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;

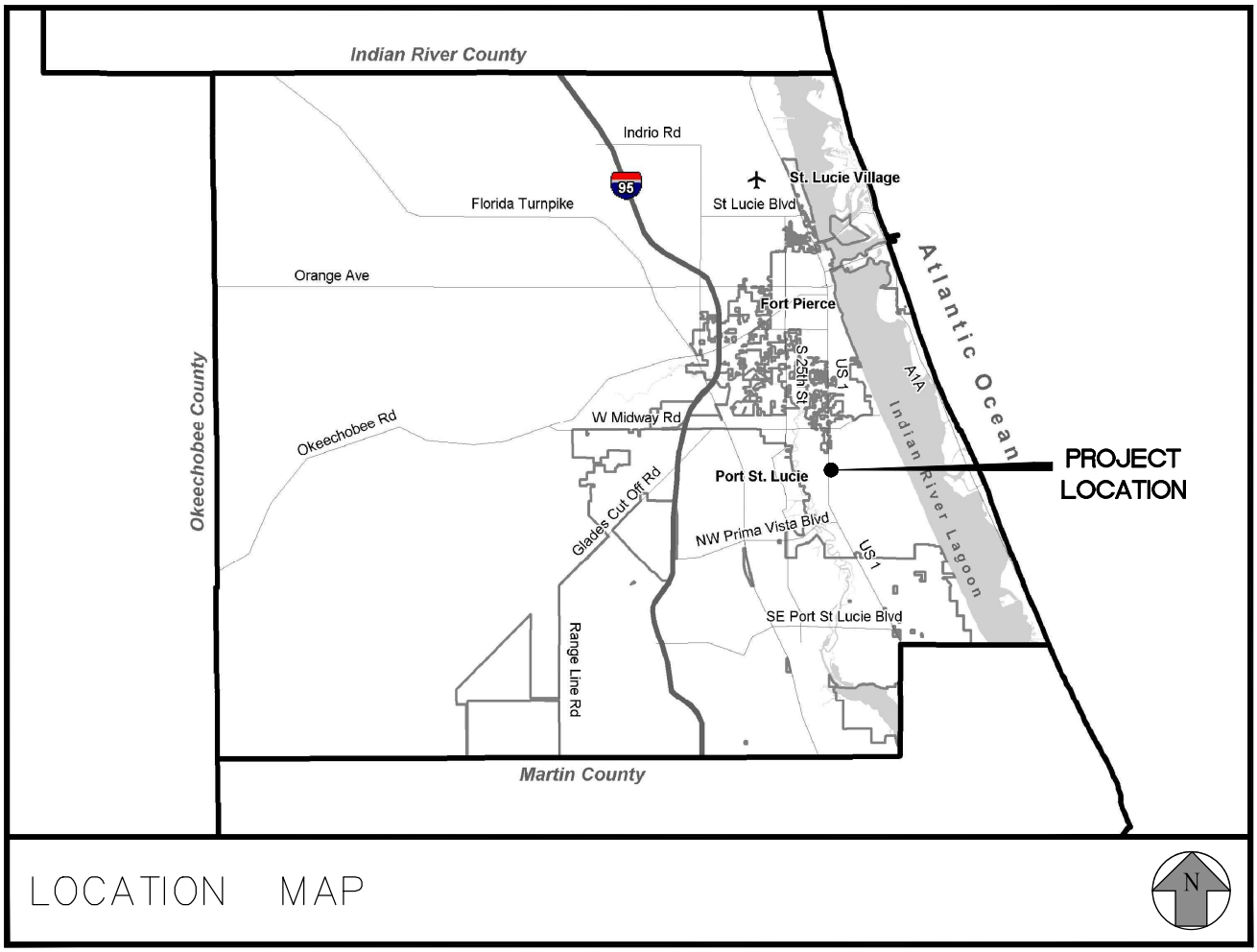
WITNESSETH, that the Grantor, for and in consideration of the sum of TEN DOLLARS ($10.00), to the Grantor in hand paid by the Grantee and other good and valuable consideration, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the Grantee and the Grantee's heirs and assigns 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.



LOCATION MAP

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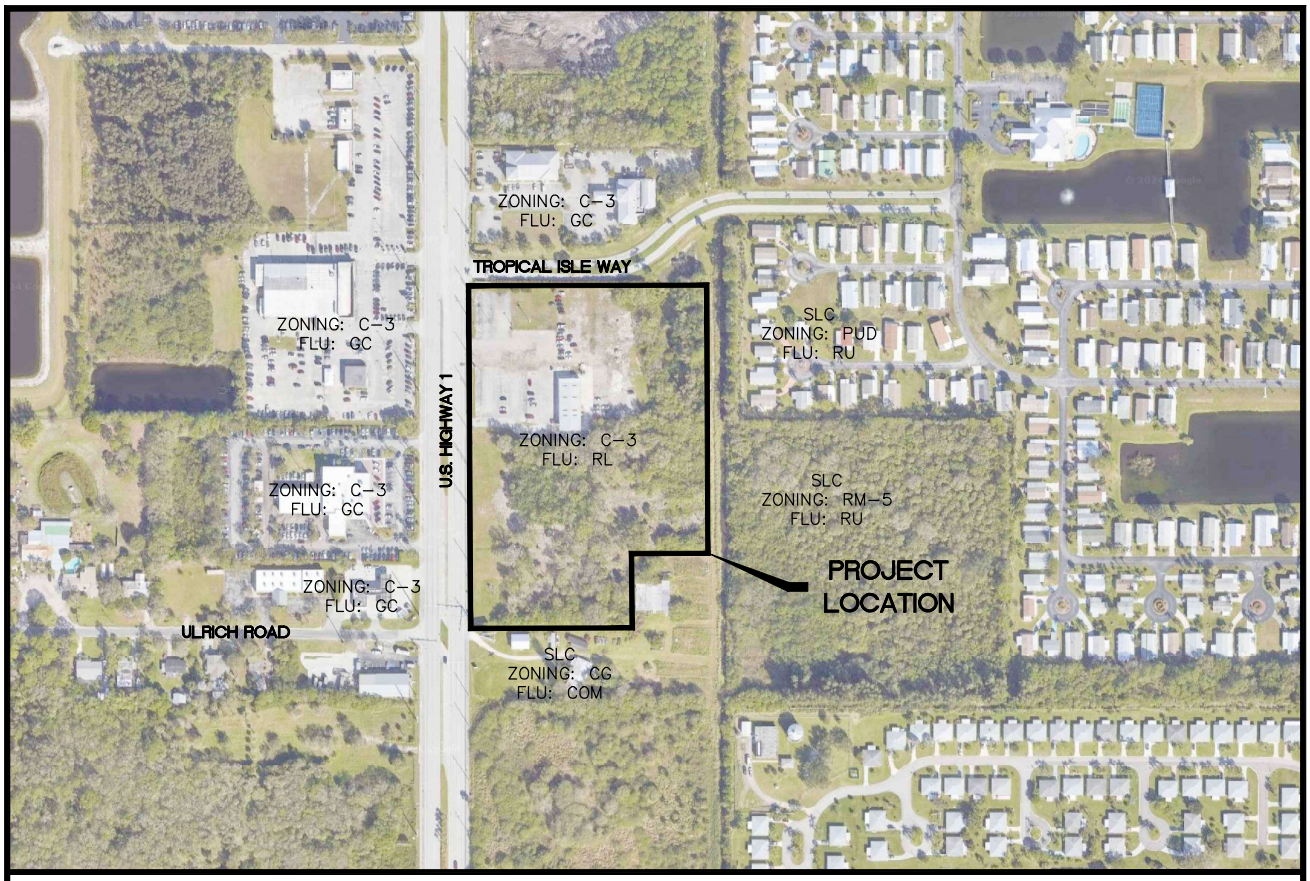

VICINITY MAP

N

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

BEV SMITH KIA NEW 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 improvements include constructing a new 40,791 sf Kia automobile dealership building with associated parking lot for inventory. Stormwater management facilities, water, sewer, lighting and landscaping improvements are also planned. Demolition of the existing automotive care center along with it's parking areas is planned. The site is comprised of one parcel and therefore a Unity of Title will not be required to construct the proposed improvements.

EXISTING CONDITIONS:

The current site is an automobile care center with an existing metal building of 5,274 sf. This is surrounded by approximately 97,500 sf of paved and asphalt milling parking lot areas. Recent improvements included 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, with the remaining area being 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 10.50 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. Additional treatment and attenuation of stormwater will happen within the wet pond. The stormwater calculations demonstrate this management system will handle the site's treatment and attenuation. 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.

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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 be sprinklered and will also 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, the water will split into a 6" fire line, 4" potable line and 1" irrigation line. The 4" line will be further split to provide 2" line to the main building and a 2" line to the attached car wash facility on the west side of the building. For sewer, there will be 6" laterals from the car wash facility and the main building leading to a manhole. From the manhole to the existing lift station, an 8" gravity sewer line will be run. No gas has been planned for. Electric power to the building will be coordinated with F.P.& L. The utilities companies are FPUA for water and sewer and F.P.&L. for electric.

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 the South Florida Water Management District (SFWMD).

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	40,791	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 40,791 sf x 0.10 = 4,079 gpd
Demand Analysis	Maximum Peaking Factor = 4; therefore 5,099 gpd x 4 = 20,396 gpd
Current Zoning/FLU	Total gallons per day 2,640 pgd
**Proposed Zoning/FLU	Total gallons per day 20,396 gpd (no change in Zoning or FLU)
**Change in Demand	Total gallons per day 17,756 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 40,791 sf x 0.10 = 4,079 gpd
Demand Analysis	Maximum Peaking Factor = 4; therefore 4,079 gpd x 4 = 16,316 gpd
Current Zoning/FLU	Total gallons per day 2,110 gpd
**Proposed Zoning/FLU	Total gallons per day 16,316 gpd
**Change in Demand	Total gallons per day 14,206 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**	Trips 1,011	Trips 73/90
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**
Project Total	1	40,791	0.94	6/2025	6/2026

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

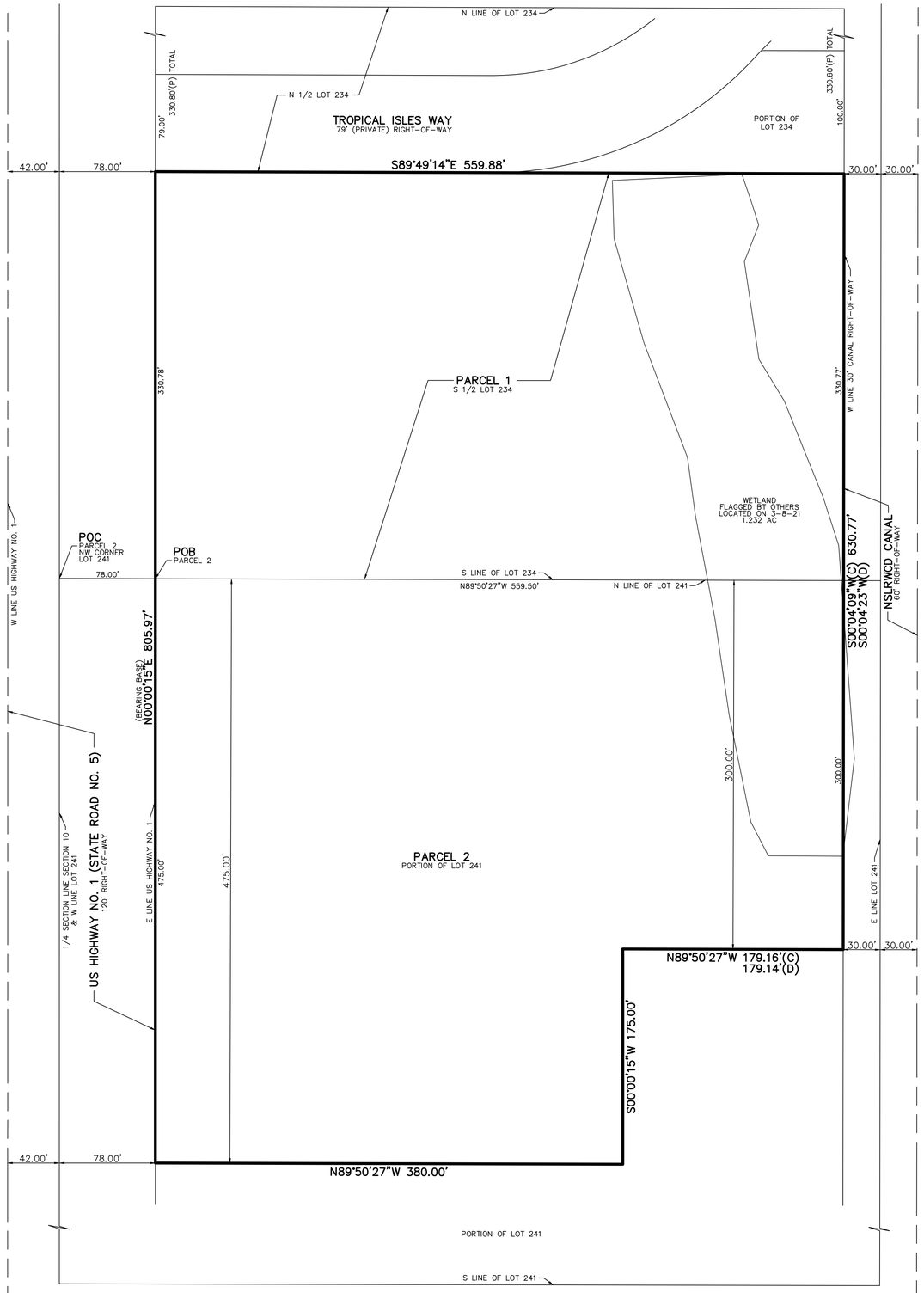
B. 1. Does this application involve demolition or re-use of any structure(s)? ☑ Yes ☑ No
If yes, what is the size of the structure(s) to be demolished or re-used? 5,274 SF

2. What is the current use of the structure to be demolished or re-used? Automobile Car Center

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



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GRAPHIC SCALE IN FEET
SCALE 1" = 20'
40 20 0 10 20

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 N0°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.

DATE OF FIELD SURVEY: 1-27-22, 3-08-21, 10-31-18, 9-17-24, 9-19-18, 10-24-22

DATE OF SURVEY: 9-25-18

ALEXANDER J. PIAZZA PSM, INC.

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

ABBREVIATIONS:

(C) = CALCULATED
CBS = CONCRETE BLOCK STRUCTURE
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FFE = FINISHED FLOOR ELEVATION
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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:
9-18-24	UPDATE SURVEY	AJP
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:\BEVSMITH\KIA\18-4187UP2.DWG		
REF	K:\		
FLD	CJM / RP	FB.	PG.
OFF	CJM	JOB	18-4187
CKD	AJP	DATE	9-25-18
SHEET	1 OF 5	DWG	D-832

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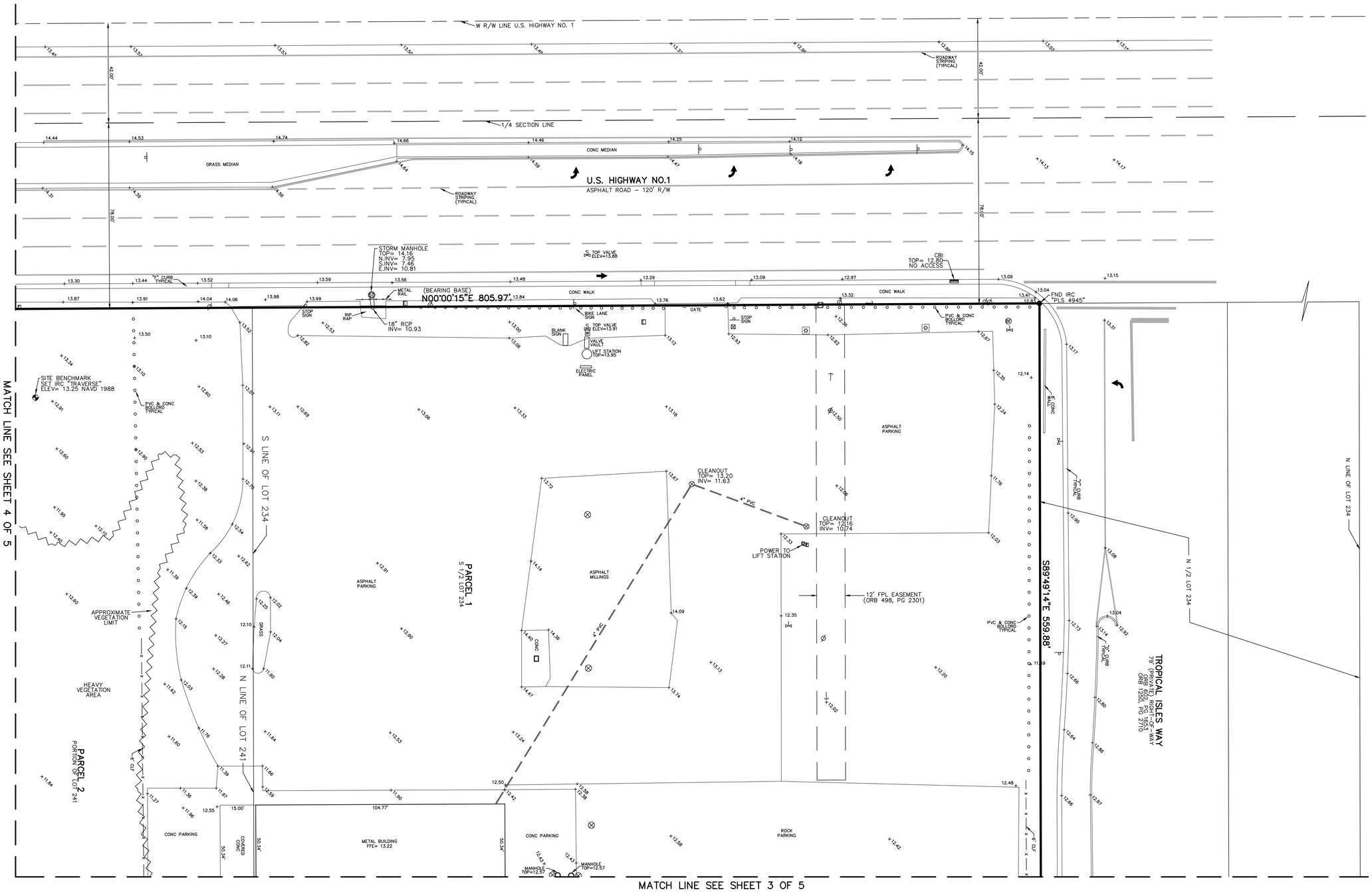

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N

20 10 0 20 40

GRAPHIC SCALE IN FEET
SCALE: 1" = 20'

DATE:	REVISIONS:	BY:
9-18-24	UPDATE SURVEY	AJP
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BOUNDARY & TOPOGRAPHIC SURVEY
5560 S. US HIGHWAY NO.1

AS PREPARED FOR

BEV SMITH OF FORT PIERCE II, INC.

CAD	K:\BEVSMITH\KIA\18-4187UP2.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:\BEVSMITH\KIA\18-4187UP2.dwg, 9/18/2024 8:20:30 AM

MATCH LINE SEE SHEET 2 OF 5

MATCH LINE SEE SHEET 5 OF 5

METAL BUILDING
FFE= 13.22

BASIN
TOP= 12.48

CONCRETE
15.00'

50.34'

104.77'

CLEANOUT
TOP= 12.76
INV E.= 11.70

CONC PARKING

CLEANOUT
INV= 9.21

CLEANOUT
INV= 9.27

CLEANOUT
INV= 9.41

CLEANOUT
INV= 8.96

4" PVC

11.70

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

APPROXIMATE VEGETATION LIMIT

ROCK PARKING

ROCK PARKING

SEPTIC TANK
(FLAGGED BY OTHERS)

HEAVY VEGETATION AREA

PARCEL 2
PORTION OF LOT 241

N LINE OF LOT 241

S LINE OF LOT 234

PARCEL 1
S 1/2 LOT 234

PROPOSED 15' DRAINAGE EASEMENT

15.00'

HEAVY VEGETATION AREA

HEAVY VEGETATION AREA

HEAVY VEGETATION AREA

APPROXIMATE VEGETATION LIMIT

S00°04'09"W(C) 630.77'
S00°04'23"W(D)

S89°49'14"E 559.88'

TROPICAL ISLES WAY
79' (PRIVATE) RIGHT-OF-WAY
ORB 6325, PG 1693
ORB 12350, PG 2710

N LINE OF LOT 234

PORTION OF LOT 234

AREA

TOP OF BANK

EDGE OF WATER

TOE OF SLOPE

E LINE LOT 241

6.55

30.00'

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

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

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

N

20 10 0 20 40

GRAPHIC SCALE IN FEET
SCALE: 1" = 20'

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N.S.L.C.W.C.D.	= NORTH ST. LUCIE COUNTY WATER CONTROL DISTRIC

SYMBOLS:

- = GUY WIRE ANCHOR
- = CABLE TELEVISION BOX
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- 2" = DENOTES TREE SIZE
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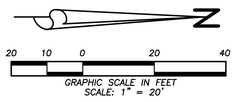
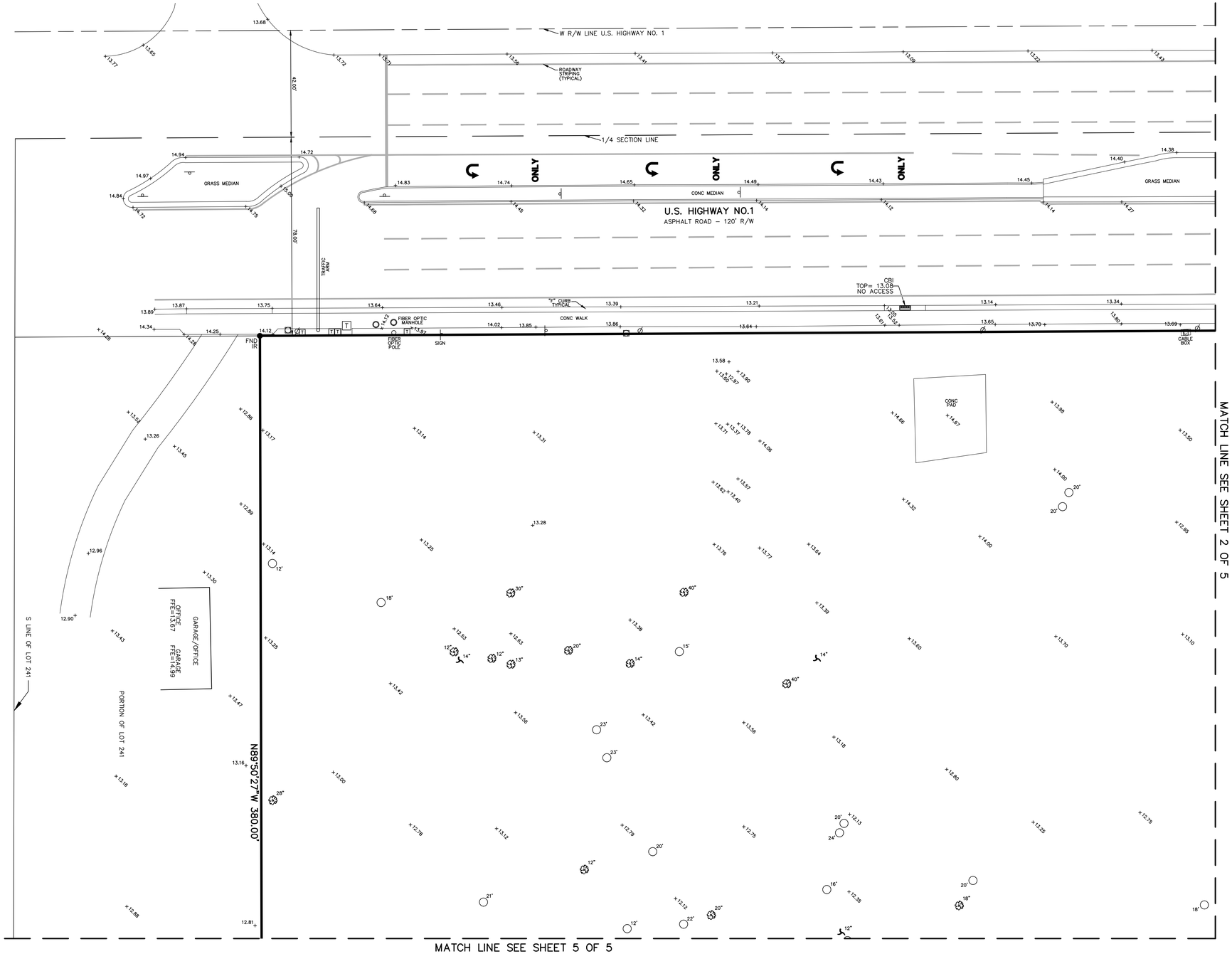
Surveying • Mapping • Consulting
619 SW Biltmore Street
Port St. Lucie, Florida 34983
Phone: (772) 340-7770
Fax: (772) 340-2250
LB#7280

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

CAD	K:\BEVSMITH\KIA\18-4187UP2.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





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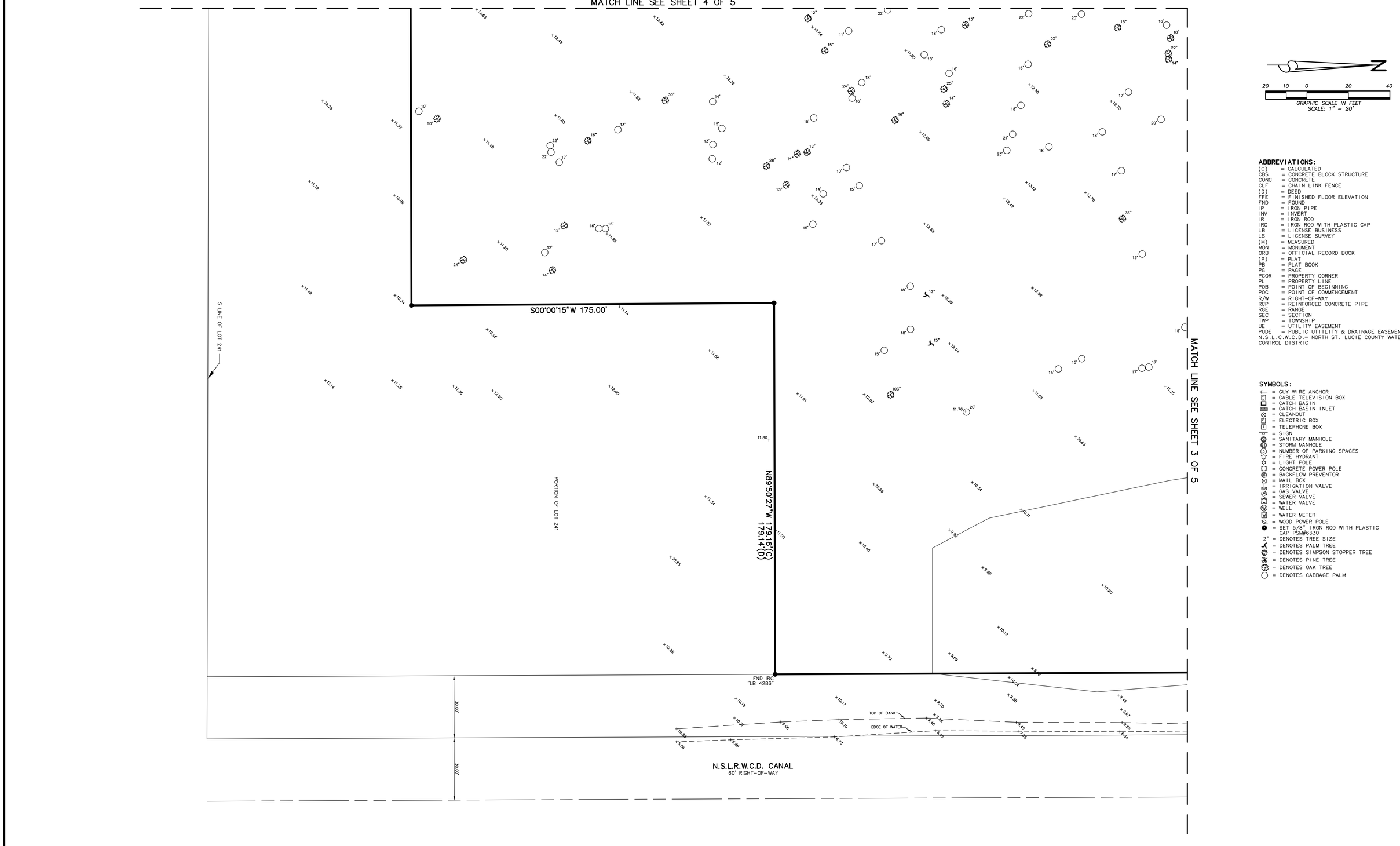

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CKD	AJP	SHEET 5 OF 5	DWG D-832

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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

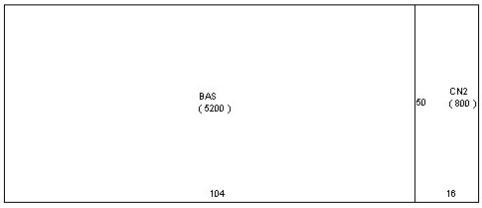
Roof Structure: Steel Truss
Frame:
Primary Wall: Corr Metal
Secondary Wall: Conc Block

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

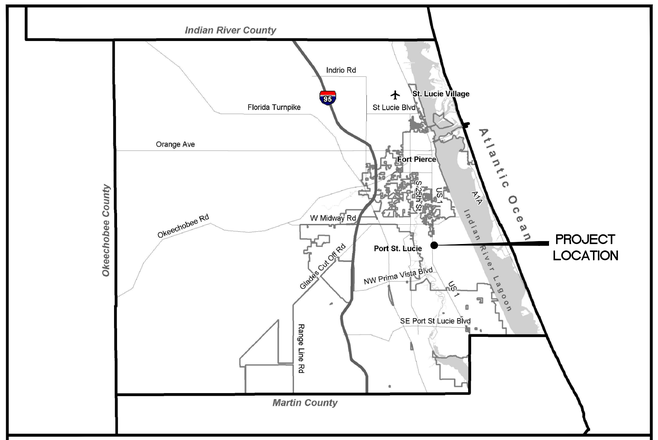
Number	Issue Date	Description	Amount	Fee
C47038	Aug 1, 1988	Commercial New Construction	$66,000	$66,000
C24090228	Sep 17, 2004	Unknown	$14,000	$252
C24113125	Nov 24, 2004	Demolition	$2,450	$77
C11110065	Nov 7, 2011	Electric	$0	$0
C1802-0055	Feb 2, 2018	Electric	$0	$0
C2007-0625	Jul 29, 2020	Garage Door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

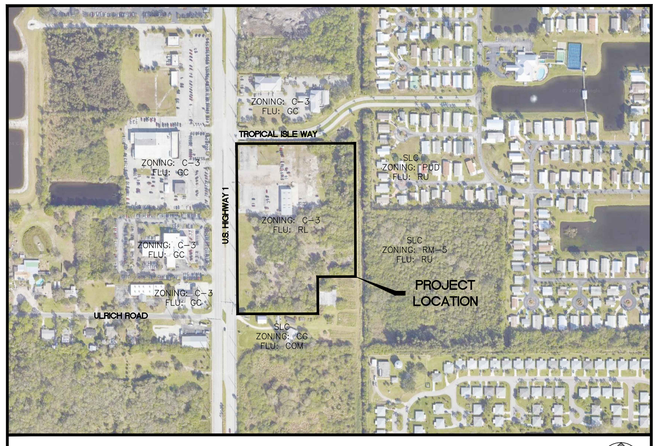
BEV SMITH KIA
NEW DEALERSHIP

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

JANUARY 2025



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

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.

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

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

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

DATE: 1/31/2025

PROJECT: 24-0465

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.

O:\DRAWINGS\2024\24-0465 Bev Smith Kia New Dealership\4 - Drawings\24-0465 COVER - DETAILS .dwg 1/31/2025 2:49 PM
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 BL (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 318-71.

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 CONDITIONS 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 CONNECTIONS, METER BOXES OR VALVE BOXES IN EXISTING OR PROPOSED SIDEWALK OR DRIVEWAY AREAS.
27. 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.
28. ANY STATE AND FEDERAL PERMITS THAT MAY BE REQUIRED AS A RESULT OF LAND CLEARING AND LANDSCAPING ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
29. CONTRACTOR IS RESPONSIBLE TO PROTECT AND/OR REPLACE ALL SURVEY MONUMENTATION BY A LICENSED SURVEYOR IN THE STATE OF FLORIDA.
30. ALL PARKING SPACES WITH EXCEPTION OF THE HANDICAPPED PARKING SPACES SHALL BE STRIPED IN WHITE, TRAFFIC PAINT AND BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR FOR ROAD & BRIDGE CONSTRUCTION, SECTION 710, LATEST EDITION.
31. ALL HANDICAPPED PARKING SPACES SHALL BE PROPERLY SIGNED AND STRIPED IN ACCORDANCE WITH FDOT STANDARD INDEX 711-001, LATEST EDITION.
32. COMMERCIAL/MULTI-FAMILY BUILDINGS SHALL POST A MINIMUM 6 INCH NUMERICAL ADDRESS.
33. THERMOPLASTIC PAVEMENT MARKINGS SHALL BE REQUIRED ON EXISTING / PROPOSED DRIVEWAYS THAT CONNECT TO THE FDOT RIGHT-OF-WAY (ROW) AND PROPOSED PAVEMENT MARKINGS WITHIN 25' OF EDGE OF PAVEMENT.
34. ALL SUBDIVISION CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE APPLICABLE CITY OF FORT PIERCE ORDINANCES.
35. ALL NUISANCE EXOTIC VEGETATION EXISTING WITHIN DEVELOPMENT PROJECT SITE PROPERTY MUST BE REMOVED IN CONJUNCTION WITH SITE DEVELOPMENT.

PRIMARY BENCHMARK:
ELEVATIONS SHOWN ARE BASED ON 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 UTILITY POLE #6 6370 7124 05.

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

JOB NO.	24-0465
DESIGNED	AS
DRAWN	GWR
DATE	JANUARY 2025
CHECKED	AS
DATE ISSUED	1/31/2025

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
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GENERAL NOTES

BEV SMITH KIA
NEW DEALERSHIP

CITY OF FORT PIERCE FLORIDA

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

AARON G. STANTON
FL. P.E. #72460 1/31/2025

SHEET
C2

24-0465

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 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 UTILITY POLE #6 6370 7124 05. BENCHMARKS SET OR FOUND FOR THIS SURVEY ARE NOTED ON THE SKETCH.

ABBREVIATIONS:

(C)	= CALCULATED
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CLF	= CHAIN LINK FENCE
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SYMBOLS:

- = GUY WIRE ANCHOR
- = CABLE TELEVISION BOX
- = CATCH BASIN
- = CATCH BASIN INLET
- = CLEANOUT
- = ELECTRIC BOX
- = TELEPHONE BOX
- = SIGN
- = SANITARY MANHOLE
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72 HOURS BEFORE DIGGING CALL TOLL FREE 811 Know what's below. Call before you dig.

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	REVISIONS

JOB NO.	24-0465
DESIGNED	AS
DRAWN	GWR
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CHECKED	AS
DATE ISSUED	1/31/2025

MBV ENGINEERING, INC.
MOAL BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
MELBOURNE, FL - PH (321) 253-4100
FT. PIERCE, FL - PH (772) 468-9055
1893 - 20TH STREET
VERO BEACH, FL 32960
PH (772) 778-7277
FX (772) 778-7417

EXISTING CONDITIONS PLAN

BEV SMITH KIA
NEW DEALERSHIP

CITY OF FORT PIERCE FLORIDA

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

AARON G. STANTON
FL. P.E. #72460 1/31/2025

SHEET
C3

24-0465

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.
8. BUILDING AND PARKING AREAS TO BE DEMOLISHED AND REMOVED AT CONTRACTOR'S EXPENSE
9. ALL EXISTING STREET LIGHTS ON PROPERTY ARE TO BE REMOVED.

