LB	= LICENSE BUSINESS
LS	= LICENSE SURVEY
(M)	= MEASURED
MON	= MONUMENT
NSLRWCD	= NORTH ST. LUCIE RIVER WATER CONTROL DISTRICT
ORB	= OFFICIAL RECORD BOOK
(P)	= PLAT
PB	= PLAT BOOK
PG	= PAGE
PCOR	= PROPERTY CORNER
PL	= PROPERTY LINE
POB	= POINT OF BEGINNING
POC	= POINT OF COMMENCEMENT
R/W	= RIGHT-OF-WAY
RCP	= REINFORCED CONCRETE PIPE
RGE	= RANGE
SEC	= SECTION
TWP	= TOWNSHIP
UE	= UTILITY EASEMENT
PUDE	= PUBLIC UTITLITY & DRAINAGE EASEMENT

DATE:	REVISIONS:	BY:
10-25-22	ADD ADDITIONAL TOPO/TREES	AJP
2-04-22	ADD ADDITIONAL TOPO	AJP
6-27-19	REVISE PER COUNTY COMMENTS	AJP
5-23-19	REVISE PER COUNTY COMMENTS	AJP
3-29-19	ADD TREES WITHIN PROPOSED DRAINAGE EASEMENT	AJP

ALEXANDER J. PIAZZA PSM, INC.
Surveying • Mapping • Consulting
619 SW Biltmore Street
Port St. Lucie, Florida 34983
Phone: (772) 340-7770
Fax: (772) 340-2250
LB#7280

BOUNDARY & TOPOGRAPHIC SURVEY
5560 S. US HIGHWAY NO.1
AS PREPARED FOR
BEV SMITH OF FORT PIERCE II, INC.

CAD	K:\BUILDERS, DWG2018\18-4187.DWG		
REF	K:\		
FLD	CJM / RP	FB. PG.	JOB 18-4187
OFF	CJM		DATE 9-25-18
CKD	AJP	SHEET 4 OF 5	DWG D-832

K:\BUILDERS\DWG2018\18-4187.dwg, 10/25/2022 12:40:24 PM

MATCH LINE SEE SHEET 4 OF 5

MATCH LINE SEE SHEET 3 OF 5

S LINE OF LOT 241

FORTION OF LOT 241

S00°00'15"W 175.00'

N89°50'27"W 179.16'(C)
179.14'(D)

FND IRC
"LB 4286"

30.00'

30.00'

TOP OF BANK

EDGE OF WATER

N.S.L.R.W.C.D. CANAL
60' RIGHT-OF-WAY

N

20 10 0 20 40

GRAPHIC SCALE IN FEET
SCALE: 1" = 20'

ABBREVIATIONS:

(C) = CALCULATED
CBS = CONCRETE BLOCK STRUCTURE
CONC = CONCRETE
CLF = CHAIN LINK FENCE
(D) = DEED
FFE = FINISHED FLOOR ELEVATION
FND = FOUND
IP = IRON PIPE
INV = INVERT
IR = IRON ROD
IRC = IRON ROD WITH PLASTIC CAP
LB = LICENSE BUSINESS
LS = LICENSE SURVEY
(M) = MEASURED
MON = MONUMENT
ORB = OFFICIAL RECORD BOOK
(P) = PLAT
PB = PLAT BOOK
PG = PAGE
PCOR = PROPERTY CORNER
PL = PROPERTY LINE
POB = POINT OF BEGINNING
POC = POINT OF COMMENCEMENT
R/W = RIGHT-OF-WAY
RCP = REINFORCED CONCRETE PIPE
RGE = RANGE
SEC = SECTION
TWP = TOWNSHIP
UE = UTILITY EASEMENT
PUDE = PUBLIC UTITLITY & DRAINAGE EASEMENT
N.S.L.C.W.C.D.= NORTH ST. LUCIE COUNTY WATER CONTROL DISTRIC

SYMBOLS:

= GUY WIRE ANCHOR
= CABLE TELEVISION BOX
= CATCH BASIN
= CATCH BASIN INLET
= CLEANOUT
= ELECTRIC BOX
= TELEPHONE BOX
= SIGN
= SANITARY MANHOLE
= STORM MANHOLE
= NUMBER OF PARKING SPACES
= FIRE HYDRANT
= LIGHT POLE
= CONCRETE POWER POLE
= BACKFLOW PREVENTOR
= MAIL BOX
= IRRIGATION VALVE
= GAS VALVE
= SEWER VALVE
= WATER VALVE
= WELL
= WATER METER
= WOOD POWER POLE
= SET 5/8" IRON ROD WITH PLASTIC CAP PSM#6330
2" = DENOTES TREE SIZE
= DENOTES PALM TREE
= DENOTES SIMPSON STOPPER TREE
= DENOTES PINE TREE
= DENOTES OAK TREE
= DENOTES CABBAGE PALM

DATE:	REVISIONS:	BY:
10-25-22	ADD ADDITIONAL TOPO/TREES	AJP
2-04-22	ADD ADDITIONAL TOPO	AJP
6-27-19	REVISE PER COUNTY COMMENTS	AJP
5-23-19	REVISE PER COUNTY COMMENTS	AJP
3-29-19	ADD TREES WITHIN PROPOSED DRAINAGE EASEMENT	AJP

ALEXANDER J. PIAZZA PSM, INC.
Surveying • Mapping • Consulting
619 SW Biltmore Street
Port St. Lucie, Florida 34983
Phone: (772) 340-7770
Fax: (772) 340-2250
LB#7280

BOUNDARY & TOPOGRAPHIC SURVEY
5560 S. US HIGHWAY NO.1
AS PREPARED FOR
BEV SMITH OF FORT PIERCE II, INC.

CAD	K:\BUILDERS, DWG2018\18-4187.DWG		
REF	K:\		
FLD	CJM / RP	FB. PG.	JOB 18-4187
OFF	CJM		DATE 9-25-18
CKD	AJP	SHEET 5 OF 5	DWG D-832

K:\BUILDERS\DWG2018\18-4187.dwg, 10/25/2022 12:40:51 PM

LANDSCAPE REQUIREMENTS:

TREE REQUIREMENTS

NORTH PERIMETER LANDSCAPE STRIP (ABUTTING OTHER PROPERTIES)= 735 LF x 10' WIDE
7,350 SF DIV. BY 200 = 37 TREES

SOUTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 372 LF x 10' WIDE
3,720 S.F. DIV. BY 300 = 13 TREES REQUIRED

EAST PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 806 LF x 15' WIDE
12,090 S.F. DIV. BY 300 = 41 TREES REQUIRED

WEST PERIMETER LANDSCAPE STRIP (ABUTTING OTHER PROPERTIES)= 300 LF x 10' WIDE
3,000 SF DIV. BY 200 = 15 TREES

INTERIOR VEHICULAR USE AREAS = 179,503 S.F. (PHASE ONE)
179,503/15 = 11,967 S.F. REQUIRED PLANTING AREA
120 INTERIOR VUA TREES REQUIRED

TOTAL TREES REQUIRED: 226 TREES

SHRUB REQUIREMENTS

NORTH PERIMETER LANDSCAPE STRIP (ABUTTING OTHER PROPERTIES)= 735 LF
CONTINUOUS HEDGE @ 36" OC = 245 SHRUBS REQUIRED

SOUTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 372 LF
CONTINUOUS HEDGE @ 36" OC = 124 SHRUBS REQUIRED

EAST PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 806 LF
CONTINUOUS HEDGE @ 36" OC = 269 SHRUBS REQUIRED

WEST PERIMETER LANDSCAPE STRIP (ABUTTING OTHER PROPERTIES)= 300 LF
CONTINUOUS HEDGE @ 36" OC = 100 SHRUBS REQUIRED

TOTAL SHRUBS REQUIRED: 738 SHRUBS

PROVIDED LANDSCAPE :

PROVIDED TREES:

NORTH PERIMETER LANDSCAPE STRIP (ABUTTING OTHER PROPERTIES)= 735 LF x 10' WIDE
37 TREES

SOUTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 372 LF x 10' WIDE
13 TREES

EAST PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 806 LF x 15' WIDE
41 TREES REQUIRED

WEST PERIMETER LANDSCAPE STRIP (ABUTTING OTHER PROPERTIES)= 300 LF x 10' WIDE
15 TREES

INTERIOR VEHICULAR USE AREAS = 179,503 S.F. (PHASE ONE)
120 INTERIOR VUA TREES*

TOTAL TREES PROVIDED: 226 TREES

*SOME INTERIOR VUA TREES LOCATED IN PERIMETER LANDSCAPE STRIPS DUE TO SPACE CONSTRAINTS

PROVIDED SHRUBS:

NORTH PERIMETER LANDSCAPE STRIP (ABUTTING OTHER PROPERTIES)= 735 LF
245 SHRUBS

SOUTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 372 LF
134 SHRUBS

EAST PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 806 LF
364 SHRUBS

WEST PERIMETER LANDSCAPE STRIP (ABUTTING OTHER PROPERTIES)= 300 LF
100 SHRUBS

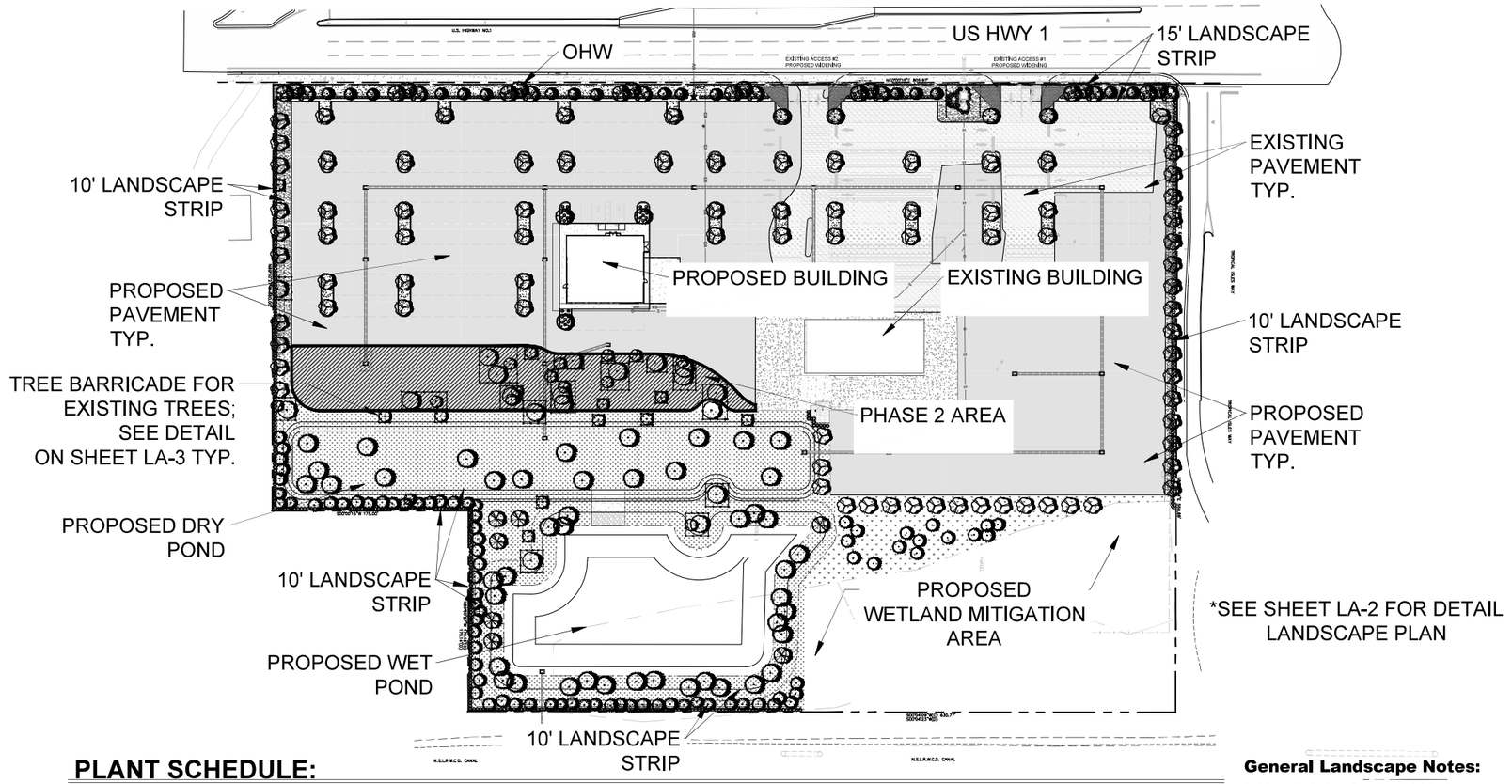
TOTAL SHRUBS PROVIDED: 843 SHRUBS

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

Digitally signed by Paul A. Goulas
Date: 2024.07.18 14:13:10 -04'00'
Adobe Acrobat version: 2024.002.20895

DRAWING INDEX:

LA-1: OVERALL PLAN, LANDSCAPE DATA, & PLANT SCHEDULE
LA-2: DETAIL LANDSCAPE PLAN
LA-3: TREE INVENTORY & MITIGATION PLAN
LA-4: LANDSCAPE DETAILS & SPECIFICATIONS



PLANT SCHEDULE:

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	WIDTH	NOTES	NATIVE	
TREES										
	ACE	7	Acer rubrum	Red Maple	FG	12` HT	5`W	5` CT, SP	Native	2.5" DBH
	EB	17	Elaeocarpus decipiens	Japanese Blueberry Tree	45G	12` HT	5`W	STD, 5`CT, SP	Non-native	2.5" DBH
	PED	56	Pinus elliotti densa	South Florida Slash Pine	FG	12` HT	5`W	5' CT, SP	Native	2.5" DBH
	QS	82	Quercus virginiana	Southern Live Oak	45G	12` HT	5`W	6`CT, SP	Native	2.5" DBH
	TDM	46	Taxodium distichum	Bald Cypress	FG	12` HT	6`W	3' CT, SP	Native	2.5" DBH
EXISTING TREES TO REMAIN										
	QAV	20	Quercus spp	Oak Species	Existing to Remain				Native	VARIES 6"-55"
	SSR	22	Sabal palmetto	Cabbage Palm	Existing to Remain	10`-18` CT		SP	Native	
PALM TREES										
	SS	23	Sabal palmetto	Sabal Palm	FG	10`-18` CT		SLK, HC, SP	Native	
	WO	31	Wodyetia bifurcata	Foxtail Palm	FG	10` CT, 16` OA		Single, Specimen, Full Head	Non-native	
		18 TOTAL PALM CREDITS								
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	WIDTH	NOTES	NATIVE	
SHRUBS										
	CHR	255	Chrysobalanus icaco `Redtip`	Red Tip Cocoplum	3G	24" HT	18"W	F	Native	
	CEP	352	Conocarpus erectus	Green Buttonwood	3G	24" HT	24"W	F	Native	
	DLS	108	Dypsis lutescens	Areca Palm	Existing to Remain	8`HT	3`W	F	Non-native	
	MCL	155	Muhlenbergia capillaris	Pink Muhly Grass	3G	24" HT	18"W	F	Native	
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	WIDTH	NOTES	NATIVE	
SOD/SEED										
	BAHIA SOD	TBD	Paspalum notatum	Bahia Grass	SOD			Free of Weeds and Pests		
	SOD	TBD	Stenotaphrum secundatum `Floratam`	Floratam St. Augustine Sod	SOD			Free of Weeds and Pests		

General Landscape Notes:

1. All plants shall conform to established nursery grades and standards, to be Florida No. 1 or better, and shall be free of disease and insects at the time of installation.
2. Trees shall be a minimum of twelve (12) feet in height and have a caliper of two and one-half (2 1/2) inches at four and one-half (4 1/2) feet above the ground when installed.
3. All required trees, except palms, shall have a minimum of five (5) feet of clear trunk and a minimum five (5) foot canopy spread at the time of planting.
4. All palm trees shall have a minimum clear trunk of ten (10) feet when installed. Three palm trees are equal to one shade tree having a mature canopy spread of fifteen (15) feet.
5. Shrubs shall be a minimum of twenty-four (24) inches in height above grade immediately after planting.
6. Groundcovers, other than grass, shall be planted in a manner as to present a finished appearance and reasonably complete coverage within four (4) months after planting.
7. Turf grass shall be installed using solid sod and shall be either Bahia or St. Augustine sod.
8. All landscape areas other than sod will be provided a mulch cover of at least three (3) inches. Cypress mulch shall not be used.
9. All existing native vegetation found on the site and is not in direct conflict with the proposed buildings or parking areas shall be left undisturbed. A suitable protective barrier, constructed of metal, wood, safety fencing, or other durable material, will be placed around the staked out locations of existing native vegetation.
10. No fill materials, construction materials, concrete, paint, chemicals, or other foreign materials shall be stored, deposited, or disposed of within any areas that have been staked or fenced off as being undisturbed native vegetation areas.
11. Existing understory shall be maintained in areas of undisturbed native vegetation.
12. All Category 1 exotic plant species will be eradicated from the site.
13. Conspicuous, durable barricades will be erected around each individual tree or areas of vegetation that are to be preserved. In the event that any protective barricades are removed or altered and land clearing or construction work is being conducted on the site, all work at the site will be stopped until the barriers are restored and any necessary corrective actions taken to repair or replant any vegetation removed or damaged as a result of these encroachments.
14. Irrigation to conform to all local and State regulations with regard to water consumption.
15. All new landscaping shall be provided with 100% irrigation coverage through the establishment period, not less than 1-year.

Project Team
Landscape Architect:
LAS LANDSCAPE ARCHITECTURAL SERVICES, LLC
Brandon White | Owner
772-834-1357 | brandon@las-fl.com
Paul Goulas | Owner
772-631-8400 | paul@las-fl.com
1708 SE Joy Haven Street
Port St. Lucie, FL 34983
Civil Engineer:
MBV ENGINEERING, INC.

Bev Smith Kia
Used Car Center Phase 1
5560 US Hwy 1
Fort Pierce, Florida
Landscape Plan

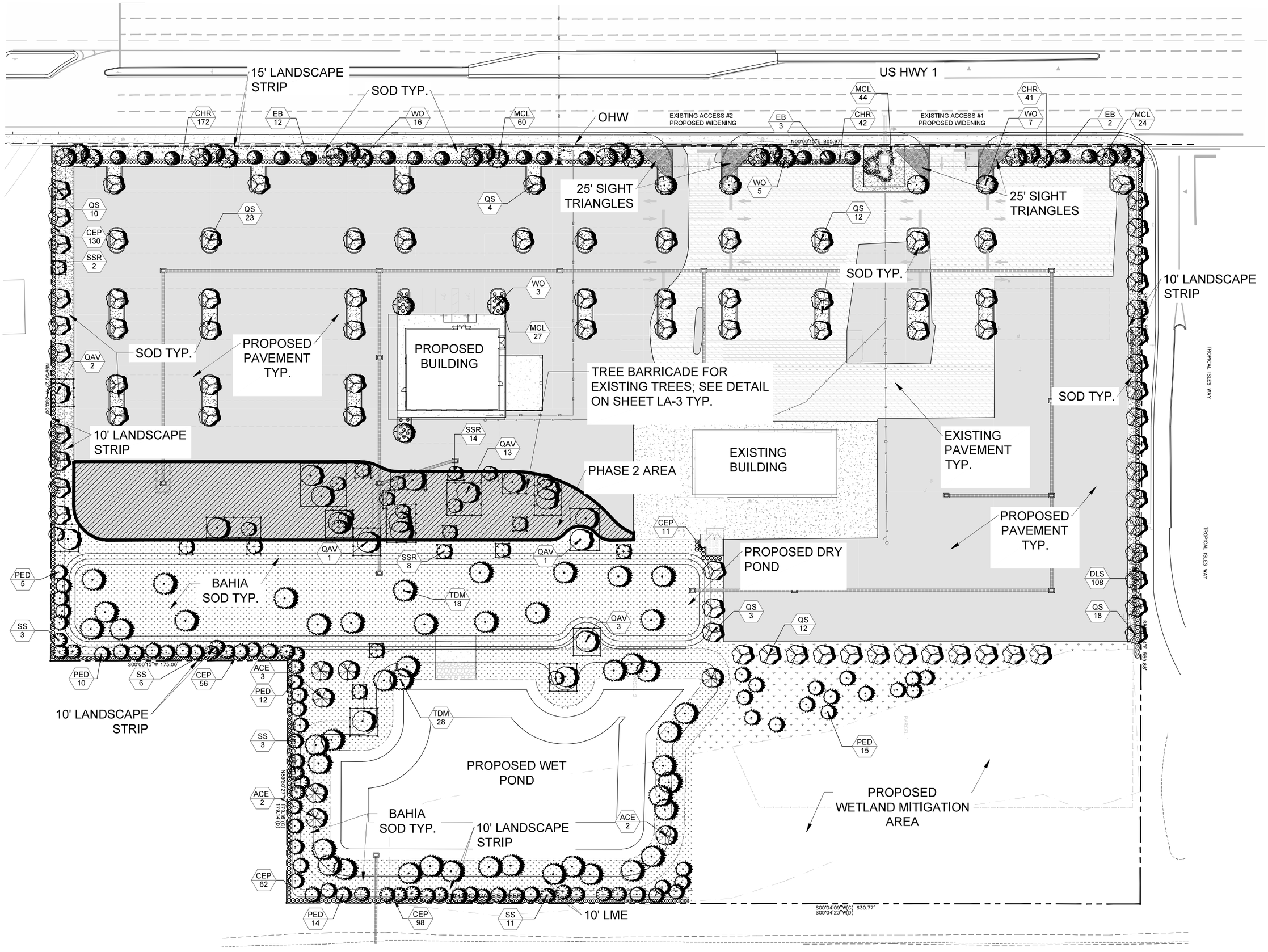
Revisions		
Date	Init.	Description
7.17.24	PG	1st Submittal

PAUL A. GOULAS — LANDSCAPE ARCHITECT — LA 6666807 — STATE OF FLORIDA
PAUL GOULAS, RLA
FLORIDA REG. # LA6666807

Drawn By:	PG
Checked By:	PG
Municipal Project:	
Scale:	

NORTH
SCALE: 1" = 60'
0 30' 60' 120

LA-1



Project Team

Landscape Architect:

LANDSCAPE ARCHITECTURAL SERVICES, LLC

Brandon White | Owner
772-834-1357 | brandon@las-fl.com
Paul Goulas | Owner
772-631-8400 | paul@las-fl.com
1708 SE Joy Haven Street
Port St. Lucie, Fl. 34983

Civil Engineer:

MBV ENGINEERING, INC.

Bev Smith Kia
Used Car Center Phase 1
5560 US Hwy 1
Fort Pierce, Florida
Detail Landscape Plan

Revisions

Date	Init.	Description
7.17.24	PG	1st Submittal

REGISTERED LANDSCAPE ARCHITECT PAUL A. GOULAS LA 6666807 STATE OF FLORIDA

PAUL GOULAS, RLA
FLORIDA REG. # LA6666807

Drawn By:	PG
Checked By:	PG
Municipal Project:	
Scale:	

NORTH

SCALE: 1" = 30'

0 15' 30' 60'

LA-2

Phase 1 Existing Tree Schedule

Oaks to Remain

Tag No	Species	Size
291	Laurel Oak	28"
293	Laurel Oak	60"
295	Laurel Oak	16"
408	Laurel Oak	48"
423	Laurel Oak	40"
434	Laurel Oak	82"
445	Live Oak Cluster	103"

TOTAL INCHES TO REMAIN: 377

Palms to Remain

Tag No	Species	Size
290	Cabbage Palm	12'
292	Cabbage Palm	15'
300	Cabbage Palm	13'
301	Cabbage Palm	12'
304	Cabbage Palm	15'
305	Cabbage Palm	14'
306	Cabbage Palm	10'
307	Cabbage Palm	15'

TOTAL PALMS TO REMAIN: 8

Oaks & Pines to be Removed

Tag No	Species	Size
302	Laurel Oak	28"
303	Laurel Oak	13" *
313	Laurel Oak	24"
318	Laurel Oak	18"
322	Laurel Oak	15"
323	Laurel Oak	12" *
324	Laurel Oak	20"
331	Laurel Oak	12" *
335	Laurel Oak	14"
337	Laurel Oak	40"
339	Laurel Oak	40"
340	Laurel Oak	20"
341	Laurel Oak	13"
342	Laurel Oak	30"
343	Laurel Oak	12" *
345	Laurel Oak	12" *
351	Laurel Oak	12" *
353	Laurel Oak	14"
356	Slash Pine	28"
357	Laurel Oak	12" *
361	Slash Pine	18"
362	Slash Pine	15"
363	Laurel Oak	24"
364	Laurel Oak	30"
368	Laurel Oak	14"
369	Laurel Oak	32"
372	Laurel Oak	14"
373	Laurel Oak	16"
374	Laurel Oak	14"
376	Laurel Oak	14"
378	Laurel Oak	18"
379	Laurel Oak	12" *
381	Laurel Oak	14"
382	Laurel Oak	21"
383	Laurel Oak	44"
384	Laurel Oak	14"
385	Laurel Oak	14"
389	Laurel Oak	16"
404	Laurel Oak	14"
407	Laurel Oak	30"
411	Laurel Oak	24"
413	Laurel Oak	12" *
416	Laurel Oak	34"
425	Laurel Oak	13' *
435	Laurel Oak	14"
436	Laurel Oak	16"
438	Laurel Oak	36"

TOTAL INCHES TO BE REMOVED: 779

* TREE UNDER MITIGATION SIZE NOT INCLUDED IN TOTAL DBH REMOVED

Palms to be Removed

Tag No	Species	Size
292	Cabbage Palm	10'
294	Cabbage Palm	22'
296	Cabbage Palm	13'
298	Cabbage Palm	14'
299	Cabbage Palm	15'
319	Cabbage Palm	20'
320	Cabbage Palm	22'
321	Cabbage Palm	11'
325	Cabbage Palm	22'
326	Cabbage Palm	24'
327	Cabbage Palm	20'
328	Cabbage Palm	16'
329	Cabbage Palm	20'
330	Cabbage Palm	12'
332	Cabbage Palm	21'
333	Cabbage Palm	23'
334	Cabbage Palm	23'
336	Cabbage Palm	15'
338	Cabbage Palm	14'
344	Cabbage Palm	16'
346	Cabbage Palm	18'
347	Cabbage Palm	22'
348	Cabbage Palm	17'
349	Cabbage Palm	16'
350	Cabbage Palm	16'
352	Cabbage Palm	12'
355	Cabbage Palm	16'
358	Cabbage Palm	14'
359	Cabbage Palm	17'
360	Cabbage Palm	18'
365	Cabbage Palm	18'
366	Cabbage Palm	20'
367	Cabbage Palm	17'
370	Cabbage Palm	14'
371	Cabbage Palm	14'
375	Cabbage Palm	15'
377	Cabbage Palm	16'
386	Cabbage Palm	18'
387	Cabbage Palm	16'
398	Cabbage Palm	23'
399	Cabbage Palm	21'
409	Cabbage Palm	22'
410	Cabbage Palm	17'
412	Cabbage Palm	17'
414	Cabbage Palm	20'
415	Cabbage Palm	18'
417	Cabbage Palm	23'
418	Cabbage Palm	21'
419	Cabbage Palm	20'
420	Cabbage Palm	16'
421	Cabbage Palm	22'
422	Cabbage Palm	16'
424	Cabbage Palm	14'
426	Cabbage Palm	16'
427	Cabbage Palm	17'
428	Cabbage Palm	17'
429	Cabbage Palm	15'
430	Cabbage Palm	15'
431	Cabbage Palm	1'
432	Cabbage Palm	15'
433	Cabbage Palm	10'
437	Cabbage Palm	13'
439	Cabbage Palm	17'
440	Cabbage Palm	17'
441	Cabbage Palm	18'
442	Cabbage Palm	18'
443	Cabbage Palm	15;
444	Cabbage Palm	10'

TOTAL PALMS TO BE REMOVED: 68

Phase 2 Existing Tree Schedule

Tag No	Species	Size
297	Laurel Oak	30"
308	Laurel Oak	14"
309	Laurel Oak	12"
317	Laurel Oak	13"
354	Laurel Oak	24"
380	Laurel Oak	15"
388	Laurel Oak	18"
390	Laurel Oak	32"
395	Laurel Oak	14"
396	Laurel Oak	25"
397	Laurel Oak	16"
405	Laurel Oak	22"
406	Laurel Oak	17"

TOTAL INCHES TO REMAIN: 252

Tag No	Species	Size
310	Cabbage Palm	15'
311	Cabbage Palm	16'
312	Cabbage Palm	18'
314	Cabbage Palm	18'
315	Cabbage Palm	18'
316	Cabbage Palm	16'
391	Cabbage Palm	22'
392	Cabbage Palm	20'
393	Cabbage Palm	16'
394	Cabbage Palm	18'
400	Cabbage Palm	18'
401	Cabbage Palm	18'
402	Cabbage Palm	20'
403	Cabbage Palm	17'

TOTAL PALMS TO REMAIN: 14

Mitigation Data:

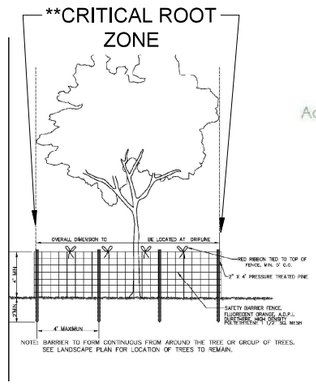
Total DBH of Specimen Trees to be Removed: 779" DBH
Total DBH of Phase 1 Trees Preserved(DBH): 377" DBH
Total DBH of Phase 2 Trees Preserved(DBH): 252" DBH

Total Tree Replacement Required: (DBH): 150" DBH

Total Palms Removed (10' C.T. Minimum): 68
Total Palms Preserved in Phase 1: 8
Total Palms Preserved in Phase 2: 14

Total Palm Replacement Required: 46 Palms

Mitigation For Trees & Palms TBD.



TREE SURVEY PROVIDED BY:

Advanced Restoration Ecology

** The critical root zone (CRZ) is an area around a tree for the purpose of protecting the roots and trunk of a protected tree or a specimen tree, both during and after construction. It is a circular area using a radius measured from the center of the tree. The radius is calculated as one (1) foot of radius for each one (1) inch of diameter at breast height (4.5 feet above grade). For any fraction of a foot over a whole foot, the diameter at breast height will be rounded up to the next whole number. Example: a tree has a diameter at breast height of twenty-one and one-quarter (21¼) inches; the CRZ is a circle, centered on the center of the tree, with a radius of twenty-two (22) feet.

Tree Protection Detail

Project Team

Landscape Architect:

LANDSCAPE ARCHITECTURAL SERVICES, LLC

Brandon White | Owner
772-834-1357 | brandon@las-fl.com
Paul Goulas | Owner
772-631-8400 | paul@las-fl.com
1708 SE Joy Haven Street
Port St. Lucie, FL 34983

Civil Engineer:

MBV ENGINEERING, INC.

Bev Smith Kia
Used Car Center Phase 1

5560 US Hwy 1
Fort Pierce, Florida

Tree Disposition & Mitigation Plan

Revisions

Date	Init.	Description
7.17.24	PG	1st Submittal

REGISTERED LANDSCAPE ARCHITECT PAUL A. GOULAS LA 6666807 STATE OF FLORIDA

PAUL GOULAS, RLA
FLORIDA REG. # LA6666807

Drawn By: PG
Checked By: PG
Municipal Project:
Scale:

NORTH

SCALE: 1" = 40'

0 20' 40' 80'

LA-3

LANDSCAPE SPECIFICATIONS:

PART 1: GENERAL CONDITIONS

1.01 SCOPE:
A. The landscape contract includes the supplying and planting of all trees, shrubs, vines, and ground cover together with all necessary labor, equipment, tools and materials needed for the successful completion, execution and maintenance of the landscape plans.

1.02 AGENCY STANDARDS:
A. Grades and standards of plant materials to be used shall be true to name, size, condition and graded Florida #1 or better as stated in: Grades and Standards of Florida Plant Materials published by the State of Florida Department of Agriculture, Tallahassee, Florida.

1.03 SITE EXAMINATION:
A. The Landscape Contractor shall personally examine the site and fully acquaint him/herself with all of the existing conditions in order that no mis-understanding may afterwards arise as to the character or extent of the work to be performed, and additionally, in order to acquaint him/herself with all precautions to be taken in order to avoid injury to property or persons. No additional compensation will be granted because of any unusual difficulties which may be encountered in the execution or maintenance of any portion of the work.

1.04 ERRORS AND OMISSIONS:
A. The plant list is a part of the drawings and is furnished as a convenience. The plant list indicates the name, size and quantities of specific plant materials as called for and is located on the drawings. The Landscape Contractor is responsible for his/her own quantity count, and any discrepancy between drawings and plant list shall be considered as correct on the drawings.

B. The Landscape Contractor shall not take advantage of errors or omissions in the specifications or contract drawings. Full instruction will be given if such errors are discovered. Upon the discovery of any discrepancies in, or omissions from the drawings or documents, or should the Landscape Contractor be in doubt as to their meaning, the Landscape Architect shall be notified and will determine the actions necessary to each query.

C. If plans and specifications are found to disagree after the contract is awarded, the Landscape Architect shall be the judge as to which was intended.

1.05 EXECUTION OF THE WORK:
A. The Landscape Contractor shall have his labor crews controlled and directed by a Foreman well versed in plant materials, planting methods, reading blueprints, and coordination between job and nursery in order to execute installation correctly and in a timely manner.

B. The Landscape Contractor shall provide a competent English-speaking Foreman on the project at all times, who shall be fully authorized as the Contractor's agent on the work. The Superintendent shall be capable of reading and thoroughly understanding the Plans, Specifications and other Contract Documents. If the Superintendent is deemed incompetent by the Landscape Architect, he (the superintendent) shall be immediately replaced.

C. The Landscape Contractor shall be available for any meetings with the Owner and/or Landscape Architect during implementation of the job. Any additional work or changes required as a result of failure to communicate with the Owner or Landscape Architect during implementation will be the responsibility of the Landscape Contractor.

1.06 PROTECTION OF PUBLIC AND PROPERTY:
A. The Landscape Contractor shall protect all materials and work against injury from any cause and shall provide and maintain all necessary safeguards for the protection of the public. He shall be held responsible for any damage or injury to persons or property which may occur as a result of his fault or negligence in the execution of the work, i.e., damage to underground pipes or cables.

1.07 CHANGES AND EXTRAS:
A. The Contractor shall not start work on any changes or "extras" in the project until a written agreement setting forth the adjusted prices has been executed by the Owner and the Contractor. Any work performed on changes or "extras" prior to execution of a written agreement may or may not be compensated for by the Owner at his discretion.

1.08 GUARANTEE:
A. The Landscape Contractor shall furnish a written guarantee warranting all materials, workmanship and plant materials, except sod, for a period of ONE (1) YEAR from the time of completion and acceptance by the Landscape Architect and Owner. Sod shall be guaranteed to 90 calendar days after acceptance by the Landscape Architect and Owner. All plant material shall be alive and in satisfactory condition and growth for each specific kind of plant at the end of the guarantee period. The guaranteeing of plant material shall be construed to mean complete and immediate replacement with plant material of the same variety, type, size, quality and grade as that of the originally specified material. During the guarantee period it shall be the Landscape Contractor's responsibility to immediately replace any dead or unhealthy material as determined by the Landscape Architect. The guarantee will be null and void if plant material is damaged by lightning, hurricane force winds, or any other acts of God, as well as vandalism or lack of proper maintenance.

B. At the end of the specified guarantee period, any plant required under this contract that is dead or not in satisfactory condition, as determined by the Landscape Architect, shall be replaced. The Landscape Contractor shall be responsible for the full replacement cost of plant materials for the first replacement and share subsequent replacement (s) costs equally with the Owner, should the replacement plant fail to survive.

1.09 CARE AND MAINTENANCE:
A. The Landscape Contractor shall be responsible for the care and maintenance of all plant materials and irrigation when applicable until final acceptance by the Owner or Landscape Architect.

B. The Owner agrees to execute the instructions for such care and maintenance.

1.10 SAFETY:
A. It shall be the responsibility of the Landscape Contractor to protect all persons from injury and to avoid property damage. Adequate warning devices shall be placed and maintained during the progress of the work.

B. It shall be the contractor's responsibility to conform to all local, state, and federal safety laws and codes including the Federal Occupational Safety And Health Act (O.S.H.A.).

1.11 CONTRACTOR QUALIFICATION:
A. The Owner may require the apparent contractor (s) to qualify him/herself to be a responsible entity by furnishing any or all of the following documentary data:
1. A financial statement showing assets and liabilities of the company current to date.
2. A listing of not less than (3) completed projects of similar scope and nature.
3. Permanent name and address of place of business.
4. The number of regular employees of the organization and length of time the organization has been in business under the present name.

1.12 INSURANCE AND BONDING:
A. The contractor (s) shall submit proof of insurance for this job for the time period that the work is done. The minimum amount of insurance shall be $300,000.00 per person and $300,000.00 per aggregate or as required by owner and agreed to in the contract.
The successful bidder shall be required to have this coverage in effect before beginning work on the site.

B. The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

1.13 PERMITS AND CERTIFICATES:
A. All contractors shall secure and pay for all permits and certificates required for his/her class of work.

PART 2: MATERIALS

2.01 PLANT MATERIALS:
A. A complete list of plants is shown on the drawings, including a schedule of quantities, sizes, and such other requirements deemed necessary. In the event discrepancies occur, the specifications on the drawings shall govern.

B. Substitutions: Substitutions of plant materials or changes in size or spacing of materials will be permitted ONLY upon written authorization by the Owner or the Landscape Architect. If plant material is not of sufficient size to meet applicable codes, a letter of variance from the appropriate agency must be obtained by the Contractor prior to issuance of any change order. If material of smaller size is to be accepted, the quantity of material shall be increased, at no additional cost to the Owner, to meet the intent of the drawings.

C. All plant materials shall have a habit of growth that is normal for the species and shall be healthy, vigorous and equal to or exceed the measurements specified in the plant list, which are the minimum acceptable sizes. Plants shall be measured before pruning with branches in normal position. Any necessary pruning shall be done at the time of planting.

D. All plant materials shall be nursery grown, unless otherwise noted. Florida #1 or better and shall comply with all required inspections, grading standards and plant regulations as set forth by the Florida Department of Agriculture's Grades and Standards for Nursery Plants, most current addition and Grades and Standards for Nursery Plants, most current addition.

E. Plants that do not have the normal balance of height and spread typical for the respective plant shall not be acceptable.

F. The Landscape Contractor shall install each plant to display its best side. Adjustments may be required if plants are not installed properly and/or approved by the Landscape Architect at no additional cost to owner.

2.02 INSPECTION
A. The Landscape Architect and Owner may inspect trees and shrubs at place of growth or at site before planting, for compliance with requirements for genus, species, variety, size and quality. The Landscape Architect and Owner retain the right to further inspect trees and shrubs for size and condition of balls and root systems, insects, injuries and latent defects, and to reject unsatisfactory or defective material at any time during progress of work. Rejected plant materials shall be immediately removed from project site.

2.03 PROTECTION OF PLANT MATERIALS:
A. Balled and burlapped plants (B & B) shall be dug with firm natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Balls shall be firmly wrapped with burlap similar materials and bound with cord, rope, or wire mesh. All collected plants shall be balled and burlapped.

B. Plants with broken, damaged or insufficient rootballs will be rejected.

C. All plant material shall be protected from possible bark injury or breakage of branches. All plants transported by open trucks shall be adequately covered to prevent windburn, drying or damage to plants.

D. Plants which cannot be planted immediately on delivery to the site shall be covered with moist soil, mulch or other protection from the drying of wind and sun. All plants shall be watered as necessary by the Landscape Contractor until planted.

2.04 STORAGE:
A. All plant materials shall be stored on the site in designated areas, specified by the Landscape Architect or Owner's agent.

B. No plant material shall be stored longer than seventy-two (72) hours unless approved by by Landscape Architect and/or owner.

C. The Landscape Architect reserves the right to reject any plant materials not in conformance with these specifications.

D. All rejected material shall be immediately removed from the site and replaced with acceptable material at no cost to the Owner.

2.05 PROTECTION DURING PLANTING:
A. Trees moved by winch or crane shall be thoroughly protected from chain marks, girdling or bark slippage by means of burlap, wood battens or other approved methods. Battens shall NOT be attached to the tree with nails.

2.06 PLANTING SOIL:
A. Planting soil for all plantings shall consist of existing native soil and shall be free of debris, roots, clay, stones, plants or other foreign materials which might be a hindrance to planting operations or be detrimental to good growth.

2.07 FERTILIZER:
A. Commercial fertilizer shall comply with the state fertilizer laws. Nitrogen shall not be less than 40% from organic source. Inorganic chemical nitrogen shall not be derived from the sodium form of nitrate. Fertilizers shall be delivered to the site in unopened original containers, each bearing the manufacturer's guaranteed analysis. Any fertilizer that becomes caked or otherwise damaged shall be rejected.

B. Thoroughly mixed 3 lbs. of commercial fertilizer to each cubic yard of planting soil.

C. Tabletized fertilizer shall be Agriform planting tablets 20-10-5 formula, 21 gram or equal. All trees and shrubs shall be fertilized with tabletized fertilizer as follows. While backfilling plant holes, fertilizer tablets shall be equally spaced and placed adjacent to the ball mid-way in depth in accordance with the following rates:

1 gallon container	1 tablet
3 gallon container	2 tablets
5 gallon container	3 tablets
7 gallon	5 tablets

Large tubs, wire baskets, grow bags, and balled and burlapped material shall have 1 tablet for each 1/2 inch of trunk diameter (measured 3 feet from ground) or for each foot of height or spread of larger shrub material.
The Landscape Architect reserves the right to inspect and review the application of fertilizer.

2.08 MULCH:
A. Mulch material shall be clean, dry, free of weeds, seeds and pests, moistened at the time of application to prevent wind displacement. Cypress &/or Red mulch is prohibited.

B. All trees and shrub beds shall receive 3" mulch immediately after planting and thoroughly watered. Apply 2" max on tree & palm rootballs, keep away from tree & palm trunks or as required by local jusidiction.

PART 3: EXECUTION
3.01 DIGGING:
A. The Landscape Contractor shall exercise care in digging and other work so as not to damage existing work, including overhead wires, underground pipes and cables and the pipes and hydrants of watering systems. Should such overhead or underground obstructions be encountered which interfere with planting, the Owner shall be consulted and contractor will adjust the location of plants to clear such obstruction. The Contractor shall be responsible for the immediate repair of any damage caused by his work.