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

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MBV ENGINEERING, INC.
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1803 - 20TH STREET
VERO BEACH, FL 32960
TX. (772) 778-3317
MELBOURNE, FL - PH (321) 253-4100
FT. PIERCE, FL - PH (772) 468-9055

DEMOLITION PLAN

BEV SMITH KIA
NEW DEALERSHIP

CITY OF FORT PIERCE, FLORIDA

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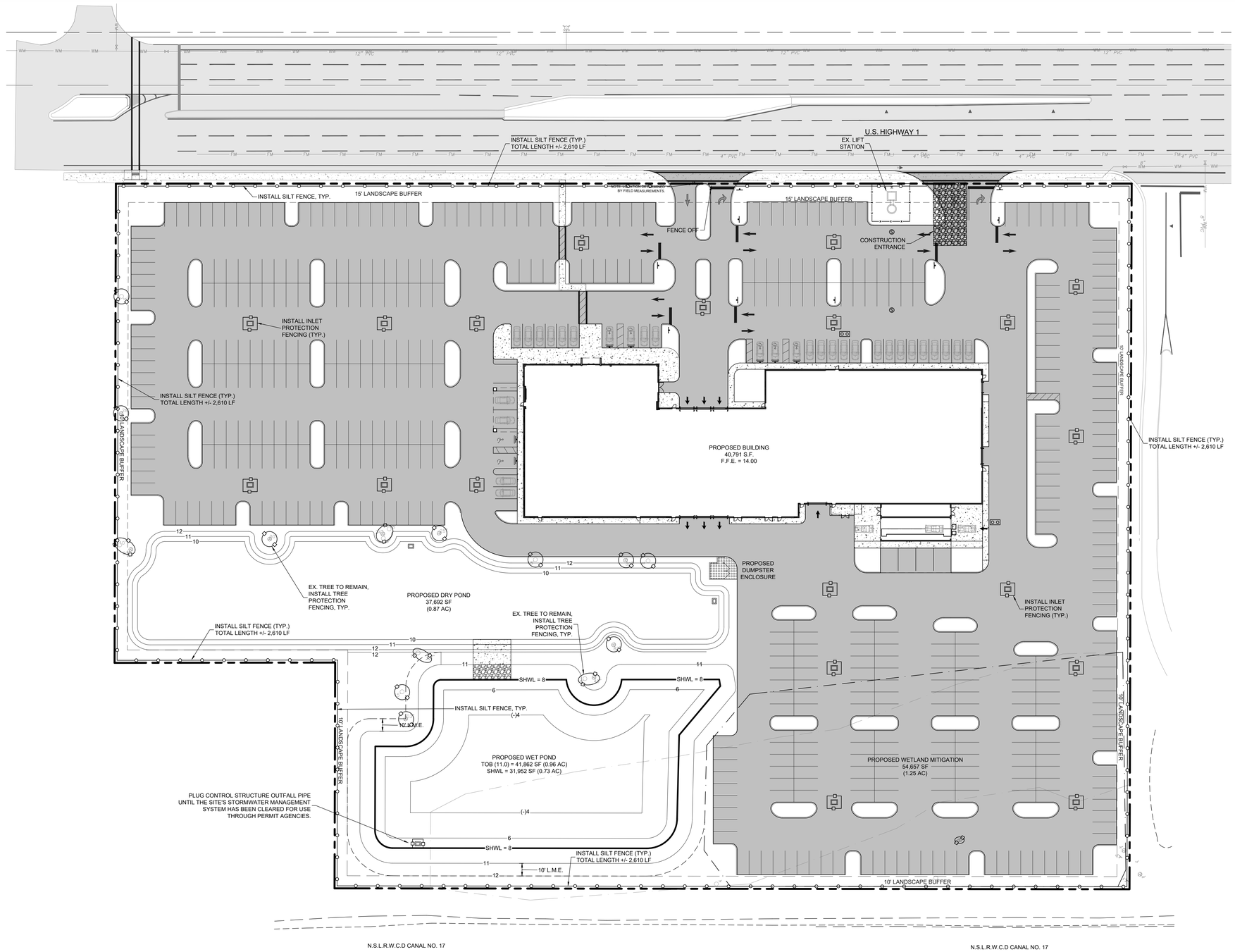
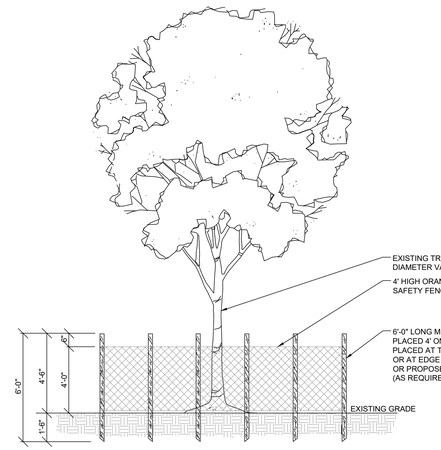
SHEET
C4

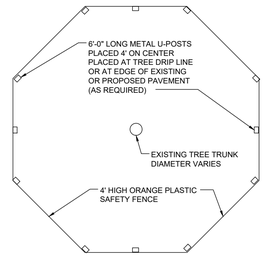
24-0465





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

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

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MELBOURNE, FL - PH (321) 253-1105
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VERO BEACH, FL 32960
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FX: (772) 778-3917

EROSION CONTROL PLAN

BEV SMITH KIA
NEW DEALERSHIP

CITY OF FORT PIERCE — FLORIDA

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

AARON G. STANTON
FL P.E. #72460 — 1/31/2025

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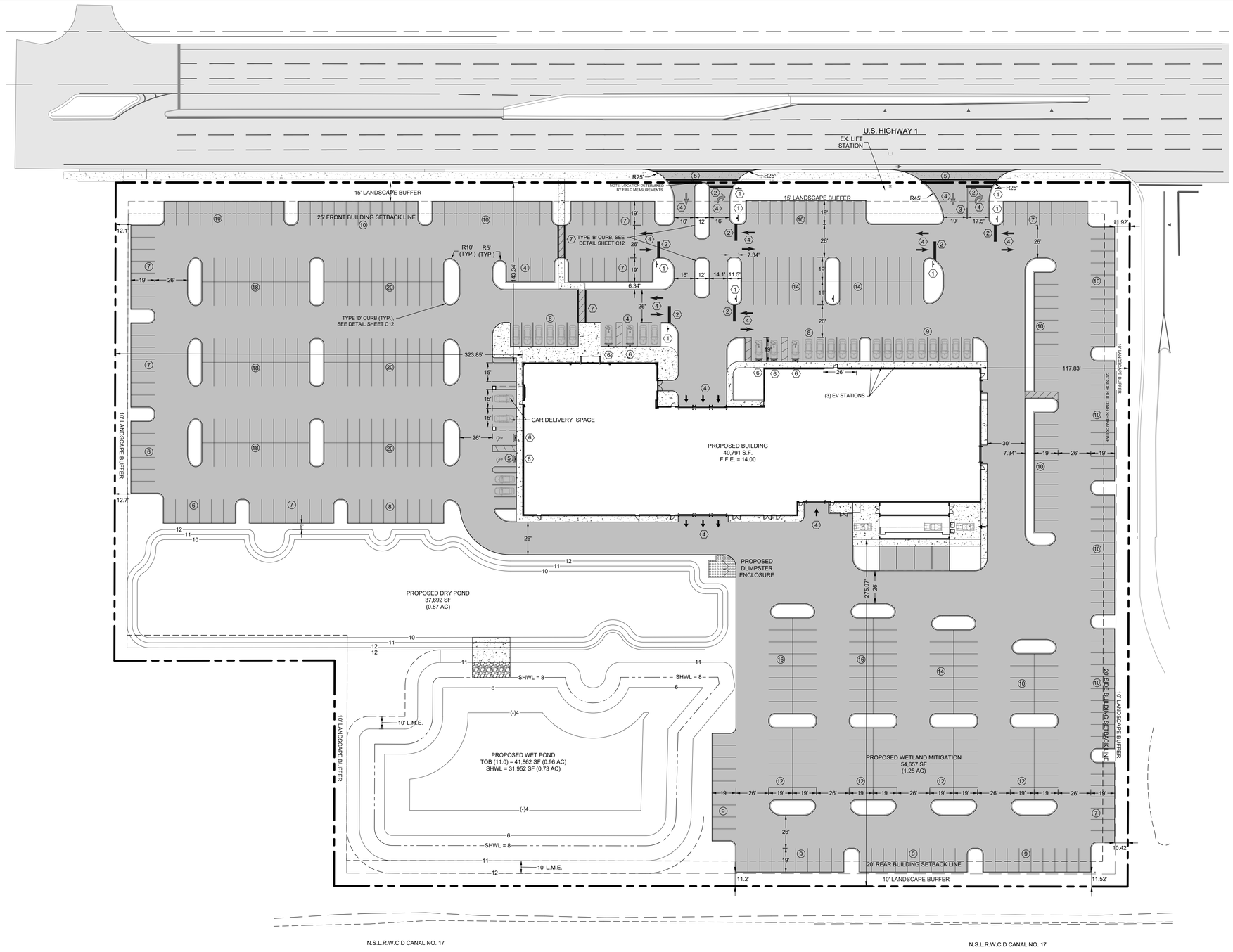


SITE PLAN

SCALE: 1" = 40'

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

LEGEND

- EXISTING CONCRETE
- EXISTING ASPHALT
- PROPOSED CONCRETE
- PROPOSED ASPHALT, SEE HEAVY DUTY FLEXIBLE PAVEMENT DETAIL, SHEET C12
- PROPOSED HEAVY DUTY CONCRETE

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
(7)	12"	5' WIDE CROSS WALK W/12" SOLID WHITE STRIPES

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

PROJECT INFORMATION

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

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

APPLICANT
MICHAEL SMITH
7845 SW ELLIPSE WAY
STUART, FL 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 C-3
LAND USE RL
OVERLAY DISTRICT N/A

LATITUDE 27°21'49.43"N
LONGITUDE 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	300,743 SF	6.90 AC	71.69%
PROPOSED BUILDING	40,791 SF	0.94 AC	9.72%
PROPOSED CONCRETE	8,994 SF	0.21 AC	2.14%
PROPOSED ASPHALT	219,006 SF	5.03 AC	52.21%
WET POND AREA	31,952 SF	0.73 AC	7.62%
PERVIOUS AREA	118,763 SF	2.73 AC	28.31%
OPEN SPACE	118,763 SF	2.73 AC	28.31%
NET NEW IMPERVIOUS	+ 186,192 SF	4.27 AC	

ZONING DATA

CRITERIA	REQUIRED	EXISTING	PROPOSED
LOT SIZE	10,000 SF	419,506	419,506 SF
LOT WIDTH	70-FT	806-FT	806-FT
LOT DEPTH	90-FT	560-FT	560-FT
BUILDING SETBACKS			
FRONT	25-FT	209-FT	143-FT
SIDE (NORTH)	15-FT	225-FT	118-FT
SIDE (SOUTH)	15-FT	476-FT	324-FT
REAR	15-FT	300-FT	276-FT
MAX. BUILDING COVERAGE	60%	1.26%	9.72%
OPEN SPACE	N/A	72.69%	28.31%
BUILDING HEIGHT	45-FT	+/- 15-FT	25-FT
FAR	N/A	0.01	0.10

PARKING DATA
PARKING PROVIDED:

STANDARD:	=	480 SPACES
ADA*:	=	7 SPACES
TOTAL	=	487 SPACES

TRAFFIC STATEMENT
PER ITE, 11TH EDITION:
EXISTING USE:
USE 942: AUTOMOBILE CARE CENTER - 2.25 ADT PER 1,000 SF GFA
5.27 X 3.51 KSF = 18 PM PEAK
5.27 X 23.72 KSF = 125 AADT (SATURDAY)

PROPOSED USE:
USE 840: AUTOMOBILE SALES (NEW) - 27.06 ADT PER 1,000 SF GFA
40.79 X 2.65 KSF = 108 PM PEAK
40.79 X 27.84 KSF = 1,136 AADT

INCREASE:
90 PM PEAK
1,011 AADT

DRAINAGE STATEMENT
STORMWATER TO BE COLLECTED VIA INLETS IN PARKING LOT AND ROUTED TO A DRY POND AND THEN 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 UTILITIES AUTHORITY (FPUA)
NSLRWMD PERMIT
SFWMD ENVIRONMENTAL RESOURCES PERMIT
FDEP WATER DISTRIBUTION PERMIT
FDEP WASTEWATER COLLECTION PERMIT
FDEP NPDES NOI PERMIT
FDOT DRIVEWAY PERMIT
FDOT DRAINAGE PERMIT
FDOT UTILITIES PERMIT

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

WASTEWATER SOURCE
FPUA

POTABLE WATER SOURCE
FPUA

CONSTRUCTON SCHEDULE
START: JULY 2025
FINISH: JULY 2026

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

JOB NO.	24-0465
DESIGNED	AS
DRAWN	GWR
DATE	JANUARY 2025
CHECKED	AS
DATE ISSUED	1/31/2025

MBV ENGINEERING, INC.
MOJA, BOWLES VILLAMIZAR & ASSOCIATES CONSULTING ENGINEERING CA #3728
1835 - 20TH STREET
VERO BEACH, FL 32960
PH. (772) 569-0035
MELBOURNE, FL - PH (321) 253-4100
FT. PIERCE, FL - PH (772) 468-9055

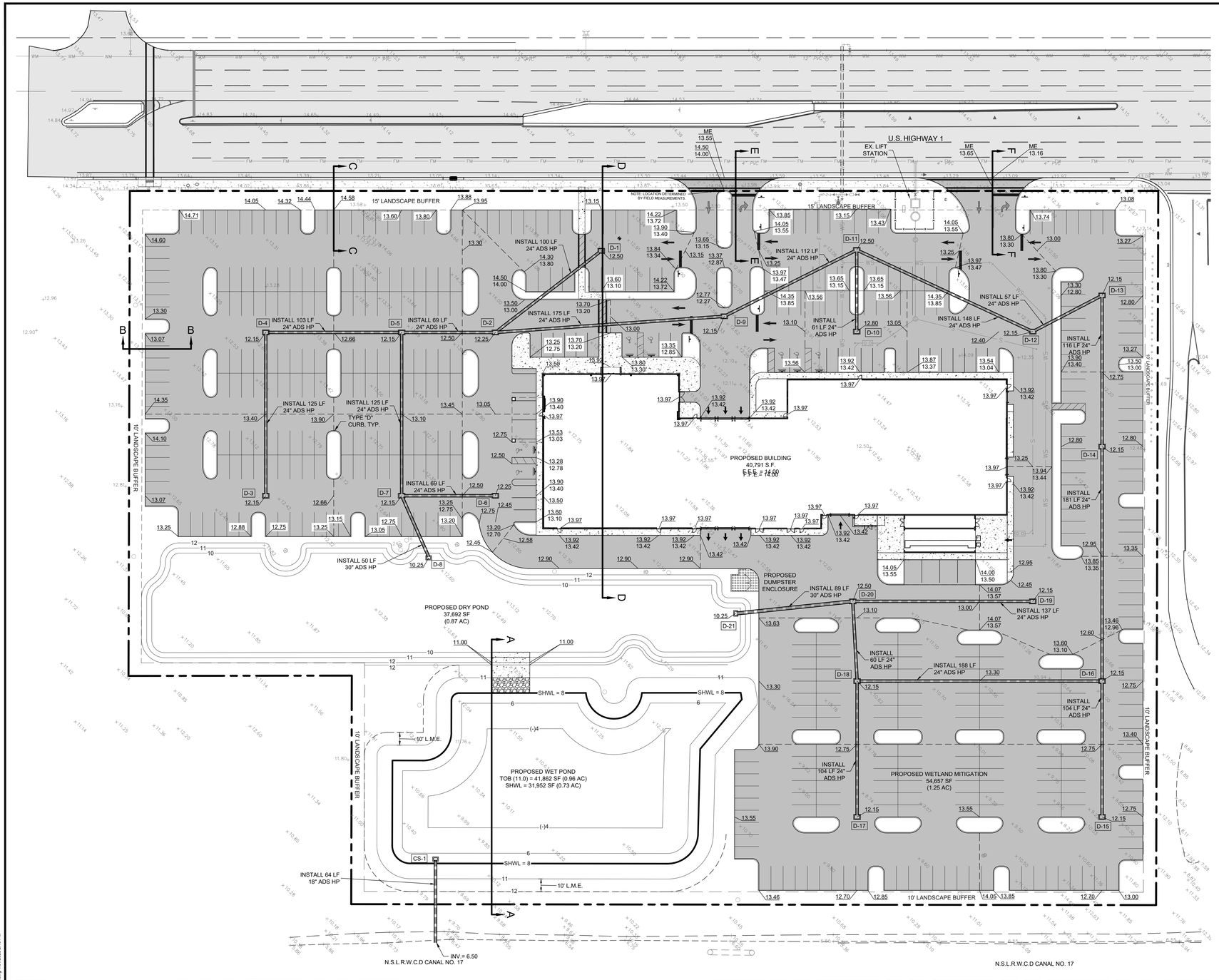
BEV SMITH KIA
NEW DEALERSHIP

CITY OF FORT PIERCE FLORIDA

AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER
AARON G. STANTON
FL. P.E. #72460 1/31/2025

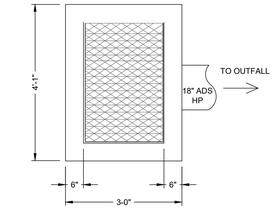
SHEET
C6

24-0465



DRAINAGE STRUCTURE SCHEDULE

STRUCTURE NUMBER	RIM ELEV.	INVERT ELEVATION N	S	E	W	BOTTOM ELEV.	DESCRIPTION
DS- 1	12.50			9.50 (SE)		9.00	FDOT TYPE "F" INLET
DS- 2	12.25	9.00	9.00		9.00 (NW)	8.50	FDOT TYPE "F" INLET
DS- 3	12.15				9.40	8.90	FDOT TYPE "F" INLET
DS- 4	12.15	9.00		9.10		8.50	FDOT TYPE "F" INLET
DS- 5	12.15	9.00	9.00	8.90		8.40	FDOT TYPE "F" INLET
DS- 6	12.25		8.75			8.25	FDOT TYPE "F" INLET
DS- 7	12.15	8.35		8.00	8.25	7.50	FDOT TYPE "F" INLET
DS- 8	10.25				7.00	6.50	FDOT TYPE "C" INLET
DS- 9	12.15	9.00	9.00			8.50	FDOT TYPE "F" INLET
DS- 10	12.80				9.40	8.90	FDOT TYPE "F" INLET
DS- 11	12.50	9.00	9.00	9.10		8.50	FDOT TYPE "F" INLET
DS- 12	12.15	9.00	9.00			8.50	FDOT TYPE "F" INLET
DS- 13	12.15		9.00	8.90		8.40	FDOT TYPE "F" INLET
DS- 14	12.15			8.20	8.30	7.70	FDOT TYPE "F" INLET
DS- 15	12.15				7.90	7.40	FDOT TYPE "F" INLET
DS- 16	12.15		7.20	7.40	7.30	6.70	FDOT TYPE "F" INLET
DS- 17	12.15				6.85	6.35	FDOT TYPE "F" INLET
DS- 18	12.15	6.25		6.35	6.15	5.65	FDOT TYPE "F" INLET
DS- 19	12.15		6.65			6.15	FDOT TYPE "F" INLET
DS- 20	12.50	5.95	5.75	5.85		5.25	FDOT TYPE "F" INLET
DS- 21	10.25	5.30				4.80	FDOT TYPE "C" INLET
CS-1	11.75	SEE THIS SHEET FOR DETAILS					MODIFIED TYPE 'C' CATCH BASIN



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
- ×10.85 EXISTING ELEVATION
- 13.46 PROPOSED ELEVATION

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

O:\DRAWINGS\2024\24-0465 Bev Smith Kia New Dealership\4 - Drawings\24-0465 C7 PGD PLAN.dwg 1/31/2025 2:49 PM

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REVISIONS

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MBV ENGINEERING, INC.
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FT. PIERCE, FL - PH (772) 468-9055
1893 - 20TH STREET
VERO BEACH, FL 32960
PH: (772) 794-3617
FX: (772) 778-7417

PAVING, GRADING AND DRAINAGE PLAN

BEV SMITH KIA
NEW DEALERSHIP

CITY OF FORT PIERCE FLORIDA

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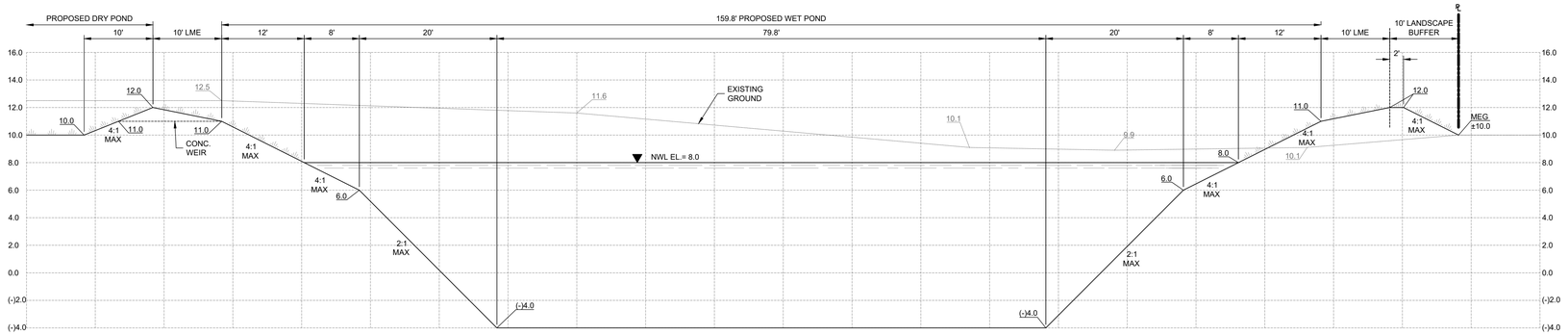
AARON G. STANTON
FL. P.E. #72460 1/31/2025

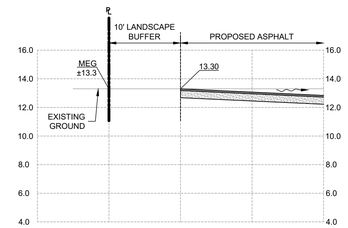
SHEET
C7

24-0465



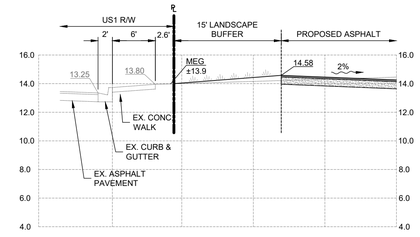
SECTION A-A

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



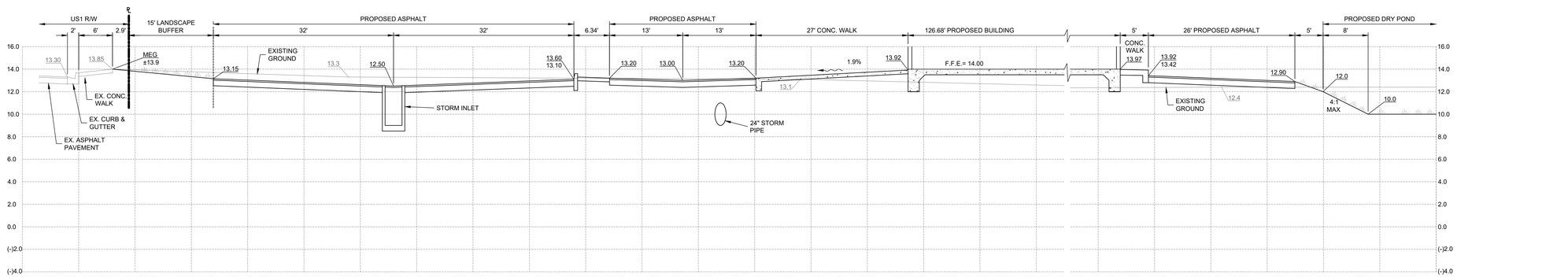
SECTION B-B

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



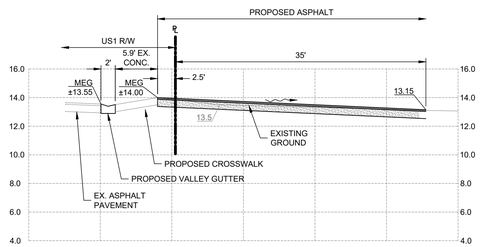
SECTION C-C

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



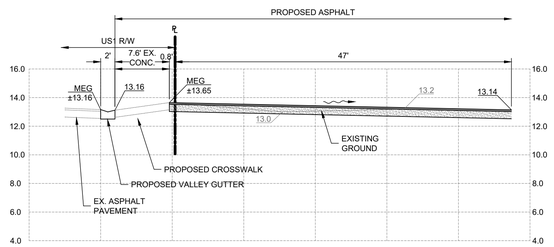
SECTION D-D

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



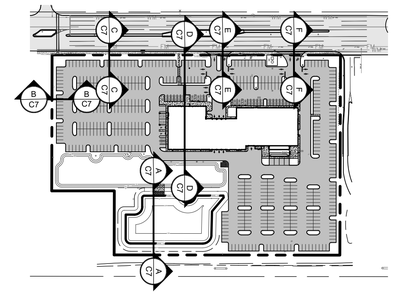
SECTION E-E

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



SECTION F-F

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.

	DATE
8	
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REVISIONS

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FT. PIERCE, FL - PH (772) 468-9055
1893 - 20TH STREET
VERO BEACH, FL 32960
PH. (772) 778-7917
FX. (772) 778-7917

CROSS SECTIONS

BEV SMITH KIA
NEW DEALERSHIP

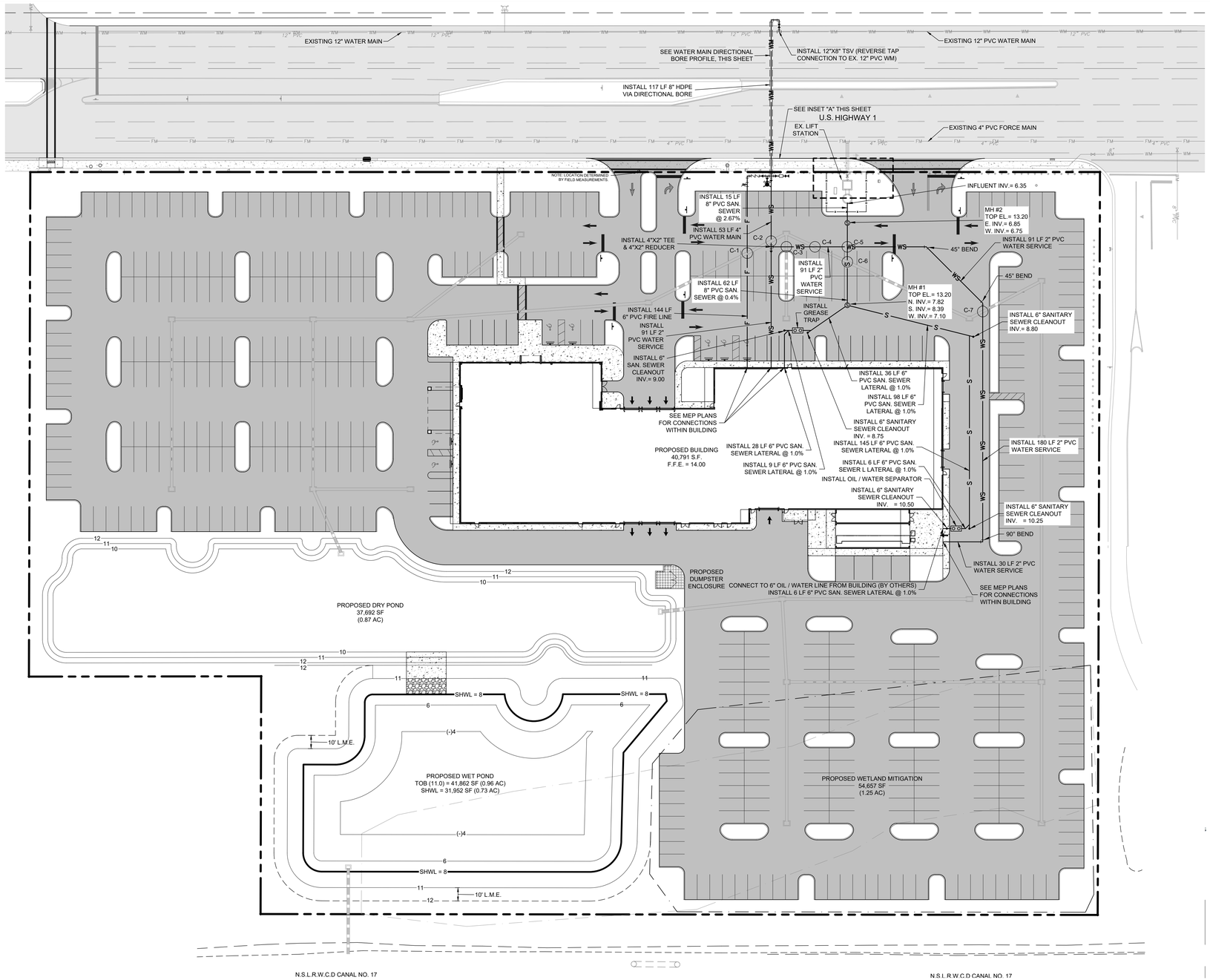
CITY OF FORT PIERCE FLORIDA

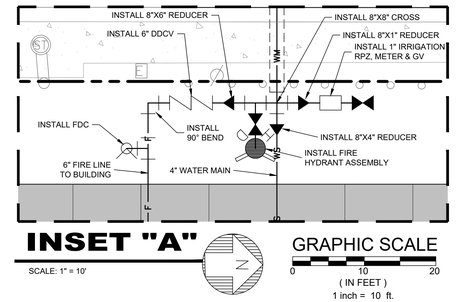
AARON G. STANTON
LICENSE
No. 72460
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460 1/31/2025

SHEET
C8

24-0465





INSET "A"

SCALE: 1" = 10'

GRAPHIC SCALE
0 10 20
(IN FEET)
1 inch = 10 ft.

UTILITY PLAN

SCALE: 1" = 40'

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

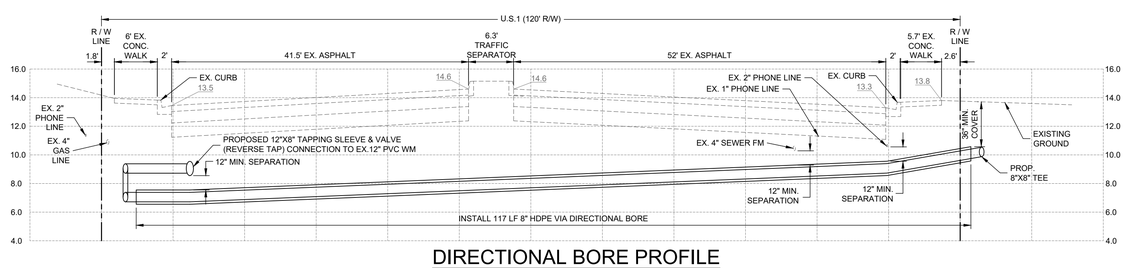
LEGEND

- WM — PROPOSED WATER MAIN
- WM — PROPOSED WATER MAIN VIA DIRECTIONAL BORE
- WS — PROPOSED WATER SERVICE
- S — PROPOSED GRAVITY SEWER SERVICE

CONFLICT TABLE

CONFLICT NUMBER		C1	C2	C3	C4	C5	C6	C7
GROUND ELEVATION		13.0 '	12.7 '	12.7 '	12.7 '	13.2 '	13.4 '	12.3 '
COVER (UPPER)		1.8 '	1.5 '	1.4 '	1.5 '	4.3 '	2.2 '	1.1 '
Upper Pipe	PIPE SIZE	24 "	24 "	24 "	24 "	2 "	24 "	24 "
	MATERIAL	ST (ADS)	ST (ADS)	ST (ADS)	ST (ADS)	WTR(PVC)	ST (ADS)	ST (ADS)
	INV. ELEV	9.00 '	9.00 '	9.10 '	9.00 '	8.70 '	9.00 '	9.00 '
	WALL THICKNESS	2.00 "	2.00 "	2.00 "	2.00 "	0.15 "	2.00 "	2.00 "
	BOTT. OF PIPE	8.83 '	8.83 '	8.93 '	8.83 '	8.69 '	8.83 '	8.83 '
SEPARATION		1.01 '	0.98 '	0.95 '	0.95 '	0.96 '	1.17 '	1.05 '
COVER (LOWER)		5.2 '	4.8 '	4.7 '	4.8 '	5.5 '	5.7 '	4.5 '
TOP OF PIPE		7.82 '	7.85 '	7.98 '	7.88 '	7.72 '	7.66 '	7.78 '
Lower Pipe	OBV. ELEV.	7.80 '	7.83 '	7.97 '	7.87 '	7.70 '	7.64 '	7.77 '
	PIPE SIZE	6 "	4 "	2 "	2 "	8 "	8 "	2 "
	MATERIAL	WTR(PVC)	WTR(PVC)	WTR(PVC)	WTR(PVC)	SS(PVC)	SS(PVC)	WTR(PVC)
	INV. ELEV	7.30 '	7.50 '	7.80 '	7.70 '	7.03 '	6.97 '	7.60 '
	WALL THICKNESS	0.28 "	0.24 "	0.15 "	0.15 "	0.32 "	0.32 "	0.15 "

N.S.L.R.W.C.D CANAL NO. 17



DIRECTIONAL BORE PROFILE

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

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

DATE	REVISIONS
8	
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1833 - 20TH STREET VERO BEACH, FL 32960 PH (321) 257-4110
MELBOURNE, FL - PH (321) 253-4100
FT. PIERCE, FL - PH (772) 468-9055
FX. (772) 778-7417

UTILITY PLAN

BEV SMITH KIA
NEW DEALERSHIP

CITY OF FORT PIERCE, FLORIDA

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AARON G. STANTON
FL. P.E. #72460
1/31/2025

SHEET
C9

24-0465

U.S. HIGHWAY 1

EX. LIFT STATION

NOTE: LOCATION DETERMINED BY FIELD MEASUREMENTS.

PROPOSED BUILDING
40,791 S.F.
F.F.E. = 14.00

PROPOSED DUMPSTER ENCLOSURE

PROPOSED DRY POND
37,692 SF
(0.87 AC)

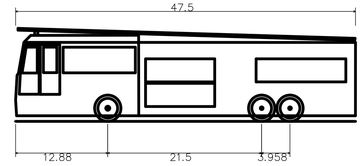
SHWL = 8

10' L.M.E.

PROPOSED WET POND
TOB (11.0) = 41,962 SF (0.96 AC)
SHWL = 31,952 SF (0.73 AC)

PROPOSED WETLAND MITIGATION
54,657 SF
(1.25 AC)

N.S.L.R.W.C.D CANAL NO. 17



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
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811
Know what's below.
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D:\DRAWINGS\2024\24-0465 Bev Smith Kia New Dealership\4 - Drawings\24-0465 C10 FIRE PROTECTION.dwg 1/31/2025 2:50

REVISIONS	DATE
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VERO BEACH, FL 32960
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FX: (772) 778-7417

FIRE PROTECTION PLAN

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SHEET
C10

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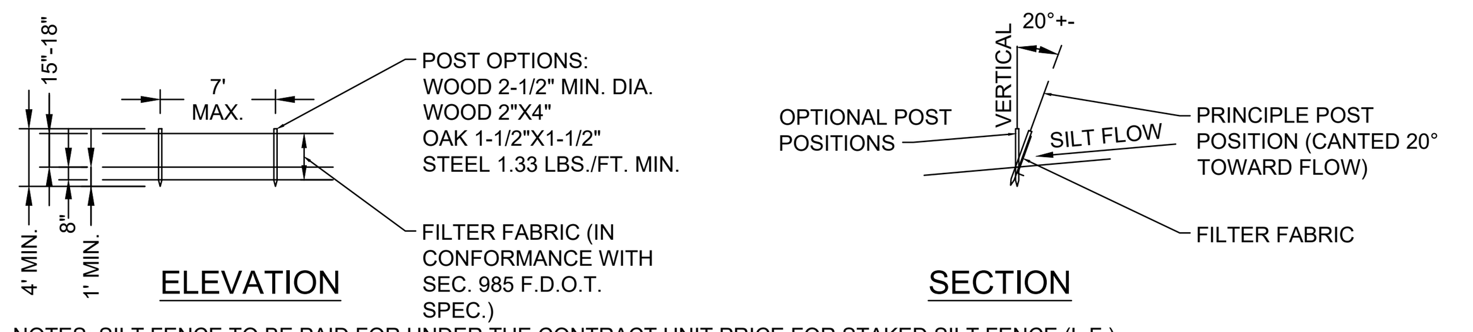
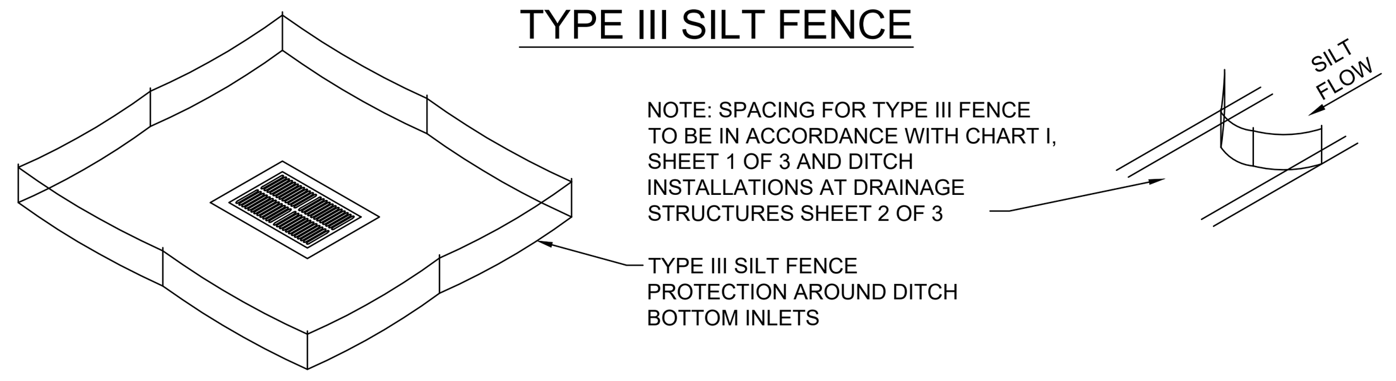


NOTES: SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE (L.F.)

TYPE III SILT FENCE



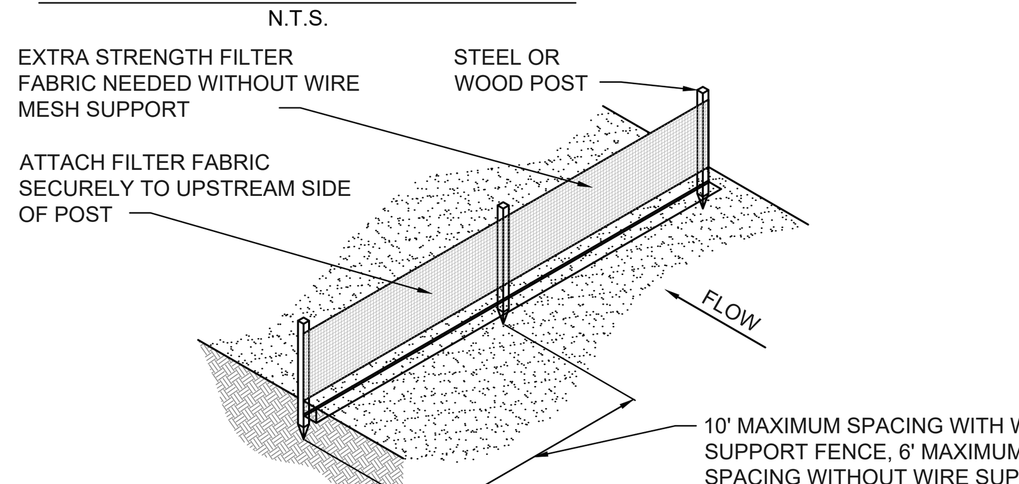
DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

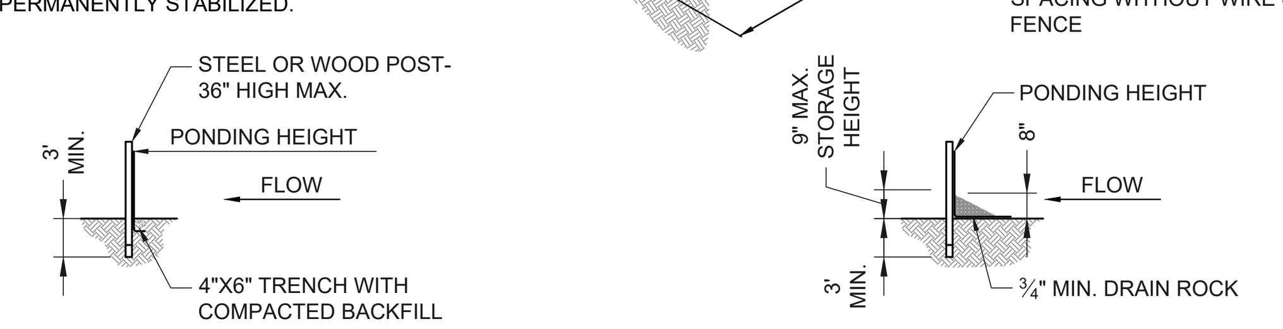
SILT FENCE APPLICATIONS

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.



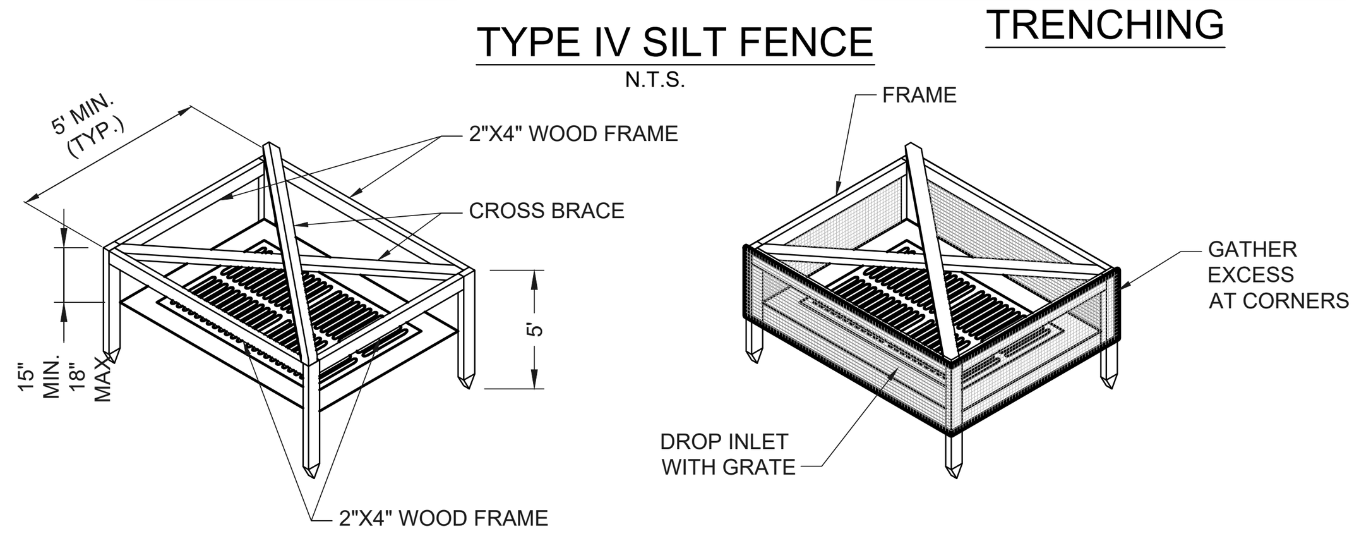


TRENCH DETAIL

INSTALLATION WITHOUT TRENCHING

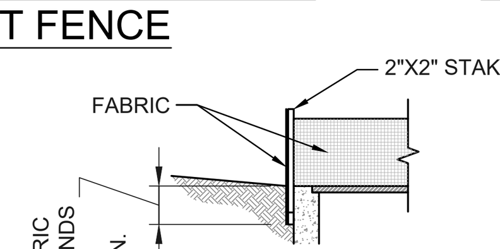
TYPE IV SILT FENCE

N.T.S.



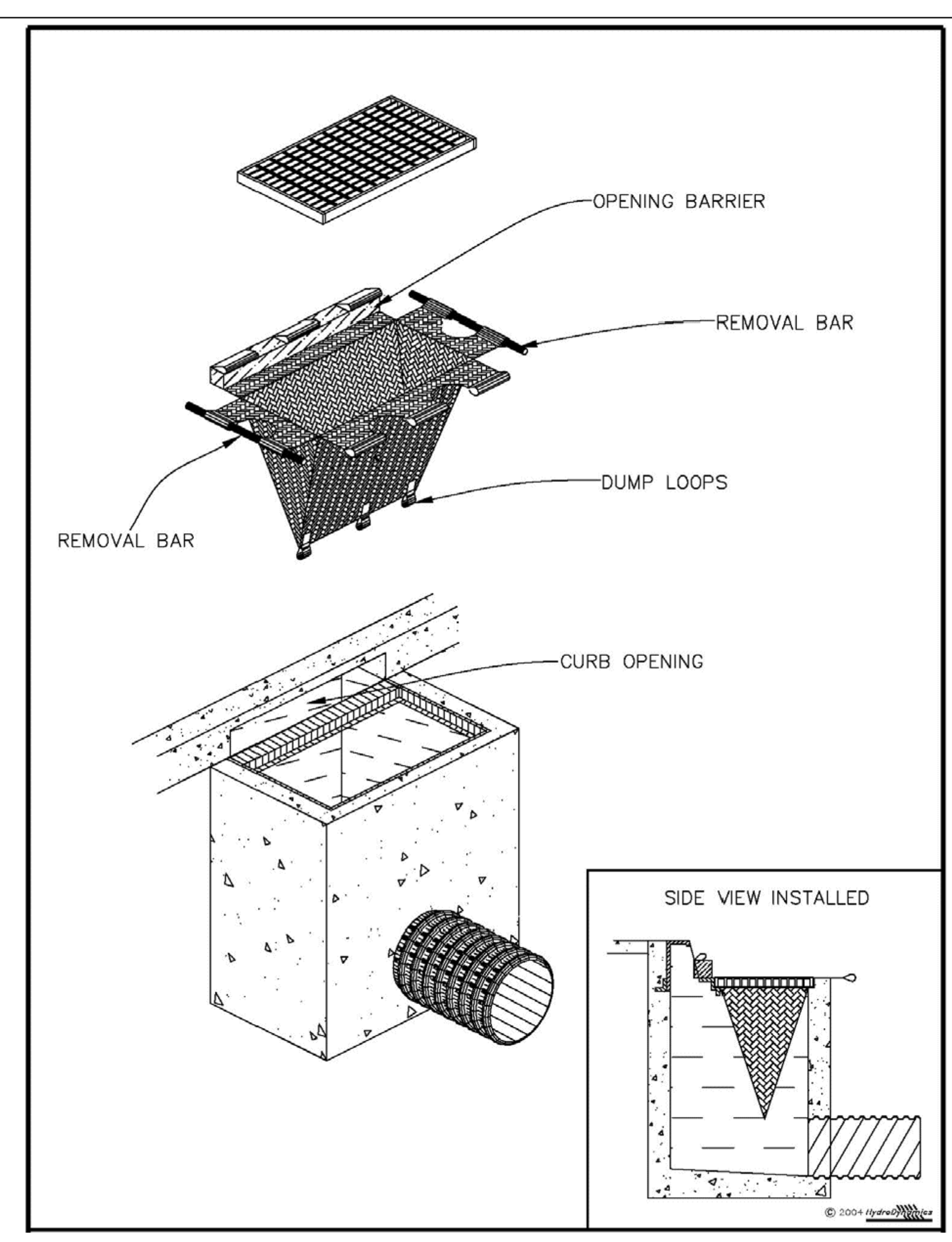
VIEW OF FRAME WITHOUT SILT FENCE

VIEW OF FRAME WITH SILT FENCE



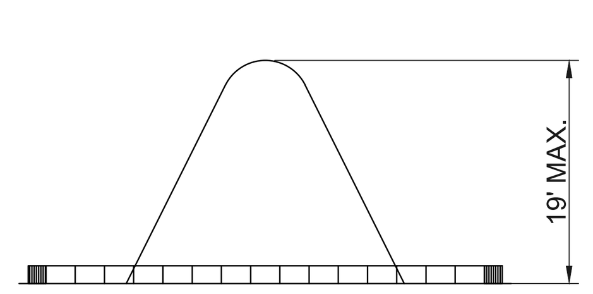
SILT FENCE INLET PROTECTION

N.T.S.



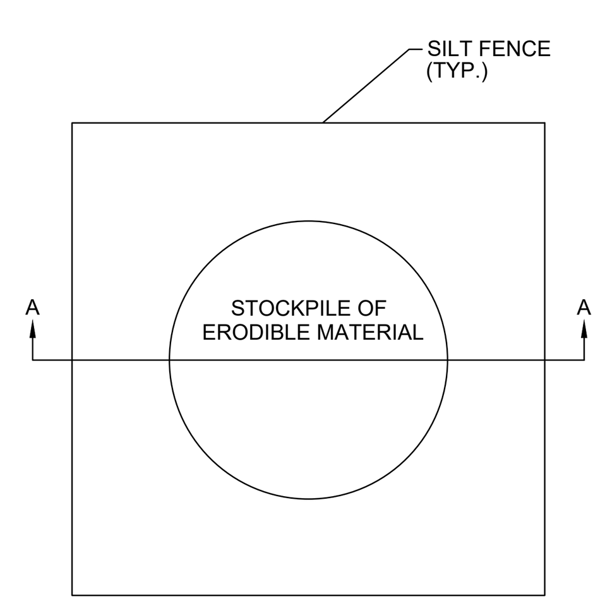
INLET INSERT SEDIMENT CONTAINMENT SYSTEM

N.T.S.



NOTE:
ALL STOCKPILES SHALL BE A MAXIMUM OF 25' HIGH.

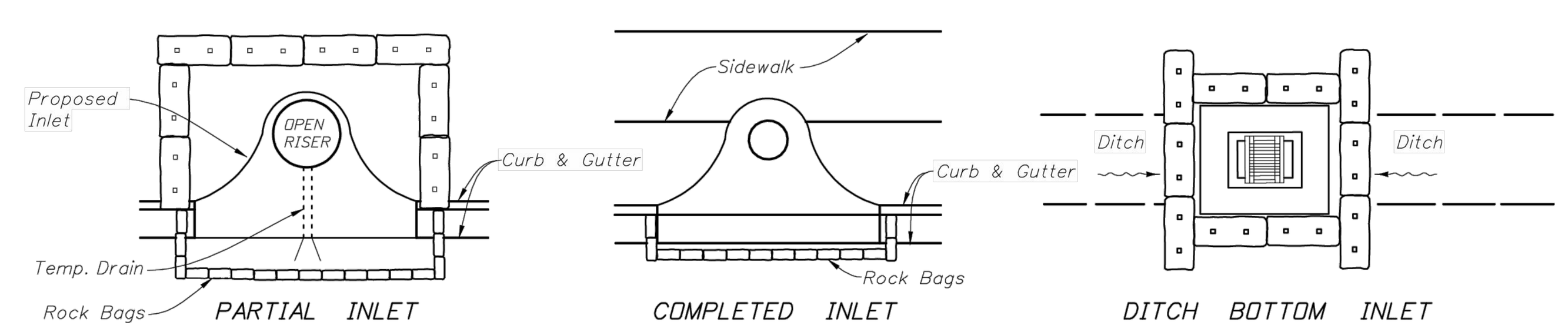
SECTION A-A



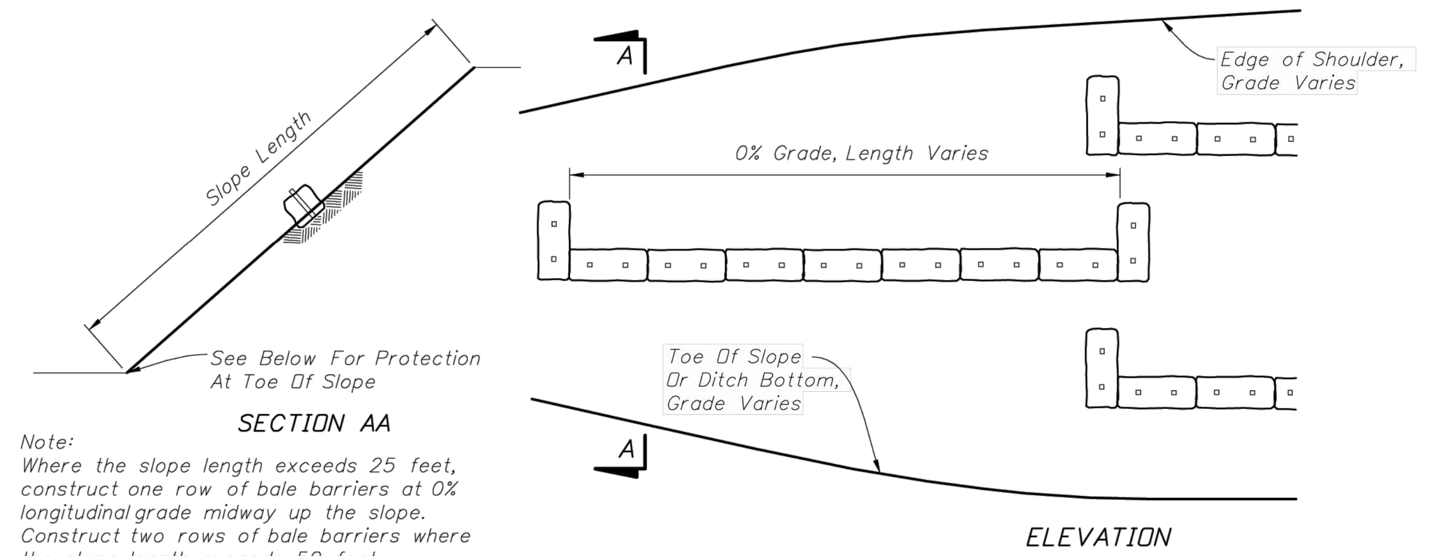
NOTE:
FOR STOCKPILING ERODIBLE MATERIAL FOR EXTENDED PERIODS, THE AREA SHALL BE SEEDED AND MULCHED.

SEDIMENT CONTROL DETAIL FOR STOCKPILING OF ERODIBLE MATERIAL

N.T.S.

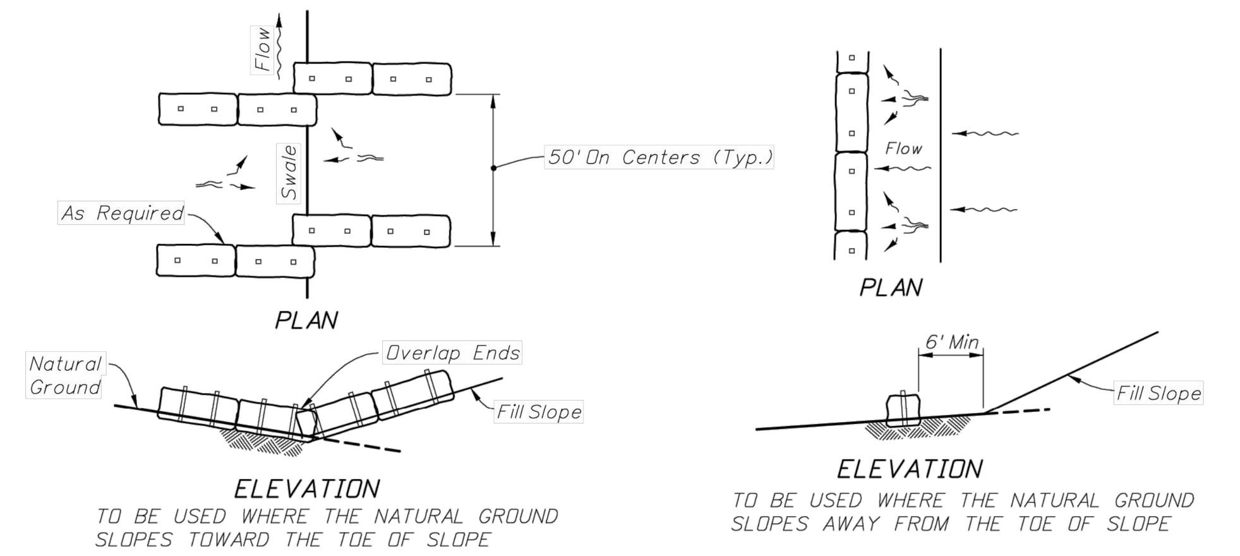


PROTECTION AROUND INLETS OR SIMILAR STRUCTURES

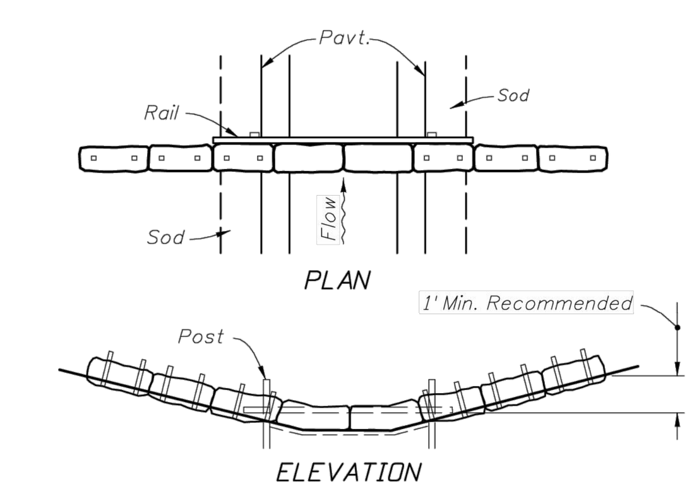


Note:
Where the slope length exceeds 25 feet, construct one row of bale barriers at 0% longitudinal grade midway up the slope. Construct two rows of bale barriers where the slope length exceeds 50 feet.

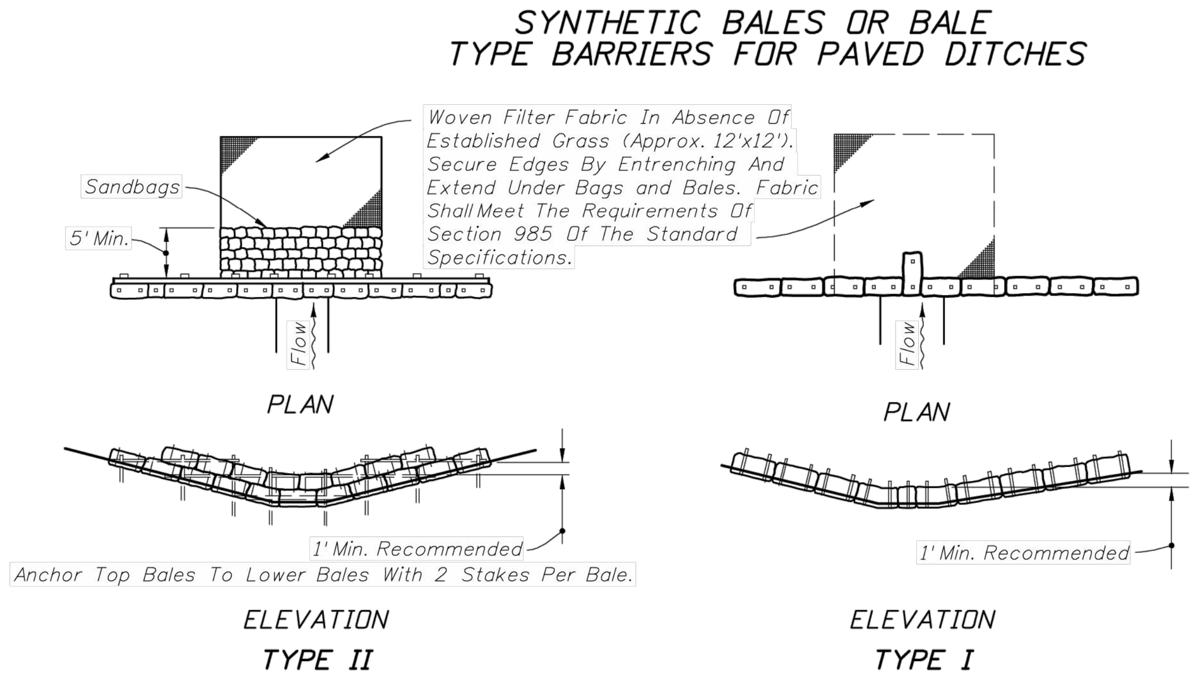
ALONG FILL SLOPE



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

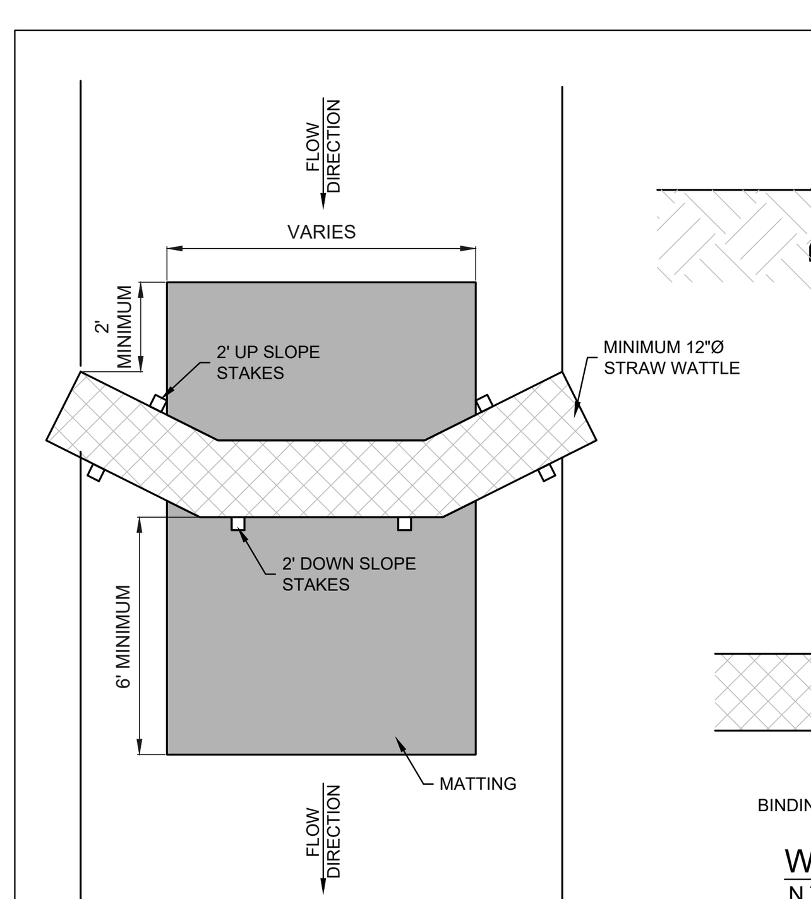
1. Type I and II Synthetic Barrier should be spaced in accordance with Chart 1, Sheet 1.
2. Bales shall be anchored with 2-1" x 2" (or 1" dia.) x 4' wood stakes. Stakes of other material or shape providing equivalent strength may be used if approved by the Engineer. Stakes other than wood shall be removed upon completion of the project.
3. Rails and posts shall be 2" x 4" wood. Other materials providing equivlalent 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

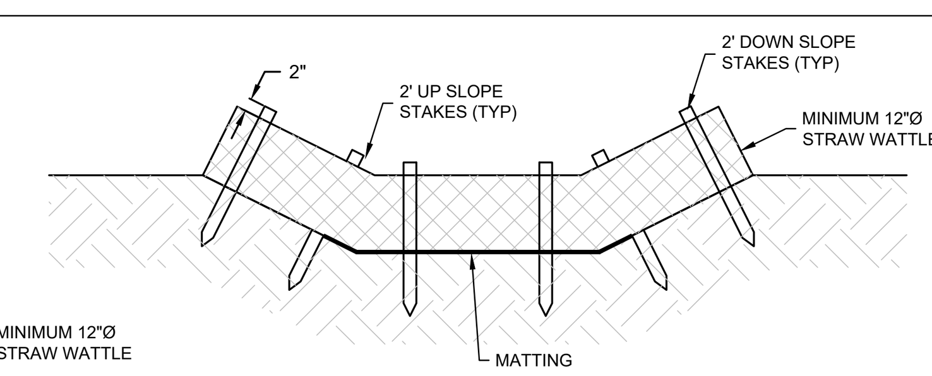
(a) THE CITY ENGINEERING DEPARTMENT SHALL MAKE INSPECTIONS AS HEREINAFTER REQUIRED AND NOTIFY THE BUILDING OFFICIAL UPON INSPECTION APPROVAL OR IF THE WORK FAILS TO COMPLY WITH THE EROSION AND SEDIMENT CONTROL PLAN AS APPROVED TO REQUEST A STOP-WORK ORDER. PLANS FOR GRADING / STRIPPING / EXCAVATING AND 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.



WATTLE TOP VIEW
N.T.S.



WATTLE CROSS SECTION
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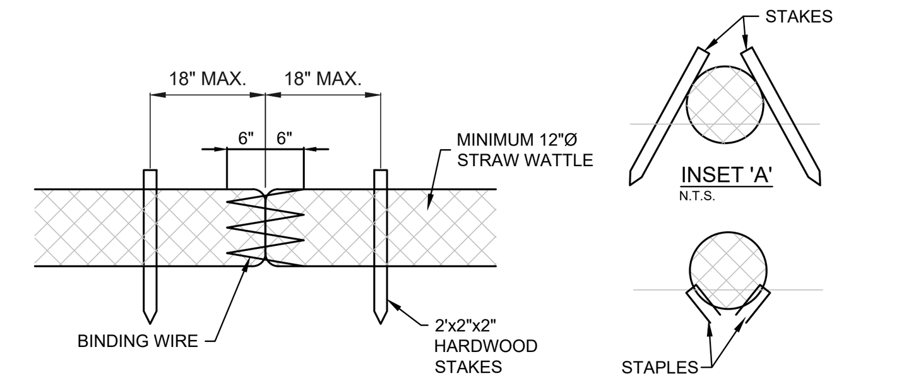


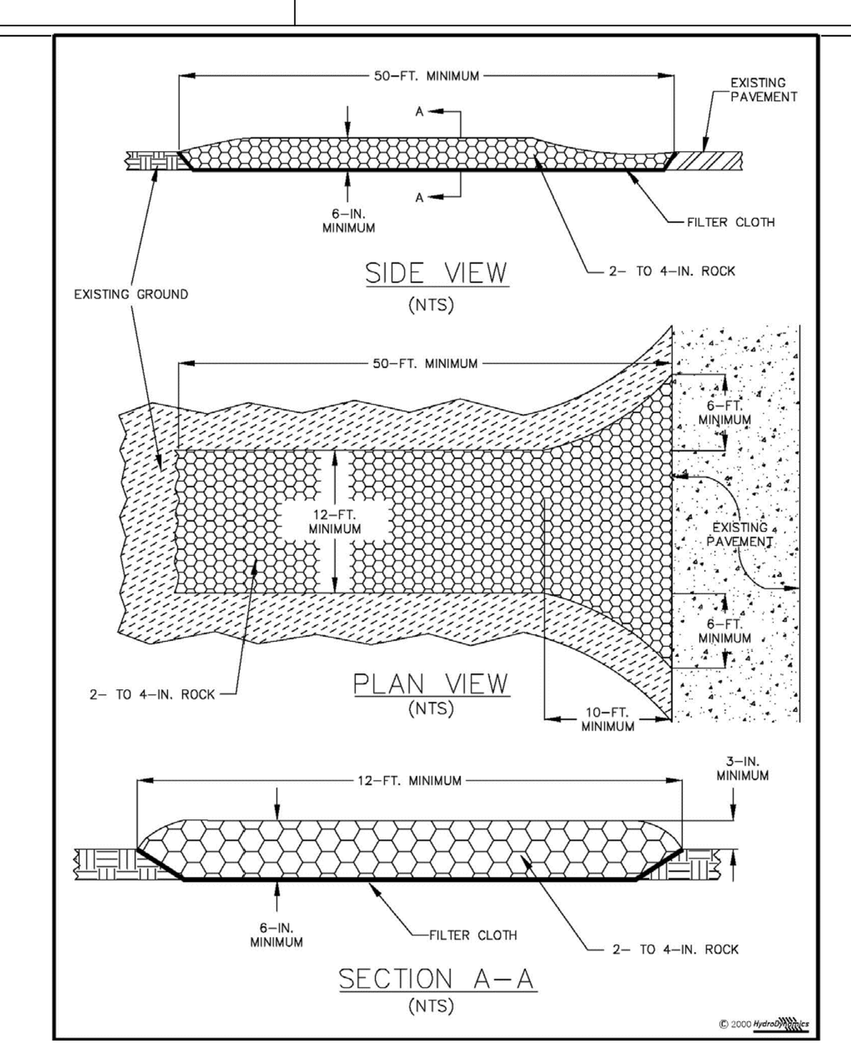
WATTLE JOINING DETAIL
N.T.S.