3.02 GRADING:
A. Grading for drainage, swales, etc. to within 4 inches of the finished grade to be provided by others.

B. It shall be the responsibility of the Landscape Contractor to provide the final grading during the course of landscape installation so as to bring sod and planting areas to their proper elevations in relation to walks, paving, drain structures, and other site conditions. The site grading plan must be checked prior to installation of sod to insure that drainage and other conditions will NOT be modified.

3.03 PLANTING:
A. Planting shall take place during favorable weather conditions.

B. The Contractor shall call for utility locates and ascertain the location of all utilities and easements so proper precautions can be taken not to damage or encroach on them.

C. Tree Planting shall be located where it is shown on the plan. No planting holes shall be dug until the proposed locations have been staked on the ground by the Contractor.

D. Excavation of holes shall extend to the required subgrades as specified on the planting diagrams located in the planting plans. Plant pits shall be circular in outline and shall have a profile which conforms to the aforementioned "Tree and Shrub Planting Diagrams".

E. A representative number of planting pits (a minimum of one in every 25 feet throughout the entire site) shall be tested for proper drainage. See Landscape Plan for complete testing methods and requirements.

F. Planting pits shall be excavated to the following dimensions and refilled with a mixture of (1/2) planting soil (1/2) existing native soil:
1 Gallon material (1 gal.): 12" x 12" x 12" min.
3 Gallon material (3 gal.): 20" x 20" x 18" min.
Lerio material (7 gal.): 30" x 30" x 24" min.
Field grown material and trees: 1-1/2 times width of ball and depth of ball plus 12" min.

G. No planting or laying of sod shall be initiated until the area has been cleaned of existing sod or other plant materials, rough grass, weeds, debris, stones etc. and the ground has been brought to an even grade, with positive drainage away from buildings and towards drain inlets and swales and approved by Landscape Architect or owner's rep.

H. Each plant shall be planted in an individual hole as specified for trees, shrubs, and vines.

I. All plants shall be set to ultimate finished grade. No filling will be permitted around trunks or stems. All ropes, wire, stakes, etc., shall be removed from sides and top of the ball and removed from hole before filling in.

J. All flagging ribbon shall be removed from trees and shrubs before planting.

K. Excess excavation (fill) from all holes shall be removed from the site, at no additional expense to Owner.

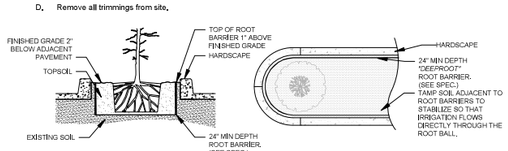
L. All palms shall be backfilled with sand, thoroughly washed in during planting operations and with a shallow saucer depression left at the soil line for future waterings. Saucer areas shall be top-dressed two (2") inches deep with topsoil raked and left in a neat, clean manner.

3.04 PRUNING:
A. Remove dead and broken branches from all plant material. Prune to retain typical growth habit of individual plants with as much height and spread as possible in a manner which will preserve the plant's natural character.

B. Make all cuts with sharp instruments flush with trunk or adjacent branch, in such a manner as to insure elimination of stubs. Cuts made at right angles to line of growth will not be permitted.

C. Trees shall not be poled or topped.

D. Remove all trimmings from site.



SPECIAL APPLICATIONS ROOT BARRIER DETAIL
NOTES:
1- ROOT BARRIER SHALL BE "DEEPROOT" 24" DEPTH OR APPROVED EQUAL.
2- ROOT BARRIER SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
NOT TO SCALE

3.05 GUYING:
A. All trees over six (6') feet in height shall, immediately after setting to proper grade, be guyed with three sets of two strands, No. 12 gauge malleable galvanized iron, in tripod fashion. See Detail.

B. Wires shall not come in direct contact with the tree but shall be covered with an approved protection device at all contact points. Wires shall be fastened in such a manner as to avoid pulling crotches apart.

D. Stake & Brace all tress larger than 12' ca. See detail.
Stakes shall be 2" x 2" lumber of sufficient length to satisfactorily support each tree.

E. Turnbuckles for guying trees shall be galvanized or cadmium plated and shall be of adequate size and strength to properly maintain tight guy wires.

3.06 WATER:
A. Each plant or tree shall be thoroughly watered in after planting. Watering of all newly installed plant materials shall be the responsibility of the Landscape Contractor until final acceptance by the Landscape Architect.

B. See General Notes of Landscape Plan for water source.

3.07 SOD:

A. The Landscape Contractor shall sod all areas indicated on the drawings.

B. It shall be the responsibility of the Landscape Contractor to fine grade all landscape areas, eliminating all bumps, depressions, sticks, stones, and other debris.

C. The sod shall be firm, tough texture, having a compacted growth of grass with good root development. It shall contain no noxious weeds, or any other objectionable vegetation, fungus, insects, or disease. The soil embedded in the sod shall be good clean earth, free from stones and debris.

D. Before being cut and lifted, the sod shall have been mowed at least three times with a lawn mower, with the final mowing not more than seven days before the sod is cut. The sod shall be carefully cut into uniform dimensions.

E. 6-6-6 fertilizer with all trace elements is to be applied at the rate of 40 lbs. per 1,000 sq. ft. prior to laying sod.

F. Solid sod shall be laid with closely abutting, staggered joints with a tamped or rolled, even surface.

G. The finished level of all sod areas after settlement shall be one (1") inch below the top of abutting curbs, walks, paving and wood borders to allow for building turf.

H. If in the opinion of the Landscape Architect, top dressing is necessary after rolling, clean yellow sand will be evenly applied over the entire surface and thoroughly washed in.

3.08 SEEDING:
A. The Landscape Contractor shall remove all vegetation and rocks larger than (1") in diameter from areas to be seeded, scarify the area, then apply fertilizer at a rate of 500 lbs. per acre.

B. Application: Argentine Bahia Grass seed - 200 Pounds per acre mixed with common hulled Bermuda seed - 30 lbs. per acre. All other seed mixtures shall be applied per the manufacturer's instructions.

C. Roll immediately after seeding with a minimum 500 pound roller, then apply straw mulch at the rate of 2,500 pounds per acre.

D. Apply fertilizer at the rate of 150 lbs. per acre 45-60 days after seeding.

3.09 CLEANING UP:
A. The contractor shall at all times keep the premises free from accumulations of waste materials or rubbish caused by his employees or work. He shall leave all paved areas "broom clean" when completed with his work.

3.10 MAINTENANCE:
A. Maintenance shall begin immediately after each plant is installed and shall continue until all planting has been accepted by the Owner or Landscape Architect. Maintenance shall include watering, weeding, removal of dead materials, resetting plants to proper grades or upright positions, spraying, restoration of planting saucer and/or any other necessary operations.

B. Proper protection to lawn areas shall be provided and any damage resulting from planting operations shall be repaired promptly.

C. Replacement of plants during the maintenance period shall be the responsibility of the Contractor, excluding vandalism or damage on the part of others, lighting, or hurricane force winds, until final acceptance.

D. In the event that weeds or other undesirable vegetation become prevalent, it shall be the Contractor's responsibility to remove them.

E. Trees or other plant material which fall or are blown over during the maintenance period will be reset by the Contractor at no additional expense to the Owner, the only exception being hurricane force winds.

3.11 COMPLETION, INSPECTION AND ACCEPTANCE:
A. Completion of the work shall mean the full and exact compliance and conformity with the provisions expressed or implied in the Drawings and in the Specifications, including the complete removal of all trash, debris, soil or other waste created by the Landscape Contractor.

B. Inspection of work to determine completion of contract, exclusive of the possible replacement of plants, will be made by the Owner and/or Landscape Architect at the conclusion of all planting and at the request of the Landscape Contractor.

C. All plant material shall be alive and in good growing condition for each specified kind of plant at the time of acceptance. The rating of each plant according to Florida Grades and Standards shall be equal to or better than that called for on the plans and in these Specifications at the time of final inspection and acceptance.

D. After inspection, the Landscape Contractor will be notified by the Owner of the acceptance of all plant material and workmanship, exclusive of the possible replacement of plants subject to guarantee.

DRAINAGE TESTING/DRAINAGE CHANNEL REQUIREMENTS

PRIOR TO PLANTING ALL PLANTING PITS SELECTED FOR TESTING SHALL BE TESTED IN THE FOLLOWING MANNER

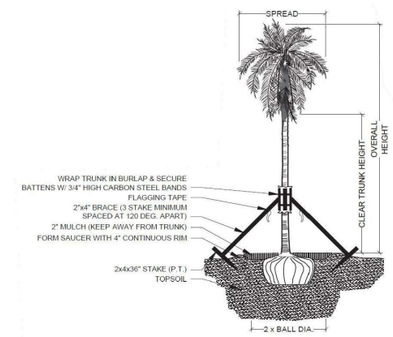
A. DIG EACH PLANTING PIT TO THE MINIMUM SPECIFIED SIZE.

B. FILL PLANTING PIT WITH TWELVE INCHES (12") OF WATER. IF THE WATER LEVEL DROPS FOUR (4") OR MORE WITHIN FOUR (4) HOURS, THE DRAINAGE IS SUFFICIENT AND A DRAINAGE CHANNEL IS NOT REQUIRED IF THE WATER LEVEL DROPS LESS THAN FOUR INCHES (4") WITHIN THE FOUR (4) HOUR PERIOD, A DRAINAGE CHANNEL IS REQUIRED.

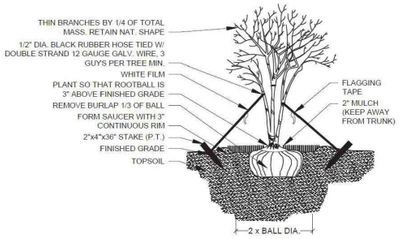
C. WHERE REQUIRED, THE DRAINAGE CHANNEL MUST EXTEND DOWN THROUGH THE NON POROUS SOIL AND INTO POROUS SOIL. (SEE DETAIL)

D. ALL MATERIAL REMOVED FROM THE DRAINAGE CHANNEL SHALL BE DISCARDED.

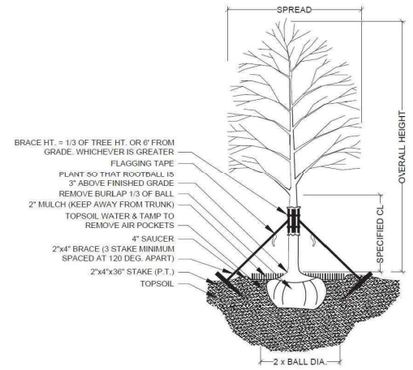
E. WHEN BACKFILLING PLANTING PITS WITH PLANTING MIXTURE, CARE MUST BE TAKEN TO KEEP THE CONSISTENCY OF THE SOIL MIX THE SAME THROUGHOUT THE PLANTING PIT AND DRAINAGE CHANNEL.



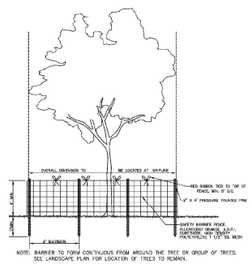
PALM PLANTING - ANGLE STAKE
NOT TO SCALE



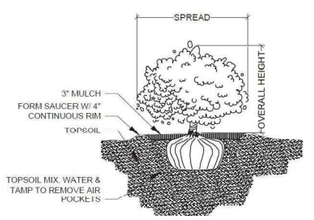
MULTI-TRUNK PLANTING & GUYING
NOT TO SCALE



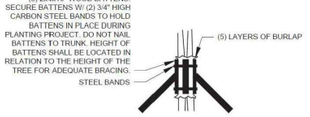
TREE PLANTING & STAKING
NOT TO SCALE



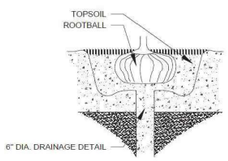
TREE PROTECTION DETAIL
NOT TO SCALE



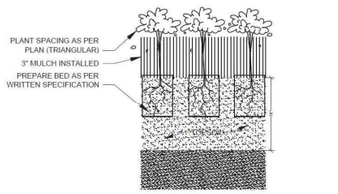
SHRUB PLANTING
NOT TO SCALE



BRACING DETAIL
NOT TO SCALE



DRAINAGE TESTING DETAIL
NOT TO SCALE



GROUNDCOVER PLANTING DETAIL
NOT TO SCALE

Project Team

Landscape Architect:

LANDSCAPE ARCHITECTURAL SERVICES, LLC

Brandon White | Owner
772-834-1357 | brandon@las-fl.com
Paul Goulas | Owner
772-631-8400 | paul@las-fl.com
1708 SE Joy Haven Street
Port St. Lucie, Fl. 34983

Civil Engineer:

MBV ENGINEERING, INC.

Bev Smith Kia
Used Car Center Phase 1
5560 US Hwy 1
Fort Pierce, Florida
Details & Specifications

Revisions

Date	Init.	Description
7.17.24	PG	1st Submittal

REGISTERED LANDSCAPE ARCHITECT PAUL A. GOULAS LA 6666807 STATE OF FLORIDA

PAUL GOULAS, RLA
FLORIDA REG. # LA6666807

Drawn By:	PG
Checked By:	PG
Municipal Project:	
Scale:	

LA-4

MATCH LINE SEE SHEET 2 OF 5

MATCH LINE SEE SHEET 5 OF 5

N LINE OF LOT 241

S LINE OF LOT 234

N LINE OF LOT 234

E LINE LOT 241

PARCEL 2
PORTION OF LOT 241

PARCEL 1
S 1/2 LOT 234

PORTION OF LOT 234

TROPICAL ISLES WAY
79' (PRIVATE) RIGHT-OF-WAY
ORB 6226, PG 1653
ORB 12350, PG 2710

METAL BUILDING
FFE= 13.22

CONC PARKING

ROCK PARKING

ROCK PARKING

CLEANOUT
TOP= 12.76
INV E.= 11.70

CLEANOUT
INV= 9.23

CLEANOUT
INV= 9.27

CLEANOUT
INV= 9.41

CLEANOUT
INV= 8.96

4" PVC

4" PVC PIPE
2-45° BEND
INV N.= 11.15
INV W.= 11.15

SEPTIC TANK
(FLAGGED BY OTHERS)

APPROXIMATE VEGETATION LIMIT

HEAVY VEGETATION AREA

HEAVY VEGETATION AREA

HEAVY VEGETATION AREA

HEAVY VEGETATION AREA

PROPOSED 15' DRAINAGE EASEMENT

APPROXIMATE VEGETATION LIMIT

S89°49'14"E 559.88'

S00°04'09"W(C) 630.77'
S00°04'23"W(D)

TOP OF BANK

EDGE OF WATER

TOE OF SLOPE

N.S.L.R.W.C.D. CANAL
60' RIGHT-OF-WAY

48" RCP
N.INV= 6.36
S. INV= 5.75

50" RCP
N.INV= 5.38
S. INV= 5.20

GRAPHIC SCALE IN FEET
SCALE: 1" = 20'

ABBREVIATIONS:

(C) = CALCULATED
CBS = CONCRETE BLOCK STRUCTURE
CONC = CONCRETE
CLF = CHAIN LINK FENCE
(D) = DEED
FFE = FINISHED FLOOR ELEVATION
FND = FOUND
IP = IRON PIPE
INV = INVERT
IR = IRON ROD
IRC = IRON ROD WITH PLASTIC CAP
LB = LICENSE BUSINESS
LS = LICENSE SURVEY
(M) = MEASURED
MON = MONUMENT
ORB = OFFICIAL RECORD BOOK
(P) = PLAT
PB = PLAT BOOK
PG = PAGE
PCOR = PROPERTY CORNER
PL = PROPERTY LINE
POB = POINT OF BEGINNING
POC = POINT OF COMMENCEMENT
R/W = RIGHT-OF-WAY
RCP = REINFORCED CONCRETE PIPE
RGE = RANGE
SEC = SECTION
TWP = TOWNSHIP
UE = UTILITY EASEMENT
PUDE = PUBLIC UTILITY & DRAINAGE EASEMENT
N.S.L.C.W.C.D.= NORTH ST. LUCIE COUNTY WATER CONTROL DISTRIC

SYMBOLS:

= GUY WIRE ANCHOR
= CABLE TELEVISION BOX
= CATCH BASIN
= CATCH BASIN INLET
= CLEANOUT
= ELECTRIC BOX
= TELEPHONE BOX
= SIGN
= SANITARY MANHOLE
= STORM MANHOLE
= NUMBER OF PARKING SPACES
= FIRE HYDRANT
= LIGHT POLE
= CONCRETE POWER POLE
= BACKFLOW PREVENTOR
= MAIL BOX
= IRRIGATION VALVE
= GAS VALVE
= SEWER VALVE
= WATER VALVE
= WELL
= WATER METER
= WOOD POWER POLE
= SET 5/8" IRON ROD WITH PLASTIC CAP PSM#6330
2" = DENOTES TREE SIZE
= DENOTES PALM TREE
= DENOTES SIMPSON STOPPER TREE
= DENOTES PINE TREE
= DENOTES OAK TREE
= DENOTES CABBAGE PALM

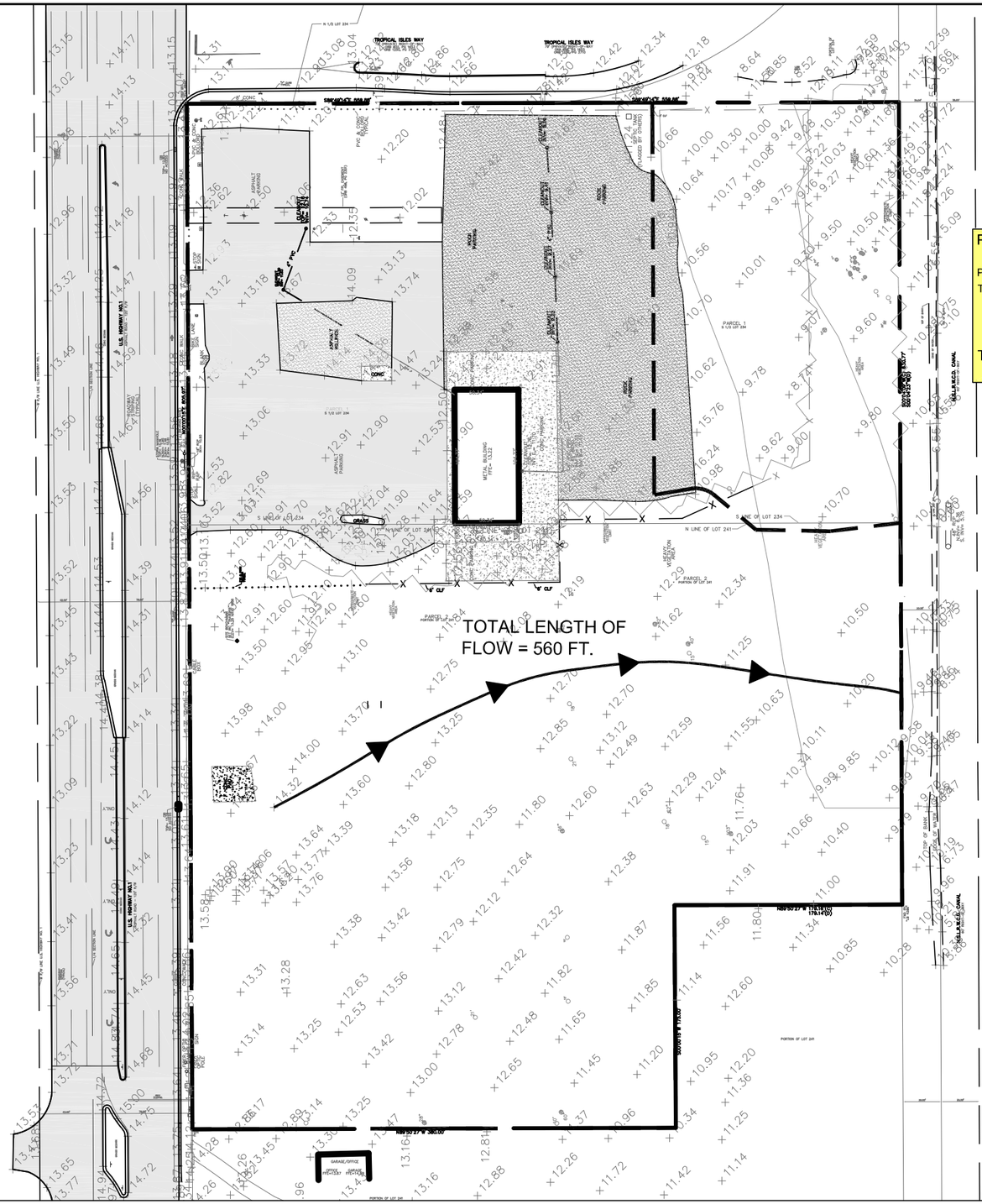
DATE:	REVISIONS:	BY:
10-25-22	ADD ADDITIONAL TOPO/TREES	AJP
2-04-22	ADD ADDITIONAL TOPO	AJP
6-27-19	REVISE PER COUNTY COMMENTS	AJP
5-23-19	REVISE PER COUNTY COMMENTS	AJP
3-29-19	ADD TREES WITHIN PROPOSED DRAINAGE EASEMENT	AJP

ALEXANDER J. PIAZZA PSM, INC.
Surveying • Mapping • Consulting
619 SW Biltmore Street
Port St. Lucie, Florida 34983
Phone: (772) 340-7770
Fax: (772) 340-2250
LB#7280

BOUNDARY & TOPOGRAPHIC SURVEY
5560 S. US HIGHWAY NO.1
AS PREPARED FOR
BEV SMITH OF FORT PIERCE II, INC.

CAD	K:\BUILDERS, DWG2018\18-4187.DWG		
REF	K:\		
FLD	CJM / RP	FB. PG.	JOB 18-4187
OFF	CJM		DATE 9-25-18
CKD	AJP	SHEET 3 OF 5	DWG D-832

K:\BUILDERS\DWG2018\18-4187.dwg, 10/25/2022 12:39:43 PM



PRE-BASIN

PRE-DEVELOPMENT BASIN AREA = 8.18 AC
TIME OF CONC. = 80.9 MIN.

TOTAL DEVELOPMENT AREA = 9.63 AC

N

GRAPHIC SCALE

0 100 200

(IN FEET)

1 inch = 100 ft.

LEGEND

EXISTING CONTOUR

TIME OF CONCENTRATION FLOW PATH

LIMITS OF DEVELOPMENT

	DATE
8	
7	
6	
5	
4	
3	
2	
1 △ REVISIONS	

JOB NO.	XX-XXXX
DRAFTED:	TBD
DESIGNED:	TBD
CHECKED:	TBD
DATE:	XX-XX-XXXX
DATE ISSUED:	7/19/2024
SCALE:	AS SHOWN

MBV ENGINEERING, INC.
MOJA BOWLES VILLAMIZAR & ASSOCIATES
CIVIL • STRUCTURAL • SURVEYING • ENVIRONMENTAL
1250 W. EAU GALLIE BLVD. SUITE H
MELBOURNE, FLORIDA 32935
P: 321-253-1510 F:321-253-0911
AA-26001145 LB-8153
VERO: 772-569-0035 FT PIERCE: 772-468-9055

PRE-DEVELOPMENT BASIN MAP

BEV SMITH KIA USED CAR CENTER

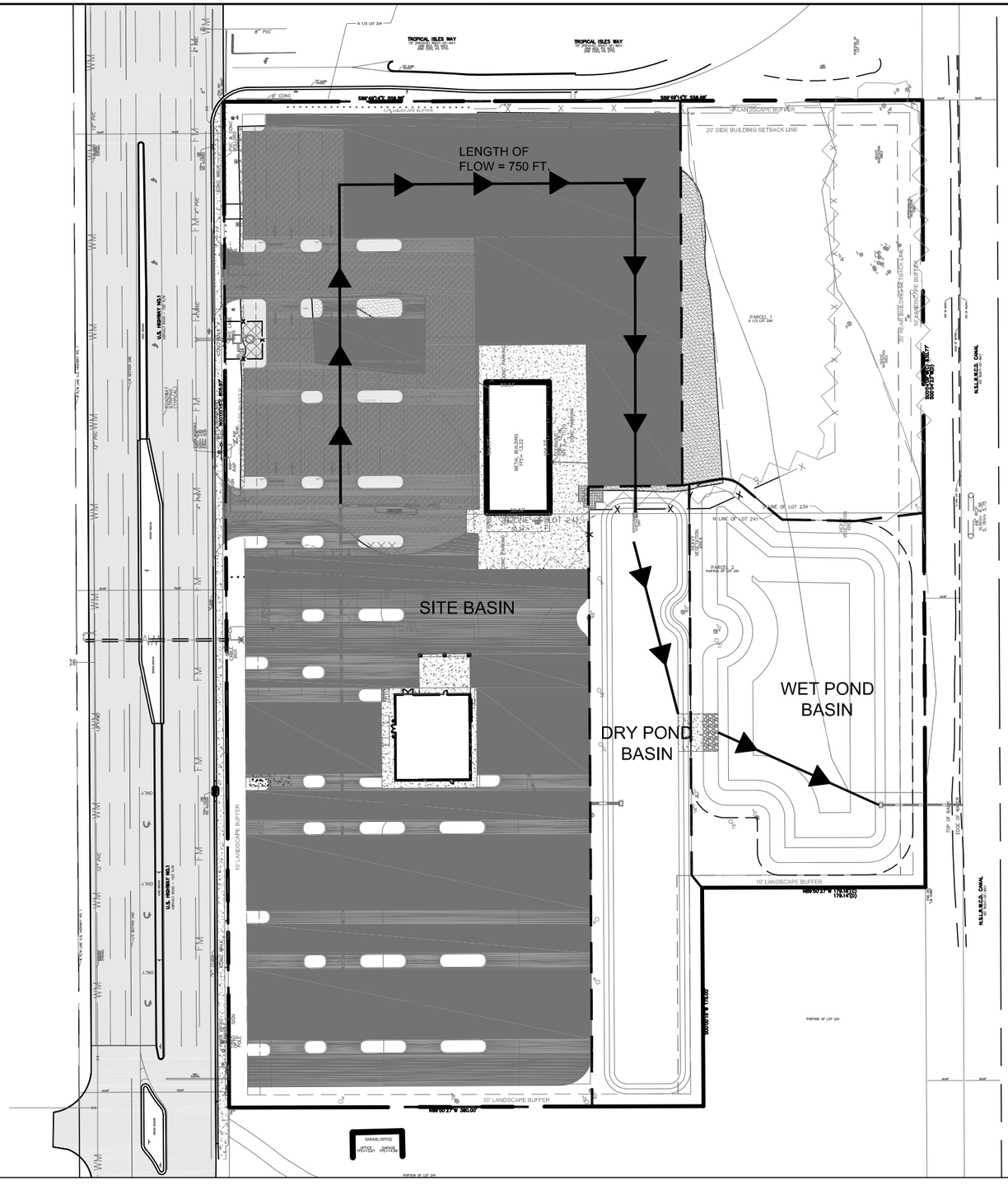
CITY OF FORT PIERCE FLORIDA

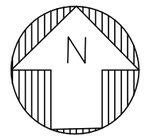
DATE: 7/19/2024

SHEET

G

22-0496





GRAPHIC SCALE

0 100 200

(IN FEET)

1 inch = 100 ft.

LEGEND

EXISTING CONTOUR

TIME OF CONCENTRATION FLOW PATH

LIMITS OF DEVELOPMENT

SITE BASIN
AREA = 5.98 AC
TIME OF CONC. = 10.0 MIN.

DRY POND BASIN
AREA = 0.89 AC
TIME OF CONC. = 10.0 MIN.

WET POND BASIN
AREA = 1.31 AC
TIME OF CONC. = 10.0 MIN.

TOTAL DEVELOPMENT AREA = 9.63 AC

	DATE
8	
7	
6	
5	
4	
3	
2	
1	
△ REVISIONS	DATE

JOB NO.	XX-XXXX
DRAFTED:	TBD
DESIGNED:	TBD
CHECKED:	TBD
DATE:	XX-XX-XXXX
DATE ISSUED:	7/19/2024
SCALE:	AS SHOWN

MBV ENGINEERING, INC.
MOJA BOWLES VILLAMIZAR & ASSOCIATES
CIVIL • STRUCTURAL • SURVEYING • ENVIRONMENTAL
1250 W. EAU GALLIE BLVD. SUITE H
MELBOURNE, FLORIDA 32935
P: 321-253-1510 F:321-253-0911
AA-C-001-1111 LB-C-001-1111
VERO: 772-569-0035, FT PIERCE: 772-468-9055

PRE-DEVELOPMENT BASIN MAP

BEV SMITH KIA USED CAR CENTER

CITY OF FORT PIERCE FLORIDA

DATE: 7/19/2024

SHEET

G

22-0496

LANDSCAPE REQUIREMENTS:

TREE REQUIREMENTS

INTERIOR VEHICULAR USE AREAS = 20,761 S.F. (PHASE TWO)
20,761/15 = 1,384 S.F. REQUIRED PLANTING AREA
14 INTERIOR VUA TREES REQUIRED

TOTAL TREES REQUIRED: 14 TREES

PROVIDED LANDSCAPE :

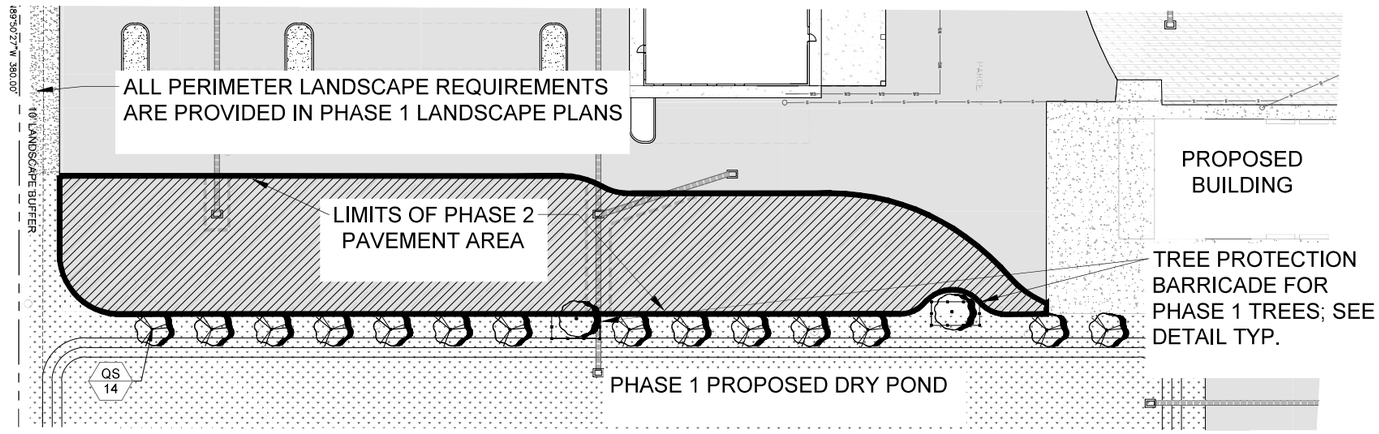
PROVIDED TREES:

14 INTERIOR VUA TREES*

TOTAL TREES PROVIDED: 14 TREES

General Landscape Notes:

1. All plants shall conform to established nursery grades and standards, to be Florida No. 1 or better, and shall be free of disease and insects at the time of installation.
2. Trees shall be a minimum of twelve (12) feet in height and have a caliper of two and one-half (2 1/2) inches at four and one-half (4 1/2) feet above the ground when installed.
3. All required trees, except palms, shall have a minimum of five (5) feet of clear trunk and a minimum five (5) foot canopy spread at the time of planting.
4. All palm trees shall have a minimum clear trunk of ten (10) feet when installed. Three palm trees are equal to one shade tree having a mature canopy spread of fifteen (15) feet.
5. Shrubs shall be a minimum of twenty-four (24) inches in height above grade immediately after planting.
6. Groundcovers, other than grass, shall be planted in a manner as to present a finished appearance and reasonably complete coverage within four (4) months after planting.
7. Turf grass shall be installed using solid sod and shall be either Bahia or St. Augustine sod.
8. All landscape areas other than sod will be provided a mulch cover of at least three (3) inches. Cypress mulch shall not be used.
9. All existing native vegetation found on the site and is not in direct conflict with the proposed buildings or parking areas shall be left undisturbed. A suitable protective barrier, constructed of metal, wood, safety fencing, or other durable material, will be placed around the staked out locations of existing native vegetation.
10. No fill materials, construction materials, concrete, paint, chemicals, or other foreign materials shall be stored, deposited, or disposed of within any areas that have been staked or fenced off as being undisturbed native vegetation areas.
11. Existing understory shall be maintained in areas of undisturbed native vegetation.
12. All Category 1 exotic plant species will be eradicated from the site.
13. Conspicuous, durable barricades will be erected around each individual tree or areas of vegetation that are to be preserved. In the event that any protective barricades are removed or altered and land clearing or construction work is being conducted on the site, all work at the site will be stopped until the barriers are restored and any necessary corrective actions taken to repair or replant any vegetation removed or damaged as a result of these encroachments.
14. Irrigation to conform to all local and State regulations with regard to water consumption.
15. All new landscaping shall be provided with 100% irrigation coverage through the establishment period, not less than 1-year.



PLANT SCHEDULE:

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	WIDTH	NOTES	NATIVE	CALIPER
TREES										
	QS	14	Quercus virginiana	Southern Live Oak	45G	12` HT	5`W	6`CT, SP	Native	2.5" DBH

PHASE 2 LANDSCAPE PLAN, SCHEDULE, & DATA

Phase 2 Existing Tree Schedule

Palms to Be Removed

Tag No	Species	Size
310	Cabbage Palm	15'
311	Cabbage Palm	16'
312	Cabbage Palm	18'
314	Cabbage Palm	18'
315	Cabbage Palm	18'
316	Cabbage Palm	16'
391	Cabbage Palm	22'
392	Cabbage Palm	20'
393	Cabbage Palm	16'
394	Cabbage Palm	18'
400	Cabbage Palm	18'
401	Cabbage Palm	18'
402	Cabbage Palm	20'
403	Cabbage Palm	17'

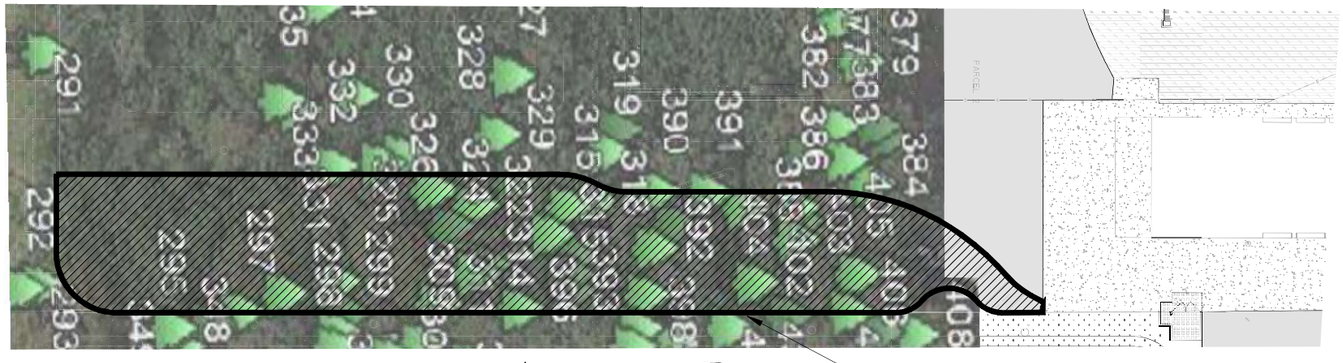
TOTAL PALMS TO BE REMOVED: 14

Oaks to Be Removed

Tag No	Species	Size
297	Laurel Oak	30"
308	Laurel Oak	14"
309	Laurel Oak	12" *
317	Laurel Oak	13" *
354	Laurel Oak	24"
380	Laurel Oak	15"
388	Laurel Oak	18"
390	Laurel Oak	32"
395	Laurel Oak	14"
396	Laurel Oak	25"
397	Laurel Oak	16"
405	Laurel Oak	22"
406	Laurel Oak	17"

TOTAL INCHES TO BE REMOVED: 227

* TREE UNDER MITIGATION SIZE NOT INCLUDED IN TOTAL DBH REMOVED



Mitigation Data:

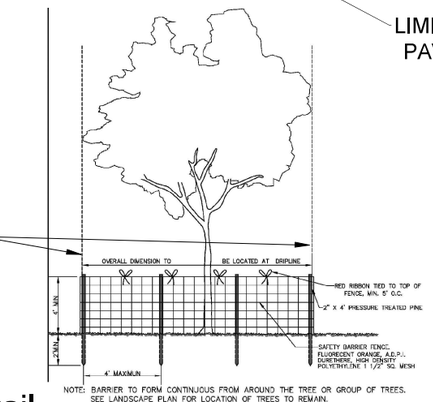
Total DBH of Specimen Trees to be Removed: 227" DBH

Total Tree Replacement Required: (DBH): 227" DBH

Total Palms Removed (10' C.T. Minimum): 14

Total Palm Replacement Required: 14 Palms

Mitigation For Trees & Palms TBD.



Tree Protection Detail

TREE SURVEY PROVIDED BY:

Advanced Restoration Ecology

** The critical root zone (CRZ) is an area around a tree for the purpose of protecting the roots and trunk of a protected tree or a specimen tree, both during and after construction. It is a circular area using a radius measured from the center of the tree. The radius is calculated as one (1) foot of radius for each one (1) inch of diameter at breast height (4.5 feet above grade). For any fraction of a foot over a whole foot, the diameter at breast height will be rounded up to the next whole number. Example: a tree has a diameter at breast height of twenty-one and one-quarter (21¼) inches; the CRZ is a circle, centered on the center of the tree, with a radius of twenty-two (22) feet.

Know what's below. Call before you dig.

Digitally signed by Paul A. Goulas
Date: 2024.07.18 14:36:03 -04'00'
Adobe Acrobat version: 2024.002.20895

DRAWING INDEX:

LA-1: OVERALL PLAN, LANDSCAPE DATA, & PLANT SCHEDULE
LA-1: TREE INVENTORY & MITIGATION PLAN
LA-2: LANDSCAPE DETAILS & SPECIFICATIONS

PHASE 2 TREE DISPOSITION & MITIGATION PLAN

Project Team
Landscape Architect:
LANDSCAPE ARCHITECTURAL SERVICES, LLC
Brandon White | Owner
772-834-1357 | brandon@las-fl.com
Paul Goulas | Owner
772-631-8400 | paul@las-fl.com
1708 SE Joy Haven Street
Port St. Lucie, FL 34983
Civil Engineer:
MBV ENGINEERING, INC.

Bev Smith Kia
Used Car Center Phase 2
5560 US Hwy 1
Fort Pierce, Florida
Landscape & Tree Disposition Plan

Revisions		
Date	Init.	Description
7.17.24	PG	1st Submittal

REGISTERED LANDSCAPE ARCHITECT PAUL A. GOULAS LA 6666807 STATE OF FLORIDA

PAUL GOULAS, RLA
FLORIDA REG. # LA6666807

Drawn By:	PG
Checked By:	PG
Municipal Project:	
Scale:	

NORTH
SCALE: 1" = 30'
0 15' 30' 60'

LA-1

LANDSCAPE SPECIFICATIONS:

PART 1: GENERAL CONDITIONS

1.01 SCOPE:
A. The landscape contract includes the supplying and planting of all trees, shrubs, vines, and ground cover together with all necessary labor, equipment, tools and materials needed for the successful completion, execution and maintenance of the landscape plans.

1.02 AGENCY STANDARDS:
A. Grades and standards of plant materials to be used shall be true to name, size, condition and graded Florida #1 or better as stated in: Grades and Standards of Florida Plant Materials published by the State of Florida Department of Agriculture, Tallahassee, Florida.

1.03 SITE EXAMINATION:
A. The Landscape Contractor shall personally examine the site and fully acquaint him/herself with all of the existing conditions in order that no mis-understanding may afterwards arise as to the character or extent of the work to be performed, and additionally, in order to acquaint him/herself with all precautions to be taken in order to avoid injury to property or persons. No additional compensation will be granted because of any unusual difficulties which may be encountered in the execution or maintenance of any portion of the work.

1.04 ERRORS AND OMISSIONS:
A. The plant list is a part of the drawings and is furnished as a convenience. The plant list indicates the name, size and quantities of specific plant materials as called for and is located on the drawings. The Landscape Contractor is responsible for his/her own quantity count, and any discrepancy between drawings and plant list shall be considered as correct on the drawings.

B. The Landscape Contractor shall not take advantage of errors or omissions in the specifications or contract drawings. Full instruction will be given if such errors are discovered. Upon the discovery of any discrepancies in, or omissions from the drawings or documents, or should the Landscape Contractor be in doubt as to their meaning, the Landscape Architect shall be notified and will determine the actions necessary to each query.

C. If plans and specifications are found to disagree after the contract is awarded, the Landscape Architect shall be the judge as to which was intended.

1.05 EXECUTION OF THE WORK:
A. The Landscape Contractor shall have his labor crews controlled and directed by a Foreman well versed in plant materials, planting methods, reading blueprints, and coordination between job and nursery in order to execute installation correctly and in a timely manner.

B. The Landscape Contractor shall provide a competent English-speaking Foreman on the project at all times, who shall be fully authorized as the Contractor's agent on the work. The Superintendent shall be capable of reading and thoroughly understanding the Plans, Specifications and other Contract Documents. If the Superintendent is deemed incompetent by the Landscape Architect, he (the superintendent) shall be immediately replaced.

C. The Landscape Contractor shall be available for any meetings with the Owner and/or Landscape Architect during implementation of the job. Any additional work or changes required as a result of failure to communicate with the Owner or Landscape Architect during implementation will be the responsibility of the Landscape Contractor.

1.06 PROTECTION OF PUBLIC AND PROPERTY:
A. The Landscape Contractor shall protect all materials and work against injury from any cause and shall provide and maintain all necessary safeguards for the protection of the public. He shall be held responsible for any damage or injury to persons or property which may occur as a result of his fault or negligence in the execution of the work, i.e., damage to underground pipes or cables.

1.07 CHANGES AND EXTRAS:
A. The Contractor shall not start work on any changes or "extras" in the project until a written agreement setting forth the adjusted prices has been executed by the Owner and the Contractor. Any work performed on changes or "extras" prior to execution of a written agreement may or may not be compensated for by the Owner at his discretion.