NOTES:

1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2"-3" DEEP x 9" 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 SIRE 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

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JOB NO.	24-0465
DESIGNED	AS
DRAWN	GWR
DATE	JANUARY 2025
CHECKED	AS
DATE ISSUED	1/31/2025

MBV ENGINEERING, INC.
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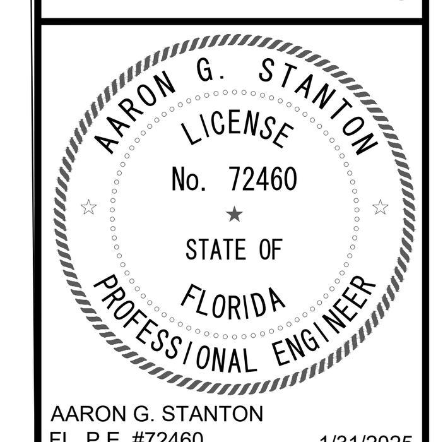
EROSION CONTROL DETAILS

BEV SMITH KIA
NEW DEALERSHIP

CITY OF FORT PIERCE FLORIDA



AARON G. STANTON
FL. P.E. #72460 1/31/2025

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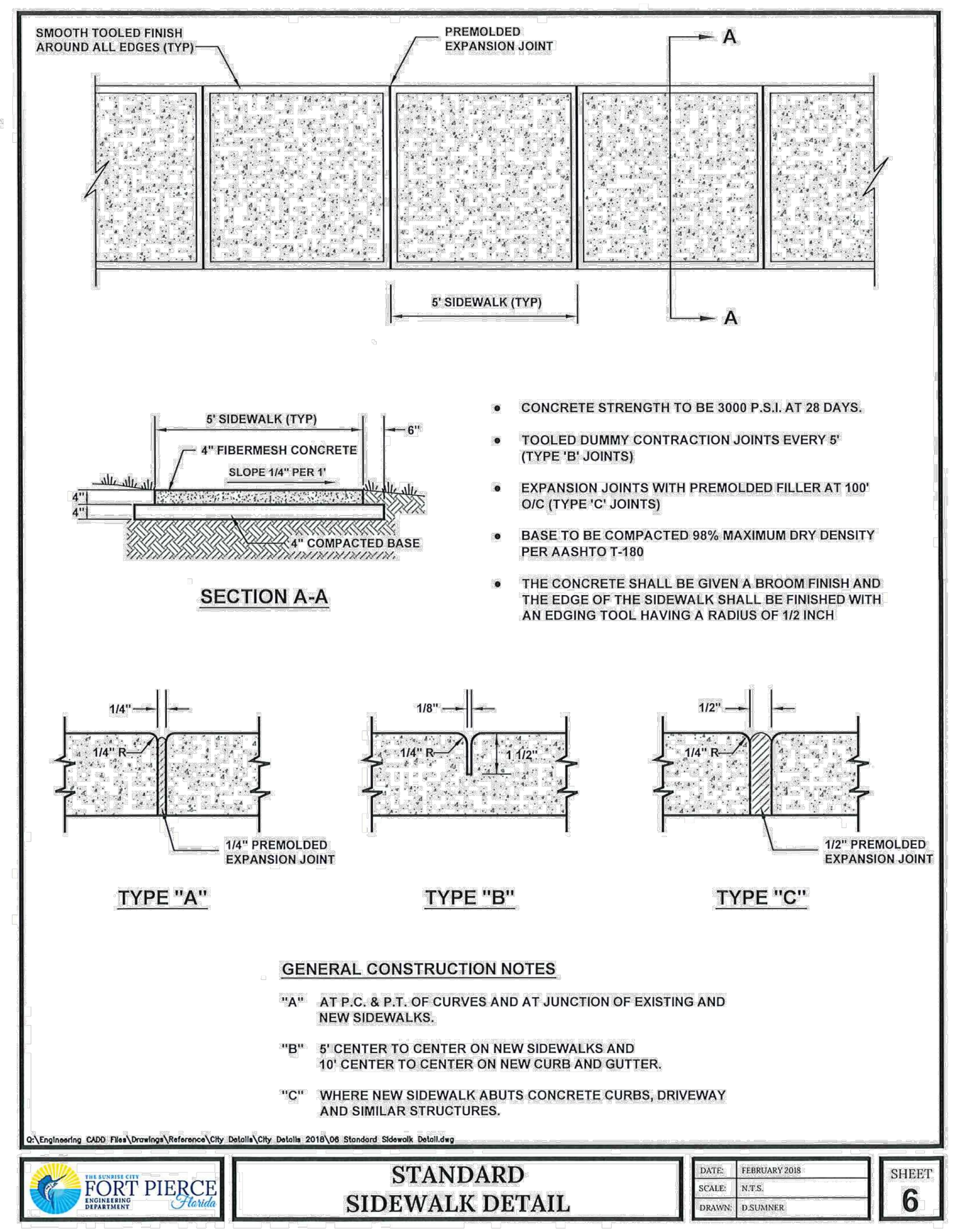
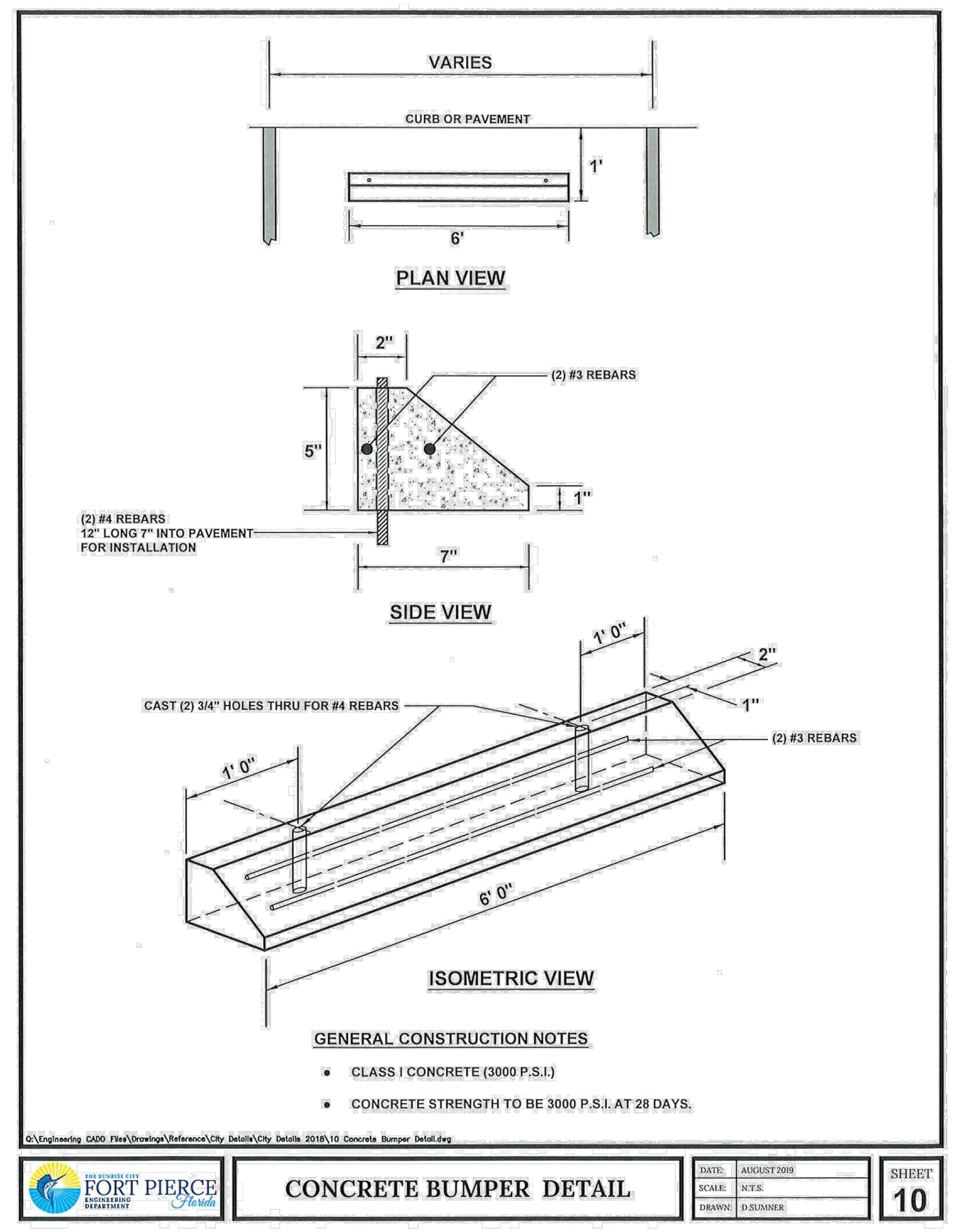
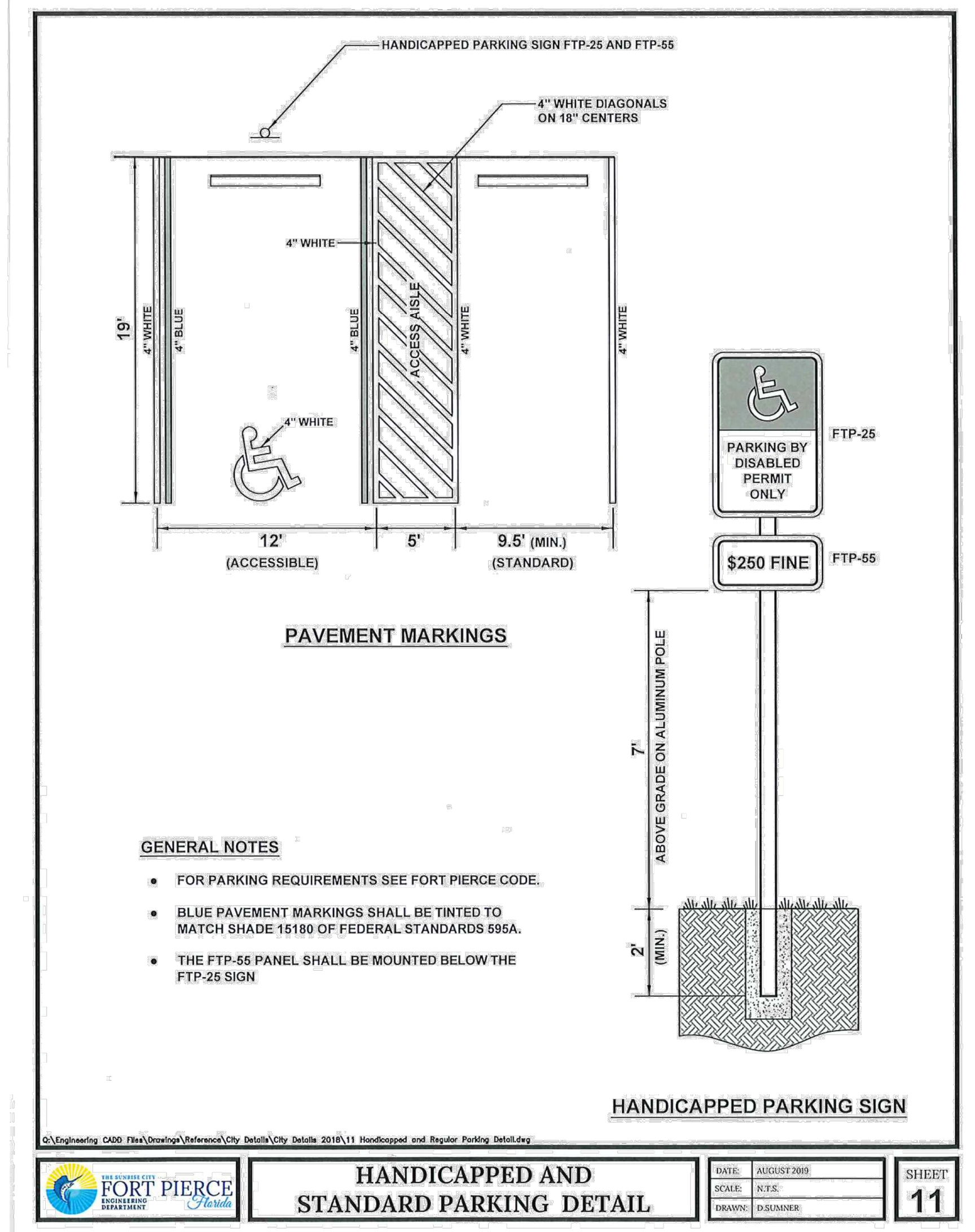
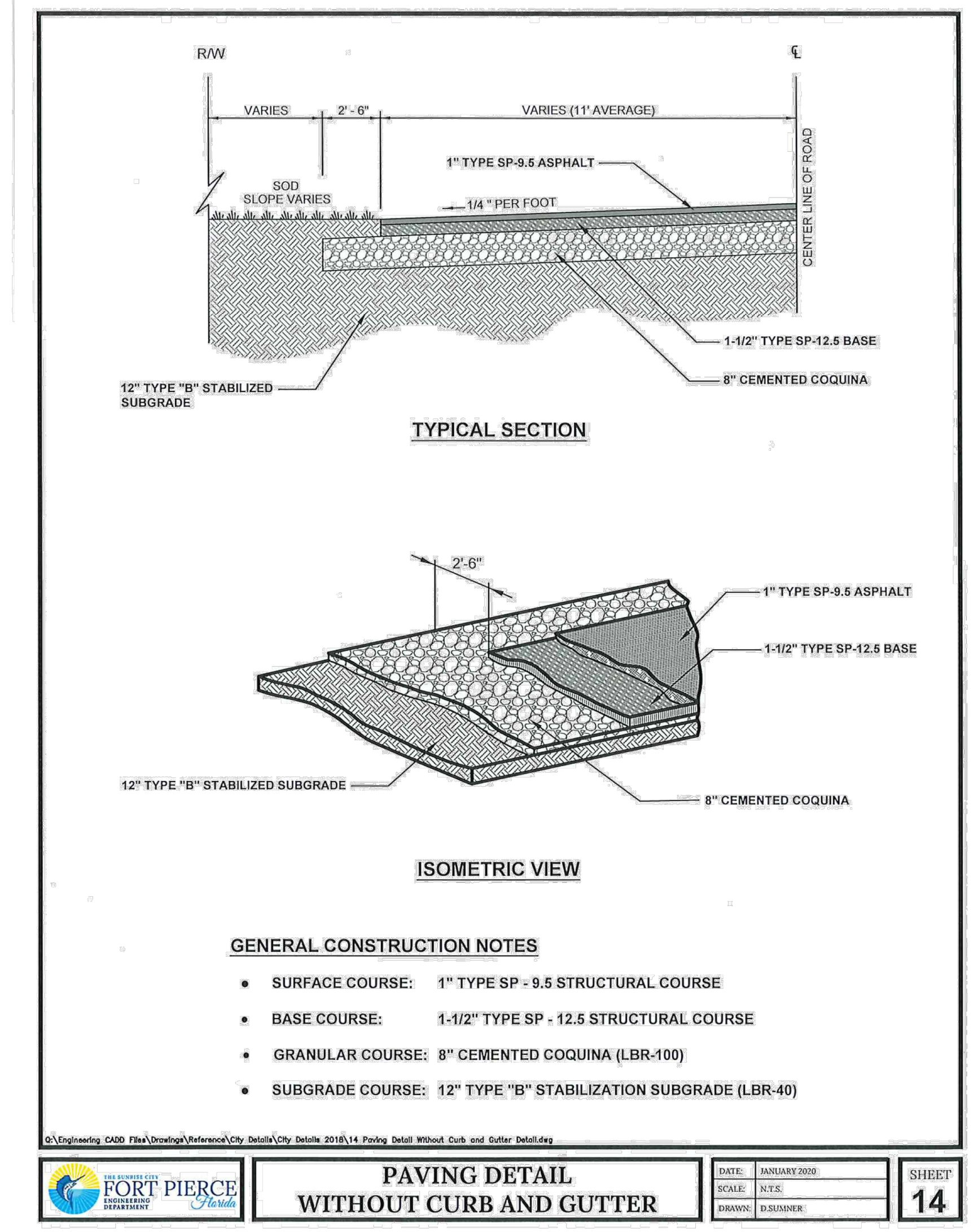
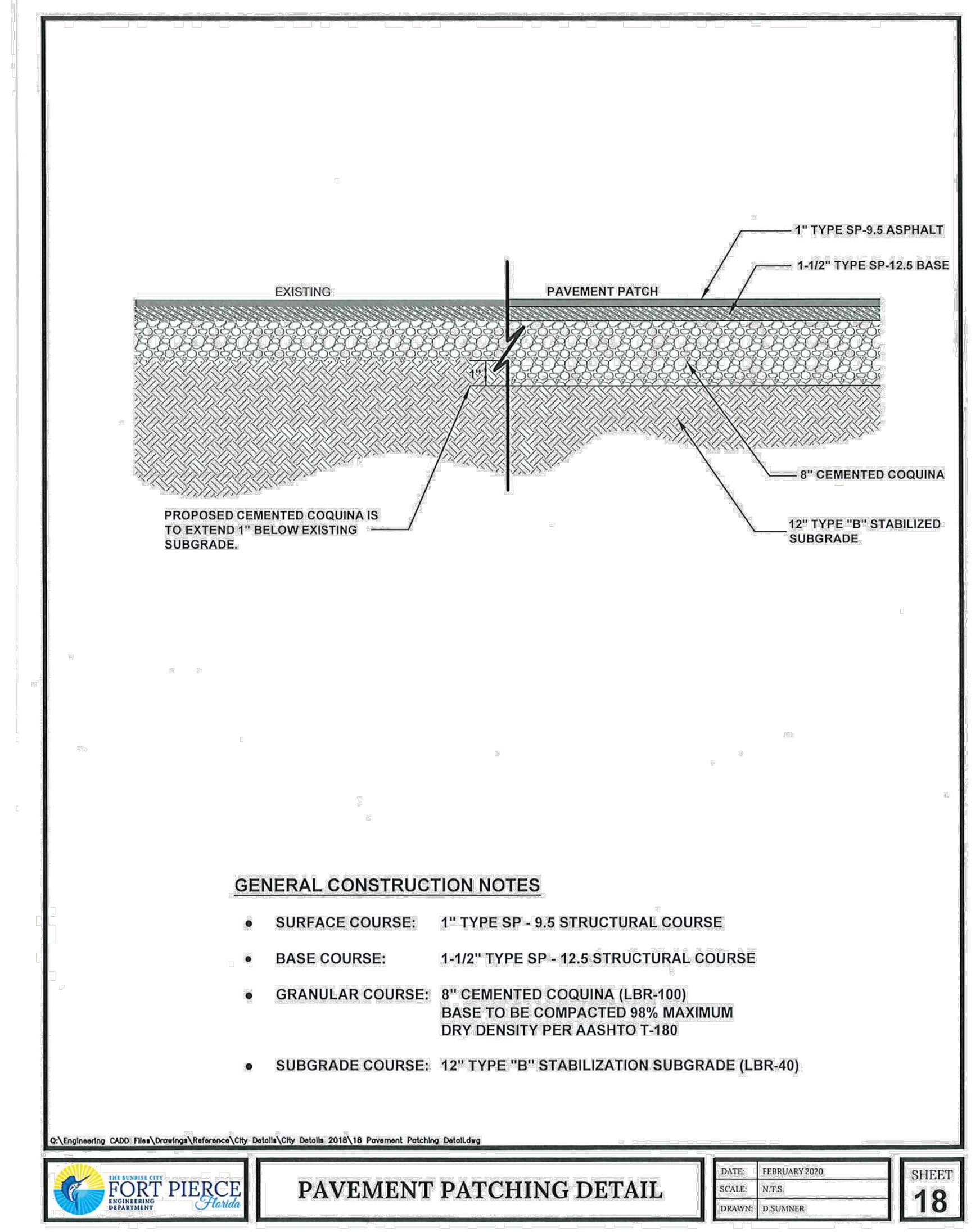
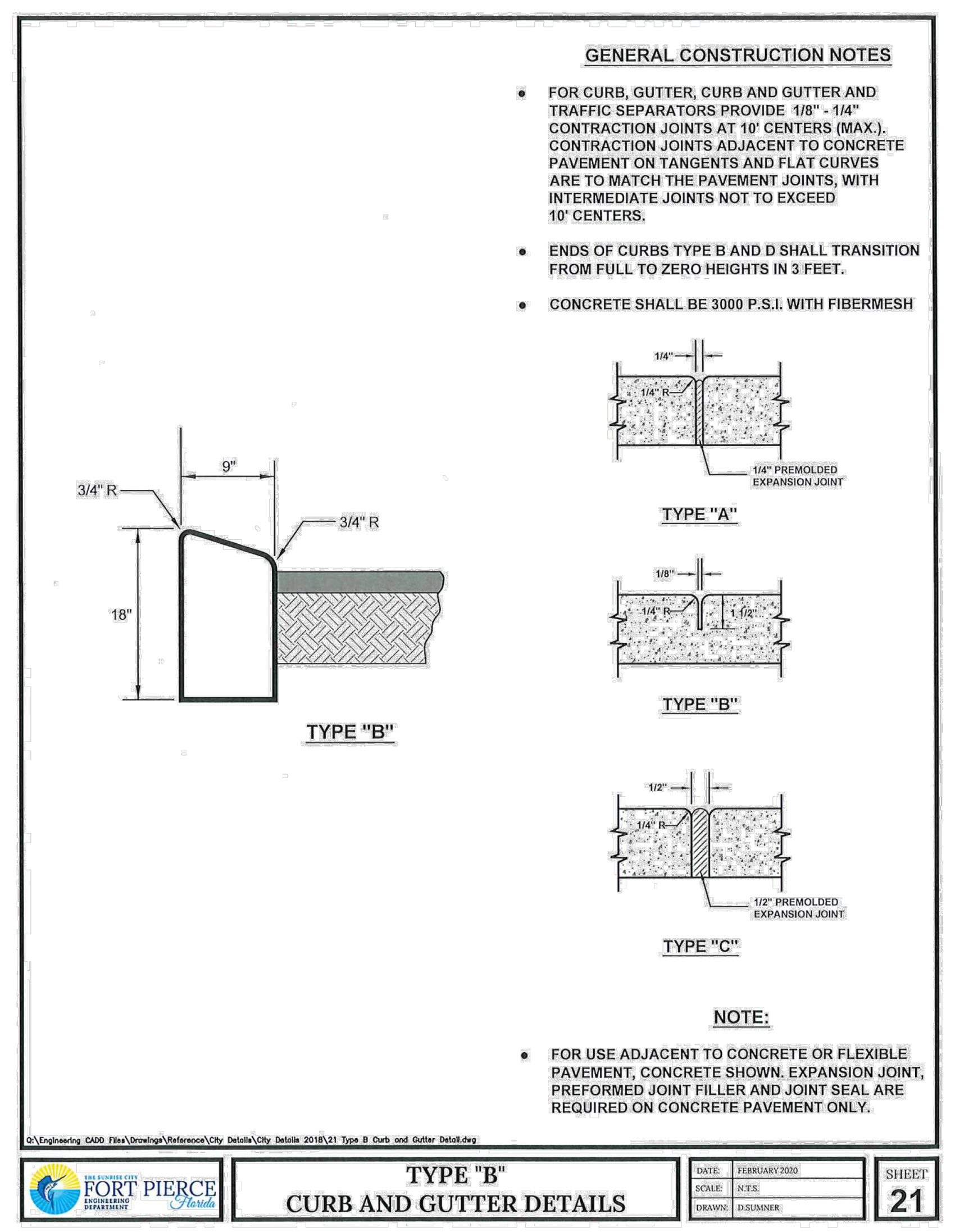


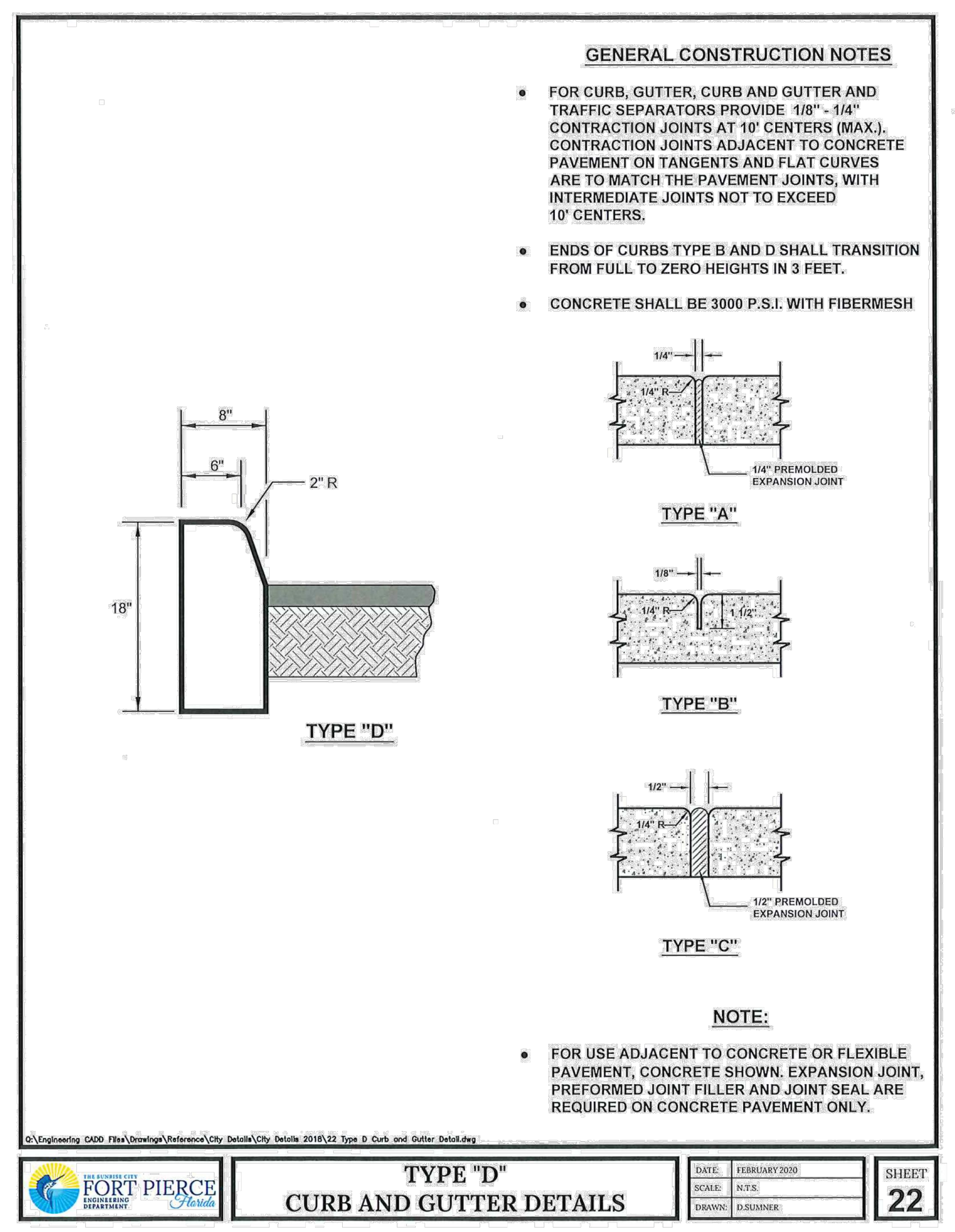


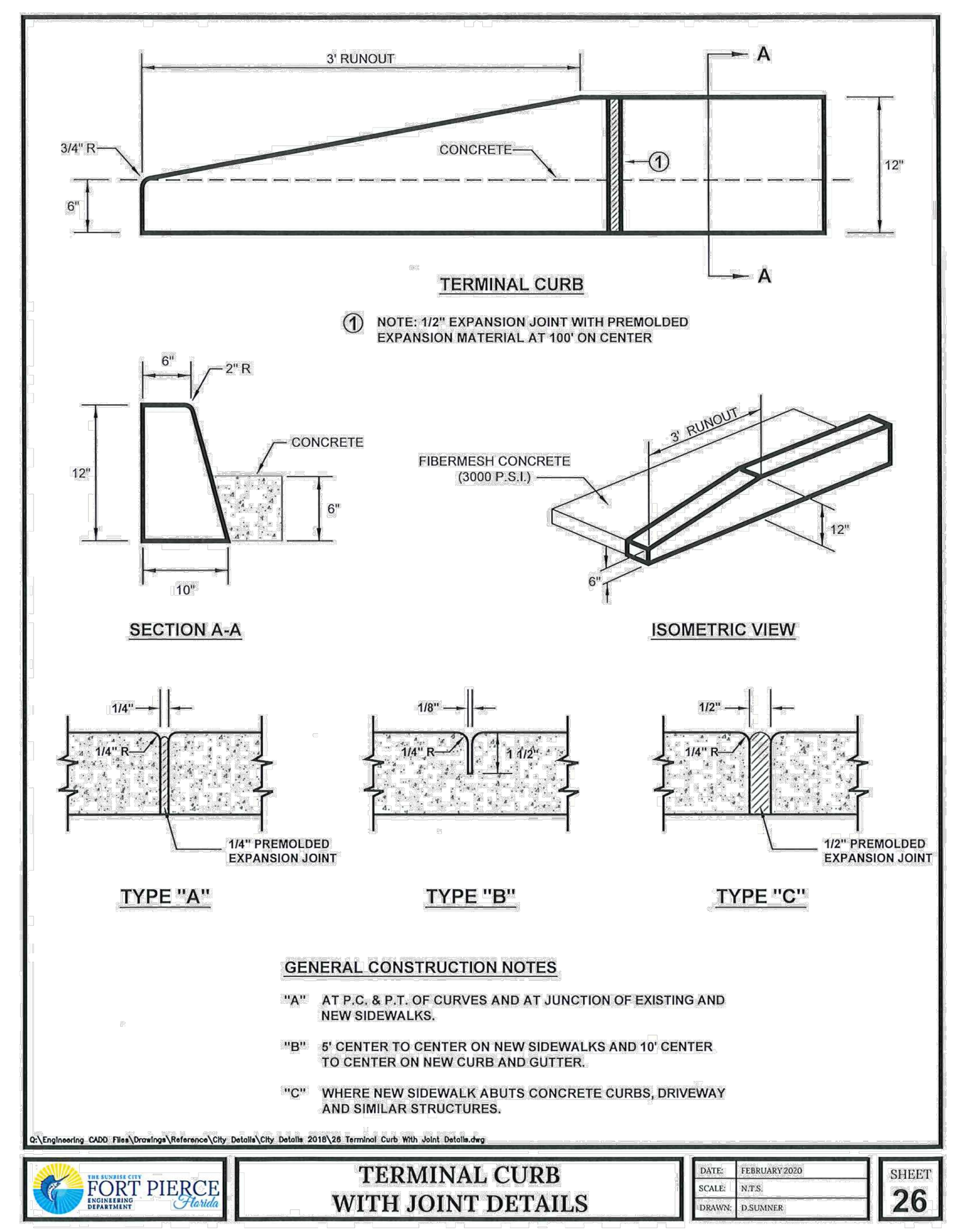


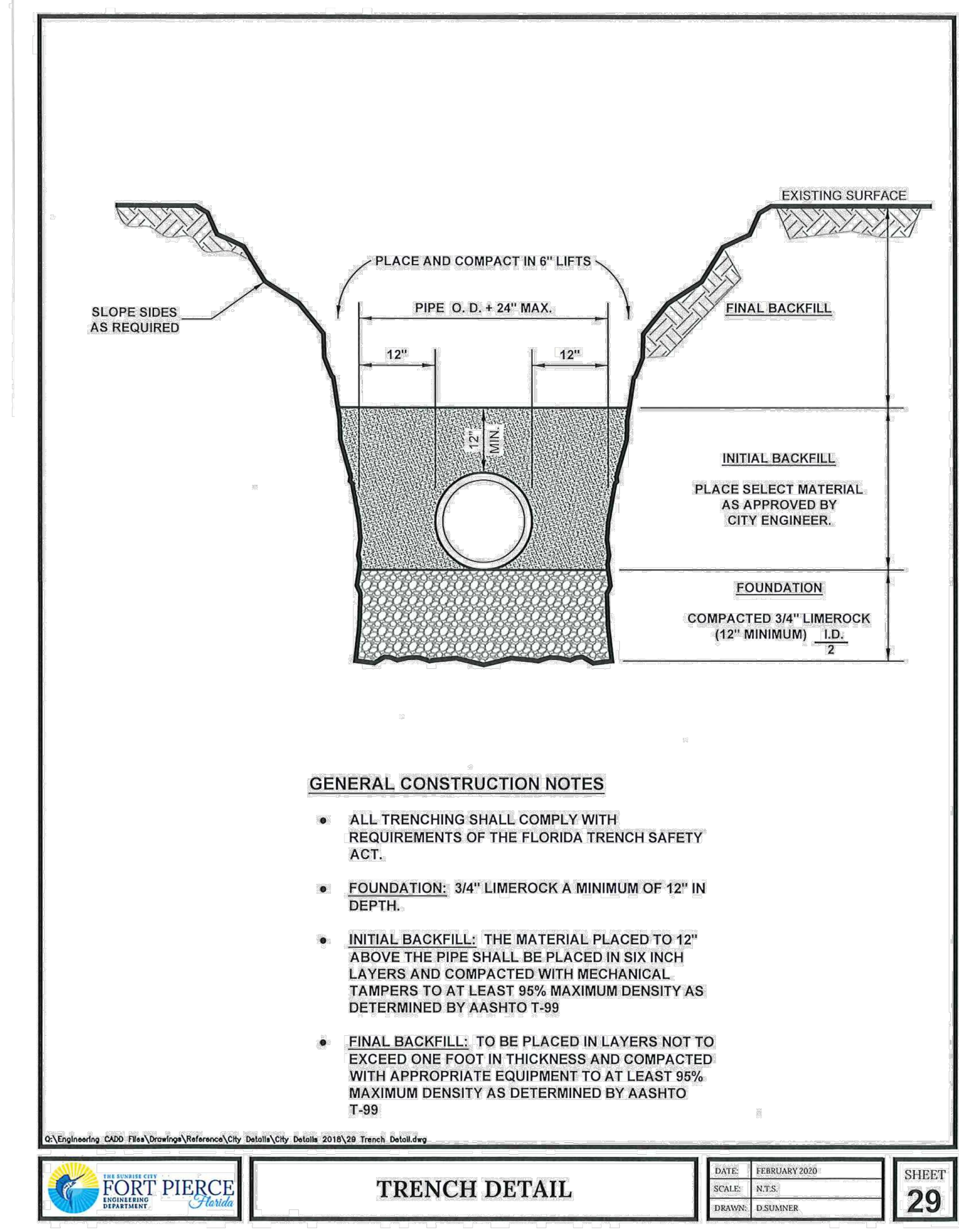


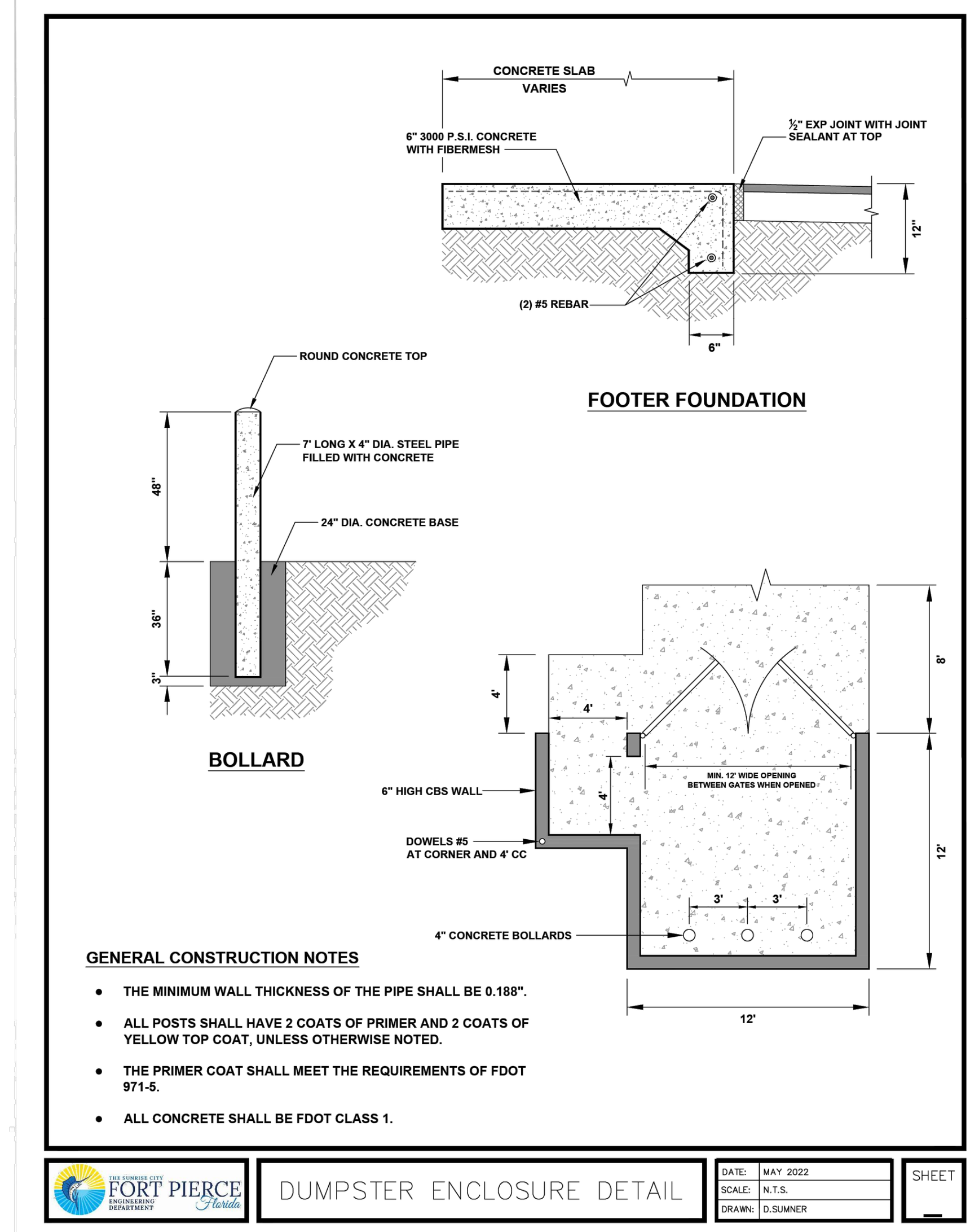


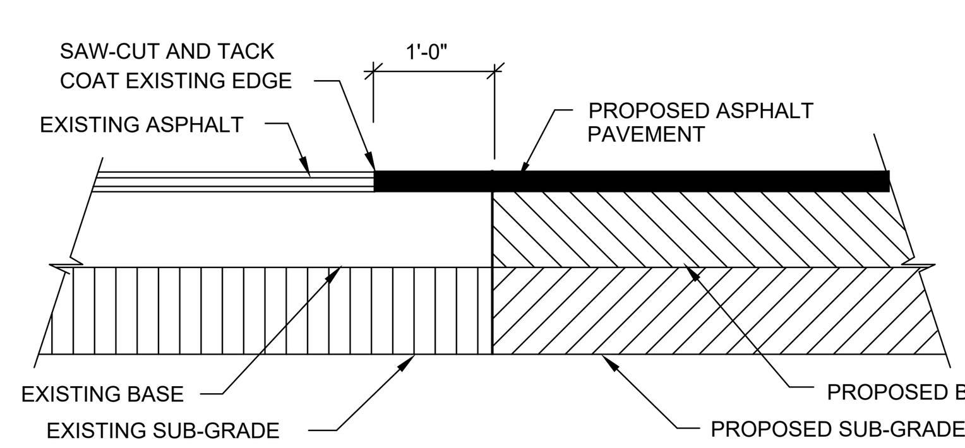




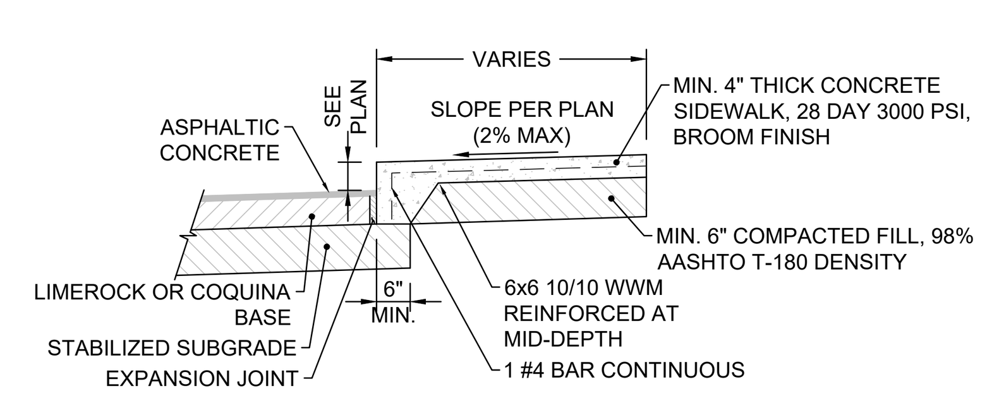






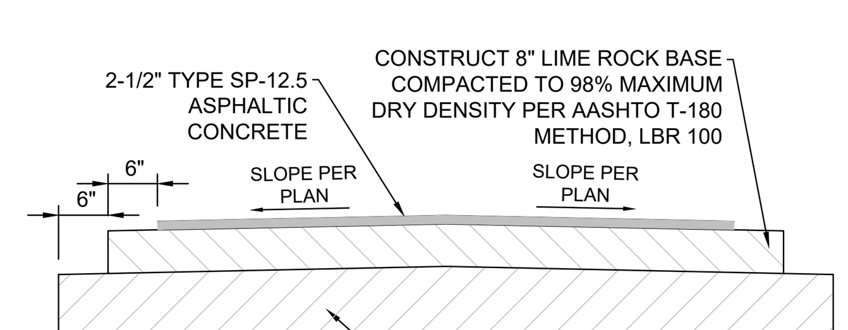


PAVEMENT SAW-CUT AND BUTT JOINT DETAIL
N.T.S.