1.08 GUARANTEE:
A. The Landscape Contractor shall furnish a written guarantee warranting all materials, workmanship and plant materials, except sod, for a period of ONE (1) YEAR from the time of completion and acceptance by the Landscape Architect and Owner. Sod shall be guaranteed to 90 calendar days after acceptance by the Landscape Architect and Owner. All plant material shall be alive and in satisfactory condition and growth for each specific kind of plant at the end of the guarantee period. The guaranteeing of plant material shall be construed to mean complete and immediate replacement with plant material of the same variety, type, size, quality and grade as that of the originally specified material. During the guarantee period it shall be the Landscape Contractor's responsibility to immediately replace any dead or unhealthy material as determined by the Landscape Architect. The guarantee will be null and void if plant material is damaged by lightning, hurricane force winds, or any other acts of God, as well as vandalism or lack of proper maintenance.

B. At the end of the specified guarantee period, any plant required under this contract that is dead or not in satisfactory condition, as determined by the Landscape Architect, shall be replaced. The Landscape Contractor shall be responsible for the full replacement cost of plant materials for the first replacement and share subsequent replacement (s) costs equally with the Owner, should the replacement plant fail to survive.

1.09 CARE AND MAINTENANCE:
A. The Landscape Contractor shall be responsible for the care and maintenance of all plant materials and irrigation when applicable until final acceptance by the Owner or Landscape Architect.

B. The Owner agrees to execute the instructions for such care and maintenance.

1.10 SAFETY:
A. It shall be the responsibility of the Landscape Contractor to protect all persons from injury and to avoid property damage. Adequate warning devices shall be placed and maintained during the progress of the work.

B. It shall be the contractor's responsibility to conform to all local, state, and federal safety laws and codes including the Federal Occupational Safety And Health Act (O.S.H.A.).

1.11 CONTRACTOR QUALIFICATION:
A. The Owner may require the apparent contractor (s) to qualify him/herself to be a responsible entity by furnishing any or all of the following documentary data:
1. A financial statement showing assets and liabilities of the company current to date.
2. A listing of not less than (3) completed projects of similar scope and nature.
3. Permanent name and address of place of business.
4. The number of regular employees of the organization and length of time the organization has been in business under the present name.

1.12 INSURANCE AND BONDING:
A. The contractor (s) shall submit proof of insurance for this job for the time period that the work is done. The minimum amount of insurance shall be $300,000.00 per person and $300,000.00 per aggregate or as required by owner and agreed to in the contract.
The successful bidder shall be required to have this coverage in effect before beginning work on the site.

B. The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

1.13 PERMITS AND CERTIFICATES:
A. All contractors shall secure and pay for all permits and certificates required for his/her class of work.

PART 2: MATERIALS

2.01 PLANT MATERIALS:
A. A complete list of plants is shown on the drawings, including a schedule of quantities, sizes, and such other requirements deemed necessary. In the event discrepancies occur, the specifications on the drawings shall govern.

B. Substitutions: Substitutions of plant materials or changes in size or spacing of materials will be permitted ONLY upon written authorization by the Owner or the Landscape Architect. If plant material is not of sufficient size to meet applicable codes, a letter of variance from the appropriate agency must be obtained by the Contractor prior to issuance of any change order. If material of smaller size is to be accepted, the quantity of material shall be increased, at no additional cost to the Owner, to meet the intent of the drawings.

C. All plant materials shall have a habit of growth that is normal for the species and shall be healthy, vigorous and equal to or exceed the measurements specified in the plant list, which are the minimum acceptable sizes. Plants shall be measured before pruning with branches in normal position. Any necessary pruning shall be done at the time of planting.

D. All plant materials shall be nursery grown, unless otherwise noted. Florida #1 or better and shall comply with all required inspections, grading standards and plant regulations as set forth by the Florida Department of Agriculture's Grades and Standards for Nursery Plants, most current addition and Grades and Standards for Nursery Plants, most current addition.

E. Plants that do not have the normal balance of height and spread typical for the respective plant shall not be acceptable.

F. The Landscape Contractor shall install each plant to display its best side. Adjustments may be required if plants are not installed properly and/or approved by the Landscape Architect at no additional cost to owner.

2.02 INSPECTION
A. The Landscape Architect and Owner may inspect trees and shrubs at place of growth or at site before planting, for compliance with requirements for genus, species, variety, size and quality. The Landscape Architect and Owner retain the right to further inspect trees and shrubs for size and condition of balls and root systems, insects, injuries and latent defects, and to reject unsatisfactory or defective material at any time during progress of work. Rejected plant materials shall be immediately removed from project site.

2.03 PROTECTION OF PLANT MATERIALS:
A. Balled and burlapped plants (B & B) shall be dug with firm natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Balls shall be firmly wrapped with burlap similar materials and bound with cord, rope, or wire mesh. All collected plants shall be balled and burlapped.

B. Plants with broken, damaged or insufficient rootballs will be rejected.

C. All plant material shall be protected from possible bark injury or breakage of branches. All plants transported by open trucks shall be adequately covered to prevent windburn, drying or damage to plants.

D. Plants which cannot be planted immediately on delivery to the site shall be covered with moist soil, mulch or other protection from the drying of wind and sun. All plants shall be watered as necessary by the Landscape Contractor until planted.

2.04 STORAGE:
A. All plant materials shall be stored on the site in designated areas, specified by the Landscape Architect or Owner's agent.

B. No plant material shall be stored longer than seventy-two (72) hours unless approved by by Landscape Architect and/or owner.

C. The Landscape Architect reserves the right to reject any plant materials not in conformance with these specifications.

D. All rejected material shall be immediately removed from the site and replaced with acceptable material at no cost to the Owner.

2.05 PROTECTION DURING PLANTING:
A. Trees moved by winch or crane shall be thoroughly protected from chain marks, girdling or bark slippage by means of burlap, wood battens or other approved methods. Battens shall NOT be attached to the tree with nails.

2.06 PLANTING SOIL:
A. Planting soil for all plantings shall consist of existing native soil and shall be free of debris, roots, clay, stones, plants or other foreign materials which might be a hindrance to planting operations or be detrimental to good growth.

2.07 FERTILIZER:
A. Commercial fertilizer shall comply with the state fertilizer laws. Nitrogen shall not be less than 40% from organic source. Inorganic chemical nitrogen shall not be derived from the sodium form of nitrate. Fertilizers shall be delivered to the site in unopened original containers, each bearing the manufacturer's guaranteed analysis. Any fertilizer that becomes caked or otherwise damaged shall be rejected.

B. Thoroughly mixed 3 lbs. of commercial fertilizer to each cubic yard of planting soil.

C. Tabletized fertilizer shall be Agriform planting tablets 20-10-5 formula, 21 gram or equal. All trees and shrubs shall be fertilized with tabletized fertilizer as follows. While backfilling plant holes, fertilizer tablets shall be equally spaced and placed adjacent to the ball mid-way in depth in accordance with the following rates:

1 gallon container	1 tablet
3 gallon container	2 tablets
5 gallon container	3 tablets
7 gallon	5 tablets

Large tubs, wire baskets, grow bags, and balled and burlapped material shall have 1 tablet for each 1/2 inch of trunk diameter (measured 3 feet from ground) or for each foot of height or spread of larger shrub material.
The Landscape Architect reserves the right to inspect and review the application of fertilizer.

2.08 MULCH:
A. Mulch material shall be clean, dry, free of weeds, seeds and pests, moistened at the time of application to prevent wind displacement. Cypress &/or Red mulch is prohibited.

B. All trees and shrub beds shall receive 3" mulch immediately after planting and thoroughly watered. Apply 2" max on tree & palm rootballs, keep away from tree & palm trunks or as required by local jusidiction.

PART 3: EXECUTION
3.01 DIGGING:
A. The Landscape Contractor shall exercise care in digging and other work so as not to damage existing work, including overhead wires, underground pipes and cables and the pipes and hydrants of watering systems. Should such overhead or underground obstructions be encountered which interfere with planting, the Owner shall be consulted and contractor will adjust the location of plants to clear such obstruction. The Contractor shall be responsible for the immediate repair of any damage caused by his work.

3.02 GRADING:
A. Grading for drainage, swales, etc. to within 4 inches of the finished grade to be provided by others.

B. It shall be the responsibility of the Landscape Contractor to provide the final grading during the course of landscape installation so as to bring sod and planting areas to their proper elevations in relation to walks, paving, drain structures, and other site conditions. The site grading plan must be checked prior to installation of sod to insure that drainage and other conditions will NOT be modified.

3.03 PLANTING:
A. Planting shall take place during favorable weather conditions.

B. The Contractor shall call for utility locates and ascertain the location of all utilities and easements so proper precautions can be taken not to damage or encroach on them.

C. Tree Planting shall be located where it is shown on the plan. No planting holes shall be dug until the proposed locations have been staked on the ground by the Contractor.

D. Excavation of holes shall extend to the required subgrades as specified on the planting diagrams located in the planting plans. Plant pits shall be circular in outline and shall have a profile which conforms to the aforementioned "Tree and Shrub Planting Diagrams".

E. A representative number of planting pits (a minimum of one in every 25 feet throughout the entire site) shall be tested for proper drainage. See Landscape Plan for complete testing methods and requirements.

F. Planting pits shall be excavated to the following dimensions and refilled with a mixture of (1/2) planting soil (1/2) existing native soil:
1 Gallon material (1 gal.): 12" x 12" x 12" min.
3 Gallon material (3 gal.): 20" x 20" x 18" min.
Lerio material (7 gal.): 30" x 30" x 24" min.
Field grown material and trees: 1-1/2 times width of ball and depth of ball plus 12" min.

G. No planting or laying of sod shall be initiated until the area has been cleaned of existing sod or other plant materials, rough grass, weeds, debris, stones etc. and the ground has been brought to an even grade, with positive drainage away from buildings and towards drain inlets and swales and approved by Landscape Architect or owner's rep.

H. Each plant shall be planted in an individual hole as specified for trees, shrubs, and vines.

I. All plants shall be set to ultimate finished grade. No filling will be permitted around trunks or stems. All ropes, wire, stakes, etc., shall be removed from sides and top of the ball and removed from hole before filling in.

J. All flagging ribbon shall be removed from trees and shrubs before planting.

K. Excess excavation (fill) from all holes shall be removed from the site, at no additional expense to Owner.

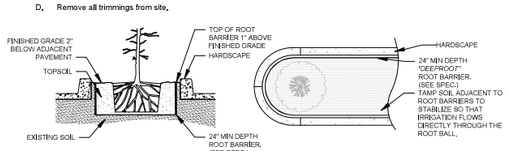
L. All palms shall be backfilled with sand, thoroughly washed in during planting operations and with a shallow saucer depression left at the soil line for future waterings. Saucer areas shall be top-dressed two (2") inches deep with topsoil raked and left in a neat, clean manner.

3.04 PRUNING:
A. Remove dead and broken branches from all plant material. Prune to retain typical growth habit of individual plants with as much height and spread as possible in a manner which will preserve the plant's natural character.

B. Make all cuts with sharp instruments flush with trunk or adjacent branch, in such a manner as to insure elimination of stubs. Cuts made at right angles to line of growth will not be permitted.

C. Trees shall not be poled or topped.

D. Remove all trimmings from site.



SPECIAL APPLICATIONS ROOT BARRIER DETAIL
NOTES:
1- ROOT BARRIER SHALL BE "DEEPROOT" 24" DEPTH OR APPROVED EQUAL.
2- ROOT BARRIER SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
NOT TO SCALE

3.05 GUYING:
A. All trees over six (6') feet in height shall, immediately after setting to proper grade, be guyed with three sets of two strands, No. 12 gauge malleable galvanized iron, in tripod fashion. See Detail.

B. Wires shall not come in direct contact with the tree but shall be covered with an approved protection device at all contact points. Wires shall be fastened in such a manner as to avoid pulling crotches apart.

D. Stake & Brace all tresss larger than 12' ca. See detail.
Stakes shall be 2" x 2" lumber of sufficient length to satisfactorily support each tree.

E. Turnbuckles for guying trees shall be galvanized or cadmium plated and shall be of adequate size and strength to properly maintain tight guy wires.

3.06 WATER:
A. Each plant or tree shall be thoroughly watered in after planting. Watering of all newly installed plant materials shall be the responsibility of the Landscape Contractor until final acceptance by the Landscape Architect.

B. See General Notes of Landscape Plan for water source.

3.07 SOD:

A. The Landscape Contractor shall sod all areas indicated on the drawings.

B. It shall be the responsibility of the Landscape Contractor to fine grade all landscape areas, eliminating all bumps, depressions, sticks, stones, and other debris.

C. The sod shall be firm, tough texture, having a compacted growth of grass with good root development. It shall contain no noxious weeds, or any other objectionable vegetation, fungus, insects, or disease. The soil embedded in the sod shall be good clean earth, free from stones and debris.

D. Before being cut and lifted, the sod shall have been mowed at least three times with a lawn mower, with the final mowing not more than seven days before the sod is cut. The sod shall be carefully cut into uniform dimensions.

E. 6-6-6 fertilizer with all trace elements is to be applied at the rate of 40 lbs. per 1,000 sq. ft. prior to laying sod.

F. Solid sod shall be laid with closely abutting, staggered joints with a tamped or rolled, even surface.

G. The finished level of all sod areas after settlement shall be one (1") inch below the top of abutting curbs, walks, paving and wood borders to allow for building turf.

H. If in the opinion of the Landscape Architect, top dressing is necessary after rolling, clean yellow sand will be evenly applied over the entire surface and thoroughly washed in.

3.08 SEEDING:
A. The Landscape Contractor shall remove all vegetation and rocks larger than (1") in diameter from areas to be seeded, scarify the area, then apply fertilizer at a rate of 500 lbs. per acre.

B. Application: Argentine Bahia Grass seed - 200 Pounds per acre mixed with common hulled Bermuda seed - 30 lbs. per acre. All other seed mixtures shall be applied per the manufacturer's instructions.

C. Roll immediately after seeding with a minimum 500 pound roller, then apply straw mulch at the rate of 2,500 pounds per acre.

D. Apply fertilizer at the rate of 150 lbs. per acre 45-60 days after seeding.

3.09 CLEANING UP:
A. The contractor shall at all times keep the premises free from accumulations of waste materials or rubbish caused by his employees or work. He shall leave all paved areas "broom clean" when completed with his work.

3.10 MAINTENANCE:
A. Maintenance shall begin immediately after each plant is installed and shall continue until all planting has been accepted by the Owner or Landscape Architect. Maintenance shall include watering, weeding, removal of dead materials, resetting plants to proper grades or upright positions, spraying, restoration of planting saucer and/or any other necessary operations.

B. Proper protection to lawn areas shall be provided and any damage resulting from planting operations shall be repaired promptly.

C. Replacement of plants during the maintenance period shall be the responsibility of the Contractor, excluding vandalism or damage on the part of others, lighting, or hurricane force winds, until final acceptance.

D. In the event that weeds or other undesirable vegetation become prevalent, it shall be the Contractor's responsibility to remove them.

E. Trees or other plant material which fall or are blown over during the maintenance period will be reset by the Contractor at no additional expense to the Owner, the only exception being hurricane force winds.

3.11 COMPLETION, INSPECTION AND ACCEPTANCE:
A. Completion of the work shall mean the full and exact compliance and conformity with the provisions expressed or implied in the Drawings and in the Specifications, including the complete removal of all trash, debris, soil or other waste created by the Landscape Contractor.

B. Inspection of work to determine completion of contract, exclusive of the possible replacement of plants, will be made by the Owner and/or Landscape Architect at the conclusion of all planting and at the request of the Landscape Contractor.

C. All plant material shall be alive and in good growing condition for each specified kind of plant at the time of acceptance. The rating of each plant according to Florida Grades and Standards shall be equal to or better than that called for on the plans and in these Specifications at the time of final inspection and acceptance.

D. After inspection, the Landscape Contractor will be notified by the Owner of the acceptance of all plant material and workmanship, exclusive of the possible replacement of plants subject to guarantee.

DRAINAGE TESTING/DRAINAGE CHANNEL REQUIREMENTS

PRIOR TO PLANTING ALL PLANTING PITS SELECTED FOR TESTING SHALL BE TESTED IN THE FOLLOWING MANNER

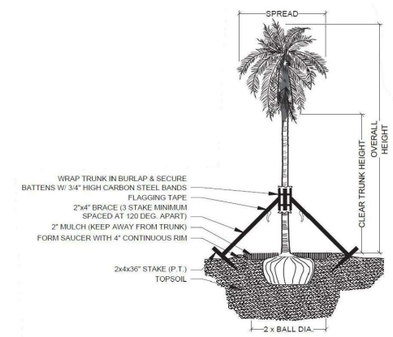
A. DIG EACH PLANTING PIT TO THE MINIMUM SPECIFIED SIZE.

B. FILL PLANTING PIT WITH TWELVE INCHES (12") OF WATER. IF THE WATER LEVEL DROPS FOUR (4") OR MORE WITHIN FOUR (4) HOURS, THE DRAINAGE IS SUFFICIENT AND A DRAINAGE CHANNEL IS NOT REQUIRED IF THE WATER LEVEL DROPS LESS THAN FOUR INCHES (4") WITHIN THE FOUR (4) HOUR PERIOD, A DRAINAGE CHANNEL IS REQUIRED.

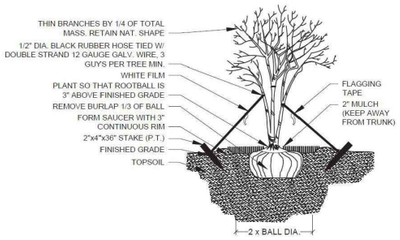
C. WHERE REQUIRED, THE DRAINAGE CHANNEL MUST EXTEND DOWN THROUGH THE NON POROUS SOIL AND INTO POROUS SOIL. (SEE DETAIL)

D. ALL MATERIAL REMOVED FROM THE DRAINAGE CHANNEL SHALL BE DISCARDED.

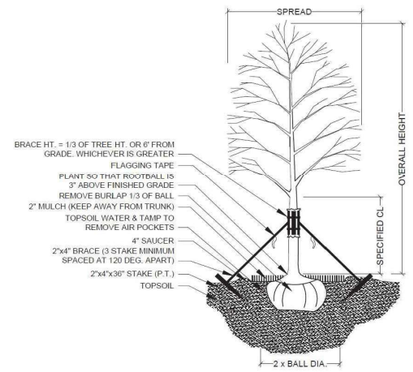
E. WHEN BACKFILLING PLANTING PITS WITH PLANTING MIXTURE, CARE MUST BE TAKEN TO KEEP THE CONSISTENCY OF THE SOIL MIX THE SAME THROUGHOUT THE PLANTING PIT AND DRAINAGE CHANNEL.



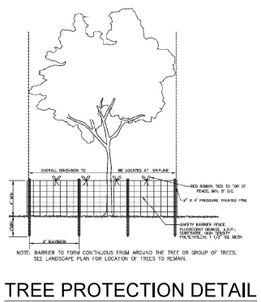
PALM PLANTING - ANGLE STAKE
NOT TO SCALE



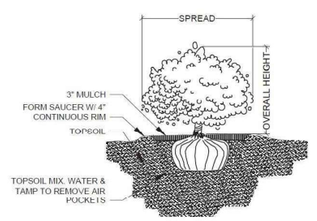
MULTI-TRUNK PLANTING & GUYING
NOT TO SCALE



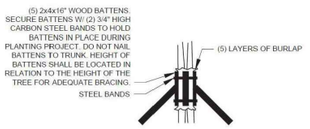
TREE PLANTING & STAKING
NOT TO SCALE



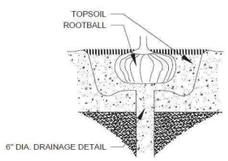
TREE PROTECTION DETAIL
NOT TO SCALE



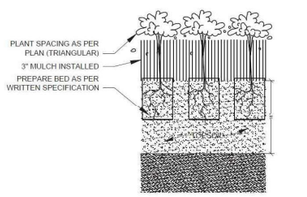
SHRUB PLANTING
NOT TO SCALE



BRACING DETAIL
NOT TO SCALE



DRAINAGE TESTING DETAIL
NOT TO SCALE



GROUNDCOVER PLANTING DETAIL
NOT TO SCALE

Project Team

Landscape Architect:

LANDSCAPE ARCHITECTURAL SERVICES, LLC

Brandon White | Owner
772-834-1357 | brandon@las-fl.com
Paul Goulas | Owner
772-631-8400 | paul@las-fl.com
1708 SE Joy Haven Street
Port St. Lucie, Fl. 34983

Civil Engineer:

MBV ENGINEERING, INC.

Bev Smith Kia
Used Car Center Phase 2
5560 US Hwy 1
Fort Pierce, Florida

Details & Specifications

Revisions

Date	Init.	Description
7.17.24	PG	1st Submittal

REGISTERED LANDSCAPE ARCHITECT PAUL A. GOULAS LA 6666807 STATE OF FLORIDA

PAUL GOULAS, RLA
FLORIDA REG. # LA6666807

Drawn By: PG
Checked By: PG
Municipal Project:
Scale:

LA-2

THE SUNRISE CITY
FORT PIERCE
Florida
ENGINEERING
DEPARTMENT

EROSION AND SEDIMENT CONTROL AFFIDAVIT

PROJECT: Bev Smith Kia Used Car Center

PCN#: 3403-502-0302-000-4

LOCATION: 5560 South US Highway 1

I now state under oath that I will perform all land disturbing activities on this project, for which I am responsible for or upon land I own, in accordance with the provisions of Ordinance K-421 of the City of Fort Pierce aka Erosion and Sediment Control Ordinance and also within the obligations set forth in my Erosion and Sediment Control Plan as approved by or modified by the City of Fort Pierce. I acknowledge that the City of Fort Pierce Erosion and Sediment Control Ordinance is based on rules and regulations promulgated by the State of Florida in accordance with NPDES.

- With my signature on this document, let it be known to all that I have received a copy of the City of Fort Pierce Erosion and Sediment Control Ordinance.
- With my signature on this document, let it be known to all that I am aware of and I will comply with the provision for establishing temporary and permanent ground covers as per the ordinance.
- With my signature on this document, let it be known to all that I will install all reasonable measures to protect all public and private properties from any sediment damage as a result of my land disturbing activities. I will keep my sediment on my site.
- With my signature on this document, let it be known to all that I am aware of the rules and regulations regarding buffer zone requirements as per the Ordinance.
- I agree to comply with the provision of my Erosion and Sediment Control Plan as approved or modified by the City of Fort Pierce, the above statements and the rules, regulations and requirements of Ordinance K-421 of the City of Fort Pierce Erosion and Sediment Control Ordinance.

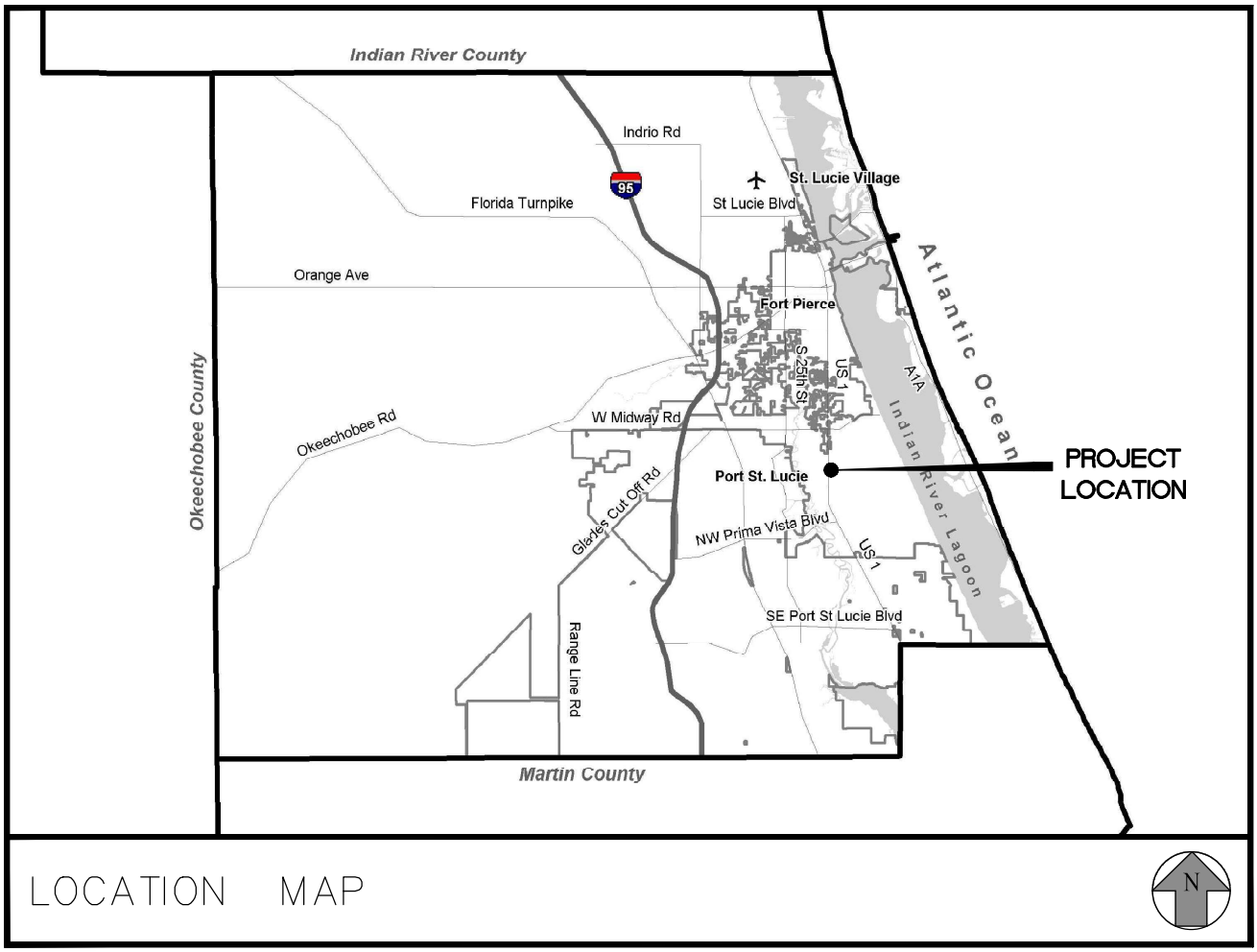
Witness my signature below:
Person Responsible or Representative for Project: _____
Land Owner: _____

Before me, the undersigned authority, on this day personally appeared Mike Smith, the, 17 of Jerley, who personally appeared before me, is personally known to me ( ), or has produced _____ as identification, and who did ( ) or did not ( ) take an oath.

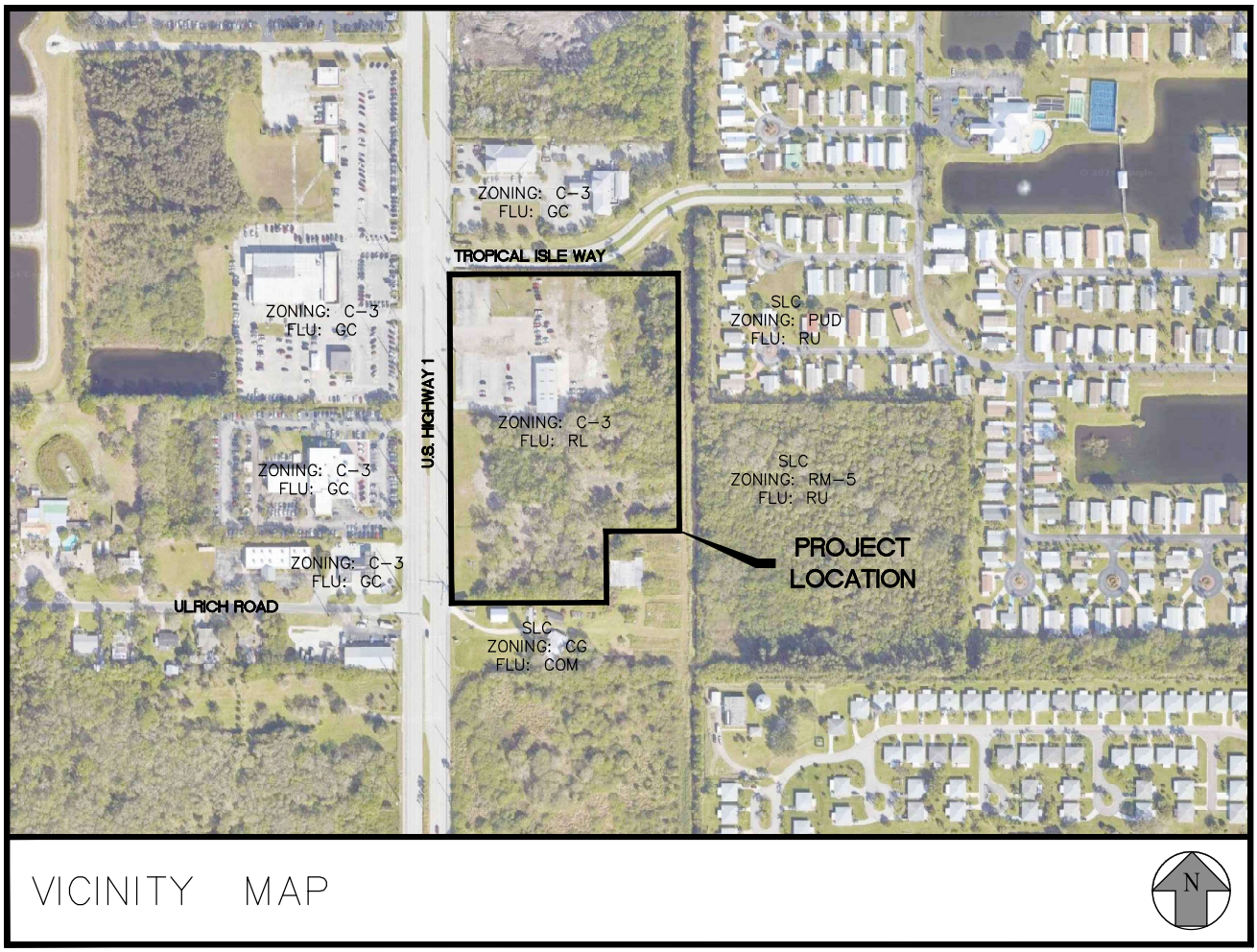
GIVEN UNDER MY HAND AND SEAL OF OFFICE this the 17 day of July 2024.

JANICE FREY
MY COMMISSION # HH 210983
EXPIRES: April 3, 2026

Notary Public



LOCATION MAP



VICINITY MAP

GridLite GL3

LED SITE + AREA LUMINAIRE

ENERGYLITE

PROJECT Bev Smith Toyota

TYPE

SPECIFICATION

QUICK FACTS

CONSTRUCTION
- Die-cast, low-copper aluminum alloy housing for optimal thermal performance and exceptional corrosion resistance
- 100% recycled aluminum

FINISH
- TGIC polyester super-durable powder coating with superior gloss, color retention and weather resistance
- Standard finishes provided at 3 mil nominal thickness, salt-spray-tested to 3,000 hours as per ASTM B117
- For marine-grade finish, consult factory. Provided at 5 mil nominal thickness, salt-spray-tested to 4,000 hours as per ASTM B117

ELECTRICAL
- 120-277 V Standard; 277-480 V option available
- PF>0.9, THD<20%
- Parallel surge protection: enhanced 10kV standard, extreme 20kV optional (ANSI C136.2-2015)
- For series surge protection, consult factory
- Rated for operation -40°C to 40°C
- For 50°C option, consult factory

OPTICS + PERFORMANCE
- Up to 165 lumens per watt
- 12,000- to 41,000-lumen packages (82-342 W)
- 5 customized distributions available
  - Type II Roadway Medium (Coefficient of Utilization: 0.793)
  - Type III Roadway Medium (Coefficient of Utilization: 0.852)
  - Type IV Wide Short (Coefficient of Utilization: 0.840)
  - Type V Square Short
  - Type V Square Medium
- Multiple shielding options available

CONTROLS
- 0-10 V dimming standard
- DALI-2 dimming option available
- Receptacle options:
  - ANSI C136.41 3-pin
  - ANSI C136.41 7-pin (for DALI-2 or 0-10 V dimming)
  - Zhaga Book 18 (for next generation ambient light/motion sensing)
- Motion sensor option available – bi-level setting standard with low point of 50% and a 15-minute delay

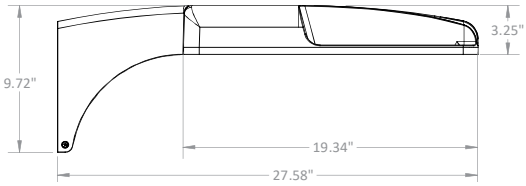
MOUNTING
- Extended site arm offers universal mounting, allowing for retrofit without drilling into existing poles
- All mounting options allow for multiple fixture installations at 90°
- Wall-mount and round pole adapters available for extended site arm

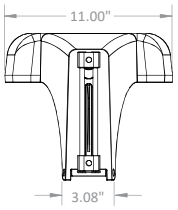
LISTINGS
- IP66-rated optical and electrical chambers
- 3G Vibration-rated (ANSI C136.31)
- cULus Listed for wet locations
- Zhaga D4i listed
- ANSI C136.15 labeling available
- Designed and manufactured in U.S.A.

WARRANTY
- 10-year warranty

IP66 · c UL us · ZD4i · FC · RoHS COMPLIANT

DIMENSIONS





Extended Site Arm

EPA: 0.69 sq. ft.

WEIGHT: 22.28 lbs.

ORDERING INFORMATION

Example: GL3/20H/2RM/830/STD/10/1PS/30/SBZ/ES/HSS-PCL01

GL3 / 40H / 3RM/5SQ / 750 / STD / 10 / / 00 / VERIFY / ES /

Fixture
GL3

Package
12L[1] - *12,000 lm; 82 W*
15L[1] - *15,000 lm; 108 W*
17L[1] - *17,000 lm; 127 W*
18H[1] - *18,000 lm; 114 W*
20H[1] - *20,000 lm; 126 W*
23H[1] - *23,000 lm; 151 W*
26H[1] - *26,000 lm; 173 W*
29H[1] - *29,000 lm; 188 W*
30H[1] - *30,000 lm; 194 W*
33H[1] - *33,000 lm; 239 W*
35H[1] - *35,000 lm; 261 W*
37H[1] - *37,000 lm; 278 W*
40H[1] - *40,000 lm; 325 W*

Distribution
2RM[1] - *Type II Roadway Medium*
3RM[1] - *Type III Roadway Medium*
4WS[1] - *Type IV Wide Short*
5QS[1] - *Type V Square Short*
T5Q[1] - *Type V Square Medium*

CRI + CCT
750 - *70+ CRI, 5000K*
740[1] - *70+ CRI, 4000K*
730[1] - *70+ CRI, 3000K*
727 - *70+ CRI, 2700K*

** 80+ and 90+ CRI, as well as additional color temperatures, are available upon request.*

Voltage
STD[1] - *120-277 V*
HVL[3,4] - *277-480 V*

Controls
10[1,3] - *0-10 V*
DA[4] - *DALI-2*

Surge
1PS[1] - *10kV/5kA, 120-277 V*
2PS* - *20kV/10kA, 120-277 V*
2PH* - *20kV/10kA, 277-480 V*

Photocell Receptacle
00[1] - *none*
30 - *3-pin*
70 - *7-pin*
0Z[3] - *Zhaga*
3Z[3] - *3-pin + Zhaga*
7Z[3] - *7-pin + Zhaga*

Finish
SBZ[1,2] - *Bronze (RAL8019)*
SWH[2] - *White (RAL9003)*
SGY[2]* - *Grey (RAL7038)*
SBK[2]* - *Black (RAL9017)*

** Additional finish colors available upon request*

Mounting
ES[1] - *Extended Site Arm*
HT - *Horizontal Tenon*
KM - *Knuckle Mount*
KMS - *Knuckle Mount with 6' side entry pigtail*
ES-WM - *Extended Site Arm with Wall-Mount*
ES-RP - *Extended Site Arm with Round Pole*

Options + Accessories
HSS[5] - *House Side Shield*
CSS[5] - *Cul-de-sac Shield*
FSS[5] - *Front Side Shield*
ALB - *ANSI C136.15 Labeling*
MS - *Motion Sensor (up to 20' height)*
MH - *Motion Sensor (up to 40' height)*
ZT1 - *0-10 V Zhaga Ambient Light Control (ALC)*
ZT3 - *0-10 V Zhaga IR + ALC*
SC - *Shorting Cap*
PCL01 - *120-277 V Photocell, 640J, IP65; Blue*
PCL02 - *120-277 V Photocell, 1280J, IP66; Blue*
PCL03 - *277-480 V Photocell, 1280J, IP66; Yellow*

* Consult factory for lead time and availability.
[1] Standard offering. Consult factory for lead time and availability for other options.
[2] Marine-grade finish options available. Consult factory.
[3] High-voltage (HVL) plus 0-10 V (10) combination option unavailable with Zhaga photocell receptacles.
[4] High-voltage (HVL) plus DALI-2 (DA) combination available only with 12L-17L and 18H-23H performance packages.
[5] Flat-black, injection-molded plastic resin, tool-less, clip-on discrete shield.

©Solais Lighting, LLC | All rights reserved | www.solais.com | GL-10/2021

GridLite GL3

LED SITE + AREA LUMINAIRE

ENERGYLITE

PROJECT Bev Smith Toyota

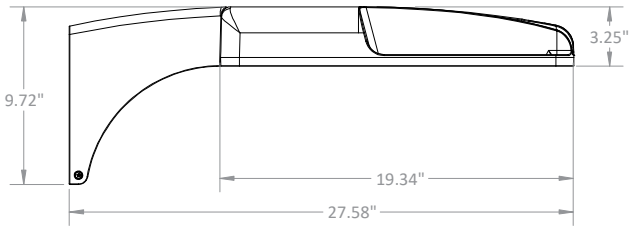
TYPE

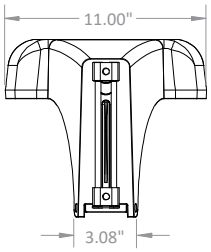
SPECIFICATION

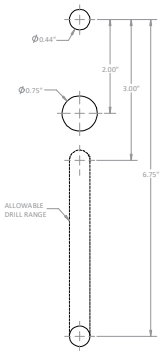
MOUNTING OPTIONS

EXTENDED SITE ARM (ES)

- Universal mount adapter
- Allows for retrofit without drilling into existing poles





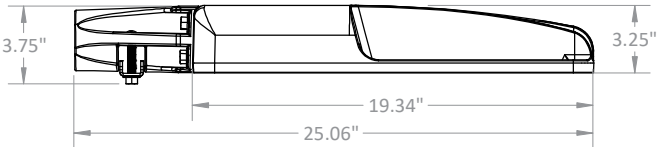


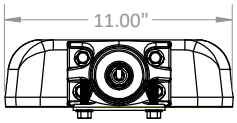
EXTENDED SITE ARM WITH WALL MOUNT (ES-WM)

EXTENDED SITE ARM WITH ROUND POLE (ES-RP)

HORIZONTAL TENON (HT)

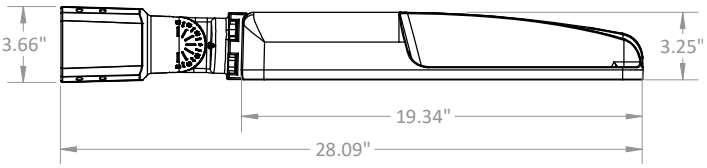
- Mounts to maximum 2⅜" O.D. tenon

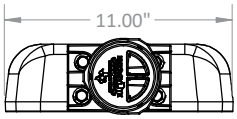


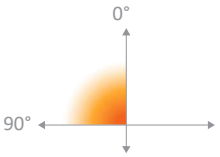


KNUCKLE MOUNT (KM)

- Mounts to maximum 3" O.D. tenon
- Adjustable at 7.5° increments
- Not recommended to angle luminaire past 0° (vertical); maintain downward angle







WEIGHT + EPA

Mounting Type	EPA	Weight		
		12L to 23H	26H to 30H	33H to 41H
Extended Site Arm	0.69 sq. ft.	22.28 lbs.	23.31 lbs.	25.28 lbs.
Extended Site Arm with Wall Mount Adapter	n/a	22.28 lbs.	23.31 lbs.	25.28 lbs.
Extended Site Arm with Round Pole Adapter	0.73 sq. ft.	22.84 lbs.	23.87 lbs.	25.84 lbs.
Horizontal Tenon	0.54 sq. ft.	20.42 lbs.	21.45 lbs.	23.42 lbs.
Knuckle Mount	0.61 sq. ft.	20.42 lbs.	21.45 lbs.	23.42 lbs.

©Solais Lighting, LLC | All rights reserved | www.solais.com | GL-10/2021

GridLite GL3

LED SITE + AREA LUMINAIRE

ENERGYLITE

PROJECT Bev Smith Toyota

TYPE

SPECIFICATION

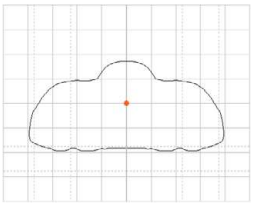
POLE CONFIGURATION EPAs

- Data below includes luminaire and integrated mounting option. Additional tenons, arms and brackets are not included.

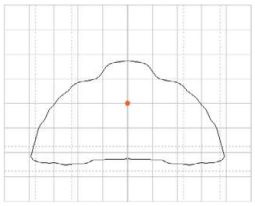
Mounting Type	Tilt	Single	2 at 90°	2 at 180°	2 at 120°	3 at 90°	3 at 120°	4 at 90°	2 Side-by-Side
Extended Site Arm	n/a	0.69 sq. ft.	1.10 sq. ft.	1.38 sq. ft.	1.46 sq. ft.	1.79 sq. ft.	1.87 sq. ft.	1.79 sq. ft.	0.82 sq. ft.
Extended Site Arm with Round Pole Adapter	n/a	0.73 sq. ft.	1.14 sq. ft.	1.46 sq. ft.	1.50 sq. ft.	1.87 sq. ft.	1.91 sq. ft.	1.87 sq. ft.	0.82 sq. ft.
Horizontal Tenon	n/a	0.54 sq. ft.	0.78 sq. ft.	1.08 sq. ft.	1.02 sq. ft.	1.32 sq. ft.	1.26 sq. ft.	1.32 sq. ft.	0.54 sq. ft.
Knuckle Mount	90° (horizontal)	0.61 sq. ft.	0.95 sq. ft.	1.22 sq. ft.	1.14 sq. ft.	1.56 sq. ft.	1.48 sq. ft.	1.56 sq. ft.	0.68 sq. ft.
	60°	0.61 sq. ft.	1.46 sq. ft.	1.22 sq. ft.	1.68 sq. ft.	2.07 sq. ft.	2.53 sq. ft.	2.07 sq. ft.	1.70 sq. ft.
	45°	0.61 sq. ft.	1.72 sq. ft.	1.22 sq. ft.	1.94 sq. ft.	2.33 sq. ft.	3.05 sq. ft.	2.33 sq. ft.	2.22 sq. ft.
	30°	0.61 sq. ft.	1.91 sq. ft.	1.22 sq. ft.	2.14 sq. ft.	2.52 sq. ft.	3.44 sq. ft.	2.52 sq. ft.	2.60 sq. ft.
	0° (vertical)	0.61 sq. ft.	2.11 sq. ft.	1.22 sq. ft.	2.66 sq. ft.	2.72 sq. ft.	4.16 sq. ft.	2.72 sq. ft.	3.00 sq. ft.

PHOTOMETRIC DISTRIBUTION

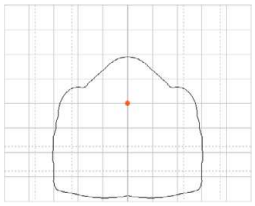
TYPE II ROADWAY MEDIUM



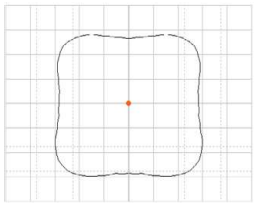
TYPE III ROADWAY MEDIUM



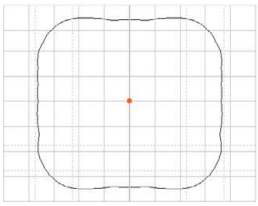
TYPE IV WIDE SHORT



TYPE V SQUARE SHORT



TYPE V SQUARE MEDIUM



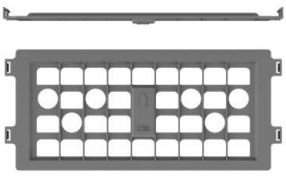
SHIELD ACCESSORY DETAILS

HOUSE SIDE SHIELD

- Flat-black, injection-molded plastic resin
- Tool-less, clip-on discrete shield

CUL-DE-SAC SHIELD

- Flat-black, injection-molded plastic resin
- Tool-less, clip-on discrete shield



FRONT SIDE SHIELD

- Flat-black, injection-molded plastic resin
- Tool-less, clip-on discrete shield

©Solais Lighting, LLC | All rights reserved | www.solais.com | GL-10/2021

GridLite GL3

LED SITE + AREA LUMINAIRE

ENERGYLITE

PROJECT: Bev Smith Toyota

TYPE:

SPECIFICATION:

PERFORMANCE DATA

Performance Package	Drive Current	Color Temperature (CCT)	Input Power (Watts)	TYPE II ROADWAY MED AT 70 CRI			TYPE III ROADWAY MED AT 70 CRI			TYPE IV WIDE SHORT AT 70 CRI			TYPE V SQUARE SHORT AT 70 CRI			TYPE V SQUARE MED AT 70 CRI		
				Lumens	Efficacy (lm/W)	BUG Rating	Lumens	Efficacy (lm/W)	BUG Rating	Lumens	Efficacy (lm/W)	BUG Rating	Lumens	Efficacy (lm/W)	BUG Rating	Lumens	Efficacy (lm/W)	BUG Rating
12L	630mA	5000K	82.3	12,451	151	2 0 2	12,415	151	2 0 2	11,813	144	2 0 2	12,541	152	4 0 2	11,550	140	4 0 3
		4000K		12,207	148	2 0 2	12,172	148	2 0 2	11,581	141	2 0 2	12,295	149	4 0 2	11,324	138	4 0 3
		3000K		11,840	144	2 0 2	11,807	143	2 0 2	11,234	137	2 0 2	11,926	145	3 0 2	10,984	133	4 0 3
15L	826mA	5000K	108.2	15,621	144	2 0 2	15,577	144	2 0 2	14,821	137	2 0 3	15,735	145	4 0 2	14,492	134	4 0 3
		4000K		15,315	142	2 0 2	15,271	141	2 0 2	14,530	134	2 0 3	15,426	143	4 0 2	14,208	131	4 0 3
		3000K		14,856	137	2 0 2	14,813	137	2 0 2	14,094	130	2 0 3	14,963	138	4 0 2	13,781	127	4 0 3
17L	966mA	5000K	126.9	17,688	139	3 0 2	17,638	139	2 0 2	16,782	132	2 0 3	17,816	140	4 0 2	16,409	129	4 0 3
		4000K		17,341	137	3 0 2	17,292	136	2 0 2	16,453	130	2 0 3	17,467	138	4 0 2	16,087	127	4 0 3
		3000K		16,821	133	3 0 2	16,773	132	2 0 2	15,959	126	2 0 3	16,943	134	4 0 2	15,605	123	4 0 3
18H	448mA	5000K	114.3	18,410	161	3 0 2	18,358	161	2 0 2	17,467	153	2 0 3	18,544	162	4 0 2	17,079	149	4 0 3
		4000K		18,049	158	3 0 2	17,998	157	2 0 2	17,124	150	2 0 3	18,180	159	4 0 2	16,744	146	4 0 3
		3000K		17,508	153	3 0 2	17,458	153	2 0 2	16,610	145	2 0 3	17,635	154	4 0 2	16,242	142	4 0 3
20H	487mA	5000K	125.5	20,468	163	3 0 2	20,410	163	2 0 3	19,419	155	3 0 3	20,616	164	4 0 2	18,988	151	4 0 3
		4000K		20,067	160	3 0 2	20,010	159	2 0 3	19,038	152	3 0 3	20,212	161	4 0 2	18,615	148	4 0 3
		3000K		19,465	155	3 0 2	19,409	155	2 0 3	18,467	147	2 0 3	19,606	156	4 0 2	18,057	144	4 0 3
23H	588mA	5000K	151.4	23,878	158	3 0 3	23,810	157	3 0 3	22,654	150	3 0 4	24,051	159	4 0 3	22,151	146	5 0 4
		4000K		23,409	155	3 0 3	23,343	154	3 0 3	22,210	147	3 0 4	23,579	156	4 0 3	21,717	143	5 0 4
		3000K		22,707	150	3 0 3	22,643	150	2 0 3	21,543	142	3 0 4	22,872	151	4 0 3	21,065	139	5 0 4
26H	681mA	5000K	173.3	26,962	156	3 0 3	26,885	155	3 0 3	25,580	148	3 0 4	27,158	157	5 0 3	25,012	144	5 0 4
		4000K		26,434	153	3 0 3	26,358	152	3 0 3	25,079	145	3 0 4	26,625	154	5 0 3	24,522	141	5 0 4
		3000K		25,641	148	3 0 3	25,568	148	3 0 3	24,326	140	3 0 4	25,826	149	5 0 3	23,786	137	5 0 4
29H	737mA	5000K	188.0	28,850	153	3 0 3	28,768	153	3 0 3	27,371	146	3 0 4	29,059	155	5 0 3	26,763	142	5 0 4
		4000K		28,284	150	3 0 3	28,204	150	3 0 3	26,834	143	3 0 4	28,489	152	5 0 3	26,239	140	5 0 4
		3000K		27,436	146	3 0 3	27,358	146	3 0 3	26,029	138	3 0 4	27,634	147	5 0 3	25,452	135	5 0 4
30H	759mA	5000K	193.5	29,458	152	3 0 3	29,375	152	3 0 4	27,949	144	3 0 4	29,672	153	5 0 3	27,328	141	5 0 4
		4000K		28,881	149	3 0 3	28,799	149	3 0 3	27,401	142	3 0 4	29,090	150	5 0 3	26,792	138	5 0 4
		3000K		28,014	145	3 0 3	27,935	144	3 0 3	26,578	137	3 0 4	28,217	146	5 0 3	25,988	134	5 0 4
33H	922mA	5000K	238.9	33,257	139	3 0 4	33,162	139	3 0 4	31,552	132	3 0 4	33,498	140	5 0 3	30,852	129	5 0 5
		4000K		32,605	136	3 0 3	32,512	136	3 0 4	30,934	129	3 0 4	32,841	137	5 0 3	30,247	127	5 0 5
		3000K		31,627	132	3 0 3	31,537	132	3 0 4	30,006	126	3 0 4	31,856	133	5 0 3	29,340	123	5 0 5
35H	1006mA	5000K	261.0	35,450	136	3 0 4	35,349	135	3 0 4	33,633	129	3 0 5	35,707	137	5 0 4	32,887	126	5 0 5
		4000K		34,755	133	3 0 4	34,656	133	3 0 4	32,974	126	3 0 5	35,007	134	5 0 4	32,242	124	5 0 5
		3000K		33,713	129	3 0 4	33,617	129	3 0 4	31,985	123	3 0 4	33,957	130	5 0 4	31,275	120	5 0 5
37H	1071mA	5000K	278.2	37,784	136	3 0 4	37,676	135	3 0 4	35,847	129	3 0 5	38,057	137	5 0 4	35,051	126	5 0 5
		4000K		37,043	133	3 0 4	36,937	133	3 0 4	35,144	126	3 0 5	37,311	134	5 0 4	34,364	124	5 0 5
		3000K		35,931	129	3 0 4	35,829	129	3 0 4	34,090	123	3 0 5	36,192	130	5 0 4	33,333	120	5 0 5
40H	1240mA	5000K	325.0	40,640	125	4 0 4	40,525	125	3 0 4	38,557	119	3 0 5	40,935	126	5 0 4	37,701	116	5 0 5
		4000K		39,843	123	4 0 4	39,730	122	3 0 4	37,801	116	3 0 5	40,132	123	5 0 4	36,962	114	5 0 5
		3000K		38,648	119	3 0 4	38,538	119	3 0 4	36,667	113	3 0 5	38,928	120	5 0 4	35,853	110	5 0 5

LUMEN AMBIENT TEMPERATURE (LAT) MULTIPLIERS

Ambient Temperature		Lumen Multiplier
Celsius	Fahrenheit	
0°C	32°F	1.02
10°C	50°F	1.01
25°C	77°F	1.00
40°C	104°F	0.99
50°C	122°F	0.97

TM-21 LUMEN MAINTENANCE PROJECTION

- Calculated by utilizing the LED manufacturer's LM80 test data in conjunction with third-party-verified in situ LED drive current and LED temperature data. Use data below to determine light-loss factors.

Performance Package	50,000 Hrs	60,000 Hrs	100,000 Hrs
≤ 35H	99.67%	99.49%	98.77%
37H	98.95%	98.62%	97.30%
41H	96.41%	95.66%	92.72%

ELECTRICAL LOAD

Performance Package	Input Power	Current (Amps) per Input Voltage					
		120 VAC	208 VAC	240 VAC	277 VAC	347 VAC	480 VAC
12L	82.3 W	0.70	0.40	0.34	0.30	0.24	0.17
15L	108.2 W	0.92	0.52	0.45	0.39	0.31	0.23
17L	126.9 W	1.08	0.61	0.53	0.46	0.37	0.26
18H	114.3 W	0.98	0.55	0.48	0.41	0.33	0.24
20H	125.5 W	1.07	0.60	0.52	0.45	0.36	0.26
23H	151.4 W	1.29	0.73	0.63	0.55	0.44	0.32
26H	173.3 W	1.48	0.83	0.72	0.63	0.50	0.36
29H	188.0 W	1.60	0.90	0.78	0.68	0.54	0.39
30H	193.5 W	1.65	0.93	0.81	0.70	0.56	0.40
33H	238.9 W	2.04	1.15	1.00	0.86	0.69	0.50
35H	261.0 W	2.23	1.25	1.09	0.94	0.75	0.54
37H	278.2 W	2.37	1.34	1.16	1.00	0.80	0.58
40H	325.0 W	2.77	1.56	1.35	1.17	0.94	0.68

©Solais Lighting, LLC | All rights reserved | www.solais.com | GL-10/2021

GridLite GL3

LED SITE + AREA LUMINAIRE

ENERGYLITE

PROJECT Bev Smith Toyota

TYPE

SPECIFICATION

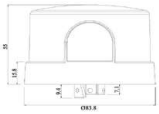
CONTROLS

0-10 V ZHAGA OPTIONS

- ZT1: Ambient Light Control
- ZT2: IR + Ambient Light Control
- ZT3: Occupancy + IR + Ambient Light Control

PHOTOCELL OPTIONS

- PCL01: 120-277 V Photocell (640J, IP65); Blue
- PCL02: 120-277 V Photocell (1280J, IP66); Blue
- PCL03: 277-480 V Photocell (1280J, IP66); Yellow

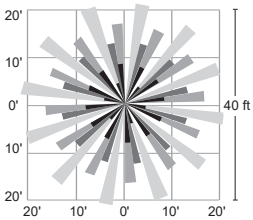


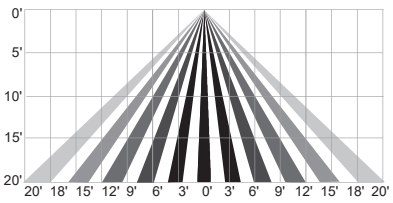
MOTION SENSOR DETAILS

- Motion sensor option available – bi-level setting standard with low point of 50% and a 15-minute delay

MOTION SENSOR COVERAGE (MS)

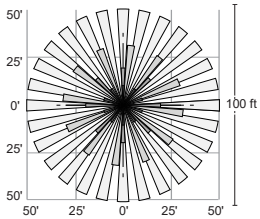
(for up to 20' height)

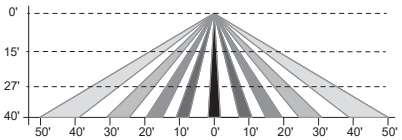




MOTION SENSOR COVERAGE (MH)

(for up to 40' height)





©Solais Lighting, LLC | All rights reserved | www.solais.com | GL-10/2021

GridLite GL3

LED SITE + AREA LUMINAIRE

ENERGYLITE

PROJECT Bev Smith Toyota

TYPE

SPECIFICATION

POLE INFORMATION

- Solais Lighting Group offers a full line of aluminum and steel poles, brackets and accessories for your installation. For more information, consult factory.

SQUARE STRAIGHT
- 8- to 39-ft. height options

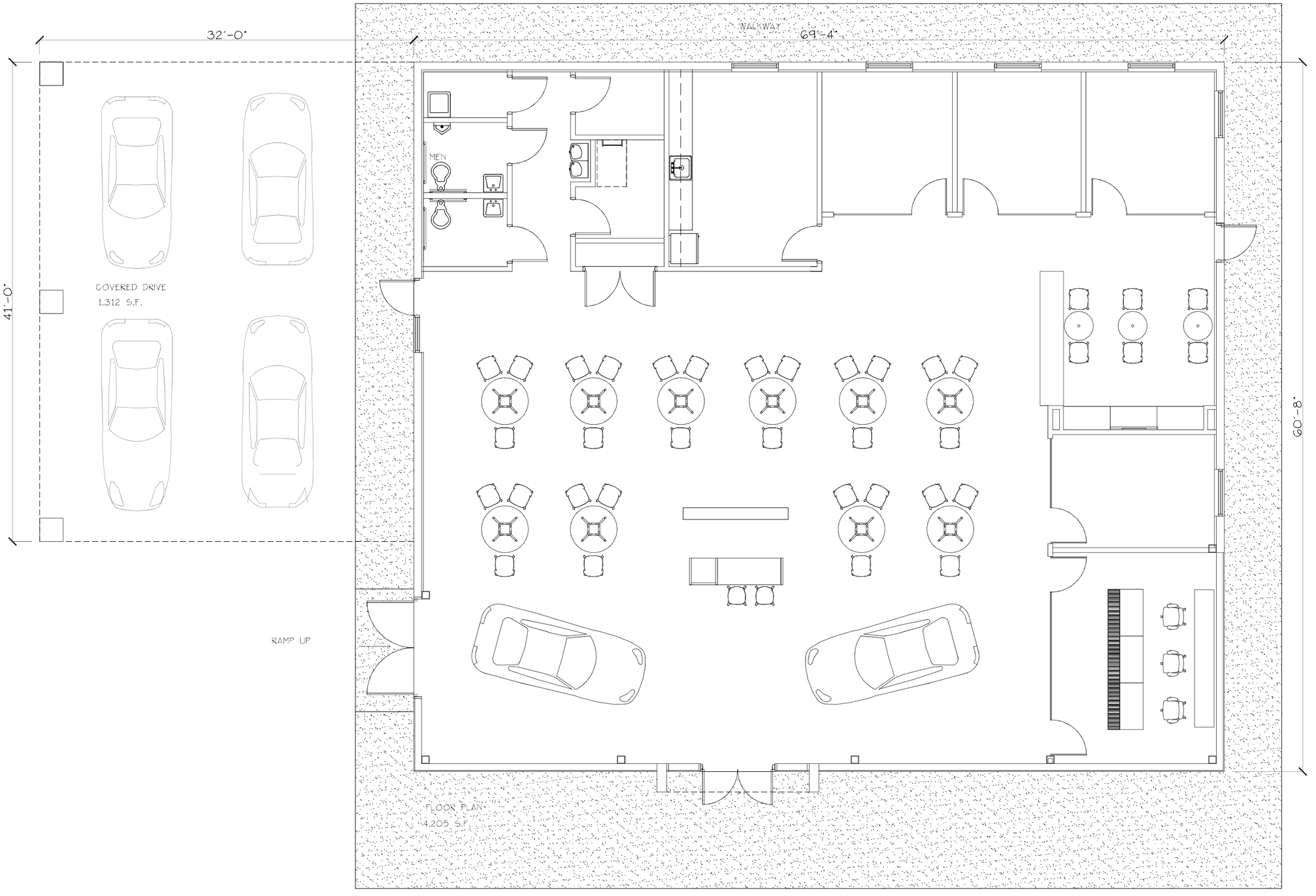
ROUND STRAIGHT
- 8- to 35-ft. height options

SQUARE TAPERED
- 20- to 50-ft. height options

ROUND TAPERED
- 8- to 39-ft. height options
- 45- to 70-ft. telescoping height options

HINGED TAPERED
- 20- to 39-ft. height options

©Solais Lighting, LLC | All rights reserved | www.solais.com | GL-10/2021



BEV SMITH KIA USED CAR

1/4"=1'-0"

601 HERITAGE DRIVE, SUITE 410
JUPITER, FLORIDA 33458
(561) 331-5036
CERTIFICATE OF AUTHORIZATION #AA26003279
GUY C. PELLETIER #11000
GCParchitecture@AOL.COM

GCP ARCHITECTURE L.L.C.

COPYRIGHT 2024/ GCP ARCHITECTURE L.L.C./ ALL RIGHTS RESERVED / UNAUTHORIZED REPRODUCTION OR MODIFICATION OF THESE PLANS OR DRAWINGS IS STRICTLY PROHIBITED

SEAL

BEV SMITH KIA USED CAR
U.S. HIGHWAY ONE, FORT PIERCE, FLORIDA

FLOOR PLAN

DATE: 7/12/24
DRAWN BY: G.P.
PROJ. NO. 2404
REVISED:

STATE OF FLORIDA
CLAUDE PELLETIER
0011000
GUY
REGISTERED ARCHITECT

Digitally signed by Guy C Pelletier
Date: 2024.07.15 13:19:04 -04'00'

SHEET:
A.1

WEST ELEVATION

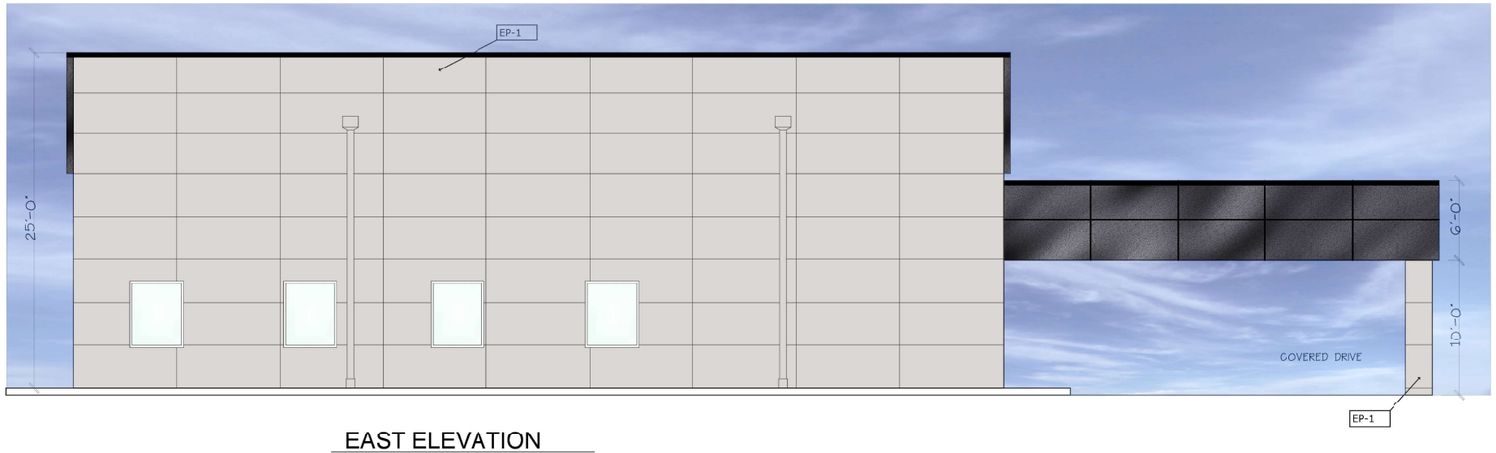
3/16"=1'-0"

NORTH ELEVATION

3/16"=1'-0"

SOUTH ELEVATION

3/16"=1'-0"



EAST ELEVATION

3/16"=1'-0"

EXTERIOR MATERIAL

ACM-1	ALUMINUM COMPOSITE MATERIALS BLACK
ACM-2	ALUMINUM COMPOSITE MATERIALS SILVER
CW-1	CURTAIN WALL clear anodized frame finish
SFS-1	STORE FRONT SYSTEM clear anodized frame finish
EP-1	STUCCO PAINTED BENJAMIN MOORE COLOR: DM 11C-169 CONVENTRY GRAY

601 HERITAGE DRIVE, SUITE 410
JUPITER, FLORIDA 33458
(561) 331-5036
CERTIFICATE OF AUTHORIZATION #AA26003279
GUY C. PELLETIER #11000
GCParchitecture@AOL.COM

GCP ARCHITECTURE L.L.C.

SEAL

COPYRIGHT 2024/ GCP ARCHITECTURE L.L.C./ ALL RIGHTS RESERVED / UNAUTHORIZED REPRODUCTION OR MODIFICATION OF THESE PLANS OR DRAWINGS IS STRICTLY PROHIBITED

BEV SMITH KIA USED CAR
U.S. HIGHWAY ONE, FORT PIERCE, FLORIDA

ELEVATIONS

DATE: 7/12/24
DRAWN BY: G.P.
PROJ. NO. 2404
REVISED:

STATE OF FLORIDA
GUY CLAUDE PELLETIER
0011000
REGISTERED ARCHITECT

Digitally signed by Guy C Pelletier
Date: 2024.07.15 13:19:43 -04'00'

SHEET:
A.2

GCP Architecture L.L.C.

License number AA26003279
601 Heritage Drive, Suite 410
Jupiter, Florida 33458
(561) 331-5036 **e-mail:** gcparchitecture@aol.com

July 12, 2024

City Of Fort Pierce
100 N, U.S. Highway One
Fort Pierce, FL 34950

Re: Bev Smith Kia Used Car
U.S. highway 1, Fort Pierce, FL

To Whom It May Concern:

The project is located on a site adjacent to a mix of different scales of commercial developed land. The immediate context is diverse in architectural styles. The proposed facility's design, with simple mass, forms, lines and main neutral colors blends well into the character of the immediate context.

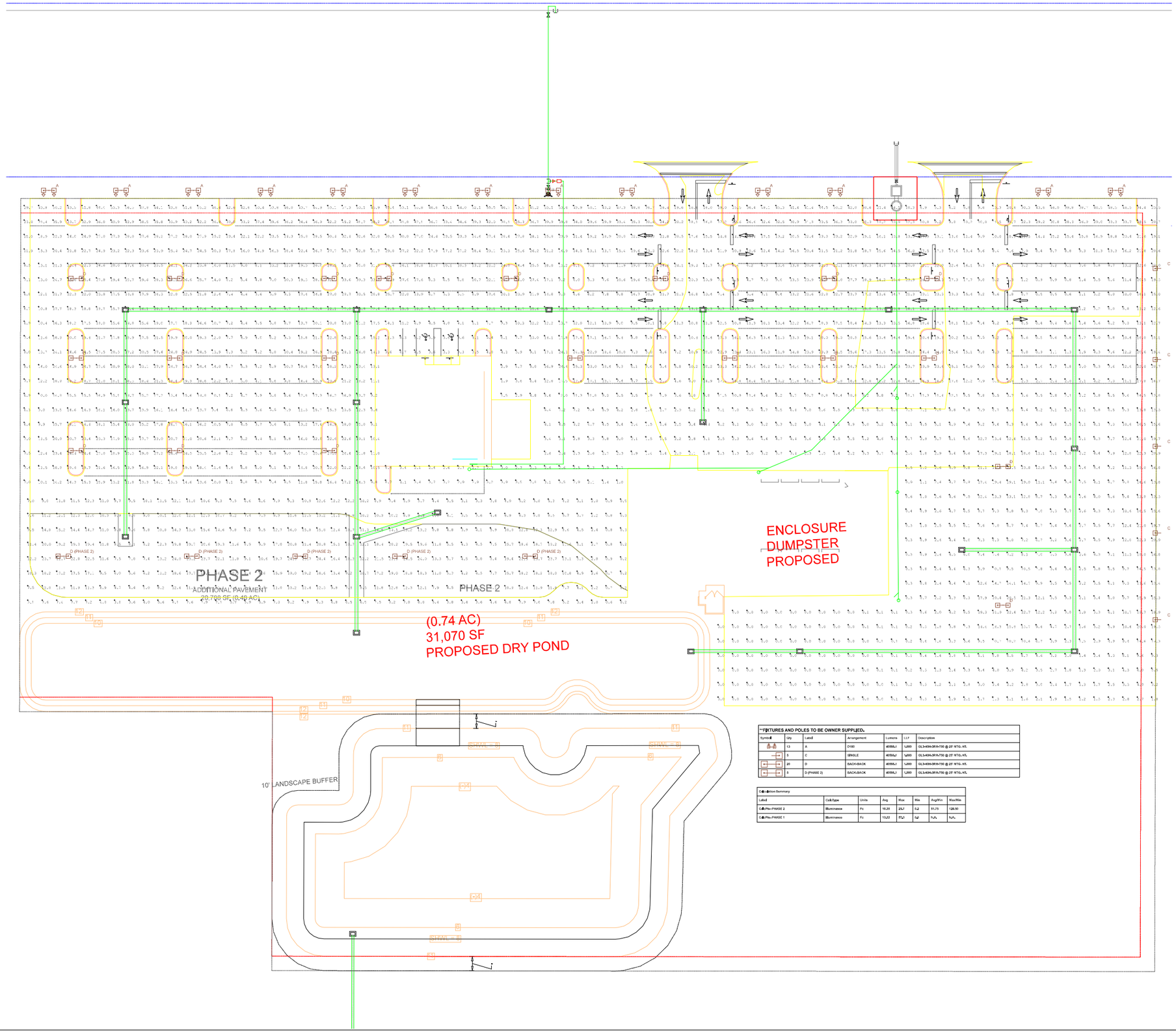
The building is sited with the main facade facing US1 to provide a contemporary sleek building directly across from the existing Bev Smith Kia Dealership on the West side of US1.
The building materials selected for this project are metal panels, expansive glass curtain wall along with stucco walls to follow the Kia's new corporate identity.

The architectural character of the proposed building consists of simple forms, yet dynamic at the same time. This was achieved by providing different wall materials and windows along all elevations. The wall planes are articulated by applying horizontal as well as vertical reveals. In addition, a decorative square arch identifies the main entry within the building mass. Allowing the building to provide a sense of balance while creating a visual focus when approaching the site from both North & South of US1.

Should you require additional information please do not hesitate to reach out.

Sincerely,

Guy C. Pelletier, R.A.



**FIXTURES AND POLES TO BE OWNER SUPPLIED.

Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
	13	A	ONE	46566.1	1.000	GLS-A094-3R1N-730 @ 25' MTG. MS.
	5	C	SINGLE	46566.1	1.000	GLS-A094-3R1N-730 @ 25' MTG. MS.
	20	D	BACK-BACK	46566.1	1.000	GLS-A094-3R1N-730 @ 25' MTG. MS.
	3	D (PHASE 2)	BACK-BACK	46566.1	1.000	GLS-A094-3R1N-730 @ 25' MTG. MS.

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
CalcPts-PHASE 2	Illuminance	Fc	16.30	25.7	5.2	31.73	128.50
CalcPts-PHASE 1	Illuminance	Fc	13.22	57.3	5.2	5.4	5.4

PROJECT:
Bev Smith Kia
Fort Pierce, FL

Wampler Lighting Group
83 High Avenue
Valley Head, Alabama 35989
Contact Brad @ 256.996.2560

PLAN DATE

DATE	DESCRIPTION	DRAWN BY
071824		JRC

JOB #: 071824BSK

Advanced Restoration Ecology

5560 S US HWY 1

St Lucie County, FL

Environmental Assessment

Prepared For:
Bev Smith Kia

Prepared By:

Drew Gatewood, MS, PWS
2593 NE Roberta St
Jensen Beach, FL 34957
772-242-7200
813-784-8891

©ARE, Inc. September 2020

The environmental assessment report below has been compiled in accordance with the St Lucie County Development Review Division and previsions set forth by the state of Florida. The parcel is listed by the St Lucie County Property Appraiser as Parcel ID number 3403-502-0302-000-4 and is a total of 9.63 acres. The property is located at 5560 S US Hwy 1 in Ft Pierce, Florida. The following report describes the findings of our recent on site review and database research as it pertains to St Lucie County and the State of Florida.

LAND USE RECORDS

The St Lucie County Property Appraiser's Report lists this property as 2700 Auto Sales.

SOIL COMPOSITION:

Based on a review of the United State Department of Agriculture's Web Soil Survey database the site's soils are comprised of the following:

Riviera Fine Sand - This poorly drained, nearly level soil is found in hammocks and along drainageways. The surface layer is dark gray brown fine sand about 5 inches thick. The soil has a water table at a depth of less than 10 inches for 2 to 4 months in most years and at a depth of 10 to 30 inches for most of the rest of the year. Permeability is rapid in the surface and subsurface layers, slow to very slow in the subsoil, and rapid in the substratum. Natural vegetation includes cabbage palms. and scattered longleaf pine and slash pine and an understory of wax myrtle and saw palmetto. The most common native grasses are pineland threeawn and blue maidencane. Broomsedges, creeping bluestem, paspalum, sand cordgrass and panicums are typical grasses for this soil.

Pineda Sand – *This is a nearly level poorly drained soil found in grassy flats. The natural vegetation associated with this soil type includes slash pine, cabbage palm, wax myrtle, gallberry, fetterbush, and brooms sedge. The surface layer typically is dark gray and dark grayish brown sand. The subsurface layer is brown fine sand with yellow and brownish mottles.*

Susanna and Wauchula - This poorly drained soil is found typically in broad areas in the flatwoods. Typically the surface layer is black fine sand about 5 inches thick. The water table is at a depth of less than 10 inches for 2 to 4 months during the wet season and within a depth of 40 inches for more than 6 months. Natural vegetation consists of slash pine, saw palmetto, inkberry, rusty lyonia, black root, penny royal, pineland threeawn, chalky bluestem, panicum and various grasses. The soil is well suited for pasture and hay crops.

Wabasso Sand - This soil is a nearly level, poorly drained soil in broad open areas of the flatwoods. The surface layer is sand about 8 inches thick. The upper 4 inches is black and the lower 4 inches is dark grey. The water table is typically at a depth of less than 10 inches for 1 to 4 months during the wet season, and at a depth of 10 to 40 inches for 6 to 9 months in most years. Natural vegetation is slash pine, cabbage palm, saw palmetto, running oak, inkberry and fetterbush. Common grasses are threeawn and bluestem. The soil has severe limitations for cultivated crops and citrus due to wetness. The soil has high potential for dwellings without basements, small commercial buildings, local roads and streets.

Nettles Sand is a poorly drained, nearly level soil found in areas of broad flatwoods. Typically the surface layer is 11 inches thick. Black sand comprises the upper 5 inches, very dark gray sand in the next three inches and dark gray sand in the lower 3 inches. Subsurface layer is light gray sand 22 inches thick. The water table is typically at a depth of 10 inches for 2 to 4 months during wet seasons, and at a depth of 10 to 40 inches for 6 months of longer in most years. Natural vegetation includes slash pine, cabbage palm, saw palmetto, wax myrtle, inkberry, fetterbush, creeping bluestem, chalky bluestem, Florida threeawn, and pineland threeawn. This soil has severe limitations for cultivated crops unless water control and other food management practices are provided. This soil has potential for improved pasture grasses and high potential for dwellings without basements, small commercial buildings, and roads.

WILDLIFE EVALUATION:

On September 25, 2020, ARE conducted pedestrian transects across 100% of property looking for local, state and federally listed or endangered species present on the site. This survey primarily focused on the presence of gopher tortoise burrows or recent activity. During the pedestrian transects of the property, no gopher tortoise activity was observed on site. No other listed plant or animal species were observed on site during the site visit.

NATIVE HABITAT

The site investigation conducted by ARE, Inc. did not find native upland habitat on the site. The site has been previously cleared and has dense exotic content throughout the understory. Species observed during the site reconnaissance included the following,

Muscadine Grape (*Vitis rotundifolia*)	Brazilian pepper (*Schinus terbinthifolius*)
Cabbage palm (*Sabal palmetto*)	Mahoe (*Hibiscus tiliaceus*)
Guava (*Psidium guajava*)	Old World Climbing Fern (*Lygodium* sp)
Slash Pine (*Pinus densa*)	Laurel Oak (*Quercus laurifolia*)

WETLAND DELINEATION:

Based on the State definition of a wetland in 62-340 FAC, there are three components: hydric soils, wetland plants, and hydrologic indicators. These factors listed were present during the site investigation. ARE concludes this property does include state and possibly federally jurisdictional wetlands on site in its current configuration. A wetland delineation and verification by the State and possibly the USCAOE will be needed prior to any site clearing.

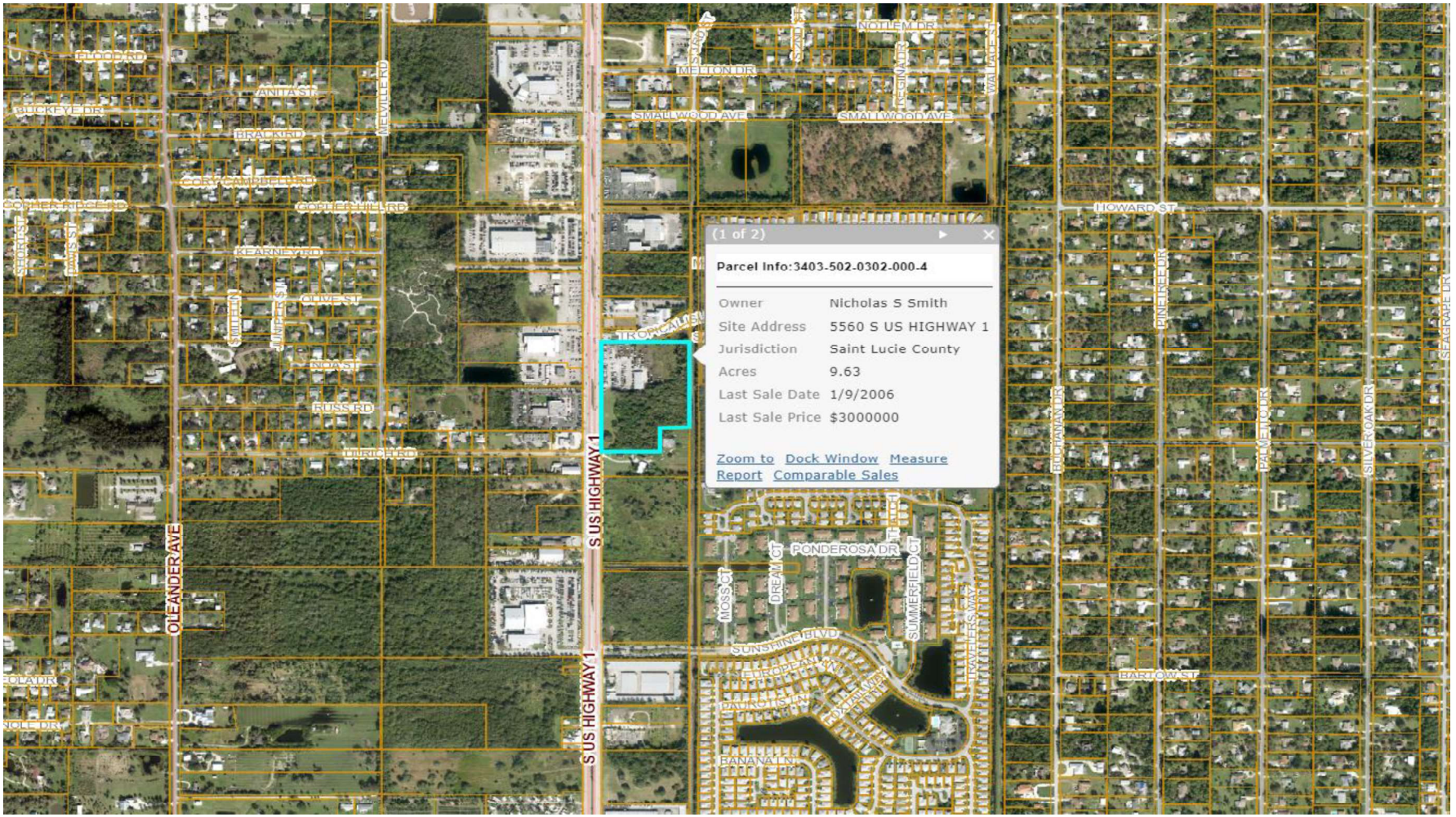
COUNTY REQUIREMENTS

The County will require proof of a completed gopher tortoise survey by a licensed agent. Please submit this document with any applications to use as the needed verification of a 100% gopher tortoise survey has been completed on the site. Per FWC regulations a gopher tortoise survey is good for 90 days, and any clearing must have a valid survey prior to commencement. The County will not authorize/issue any permitting without a current gopher tortoise survey. There are trees meeting the County's protection standards (Please see tree data table and map). A site plan will be needed to determine possible needs for mitigation to offset any impacts to these trees.

CONCLUSION:

Based on County requirements, ARE, Inc. conducted a site investigation throughout the property to survey for the presence of any listed plant or animal species. No Gopher Tortoise burrows were observed on site, nor were any other State or Federally listed species observed on the property during the site visit. A 100% gopher tortoise survey of

the property was conducted and completed by an FWC licensed gopher tortoise agent during the site investigation. Native habitat was not determined to be on site due to the dense exotic content in the understory of the site. It is the professional opinion of ARE, Inc. that there are State and possibly Federally jurisdictional wetlands on the site as the site's characteristics did meet the minimum thresholds required for wetland classification. These wetland limits need to be delineated and verified by the State and possibly the USACOE prior to clearing. There are trees meeting the protection standards for St Lucie County. A site plan/ clearing plan will be needed to determine if mitigation is needed to offset impacts to these trees.