1. CONTRACTOR TO PROVIDE HAND TOOLED TRANSVERSE AND LONGITUDINAL CONTRACTION JOINTS @ 5'-0" O.C. MAX. 3/8" EXPANSION JOINTS @ 25'-0" O.C. MAX.
2. IN LIEU OF WELDED WIRE FABRIC, FIBER MESH CONCRETE MAY BE USED.
3. FINISH EDGE OF SIDEWALK WITH EDGING TOOL HAVING A RADIUS OF 1/2".

RAISED CONCRETE SIDEWALK ADJACENT TO PAVEMENT DETAIL
N.T.S.



HEAVY DUTY FLEXIBLE PAVEMENT DETAIL
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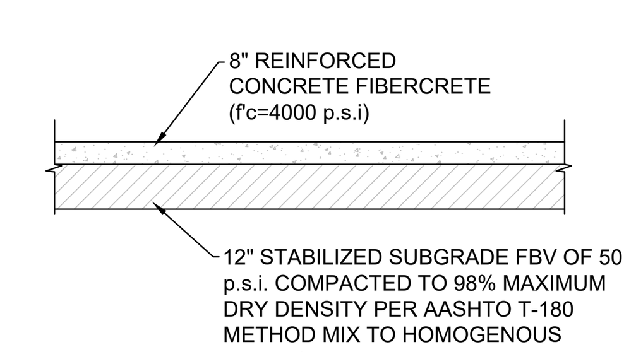

HEAVY DUTY CONCRETE DETAIL
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SITE, PAVING AND GRADING DETAILS

BEV SMITH KIA NEW DEALERSHIP

CITY OF FORT PIERCE FLORIDA

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

AARON G. STANTON
FL. P.E. #72460 1/31/2025

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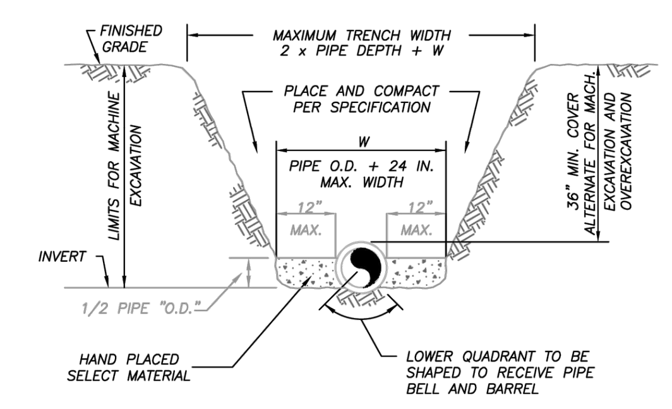


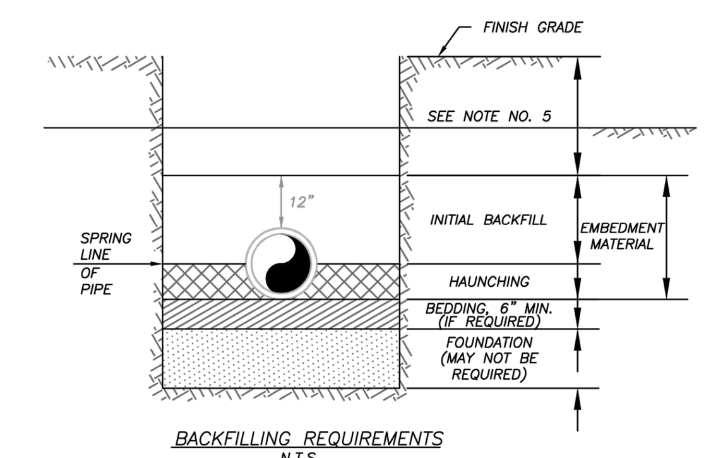
NOTES:

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

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

TYPICAL TRENCH DETAIL
N.T.S.

TYPICAL TRENCH DETAIL | M-1 | 03-09 CONCRETE SLAB SLL JLC | WATER/WASTEWATER ENGINEERING | FT. PIERCE UTILITIES AUTHORITY | DESIGNED: JLC | DRAWN BY: SLL | APPROVED: JLC | COMPUTER FILE # MISC DETAILS 200602.DWG | DATE: 2015 | SHEET 1 OF 1



BACKFILLING REQUIREMENTS
N.T.S.

NOTES:

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

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

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

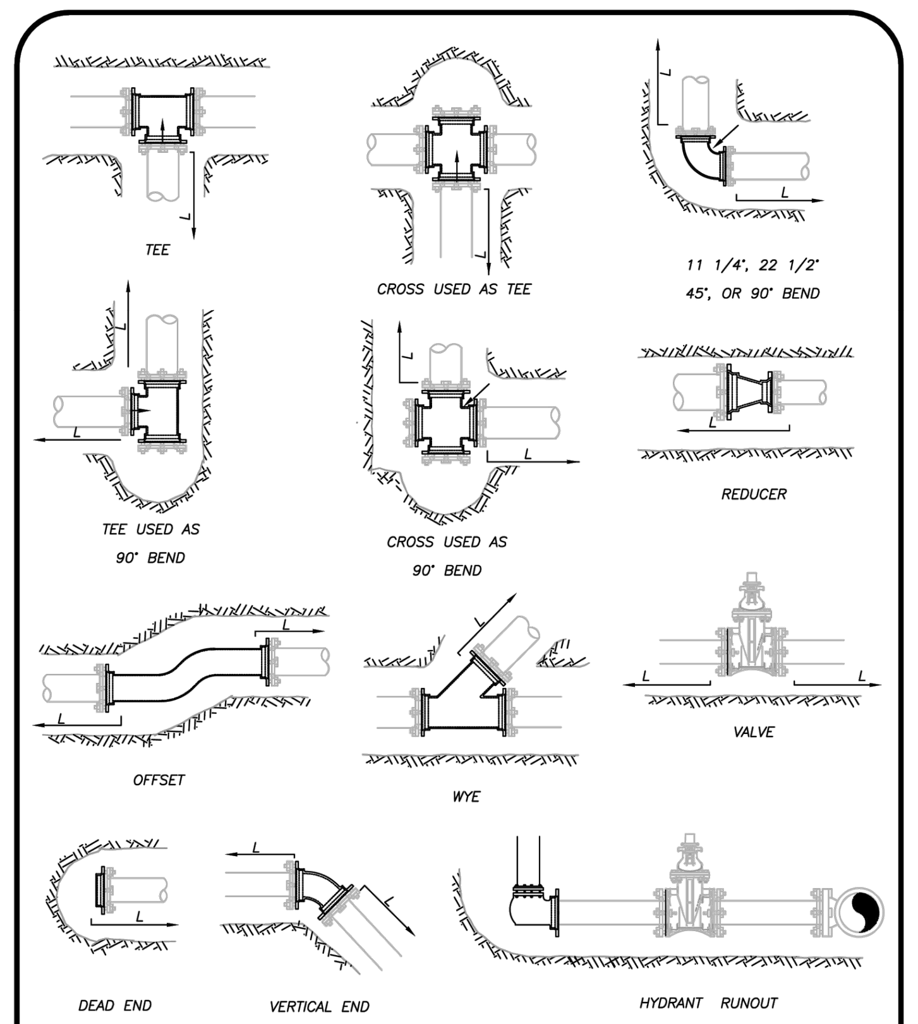
4) INITIAL BACKFILL MATERIAL SHALL BE HAND PLACED TO 12" ABOVE THE TOP OF PIPE. THE SOIL SHALL BE COMPACTED TO 100% MAX. DENSITY.(AASHTO T-99)

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

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

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

BACKFILLING REQUIREMENTS | M-2 | 03-09 CONCRETE SLAB SLL JLC | WATER/WASTEWATER ENGINEERING | FT. PIERCE UTILITIES AUTHORITY | DESIGNED: JLC | DRAWN BY: SLL | APPROVED: JLC | COMPUTER FILE # MISC DETAILS 200602.DWG | DATE: 2015 | SHEET 1 OF 1



MECHANICAL JOINT ANCHORING REQUIREMENTS
N.T.S.

MECHANICAL JOINT ANCHORING REQUIREMENTS | M-3 | 03-09 CONCRETE SLAB SLL JLC | WATER/WASTEWATER ENGINEERING | FT. PIERCE UTILITIES AUTHORITY | DESIGNED: JLC | DRAWN BY: SLL | APPROVED: JLC | COMPUTER FILE # MISC DETAILS 200602.DWG | DATE: 2015 | SHEET 1 OF 1

MECHANICAL JOINT RESTRAINT NOTES

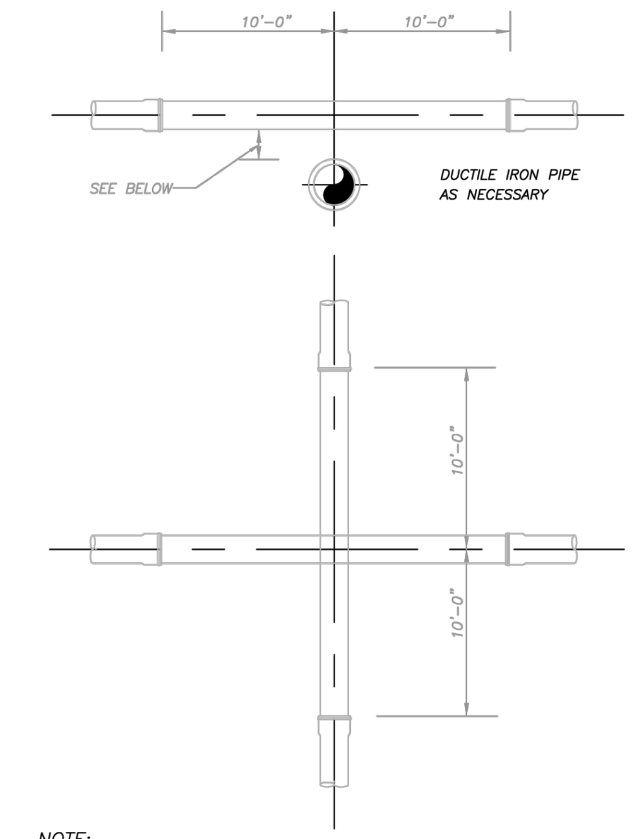
NOTES:

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

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

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

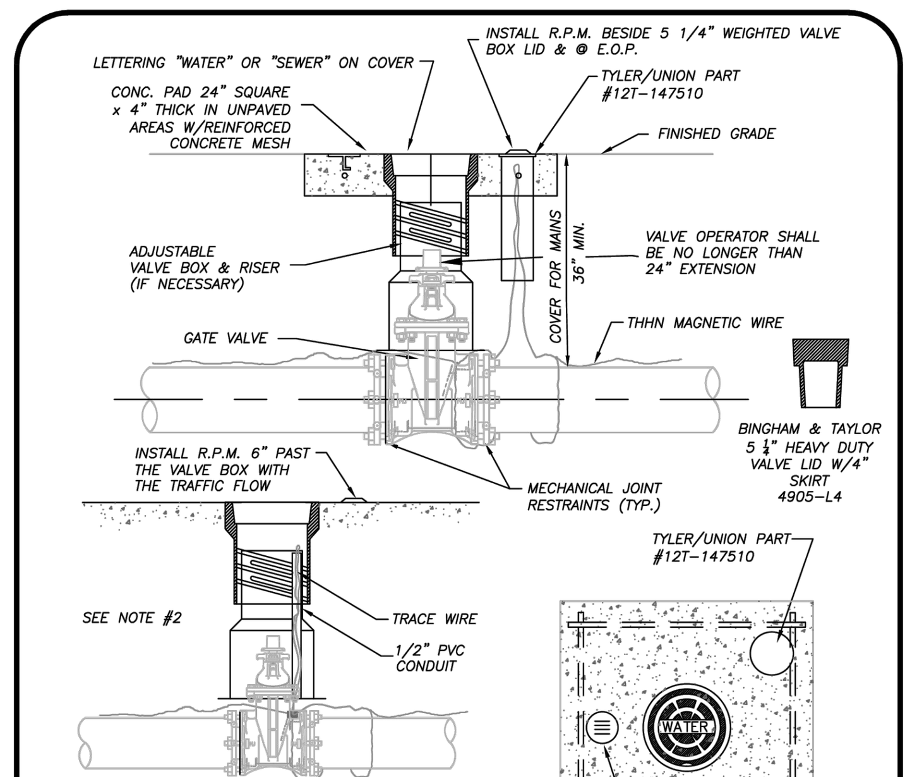
MECHANICAL JOINT RESTRAINT NOTES | M-4 | 03-09 CONCRETE SLAB SLL JLC | WATER/WASTEWATER ENGINEERING | FT. PIERCE UTILITIES AUTHORITY | DESIGNED: JLC | DRAWN BY: SLL | APPROVED: JLC | COMPUTER FILE # MISC DETAILS 200602.DWG | DATE: 2015 | SHEET 1 OF 1



NOTE:
PLEASE REFER TO FORT PIERCE UTILTIES STANDARD SEPARATION STATEMENT FOR WATER / SEWER CONFLICTS.

UTILITY CROSSING DETAIL
N.T.S.

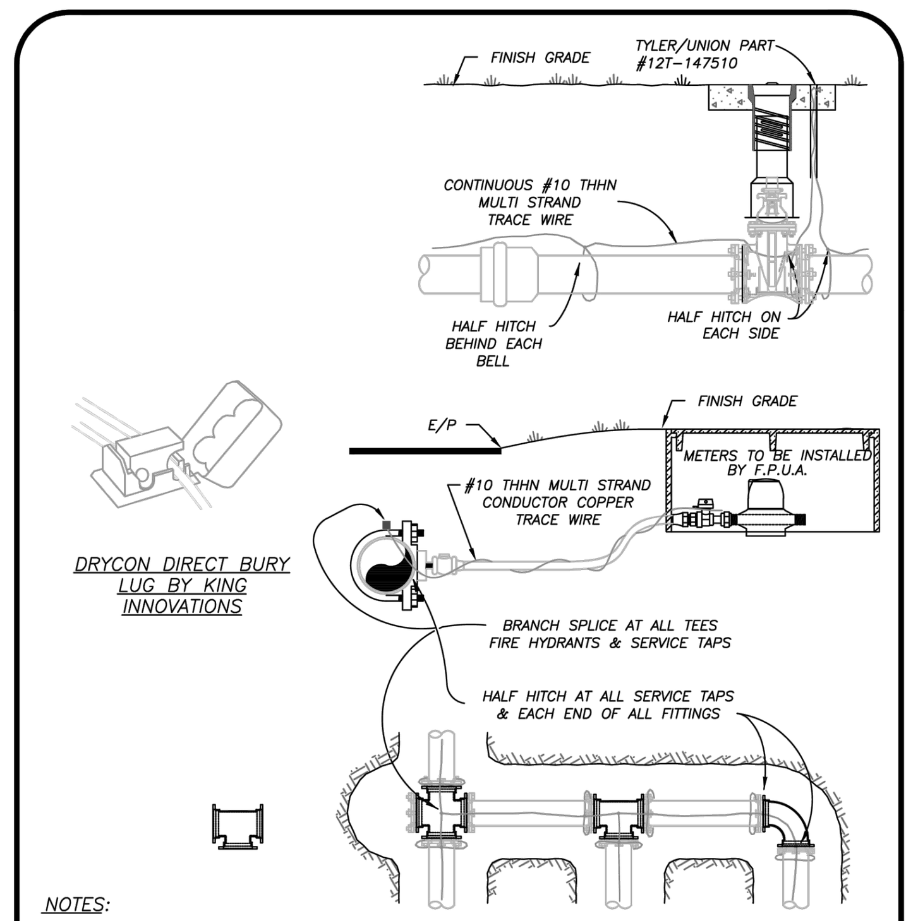
UTILITY CROSSING DETAIL | M-5 | 03-09 CONCRETE SLAB SLL JLC | WATER/WASTEWATER ENGINEERING | FT. PIERCE UTILITIES AUTHORITY | DESIGNED: JLC | DRAWN BY: SLL | APPROVED: JLC | COMPUTER FILE # MISC DETAILS 200602.DWG | DATE: 2015 | SHEET 1 OF 1



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

TYPICAL GATE VALVE & VALVE BOX DETAIL
N.T.S.

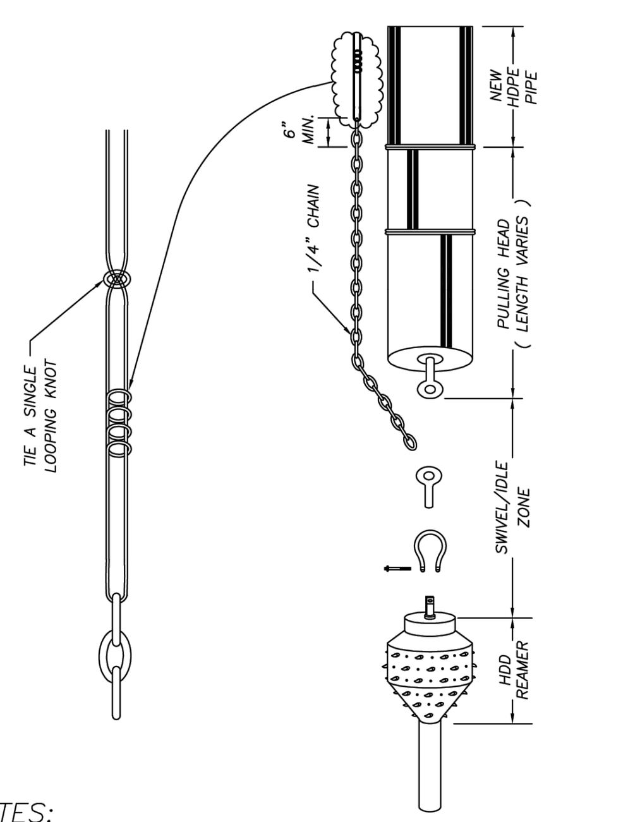
TYPICAL GATE VALVE & VALVE BOX DETAIL | M-6 | 03-09 CONCRETE SLAB SLL JLC | WATER/WASTEWATER ENGINEERING | FT. PIERCE UTILITIES AUTHORITY | DESIGNED: JLC | DRAWN BY: SLL | APPROVED: JLC | COMPUTER FILE # MISC DETAILS 200602.DWG | DATE: 2015 | SHEET 1 OF 1



NOTES:
1) TRACE WIRE IS REQUIRED ON ALL PIPE AS NOTED BY UTILITIES ENGINEER AND SHOWN IN STANDARD DETAILS.
2) INCLUDE ALL COST OF MATERIAL & LABOR IN PRICE OF PIPE.
3) CONTRACTOR IS RESPONSIBLE FOR CONTINUITY OF ALL TRACE WIRE.

TRACE WIRE
(N.T.S.)

TRACE WIRE DETAIL | M-11 | 03-09 CONCRETE SLAB SLL JLC | WATER/WASTEWATER ENGINEERING | FT. PIERCE UTILITIES AUTHORITY | DESIGNED: JLC | DRAWN BY: SLL | APPROVED: JLC | COMPUTER FILE # MISC DETAILS 200602.DWG | DATE: 2015 | SHEET 1 OF 1



NOTES:
1. WHERE DIRECTIONAL DRILLING LENGTHS EXCEED 750 LINEAR FEET AND/OR HDPE PIPE DIAMETER EXCEED 12 INCHES, A SECOND LENGTH OF TRACE WIRE SHALL BE INSTALLED.
2. TRACE WIRE SHALL CONFORM TO THE FOLLOWING SPECIFICATION:
MANUFACTURER – COPPERHEAD INDUSTRIES, LLC
PART NUMBER – 1245B-EHS-500 / 1245B-EHS-1000 / 1245B-EHS-2500
PART NUMBER DESCRIPTION – 12 (AWG), 45 (JACKET MIL), B (JACKET COLOR: B=BLUE, G=GREEN, ETC.) – EHS (EXTRA HIGH STRENGTH-HARD DRAWN / 1150# BREAKING LOAD STRENGTH) – 500 (WIRE LENGTH IN FEET)

DIRECTIONAL BORE WIRE ATTACHMENT | M-16 | 03-09 CONCRETE SLAB SLL JLC | WATER/WASTEWATER ENGINEERING | FT. PIERCE UTILITIES AUTHORITY | DESIGNED: JLC | DRAWN BY: SLL | APPROVED: JLC | COMPUTER FILE # MISC DETAILS 200602.DWG | DATE: 2015 | SHEET 1 OF 1

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES

1. ALL CONSTRUCTION MATERIAL, INSTALLATION AND TESTING SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE FORT PIERCE UTILITIES AUTHORITY.
2. WATER MAINS WHERE SPECIFIED AS POLYVINYL CHLORIDE (PVC) SHALL CONFORM TO AWWA C-900 OR C-905, PRESSURE CLASS 150, DR (18). WATER MAINS WHERE SPECIFIED AS POLYETHYLENE (PE) SHALL CONFORM TO AWWA C-901 OR C-906, STANDARD CODE DESIGNATION PE3408, PIPE CLASS 200, DIMENSION RATIO (DR) 17 FOR DIRECT BURY, (DR) 11 FOR DIRECTIONAL BORING, AND (DR) 9 FOR 2 INCH AND SMALLER PIPELINES.
3. WATER MAIN, WHERE SPECIFIED AS DUCTILE IRON PIPE , SHALL CONFORM TO ANSI/AWWA C151/A21.51 AND SHALL BE PRESSURE CLASS 250 (MINIMUM).
4. POLYVINYL CHLORIDE WATER MAIN SHALL BE BLUE IN COLOR OR WHITE IN COLOR WITH BLUE STRIPES. THE USE OF IDENTIFICATION TAPE ATTACHED TO THE TOP OF THE PIPE MAY BE USED IN LIEU OF MARKING ON THE PIPE, ALSO DIP PIPE SHALL REQUIRE THE USE OF IDENTIFICATION TAPE AND THHN WIRE.
5. FITTINGS SHALL BE DUCTILE IRON CONFORMING TO ANSI/AWWA C-110/A21.10, CLASS 250 MIN., CEMENT LINED AND FACTORY COATED
6. GATE VALVES SHALL BE MUELLER RESILIENT SEAT, KENNDY KEN-SEAL, AMERICAN OR APPROVED EQUAL. VALVES SHALL CONFORM TO AWWA C-509.
7. WATER LINES SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH FPUA DESIGN AND CONSTRUCTION STANDARDS. THE CONTRACTOR SHALL SUBMIT CERTIFIED DENSITY TESTS AS REQUIRED BY FPUA ENGINEERING AND THE CITY, COUNTY, FDOT. IN CASES WHERE PAVED AREAS FALL WITHIN THE JURISDICTION OF LOCAL OR STATE AGENCIES, THE COMPACTION REQUIREMENTS SHALL NOT BE LESS THAN THE MINIMUM REQUIRED BY THE APPROPRIATE RESPONSIBLE AGENCY.
8. NO FIELD CHANGES OR DEVIATIONS FROM THE DESIGN SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE FPUA ENGINEER AND CITY/COUNTY/FDOT ENGINEER.
9. THE CONTRACTOR SHALL NOTIFY FPUA ENGINEERING AND CITY/COUNTY/FDOT ENGINEERING 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
10. A PRE-CONSTRUCTION CONFERENCE BETWEEN THE ENGINEER, THE CONTRACTOR, FPUA, AND CITY/ COUNTY/FDOT ENGINEER SHALL BE MANDATORY PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. TRAFFIC CONTROL, BARRICADES, ETC., SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF OF TRANSPORTATION STANDARDS AND APPROVED BY THE CITY ENGINEER.
12. MINIMUM COVER SHALL BE 36 INCHES EXCEPT AS APPROVED BY THE UTILITIES ENGINEER AND CITY/ COUNTY/FDOT ENGINEER. PIPES WITH COVER LESS THAN 30 INCHES SHALL BE CONSTRUCTED OF DUCTILE IRON OR IN PVC CASING.
13. DISTURBED AREAS SHALL BE RESTORED IN CONFORMANCE WITH THE APPLICABLE GOVERNING AGENCY REQUIREMENTS.
14. EXISTING UTILITIES AND DRAINAGE SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND PROTECTED BY THE CONTRACTOR.
15. WATER MAINS SHALL BE TESTED AND DISINFECTED IN ACCORDANCE WITH THE APPLICABLE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND AWWA C-651 FOR DISINFECTION.

WATER DISTRIBUTION | G-1 NOTES | 02-06 | WATER/WASTEWATER ENGINEERING | FT. PIERCE UTILITIES AUTHORITY | DESIGNED: JJM | DRAWN BY: JJM | APPROVED: JLC | COMPUTER FILE # DETAIL NOTES 200602.DWG | SCALE: N.T.S. | DATE: 2010 | SHEET 1 OF 2

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES
CONTINUED

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING UTILITIES AND DRAINAGE.
17. THE CONTRACTOR SHALL FURNISH RECORD DRAWING INFORMATION TO THE ENGINEER INCLUDING LOCATIONS OF VALVES, FITTINGS, SERVICE CONNECTIONS, BLOWOFFS, AIR RELEASE VALVES, AND ANY OTHER PERTINENT INFORMATION NECESSARY TO LOCATE ITEMS CONSTRUCTED UNDER THIS PROJECT, AS REQUIRED BY THE UTILITIES ENGINEER.
18. THE CONTRACTOR SHALL TAP EXISTING LINES UNDER THE SUPERVISION OF THE FORT PIERCE UTILITIES AUTHORITY ONLY AFTER TESTING AND DISINFECTION HAS BEEN COMPLETED AND APPROVED ON THE TAPPING VALVE AND SLEEVE.
19. WATER MAIN SHALL BE MARKED BY THE USE OF CONTINUOUS 10 GAUGE THHN MULTI STRANDED WIRE (BLUE IN COLOR) AND IDENTIFCATION TAPE WITH "WATER" MARKED ON TAPE, PERMANENTLY ATTACHED TO THE TOP OF THE WATER MAIN IN ACCORDANCE WITH THE FORT PIERCE UTILITES AUTHORITY SPECIFICATIONS.
20. SERVICE TAPS SHALL BE PLACED APPROXIMATELY TEN FEET AWAY FROM GATE VALVES, AS SHOWN, FOR TESTING. FOLLOWING TESTING AND STERILIZATION OF WATER LINE. CONTRACTOR SHALL PLACE A BRASS PLUG IN CORPORATION STOPS AND CURB STOPS SHALL BE REMOVED FROM TESTING LOCATIONS.
21. MECHANICAL RESTRAINTS TO BE USED ON ALL FITTINGS AND PLACED IN ACCORDANCE WITH MANUFACTURER'S OR ENGINEER'S RECOMMENDATIONS (WHICHEVER IS MORE STRINGENT) AND FPUA REQUIREMENTS.
22. ALL MAINS SHALL BE TESTED AT A MINIMUM OF 150 PSI. TESTING METHODS SHALL CONFORM TO AWWA C-600. – 2 HR MINIMUM TEST

$$L = \frac{SD(P)^{1/2}}{148,000}$$

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

23. PRIOR TO ANY TESTING, ALL MAINS 6" IN DIA. AND LARGER SHALL HAVE A SWAB PASSED THRU THE ENTIRE LENGTH OF THE LINE. NOTE: SWAB SHOULD BE PLACED IN 1st. JOINT OF NEW LINE. END OF MAIN SHOULD BE "TURNED UP" AT 45% AND EXTENDED SO THAT SWABBING AND A FULL BORE FLUSH CAN BE ACCOMPLISHED. BLOW-OFF ASSY CAN THEN BE PLACED. WHERE LINES BRANCH, SWABS WILL BE PLACED IN BRANCH LINES AND SEQUENTIALLY SWABBED AND FLUSHED.
24. A MINIMUM SIX FEET AND PREFERABLY TEN FEET HORIZONTAL SEPARATION SHALL BE MAIINTAINED BETWEEN THE WATER MAIN AND ANY WASTEWATER LINES. 6 INCHES MINIMUM VERTICAL SEPARATION IF WATER MAIN IS OVER WASTEWATER AND 12 INCHES IF WATER MAIN IS UNDER SHALL BE MAINTAINED BETWEEN THE WATER MAIN AND ANY WASTWATER LINES. THE DISTANCE SHALL BE MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE OR STRUCTURE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE WASTEWATER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING, AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. SUFFICIENT LENGHTS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.
25. WHERE A WATER MAIN IS TO BE INSTALLED BELOW A STORM DRAIN PIPE, A MINIMUM OF 6 INCHES OF VERTICAL CLEARANCE BETWEEN PIPES SHALL BE CONSTRUCTED OF DIP AT THE CROSSING, AND SHALL BE MECHANICALLY RESTRAINED WITHIN 20 FEET OF THE CROSSING.
26. CONTRACTOR SHALL COMPLY WITH FLORIDA TRENCH SAFETY ACT REQUIREMENTS.

WATER DISTRIBUTION | G-1 NOTES | 02-06 | WATER/WASTEWATER ENGINEERING | FT. PIERCE UTILITIES AUTHORITY | DESIGNED: JJM | DRAWN BY: JJM | APPROVED: JLC | COMPUTER FILE # DETAIL NOTES 200602.DWG | SCALE: N.T.S. | DATE: 2010 | SHEET 2 OF 2

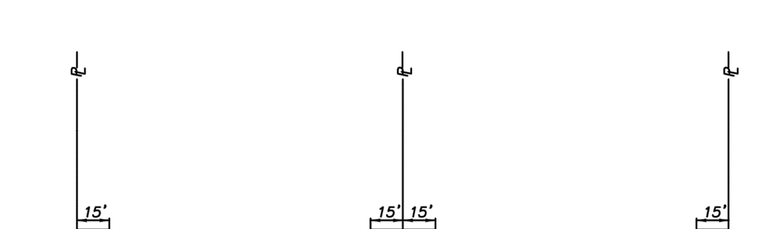
FORT PIERCE UTILITIES AUTHORITY WASTEWATER CONSTRUCTION NOTES

1. ALL CONSTRUCTION MATERIAL, INSTALLATION AND TESTING SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE FORT PIERCE UTILITIES AUTHORITY.
2. GRAVITY SEWER MAIN SHALL BE POLYVINYL CHLORIDE SDR-26, GREEN OR WHITE IN COLOR, GRAVITY SEWER MAIN SHALL HAVE LOCATOR TAPE WITH "SEWER" MARKED ON TAPE AND SHALL CONFORM TO ASTM D-3034.
3. THE MANHOLE BASE SHALL BE SET ON A FIRM, DRY AND STABLE OR COMPACTED BASE FOUNDATION. IF NECESSARY, THE CONTRACTOR SHALL UTILIZE ROCK TO PROVIDE A FIRM AND SUITABLE MANHOLE BASE FOUNDATION.
4. WASTEWATER LINES SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH FPUA DESIGN AND CONSTRUCTION STANDARDS. THE CONTRACTOR SHALL SUBMIT CERTIFIED DENSITY TESTS AS REQUIRED BY FPUA ENGINEERING AND THE CITY ENGINEERING DEPARTMENT. IN CASES WHERE PAVED AREAS FALL WITHIN THE JURISDICTION OF LOCAL OR STATE AGENCIES, THE COMPACTION REQUIREMENTS SHALL NOT BE LESS THEN THE MINIMUM REQUIRED BY THE APPROPRIATE RESPONSIBLE AGENCY.
5. A 1% MINIMUM SLOPE SHALL BE MAINTAINED ON ALL SANITARY SERVICE LATERALS.
6. THE CONTRACTOR SHALL FURNISH RECORD DRAWING INFORMATION TO THE ENGINEER CONSISITING OF PIPE SIZES, LOCATION OF SERVICE TEE WYES, DIAMETER OF SERVICES, LOCATION OF ANY FITTINGS, FINAL RIM AND INVERT ELEVATION OF ALL MANHOLES AND ANY OTHER PERTINENT INFORMATION NECESSARY TO LOCATE ITEMS CONSTRUCTED UNDER THIS PROJECT.
7. MAINTAIN SIX FEET AND PREFERABLY 10 FEET HORIZONTAL DISTANCE BETWEEN WATER MAINS AND SEWER MAINS AS A MINIMUM.
8. WASTEWATER FORCE MAINS, WASTEWATER COLLECTION LINES, AND STORM SEWERS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. A MINIMUM VERTICAL DISTANCE OF 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE SHALL BE PROVIDED WHENEVER POSSIBLE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE WASTEWATER PIPE JOINTS AND THE WATER PIPE JOINTS ARE EQUIDISTANCE FROM THE POINT OF CROSSING, AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.
9. A PRE-CONSTRUCTION CONFERENCE BETWEEN THE ENGINEER, THE CONTRACTOR, AND FPUA/CITY COUNTY/FDOT SHALL BE MANDATORY PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
10. NO FIELD CHANGES OR DEVIATIONS FORM THE DESIGN SHALL BE MADE WITHOUT PRIOR APPROVAL FPUA/CITY/COUNTY/FDOT ENGINEER,
11. TRAFFIC CONTROL, BARRICADES, ETC. SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS.
12. CONTRACTOR SHALL NOTIFY FORT PIERCE UTILITIES AUTHORITY 48 HOURS PRIOR TO COMMMENCING CONSTRUCTION.
13. WASTEWATER FORCE MAIN SHALL BE POLYVINYL CHLORIDE CONFORMING TO AWWA C-900, AND SHALL BE CLASS 150, DR-18.
14. WASTEWATER FORCE MAIN SHALL BE GREEN IN COLOR.
15. FITTINGS SHALL BE DUCTILE IRON, CONFORMING TO ANSI/AWWA C-110/A21.10 CLASS 250 MIN. AND INTERIOR EPOXY COATED.
16. WASTEWATER FORCE MAIN SHALL BE MARKED BY THE USE OF CONTINUOUS 10 GAUGE THHN WIRE (GREEN IN COLOR) PERMANENTLY ATTACHED TO THE TOP OF THE FORCE MAIN WITH LOCATOR TAPE MARKED "SEWER" ON TAPE IN ACCORDANCE WITH FPUA SPECIFICATIONS.
17. MINIMUM COVER SHALL BE 36 INCHES, PIPES WITH COVER LESS THAN 30 INCHES SHALL REQUIRE PRIOR APPROVAL OF THE UTILITES ENGINEER AND SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE.
18. EACH SERVICE LATERAL WILL BE MARKED WITH A LOCATOR BALL AS MANUFACTURED BY 3M CORPORATION, OR APPROVED EQUAL AS REQUIRED BY FPUA ENGINEER.
19. ALL MANHOLES SHALL HAVE SEWER RAIN GUARDS INSTALLED AS REQUIRED BY FPUA ENGINEER.
20. THE CONTRACTOR SHALL COMPLY WITH THE FLORIDA TRENCH SAFETY ACT REQUIREMENTS.

WASTEWATER CONSTRUCTION NOTES FPUA REQUIREMENTS | G-2 CONSTRUCTION NOTES | 02-06 | WATER/WASTEWATER ENGINEERING | FT. PIERCE UTILITIES AUTHORITY | DESIGNED: JJM | DRAWN BY: JJM | APPROVED: JLC | COMPUTER FILE # DETAIL NOTES 200602.DWG | SCALE: N.T.S. | DATE: 2010 | SHEET 1 OF 1

GENERAL POLICY

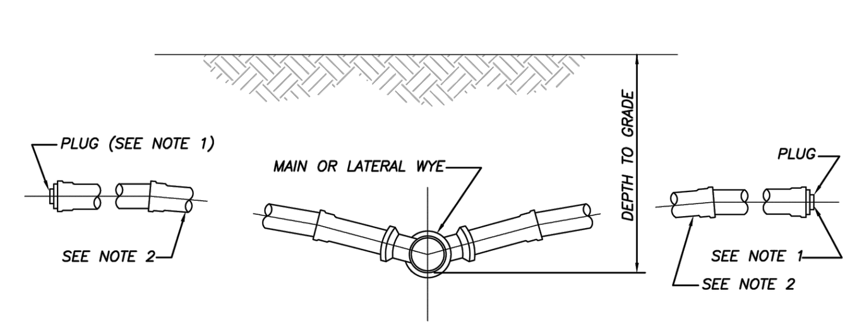
WHERE COST JUSTIFIED AND OPERATIONALLY FEASIBLE, IT IS THE GENERAL POLICY OF THE F.P.U.A. TO PROVIDE WATER, ELECTRIC, SEWER AND GAS SERVICE FROM THE STREET SIDE OF A PIECE OF PROPERTY. DEPENDING ON FACTORS SUCH AS LOCATION OF EXISTING SUPPLY SOURCE FACILITIES, REAR OR SIDE LOT LINE SUPPLY MAY BE AUTHORIZED,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



NOTES:
1. THE PREFERRED POINT OF CONNECTION TO THE F.P.U.A. SEWER LATERAL, AREA ① , SHALL BE LOCATED IN THE CORNER OF THE PROPERTY SELECTED BY THE F.P.U.A. AS THE BEST LOCATION FOR THE LATERAL. EVERY EFFORT WILL BE MADE TO SELECT THE CORNER WHERE TWO LATERALS CAN BE CONNECTED IN A "Y" CONFIGURATION AS SHOWN.
2. IF PHYSICAL BARRIERS OR OTHER OBSTACLES PREVENT THE CONNECTION OF THE BUILDING SERVICE LINE TO THE F.P.U.A. SEWER LATERAL, WITHIN AREA ① , THE F.P.U.A. ENGINEERING DEPARTMENT MAY AUTHORIZE THE CONNECTION ALONG THE PORTION OF THE R/W LINE MARKED AREA ② .
3. HORIZONTAL SEPARATION OF WATER AND WASTEWATER SERVICES SHOULD BE A MINIMUM OF SIX FEET AND PREFERABLY 10 FEET.
4. THE WASTEWATER LATERAL SHALL BE LOCATED WITHIN RIGHT-OF-WAY AND TERMINATE AT THE PROPERTY LINE.
5. THE F.P.U.A. SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF THE WASTEWATER LATERAL WITHIN THE EASEMENT OR RIGHT-OF-WAY, UP TO THE POINT OF CONNECTION.