9/26/2020

Location Map

Map Source: St Lucie County

N

5560 S US HWY 1
Ft. Pierce, FL

Advanced Restoration Ecology

9/26/2020

FLUCCS Map

Map Source: Google Earth

N

5560 S US HWY 1
Ft. Pierce, FL

Advanced Restoration Ecology

St. Lucie County, Florida (FL111)

St. Lucie County, Florida (FL111)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
25	Nettles and Oldsmar sands	4.5	42.8%
32	Pineda sand, 0 to 2 percent slopes	0.0	0.3%
38	Riviera fine sand, 0 to 2 percent slopes	2.2	20.8%
43	Susanna and Wauchula sands	0.5	4.3%
48	Wabasso sand, 0 to 2 percent slopes	3.4	31.8%
Totals for Area of Interest		**10.6**	**100.0%**

9/26/2020

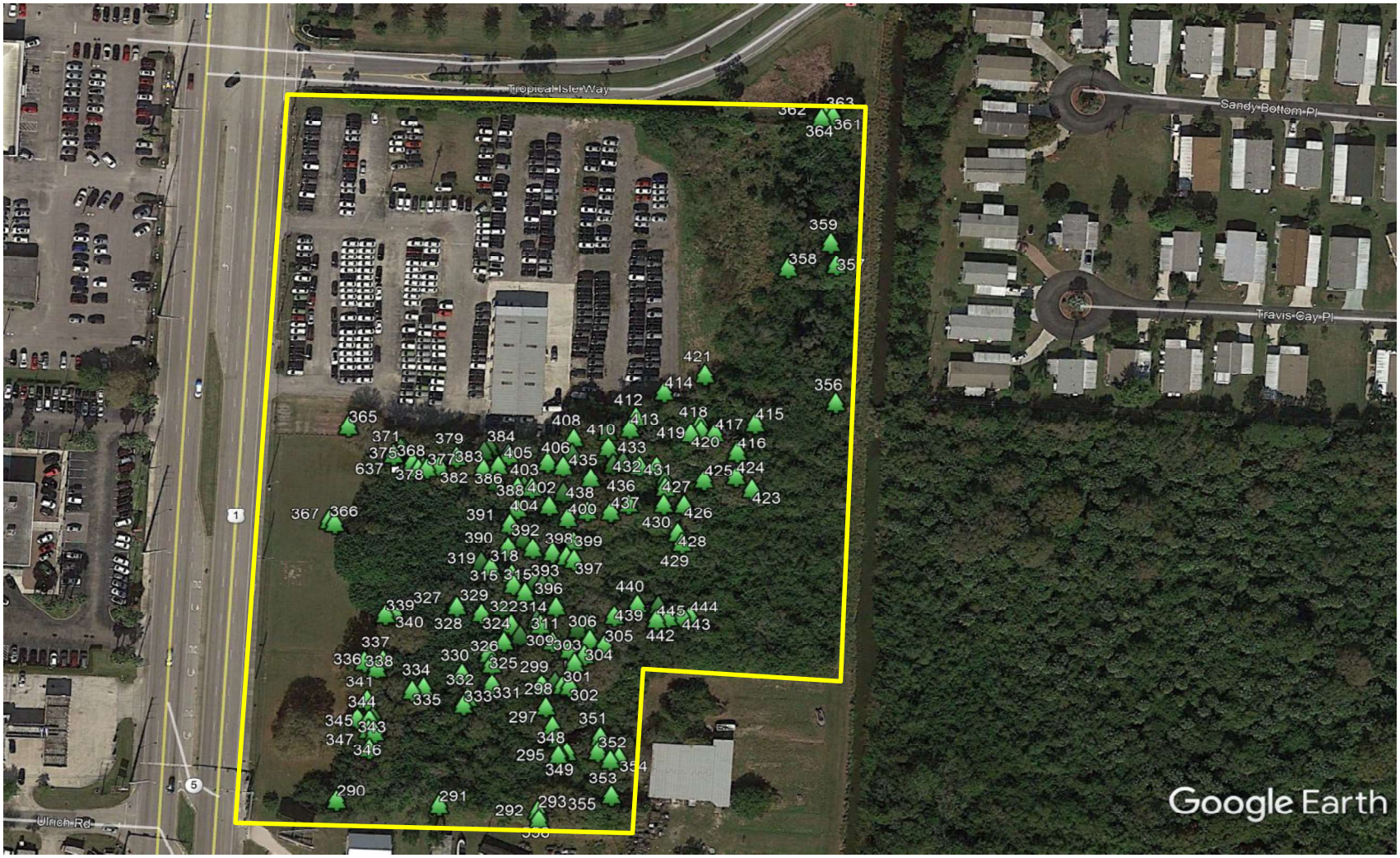
Soil Map

Map Source: Google Earth

N

5560 S US HWY 1
Ft. Pierce, FL

Advanced Restoration Ecology



9/26/2020

Tree Survey Map

Map Source: Google Earth

N

5560 S US HWY 1
Ft. Pierce, FL

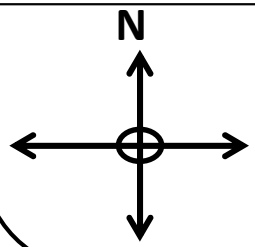
Advanced Restoration Ecology

Tag No	Species	Size
290	Cabbage Palm	12'
291	Laurel Oak	28"
292	Cabbage Palm	10'
293	Laurel Oak	60"
294	Cabbage Palm	22'
295	Laurel Oak	16"
296	Cabbage Palm	13'
297	Laurel Oak	30"
298	Cabbage Palm	14'
299	Cabbage Palm	15'
300	Cabbage Palm	13'
301	Cabbage Palm	12'
302	Laurel Oak	28"
303	Laurel Oak	13"
304	Cabbage Palm	15'
305	Cabbage Palm	14'
306	Cabbage Palm	10'
307	Cabbage Palm	15'
308	Laurel Oak	14"
309	Laurel Oak	12"
310	Cabbage Palm	15'
311	Cabbage Palm	16'
312	Cabbage Palm	18'
313	Laurel Oak	24"
314	Cabbage Palm	18'
315	Cabbage Palm	18'
316	Cabbage Palm	16'
317	Laurel Oak	13"
318	Laurel Oak	18"
319	Cabbage Palm	20'
320	Cabbage Palm	22'
321	Cabbage Palm	11'
322	Laurel Oak	15"
323	Laurel Oak	12"
324	Laurel Oak	20"
325	Cabbage Palm	22'
326	Cabbage Palm	24'
327	Cabbage Palm	20'
328	Cabbage Palm	16'
329	Cabbage Palm	20'
330	Cabbage Palm	12'
331	Laurel Oak	12"
332	Cabbage Palm	21'
333	Cabbage Palm	23'
334	Cabbage Palm	23'
335	Laurel Oak	14"
336	Cabbage Palm	15'
337	Laurel Oak	40"
338	Cabbage Palm	14'
339	Laurel Oak	40"
340	Laurel Oak	20"
341	Laurel Oak	13"
342	Laurel Oak	30"
343	Laurel Oak	12"
344	Cabbage Palm	16'
345	Laurel Oak	12"
346	Cabbage Palm	18'
347	Cabbage Palm	22'
348	Cabbage Palm	17'
349	Cabbage Palm	16'
350	Cabbage Palm	16'
351	Laurel Oak	12"
352	Cabbage Palm	12'
353	Laurel Oak	14"
354	Laurel Oak	24"
355	Cabbage Palm	16'
356	Slash Pine	28"
357	Laurel Oak	12"
358	Cabbage Palm	14'
359	Cabbage Palm	17'
360	Cabbage Palm	18'
361	Slash Pine	18"
362	Slash Pine	15"
363	Laurel Oak	24"
364	Laurel Oak	30"
365	Cabbage Palm	18'
366	Cabbage Palm	20'
367	Cabbage Palm	17'
368	Laurel Oak	14"
369	Laurel Oak	32''
370	Cabbage Palm	14'
371	Cabbage Palm	14'
372	Laurel Oak	14"
373	Laurel Oak	16"
374	Laurel Oak	14"
375	Cabbage Palm	15'
376	Laurel Oak	14"
377	Cabbage Palm	16'
378	Laurel Oak	18"
379	Laurel Oak	12"
380	Laurel Oak	15"
381	Laurel Oak	14"
382	Laurel Oak	21"
383	Laurel Oak	44"
384	Laurel Oak	14"
385	Laurel Oak	14"
386	Cabbage Palm	18'
387	Cabbage Palm	16'
388	Laurel Oak	18"
389	Laurel Oak	16"
390	Laurel Oak	32"
391	Cabbage Palm	22'
392	Cabbage Palm	20'
393	Cabbage Palm	16'
394	Cabbage Palm	18'
395	Laurel Oak	14"
396	Laurel Oak	25"
397	Laurel Oak	16"
398	Cabbage Palm	23'
399	Cabbage Palm	21'
400	Cabbage Palm	18'
401	Cabbage Palm	18'
402	Cabbage Palm	20'
403	Cabbage Palm	17'
404	Laurel Oak	14"
405	Laurel Oak	22"
406	Laurel Oak	17"
407	Laurel Oak	48"
408	Laurel Oak	30"
409	Cabbage Palm	22'
410	Cabbage Palm	17'
411	Laurel Oak	24"
412	Cabbage Palm	17'
413	Laurel Oak	12"
414	Cabbage Palm	20'
415	Cabbage Palm	18'
416	Laurel Oak	34"
417	Cabbage Palm	23'
418	Cabbage Palm	21'
419	Cabbage Palm	20'
420	Cabbage Palm	16'
421	Cabbage Palm	22'
422	Cabbage Palm	16'
423	Laurel Oak	40"
424	Cabbage Palm	14'
425	Laurel Oak	13'
426	Cabbage Palm	16'
427	Cabbage Palm	17'
428	Cabbage Palm	17'
429	Cabbage Palm	15'
430	Cabbage Palm	15'
431	Cabbage Palm	1'
432	Cabbage Palm	15'
433	Cabbage Palm	10'
434	Laurel Oak	82"
435	Laurel Oak	14"
436	Laurel Oak	16"
437	Cabbage Palm	13'
438	Laurel Oak	36"
439	Cabbage Palm	17'
440	Cabbage Palm	17'
441	Cabbage Palm	18'
442	Cabbage Palm	18'
443	Cabbage Palm	15;
444	Cabbage Palm	18'
445	Live Oak Cluster	103"

9/26/2020

Tree Survey Data Table

Map Source: Google Earth



5560 S US HWY 1
Ft. Pierce, FL

Advanced Restoration Ecology

Tag No	Species	Size
290	Cabbage Palm	12'
291	Laurel Oak	28"
292	Cabbage Palm	10'
293	Laurel Oak	60"
294	Cabbage Palm	22'
295	Laurel Oak	16"
296	Cabbage Palm	13'
297	Laurel Oak	30"
298	Cabbage Palm	14'
299	Cabbage Palm	15'
300	Cabbage Palm	13'
301	Cabbage Palm	12'
302	Laurel Oak	28"
303	Laurel Oak	13"
304	Cabbage Palm	15'
305	Cabbage Palm	14'
306	Cabbage Palm	10'
307	Cabbage Palm	15'
308	Laurel Oak	14"
309	Laurel Oak	12"
310	Cabbage Palm	15'
311	Cabbage Palm	16'
312	Cabbage Palm	18'
313	Laurel Oak	24"
314	Cabbage Palm	18'
315	Cabbage Palm	18'
316	Cabbage Palm	16'
317	Laurel Oak	13"
318	Laurel Oak	18"
319	Cabbage Palm	20'
320	Cabbage Palm	22'
321	Cabbage Palm	11'
322	Laurel Oak	15"
323	Laurel Oak	12"
324	Laurel Oak	20"
325	Cabbage Palm	22'
326	Cabbage Palm	24'
327	Cabbage Palm	20'
328	Cabbage Palm	16'
329	Cabbage Palm	20'
330	Cabbage Palm	12'
331	Laurel Oak	12"
332	Cabbage Palm	21'
333	Cabbage Palm	23'
334	Cabbage Palm	23'
335	Laurel Oak	14"

336	Cabbage Palm	15'
337	Laurel Oak	40"
338	Cabbage Palm	14'
339	Laurel Oak	40"
340	Laurel Oak	20"
341	Laurel Oak	13"
342	Laurel Oak	30"
343	Laurel Oak	12"
344	Cabbage Palm	16'
345	Laurel Oak	12"
346	Cabbage Palm	18'
347	Cabbage Palm	22'
348	Cabbage Palm	17'
349	Cabbage Palm	16'
350	Cabbage Palm	16'
351	Laurel Oak	12"
352	Cabbage Palm	12'
353	Laurel Oak	14"
354	Laurel Oak	24"
355	Cabbage Palm	16'
356	Slash Pine	28"
357	Laurel Oak	12"
358	Cabbage Palm	14'
359	Cabbage Palm	17'
360	Cabbage Palm	18'
361	Slash Pine	18"
362	Slash Pine	15"
363	Laurel Oak	24"
364	Laurel Oak	30"
365	Cabbage Palm	18'
366	Cabbage Palm	20'
367	Cabbage Palm	17'
368	Laurel Oak	14"
369	Laurel Oak	32''
370	Cabbage Palm	14'
371	Cabbage Palm	14'
372	Laurel Oak	14"
373	Laurel Oak	16"
374	Laurel Oak	14"
375	Cabbage Palm	15'
376	Laurel Oak	14"
377	Cabbage Palm	16'
378	Laurel Oak	18"
379	Laurel Oak	12"
380	Laurel Oak	15"
381	Laurel Oak	14"
382	Laurel Oak	21"

383	Laurel Oak	44"
384	Laurel Oak	14"
385	Laurel Oak	14"
386	Cabbage Palm	18'
387	Cabbage Palm	16'
388	Laurel Oak	18"
389	Laurel Oak	16"
390	Laurel Oak	32"
391	Cabbage Palm	22'
392	Cabbage Palm	20'
393	Cabbage Palm	16'
394	Cabbage Palm	18'
395	Laurel Oak	14"
396	Laurel Oak	25"
397	Laurel Oak	16"
398	Cabbage Palm	23'
399	Cabbage Palm	21'
400	Cabbage Palm	18'
401	Cabbage Palm	18'
402	Cabbage Palm	20'
403	Cabbage Palm	17'
404	Laurel Oak	14"
405	Laurel Oak	22"
406	Laurel Oak	17"
407	Laurel Oak	48"
408	Laurel Oak	30"
409	Cabbage Palm	22'
410	Cabbage Palm	17'
411	Laurel Oak	24"
412	Cabbage Palm	17'
413	Laurel Oak	12"
414	Cabbage Palm	20'
415	Cabbage Palm	18'
416	Laurel Oak	34"
417	Cabbage Palm	23'
418	Cabbage Palm	21'
419	Cabbage Palm	20'
420	Cabbage Palm	16'
421	Cabbage Palm	22'
422	Cabbage Palm	16'
423	Laurel Oak	40"
424	Cabbage Palm	14'
425	Laurel Oak	13'
426	Cabbage Palm	16'
427	Cabbage Palm	17'
428	Cabbage Palm	17'
429	Cabbage Palm	15'

430	Cabbage Palm	15'
431	Cabbage Palm	1'
432	Cabbage Palm	15'
433	Cabbage Palm	10'
434	Laurel Oak	82"
435	Laurel Oak	14"
436	Laurel Oak	16"
437	Cabbage Palm	13'
438	Laurel Oak	36"
439	Cabbage Palm	17'
440	Cabbage Palm	17'
441	Cabbage Palm	18'
442	Cabbage Palm	18'
443	Cabbage Palm	15;
444	Cabbage Palm	18'
445	Live Oak Cluster	103"

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
www.mbveng.com CA #3728

STORMWATER MANAGEMENT CALCULATIONS

for

Bev Smith Kia

City of Ft. Pierce, FL

July 2024

Prepared by: MBV Engineering, Inc.
1835 20th Street
Vero Beach, Florida 32960
772-569-0035
Certificate of Authorization #: 3728

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

Engineers Project No: 22-0496
Designed By: AS

7-19-24

Mr. Aaron G. Stanton, P.E. #72460

TABLE OF CONTENTS

I Purpose

II Proposed System

III Site Data

IV Pre-Development Conditions

V Post Development Conditions

VI Required Treatment Volume

VII Proposed Treatment Volume

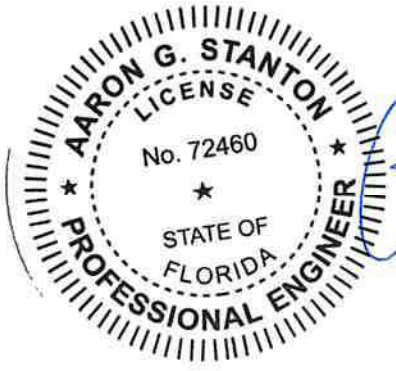
VIII 100-Year, 3-Day (zero discharge) Storm Stage Computation

IX Summary

APPENDICES

Appendix A	ICPR Modeling and Results
Appendix B	Nutrient Analysis by BMP Trains
Appendix C	Geotechnical Reports by Universal Engineering Sciences
Appendix D	Soil Map
Appendix E	Flood Zone Map
Appendix F	Miscellaneous (Rainfall Maps, CN table, historical permits, etc...)
Appendix G	Pre and Post Basin Maps

Prepared by: MBV Engineering, Inc.
1835 20th Street
Vero Beach, Florida 32960
772-569-0035
Certificate of Authorization #: 3728



Engineers Project No: 22-0496
Designed By: AS

7-19-24

Mr. Aaron G. Stanton, P.E. #72460

I. PURPOSE

The purpose of this report is to provide the City of Ft. Pierce (CoFP), South Florida Water Management District (SFWMD) North St. Lucie River Water Control District (NSLRWCD), and the Florida Department of Transportation (FDOT) with calculations and documentation which demonstrates the proposed surface water management system complies with state and local criteria.

II. PROPOSED SYSTEM

The proposed surface water management system will consist of a pipe and inlet network within the parking lot that discharges to a dry detention pond that will discharge through a concrete weir into a wet detention system. A proposed control structure will regulate the treatment and attentuation of stormwater before ultimately discharging through a pipe into the NSLRWCD's Canal #38.

III. SITE DATA

Development Area	419,506 s.f.	9.63 acres
Total Basin Area	356,131 s.f.	8.18 acres
Site Basin	260,458 s.f.	5.98 acres
Dry Detention Basin	38,758 s.f.	.89 acres
Wet Detention Basin	56,915 s.f.	1.31 acres
Conservation Area	63,375 s.f.	1.45 acres

Site Location: 5560 South U.S. Highway 1
Fort Pierce, FL

Site Soils:

Soil	Map Unit Symbol	Class	Percentage
Nettles & Oldsmar	25	B/D	50%
Wabasso	48	B/D	50%

Flood Zone: The subject property ide located in Flood Zone 'X' per Flood Insurance Rate Map #12111C0277K dated February 18, 2020

Seasonal High Water Table: Based on a previously approved water table, under a SFWMD ERP for The Grove of Ft. Pierce, the water table is taken as 8.0 NGVD, which would convert 6.5 NAVD. An excerpt of the permit can be found under Attachment F. The geotechnical report by Universal Engineering Services (UES), dated January 26, 2022 and included as Appendix C, estimated the seasonal high water table to be approximately 1 - 1.5 ft above the existing groundwater elevations taken. Taking the conservative estimate of 1.5 ft, would put the SHWT at approximately 7.6 NAVD, on average for the site. Based on this and using sound engineering **practice, the SHWT for the design of this site was taken as 8.0 NAVD**. This This was also the SHWT approved for the Jeep-Alfo Romeo-Maserati dealership, directly to the south, approved by SFWMD on 4/10/2018.

Hydraulic Conductivity of Soil: Two (2) exfiltration tests were taken and are listed in the geotechnical taken by Universal Engineering Sciences, found under Appendix C. The resulting average is a **K value of 1.84 x 10^{-7} cfs/ft^2-ft head.**

Site Borings		WSWT DEPTH (FEET BELOW GRADE)	
Soil Boring AB-1:			
Existing Grade at Soil Boring	13.5 ft. (NAVD)		
Seasonal High Water Table	9.2 ft. (NAVD)	4.3	
Normal Water Table	7.7 ft. (NAVD)	5.8	
Soil Boring AB-2:			
Existing Grade at Soil Boring	13.5 ft. (NAVD)		
Seasonal High Water Table	8.0 ft. (NAVD)	5.5	1.5 ft above groundwater
Normal Water Table	6.5 ft. (NAVD)	7.0	
Soil Boring AB-3:			
Existing Grade at Soil Boring	13.3 ft. (NAVD)		
Seasonal High Water Table	6.8 ft. (NAVD)	6.5	1.5 ft above groundwater
Normal Water Table	5.3 ft. (NAVD)	8.0	
Soil Boring AB-4:			
Existing Grade at Soil Boring	13.0 ft. (NAVD)		
Seasonal High Water Table	8.5 ft. (NAVD)	4.5	1.5 ft above groundwater
Normal Water Table	7.0 ft. (NAVD)	6.0	
Soil Boring AB-5:			
Existing Grade at Soil Boring	13.0 ft. (NAVD)		
Seasonal High Water Table	5.3 ft. (NAVD)	7.7	1.5 ft above groundwater
Normal Water Table	3.8 ft. (NAVD)	9.2	

	Averages (ft/day)	
* Flow rates shown are the averages of the flows at differing strata.	**k_h = 2.1**	**k_v = 9.9**

Average Existing Grade	13.3 ft. (NAVD)	
Average Normal Water Table	6.1 ft. (NAVD)	
Average Seasonal High Water Table	7.6 ft. (NAVD)	(See SHWT discussion previous page)

IV. PRE-DEVELOPMENT CONDITIONS

Pre-Basin (assumes conditions prior to any development)

Drainage Area	356,131 s.f.	8.18 acres	100.0%
Building Area	s.f.	.00 acres	0.0%
Roadway Area	s.f.	.00 acres	0.0%
Walks/Pads Area	s.f.	.00 acres	0.0%
Total Impervious	s.f.	.00 acres	0.0%
Total Semi.-Impervious	s.f.	.00 acres	0.0%
Total Pervious	356,131 s.f.	8.18 acres	100.0%

Weighted Curve Number

% Impervious	0.0%	Soil Group D	CN1 = 98	
% Semi-Impervious	0.0%	Soil Group D	CN2 = 91	
% Pervious	100.0%	Soil Group D	CN3 = 83	Woods, poor

CN = [(% Impervious)(CN1) + (% Semi-Impervious)(CN2) + (% Pervious)(CN3)]
CN = 83.0

Time of Concentration

t_1: Sheet Flow

t_1 = [0.007 (N x L)^0.8] / [P^0.5 x S^0.4] Kinematic Wave Eq.

Where :

N = Mannings Roughness Coeff. =	0.800	dense woods
L = Length of Flow (ft) =	300	
Change in elevation (ft)=	4.5	
P = Rainfall Intensity (in/hr)=	5.5	
S = slope (ft/ft) =	0.0150	
t_1=	77.1 min.	

t_2: Shallow Channel Flow

t_2= Length / Velocity =

Length of flow (ft)	260	
Channel velocity (fps)	1.141	
t_2=	3.8 min.	

Time of Concentration (Tc) T_c = 80.9 min. If <10 min, use 10 min

V. POST-DEVELOPMENT CONDITIONS

Site Basin (includes Ph. 2 pavement area)

Drainage Area	260,458 s.f.	5.98 acres	73.1%
Building	9,504 s.f.	.22 acres	2.7%
Asphalt Drives	204,043 s.f.	4.68 acres	78.3%
Walks/Pads (incl. covered conc.)	13,929 s.f.	.32 acres	3.9%
Total Impervious	227,476 s.f.	5.22 acres	87.3%
Wet Pond Surface (@ control)	s.f.	.00 acres	0.0%
Total Semi.-Impervious	s.f.	.00 acres	0.0%
Total Pervious	32,982 s.f.	.76 acres	12.7%

Weighted Curve Number (Pond Water Surface removed from equation)

% Impervious	87.3%	Soil Group D	CN1 = 98
% Semi-Pervious	0.0%	Soil Group D	CN2 = 91
% Pervious	12.7%	Soil Group D	CN3 = 77

CN = [(% Impervious)(CN1) + (% Semi-Impervious)(CN2) + (% Pervious)(CN3)]

CN = 95.3

Time of Concentration

t_1: Sheet Flow

t_1 = [0.007 (N x L)^0.8] / [P^0.5 x S^0.4] = Kinematic Wave Eq.

Where :

N = Mannings Roughness Coeff. =	0.011	asphalt
L = Length of Flow (ft) =	120	
Change in elevation =	1.2	
P = Rainfall Intensity =	1.94	
S = slope (ft/ft) =	0.0100	
t_1=	2.4 min.	

t_2: Shallow channel flow

t_2= Length / Velocity =

Length of flow (ft)	0
Channel velocity (fps)	1.141
t_2=	.0 min.

t_3 = Pipe Flow

Length of flow (ft)	760	
V, Velocity (ft/s) = $(1.49r^{2/3}s^{1/2}) / n$	6.03	
r, hydraulic radius (ft) = a/p_w	0.5	
a, cross-sect flow area (sf)	1.57	assumes pipe 50% full
p_w, wetted perimeter (ft)	3.14	
s, slope of hydraulic grade (ft/ft)	0.005	
n - Mannings' roughness coeff.	0.011	

t_3= 2.1 min.

Time of Concentration (Tc) T_c = 4.5 min. If <10 min, use 10 min

Dry Pond Basin

Drainage Area	38,758 s.f.	.89 acres	10.9%
Building	s.f.	.00 acres	0.0%
Asphalt Drives	s.f.	.00 acres	0.0%
Walks/Pads	s.f.	.00 acres	0.0%
Total Impervious	s.f.	.00 acres	0.0%
Wet Pond Surface (@ control)	s.f.	.00 acres	0.0%
Total Semi.-Impervious	s.f.	.00 acres	0.0%
Total Pervious	38,758 s.f.	.89 acres	100.0%

Weighted Curve Number (Pond Water Surface removed from equation)

% Impervious	0.0%		CN1 = 98
% Semi-Pervious	0.0%	Soil Group D	CN2 = 91
% Pervious	100.0%	Soil Group D	CN3 = 77

CN = [(% Impervious)(CN1) + (% Semi-Impervious)(CN2) + (% Pervious)(CN3)]
CN = 77.0

Time of Concentration (Tc) T_c = 10.0 min.

Wet Pond Basin

Drainage Area	56,915 s.f.	1.31 acres	16.0%
Building	s.f.	.00 acres	0.0%
Asphalt Drives	s.f.	.00 acres	0.0%
Walks/Pads	s.f.	.00 acres	0.0%
Total Impervious	s.f.	.00 acres	0.0%
Wet Pond Surface (@ control)	29,770 s.f.	.68 acres	52.3%
Total Semi.-Impervious	s.f.	.00 acres	0.0%
Total Pervious	27,145 s.f.	.62 acres	47.7%

Weighted Curve Number (Pond Water Surface removed from equation)

% Water Surface	52.3%		CN1 = 100
% Impervious	0.0%		CN2 = 98
% Semi-Pervious	0.0%	Soil Group (B/D)	CN3 = 91
% Pervious	47.7%	Soil Group (B/D)	CN4 = 77

CN = [(% Impervious)(CN1) + (% Semi-Impervious)(CN2) + (% Pervious)(CN3)]
CN = 89.0

Time of Concentration (Tc) T_c = 10.0 min.

BASINS - TOTAL

Drainage Area	356,131 s.f.	8.18 acres	100.0%
Building	9,504 s.f.	.22 acres	2.7%
Asphalt Drives	204,043 s.f.	4.68 acres	78.3%
Walks/Pads	13,929 s.f.	.32 acres	3.9%
Total Impervious	227,476 s.f.	5.22 acres	63.9%
Wet Pond Surface (@ control)	29,770 s.f.	.68 acres	8.4%
Total Semi.-Impervious	s.f.	.00 acres	0.0%
Total Pervious	98,885 s.f.	2.27 acres	27.8%

Weighted Curve Number (Pond Water Surface removed from equation)

% Water Surface	8.4%		CN1 = 100
% Impervious	63.9%		CN2 = 98
% Semi-Pervious	0.0%	Soil Group (B/D)	CN3 = 91
% Pervious	27.8%	Soil Group (B/D)	CN4 = 77

CN = [(% Impervious)(CN1) + (% Semi-Impervious)(CN2) + (% Pervious)(CN3)]
CN = 92.3

VI. REQUIRED TREATMENT VOLUME

A. Treatment Volume Tabulations Based on Contributing Area

Total Contributing Area (ac) =	8.18 ac
Total Impervious Area (ac) =	5.22 ac

1.0" over Site Area:

Site Area x 1.0" = 11.998 ac x (1in/12ft) = 0.681 ac-ft

2.5" times percentage of imperviousness:

Site Area for water quality pervious/impervious calculations only

Site Area - (water surface + roofs) =
8.18ac - (0.68ac + 0.22ac) = 7.274 ac

Impervious Area = (Site area for water quality pervious/impervious) - pervious

7.274ac - 2.27ac = 5.004 ac 3.796 ac-ft

Percentage of impervious:

(Impervious/Site area for water quality pervious/impervious)
(5.004ac / 7.274ac) x 100% = 68.8%

Inches to be Treated = Percentage of impervious x 2.5":

(5004ac / 7.274ac) x 2.5" = 1.720 in

Volume of Water Quality

Inches to be Treated x (total site - water surface)
1.720in x (8.18ac - 0.68ac) = 1.074 ac-ft

Required Treatment Volume from above (ac-ft) =	1.074 ac-ft
On-line Retention : Additional 0.5" over drainage area (ac-ft) =	0.341 ac-ft

For outfalls to Outstanding Florida Waters (OFWs)

OFW - Additional 50% treatment of Req'd Treatment Volume (ac-ft) =	0.000 ac-ft
OFW - On-line retention : Addit. 50% of On-Line Treatment from above (ac-ft) =	0.000 ac-ft

Total Required Treatment Volume by City of Ft. Pierce and SFWMD (ac-ft) =	1.414 ac-ft	= 61,612 cf

B. SFWMD Pollutant Loading Reduction Tabulations (See Appendix B for Calculations)

Provided Dry Retention Depth = 0.6 ac-ft / 8.18 ac x (1ft/12in) =	0.880 in
Provided Permanent Pool Volume (from calcu 1.91" x 10.818 ac (area-lake) /12 =	5.252 ac-ft

Meets both nitrogen and phosphorus removal efficiencies

Total Required Treatment Volume for Basin (ac-ft) = Max. of A. and B. above =	**1.414 ac-ft**	**= 61,612 cf**

VII. PROPOSED TREATMENT & DRAWDOWN VOLUME

Wet Detention

Stage (ft)	Area (ac)	Incremental volume (ac-ft)	Incremental volume (c.f.)	Cumulative volume (ac-ft)	Cumulative volume (c.f.)
-bot. of pond = 4.00	0.260 11,314.s.f.	4.02	175,280	0.00	0
6.00	0.545 23,742.s.f.	1.23	53,512	4.02	175,280
Control = 8.00 (SHWL)	0.683 29,770.s.f.	0.730	31,808	0.00	0
1/2 treatment vol. = 8.99 **must equal 0.707 ac-ft*	0.792 34,489.s.f.	0.74	32,196	0.73	31,808
rqd. treat. vol. = 9.87	0.888 38,683.s.f.	2.14	93,208	*1.47*	64,004
top of bank = 12.0	1.121 48,836.s.f.	8.02	349,313	3.61	157,212

Orifice Sizing Drawdown Calculations

Rqd. Treatment Vol. to Draw Down :	0.730	ac-ft (Provided in Pond)
Rqd. Min. Time to Drawdown 1/2 T.V. :	24	hours
Rqd. Max. Time to Drawdown Entire T.V. :	30	hours
Elevation of Orifice :	8.00	NAVD
Assumed Orifice Diameter:	2.45	inches
Centroid of Orifice:	8.10	NAVD
Elevation of 1/2 Treatment Volume :	8.99	NAVD
Elevation of treatment volume :	9.870	NAVD
Max. Orifice Diameter *** :	2.47	inches
***Orifice Equation : Q=C*A*(2*g*H)^.5		
Orifice Diameter Utilized :	**3.0**	**inches** (min. of 3 inches for no clogging**)**

Permanent Pool Volume Calculations

Contributing Area (CA)	8.176	acres
length of wet season (WS)	160	days
wet season rainfall depth (R)	30	inches
minimum residence time (RT)*	21	days
runoff coefficient (C)	0.66	
Required PPV****	1.77	ac-ft
**** PPV = (CA*C*R*RT/(WS*12))		
PPV Provided :	**5.25**	**ac-ft**

Mean Depth = PPV/Ap = 7.69 ft

Note: PPV provided requires no littoral zone.

Note : 14 1.5 = 21 days utilized to eliminate need of littoral zone.

Dry Retention

Stage (ft)	Area (ac)	Incremental volume (ac-ft)	Incremental volume (c.f.)	Cumulative volume (ac-ft)	Cumulative volume (c.f.)
bot. of pond = 10.0	0.548 23,860.s.f.	0.60	25,927	0.00	0
weir = 11.00	0.643 27,993.s.f.	0.69	30,110	0.60	25,927
top of bank = 12.00	0.740 32,227.s.f.			1.29	56,037

Site

Stage (ft)	Area (ac)	Incremental volume (ac-ft)	Incremental volume (c.f.)	Cumulative volume (ac-ft)	Cumulative volume (c.f.)
lowest inlet = 11.3	0.000 .s.f.	4.90	213,311	0.00	0
12.00	2.372 103,334.s.f.	4.07	177,144	4.90	213,311
6 in below FFE = 13.00	5.761 250,954.s.f.			8.96	390,455

Drainage Basins - Combined

Stage (ft)	Area (ac)	Incremental volume (ac-ft)	Incremental volume (c.f.)	Cumulative volume (ac-ft)	Cumulative volume (c.f.)
8.00	0.683 29,770.s.f.	2.06	89,904	0.00	0
10.00	1.380 60,134.s.f.	1.57	68,482	2.06	0
11.00	1.764 76,829.s.f.	3.00	130,613	3.64	0
12.00	4.233 184,397.s.f.	4.29	186,994	3.64	0
100yr-3day = 12.76	7.064			7.93	345,379
(zero discharge stage)	307,692.s.f.	1.80	78,518		
13.00	7.957 346,627.s.f.			9.73	423,898

VIII. 100-Year, 3-Day Event Stage Computation (zero discharge)

$$Q = \frac{(P-0.2S)2}{(P+0.8S)} \qquad V = Q \times A$$

$$S = \frac{1000}{CN} - 10$$

Q = runoff (in.) =	11.29 in.
P = rainfall, (in.) =	12.23 in.
S = potential max. retention after runoff begins (in.) =	0.83 in.
Area (ac.) =	8.18 ac.
Runoff for 100yr-3day (ac-ft) =	**7.690 ac-ft**
Total Storage @ Stage 12.76	7.929 ac-ft
Min. Required F.F.E. Stage	12.76 NAVD
Min. Provided F.F.E.	13.22 NAVD

IX. SUMMARY

Following are summaries of pre-developed and post-developed discharges for the storms that have been analyzed.

Stage & Discharge Results

1. Storm Events are run with the SCS Type III and SFWMD 72 Hr rainfall events.

	Mean Annual (MA) (4.50")		10YR - 24HR (6.00")		10YR - 72HR (8.50")	
	STAGE	PEAK DISCH.	STAGE	PEAK DISCH.	STAGE	PEAK DISCH.
Pre-Site	11.03	4.99	11.31		11.73	
Post-Site	11.34		11.65		11.86	
Post-Dry Pond	11.07		11.24		11.31	
Post-Wet Pond	9.02	0.22	10.06		11.73	

	25YR - 24HR (6.80")		25YR - 72HR (9.50")		100YR - 24HR (9.00")	
	STAGE	PEAK DISCH.	STAGE	PEAK DISCH.	STAGE	PEAK DISCH.
Pre-Site	11.44		11.87	14.70	11.77	
Post-Site	11.77		12.10		12.00	
Post-Dry Pond	11.27		11.61		11.37	
Post-Wet Pond	10.58		11.60	2.16	11.37	

	100YR - 72HR (12.23")		100YR-72HR (zero Discharge)	
	STAGE	PEAK DISCH.	STAGE	PEAK DISCH.
Pre-Site	12.18			
Post-Site	12.05		12.76	
Post-Dry Pond	11.80			
Post-Wet Pond	11.79			

Recovery Within 15 Days (12 Days following 25YR-72HR storm event)

See Appendix A for Recovery Report for the ending stages after the 1st storm. The dry pond recovers by day 8, hour 15, after the 25yr-72 hour storm event takes place.

Allowable Discharge in NSLRWCD System

The allowable discharge from the developed area of 8.18 acres is **1.36 ac-ft.** The maximum discharge for the project is **1.03 ac-ft**. See results under Appendix A.

As demonstrated by the above calculations and the flood routing computations analysis contained in the appendices of this report, the proposed stormwater management system meets the requirements of the CoFP, SFWMD, NSLRWCD and the FDOT. The system provides adequate treatment volume, recovery of the treatment volume and attenuation for the design storms from the above jurisdictional agencies.

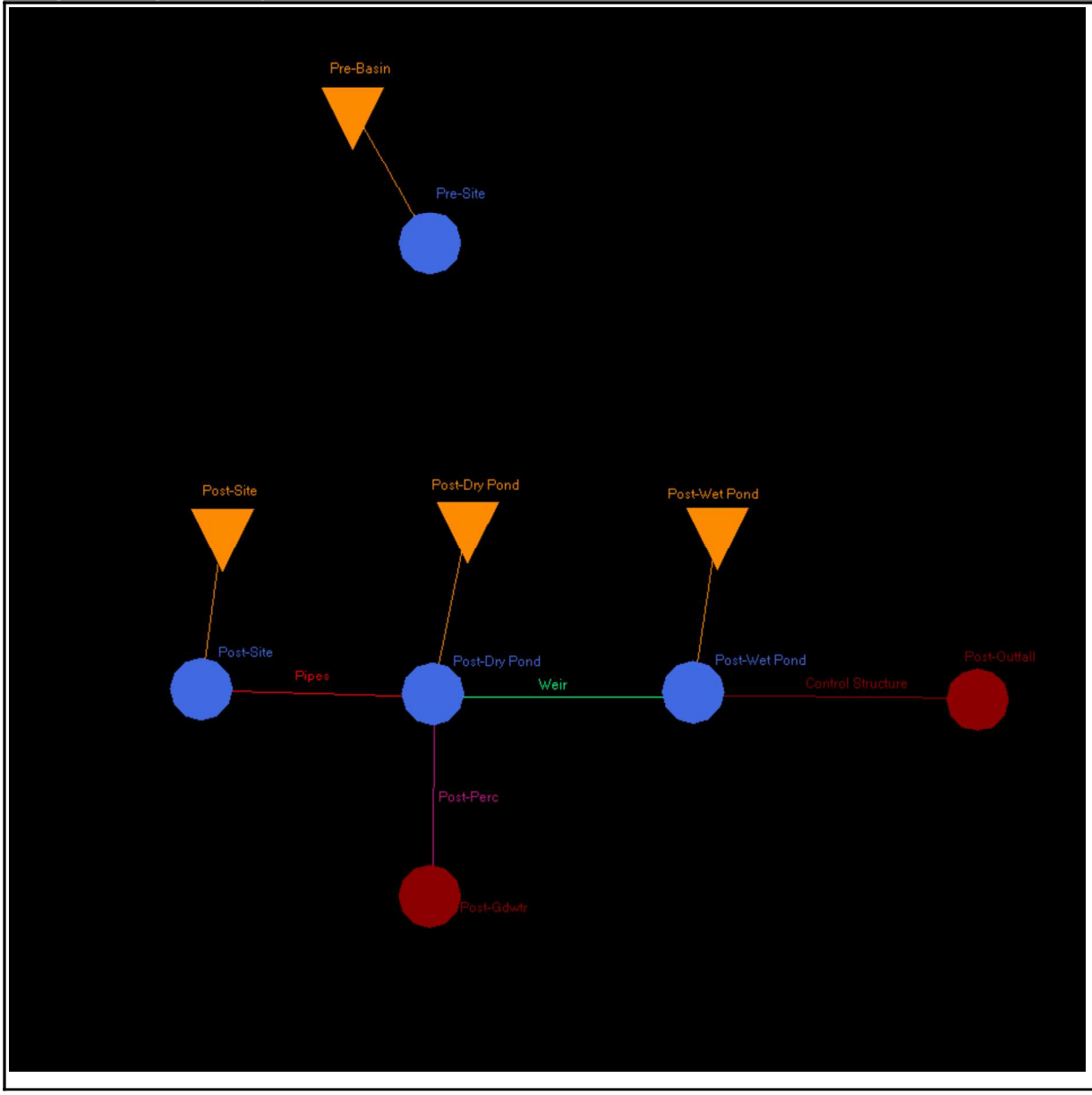
Appendix A
ICPR Modeling and Results

Node Max Conditions [Scenario1]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
Post-Dry Pond	1-MA	12.00	11.07	0.0027	23.83	1.56	28376
Post-Gdwtr	1-MA	8.10	8.00	0.0000	0.00	0.00	0
Post-Outfall	1-MA	8.10	8.00	0.0000	0.22	0.00	0
Post-Site	1-MA	13.00	11.34	-0.0051	17.68	23.83	6273
Post-Wet Pond	1-MA	12.00	9.02	0.0010	3.48	0.22	34630
Pre-Site	1-MA	14.70	11.03	0.0010	4.99	0.00	126205
Post-Dry Pond	2-10YR-24HR	12.00	11.24	0.0027	23.83	9.64	29070
Post-Gdwtr	2-10YR-24HR	8.10	8.00	0.0000	0.00	0.00	0
Post-Outfall	2-10YR-24HR	8.10	8.00	0.0000	0.33	0.00	0
Post-Site	2-10YR-24HR	13.00	11.65	-0.0051	23.86	23.83	52468
Post-Wet Pond	2-10YR-24HR	12.00	10.06	0.0010	10.54	0.33	39565
Pre-Site	2-10YR-24HR	14.70	11.31	0.0009	7.54	0.00	154759
Post-Dry Pond	3-10YR-72HR	12.00	11.31	0.0027	23.83	14.35	29370
Post-Gdwtr	3-10YR-72HR	8.10	8.00	0.0000	0.00	0.00	0
Post-Outfall	3-10YR-72HR	8.10	8.00	0.0000	0.71	0.00	0
Post-Site	3-10YR-72HR	13.00	11.86	-0.0051	25.39	23.83	82648
Post-Wet Pond	3-10YR-72HR	12.00	11.25	0.0010	19.23	0.71	45272
Pre-Site	3-10YR-72HR	14.70	11.73	0.0010	9.31	0.00	197456
Post-Dry Pond	4-25YR-24R	12.00	11.27	0.0027	23.83	11.64	29203
Post-Gdwtr	4-25YR-24R	8.10	8.00	0.0000	0.00	0.00	0
Post-Outfall	4-25YR-24R	8.10	8.00	0.0000	0.37	0.00	0
Post-Site	4-25YR-24R	13.00	11.77	-0.0051	27.15	23.83	69323
Post-Wet Pond	4-25YR-24R	12.00	10.58	0.0010	12.84	0.37	42062
Pre-Site	4-25YR-24R	14.70	11.44	0.0008	8.92	0.00	168370
Post-Dry Pond	5-25YR-72HR	12.00	11.61	0.0027	23.83	18.44	30627
Post-Gdwtr	5-25YR-72HR	8.10	8.00	0.0000	0.00	0.00	0
Post-Outfall	5-25YR-72HR	8.10	8.00	0.0000	2.16	0.00	0
Post-Site	5-25YR-72HR	13.00	12.10	-0.0051	71.52	23.83	118625
Post-Wet Pond	5-25YR-72HR	12.00	11.60	0.0010	31.07	2.16	46946
Pre-Site	5-25YR-72HR	14.70	11.87	0.0010	14.70	0.00	211663
Post-Dry Pond	6-100YR-24HR	12.00	11.37	0.0027	23.83	15.76	29650
Post-Gdwtr	6-100YR-24HR	8.10	8.00	0.0000	0.00	0.00	0
Post-Outfall	6-100YR-24HR	8.10	8.00	0.0000	1.11	0.00	0

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
Post-Site	6-100YR-24HR	13.00	12.00	-0.0051	36.15	23.83	103057
Post-Wet Pond	6-100YR-24HR	12.00	11.37	0.0010	21.84	1.11	45834
Pre-Site	6-100YR-24HR	14.70	11.77	0.0010	12.75	0.00	201725
Post-Dry Pond	7-100YR-72HR	12.00	11.80	0.0027	23.83	17.32	31414
Post-Gdwtr	7-100YR-72HR	8.10	8.00	0.0000	0.00	0.00	0
Post-Outfall	7-100YR-72HR	8.10	8.00	0.0000	3.56	0.00	0
Post-Site	7-100YR-72HR	13.00	12.05	-0.0051	36.66	23.83	110435
Post-Wet Pond	7-100YR-72HR	12.00	11.79	0.0010	24.65	3.56	47839
Pre-Site	7-100YR-72HR	14.70	12.18	0.0010	14.01	0.00	243654

Background Image: Node Map



Allowable Discharge - 2"/ac/24-hr for NSLRWCD

Post			
Time	Cumulative CF	Cumulative Acre-Feet	24 Hour Volume Discharge Acre-Feet
0	0	0.00	
1	0	0.00	
2	0	0.00	
3	0	0.00	
4	0	0.00	
5	0	0.00	
6	0	0.00	
7	0	0.00	
8	0	0.00	
9	0	0.00	
10	0	0.00	
11	0	0.00	
12	0	0.00	
13	0	0.00	
14	1	0.00	
15	1	0.00	
16	2	0.00	
17	3	0.00	
18	5	0.00	
19	7	0.00	
20	10	0.00	
21	14	0.00	
22	19	0.00	
23	25	0.00	
24	33	0.00	0.00
25	42	0.00	0.00
26	53	0.00	0.00
27	68	0.00	0.00
28	86	0.00	0.00
29	107	0.00	0.00
30	132	0.00	0.00
31	161	0.00	0.00
32	194	0.00	0.00
33	232	0.01	0.01
34	275	0.01	0.01
35	323	0.01	0.01
36	376	0.01	0.01
37	434	0.01	0.01

8.18	ac	site area
1.36	ac-ft	max allow. disch.
1.03	ac-ft	max discharge

Note that the maximum discharge is slightly above the allowable maximum discharge, however, this is a small site and there is no bleeder. The only discharge off the site occurs through the grate at the top of the control structure to allow for flood protection of the site.

Allowable Discharge - 2"/ac/24-hr for NSLRWCD

38	498	0.01	0.01
39	567	0.01	0.01
40	642	0.01	0.01
41	722	0.02	0.02
42	808	0.02	0.02
43	900	0.02	0.02
44	997	0.02	0.02
45	1100	0.03	0.02
46	1208	0.03	0.03
47	1322	0.03	0.03
48	1440	0.03	0.03
49	1565	0.04	0.03
50	1695	0.04	0.04
51	1833	0.04	0.04
52	1979	0.05	0.04
53	2138	0.05	0.05
54	2312	0.05	0.05
55	2508	0.06	0.05
56	2729	0.06	0.06
57	2978	0.07	0.06
58	3267	0.08	0.07
59	3724	0.09	0.08
60	4434	0.10	0.09
61	5631	0.13	0.12
62	7059	0.16	0.15
63	8581	0.20	0.18
64	10393	0.24	0.22
65	12482	0.29	0.27
66	14715	0.34	0.32
67	17078	0.39	0.37
68	19560	0.45	0.43
69	22092	0.51	0.48
70	24585	0.56	0.54
71	27039	0.62	0.59
72	29459	0.68	0.64
73	31751	0.73	0.69
74	33789	0.78	0.74
75	35622	0.82	0.78
76	37296	0.86	0.81
77	38854	0.89	0.84
78	40337	0.93	0.87
79	41801	0.96	0.90
80	43259	0.99	0.93
81	44713	1.03	0.96

Allowable Discharge - 2"/ac/24-hr for NSLRWCD

82	46162	1.06	0.98
83	47605	1.09	1.01
84	49042	1.13	1.02
85	50471	1.16	1.03
86	51891	1.19	1.03
87	53303	1.22	1.03
88	54708	1.26	1.02
89	56103	1.29	1.00
90	57491	1.32	0.98
91	58870	1.35	0.96
92	60240	1.38	0.93
93	61602	1.41	0.91
94	62956	1.45	0.88
95	64301	1.48	0.86
96	65637	1.51	0.83
97	66965	1.54	0.81
98	68285	1.57	0.79
99	69595	1.60	0.78
100	70897	1.63	0.77
			1.03

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Outflow Volume [ft3]
Scenario1	3-10YR-72HR	Post-Wet Pond	0.0000	8.00	0
Scenario1	3-10YR-72HR	Post-Wet Pond	1.0082	8.00	0
Scenario1	3-10YR-72HR	Post-Wet Pond	2.0082	8.00	0
Scenario1	3-10YR-72HR	Post-Wet Pond	3.0082	8.00	0
Scenario1	3-10YR-72HR	Post-Wet Pond	4.0082	8.00	0
Scenario1	3-10YR-72HR	Post-Wet Pond	5.0082	8.00	0
Scenario1	3-10YR-72HR	Post-Wet Pond	6.0082	8.00	0
Scenario1	3-10YR-72HR	Post-Wet Pond	7.0082	8.00	0
Scenario1	3-10YR-72HR	Post-Wet Pond	8.0082	8.00	0
Scenario1	3-10YR-72HR	Post-Wet Pond	9.0082	8.00	0
Scenario1	3-10YR-72HR	Post-Wet Pond	10.0082	8.00	0
Scenario1	3-10YR-72HR	Post-Wet Pond	11.0082	8.00	0
Scenario1	3-10YR-72HR	Post-Wet Pond	12.0082	8.00	0
Scenario1	3-10YR-72HR	Post-Wet Pond	13.0082	8.01	0
Scenario1	3-10YR-72HR	Post-Wet Pond	14.0082	8.01	1
Scenario1	3-10YR-72HR	Post-Wet Pond	15.0082	8.01	1
Scenario1	3-10YR-72HR	Post-Wet Pond	16.0082	8.01	2
Scenario1	3-10YR-72HR	Post-Wet Pond	17.0066	8.02	3
Scenario1	3-10YR-72HR	Post-Wet Pond	18.0066	8.02	5
Scenario1	3-10YR-72HR	Post-Wet Pond	19.0066	8.02	7
Scenario1	3-10YR-72HR	Post-Wet Pond	20.0066	8.02	10
Scenario1	3-10YR-72HR	Post-Wet Pond	21.0066	8.03	14
Scenario1	3-10YR-72HR	Post-Wet Pond	22.0059	8.03	19
Scenario1	3-10YR-72HR	Post-Wet Pond	23.0053	8.03	25
Scenario1	3-10YR-72HR	Post-Wet Pond	24.0038	8.04	33
Scenario1	3-10YR-72HR	Post-Wet Pond	25.0025	8.04	42
Scenario1	3-10YR-72HR	Post-Wet Pond	26.0019	8.05	53
Scenario1	3-10YR-72HR	Post-Wet Pond	27.0020	8.05	68
Scenario1	3-10YR-72HR	Post-Wet Pond	28.0001	8.06	86
Scenario1	3-10YR-72HR	Post-Wet Pond	29.0009	8.06	107
Scenario1	3-10YR-72HR	Post-Wet Pond	30.0005	8.07	132
Scenario1	3-10YR-72HR	Post-Wet Pond	31.0002	8.07	161
Scenario1	3-10YR-72HR	Post-Wet Pond	32.0005	8.08	194
Scenario1	3-10YR-72HR	Post-Wet Pond	33.0005	8.08	232
Scenario1	3-10YR-72HR	Post-Wet Pond	34.0012	8.09	275
Scenario1	3-10YR-72HR	Post-Wet Pond	35.0003	8.09	323
Scenario1	3-10YR-72HR	Post-Wet Pond	36.0010	8.10	376
Scenario1	3-10YR-72HR	Post-Wet Pond	37.0009	8.10	434
Scenario1	3-10YR-72HR	Post-Wet Pond	38.0011	8.11	498
Scenario1	3-10YR-72HR	Post-Wet Pond	39.0011	8.11	567
Scenario1	3-10YR-72HR	Post-Wet Pond	40.0008	8.11	642
Scenario1	3-10YR-72HR	Post-Wet Pond	41.0010	8.12	722

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Outflow Volume [ft3]
Scenario1	3-10YR-72HR	Post-Wet Pond	42.0004	8.12	808
Scenario1	3-10YR-72HR	Post-Wet Pond	43.0004	8.13	900
Scenario1	3-10YR-72HR	Post-Wet Pond	44.0008	8.13	997
Scenario1	3-10YR-72HR	Post-Wet Pond	45.0011	8.14	1100
Scenario1	3-10YR-72HR	Post-Wet Pond	46.0013	8.14	1208
Scenario1	3-10YR-72HR	Post-Wet Pond	47.0001	8.14	1322
Scenario1	3-10YR-72HR	Post-Wet Pond	48.0013	8.15	1440
Scenario1	3-10YR-72HR	Post-Wet Pond	49.0003	8.15	1565
Scenario1	3-10YR-72HR	Post-Wet Pond	50.0005	8.16	1695
Scenario1	3-10YR-72HR	Post-Wet Pond	51.0002	8.16	1833
Scenario1	3-10YR-72HR	Post-Wet Pond	52.0009	8.17	1979
Scenario1	3-10YR-72HR	Post-Wet Pond	53.0020	8.18	2138
Scenario1	3-10YR-72HR	Post-Wet Pond	54.0014	8.19	2312
Scenario1	3-10YR-72HR	Post-Wet Pond	55.0006	8.20	2508
Scenario1	3-10YR-72HR	Post-Wet Pond	56.0001	8.22	2729
Scenario1	3-10YR-72HR	Post-Wet Pond	57.0038	8.24	2978
Scenario1	3-10YR-72HR	Post-Wet Pond	58.0032	8.31	3267
Scenario1	3-10YR-72HR	Post-Wet Pond	59.0000	8.56	3724
Scenario1	3-10YR-72HR	Post-Wet Pond	60.0001	9.42	4434
Scenario1	3-10YR-72HR	Post-Wet Pond	61.0004	10.67	5631
Scenario1	3-10YR-72HR	Post-Wet Pond	62.0013	11.08	7059
Scenario1	3-10YR-72HR	Post-Wet Pond	63.0014	11.14	8581
Scenario1	3-10YR-72HR	Post-Wet Pond	64.0036	11.19	10393
Scenario1	3-10YR-72HR	Post-Wet Pond	65.0016	11.21	12482
Scenario1	3-10YR-72HR	Post-Wet Pond	66.0017	11.23	14715
Scenario1	3-10YR-72HR	Post-Wet Pond	67.0020	11.24	17078
Scenario1	3-10YR-72HR	Post-Wet Pond	68.0024	11.25	19560
Scenario1	3-10YR-72HR	Post-Wet Pond	69.0020	11.25	22092
Scenario1	3-10YR-72HR	Post-Wet Pond	70.0026	11.25	24585
Scenario1	3-10YR-72HR	Post-Wet Pond	71.0026	11.24	27039
Scenario1	3-10YR-72HR	Post-Wet Pond	72.0010	11.24	29459
Scenario1	3-10YR-72HR	Post-Wet Pond	73.0001	11.21	31751
Scenario1	3-10YR-72HR	Post-Wet Pond	74.0001	11.19	33789
Scenario1	3-10YR-72HR	Post-Wet Pond	75.0001	11.16	35622
Scenario1	3-10YR-72HR	Post-Wet Pond	76.0001	11.14	37296
Scenario1	3-10YR-72HR	Post-Wet Pond	77.0001	11.12	38854
Scenario1	3-10YR-72HR	Post-Wet Pond	78.0001	11.10	40337
Scenario1	3-10YR-72HR	Post-Wet Pond	79.0001	11.08	41801
Scenario1	3-10YR-72HR	Post-Wet Pond	80.0001	11.06	43259
Scenario1	3-10YR-72HR	Post-Wet Pond	81.0001	11.04	44713
Scenario1	3-10YR-72HR	Post-Wet Pond	82.0001	11.02	46162
Scenario1	3-10YR-72HR	Post-Wet Pond	83.0001	10.99	47605

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Outflow Volume [ft3]
Scenario1	3-10YR-72HR	Post-Wet Pond	84.0001	10.96	49042
Scenario1	3-10YR-72HR	Post-Wet Pond	85.0001	10.93	50471
Scenario1	3-10YR-72HR	Post-Wet Pond	86.0001	10.90	51891
Scenario1	3-10YR-72HR	Post-Wet Pond	87.0001	10.87	53303
Scenario1	3-10YR-72HR	Post-Wet Pond	88.0001	10.84	54708
Scenario1	3-10YR-72HR	Post-Wet Pond	89.0001	10.80	56103
Scenario1	3-10YR-72HR	Post-Wet Pond	90.0001	10.77	57491
Scenario1	3-10YR-72HR	Post-Wet Pond	91.0001	10.74	58870
Scenario1	3-10YR-72HR	Post-Wet Pond	92.0001	10.71	60240
Scenario1	3-10YR-72HR	Post-Wet Pond	93.0001	10.67	61602
Scenario1	3-10YR-72HR	Post-Wet Pond	94.0001	10.64	62956
Scenario1	3-10YR-72HR	Post-Wet Pond	95.0001	10.61	64301
Scenario1	3-10YR-72HR	Post-Wet Pond	96.0001	10.58	65637
Scenario1	3-10YR-72HR	Post-Wet Pond	97.0001	10.55	66965
Scenario1	3-10YR-72HR	Post-Wet Pond	98.0001	10.52	68285
Scenario1	3-10YR-72HR	Post-Wet Pond	99.0001	10.48	69595
Scenario1	3-10YR-72HR	Post-Wet Pond	100.0001	10.45	70897

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	0.0000	11.61
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	1.0027	11.54
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	2.0027	11.51
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	3.0027	11.49
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	4.0027	11.47
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	5.0027	11.45
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	6.0027	11.44
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	7.0027	11.43
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	8.0027	11.42
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	9.0027	11.41
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	10.0027	11.40
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	11.0027	11.39
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	12.0027	11.38
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	13.0027	11.37
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	14.0027	11.36
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	15.0027	11.35
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	16.0027	11.34
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	17.0027	11.33
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	18.0027	11.32
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	19.0027	11.32
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	20.0027	11.31
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	21.0027	11.30
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	22.0027	11.29
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	23.0027	11.28
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	24.0027	11.27
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	25.0027	11.27
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	26.0027	11.26
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	27.0027	11.25
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	28.0027	11.24
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	29.0027	11.23
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	30.0027	11.22
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	31.0027	11.22
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	32.0027	11.21
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	33.0027	11.20
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	34.0027	11.19
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	35.0027	11.18
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	36.0027	11.18
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	37.0027	11.17
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	38.0027	11.16
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	39.0027	11.15
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	40.0027	11.14
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	41.0027	11.14

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	42.0027	11.13
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	43.0027	11.12
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	44.0027	11.11
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	45.0027	11.10
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	46.0027	11.10
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	47.0027	11.09
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	48.0027	11.08
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	49.0027	11.07
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	50.0027	11.06
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	51.0027	11.06
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	52.0027	11.05
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	53.0027	11.04
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	54.0027	11.03
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	55.0027	11.02
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	56.0027	11.02
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	57.0027	11.01
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	58.0027	11.00
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	59.0027	10.99
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	60.0027	10.99
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	61.0027	10.98
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	62.0027	10.97
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	63.0027	10.96
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	64.0027	10.96
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	65.0027	10.95
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	66.0027	10.94
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	67.0027	10.93
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	68.0027	10.92
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	69.0027	10.92
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	70.0027	10.91
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	71.0027	10.90
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	72.0027	10.89
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	73.0027	10.89
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	74.0027	10.88
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	75.0027	10.87
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	76.0027	10.86
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	77.0027	10.86
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	78.0027	10.85
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	79.0027	10.84
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	80.0027	10.83
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	81.0027	10.83
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	82.0027	10.82
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	83.0027	10.81

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	84.0027	10.80
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	85.0027	10.80
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	86.0027	10.79
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	87.0027	10.78
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	88.0027	10.78
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	89.0027	10.77
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	90.0027	10.76
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	91.0027	10.75
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	92.0027	10.75
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	93.0027	10.74
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	94.0027	10.73
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	95.0027	10.72
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	96.0027	10.72
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	97.0027	10.71
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	98.0027	10.70
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	99.0027	10.70
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	100.0027	10.69
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	101.0027	10.68
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	102.0027	10.67
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	103.0027	10.67
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	104.0027	10.66
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	105.0027	10.65
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	106.0027	10.65
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	107.0027	10.64
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	108.0027	10.63
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	109.0027	10.62
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	110.0027	10.62
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	111.0027	10.61
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	112.0027	10.60
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	113.0027	10.60
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	114.0027	10.59
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	115.0027	10.58
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	116.0027	10.58
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	117.0027	10.57
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	118.0027	10.56
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	119.0027	10.55
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	120.0027	10.55
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	121.0027	10.54
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	122.0027	10.53
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	123.0027	10.53
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	124.0027	10.52
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	125.0027	10.51

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	126.0027	10.51
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	127.0027	10.50
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	128.0027	10.49
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	129.0027	10.49
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	130.0027	10.48
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	131.0027	10.47
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	132.0027	10.47
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	133.0027	10.46
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	134.0027	10.45
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	135.0027	10.45
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	136.0027	10.44
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	137.0027	10.43
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	138.0027	10.43
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	139.0027	10.42
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	140.0027	10.41
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	141.0027	10.41
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	142.0027	10.40
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	143.0027	10.39
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	144.0027	10.39
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	145.0027	10.38
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	146.0027	10.37
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	147.0027	10.37
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	148.0027	10.36
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	149.0027	10.35
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	150.0027	10.35
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	151.0027	10.34
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	152.0027	10.34
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	153.0027	10.33
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	154.0027	10.32
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	155.0027	10.32
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	156.0027	10.31
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	157.0027	10.30
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	158.0027	10.30
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	159.0027	10.29
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	160.0027	10.28
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	161.0027	10.28
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	162.0027	10.27
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	163.0027	10.27
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	164.0027	10.26
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	165.0027	10.25
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	166.0027	10.25
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	167.0027	10.24

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	168.0027	10.23
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	169.0027	10.23
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	170.0027	10.22
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	171.0027	10.22
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	172.0027	10.21
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	173.0027	10.20
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	174.0027	10.20
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	175.0027	10.19
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	176.0027	10.19
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	177.0027	10.18
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	178.0027	10.17
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	179.0027	10.17
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	180.0027	10.16
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	181.0027	10.15
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	182.0027	10.15
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	183.0027	10.14
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	184.0027	10.14
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	185.0027	10.13
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	186.0027	10.12
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	187.0027	10.12
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	188.0027	10.11
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	189.0027	10.11
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	190.0027	10.10
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	191.0027	10.10
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	192.0027	10.09
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	193.0027	10.08
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	194.0027	10.08
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	195.0027	10.07
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	196.0027	10.07
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	197.0027	10.06
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	198.0027	10.05
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	199.0027	10.05
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	200.0027	10.04
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	201.0027	10.04
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	202.0027	10.03
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	203.0027	10.03
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	204.0027	10.02
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	205.0027	10.01
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	206.0027	10.01
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	207.0027	10.00
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	208.0027	10.00
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	209.0027	9.99

100% Recovery of Dry Pond by hour 207 (Day 8, hr. 15 after storm event)

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	210.0027	9.99
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	211.0027	9.98
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	212.0027	9.97
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	213.0027	9.97
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	214.0027	9.96
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	215.0027	9.96
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	216.0027	9.95
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	217.0027	9.95
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	218.0027	9.94
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	219.0027	9.93
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	220.0027	9.93
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	221.0027	9.92
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	222.0027	9.92
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	223.0027	9.91
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	224.0027	9.91
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	225.0027	9.90
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	226.0027	9.90
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	227.0027	9.89
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	228.0027	9.88
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	229.0027	9.88
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	230.0027	9.87
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	231.0027	9.87
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	232.0027	9.86
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	233.0027	9.86
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	234.0027	9.85
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	235.0027	9.85
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	236.0027	9.84
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	237.0027	9.84
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	238.0027	9.83
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	239.0027	9.82
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	240.0027	9.82
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	241.0027	9.81
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	242.0027	9.81
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	243.0027	9.80
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	244.0027	9.80
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	245.0027	9.79
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	246.0027	9.79
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	247.0027	9.78
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	248.0027	9.78
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	249.0027	9.77
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	250.0027	9.77
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	251.0027	9.76

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	252.0027	9.76
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	253.0027	9.75
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	254.0027	9.74
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	255.0027	9.74
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	256.0027	9.73
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	257.0027	9.73
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	258.0027	9.72
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	259.0027	9.72
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	260.0027	9.71
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	261.0027	9.71
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	262.0027	9.70
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	263.0027	9.70
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	264.0027	9.69
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	265.0027	9.69
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	266.0027	9.68
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	267.0027	9.68
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	268.0027	9.67
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	269.0027	9.67
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	270.0027	9.66
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	271.0027	9.66
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	272.0027	9.65
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	273.0027	9.65
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	274.0027	9.64
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	275.0027	9.64
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	276.0027	9.63
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	277.0027	9.63
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	278.0027	9.62
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	279.0027	9.62
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	280.0027	9.61
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	281.0027	9.61
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	282.0027	9.60
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	283.0027	9.60
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	284.0027	9.59
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	285.0027	9.59
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	286.0027	9.58
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	287.0027	9.58
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	288.0027	9.57
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	289.0027	9.57
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	290.0027	9.56
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	291.0027	9.56
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	292.0027	9.55
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	293.0027	9.55

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	294.0027	9.54
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	295.0027	9.54
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	296.0027	9.53
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	297.0027	9.53
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	298.0027	9.52
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	299.0027	9.52
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	300.0027	9.51
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	301.0027	9.51
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	302.0027	9.50
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	303.0027	9.50
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	304.0027	9.49
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	305.0027	9.49
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	306.0027	9.48
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	307.0027	9.48
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	308.0027	9.47
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	309.0027	9.47
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	310.0027	9.46
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	311.0027	9.46
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	312.0027	9.45
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	313.0027	9.45
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	314.0027	9.44
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	315.0027	9.44
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	316.0027	9.43
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	317.0027	9.43
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	318.0027	9.43
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	319.0027	9.42
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	320.0027	9.42
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	321.0027	9.41
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	322.0027	9.41
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	323.0027	9.40
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	324.0027	9.40
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	325.0027	9.39
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	326.0027	9.39
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	327.0027	9.38
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	328.0027	9.38
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	329.0027	9.37
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	330.0027	9.37
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	331.0027	9.37
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	332.0027	9.36
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	333.0027	9.36
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	334.0027	9.35
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	335.0027	9.35

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	336.0027	9.34
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	337.0027	9.34
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	338.0027	9.33
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	339.0027	9.33
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	340.0027	9.32
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	341.0027	9.32
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	342.0027	9.32
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	343.0027	9.31
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	344.0027	9.31
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	345.0027	9.30
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	346.0027	9.30
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	347.0027	9.29
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	348.0027	9.29
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	349.0027	9.28
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	350.0027	9.28
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	351.0027	9.28
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	352.0027	9.27
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	353.0027	9.27
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	354.0027	9.26
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	355.0027	9.26
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	356.0027	9.25
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	357.0027	9.25
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	358.0027	9.25
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	359.0027	9.24
Scenario1-Discharge	5-25YR-72HR	Post-Dry Pond	360.0027	9.24

Simple Basin: Post-Dry Pond

Scenario:	Scenario1
Node:	Post-Dry Pond
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH484
Peaking Factor:	484.0
Area:	0.8900 ac
Curve Number:	77.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Post-Site

Scenario:	Scenario1
Node:	Post-Site
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH484
Peaking Factor:	484.0
Area:	5.9800 ac
Curve Number:	95.3
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Post-Wet Pond

Scenario:	Scenario1
Node:	Post-Wet Pond
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999999.00 cfs

Time Shift:	0.0000 hr
Unit Hydrograph:	UH484
Peaking Factor:	484.0
Area:	1.3100 ac
Curve Number:	89.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Pre-Basin

Scenario:	Scenario1
Node:	Pre-Site
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	80.9000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	8.1800 ac
Curve Number:	83.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Post-Dry Pond

Scenario:	Scenario1-Discharge
Node:	Post-Dry Pond
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH484
Peaking Factor:	484.0
Area:	0.8900 ac
Curve Number:	77.0
% Impervious:	0.00
% DCIA:	0.00

% Direct: 0.00
Rainfall Name:

Comment:

Simple Basin: Pre-Basin

Scenario: Scenario1-Discharge
Node: Pre-Site
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 80.9000 min
Max Allowable Q: 999999.00 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH256
Peaking Factor: 256.0
Area: 8.1800 ac
Curve Number: 83.0
% Impervious: 0.00
% DCIA: 0.00
% Direct: 0.00
Rainfall Name:

Comment:

Node: Post-Dry Pond

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 6.75 ft
Warning Stage: 12.00 ft

Stage [ft]	Area [ac]	Area [ft2]
6.75	0.0100	436
10.00	0.5480	23871
12.00	0.7400	32234

Comment:

Node: Post-Gdwtr

Scenario: Scenario1
Type: Time/Stage
Base Flow: 0.00 cfs

Initial Stage: 8.00 ft
Warning Stage: 8.10 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	8.00
0	0	0	999.0000	8.00

Comment:

Node: Post-Outfall

Scenario: Scenario1
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 8.00 ft
Warning Stage: 8.10 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	8.00
0	0	0	999.0000	8.00

Comment:

Node: Post-Site

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 11.30 ft
Warning Stage: 13.00 ft

Stage [ft]	Area [ac]	Area [ft2]
6.75	0.0000	0
11.30	0.0100	436
12.00	2.3720	103324
13.00	5.7610	250949

Comment:

Node: Post-Wet Pond

Scenario: Scenario1
Type: Stage/Area

Base Flow: 0.00 cfs
Initial Stage: 8.00 ft
Warning Stage: 12.00 ft

Stage [ft]	Area [ac]	Area [ft2]
8.00	0.6830	29751
12.00	1.1210	48831

Comment:

Node: Pre-Site

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 9.80 ft
Warning Stage: 14.70 ft

Stage [ft]	Area [ac]	Area [ft2]
9.80	0.0000	0
10.00	0.5000	21780
13.00	7.5000	326700
14.70	8.1800	356321

Comment:

Node: Post-Dry Pond

Scenario: Scenario1-Discharge
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 11.61 ft
Warning Stage: 12.00 ft

Stage [ft]	Area [ac]	Area [ft2]
6.75	0.0100	436
10.00	0.5480	23871
12.00	0.7400	32234

Comment:

Node: Post-Gdwtr

Scenario: Scenario1-Discharge
Type: Time/Stage

Base Flow: 0.00 cfs
Initial Stage: 8.00 ft
Warning Stage: 8.10 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	8.00
0	0	0	999.0000	8.00

Comment:

Node: Pre-Site

Scenario: Scenario1-Discharge
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 9.80 ft
Warning Stage: 14.70 ft

Stage [ft]	Area [ac]	Area [ft2]
9.80	0.0000	0
10.00	0.5000	21780
13.00	7.5000	326700
14.70	8.1800	356321

Comment:

Drop Structure Link: Control Structure

Scenario: Scenario1
From Node: Post-Wet Pond
To Node: Post-Outfall
Link Count: 1
Flow Direction: Both
Solution: Combine
Increments: 0
Pipe Count: 1
Damping: 0.0000 ft
Length: 64.00 ft
FHWA Code: 0
Entr Loss Coef: 0.50
Exit Loss Coef: 1.00
Bend Loss Coef: 0.00
Bend Location: 0.00 dec
Energy Switch: Energy

Upstream Pipe

Invert: 7.00 ft
Manning's N: 0.0120

Geometry: Circular

Max Depth: 1.50 ft

Bottom Clip

Default: 0.00 ft
Op Table:
Ref Node:
Manning's N: 0.0000

Top Clip

Default: 0.00 ft
Op Table:
Ref Node:
Manning's N: 0.0000

Downstream Pipe

Invert: 6.50 ft
Manning's N: 0.0120

Geometry: Circular

Max Depth: 1.50 ft

Bottom Clip

Default: 0.00 ft
Op Table:
Ref Node:
Manning's N: 0.0000

Top Clip

Default: 0.00 ft
Op Table:
Ref Node:
Manning's N: 0.0000

Pipe Comment:

Weir Component	
Weir:	1
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Circular
Invert:	8.00 ft
Control Elevation:	8.00 ft
Max Depth:	0.25 ft

Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients	
Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Weir Comment:

Weir Component	
Weir:	2
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Rectangular
Invert:	11.10 ft
Control Elevation:	11.10 ft
Max Depth:	0.65 ft
Max Width:	1.50 ft
Fillet:	0.00 ft

Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients	
Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Weir Comment:

Weir Component	
Weir:	3
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Horizontal
Geometry Type:	Rectangular
Invert:	11.75 ft
Control Elevation:	11.75 ft
Max Depth:	3.00 ft
Max Width:	4.00 ft
Fillet:	0.00 ft

Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	

Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients	
Weir Default:	3.200
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Weir Comment:

Drop Structure Comment:

Pipe Link: Pipes		Upstream		Downstream	
Scenario:	Scenario1	Invert:	6.75 ft	Invert:	6.75 ft
From Node:	Post-Site	Manning's N:	0.0120	Manning's N:	0.0120
To Node:	Post-Dry Pond	Geometry: Circular		Geometry: Circular	
Link Count:	2	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	750.00 ft	Op Table:		Op Table:	
FHWA Code:	0	Ref Node:		Ref Node:	
Entr Loss Coef:	0.50	Manning's N:	0.0000	Manning's N:	0.0000
Exit Loss Coef:	1.00	Top Clip			
Bend Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Location:	0.00 dec	Op Table:		Op Table:	
Energy Switch:	Energy	Ref Node:		Ref Node:	
		Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Percolation Link: Post-Perc			
Scenario:	Scenario1	Surface Area Option:	Vary Based on Stage/Area Table
From Node:	Post-Dry Pond		
To Node:	Post-Gdwtr	Vertical Flow Termination:	Horizontal Flow Algorithm
Link Count:	1	Perimeter 1:	1021.00 ft
Flow Direction:	None	Perimeter 2:	1052.00 ft
Aquifer Base Elevation:	0.00 ft	Perimeter 3:	1358.00 ft
Water Table Elevation:	8.00 ft	Distance P1 to P2:	2.00 ft
Annual Recharge Rate:	0 ipy	Distance P2 to P3:	10.00 ft
Horizontal Conductivity:	2.100 fpd	# of Cells P1 to P2:	2
Vertical Conductivity:	9.900 fpd	# of Cells P2 to P3:	5
Fillable Porosity:	0.300		
Layer Thickness:	2.00 ft		

Comment:

Weir Link: Weir			
Scenario:	Scenario1	Bottom Clip	
From Node:	Post-Wet Pond	Default:	0.00 ft
To Node:	Post-Dry Pond	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	11.00 ft	Discharge Coefficients	
Control Elevation:	11.00 ft	Weir Default:	2.800
Max Depth:	1.00 ft	Weir Table:	
Max Width:	30.00 ft	Orifice Default:	0.600

Fillet: 0.00 ft

Orifice Table:

Comment:

Percolation Link: Post-Perc

Scenario:	Scenario1-Discharge	Surface Area Option:	Vary Based on Stage/Area Table
From Node:	Post-Dry Pond		
To Node:	Post-Gdwtr	Vertical Flow Termination:	Horizontal Flow Algorithm
Link Count:	1	Perimeter 1:	1021.00 ft
Flow Direction:	Both	Perimeter 2:	1052.00 ft
Aquifer Base Elevation:	0.00 ft	Perimeter 3:	1358.00 ft
Water Table Elevation:	8.00 ft	Distance P1 to P2:	2.00 ft
Annual Recharge Rate:	0 ipy	Distance P2 to P3:	10.00 ft
Horizontal Conductivity:	2.100 fpd	# of Cells P1 to P2:	2
Vertical Conductivity:	9.900 fpd	# of Cells P2 to P3:	5
Fillable Porosity:	0.300		
Layer Thickness:	2.00 ft		

Comment:

Simulation: 1-MA

Scenario: Scenario1
Run Date/Time: 7/19/2024 8:48:07 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:

Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft

Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft

Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr

Smp/Man Basin Rain Opt: Global

Rainfall Name: ~SCSIII-24
Rainfall Amount: 4.50 in
Storm Duration: 24.0000 hr

Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Simulation: 2-10YR-24HR

Scenario: Scenario1
Run Date/Time: 7/19/2024 8:48:18 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000

End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6		
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft		
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~SCSIII-24
		Rainfall Amount:	6.00 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: 3-10YR-72HR

Scenario: Scenario1
Run Date/Time: 7/19/2024 8:48:30 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	100.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6		
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft		
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~SFWMD-72
		Rainfall Amount:	8.50 in
Edge Length Option:	Automatic	Storm Duration:	72.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: 4-25YR-24R

Scenario: Scenario1
Run Date/Time: 7/19/2024 8:48:43 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6		
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft		
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~SCSIII-24
		Rainfall Amount:	6.80 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: 5-25YR-72HR

Scenario: Scenario1
Run Date/Time: 7/19/2024 8:48:53 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	360.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft
Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain Opt: Global
Rainfall Name: ~SFWMD-72
Rainfall Amount: 9.50 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Simulation: 6-100YR-24HR

Scenario: Scenario1
Run Date/Time: 7/19/2024 8:49:30 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft
IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain: Global

		Opt:	
Max dZ:	1.0000 ft		
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~SCSIII-24
		Rainfall Amount:	9.00 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: 7-100YR-72HR

Scenario: Scenario1
Run Date/Time: 7/19/2024 8:49:40 AM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources		Lookup Tables	
Rainfall Folder:		Boundary Stage Set:	
		Extern Hydrograph Set:	
Unit Hydrograph Folder:		Curve Number Set:	
		Green-Ampt Set:	
		Vertical Layers Set:	
		Impervious Set:	

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6		
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft		
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~SFWMD-72
		Rainfall Amount:	12.23 in
Edge Length Option:	Automatic	Storm Duration:	72.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: 5-25YR-72HR

Scenario:	Scenario1-Discharge
Run Date/Time:	7/19/2024 8:50:09 AM
Program Version:	ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	360.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:

Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft

Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft

Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr

Smp/Man Basin Rain Opt: No Rainfall

Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Appendix B

Nutrient Analysis by BMP Trains

Complete Report (not including cost) Ver 4.3.5

Project: 22-0496 Bev Smith Kia
Date: 7/19/2024 9:21:21 AM

Site and Catchment Information

Analysis: Net Improvement

Catchment Name	1
Rainfall Zone	Florida Zone 5
Annual Mean Rainfall	56.00

Pre-Condition Landuse Information

Landuse	High-Intensity Commercial: TN=2.40 TP=0.345
Area (acres)	8.18
Rational Coefficient (0-1)	0.36
Non DCIA Curve Number	83.00
DCIA Percent (0-100)	27.30
Nitrogen EMC (mg/l)	2.400
Phosphorus EMC (mg/l)	0.345
Runoff Volume (ac-ft/yr)	13.641
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	40.367
Phosphorus Loading (kg/yr)	5.803

Post-Condition Landuse Information

Landuse	High-Intensity Commercial: TN=2.40 TP=0.345
Area (acres)	8.18
Rational Coefficient (0-1)	0.56
Non DCIA Curve Number	77.00
DCIA Percent (0-100)	63.90
Wet Pond Area (ac)	0.68

Nitrogen EMC (mg/l)	2.400
Phosphorus EMC (mg/l)	0.345
Runoff Volume (ac-ft/yr)	19.768
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	58.498
Phosphorus Loading (kg/yr)	8.409

Catchment Number: 1 Name: 1

Project: 22-0496 Bev Smith Kia
Date: 7/19/2024

Multiple BMP in Series Design Parameters

BMP in Series Number: 1
BMP Type: Retention

Retention Depth (in)	0.880
Retention Volume (ac-ft)	0.550

BMP in Series Number: 2
BMP Type: Wet Detention

Permanent Pool Volume (ac-ft)	5.250
Permanent Pool Volume (ac-ft) for 31 days residence	1.679
Annual Residence Time (days)	97
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

BMP in Series Number: 3
BMP Type: None

BMP in Series Number: 4
BMP Type: None

Watershed Characteristics

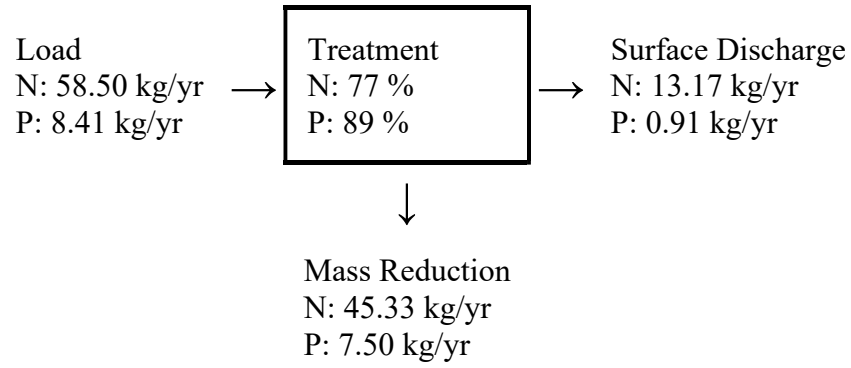
Catchment Area (acres)	8.18
Contributing Area (acres)	7.500
Non-DCIA Curve Number	77.00
DCIA Percent	63.90
Rainfall Zone	Florida Zone 5

Rainfall (in)	56.00

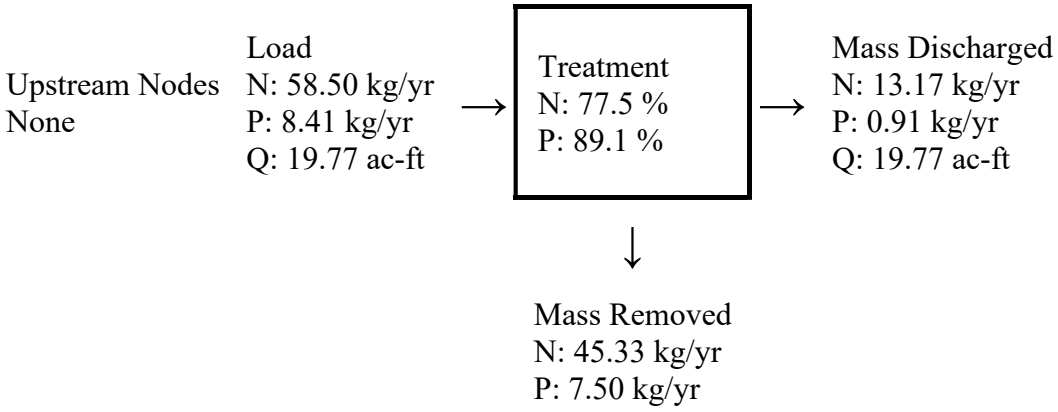
Surface Water Discharge

Required TN Treatment Efficiency (%)	31
Provided TN Treatment Efficiency (%)	77
Required TP Treatment Efficiency (%)	31
Provided TP Treatment Efficiency (%)	89

Load for Multiple BMP in Series



Load Diagram for Multiple BMP (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: 22-0496 Bev Smith Kia

Analysis Type: Net Improvement

Date:7/19/2024

BMP Types:

Catchment 1 - (1) Multiple BMP

Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Outlet

Total nitrogen target removal met? **Yes**

Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	40.37 kg/yr	
Total N post load	58.5 kg/yr	
Target N load reduction	31 %	
Target N discharge load	40.37 kg/yr	
Percent N load reduction	77 %	
Provided N discharge load	13.17 kg/yr	29.04 lb/yr
Provided N load removed	45.33 kg/yr	99.95 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	5.803 kg/yr	
Total P post load	8.409 kg/yr	
Target P load reduction	31 %	
Target P discharge load	5.803 kg/yr	
Percent P load reduction	89 %	
Provided P discharge load	.913 kg/yr	2.01 lb/yr
Provided P load removed	7.496 kg/yr	16.529 lb/yr

Appendix C

Geotechnical Reports by Universal Engineering Sciences

UNIVERSAL
ENGINEERING SCIENCES

GEOTECHNICAL EXPLORATION

BEV SMITH KIA EXPANSION
5660 US HIGHWAY 1
FORT PIERCE, FLORIDA

UES PROJECT NO. 3330.2100346.0000

PREPARED FOR:

Bev Smith Toyota
3350 US Highway 1
Fort Peirce, Florida

Attn: Mr. Michael Smith

PREPARED BY:

Universal Engineering Sciences
607 NW Commodity Cove
Port St. Lucie, Florida 34986
(772) 924-3575

January 26, 2022

UNIVERSAL
ENGINEERING SCIENCES
Consultants In: Geotechnical Engineering • Environmental Sciences
Geophysical Services • Construction Materials Testing • Threshold Inspection
Building Inspection • Plan Review • Building Code Administration

January 26, 2022

Mr. Michael Smith
Bev Smith Toyota
3350 US Highway 1
Fort Peirce, Florida
Phone: (772) 464-8440
Email: msmith@bevsmithtoyota.com

Subject: Report of Geotechnical Exploration
Bev Smith Kia Expansion
5660 US Highway 1, Fort Pierce, Florida
UES Project No. 3330.2100346.0000

Dear Mr. Smith:

Universal Engineering Sciences (UES) has completed the subsurface exploration and geotechnical engineering evaluation for the above referenced project in accordance with the geotechnical and engineering service agreement for this project. The scope of services was completed in general accordance with our Geotechnical Engineering Proposal No. 18-9647.02 Rev #1 dated January 4, 2022, planned in conjunction with and authorized by you.

EXECUTIVE SUMMARY

The purpose of our subsurface exploration was to classify the nature of the subsurface soils and general geomorphic conditions at the site and evaluate their impact upon the proposed construction. This report contains the results of our subsurface exploration and our engineering interpretations of these with respect to the project characteristics described to us, including providing recommendations for foundation design, pavement design, site preparation, and earthwork construction.

Per our recent telephone discussions and email correspondence with you, UES understands that you plan to expand the parking area at Bev Smith Kia located at 5660 US Highway 1 in Fort Pierce, Florida. Testing was completed previously by GFA International, although the design of the proposed expansion has changed, and additional testing is needed. UES has been provided a picture of a concept plan showing the layout of the proposed swale, paved parking area, and the dry retention pond on the property.

The recommendations provided herein are based upon the above considerations. If the stated conditions are incorrect or if the project description is revised, please inform UES so that we may review our recommendations with respect to any modifications.

Three (3) hand auger borings with hand cone penetrometer (HCP) testing (AB-1, AB-2, and AB-5), advanced to a depth of approximately 10 feet below the existing ground surface, were performed within the planned paved parking and the dry retention pond areas. Additionally, two (2) hand auger borings with hand cone penetrometer (HCP) testing (AB-3 and AB-4) advanced to an approximate depth of 10 feet below ground surface and two (2) Shelby tube samples (SH-1 and SH-2) were tested for their horizontal and vertical permeability were performed within the proposed swale. Furthermore, an exfiltration test was also performed in a 6-feet deep auger boring for the proposed dry retention pond. The locations of the borings, Shelby tubes, and exfiltration test are illustrated on the Test Location Plan in Appendix B.

The subsurface soil conditions encountered at the boring locations generally consisted of loose to medium dense fine sand (SP), fine sand with silt (SP-SM), silty fine sand (SM), and clayey fine sand (SC) to termination depths.

The results of the soil borings and exfiltration and falling head permeability tests were considered to develop pavement design for the project.