WASTEWATER SERVICE PLACEMENT
(N.T.S.)

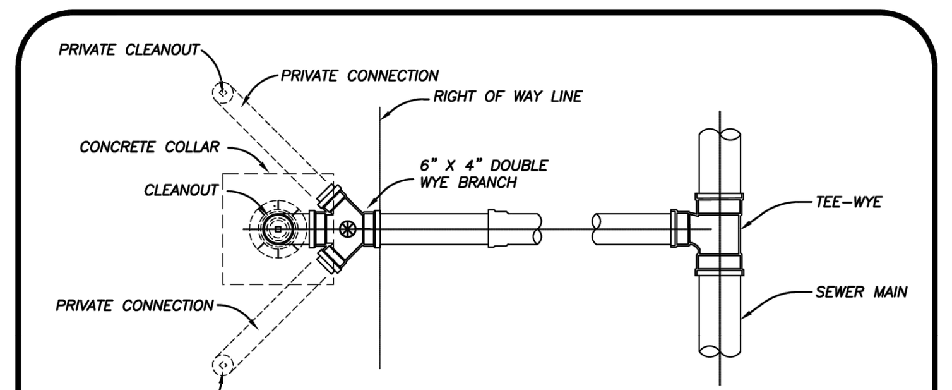
WASTEWATER SERVICE PLACEMENT POLICY | S-1 | 02-06 02-15 SLL | WATER/WASTEWATER ENGINEERING | FT. PIERCE UTILITIES AUTHORITY | DESIGNED: JJM | DRAWN BY: SLL | APPROVED: JLC | COMPUTER FILE # SEWER DETAIL 200602.DWG | SCALE: N.T.S. | DATE: 2010 | SHEET 1 OF 1



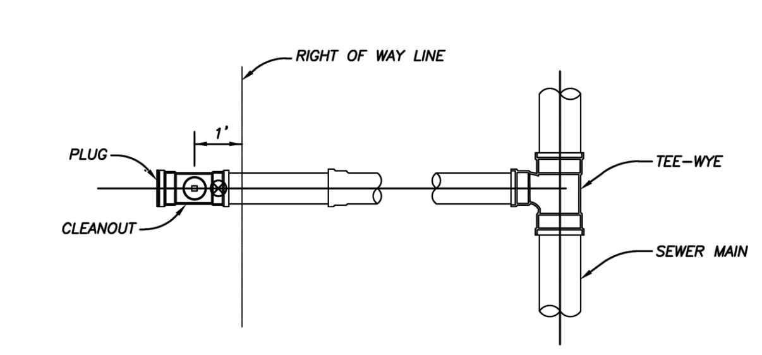
NOTES:
1) BALL TYPE WASTEWATER LOCATOR BY 3M CORP. OR APPROVED EQUAL.
2) MINIMUM SLOPE OF 1/8" PER FOOT, USE GREATER SLOPE WHERE POSSIBLE.
3) SERVICE LATERAL SHALL TERMINATE WITH A CLEANOUT.
4) INSTALL CLEANOUT AT THE PROPERTY LINE. REFER TO DETAIL S-1 FOR SPECIFIC PROPERTY LAYOUT.

SERVICE CONNECTION
(N.T.S.)

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



DOUBLE LATERAL SERVICE CONNECTION
AT PROPERTY LINE



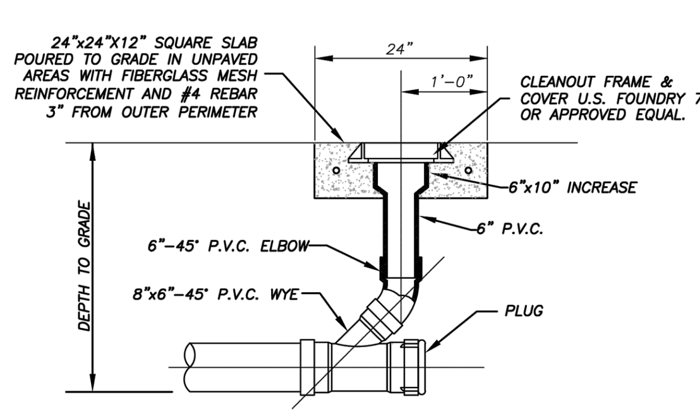
SINGLE SERVICE LATERAL CONNECTION

⊛ = BALL TYPE WASTEWATER LOCATOR INSTALLED ABOVE THIS POINT BALL BY 3M CORP. OR APPROVED EQUAL

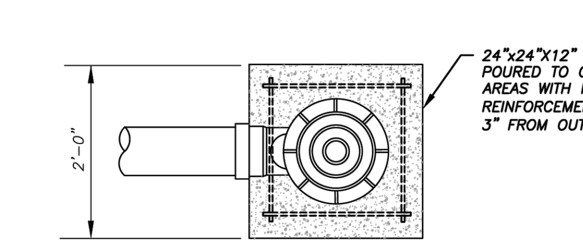
SERVICE LATERAL SHALL TERMINATE WITH A CLEANOUT

SERVICE CONNECTION
(N.T.S.)

SERVICE CONNECTION WASTEWATER | S-3 | 02-06 | WATER/WASTEWATER ENGINEERING | FT. PIERCE UTILITIES AUTHORITY | DESIGNED: JLC | DRAWN BY: SLL | APPROVED: JLC | COMPUTER FILE # SEWER DETAIL 200602.DWG | SCALE: N.T.S. | DATE: 2010 | SHEET 1 OF 1



SECTION



PLAN

TERMINAL CLEANOUT DETAIL (COMMERCIAL)
(N.T.S.)

TERMINAL CLEANOUT DETAIL WASTEWATER | S-4B | 10-06 RBE | WATER/WASTEWATER ENGINEERING | FT. PIERCE UTILITIES AUTHORITY | DESIGNED: JLC | DRAWN BY: SLL | APPROVED: JLC | COMPUTER FILE # SEWER DETAIL 200602.DWG | SCALE: N.T.S. | DATE: 2010 | SHEET 2 OF 3

REVISIONS | DATE
8 – 7 – 6 – 5 – 4 – 3 – 2 – 1 –

JOB NO.	24-0465
DESIGNED	AS
DRAWN	GWR
DATE	JANUARY 2025
CHECKED	AS
DATE ISSUED	1/31/2025

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1835 - 20TH STREET
VERO BEACH, FL 32960
PH. (772) 569-0035
FX. (772) 778-3617
MELBOURNE, FL - PH (321) 253-1510
FT. PIERCE, FL - PH (772) 468-9055

UTILITY DETAILS

BEV SMITH KIA
NEW DEALERSHIP

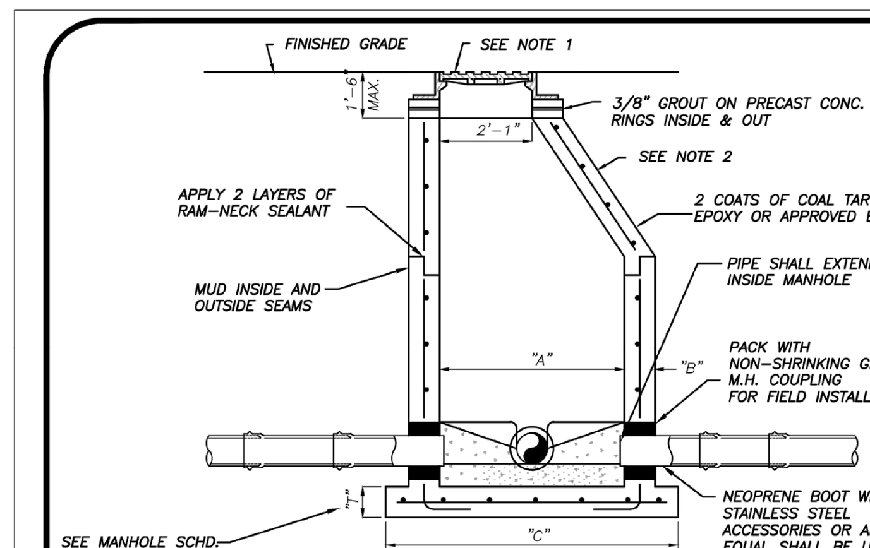
CITY OF FORT PIERCE
FLORIDA

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

AARON G. STANTON
FL. P.E. #72460 1/31/2025

SHEET
C13

24-0465



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

TYPICAL MANHOLE DIMENSIONS

NOTES:

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

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

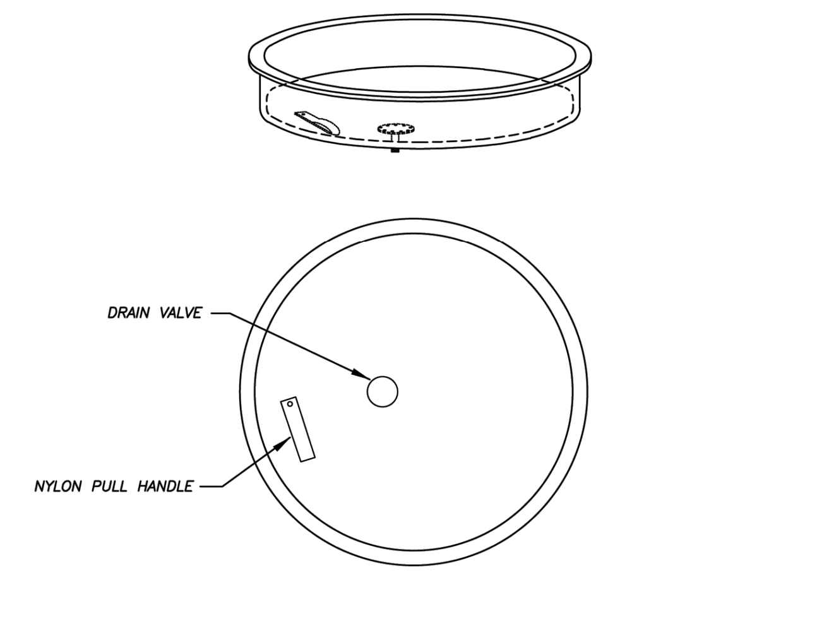
3) A MAXIMUM OF 2 LAYERS OF PRECAST CONCRETE RINGS, IF REQUIRED.

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

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

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

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



NOTES:

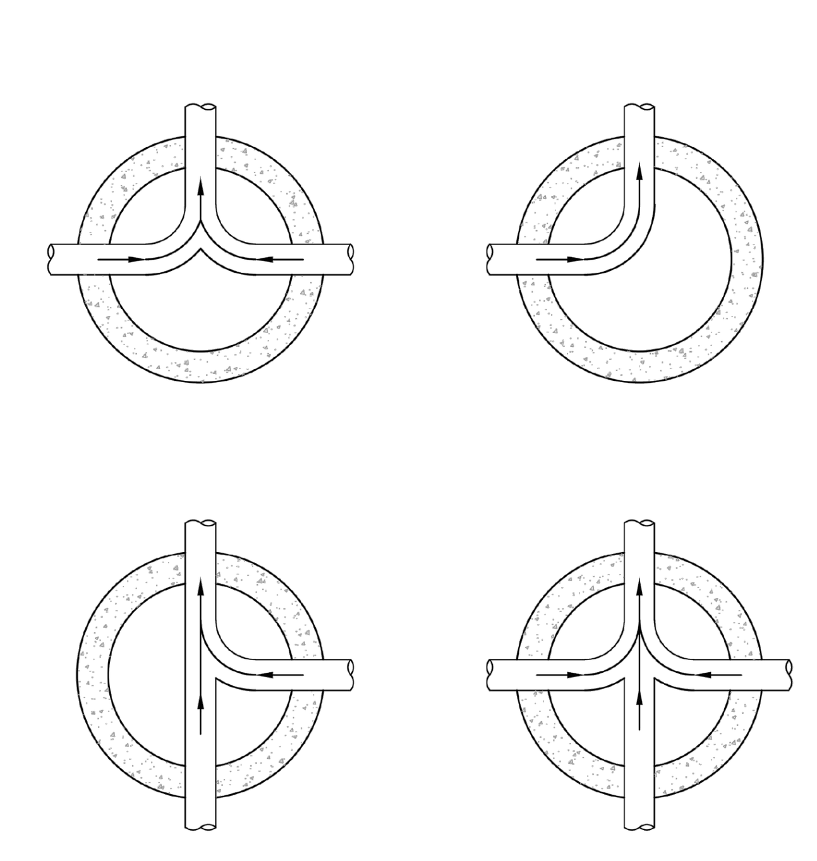
1) SEWER RAIN GUARDS SHALL BE INSTALLED ON ALL MANHOLES WHERE GRAVITY MAINS ARE 12" OR LESS AND IN AREAS DESIGNATED BY ENGINEER TO BE IN A FLOOD AREA.

2) SEWER RAIN GUARDS SHALL BE MANUFACTURED BY PARSON ENVIRONMENTAL PRODUCTS, INC., PART # PMI-23S (PARSON MANHOLE INSERTS) WITH DOUBLE VALVING, OR APPROVED EQUAL.

3) RAINGUARDS MUST BE "SNUG" FIT.

RAINGUARD DETAIL
(N.T.S.)

RAINGUARD DETAIL — S-11 — 03-09 — SLL JLC — DESIGNED: SLL — DRAWN BY: SLL — APPROVED: JLC — COMPUTER FILE # SEWER DETAIL 200602.DWG — SCALE: N.T.S. — DATE: 2010 — WATER/WASTEWATER ENGINEERING — FT. PIERCE UTILITIES AUTHORITY — SHEET 1 OF 1

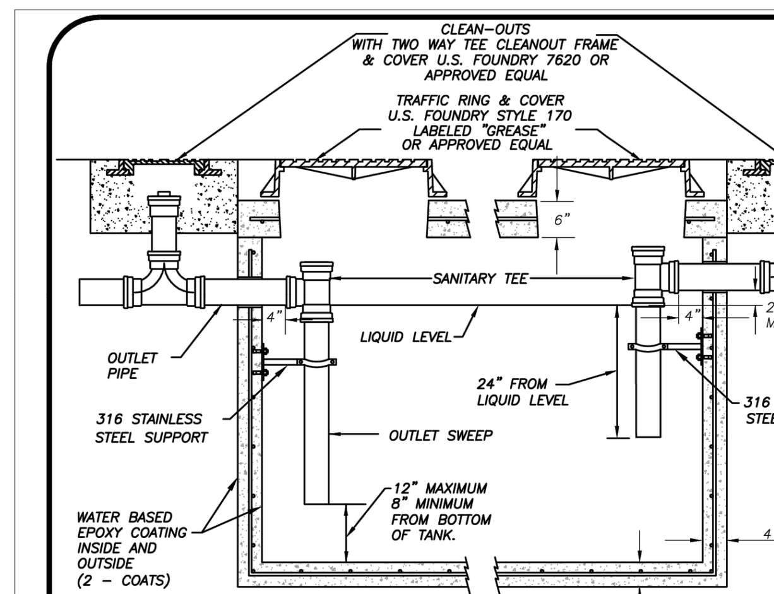


NOTES:

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

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

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

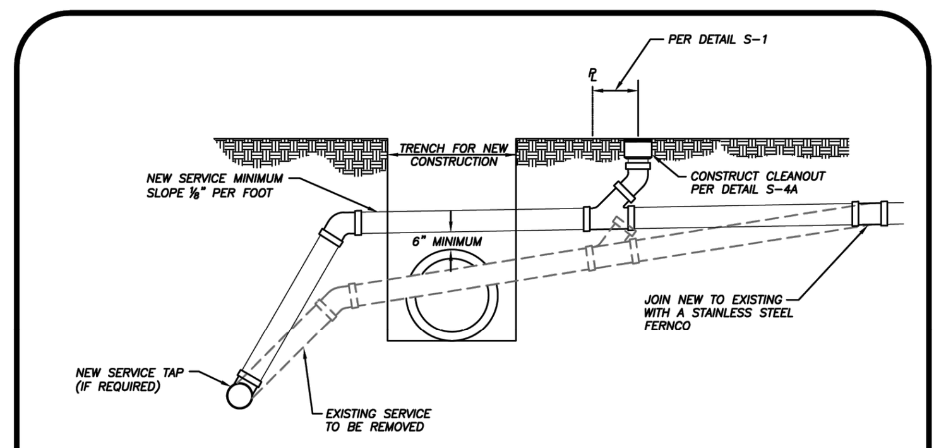


NOTES:
1. ALL PIPING SHALL BE A MINIMUM OF 4".
2. PIPING SHALL BE INSTALLED USING PRESSED-IN BOOTS OR CONCRETE MANHOLE ADAPTERS (ONLY).
3. INLET AND OUTLET TEES MUST BE INSTALLED A MINIMUM OF 4" FROM INSIDE THE STRUCTURE WALLS. ACTUAL DIMENSION SHOULD BE ADJUSTED TO ENSURE THAT AN UNOBSTRUCTED VERTICAL VIEW OF THE TEES CAN BE SEEN THROUGH THE GREASE INTERCEPTOR'S ACCESS OPENINGS.
4. FPUA'S SEWER USE ORDINANCE WILL DICTATE GREASE INTERCEPTOR(S) SIZE. ALL INTERCEPTORS SHALL BE A MINIMUM OF 1,000 GALLONS AND A MAXIMUM OF 1,250 GALLONS.
5. TANK MUST BE TRAFFIC BEARING (SHALL MEET H-20 LOADING REQUIREMENTS).
6. TANK WALLS AND BOTTOM SLAB MUST BE A MINIMUM 4" THICK AND THE TOP SLAB A MINIMUM 6" THICK; ALL WITH #4 REBAR REINFORCEMENT.
7. TANK SEAMS SHALL BE JOINED AND SEALED WITH MINIMUM 1-3/4" "RAM-NEK" SEALER OR EQUIVALENT TO FORM A WATER TIGHT SEAL.
8. ALL INTERNAL AND EXTERNAL CONCRETE SURFACES SHALL RECEIVE 2 COATS OF A WATER BASED EPOXY COATING.
9. GREASE INTERCEPTORS MUST BE INSTALLED ON DRY, STABLE AND UNDISTURBED SOIL. IF THESE CONDITIONS CAN NOT BE MET, EXCAVATION SHALL BE EXTENDED TO SIX INCHES BELOW THE STRUCTURE AND A CUSHION OF 3/4 STONE SHALL BE PROVIDED.
10. PRECAST CONCRETE RINGS SHALL BE UTILIZED FOR RING & COVER ADJUSTMENTS.

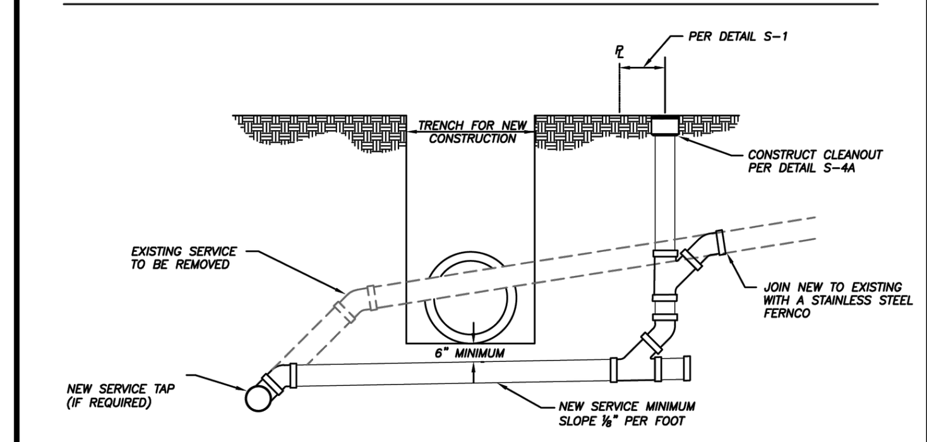
SPECIAL NOTE: IF INTERCEPTOR IS REPLACING AN EXISTING INTERCEPTOR THAT WILL BE ABANDONED IN PLACE, PERFORM THE FOLLOWING: (1) STRUCTURE MUST BE PRESSURE WASHED TO ENSURE ALL GREASE AND FOREIGN MATERIAL IS REMOVED, (2) REMOVE PORTION OF STRUCTURE WITHIN 3 FEET OF FINISH GRADE AND (3) INSTALL A MINIMUM 6 INCH DIAMETER HOLE IN THE BOTTOM SLAB OF THE STRUCTURE.

STANDARD DETAIL FOR GREASE, OIL, AND SAND INTERCEPTORS (N.T.S.)

STANDARD DETAIL FOR GREASE, OIL, AND SAND INTERCEPTERS — S-14 — 2016 LABEL UPDATE — SLL JLC — DESIGNED: JLC — DRAWN BY: SLL — APPROVED: JLC — COMPUTER FILE # SEWER DETAIL 200602.DWG — SCALE: LL — DATE: 2016 — WATER/WASTEWATER ENGINEERING — FT. PIERCE UTILITIES AUTHORITY — SHEET 1 OF 1



SANITARY LATERAL RELOCATION OPTION OVER NEW CONSTRUCTION



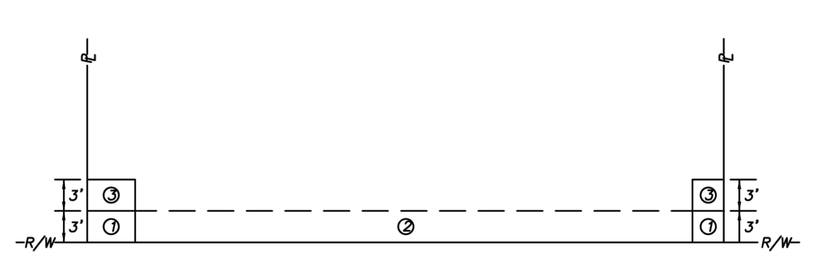
SANITARY LATERAL RELOCATION OPTION UNDER NEW CONSTRUCTION

NOTES:
1. ALL PIPING SHALL BE SDR-26 WITH SDR-26 FITTINGS.

SANITARY SEWER LATERAL ADJUSTMENT FOR NEW CONSTRUCTION — S-17 — 03-09 DESIGN — SLL JLC — DESIGNED: JLC — DRAWN BY: SLL — APPROVED: JLC — COMPUTER FILE # COMPUTER# — SCALE: N.T.S. SCALE — DATE: 2010 — WATER/WASTEWATER ENGINEERING — FT. PIERCE UTILITIES AUTHORITY — SHEET 1 OF 1

GENERAL POLICY

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



NOTES:

1. THE PREFERRED POINT OF CONNECTION TO THE F.P.U.A. WATER METER, AREA ① SHALL BE LOCATED IN THE CORNER OF THE PROPERTY SELECTED BY THE F.P.U.A. AS THE BEST LOCATION FOR THE WATER METER. EVERY EFFORT WILL BE MADE TO SELECT THE CORNER WHERE TWO WATER SERVICES AND METERS CAN BE CONNECTED.

2. IF PHYSICAL BARRIERS OR OTHER OBSTACLES PREVENT THE CONNECTION OF THE BUILDING SERVICE LINE TO THE F.P.U.A. WATER SERVICE, WITHIN AREA ① , THE F.P.U.A. ENGINEERING DEPARTMENT MAY AUTHORIZE THE CONNECTION ALONG THE PORTION OF THE R/W LINE MARKED AREA ② , OR ALONG THE PROPERTY LINES MARKED AREA ③.

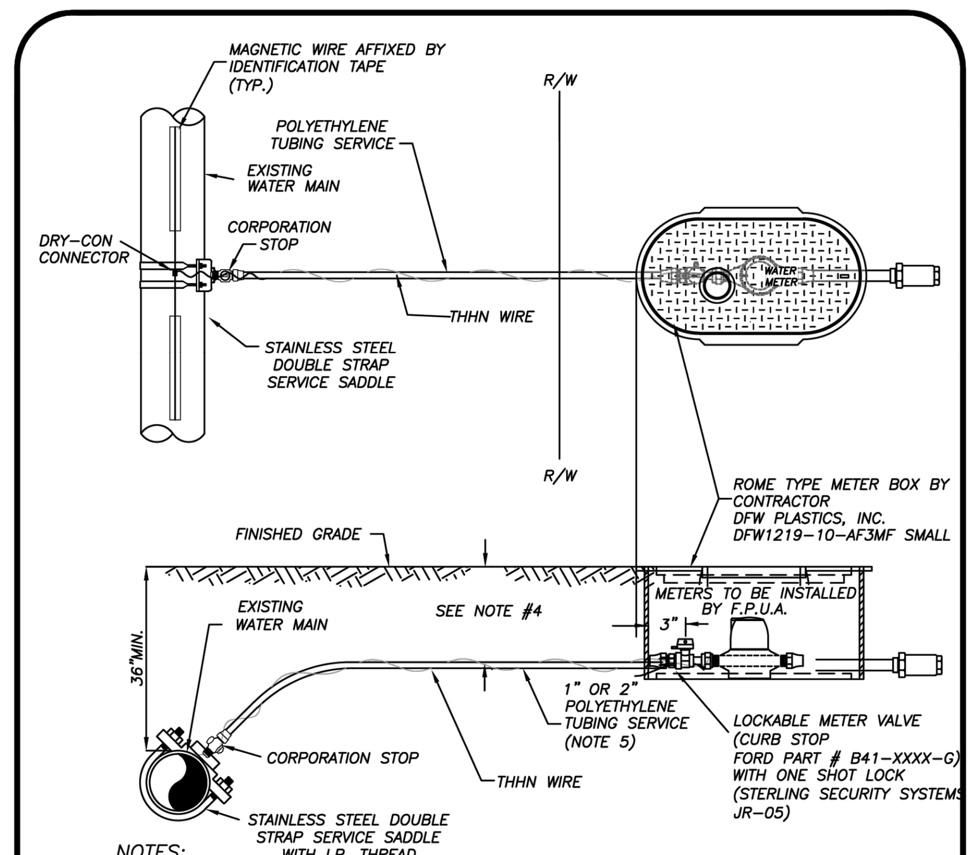
3. HORIZONTAL SEPARATION OF WATER AND WASTEWATER SERVICES SHOULD BE A MINIMUM OF 6 FEET AND PREFERABLY 10 FEET.

4. ALL METERS SHALL BE INSTALLED IN AN UNRESTRICTED AREA FOLLOWING EASE OF ACCESS AND PROVIDING ADEQUATE PROTECTION.

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

WATER METER PLACEMENT
(N.T.S.)

WATER METER PLACEMENT POLICY — W-1 — 03-09 02-15 — SLL — DESIGNED: JLC — DRAWN BY: SLL — APPROVED: JLC — COMPUTER FILE # WATER DETAILS 200602.DWG — SCALE: N.T.S. — DATE: 2010 — WATER/WASTEWATER ENGINEERING — FT. PIERCE UTILITIES AUTHORITY — SHEET 1 OF 1



NOTES:

1. BLUE 10 GAUGE THHN WIRE SHALL BE ATTACHED TO THE SERVICE LINE.

2. WHERE SERVICES UNDER PAVEMENT ARE REQUIRED, THE POLYETHYLENE TUBING SHALL BE INSTALLED WITHIN SCHEDULE 40 PVC CASING PIPE.

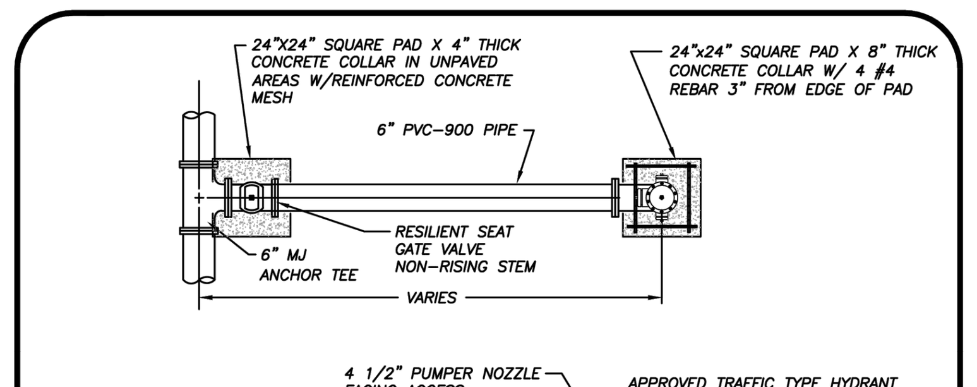
3. 1" & 3/4" METER SIZES SHALL REQUIRE A LOCKABLE METER VALVE. (CURB STOP)

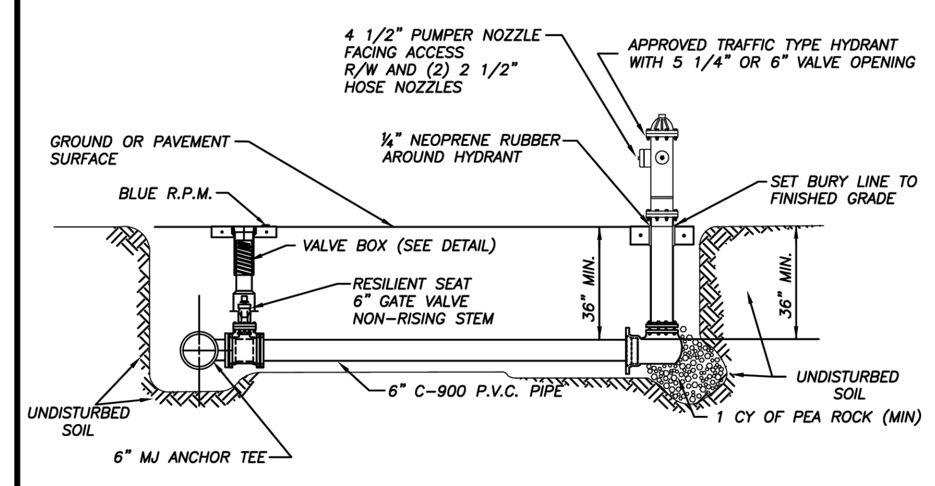
4. MINIMUM COVER IN UNPAVED AREAS SHALL BE 30", IN PAVED AREAS OR PLANNED ROADWAYS OR SWALES MIN. COVER SHALL BE 36".

5. FOR 2" COMMERCIAL SERVICE INSTALLATIONS, FPUA WILL INSTALL ABOVE GROUND METER PER DETAIL W-8.

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

TYPICAL SINGLE WATER SERVICE CONNECTION — W-2 — 03-09 DESIGN — SLL JLC — DESIGNED: JLC — DRAWN BY: SLL — APPROVED: JLC — COMPUTER FILE # WATER DETAILS 200602.DWG — SCALE: N.T.S. — DATE: 2020 — WATER/WASTEWATER ENGINEERING — FT. PIERCE UTILITIES AUTHORITY — SHEET 1 OF 1

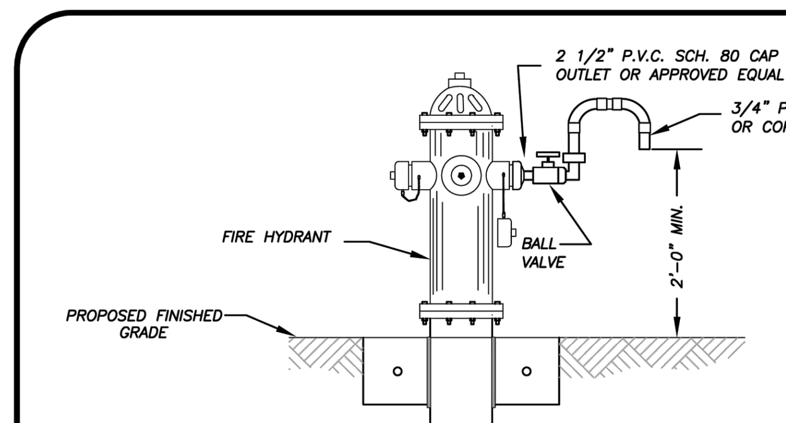




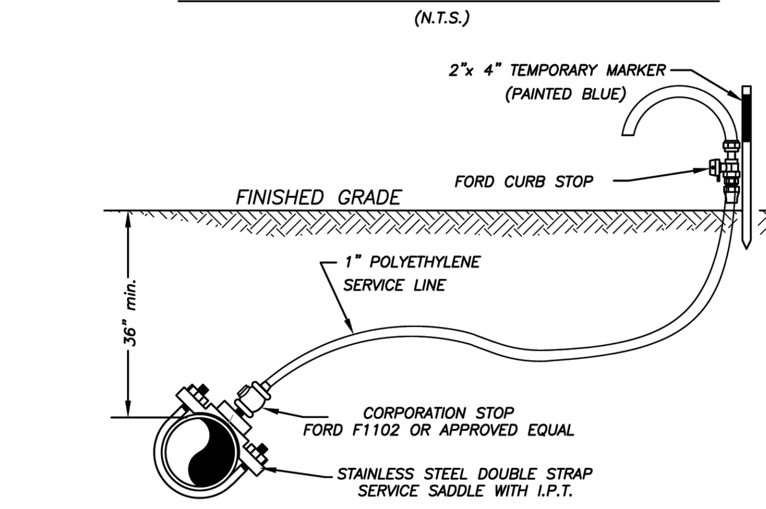
NOTES:
1. HYDRANT SHALL BE INSTALLED PLUMB & TRUE.
2. HYDRANT SHALL BE PAINTED CARNIVAL RED FROM FACTORY.
3. HEEL TO REST IN UNDISTURBED SOIL.
4. THE ONLY HYDRANTS ACCEPTABLE ARE: MUELLER SUPER CENTURION 250 OR AMERICAN DARLING B-84-B-5.
5. HYDRANT ASSEMBLY MUST BE RESTRAINED TO TEE.
6. ALL FITTINGS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

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

TYPICAL FIRE HYDRANT ASSEMBLY — W-5 — 03-09 DESIGN — SLL JLC — DESIGNED: JLC — DRAWN BY: SLL — APPROVED: JLC — COMPUTER FILE # WATERDETAIL.DWG — SCALE: N.T.S. — DATE: 2010 — WATER/WASTEWATER ENGINEERING — FT. PIERCE UTILITIES AUTHORITY — SHEET 1 OF 1



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

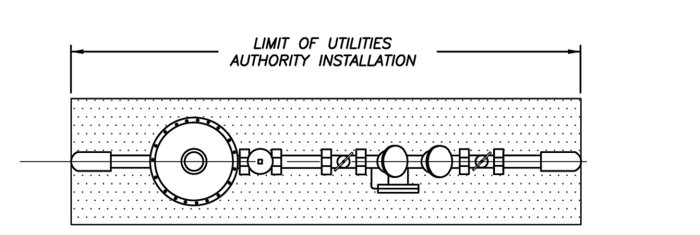


BACTERIOLOGICAL SAMPLING POINT @ WATER MAIN
(N.T.S.)

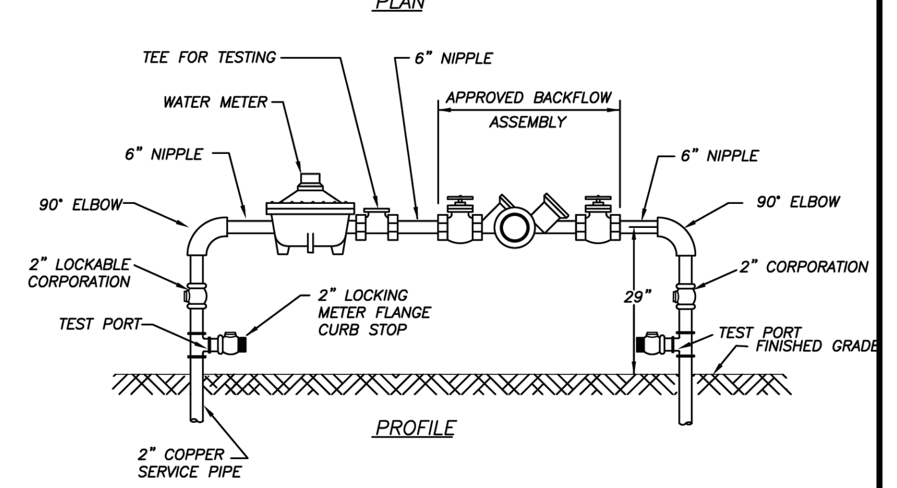
NOTE:

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

BACTERIOLOGICAL SAMPLING PONIT DETAIL — W-6 — 03-09 02-15 — SLL JLC — DESIGNED: JLC — DRAWN BY: SLL — APPROVED: JLC — COMPUTER FILE # WATERDETAIL.DWG — SCALE: N.T.S. — DATE: 2010 — WATER/WASTEWATER ENGINEERING — FT. PIERCE UTILITIES AUTHORITY — SHEET 1 OF 1



PLAN



PROFILE

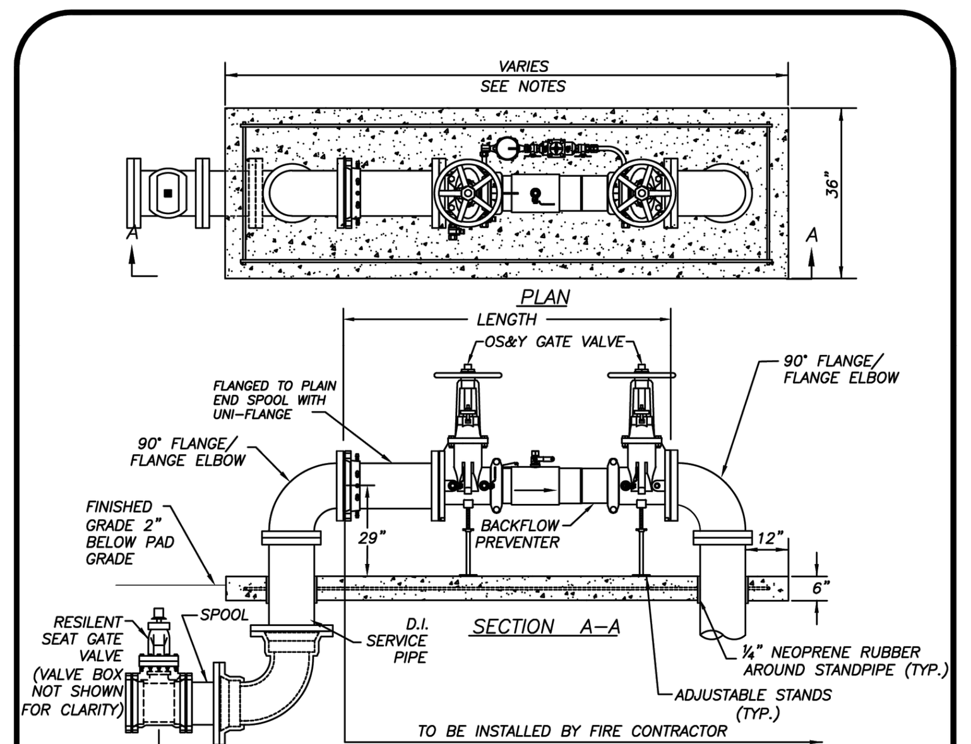
NOTES:

1. LANDSCAPING REQUIRED PER CITY OF FORT PIERCE OR ST. LUCIE COUNTY ORDINANCE. NO PLANTS OR TREES WITHIN 18" AROUND METER OR BACKFLOW. NO SOLDER JOINTS.

2. ASSEMBLY TO BE 29" FROM FINISH GRADE TO CENTERLINE OF THE FLANGED 90° BEND.

WATER METER/BACKFLOW PREVENTER ASSEMBLY
DOMESTIC SERVICE (COMMERCIAL)
(N.T.S.)

WATER METER/BACKFLOW PREVENTER ASSEMBLY-DOMESTIC SERVICES (METER SIZE 2" OR LESS) — W-8 — 03-09 DESIGN — SLL JLC — DESIGNED: JLC — DRAWN BY: SLL — APPROVED: JLC — COMPUTER FILE # WATER DETAILS 200602.DWG — SCALE: N.T.S. — DATE: 2010 — WATER/WASTEWATER ENGINEERING — FT. PIERCE UTILITIES AUTHORITY — SHEET 1 OF 1

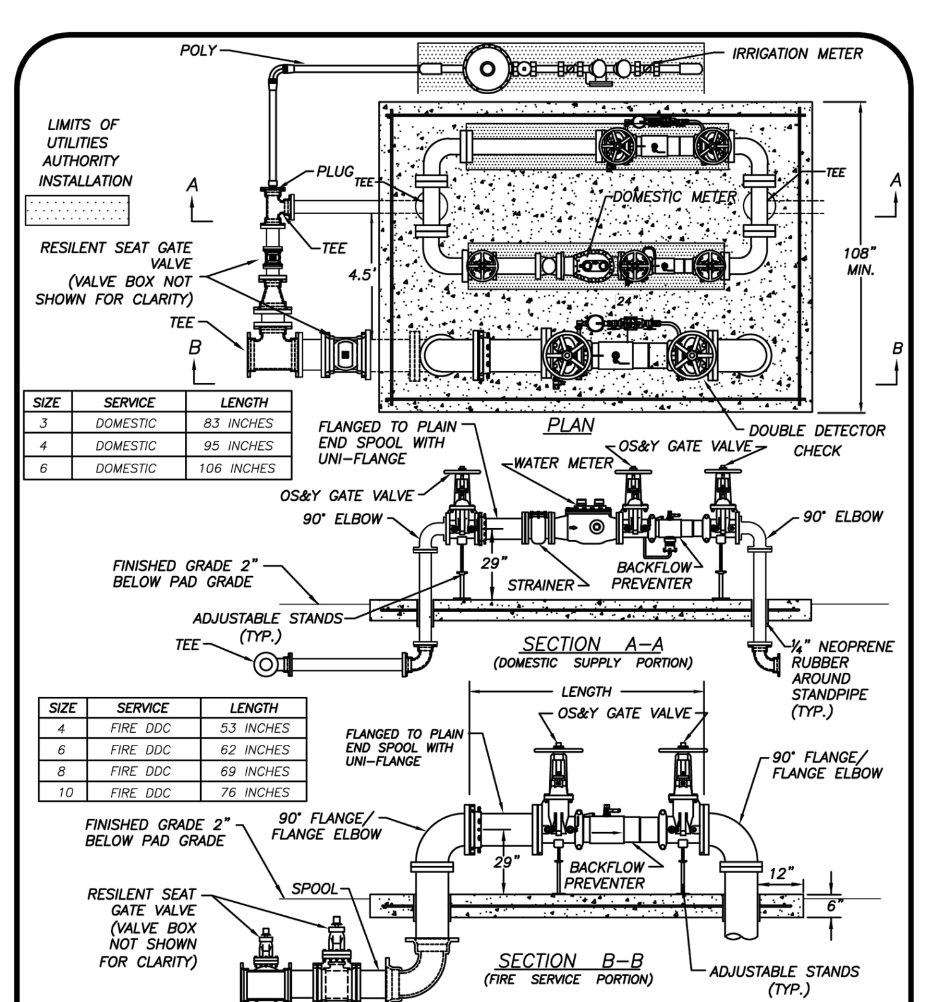


NOTES:
1. LANDSCAPING IS REQUIRED PER CITY OF FORT PIERCE OR ST. LUCIE COUNTY ORDINANCE.
2. ASSEMBLY TO BE 29" FROM FINISH GRADE TO CENTERLINE OF THE FLANGED 90° BEND.
3. PRIOR TO POURING THE CONCRETE PAD, VERIFY THAT THE STANDPIPES ARE PLUMB, TRUE AND INSTALLED AT THE SAME ELEVATIONSIN THE PRESENCE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

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

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

BACKFLOW PREVENTER ASSEMBLY 4"-10" FIRE SERVICE — W-10 — 03-09 CONCRETE PAD — SLL JLC — DESIGNED: JLC — DRAWN BY: SLL — APPROVED: JLC — COMPUTER FILE # WATER DETAILS 200602.DWG — SCALE: N.T.S. — DATE: 2010 — WATER/WASTEWATER ENGINEERING — FT. PIERCE UTILITIES AUTHORITY — SHEET 1 OF 1



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

SIZE	SERVICE	LENGTH
4	FIRE DDC	53 INCHES
6	FIRE DDC	62 INCHES
8	FIRE DDC	69 INCHES
10	FIRE DDC	76 INCHES

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

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

WATER METER/BACKFLOW PREVENTER FIRE SERVICE WITH DOMESTIC SUPPLY PLUS IRRIGATION — W-11A — 03-09 DDC VALVE — SLL JLC — DESIGNED: JLC — DRAWN BY: SLL — APPROVED: JLC — COMPUTER FILE # WATER DETAILS 200602.DWG — SCALE: N.T.S. — DATE: 2010 — WATER/WASTEWATER ENGINEERING — FT. PIERCE UTILITIES AUTHORITY — SHEET 1 OF 1

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

JOB NO.	24-0465
DESIGNED	AS
DRAWN	GWR
DATE	JANUARY 2025
CHECKED	AS
DATE ISSUED	1/31/2025

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1835 - 20TH STREET
VERO BEACH, FL 32960
PH. (772) 569-0035
FX. (772) 778-3617
MELBOURNE, FL - PH (321) 253-1510
FT. PIERCE, FL - PH (772) 468-9055

UTILITY DETAILS

BEV SMITH KIA
NEW DEALERSHIP

CITY OF FORT PIERCE FLORIDA

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

AARON G. STANTON
FL. P.E. #72460 1/31/2025

SHEET
C14

24-0465

O:\DRAWINGS\2024\24-0465 Bev Smith Kia New Dealership\4 - Drawings\24-0465 COVER - DETAILS.dwg 1/31/2025 2:49 PM AARON STANTON

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

January 28, 2025

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

Re: New Bev Smith Kia Dealership
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.

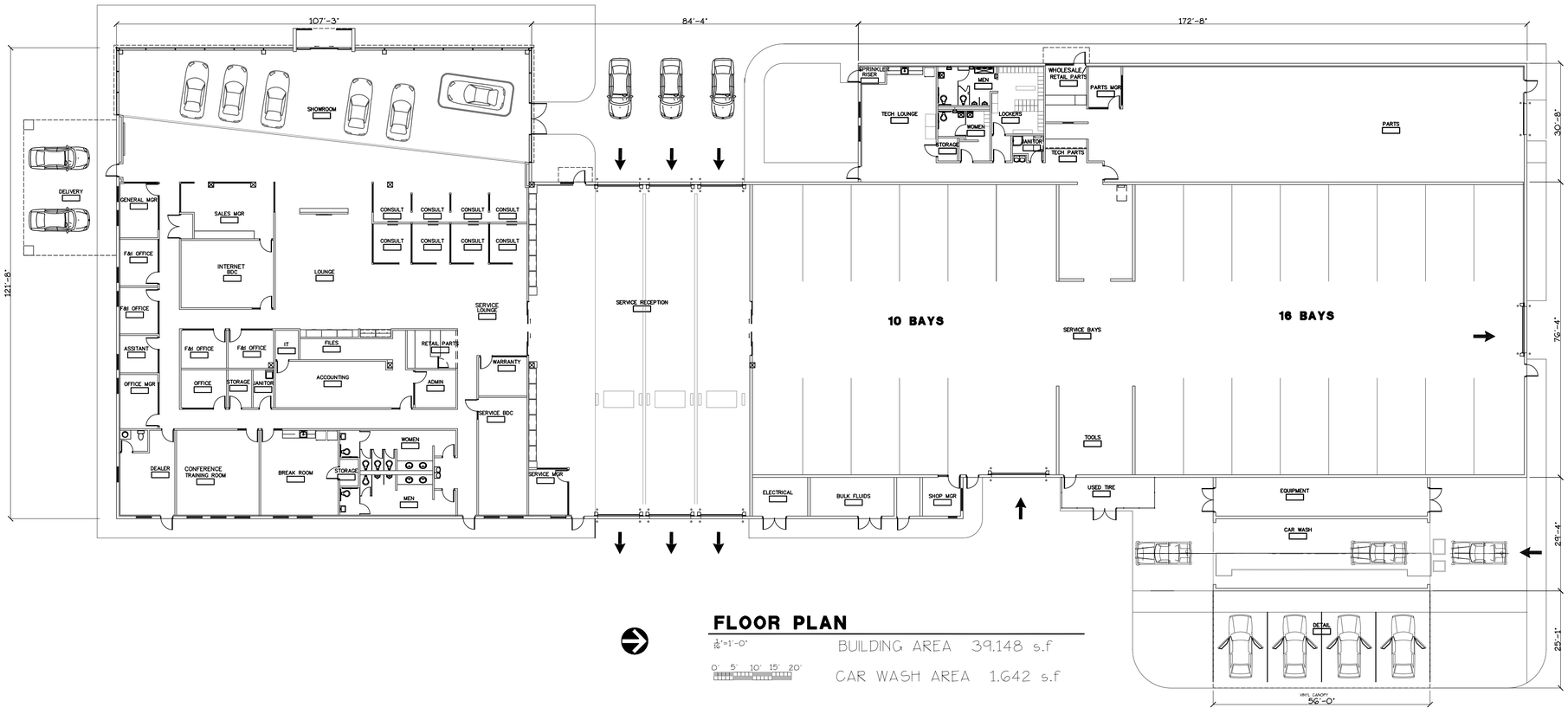
The building is sited with the main facade facing US1 to provide a contemporary sleek building directly across from the existing Bev Smith Kia Dealership on the West side of US1.
The building materials selected for this project are metal panels, expansive glass curtain wall along with stucco walls to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



FLOOR PLAN

1/32"=1'-0"

0' 5' 10' 15' 20'

BUILDING AREA 39,148 s.f

CAR WASH AREA 1,642 s.f

601 HERITAGE DRIVE, SUITE 410
JUPITER, FLORIDA 33458
(561) 331-5036
CERTIFICATE OF AUTHORIZATION #AA26003279
GUY C. PELLETIER #11060
GCParchitecture@AOL.COM

GCP ARCHITECTURE L.L.C.

SEAL

BEV SMITH KIA

5560 SOUTH U.S. HIGHWAY ONE, FORT PIERCE, FLORIDA

FLOOR PLAN

DATE: 1/28/25
DRAWN BY: G.P.
PROJ. NO. 2405
REVISED:

SHEET:

A-1

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

The following documents are NOT APPLICABLE to this project:

N/A Color Board

N/A Justification Statement

N/A Rendering of Signs (in Color)

Project Name: Bev Smith Kia

Application: Major Site Plan - Commercial Application

1835 20th Street
Vero Beach, FL 32960
772.569.0035
Fax: 772.778.3617

1250 W. Eau Gallie Blvd., Unit H
Melbourne, FL 32935
321.253.1510
Fax: 321.253.0911

806 Delaware Avenue
Ft. Pierce, FL 34950
772.468.9055
Fax: 772.778.3617

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Fax: 321.253.0911

806 Delaware Avenue
Ft. Pierce, FL 34950
772.468.9055
Fax: 772.778.3617

LANDSCAPE REQUIREMENTS:

TREE REQUIREMENTS

NORTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)=560 LF x 10' WIDE
5,600 S.F. DIV. BY 300 = 19 TREES REQUIRED

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

EAST PERIMETER LANDSCAPE STRIP (ABUTTING OTHER PROPERTIES)= 631 LF x 10' WIDE
6,130 SF DIV. BY 200 = 31 TREES REQUIRED

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

INTERIOR VEHICULAR USE AREAS = 220,257 S.F.
220,257/15 = 14,684 S.F. REQUIRED PLANTING AREA
147 INTERIOR VUA TREES REQUIRED

TOTAL TREES REQUIRED: 275 TREES

SHRUB REQUIREMENTS

NORTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 560 LF
CONTINUOUS HEDGE @ 36" OC = 187 SHRUBS REQUIRED

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

EAST PERIMETER LANDSCAPE STRIP (ABUTTING OTHER PROPERTIES)= 631 LF
CONTINUOUS HEDGE @ 36" OC = 211 SHRUBS REQUIRED

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

TOTAL SHRUBS REQUIRED: 912 SHRUBS

PROVIDED LANDSCAPE :

PROVIDED TREES:

NORTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)=560 LF x 10' WIDE
19 TREES PROVIDED

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

EAST PERIMETER LANDSCAPE STRIP (ABUTTING OTHER PROPERTIES)= 631 LF x 10' WIDE
31 TREES PROVIDED

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

INTERIOR VEHICULAR USE AREAS = 220,257 S.F.
15,500 S.F. REQUIRED PLANTING AREA
147 INTERIOR VUA TREES PROVIDED*

TOTAL TREES PROVIDED: 275 TREES

*SOME INTERIOR VUA TREES LOCATED IN THE DRY POND AREA DUE TO SPACE CONSTRAINTS

PROVIDED SHRUBS:

NORTH PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 560 LF
187 SHRUBS PROVIDED

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

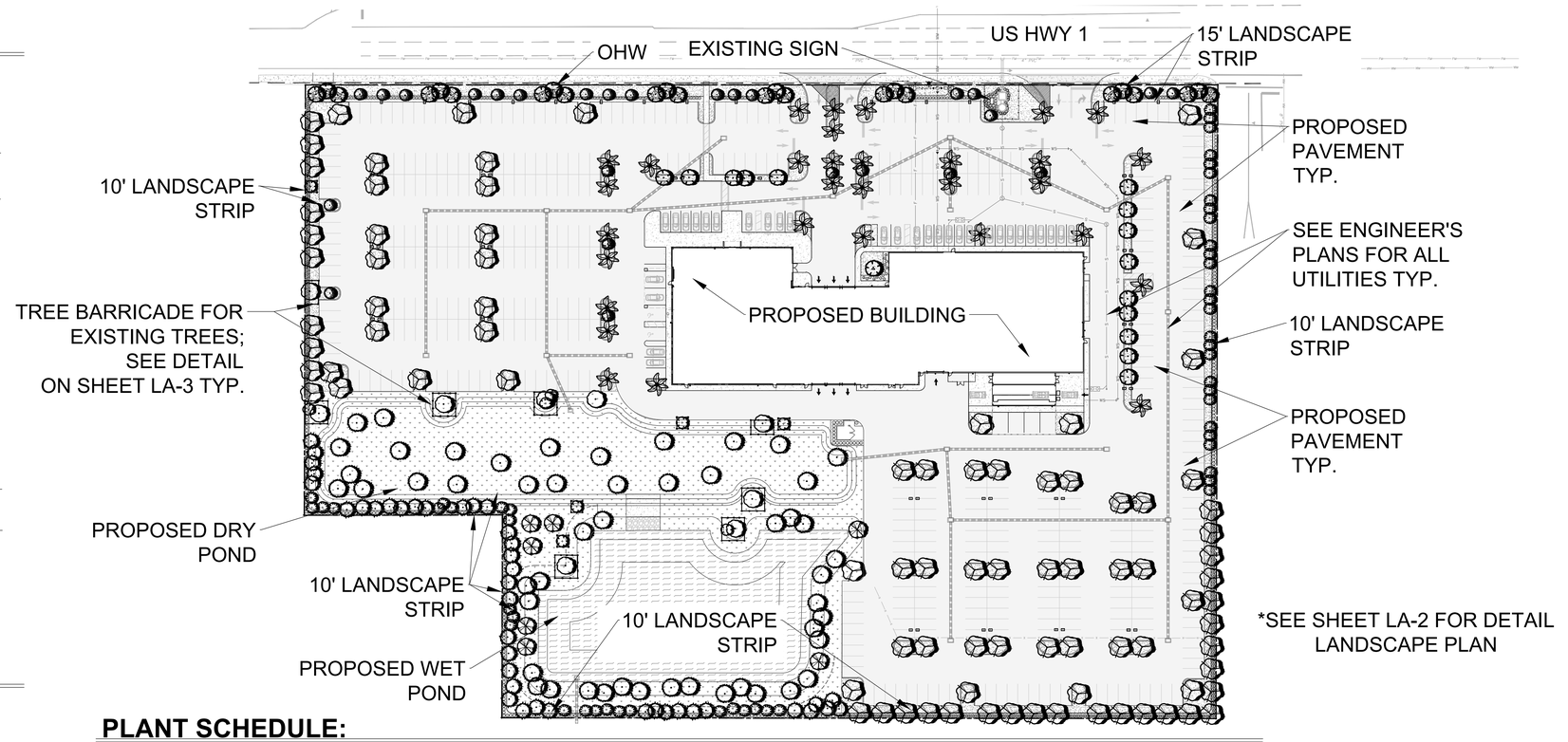
EAST PERIMETER LANDSCAPE STRIP (ABUTTING OTHER PROPERTIES)= 631 LF
211 SHRUBS PROVIDED

WEST PERIMETER LANDSCAPE STRIP (ABUTTING ROW)= 806 LF
269 SHRUBS PROVIDED

TOTAL SHRUBS PROVIDED: 912 SHRUBS

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

DRAWING INDEX:



*SEE SHEET LA-2 FOR DETAIL LANDSCAPE PLAN

PLANT SCHEDULE:

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	WIDTH	NOTES	NATIVE	DBH
TREES										
	ACR	7	Acer rubrum	Red Maple	45G	12` HT	5`W	5` CT, SP	Native	2.5" DBH
	EB	26	Elaeocarpus decipiens	Japanese Blueberry Tree	45G	12` HT	5`W	STD, 4`CT, SP	Non-native	2.5" DBH
	PED	41	Pinus elliotti densa	South Florida Slash Pine	FG	12` HT	5`W	SP	Native	2.5" DBH
	QS	89	Quercus virginiana	Southern Live Oak	45G	12` HT	5`W	6`CT, SP	Native	2.5" DBH
	TDM	51	Taxodium distichum	Bald Cypress	FG	12` HT	6`W	SP	Native	2.5" DBH
EXISTING TREES TO REMAIN										
	QAV	9	Quercus spp	Oak Species	Existing to Remain				Native	VARIES 6"-55"
	SSR	10	Sabal palmetto	Cabbage Palm	Existing to Remain	10`-18` CT		SP	Native	
PALM TREES	61 TOTAL PALM CREDITS									
	RO	31	Roystonea regia 1:1; CROWN IS LARGER THAN 15'	Florida/Cuban Royal Palm	FG	8` GW, 18` OA		FH, SP, MATCHING	Native	
	SS	52	Sabal palmetto 3:1; CROWN IS SMALLER THAN 15'	Sabal Palm	FG	10`-18` CT		SLK, HC, SP	Native	
	WO	38	Wodyetia bifurcata 3:1; CROWN IS SMALLER THAN 15'	Foxtail Palm	FG	10` CT, 16` OA		Single, Specimen, Full Head	Non-native	
	WB	1	Wodyetia bifurcata	Triple Foxtail Palm	FG	6`GW, 10`CT		TRP, FH, SP	Non-native	

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	WIDTH	NOTES	NATIVE
SHRUBS									
	CHR	263	Chrysobalanus icaco `Redtip`	Red Tip Cocoplum	7G	36" HT	36" W	F	Native
	CLU	259	Clusia guttifera	Small Leaf Clusia	3G	24" HT	24"W	F	Non-native
	CEP	282	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	140	Muhlenbergia capillaris	Pink Muhly Grass	3G	24" HT	18"W	F	Native

*ALL AREAS LABELED AS 'SOD' SHALL BE FLORATAM SOD; ALL AREAS LABELED AS BAHIA SHALL BE BAHIA SOD

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:
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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
5560 US Hwy 1
Fort Pierce, Florida
Landscape Plan

Revisions		
Date	Init.	Description
7.17.24	PG	1st Submittal
1.31.25	PG	Resubmittal

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

PAUL GOULAS, RLA
FLORIDA REG. # LA6666807

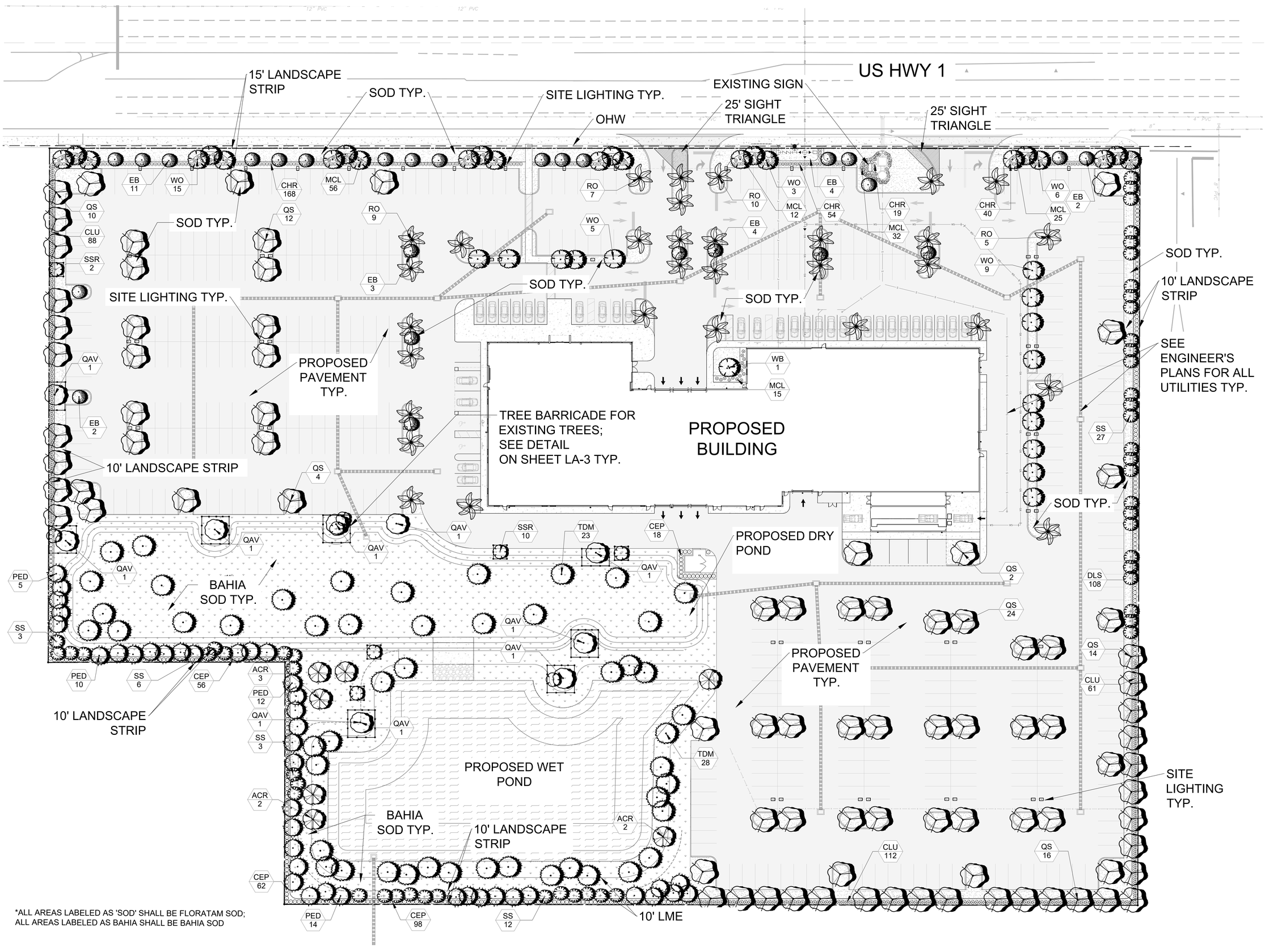
Drawn By:	PG
Checked By:	PG
Municipal Project:	
Scale:	

NORTH

SCALE: 1" = 60'

0 30' 60' 120'

LA-1



*ALL AREAS LABELED AS 'SOD' SHALL BE FLORATAM SOD; ALL AREAS LABELED AS BAHIA SHALL BE BAHIA SOD

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MOIA BOWLES VILLAMIZAR & ASSOCIATES CONSULTING ENGINEERING CA #37208

Bev Smith Kia Used Car Center

5560 US Hwy 1
Fort Pierce, Florida

Detail Landscape Plan

Revisions

Date	Init.	Description
7.17.24	PG	1st Submittal
1.31.25	PG	Resubmittal

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

Existing Tree Schedule

TREES TO REMAIN

Tag No	Species	Size
291	Laurel Oak	28"
293	Laurel Oak	60"
297	Laurel Oak	30"
342	Laurel Oak	30"
396	Laurel Oak	25"
411	Laurel Oak	24"
423	Laurel Oak	40"
434	Laurel Oak	82"
445	Live Oak Cluster	103"

TOTAL INCHES TO REMAIN: 422"

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'
314	Cabbage Palm	18'
315	Cabbage Palm	18'

TOTAL PALMS TO REMAIN: 10

TREES TO BE REMOVED

Tag No	Species	Size
295	Laurel Oak	16"
302	Laurel Oak	28"
303	Laurel Oak	13"
308	Laurel Oak	14"
309	Laurel Oak	12" *
313	Laurel Oak	24"
317	Laurel Oak	13" *
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" *
343	Laurel Oak	12" *
345	Laurel Oak	12" *
351	Laurel Oak	12" *
353	Laurel Oak	14"
354	Laurel Oak	24"
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" *
380	Laurel Oak	15"
381	Laurel Oak	14"
382	Laurel Oak	21"
383	Laurel Oak	44"
384	Laurel Oak	14"
385	Laurel Oak	14"
388	Laurel Oak	18"
389	Laurel Oak	16"
390	Laurel Oak	32"
395	Laurel Oak	14"
397	Laurel Oak	16"
404	Laurel Oak	14"
405	Laurel Oak	22"
406	Laurel Oak	17"
407	Laurel Oak	48"
408	Laurel Oak	30"
413	Laurel Oak	12" *
416	Laurel Oak	34"
425	Laurel Oak	13' *
435	Laurel Oak	14"
436	Laurel Oak	16"
438	Laurel Oak	36"

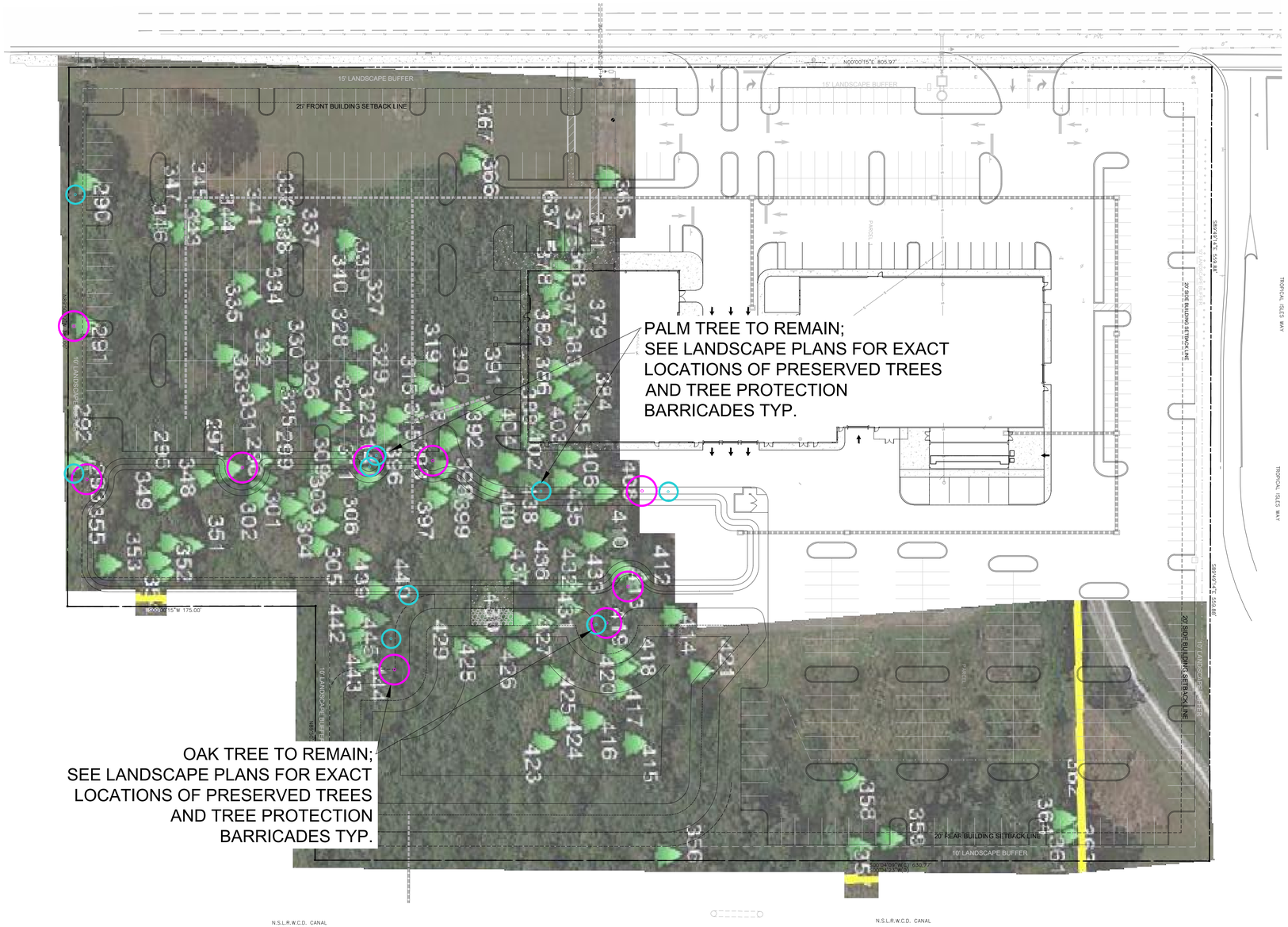
TOTAL INCHES TO BE REMOVED: 973"

* TREE UNDER MITIGATION SIZE NOT INCLUDED IN TOTAL DBH REMOVED

PALMS TO BE REMOVED

Tag No	Species	Size
294	Cabbage Palm	22'
296	Cabbage Palm	13'
298	Cabbage Palm	14'
299	Cabbage Palm	15'
310	Cabbage Palm	15'
311	Cabbage Palm	16'
312	Cabbage Palm	18'
316	Cabbage Palm	16'
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'
391	Cabbage Palm	22'
392	Cabbage Palm	20'
393	Cabbage Palm	16'
394	Cabbage Palm	18'
398	Cabbage Palm	23'
399	Cabbage Palm	21'
400	Cabbage Palm	18'
401	Cabbage Palm	18'
402	Cabbage Palm	20'
403	Cabbage Palm	17'
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	18'

TOTAL PALMS TO BE REMOVED: 79



Mitigation Data:

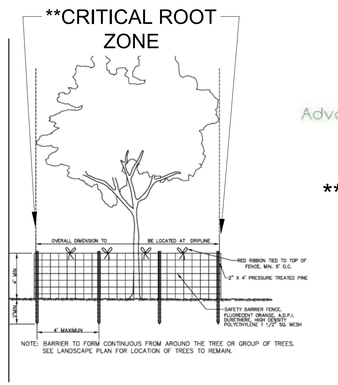
Total DBH of Specimen Trees to be Removed: 973" DBH
Total DBH of Phase 1 Trees Preserved(DBH): 422" DBH

Total Tree Replacement Required: (DBH): 551" DBH

Total Palms Removed (10' C.T. Minimum): 79
Total Palms Preserved: 10

Total Palm Replacement Required: 69 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.

Project Team

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MOJA BOWLES VILLAMZAR & ASSOCIATES CONSULTING ENGINEERING CA #3728

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

Tree Disposition & Mitigation Plan

Revisions

Date	Init.	Description
7.17.24	PG	1st Submittal
1.31.25	PG	Resubmittal

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 guranteeing 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.

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 treess larger than 12' oa. 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

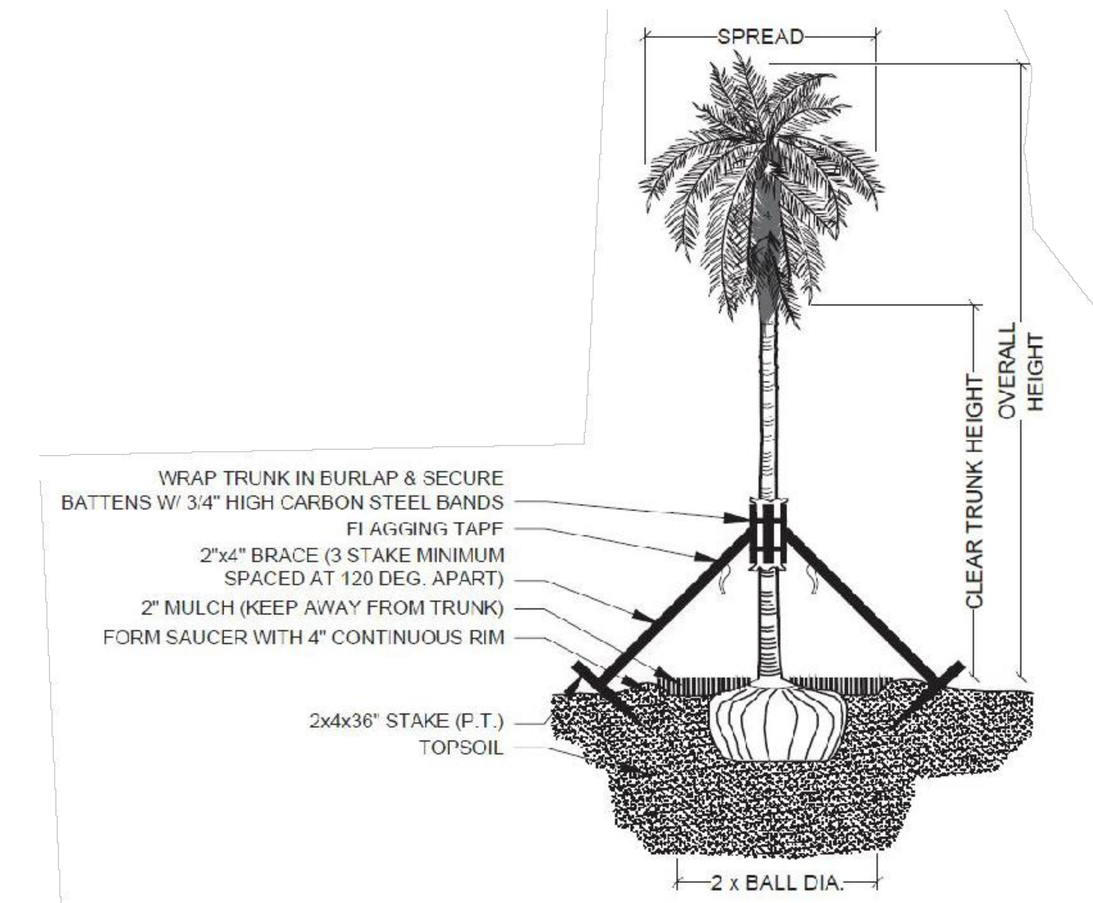
A. DIG EACH PLANTING PIT TO THE MINIMUM SPECIFIED SIZE.