We appreciate the opportunity to be of service during this phase of the project and look forward to a continued association. Please do not hesitate to contact us if you have any questions or comments, or if we may further assist you as your plans proceed.

Respectfully Submitted,
Universal Engineering Sciences
Florida Registry No. 4930

This item has been digitally signed and sealed by Allan G. Abubakar, 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.

Allan G. Abubakar, P.E.
Sr. Project Engineer
Florida Registration No. 69952

Khaled Abdelli
Project Manager

Distribution: Mr. Michael Smith - Bev Smith Toyota 1 pdf

TABLE OF CONTENTS

1.0 INTRODUCTION 4
1.1 Scope of Services 4
1.2 Project Description 4

2.0 OBSERVATIONS 4
2.1 Site Description 4
2.2 Field Exploration 5
2.3 Visual Classification 5
2.4 Geomorphic Conditions 5
2.5 Hydrogeological Conditions 6
2.6 Seasonal High Groundwater Table 7

3.0 PAVEMENT AREA DESIGN AND CONSTRUCTION CONSIDERATIONS 7
3.1 Pavement Design Sections 7
3.2 Compacted Subgrade or Embankment Fill 8
3.3 Stabilized Subgrade 8
3.4 Base Course 8
3.5 Flexible (Asphalt) Pavement 9
3.6 Rigid (Concrete) Pavement 9
3.7 Effects of Water 9
3.8 Construction Traffic 10
3.9 Pavement Site Preparation 10

4.0 REPORT LIMITATIONS 11

5.0 BASIS FOR RECOMMENDATIONS 11

Appendix A - Vicinity Map
Appendix B - Test Location Plan
Appendix C - Notes Related to Borings
Appendix D - Log of Boring Records
Appendix E - Hydraulic Conductivity Results
Appendix F - Discussion of Soil Groups

1.0 INTRODUCTION

1.1 Scope of Services

The objective of our geotechnical services was to collect subsurface data for the subject project, summarize the test results, and discuss any apparent site conditions that may have geotechnical significance for the proposed construction. The following scope of services is provided within this report:

1. Prepare boring logs depicting the subsurface soil conditions encountered during our field exploration.

2. Review the soil samples obtained during our field exploration for classification and additional testing if necessary.

3. Evaluate the existing soil conditions found during our exploration with respect to the proposed expansion.

4. Provide recommendations for pavement design and subgrade preparation.

5. Provide site preparation criteria for the proposed construction.

6. Provide results and design parameters for stormwater management testing conducted.

1.2 Project Description

Per our recent telephone discussions and email correspondence with you, UES understands that you plan to expand the parking area at Bev Smith Kia located at 5660 US Highway 1 in Fort Pierce, Florida. Testing was completed previously by GFA International, although the design of the proposed expansion has changed, and additional testing is needed. UES has been provided a picture of a concept plan showing the layout of the proposed swale, paved parking area, and the dry retention pond on the property.

The recommendations provided herein are based upon the above considerations. If the stated conditions are incorrect or if the project description is revised, please inform UES so that we may review our recommendations with respect to any modifications.

2.0 OBSERVATIONS

2.1 Site Description

The project site is located at 5660 US Highway 1 in Fort Pierce, Florida as illustrated on the Site Vicinity Map in Appendix A. At the time of our field exploration, the site was developed with existing structure and associated parking area.

2.2 Field Exploration

Three (3) hand auger borings with hand cone penetrometer (HCP) testing (AB-1, AB-2, and AB-5), advanced to a depth of approximately 10 feet below the existing ground surface, were performed within the planned paved parking and the dry retention pond areas. Additionally, two (2) hand auger borings with hand cone penetrometer (HCP) testing (AB-3 and AB-4) advanced to an approximate depth of 10 feet below ground surface and two (2) Shelby tube samples (SH-1 and SH-2) were tested for their horizontal and vertical permeability were performed within the proposed swale. Furthermore, an exfiltration test was also performed in a 6-feet deep auger boring for the proposed dry retention pond. The locations of the borings, Shelby tubes, and exfiltration test are illustrated on the Test Location Plan in Appendix B.

The auger borings were performed in substantial accordance with ASTM D 1452, "Standard Practice for Soil Exploration and Sampling by Auger Borings." Hand Cone Penetrometer (HCP) tests were conducted at one-foot depth intervals in the auger borings. The HCP test, in conjunction with information about the soil type, is empirically correlated to the relative density of subsurface soils.

Site specific survey staking of the borings, Shelby tubes, and exfiltration test were not provided for our field exploration. The indicated depth and location of each boring were approximated based upon existing grade, the provided Conceptual Site Plan, and estimated distances and relationships to existing landmarks at the site.

2.3 Laboratory Testing

Soil samples recovered from our field exploration were returned to our laboratory where they were visually classified by a geotechnical engineer in general accordance with the Unified Soil Classification System (ASTM D 2488). Selected sample was tested for organic content (AASHTO T-267). The laboratory test results are summarized in Table 3.3.1 below and are also contained on the boring logs.

Table 2.3.1 - Laboratory Test Results

Boring No.	Strata Depth (feet)	Sample Description	Organic Content (%)
AB-4	2 - 3	Dark brown organically stained fine sand, trace roots (SP)	3.0

The recovered samples were not evaluated, either visually or analytically, for chemical composition or environmental hazards. UES will be pleased to perform these services for an additional fee, if required

2.4 Geomorphic Conditions

The geology of the site as mapped on the USDA Soil Survey website consists of Nettles and Oldsmar sands (25) Riviera fine sand, 0 to 2 percent slopes (38) and, Susanna and Wauchula sands (43). **These are sand and loamy sand soils and organic soils are not indicated.**

Note that the Soil Survey generally extends to a maximum depth of 80 inches below ground surface and is not indicative of deeper soil conditions.

Boring logs resulting from our field exploration are presented in Appendix D - Log of Boring Records. The logs contain the soil descriptions, the hand cone penetrometer (HCP) values logged during the drilling and sampling activities. Note that the soil boring data reflect information from the specific test locations only and the soil conditions may vary between the strata interfaces indicated on the logs. The soil classifications and descriptions shown on the logs are generally based upon visual characterizations of the recovered samples using the Unified Soil Classification System. See Appendix F - Discussion of Soil Groups, for a detailed description of various soil groups.

The subsurface soil conditions encountered at the boring locations generally consisted of loose to medium dense fine sand (SP), fine sand with silt (SP-SM), silty fine sand (SM), and clayey fine sand (SC) to termination depths.

2.5 Hydrogeological Conditions

On the dates of our field exploration (January 15, 2022), groundwater was encountered in the auger borings ranging from depths of 5.8 to 9.2 feet below ground surface. The groundwater table typically fluctuates seasonally depending upon local rainfall and other site specific and/or local influences. Brief ponding of stormwater may occur across the site after heavy or extended rainfall events.

Falling head permeability tests were performed on the shelby tube samples to obtain horizontal (k_h) and vertical (k_v) permeability values of the soils. The permeability test results are summarized in the following Table 2.5.1.

Table 2.5.1 – Permeability Test Results

Test Location	Sample Depth (feet)	Sample Description	Coefficient of Permeability, k (ft/day)	
			k_V	k_H
SH-1 (AB-3)	1.5 - 2.0	Gray fine sand (SP)	9.135	2.436
SH-2 (AB-4)	1.5 - 2.0	Dark gray fine sand (SP	10.747	1.729

During our field exploration, we performed one (1) auger boring and exfiltration test (EX-1) in accordance with the South Florida Water Management District method for open hole constant head field testing. The test was conducted at the approximate location indicated on the Test Location Plan in Appendix B. The hydraulic conductivity (K-value) determined at EX-1 was **1.84 X 10^{-07} (cfs/ft^2-ft).** The test results are also presented in Appendix E - Hydraulic Conductivity Results.

2.6 Seasonal High Groundwater Table

The normal seasonal high groundwater level each year is the level that typically occurs in the August to September period at the end of the rainy season during a year of normal or average rainfall. During periods of above normal rainfall and in extreme cases of flooding, the water table elevations typically exceed the normal seasonal high groundwater level. Under this scenario, normal high groundwater levels approach the normal seasonal high groundwater levels.

The normal seasonal high groundwater level is affected by several factors. The drainage characteristics of the soils, the land surface elevation, relief points such as drainage ditches, lakes, rivers, canals, swamp areas, etc., and distance to relief points are some of the more important factors influencing the seasonal high groundwater level.

In order to better interpret the groundwater data, we reviewed available monthly precipitation data from several stations in the Fort Pierce area from June 2021 through December 2021 utilizing the Community Collaborative Rain, Hail & Snow Network website, which corresponds to the six (6) months prior to the time of our field exploration. The data indicated that the recorded rainfall during this period was relatively normal compared to the 30-year recorded average rainfall.

Based on our interpretations of the site conditions, the groundwater levels recorded in our soil borings at the time of drilling, and the data obtained from the various sources referenced herein, we estimate the normal seasonal high groundwater level to be approximately 1 to 1.5 feet above the water levels recorded in the borings. As previously noted, it is possible that higher groundwater levels may exceed the estimated normal seasonal high groundwater level as a result of significant or prolonged rainfall events. However, design for normal seasonal high groundwater conditions, instead of the extreme conditions, generally is more appropriate.

3.0 PAVEMENT AREA DESIGN AND CONSTRUCTION CONSIDERATIONS

3.1 Pavement Design Sections

The pavement sections were designed considering assumed traffic loading and previous experience with similar projects. Flexible pavement sections in the geographic area typically consist of an asphaltic wearing course, a base course, and a stabilized subgrade layer. Rigid pavements are constructed either directly upon prepared soil subgrades or upon a base course and stabilized subgrade for heavier loads.

Based on our prior experience and the assumed traffic loading criteria, recommended pavement section thicknesses are provided in Table 3.1.1 below.

Table 3.1.1 - Design Pavement Sections

Pavement Type	Layer	Material Description	Layer Thickness	
			Light Duty	Heavy Duty
Flexible	(A)	Asphalt Wearing Surface FDOT SP-9.5 or SP-12.5	1.5	2.5
	(B)	Base rock (minimum LBR of 100), compacted to 98 percent of modified Proctor maximum dry density	6	8
	(SSG)	Stabilized subgrade (minimum LBR of 40), compacted to 98 percent of modified Proctor maximum dry density	12	12
	STRUCTURAL NUMBER (SN)		**2.7**	**3.5**
Rigid	(C)	FDOT Portland Cement Concrete	NA	8
	(B)	Base rock (minimum LBR of 100), compacted to 98 percent of modified Proctor maximum dry density	NA	-
	(CSG)	Soil subgrade compacted to 98 percent of modified Proctor maximum dry density	NA	12

3.2 Compacted Subgrade or Embankment Fill

The subgrade or embankment fill is the layer that supports the structural pavement section. Subgrade and embankment fill should be constructed following the criteria and procedures presented in Section 3.9 of this report.

3.3 Stabilized Subgrade

The stabilized subgrade is the portion of the pavement section between the compacted subgrade or embankment fill and the base course. We recommend that subgrade material be compacted to at least 98 percent of modified Proctor maximum dry density (AASHTO T-180). The stabilized subgrade material should have a minimum Limerock Bearing Ratio (LBR) value of 40. Compliance tests should be performed upon the stabilized subgrade for full depth at a frequency of one test per 5,000 square feet, or at a minimum of two test locations, whichever is greater.

3.4 Base Course

The base course is the portion of the pavement section between the surface course and stabilized subgrade. In areas where separation of at least 1.5 feet between the estimated wet seasonal high groundwater table and the bottom of the base material occurs, we recommend the base course be limerock or cemented coquina having a minimum Limerock Bearing Ratio (LBR) value of 100. The base material should be obtained from an approved source. The base material should be placed in maximum 6-inch-thick lifts and compacted to at least 98 percent of modified Proctor maximum dry density (AASHTO T-180).

If the separation between the estimated wet seasonal high groundwater table and the bottom of the base material is less than 1.5 feet, we recommend that asphaltic concrete base (FDOT SP-12.5) be used in lieu of limerock or cemented coquina. The subgrade should be mechanically stabilized (compacted) to a minimum of 98 percent of modified Proctor maximum dry density (AASHTO T-180). Compliance tests should be performed on the base course at a frequency of one test per 5,000 square feet, or a minimum of two test locations, whichever is greater.

3.5 Flexible (Asphalt) Pavement

Asphalt pavement should consist of either FDOT SP-9.5 or SP-12.5 asphaltic concrete. The mixes should be a current FDOT approved design for the materials used for the project. Samples of the materials delivered to the project should be tested to verify that the aggregate gradation and asphalt content satisfies the mix design specifications.

The asphalt should be compacted to meet the requirements of the latest edition of the FDOT *Standard Specifications for Road and Bridge Construction*. Compliance tests should be performed by obtaining cores to evaluate material thickness and density at a frequency of one test per 10,000 square feet, or a minimum of two test locations, whichever is greater.

3.6 Rigid (Concrete) Pavement

Rigid pavements should be constructed using concrete having a minimum 28-day compressive strength of 4,000 psi. Fill required to raise grades in pavement areas should be compacted to at least 98 percent of modified Proctor maximum dry density (AASHTO T-180).

The pavement slabs should be reinforced to make them as rigid as practical. Proper joints should be provided at the junctions of slabs so that a small amount of independent movement can without causing structural damage. Construction and control joints should be accordance with current American Concrete Institute (ACI) and industry practices.

The pavement sections presented in this report are minimum pavement section thicknesses typically used for similar type projects. The pavement materials and construction procedures should conform to FDOT, ACI, or appropriate city/county requirements.

3.7 Effects of Water

Premature pavement section deterioration can occur due to intrusion of the wet season high groundwater table and/or improper surface water runoff management. We recommend the pavement areas be constructed to have a minimum separation of 1.5 feet between the wet season high groundwater table and the bottom of base course, regardless of the type of base material. In addition, we recommend that full-depth curb sections be designed and constructed. Using either extruded curb sections, which lie directly on top of the final surface course, or eliminating the curbing entirely, may allow runoff and/or irrigation water to migrate between the base and surface course. This condition can result in the separation of the surface course from the base course, causing a rippling effect, which results in premature deterioration of the pavement.

3.8 Construction Traffic

Incomplete pavement sections or pavement areas designed for light duty traffic will not perform satisfactorily under typical construction traffic loading. We recommend that all construction traffic (i.e., construction equipment, vehicles, etc.) either be re-routed away from these areas or the pavement sections be designed to support construction phase loading conditions.

3.9 Pavement Site Preparation

Our recommendations for preparation of the site for pavement construction are noted below. This approach to improving and maintaining site soils has been found to be successful with similar soil conditions.

1. The proposed construction limits should be cleared, stripped, and grubbed of all surface vegetation, topsoil, and associated root systems to depths of their vertical reaches. This should be performed within and to a distance of 5 feet beyond the limits of the pavement areas.
2. Prior to initiating fill operations, the existing ground surface should be compacted (proof rolled) using a steel drum vibratory roller having sufficient static weight and vibratory impact energy to achieve the required compaction. After completing the proof rolling, density tests should be performed at a frequency of one test per 5,000 square feet, or at a minimum of two test locations, whichever is greater, to confirm a minimum compaction compliance of 98 percent of modified Proctor maximum dry density (AASHTO T-180).

3. Fill material should be inorganic (classified as SP/GW) containing not more than 5 percent (by weight) fibrous organic materials. **Fill material having silt/clay-size fines contents greater than 5 percent should not be used, including cyclone sand material.** The fill should be placed in maximum 12-inch-thick lifts. Each lift should be compacted to a minimum density of 98 percent of modified Proctor maximum dry density (AASHTO T-180).

4. Compliance density tests should be performed within the fill at a frequency of not less than one test per 5,000 square feet per lift, or at a minimum of two test locations, whichever is greater.

5. Representative samples of both on-site and import materials proposed for use as fill should be obtained and tested to determine compliance with the project specifications. The testing should include moisture-density relations (AASHTO T-180) and particle size analysis.

6. The contractor should consider the contours contained on the final grading, paving, and drainage plans when executing backfilling and compaction operations.

4.0 REPORT LIMITATIONS

This consulting report has been prepared for the exclusive use of Bev Smith Toyota and other members of the design team for the proposed Bev Smith Kia Expansion project located at 5660 US Highway 1 in Fort Pierce, Florida. This report has been prepared in accordance with generally accepted local geotechnical engineering practices; no other warranty, either express or implied, is made.

The evaluation submitted in this report is based in part upon the data collected during a field exploration. However, the nature and extent of variations throughout the subsurface profile may not become evident until construction. If variations then appear evident, it may be necessary to reevaluate information and professional opinions provided in this report. In the event changes are made in the nature, design, or location of the proposed swale, pavement and pond areas, the evaluation and opinions contained in this report should not be considered valid unless the changes are reviewed, and our conclusions modified or verified in writing by UES.

UES should be provided the opportunity to review the final civil plans, structural plans, and project specifications to determine if UES's recommendations have been properly interpreted, communicated, and implemented. If UES is not afforded the opportunity to participate in construction related aspects of foundation installation and pavement construction as recommended in this report or any report addendum, UES cannot accept responsibility for the interpretation of our recommendations made in this report or in a report addendum for foundation or pavement performance.

5.0 BASIS FOR RECOMMENDATIONS

The recommendations presented in this report are based on the data obtained from the borings and exfiltration and falling head permeability tests performed at the locations indicated on the Test Location Plan in Appendix B. This report does not reflect variations which may occur between borings. While the borings are representative of the subsurface conditions at their respective locations and for their vertical reaches, local variations characteristic of the subsurface soils of the region are anticipated and may be encountered. The delineation between soil types shown on the boring logs is approximate and the descriptions represent our interpretation of the subsurface conditions at the designated boring locations on the specific dates drilled.

Any third-party reliance of our geotechnical report or parts thereof is strictly prohibited without the express written consent of Universal Engineering Sciences. The applicable auger boring methodology (ASTM D 1452) used in performing our borings, and for determining penetration resistance and soil relative density, is specific to the sampling tools utilized and does not reflect the ease or difficulty to advance other tools or materials.

Appendix A - Vicinity Map

Site Vicinity Map

Bev Smith Kia Expansion
5660 US Highway 1, Fort Pierce, Florida

Project No. 3330.2100346.0000	Drafted by: JR	Reviewed By: AA	Date: 1/25/2022

Appendix B - Test Location Plan

Test Location Plan

Bev Smith Kia Expansion
5660 US Highway 1, Fort Pierce, Florida

Project No. 3330.2100346.0000	Drafted by: JR	Reviewed By: AA	Date: 1/26/2022

N

Legend

- Approximate 10’ Auger Boring Test Locations
- Approximate Exfiltration Test Location
- Approximate Shelby Tube Locations

Appendix C - Notes Related to Borings

NOTES RELATED TO BORING RECORDS AND GENERALIZED SUBSURFACE PROFILES

1. Groundwater levels (if encountered) were recorded either during or following the boring completion on the date indicated. Fluctuations in groundwater levels are common - see the report text for a discussion.
2. The boring locations were identified in the field by estimated distances and offsets from existing reference marks and/or other site landmarks.
3. The completed boreholes were backfilled to adjacent site grade using drilling spoils and patched with asphalt cold mix in pavement areas.
4. The Log of Boring records represent our interpretation of soil conditions based on visual classification of the soil samples recovered from the borings.
5. The Log of Boring records are subject to the limitations, conclusions, and recommendations presented in the report text.
6. The Standard Penetration Test (SPT) N-values contained on the Log of Boring records refer to the total blow counts of a 140-pound drop hammer falling 30 inches required to drive a split-barrel sampler a total distance of 12 inches into soil strata at specific depth intervals.
7. The Hand Cone Penetrometer (HCP) values contained on Log of Boring records and the Cone Penetration Test (CPT) values contained on the Cone Penetration Sounding logs refer to the cone tip resistance recorded when pushing the cone tip into the soil strata at specific depth intervals.
8. The soil and/or rock strata interfaces shown on the Log of Boring records are approximate and may vary from those shown on the logs. The soil and/or rock descriptions shown on the Log of Boring records refer to conditions at the specific location tested. Soil/rock conditions may vary between test locations.
9. Relative density for coarse-grained soils (sands/gravels) and consistency for fine-grained soils (silts/clays) are described as follows:

Coarse Grained Soils (Sands and Gravels)				Fine Grained Soils (Silts and Clays)			
SPT N-Value	HCP Value (kg/cm^2)	CPT Value (tsf)	Relative Density	SPT N-Value	HCP Value (kg/cm^2)	CPT Value (tsf)	Consistency
0-4	0-16	0-20	Very Loose	0-2	0-20	0-3	Very Soft
5-10	17-36	21-40	Loose	3-4	21-35	4-6	Soft
11-30	37-116	41-120	Med. Dense	5-8	>35	7-12	Firm
31-50	117-196	121-200	Dense	9-15		13-25	Stiff
>50	> 196	>200	Very Dense	16-30		26-50	Very Stiff
				>30		>50	Hard

10. Grain size descriptions are as follows:

Description	Particle Size Limits
Boulder	Greater than 12 inches
Cobble	3 to 12 inches
Coarse Gravel	3/4 to 3 inches
Fine Gravel	No. 4 sieve to 3/4 inch
Coarse Sand	No. 10 to No. 4 sieve
Medium Sand	No. 40 to No. 10 sieve
Fine Sand	No. 200 to No. 40 sieve
Fines (Silt/Clay)	Smaller than No. 200 sieve

11. Definitions for modifiers used in soil/rock descriptions:

Proportion	Modifier	Approximate Root Diameter	Modifier
<5%	Trace	Less than 1/32"	Fine roots
5% to 12%	Little	1/32" to 1/4"	Small roots
12% to 30%	Some	1/4" to 1"	Medium roots
30% to 50%	And	Greater than 1"	Large roots
Organic Soils: Soils containing vegetative tissue in various stages of decomposition having a fibrous to amorphous texture. Usually having a dark brown to black color and an organic odor. Organic Content Modifiers: <25%: Slightly to Highly Organic; 25% to 75%: Muck; >75%: Peat			

Appendix D - Log of Boring Records

Universal Engineering Sciences
607 NW Commodity Cove
Port Saint Lucie, Florida 34986
(772) 924-3575

LOG OF BORING AB-1

CLIENT Bev Smith Toyota
PROJECT NAME Bev Smith Kia Expansion
PROJECT NUMBER 3330.2100346.0000
PROJECT LOCATION 5660 US Highway 1, Fort Pierce, Florida
DATE STARTED 1/15/22 **COMPLETED** 1/15/22
LATITUDE **LONGITUDE**
DRILLING CONTRACTOR Universal Engineering Sciences
GROUND WATER LEVELS:
DRILLING METHOD Auger Boring
▽ **AT TIME OF DRILLING** 5.80 ft
DRILLER Lo
AT END OF ---
NOTES
ESHGT

DEPTH (ft)	HAND CONE PENETROMETER (HCP) (tsf)	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
0.0	80		Dark gray fine sand (SP)			
	80					
2.0			Dark brown organically stained fine sand, trace roots (SP)			
2.5	80					
3.0			Brown fine sand (SP)			
	80					
4.0			Gray silty fine sand (SM)			
	80					
5.0	70		▽			
	70					
7.5	80					
	80					
	80					
10.0			10.0			

Bottom of borehole at 10.0 feet.

HAND AUGER WITH HCP - GFA DATA TEMPLATE.GDT - 1/25/22 11:38 - Y:\PROJECTS_UES PROJECT SETUP\2021 UES PROJECTS\3330.2100346.0000 - BEV SMITH KIA EXPANSION - FORT PIERCE - GEO\18-9647.02 - BEV SMITH KIA EXPANSION - FT. PIERCE - GE(

Universal Engineering Sciences
607 NW Commodity Cove
Port Saint Lucie, Florida 34986
(772) 924-3575

LOG OF BORING AB-2

CLIENT Bev Smith Toyota
PROJECT NAME Bev Smith Kia Expansion
PROJECT NUMBER 3330.2100346.0000
PROJECT LOCATION 5660 US Highway 1, Fort Pierce, Florida
DATE STARTED 1/15/22 **COMPLETED** 1/15/22
LATITUDE **LONGITUDE**
DRILLING CONTRACTOR Universal Engineering Sciences
GROUND WATER LEVELS:
DRILLING METHOD Auger Boring
AT TIME OF DRILLING 7.00 ft
DRILLER Lo
AT END OF ---
NOTES
ESHGT

DEPTH (ft)	HAND CONE PENETROMETER (HCP) (tsf)	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
0.0	80		Gray fine sand (SP)			
	80					
2.0			Dark brown organically stained fine sand (SP)			
2.5	80					
3.0			Brown fine sand (SP)			
	80					
4.0			Light gray fine sand with silt (SP-SM)			
5.0	80					
	80					
	80					
7.0 ▽			Gray clayey fine sand (SC)			
7.5	80					
	80					
	80					
10.0			10.0			

Bottom of borehole at 10.0 feet.

HAND AUGER WITH HCP - GFA DATA TEMPLATE.GDT - 1/25/22 11:38 - Y:\PROJECTS_UES PROJECT SETUP\2021 UES PROJECTS\3330.2100346.0000 - BEV SMITH KIA EXPANSION - FORT PIERCE - GEO\18-9647.02 - BEV SMITH KIA EXPANSION - FT. PIERCE - GE(

Universal Engineering Sciences
607 NW Commodity Cove
Port Saint Lucie, Florida 34986
(772) 924-3575

LOG OF BORING AB-3

CLIENT Bev Smith Toyota
PROJECT NAME Bev Smith Kia Expansion
PROJECT NUMBER 3330.2100346.0000
PROJECT LOCATION 5660 US Highway 1, Fort Pierce, Florida
DATE STARTED 1/15/22 **COMPLETED** 1/15/22
LATITUDE **LONGITUDE**
DRILLING CONTRACTOR Universal Engineering Sciences
GROUND WATER LEVELS:
DRILLING METHOD Auger Boring
▽ **AT TIME OF DRILLING** 8.00 ft
DRILLER Lo
AT END OF ---
NOTES
ESHGT

DEPTH (ft)	HAND CONE PENETROMETER (HCP) (tsf)	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
0.0	80		Gray fine sand (SP)			
	80					
2.0			Dark brown organically stained fine sand, trace roots (SP)			
2.5	80					
3.0			Brown fine sand (SP)			
	80					
4.0			Dark gray fine sand (SP)			
	80					
5.0						
	80					
6.0			Light gray clayey fine sand, trace roots (SC)			
	80					
7.5	70					
8.0 ▽			Gray silty fine sand (SM)			
	70					
	70					
10.0			10.0			

Bottom of borehole at 10.0 feet.

HAND AUGER WITH HCP - GFA DATA TEMPLATE.GDT - 1/25/22 11:38 - Y:\PROJECTS_UES PROJECT SETUP\2021 UES PROJECTS\3330.2100346.0000 - BEV SMITH KIA EXPANSION - FORT PIERCE - GEO\18-9647.02 - BEV SMITH KIA EXPANSION - FT. PIERCE - GE(

Universal Engineering Sciences
607 NW Commodity Cove
Port Saint Lucie, Florida 34986
(772) 924-3575

LOG OF BORING AB-4

CLIENT Bev Smith Toyota
PROJECT NAME Bev Smith Kia Expansion
PROJECT NUMBER 3330.2100346.0000
PROJECT LOCATION 5660 US Highway 1, Fort Pierce, Florida
DATE STARTED 1/15/22 **COMPLETED** 1/15/22
LATITUDE **LONGITUDE**
DRILLING CONTRACTOR Universal Engineering Sciences
GROUND WATER LEVELS:
DRILLING METHOD Auger Boring
▽ **AT TIME OF DRILLING** 6.00 ft
DRILLER Lo
AT END OF ---
NOTES
ESHGT

DEPTH (ft)	HAND CONE PENETROMETER (HCP) (tsf)	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
0.0			Dark gray fine sand (SP)			
	80					
	80					
			2.0			
			Dark brown organically stained fine sand, trace roots (SP)			3.0
2.5	80					
			3.0			
			Brown fine sand (SP)			
	80					
			4.0			
			Light brown silty fine sand (SM)			
	80					
5.0						
	70					
			6.0 ▽			
			Gray silty fine sand (SM)			
	70					
7.5						
	80					
	80					
	80					
10.0			10.0			

Bottom of borehole at 10.0 feet.

HAND AUGER WITH HCP - GFA DATA TEMPLATE.GDT - 1/25/22 11:38 - Y:\PROJECTS_UES PROJECT SETUP\2021 UES PROJECTS\3330.2100346.0000 - BEV SMITH KIA EXPANSION - FORT PIERCE - GEO\18-9647.02 - BEV SMITH KIA EXPANSION - FT. PIERCE - GE(

Universal Engineering Sciences
607 NW Commodity Cove
Port Saint Lucie, Florida 34986
(772) 924-3575

LOG OF BORING AB-5

CLIENT Bev Smith Toyota
PROJECT NAME Bev Smith Kia Expansion
PROJECT NUMBER 3330.2100346.0000
PROJECT LOCATION 5660 US Highway 1, Fort Pierce, Florida
DATE STARTED 1/15/22 **COMPLETED** 1/15/22
LATITUDE **LONGITUDE**
DRILLING CONTRACTOR Universal Engineering Sciences
GROUND WATER LEVELS:
DRILLING METHOD Auger Boring
▽ **AT TIME OF DRILLING** 9.20 ft
DRILLER Lo
AT END OF ---
NOTES
ESHGT

DEPTH (ft)	HAND CONE PENETROMETER (HCP) (tsf)	GRAPHIC LOG	MATERIAL DESCRIPTION	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)
0.0			Gray fine sand (SP)			
	80					
	80					
			2.0			
			Light gray fine sand (SP)			
2.5	80					
			3.0			
			Gray silty fine sand, trace roots (SM)			
	80					
	80					
5.0						
	80					
	80					
7.5						
	80					
			8.0			
			Gray fine sand (SP)			
	80		▽			
	70					
10.0			10.0			

Bottom of borehole at 10.0 feet.

HAND AUGER WITH HCP - GFA DATA TEMPLATE.GDT - 1/25/22 11:38 - Y:\PROJECTS_UES PROJECT SETUP\2021 UES PROJECTS\3330.2100346.0000 - BEV SMITH KIA EXPANSION - FORT PIERCE - GEO\18-9647.02 - BEV SMITH KIA EXPANSION - FT. PIERCE - GE(

Appendix E - Hydraulic Conductivity Results

UNIVERSAL
ENGINEERING SCIENCES
Consultants In: Geotechnical Engineering • Environmental Sciences
Geophysical Services • Construction Materials Testing • Threshold Inspection
Building Inspection • Plan Review • Building Code Administration

EXFILTRATION TEST REPORT
South Florida Water Management District - Usual Open Hole Test

Client: Bev Smith Toyota

Project No: 3330.2100346.0000

Project: Bev Smith Kia Expansion
5660 US Highway 1, Fort Pierce, Florida

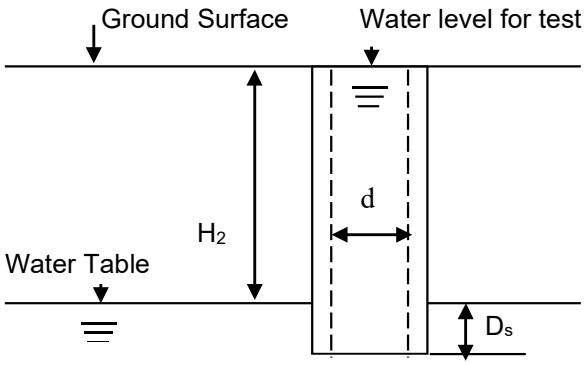
Test Date: 1/15/2022
Technician: LO

SOIL PROFILE

Test Location: EX-1	Depth (feet)	Soil Description	HCP
	0 – 1	Dark gray fine sand (SP)	80+
	1 – 3	Light gray fine sand (SP)	80+
	3 – 6	Gray silty fine sand, trace roots (SM)	80+
			80+
			80+
			80+
	Depth to Water Table from Ground Surface (feet)		NE*

* Not Encountered

CALCULATION OF HYDRAULIC CONDUCTIVITY



$$K = \frac{4Q}{\pi d(2H_2^2 + 4H_2D_S + H_2d)}$$

K	Hydraulic Conductivity (cfs/ ft^2 – ft head)	**1.84×10^{-07}**
Q	Stabilized Flow Rate (cubic ft per second)	**3.57×10^{-06}**
d	Diameter of Test Hole (feet)	**0.33**
H_2	Depth to Water Table (feet)	**6.0**
D_S	Saturated Hole Depth (feet)	**0**
Notes:		

Appendix F - Discussion of Soil Groups

DISCUSSION OF SOIL GROUPS

COARSE GRAINED SOILS

General. A soil is classified as coarse-grained if more than 50 percent of a representative sample of the material is retained on the No. 200 sieve.

GW and SW Groups. These groups comprise well-graded gravelly and sandy soils containing little or no plastic fines (less than 5 percent passing the No. 200 sieve). The low fines content does not noticeably change the shear strength characteristics of these soils and does not interfere with their free-draining characteristics.

GP and SP Groups. Poorly graded gravels and sands containing little or no plastic fines (less than 5 percent passing the No. 200 sieve) are in the GP and SP groups. The materials can be called uniform gravels, uniform sands, or non-uniform mixtures of very coarse materials and very fine sand, with intermediate sizes lacking (sometimes called skip-graded, gap-graded, or step-graded). This last group often results from borrow pit excavation in which gravel and sand layers are mixed.

GM and SM Groups. In general, the GM and SM groups comprise gravels or sands with fines (more than 12 percent passing the No. 200 sieve) having little or no plasticity. The plasticity index and liquid limit of soils in these groups plot below the "A" line on the plasticity chart. The gradation of the material is not considered significant and both well and poorly graded materials are included.

GC and SC Groups. In general, the GC and SC groups comprise gravelly or sandy soils containing fines (more than 12 percent passing the No, 200 sieve) having plasticity characteristics. The plasticity index and liquid limit of soils in these groups plot above the "A" line on the plasticity chart.

FINE GRAINED SOILS

General. A soil is classified as fine-grained if more than 50 percent of a representative sample of the material passes the No. 200 sieve.

ML and MH Groups. These groups comprise inorganic silts (ML) and elastic silts (MH) having either low (L) or high (H) liquid limits, respectively. ML soils have a liquid limit of less than 50 while MH soils have a liquid limit of 50 and greater. Silts and elastic silts can also contain varying amounts of sand and gravel. Also included in this group are loess sediments and rock flours.

CL and CH Groups. These groups comprise low plasticity (lean) clays (CL) and medium to high plasticity (fat) clays (CH) having either low (L) or high (H) liquid limits, respectively. CL soils have a liquid limit of less than 50 while CH soils have a liquid limit of 50 and greater. The low plasticity clays can also be sandy clays or silty clays. The moderate to high plasticity clays can also be sandy clays and include some volcanic clays.

OL and OH Groups. These groups comprise organic silts and clays. The soils are characterized by the presence of organic odor and/or dark color. The OL and OH soils are differentiated by determining and comparing their liquid limit values before and after oven drying representative soil samples.

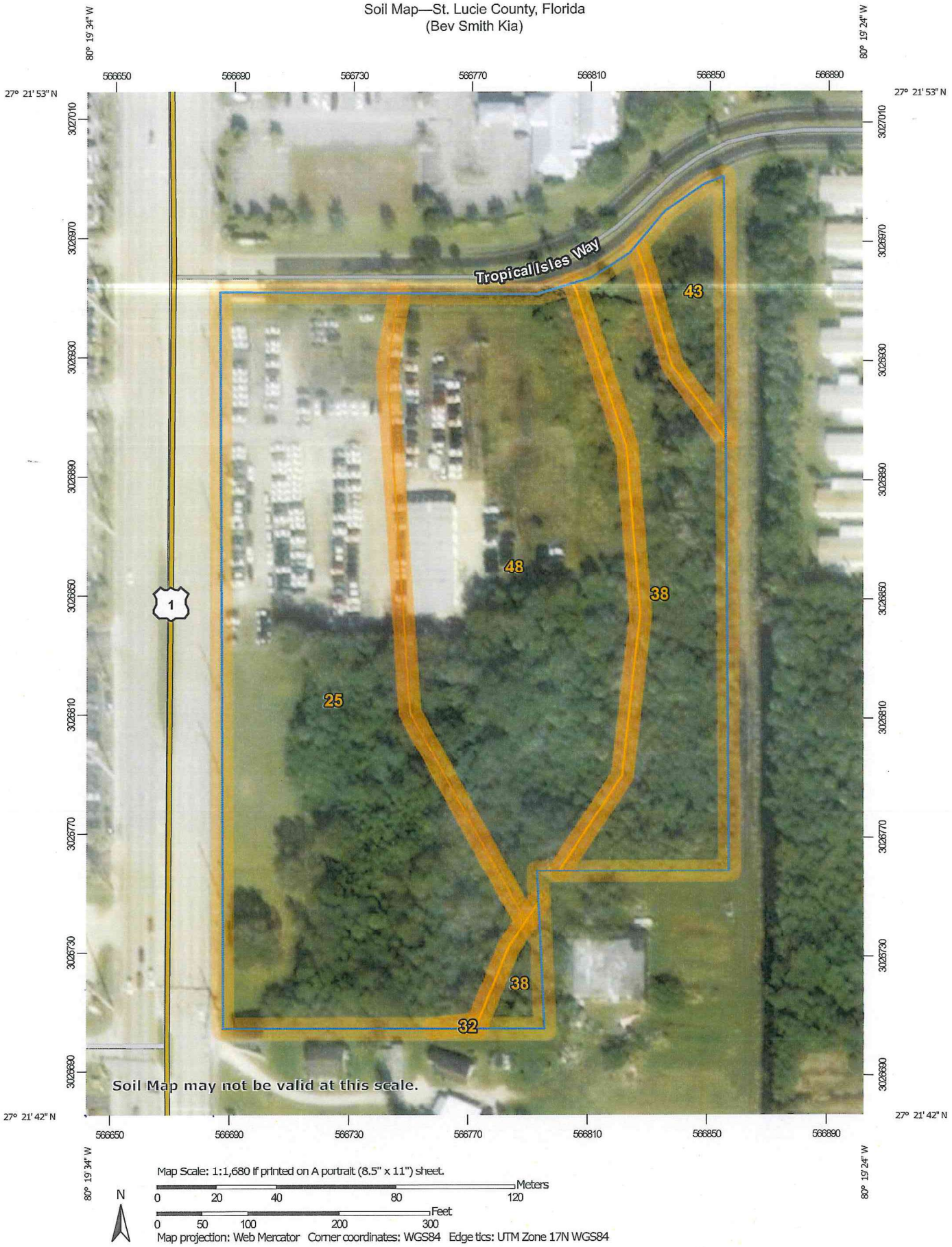
HIGHLY ORGANIC SOILS

The highly organic soils are usually very soft and compressible and have undesirable construction characteristics. Particles of leaves, grasses, branches, or other fibrous vegetative matter are common components of these soils. They are not subdivided and are classified into one group with the symbol PT. Peat humus and swamp soils with a highly organic texture are typical soils of the group.

Appendix D
Soil Map

Attachment D

Soil Map—St. Lucie County, Florida
(Bev Smith Kia)



Map Scale: 1:1,680 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

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

MAP LEGEND

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

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

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

Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: St. Lucie County, Florida
Survey Area Data: Version 11, Sep 17, 2018

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

Date(s) aerial images were photographed: Dec 31, 2009—Dec 15, 2017

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

Map Unit Legend

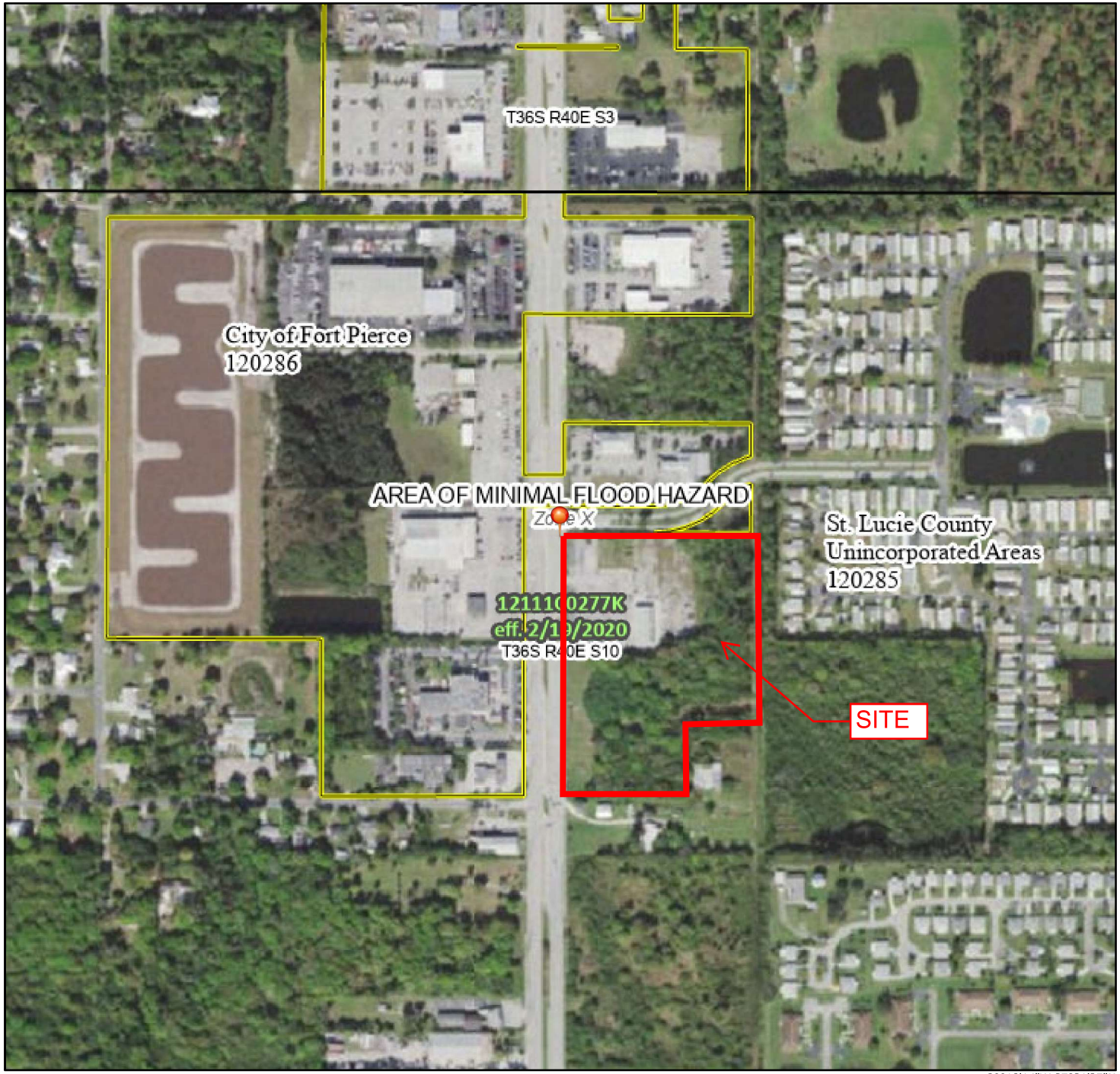
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
25	Nettles and Oldsmar sands	4.3	43.9%
32	Pineda sand, 0 to 2 percent slopes	0.0	0.0%
38	Riviera fine sand, 0 to 2 percent slopes	1.8	18.1%
43	Susanna and Wauchula sands	0.4	4.0%
48	Wabasso sand, 0 to 2 percent slopes	3.3	33.9%
Totals for Area of Interest		**9.8**	**100.0%**

Appendix E
Flood Zone Map

National Flood Hazard Layer FIRMette

FEMA

80°19'51"W 27°22'7"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

80°19'14"W 27°21'35"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/19/2024 at 9:35 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix F

Miscellaneous (Rainfall Maps, CN table, historical permits, etc...)

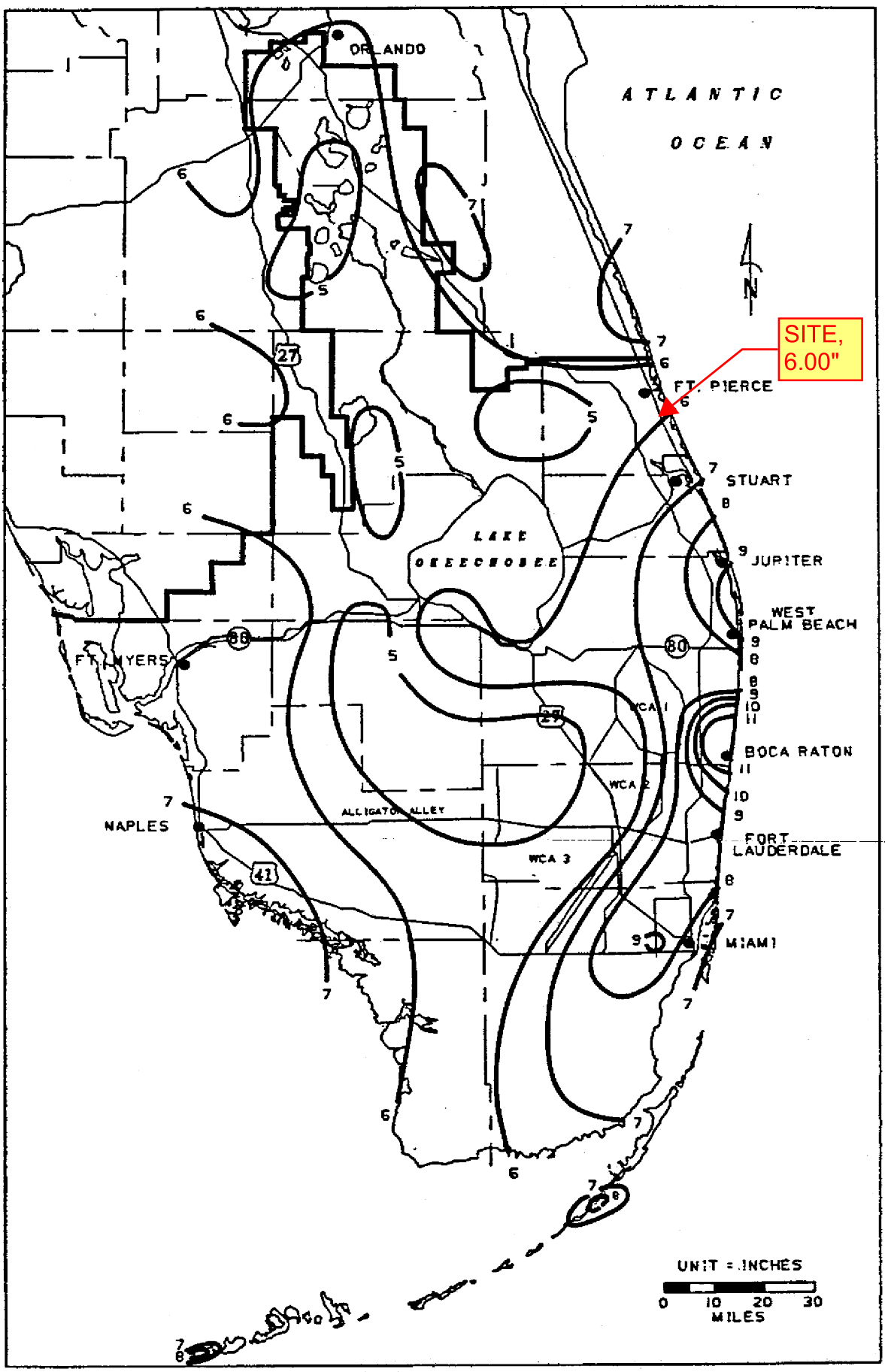


FIGURE C-4. 1-DAY RAINFALL: 10-YEAR RETURN PERIOD

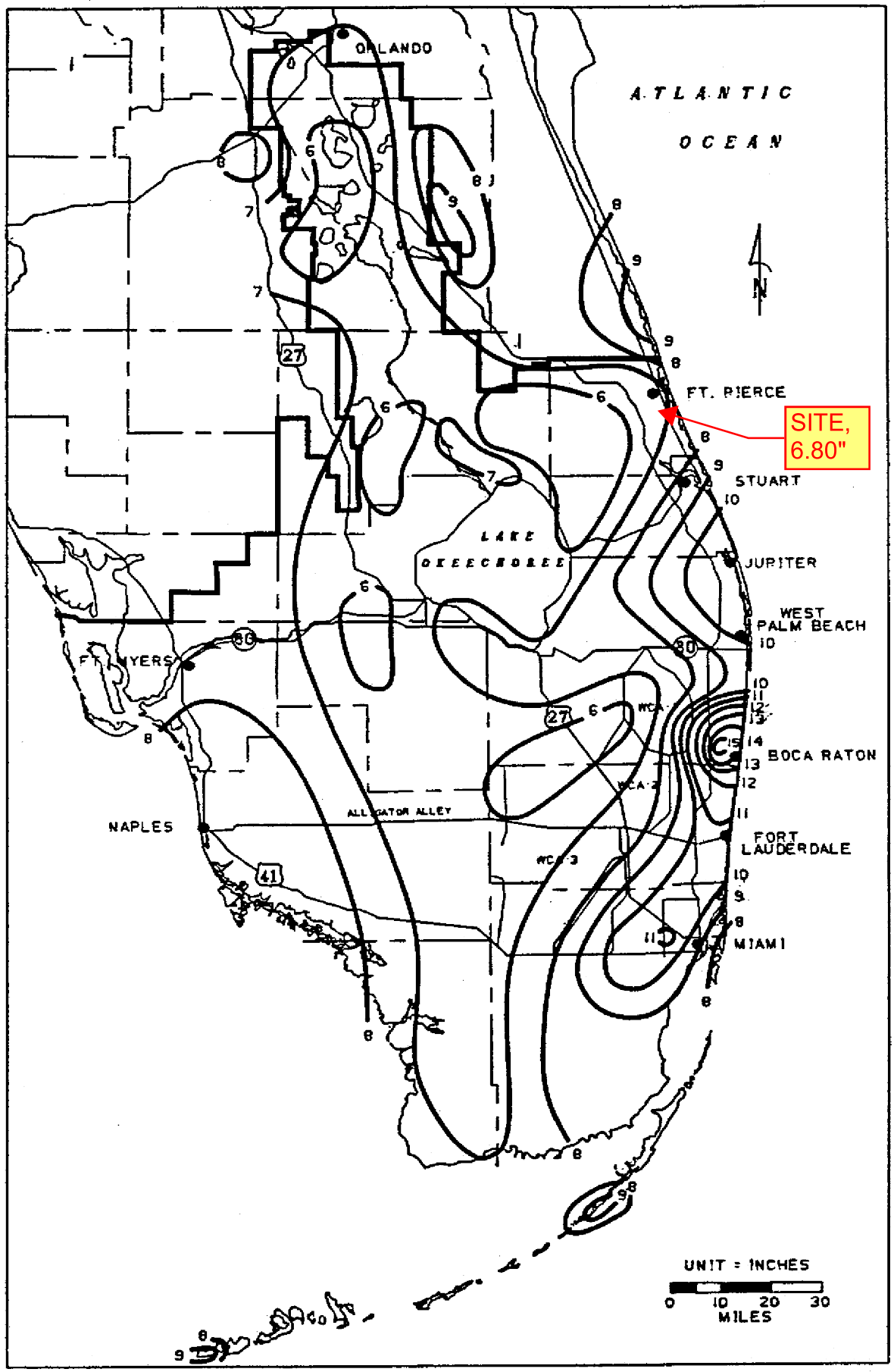


FIGURE C-5. 1-DAY RAINFALL: 25-YEAR RETURN PERIOD

Figure C-5

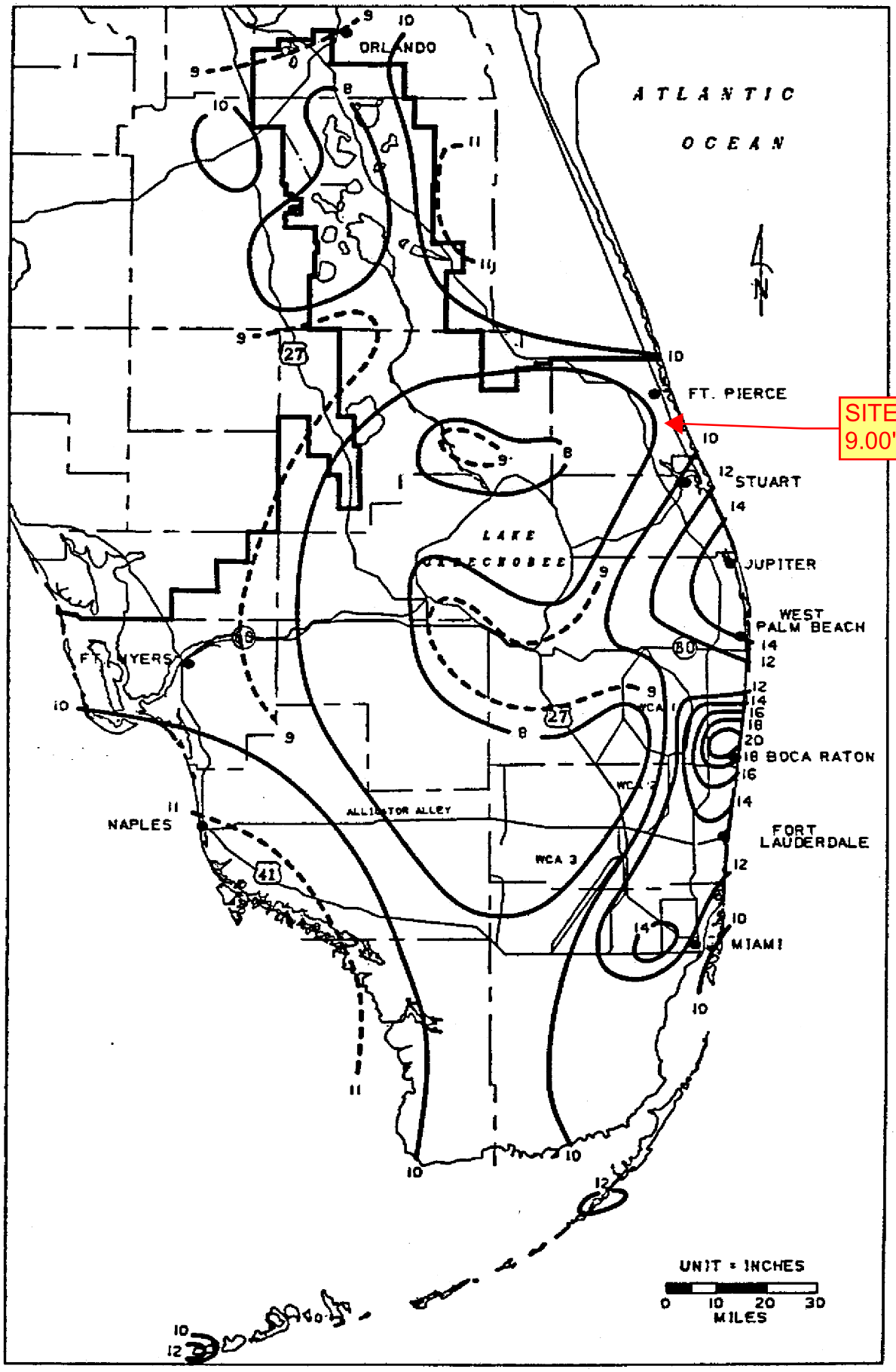


FIGURE C-6. 1-DAY RAINFALL: 100-YEAR RETURN PERIOD

Figure C-6

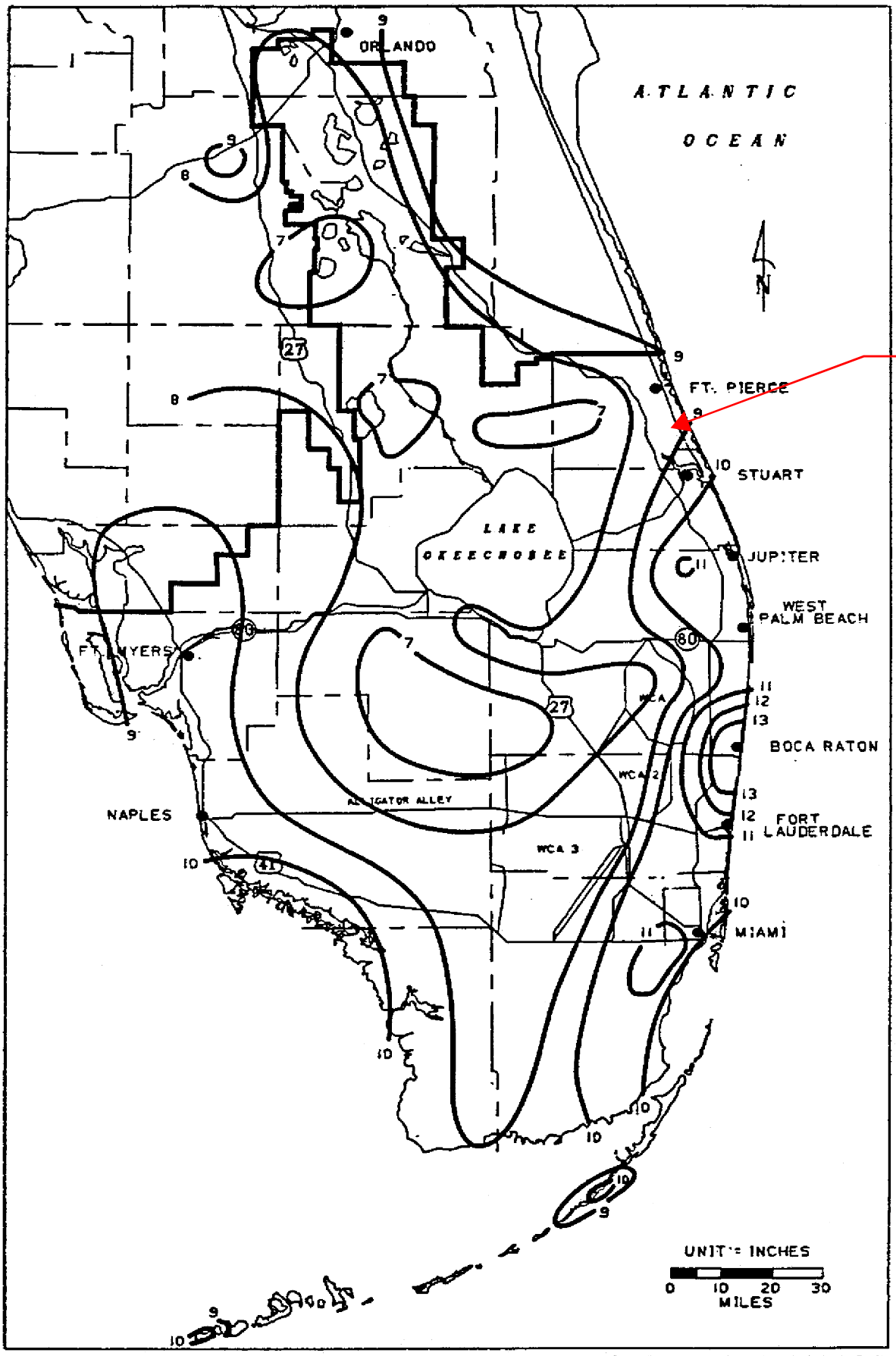


FIGURE C-7. 3-DAY RAINFALL: 10-YEAR RETURN PERIOD

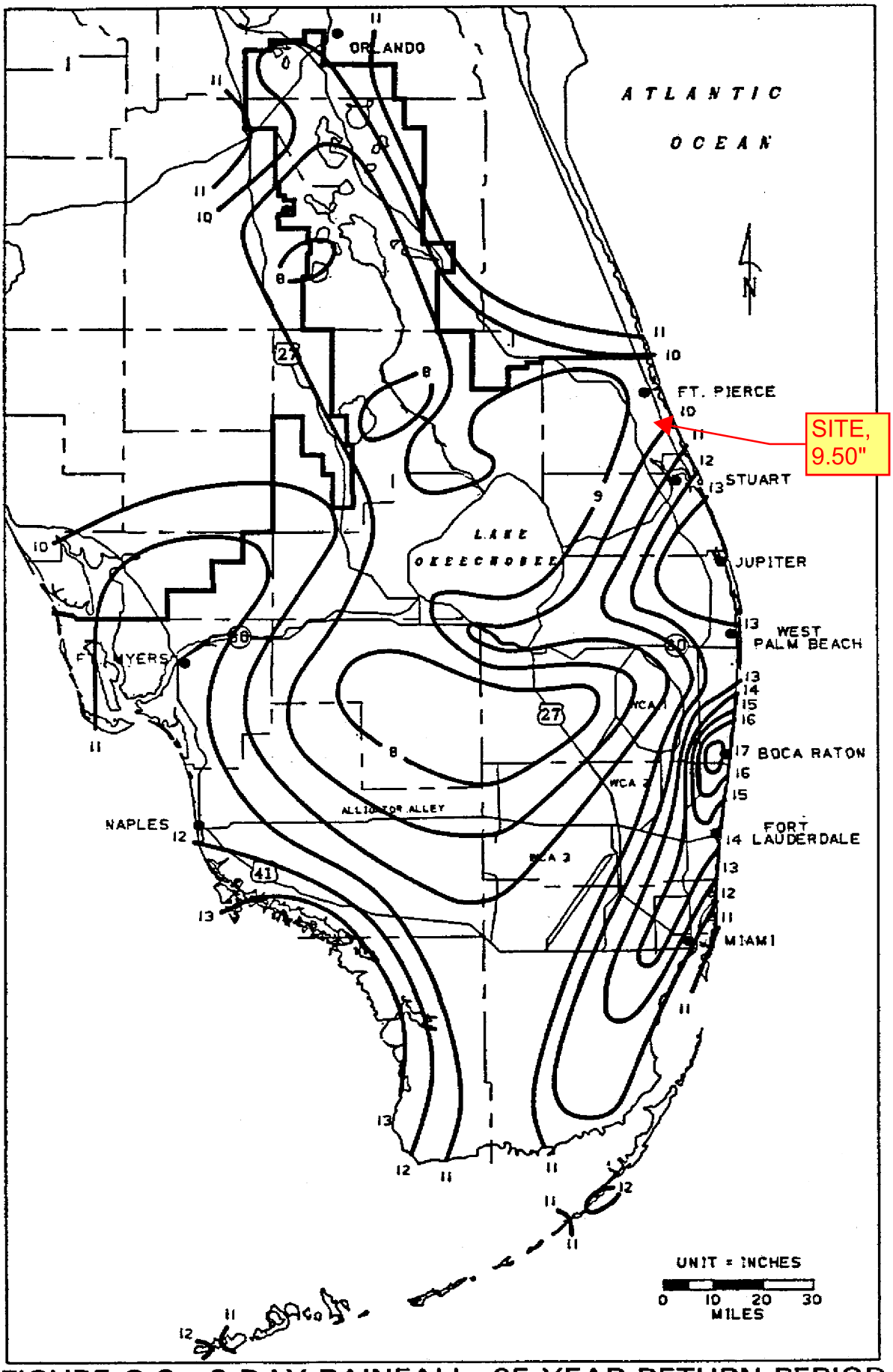


FIGURE C-8. 3-DAY RAINFALL: 25-YEAR RETURN PERIOD

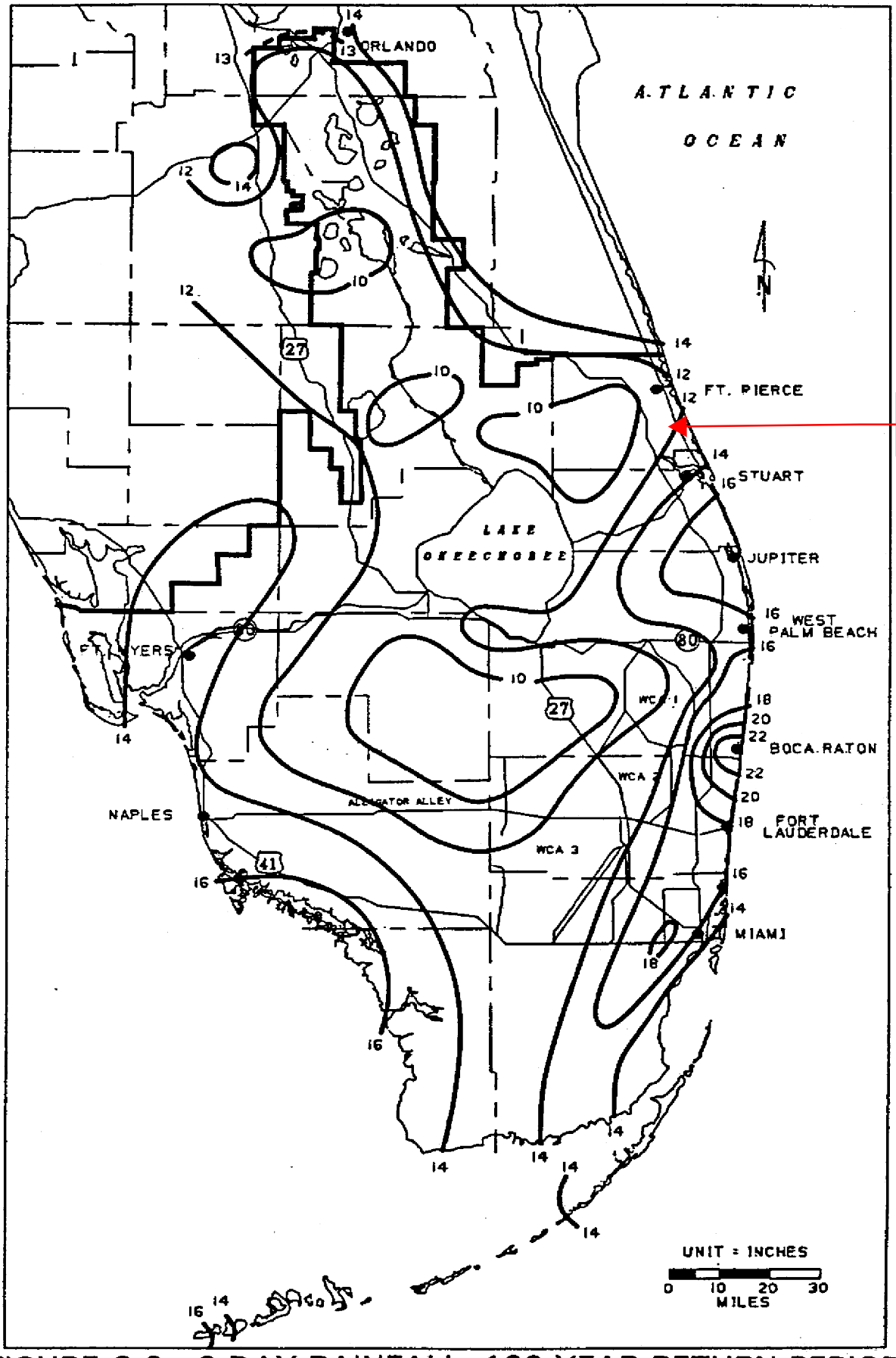


FIGURE C-9. 3-DAY RAINFALL: 100-YEAR RETURN PERIOD

Figure C-9

Table 2-2c Runoff curve numbers for other agricultural lands [1/]

Cover description		Curve numbers for hydrologic soil group			
Cover type	Hydrologic condition	A	B	C	D
Pasture, grassland, or range—continuous forage for grazing. [2/]	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow—continuous grass, protected from grazing and generally mowed for hay.	—	30	58	71	78
Brush—brush-weed-grass mixture with brush the major element. [3/]	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	30 [4/]	48	65	73
Woods—grass combination (orchard or tree farm). [5/]	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods. [6/]	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30 [4/]	55	70	77
Farmsteads—buildings, lanes, driveways, and surrounding lots.	—	59	74	82	86

1 Average runoff condition, and $I_a = 0.2S$.

2 *Poor:* <50%) ground cover or heavily grazed with no mulch.
Fair: 50 to 75% ground cover and not heavily grazed.
Good: > 75% ground cover and lightly or only occasionally grazed.

3 *Poor:* <50% ground cover.
Fair: 50 to 75% ground cover.
Good: >75% ground cover.

4 Actual curve number is less than 30; use CN = 30 for runoff computations.

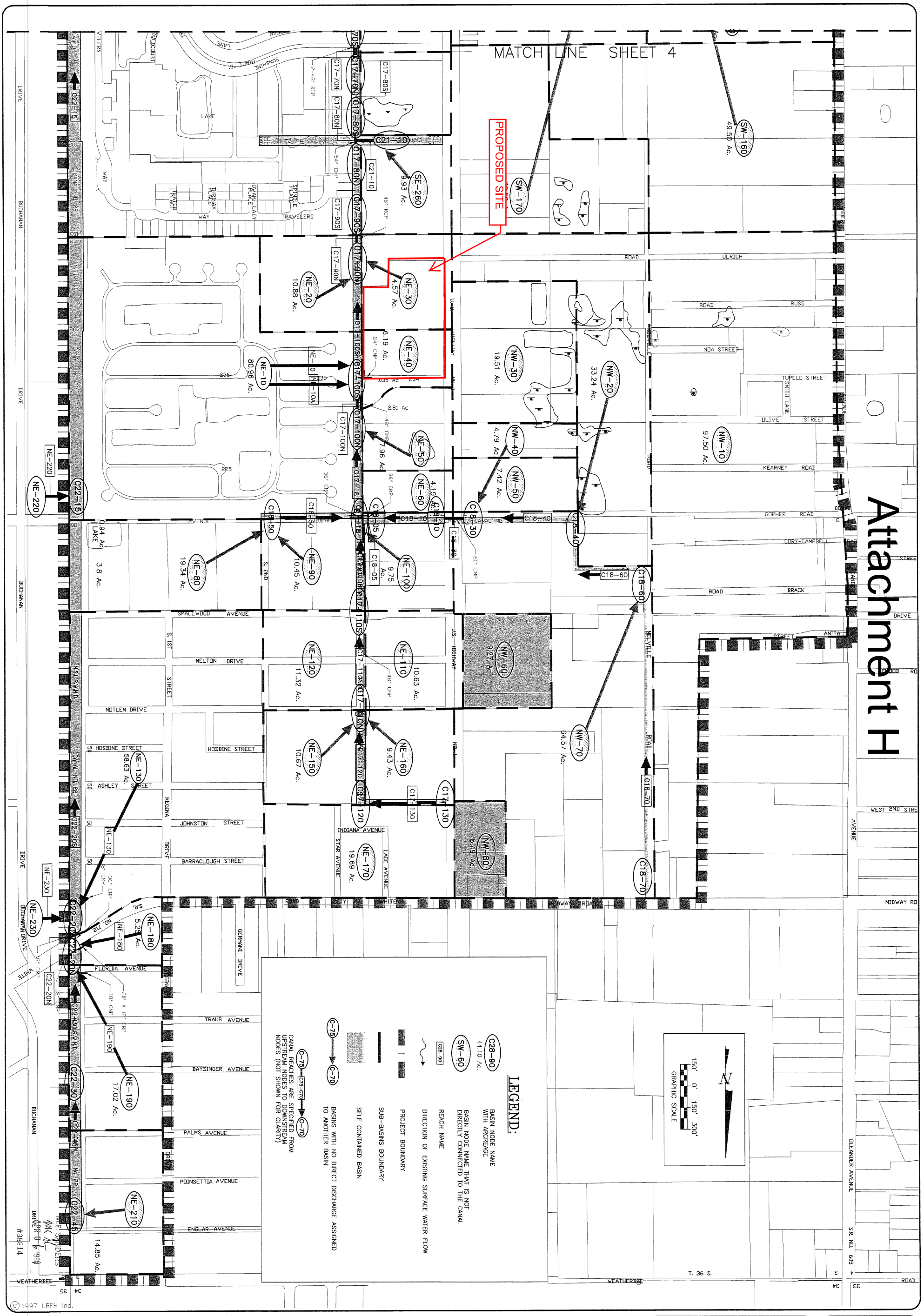
5 CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.

6 *Poor:* Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.
Fair: Woods are grazed but not burned, and some forest litter covers the soil.
Good: Woods are protected from grazing, and litter and brush adequately cover the soil.

Pre-site pervious condition

Post-site pervious condition

P:\98-0036\ENG\98036C05.dwg Wed Mar 31 15:26:58 1999 LBFH Inc.



Attachment H

©1997 LBFH Inc.

DATE: JANUARY 1999
HORZ. SCALE: 1" = 300'
VERT. SCALE: NTS
SHEET 5 OF 7

RETROFIT FOR
NSLRWCD CANALS 23 & 28

NODAL DIAGRAM FOR HYDRAULIC MODEL

VERIFY SCALE
BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING
0 1
ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

Lindahl, Browning, Ferrari & Hellstrom, Inc.
CONSULTING ENGINEERS, SURVEYORS & MAPPERS
FORT PIERCE • OKEECHOBEE • WEST PALM BEACH • PALM CITY

DATE	REVISIONS

LBFH PROJECT NUMBER: 98-0036
DESIGNED BY: K.A.G.
DRAWN/CALC BY: R.A.H.
CHECKED BY: M.E.S.
FB & PG:

BASIN	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
SE-160	9.96	60.03	5.83	
SE-170	19.47	60.48	4.47	
SE-180	31.66	60.02	6.81	US1 FRONTAGE
SE-190	8.94	60.57	5.57	
SE-200	11.36	60.24	4.59	

BASIN NAME	SE-210	SE-220	SE-230	SE-240	SE-250
NODE NAME	SE-210	SE-220	SE-230	C17-60	C17-70S
UNIT HYDROGRAPH	UH256	UH256	UH256	UH256	UH256
PEAKING FACTOR	256.	256.	256.	256.	256.
RAINFALL FILE	SFWMD72	SFWMD72	SFWMD72	SFWMD72	SFWMD72
RAIN AMOUNT (in)	9.00	9.00	9.00	9.00	9.00
STORM DURATION (hrs)	72.00	72.00	72.00	72.00	72.00
AREA (ac)	123.87	4.81	5.41	9.30	6.22
CURVE NUMBER	65.00	76.00	77.00	77.00	70.00
DCIA (%)	.00	.00	.00	.00	.00
TC (mins)	60.00	10.00	23.30	13.40	15.20
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN STATUS	ONS	ONS	ONS	ONS	ONS

BASIN	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
SE-210	138.99	60.53	4.72	THE GROVE COMMUNITY 56-00410-S
SE-220	16.46	60.02	6.07	
SE-230	13.22	60.11	6.19	
SE-240	29.19	60.03	6.19	
SE-250	16.76	60.06	5.33	

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)
Copyright 1989, Streamline Technologies, Inc.

C23 ADDITIONAL WEIR
5/19/09 P:\74-0901\US1 POND\VER-07B

BASIN NAME	SE-255	SE-260	SE-270	SE-280	SW-10
NODE NAME	SE-255	C21-10	SE-270	SE-280	SW-10
UNIT HYDROGRAPH	UH256	UH256	UH256	UH256	UH256
PEAKING FACTOR	256.	256.	256.	256.	256.
RAINFALL FILE	SFWMD72	SFWMD72	SFWMD72	SFWMD72	SFWMD72
RAIN AMOUNT (in)	9.00	9.00	9.00	9.00	9.00
STORM DURATION (hrs)	72.00	72.00	72.00	72.00	72.00
AREA (ac)	4.25	18.31	8.90	8.33	55.42
CURVE NUMBER	90.00	81.00	77.00	77.00	65.00
DCIA (%)	.00	.00	.00	.00	.00
TC (mins)	10.00	10.00	54.20	28.30	13.80
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN STATUS	ONSITE	ONS	ONS	ONS	ONSITE

BASIN	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
SE-255	16.52	60.02	7.79	CUTTING EDGE SELF STORAGE,56-01815
SE-260	66.36	60.02	6.69	
SE-270	13.14	60.46	6.19	
SE-280	18.33	60.18	6.19	
SW-10	141.55	60.04	4.71	

Form #0157
Rev 10/89

Attachment H

****

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
MODIFICATION OF SURFACE WATER MANAGEMENT PERMIT NO. 56-00410-S
CERTIFICATION FOR STORMWATER DISCHARGE

****

DATE ISSUED: MARCH 12, 1992

ISSUED TO: WYNNE BUILDING CORP.
(PALM GROVE)
8000 SOUTH U.S. 1
PORT ST. LUCIE, FL 34952

LOCATION: ST. LUCIE COUNTY, SECTION 10 TWP. 36S RGE. 40E

ORIGINAL PERMIT AUTHORIZATION: CONSTRUCTION AND OPERATION OF A WATER MANAGEMENT SYSTEM SERVING 113.8 ACRES OF RESIDENTIAL LANDS BY A SYSTEM OF INLETS AND CULVERTS, ON-SITE LAKES, 1-1.08' WIDE WEIR AND 1-1960 LF EXFILTRATION TRENCH DISCHARGING INTO NORTH ST. LUCIE RIVER WATER MANAGEMENT DISTRICT'S C-21 AND THE NEW CANAL.

APPROVED MODIFICATION: CONSTRUCTION AND OPERATION OF A SURFACE WATER MANAGEMENT SYSTEM TO SERVE A 77.2 ACRE RESIDENTIAL PROJECT DISCHARGING VIA THE N.S.L.R.W.C.D. NEW CANAL TO N. FORK OF THE ST. LUCIE RIVER.

(911125-2)

This Permit Modification is approved pursuant to a request dated Nov.25, 1991. Permittee agrees to hold and save the South Florida Water Management District and its successors harmless from any and all damages, claims or liabilities which may arise by reason of the construction, operation, maintenance or use of any work or structure involved in the Permit. The original Permit, including all plans and specifications attached thereto, as addressed by the staff report and those addressed by the Modification Staff Report are by reference made a part hereof.

All specifications and special and Limiting Conditions attendant to the original Permit, unless specifically recinded by this or previous Modifications, remain in effect.

SPECIAL CONDITIONS: SEE SHEETS 2, 3 & 4 OF 6 - 18 SPECIAL CONDITIONS.
SEE SHEETS 5 & 6 OF 6 - 12 LIMITING CONDITIONS.

ORIGINAL PERMIT ISSUED: November 12, 1981

PERMIT MODIFICATION APPROVED BY THE GOVERNING BOARD OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT

FILED WITH THE CLERK OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT

ON Original signed by: Vern Kaiser

BY _____ DEPUTY CLERK

Original Signed by
ANTHONY M. WATERHOUSE, P.E.,
DEPUTY DIRECTOR
WATER MANAGEMENT DIVISION
RESOURCE CONTROL DEPARTMENT

POSTED
QUADRANGLES 1
ITEM NUMBER 34
DATE 3-12-92
SIGNED JK

SPECIAL CONDITIONS

1 . MINIMUM BUILDING FLOOR ELEVATION: 17.0 FEET NGVD FOR FINISHED FLOORS LOCATED ON THE NORTH AND EAST PROPERTY LINE AND 14.5 FEET NGVD FOR THE REMAINDER.

2 . MINIMUM ROAD CROWN ELEVATION: 12.5 FEET NGVD.

3 . DISCHARGE FACILITIES:

BASIN: (EXISTING SITE)

1-1.1' WIDE SHARP CRESTED WEIR WITH CREST AT ELEV. 10.44' NGVD,
1-.2' W X 2.28' H RECTANGULAR NOTCH WITH INVERT AT ELEV. 8.16' NGVD,
AND 28 LF OF 3' DIA. CMP CULVERT.

RECEIVING BODY : THE N.S.L.R.W.C.D. NEW CANAL

CONTROL ELEV : 8' NGVD. 6.5' NAVD

BASIN: (PROPOSED SITE)

1-1.17' WIDE SHARP CRESTED WEIR WITH CREST AT ELEV. 9.3' NGVD,
1-.87' W X 1.3' H X 37 DEG. V-NOTCH WITH INVERT AT ELEV. 8' NGVD, AND
30 LF OF 3.5' WIDE X 2.42' HIGH ARCH CAP CULVERT.

RECEIVING BODY : THE N.S.L.R.W.C.D. NEW CANAL

CONTROL ELEV : 8' NGVD. 6.5' NAVD

4 . THE PERMITTEE SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SHOALING OR WATER QUALITY PROBLEMS THAT RESULT FROM THE CONSTRUCTION OR OPERATION OF THE SURFACE WATER MANAGEMENT SYSTEM.

5 . MEASURES SHALL BE TAKEN DURING CONSTRUCTION TO INSURE THAT SEDIMENTATION AND/OR TURBIDITY PROBLEMS ARE NOT CREATED IN THE RECEIVING WATER.

6 . THE DISTRICT RESERVES THE RIGHT TO REQUIRE THAT ADDITIONAL WATER QUALITY TREATMENT METHODS BE INCORPORATED INTO THE DRAINAGE SYSTEM IF SUCH MEASURES ARE SHOWN TO BE NECESSARY.

7 . LAKE SIDE SLOPES SHALL BE 4:1 (HORIZONTAL:VERTICAL) TO A DEPTH OF TWO FEET BELOW THE CONTROL ELEVATION. SIDE SLOPES SHALL BE NURTURED OR PLANTED FROM 2 FEET BELOW TO 1 FOOT ABOVE CONTROL ELEVATION TO INSURE VEGETATIVE GROWTH.

8 . PRIOR TO THE INITIATION OF ANY WITHDRAWAL OF WATER (IRRIGATION, DEWATERING, PUBLIC WATER SUPPLY, ETC.), IT WILL BE NECESSARY TO APPLY FOR A WATER USE PERMIT. THE PERMITTEE IS CAUTIONED THAT A MINIMUM OF 90 DAYS IS REQUIRED FOR CONSIDERATION OF THE WATER USE PERMIT APPLICATION. THE

Appendix G
Pre and Post Basin Maps

MBV
ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
www.mbveng.com CA#3728

The following items are Non-Applicable (N/A):

1. Color Board: N/A
2. Conceptual Drainage Plan; See Site Plan attachment and stormwater calculations
3. Traffic Impact Report: N/A; See site plan for traffic statement
4. Rendering of Signs: N/A; Existing monument sign

1835 20th Street
Vero Beach, FL 32960
772.569.0035
Fax: 772.778.3617

1600 W. Eau Gallie Blvd., Suite 203
Melbourne, FL 32935
321.253.1510
Fax: 321.253.0911

806 Delaware Avenue
Ft. Pierce, FL 34950
772.468.9055
Fax: 772.778.3617

MBV
ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
www.mbveng.com CA#3728

The following items are Non-Applicable (N/A):

1. Color Board: N/A
2. Conceptual Drainage Plan; See Site Plan attachment and stormwater calculations
3. Traffic Impact Report: N/A; See site plan for traffic statement
4. Rendering of Signs: N/A; Existing monument sign

1835 20th Street
Vero Beach, FL 32960
772.569.0035
Fax: 772.778.3617

1600 W. Eau Gallie Blvd., Suite 203
Melbourne, FL 32935
321.253.1510
Fax: 321.253.0911

806 Delaware Avenue
Ft. Pierce, FL 34950
772.468.9055
Fax: 772.778.3617

MBV
ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
www.mbveng.com CA#3728

The following items are Non-Applicable (N/A):

1. Color Board: N/A
2. Conceptual Drainage Plan; See Site Plan attachment and stormwater calculations
3. Traffic Impact Report: N/A; See site plan for traffic statement
4. Rendering of Signs: N/A; Existing monument sign

1835 20th Street
Vero Beach, FL 32960
772.569.0035
Fax: 772.778.3617

1600 W. Eau Gallie Blvd., Suite 203
Melbourne, FL 32935
321.253.1510
Fax: 321.253.0911

806 Delaware Avenue
Ft. Pierce, FL 34950
772.468.9055
Fax: 772.778.3617

MBV
ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
www.mbveng.com CA#3728

The following items are Non-Applicable (N/A):

1. Color Board: N/A
2. Conceptual Drainage Plan; See Site Plan attachment and stormwater calculations
3. Traffic Impact Report: N/A; See site plan for traffic statement
4. Rendering of Signs: N/A; Existing monument sign

1835 20th Street
Vero Beach, FL 32960
772.569.0035
Fax: 772.778.3617

1600 W. Eau Gallie Blvd., Suite 203
Melbourne, FL 32935
321.253.1510
Fax: 321.253.0911

806 Delaware Avenue
Ft. Pierce, FL 34950
772.468.9055
Fax: 772.778.3617

Nicholas S. Smith
7845 SW Ellipse Way
Stuart, FL 34997
Office: 561-718-2933
Fax: 772-781-8573

December 5, 2018

Re: Letter of Authorization for Michael Smith

I have authorized Michael Smith to act and sign on behalf of the company for all agency permitting and processing of applications for the Bev Smith Kia development projects located at 5560 US Hwy 1, Ft. Pierce, Florida 34982

Sincerely,

Nicholas S Smith
President

NSS/cc

Aaron Bowles
July, 24 2024

X Aaron Bowles