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.

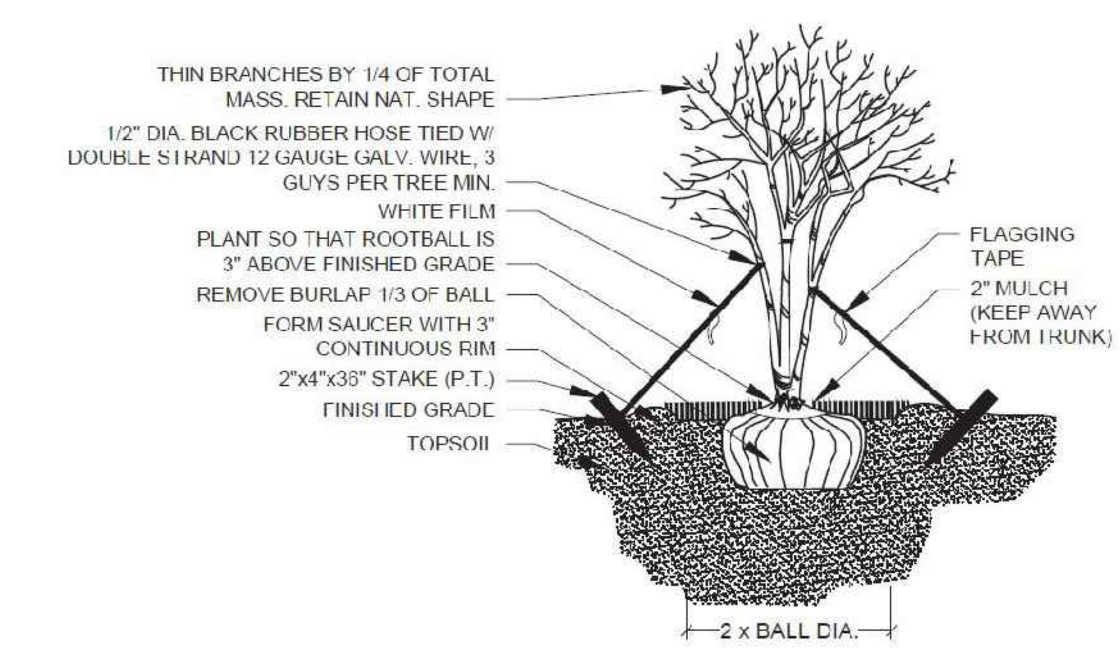
C. WHERE REQUIRED, THE DRAINAGE CHANNEL MUST EXTEND DOWN THROUGH THE NON POROUS SOIL AND INTO POROUS SOIL. (SEE DETAIL)

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

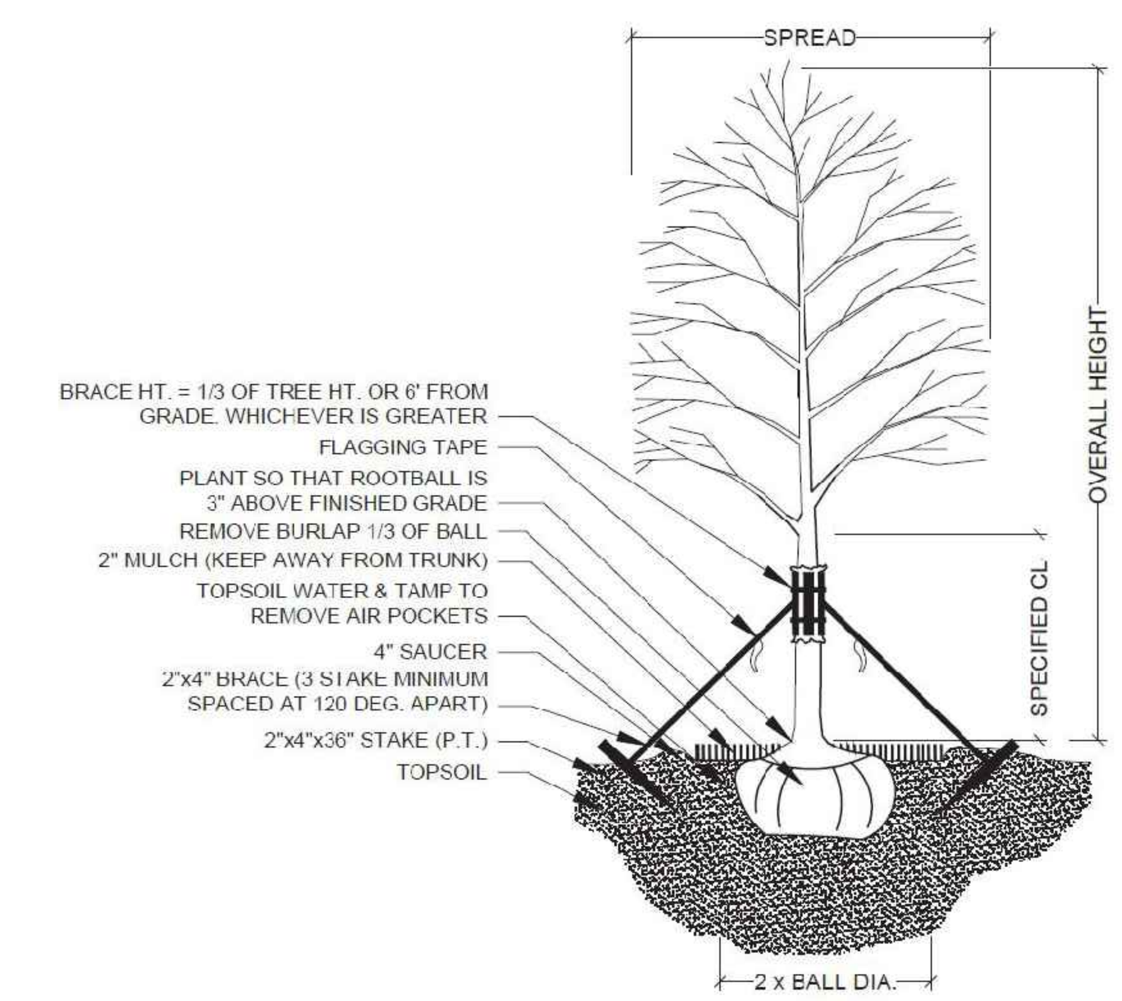
E. WHEN BACKFILLING PLANTING PITS WITH PLANTING MIXTURE, CARE MUST BE TAKEN TO KEEP THE CONSISTENCY OF THE SOIL MIX THE SAME THROUGHOUT THE PLANTING PIT AND DRAINAGE CHANNEL.



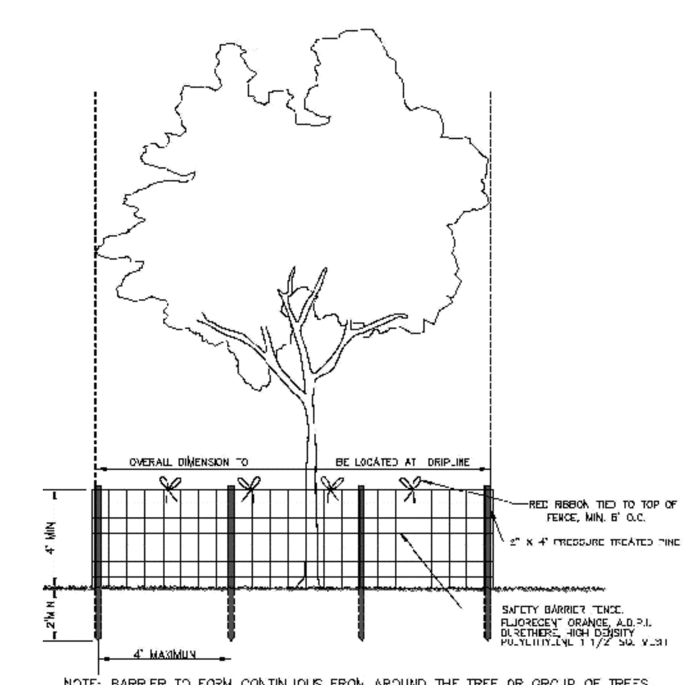
PALM PLANTING - ANGLE STAKE
NOT TO SCALE



MULTI-TRUNK PLANTING & GUYING
NOT TO SCALE



TREE PLANTING & STAKING
NOT TO SCALE



TREE PROTECTION DETAIL
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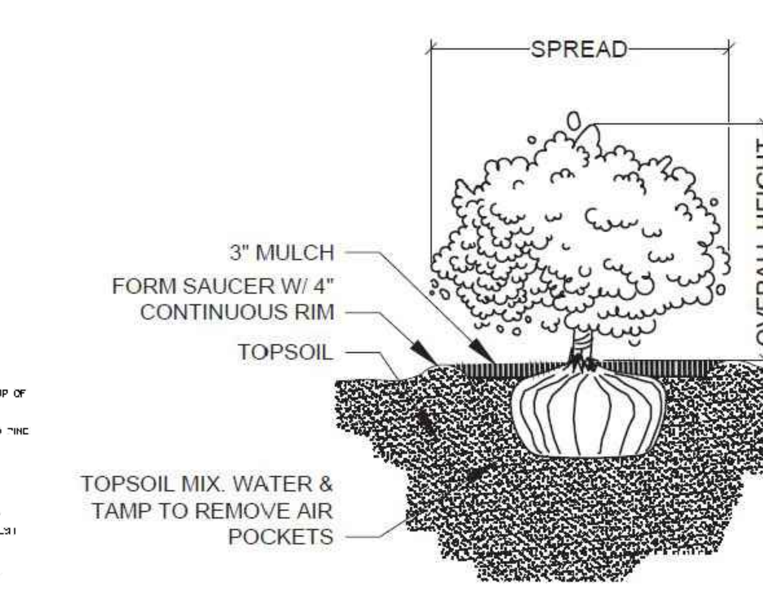

SHRUB PLANTING
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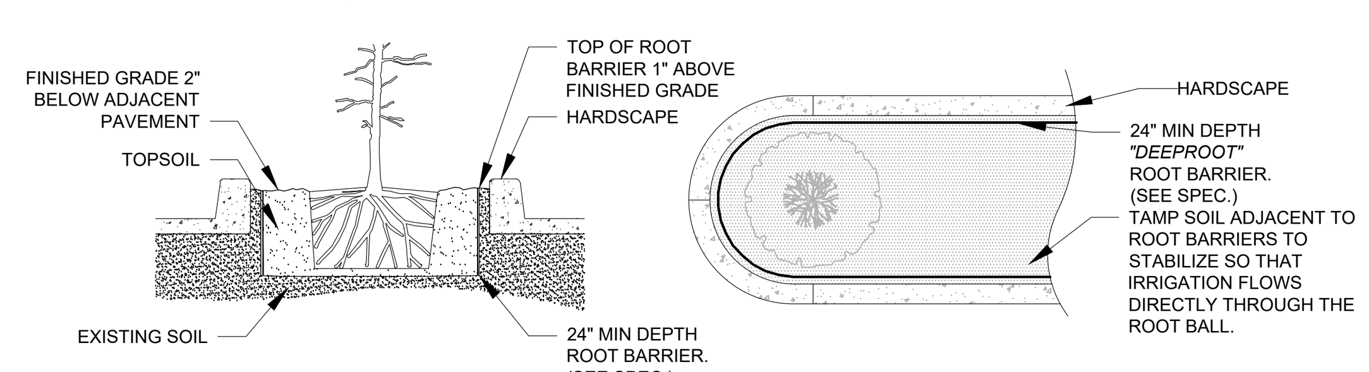
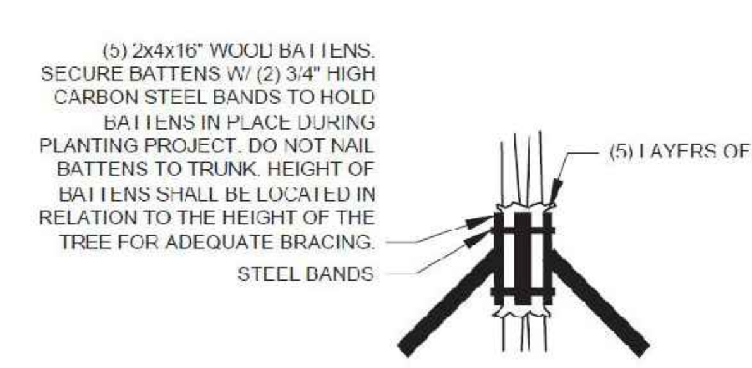


SPECIAL APPLICATIONS ROOT BARRIER DETAIL
NOT TO SCALE

NOTES:
1- ROOT BARRIER SHALL BE "DEEPROOT" 24" DEPTH OR APPROVED EQUAL.
2- ROOT BARRIER SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.



BRACING DETAIL
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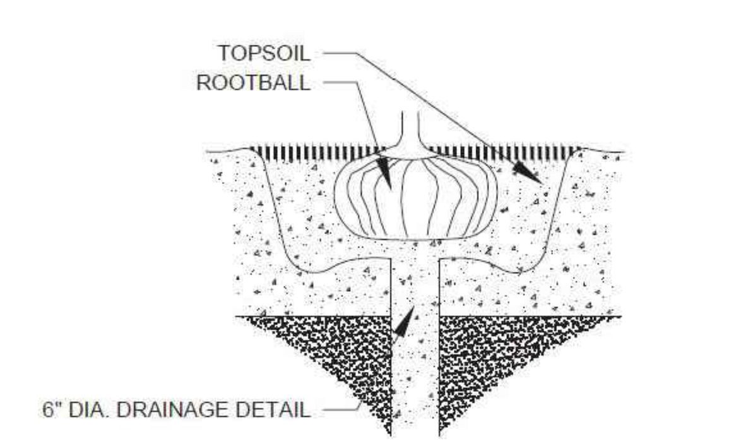

DRAINAGE TESTING DETAIL
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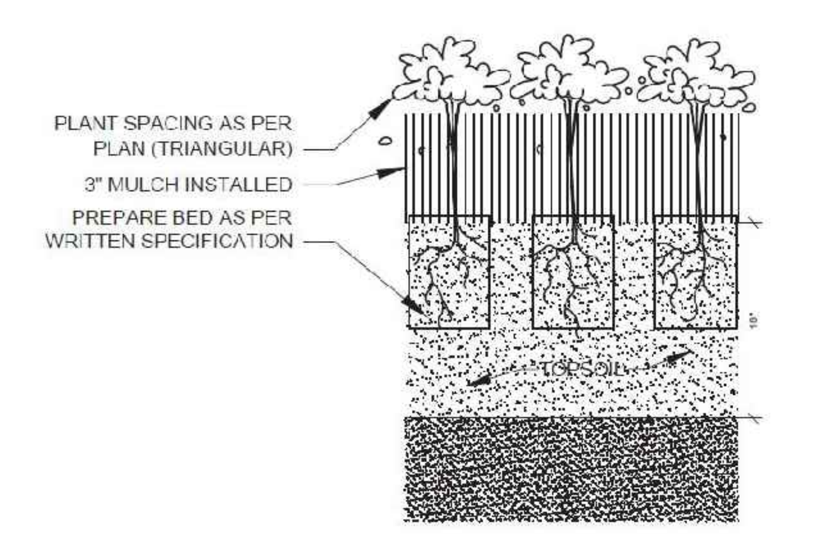


GROUNDCOVER PLANTING DETAIL
NOT TO SCALE

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.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728

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

Revisions		
Date	Init.	Description
7.17.24	PG	1st Submittal
1.31.25	PG	Resubmittal

PAUL GOULAS, RLA
FLORIDA REG. # LA6666807

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

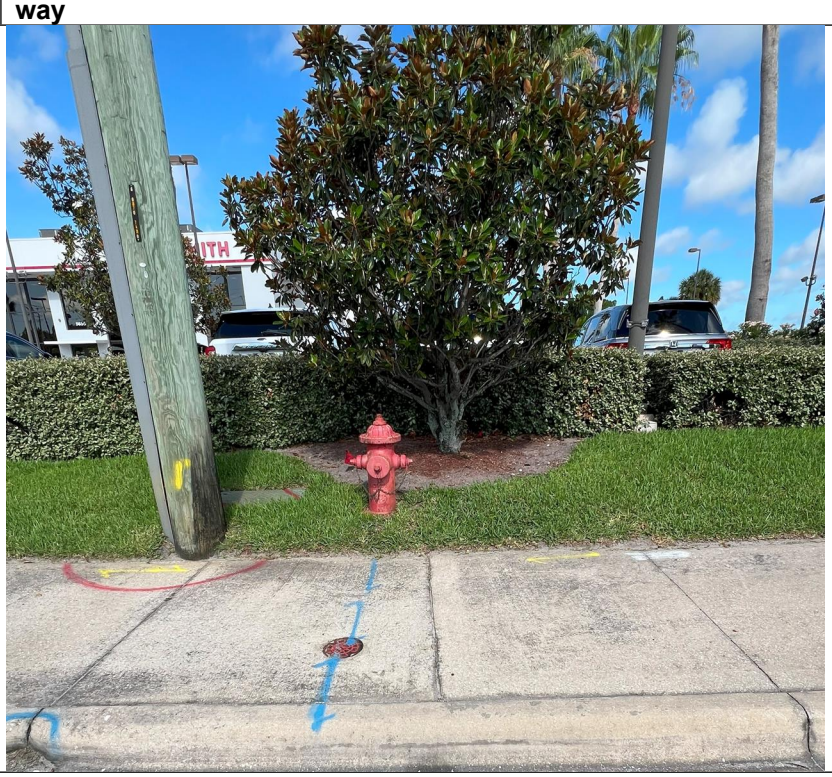
LA-4

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**

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

STORMWATER MANAGEMENT CALCULATIONS

for

Bev Smith Kia New Dealership

City of Ft. Pierce, FL

January, 2025

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

Engineers Project No: 24-0465
Designed By: CJS

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

1/31/2025

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

TABLE OF CONTENTS

Prepared by: MBV Engineering, Inc.
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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 #17.

III. SITE DATA

Development Area	419,507 s.f.	9.63 acres
Total Basin Area	419,507 s.f.	9.63 acres
Site Basin	331,893 s.f.	7.62 acres
Dry Detention Basin	37,692.s.f.	.87 acres
Wet Detention Basin	49,922.s.f.	1.15 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

Site Borings		WT 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 observed
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 observed
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 observed
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 observed
Normal Water Table	3.8 ft. (NAVD)	9.2	

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

Average Existing Grade	13.3 ft. (NAVD)	
Average Normal Water Table	6.1 ft. (NAVD)	
Average Seasonal High Water Table	7.6 ft. (NAVD)	**Use SHWT = 8.0 ft. (NAVD)**

IV. PRE-DEVELOPMENT CONDITIONS

Pre-Basin (assumes conditions prior to any development)

Drainage Area	419,507 s.f.	9.63 acres	100.0%
Building Area	5,274 s.f.	.12 acres	1.3%
Roadway Area	97,465 s.f.	2.24 acres	23.2%
Walks/Pads Area	11,812 s.f.	.27 acres	2.8%
Total Impervious	114,551 s.f.	2.63 acres	27.3%
Total Semi.-Impervious	s.f.	.00 acres	0.0%
Total Pervious	304,956 s.f.	7.00 acres	72.7%

Weighted Curve Number

% Impervious	27.3%	Soil Group D	CN1 = 98	
% Semi-Impervious	0.0%	Soil Group D	CN2 = 91	
% Pervious	72.7%	Soil Group D	CN3 = 83	Woods, poor

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

CN = 87.1

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. =	0.400	woods, light underbrush
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=	44.3 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 = 48.1 min. If <10 min, use 10 min

V. POST-DEVELOPMENT CONDITIONS

Site Basin

Drainage Area	331,893 s.f.	7.62 acres	79.1%
Building	40,791 s.f.	.94 acres	9.7%
Asphalt Drives	219,006 s.f.	5.03 acres	66.0%
Walks/Pads (incl. covered conc.)	8,994 s.f.	.21 acres	2.1%
Total Impervious	268,791 s.f.	6.17 acres	81.0%
Wet Pond Surface (@ control)		.00 acres	0.0%
Total Semi.-Impervious	s.f.	.00 acres	0.0%
Total Pervious	63,102 s.f.	1.45 acres	19.0%

Weighted Curve Number (Pond Water Surface removed from equation)

% Impervious	81.0%	Soil Group D	CN1 = 98
% Semi-Pervious	0.0%	Soil Group D	CN2 = 91
% Pervious	19.0%	Soil Group D	CN3 = 77

CN = [(% Impervious)(CN1) + (% Semi-Impervious)(CN2) + (% Pervious)(CN3)]
CN = 94.0

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. =	0.011	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	37,692 s.f.	.87 acres	9.0%
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)	s.f.	.00 acres	0.0%
Total Semi.-Impervious	s.f.	.00 acres	0.0%
Total Pervious	37,692 s.f.	.87 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	49,922 s.f.	1.15 acres	11.9%
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)	31,952 s.f.	.73 acres	64.0%
Total Semi.-Impervious	s.f.	.00 acres	0.0%
Total Pervious	17,970 s.f.	.41 acres	36.0%

Weighted Curve Number (Pond Water Surface removed from equation)

% Water Surface	64.0%		CN1 = 100
% Impervious	0.0%		CN2 = 98
% Semi-Pervious	0.0%	Soil Group (B/D)	CN3 = 91
% Pervious	36.0%	Soil Group (B/D)	CN4 = 77

CN = [(% Impervious)(CN1) + (% Semi-Impervious)(CN2) + (% Pervious)(CN3)]
CN = 91.7

Time of Concentration (Tc) T_c = 10.0 min.

BASINS - TOTAL

Drainage Area	419,507 s.f.	9.63 acres	100.0%
Building	40,791 s.f.	.94 acres	9.7%
Asphalt	219,006 s.f.	5.03 acres	52.2%
Concrete	8,994 s.f.	.21 acres	2.1%
Total Impervious	268,791 s.f.	6.17 acres	64.1%
Wet Pond Surface (@ control)	31,952 s.f.	.73 acres	7.6%
Total Semi.-Impervious	s.f.	.00 acres	0.0%
Total Pervious	118,764 s.f.	2.73 acres	28.3%

Weighted Curve Number (Pond Water Surface removed from equation)

% Water Surface	7.6%		CN1 = 100
% Impervious	64.1%		CN2 = 98
% Semi-Pervious	0.0%	Soil Group (B/D)	CN3 = 91
% Pervious	28.3%	Soil Group (B/D)	CN4 = 77

CN = [(% Impervious)(CN1) + (% Semi-Impervious)(CN2) + (% Pervious)(CN3)]
CN = 92.2

VI. REQUIRED TREATMENT VOLUME

Treatment Volume Tabulations Based on Contributing Area

Total Contributing Area (ac) =	9.63 ac
Total Impervious Area (ac) =	6.17 ac

1.0" over Site Area:

Site Area x 1.0" = 9.63 ac x (1in/12ft) = 0.803 ac-ft

2.5" times percentage of imperviousness:

Site Area for water quality pervious/impervious calculations only

Site Area - (water surface + roofs) =
9.63ac - (0.73ac + 0.94ac) = 7.961 ac

Impervious Area = (Site area for water quality pervious/impervious) - pervious
7.961ac - 2.73ac = 5.234 ac

Percentage of impervious:
(Impervious/Site area for water quality pervious/impervious)
(5.234ac / 7.961ac) x 100% = 65.8%

Inches to be Treated = Percentage of impervious x 2.5":
(5.234ac / 7.961ac) x 2.5" = 1.644 in

Volume of Water Quality
Inches to be Treated x (total site - water surface - roofs)
1.644in x (9.63ac - 0.73ac - 0.94ac) = 1.090 ac-ft

Required Treatment Volume from above (ac-ft) =	1.090 ac-ft
On-line Retention : Additional 0.5" over drainage area (ac-ft) =	0.401 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) =	1.492 ac-ft	= 64,979 cf

Required Volume to be Treated by Wet Detention ***(100% of Volume of Water Quality is Required for Wet Detention)***
1.492 ac-ft x 100% = 1.492 ac-ft = 64,979 cf

Required Volume to be Treated by Dry Retention ***(50% of Volume of Water Quality is Required for Dry Retention)***
1.492 ac-ft x 50% = 0.746 ac-ft = 32,490 cf

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

Required Nutrient Loading	Nitrogen	Phosphorus
	43%	43%

Per BMP Trains 2020

VII. PROPOSED TREATMENT AND STAGE STORAGE

Required Volume to be Treated by Dry Retention ***(50% of Volume of Water Quality is Required for Dry Retention)***

1.492 ac-ft x 50% = 0.746 ac-ft = 32,490 cf

Proposed Volume to be Treated by Dry Retention

Treatment Volume at Weir Elevation = 0.344 ac-ft = 14,979 cf

Remaining Water Quality Volume left to be Treated

0.746ac-ft - 0.344ac-ft = 0.402 ac-ft = 17,511 cf

Volume of Water Quality left to be Treated Converted to Wet Detention

0.402ac-ft x 2 = 0.804 ac-ft = 35,022 cf

**Factor of 2 Calculated by 100% / 50% = 2*

Proposed Volume to be Treated by Wet Detention

Treatment Volume 0.810 ac-ft = 35,294 cf

Total Required Treatment Volume for Basin (ac-ft) =	***1.148 ac-ft***	***= 50,001 cf***

*0.344 ac-ft Dry Retention Plus 0.804 ac-ft Wet Detention (Equivalent of 0.402 ac-ft Dry Retention) = 1.148 ac-ft

Total Treatment Volume Provided by Dry Retention (ac-ft) =	*0.344 ac-ft*	*= 14,979 cf*
Total Treatment Volume Provided by Wet Detention (ac-ft) =	*0.810 ac-ft*	*= 35,294 cf*
Total Treatment Volume Provided (ac-ft) =	***1.154 ac-ft***	***= 50,272 cf***

Proposed SFWMD Nutrient Loading Reduction Tabulations (See Appendix B for Calculations)

	Nitrogen	Phosphorus
Required Nutrient Loading	43%	43%
Proposed Nutrient Loading	64%	84%

Per BMP Trains 2020

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	0.303 13,218.s.f.	4.50	195,890	0.00	0
6.00	0.596 25,960.s.f.	1.33	57,912	4.50	195,890
Control = 8.00 (SHWL)	0.734 31,952.s.f.	0.411	17,909	0.00	0
1/2 treatment vol. = 8.54 **must equal 0.405 ac-ft*	0.789 34,378.s.f.	0.40	17,385	0.41	17,909
rqd. treat. vol. = 9.03	0.840 36,579.s.f.	2.95	128,454	*0.81*	35,294
top of bank = 12.0	1.146 49,922.s.f.	8.08	352,028	3.76	163,748

Orifice Sizing Drawdown Calculations

Rqd. Treatment Vol. to Draw Down :	0.411	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:	2.20	inches
Centroid of Orifice:	8.09	NAVD
Elevation of 1/2 Treatment Volume :	8.54	NAVD
Elevation of treatment volume :	9.030	NAVD
Max. Orifice Diameter *** :	2.18	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)	9.631	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****	2.09	ac-ft

**** PPV = (CA*C*R*RT/(WS*12))

PPV Provided : **5.83** **ac-ft**

Mean Depth = PPV/Ap = 7.94 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	0.663 28,868.s.f.	0.34	14,979	0.00	0
weir = 10.50	0.713 31,047.s.f.	0.37	16,068	0.34	14,979
11.00	0.763 33,226.s.f.	0.81	35,459	0.71	31,047
top of bank = 12.00	0.865 37,692.s.f.			1.53	66,506

Site

Stage (ft)	Area (ac)	Incremental volume (ac-ft)	Incremental volume (c.f.)	Cumulative volume (ac-ft)	Cumulative volume (c.f.)
lowest inlet = 12.15	0.000 .s.f.	0.30	13,207	0.00	0
12.50	1.733 75,471.s.f.	4.21	183,286	0.30	13,207
6 in below FFE = 13.50	6.683 291,102.s.f.			4.51	196,494

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	0.734 31,952.s.f.	2.23	97,349	0.00	0
10.00	1.501 65,397.s.f.	1.71	74,273	2.23	0
11.00	1.909 83,148.s.f.	2.83	123,116	3.94	0
12.00	3.744 163,085.s.f.	3.80	165,461	3.94	0
100yr-3day = 12.76 (zero discharge stage)	6.252 272,338.s.f.	5.53	240,890	7.74	337,082
13.50	8.694 378,716.s.f.			13.27	577,972

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.) =	11.27 in.
P = rainfall, (in.) =	12.23 in.
S = potential max. retention after runoff begins (in.) =	0.85 in.
Area (ac.) =	9.63 ac.
Runoff for 100yr-3day (ac-ft) =	**9.046 ac-ft**
Total Storage @ Stage 12.76	7.738 ac-ft
Min. Required F.F.E. Stage	12.76 NAVD
Min. Provided F.F.E.	14.0 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		9.67		14.01		16.08
Post-Site	11.08		11.33		11.78	
Post-Dry Pond	10.92		11.19		11.78	
Post-Wet Pond	10.56	0.37	11.19	0.41	11.77	1.08

	25YR - 24HR (6.80")		25YR - 72HR (9.50")		100YR - 24HR (9.00")	
	STAGE	PEAK DISCH.	STAGE	PEAK DISCH.	STAGE	PEAK DISCH.
Pre-Site		16.32		18.15		22.67
Post-Site	11.51		11.88		11.92	
Post-Dry Pond	11.51		11.87		11.88	
Post-Wet Pond	11.51	0.44	11.87	3.01	11.87	3.14

	100YR - 72HR (12.23")		100YR-72HR (zero Discharge)	
	STAGE	PEAK DISCH.	STAGE	PEAK DISCH.
Pre-Site		23.76		
Post-Site	12.43		12.76	
Post-Dry Pond	12.22			
Post-Wet Pond	12.21	16.11		
Prop. F.F.E.			14.00	

Water Quality Recovery Time for Dry Retention

Treatment Volume Elev. (NAVD)	Pond Bottom = 10.00 Ending Elev. (NAVD)	Hour at Which Water Elev. Reaches Pond Bottom*
10.50	**10.02**	**72.00**

** The Dry Retention Recovery falls within 0.02 of the pond bottom of 10.00, which is within acceptable limits*

Water Quality Recovery Time for Wet Detention

1/2 Treatment Volume Elev. (NAVD)	Orifice Invert = 8.00 Ending Elev. (NAVD)	Hour at Which Water Elev. Reaches 1/2 Treatment Volume
8.54	**8.54**	**25.00**

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

See Appendix A for Drawdown Report for the ending stages after the 1st storm. The dry pond recovers within acceptable limits by day 12, after the 25yr-72 hour storm event takes place.

Allowable Discharge in NSLRWCD System

The allowable discharge from the developed area of 9.63 acres is **1.61 ac-ft.** The maximum discharge for the project is **1.42** ac-ft. See results under Appendix A.

Conclusion

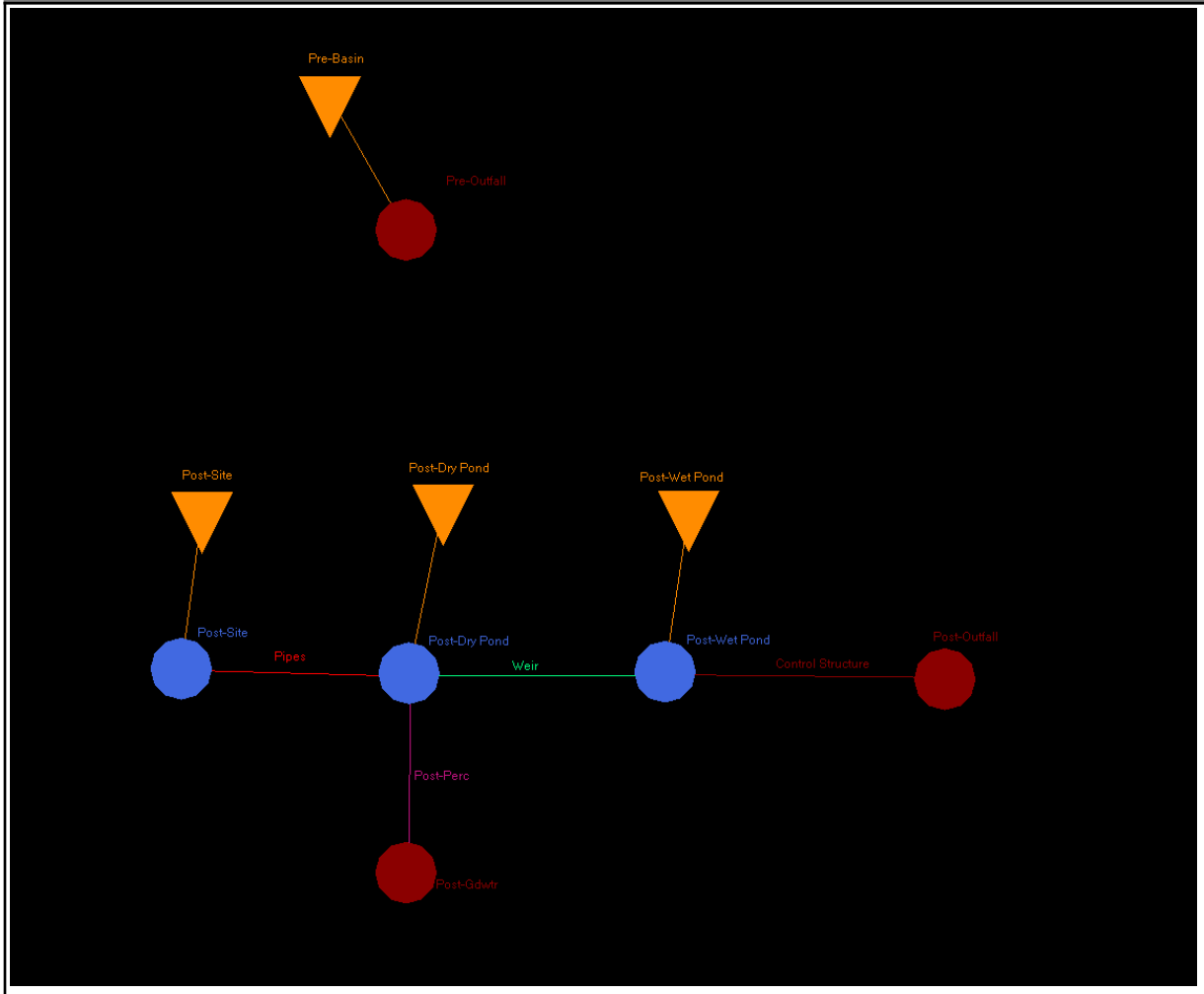
As demonstrated by the above calculations and the flood routing computations analysis contained in the appendices of this report, the proposed stormwater management system meets the requirements of the CoFP, SFWMD, NSLRWCD and the FDOT. The system provides adequate treatment volume, recovery of the treatment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

Appendix A
ICPR Modeling and Results

Scenario	Sim	Node Name	Maximum Stage [ft]	Maximum Total Inflow Rate [cfs]	Maximum Total Outflow Rate [cfs]
Scenario2	1-MA	Post-Dry Pond	10.92	23.88	51.92
Scenario2	1-MA	Post-Gdwtr	8.00	0.00	0.00
Scenario2	1-MA	Post-Outfall	8.00	0.37	0.00
Scenario2	1-MA	Post-Site	11.08	51.92	22.24
Scenario2	1-MA	Post-Wet Pond	10.56	25.58	0.37
Scenario2	1-MA	Pre-Outfall	0.00	9.67	0.00
Scenario2	1-MA	~~D~Control Structure~N	8.00	0.00	0.00
Scenario2	2-10YR-24HR	Post-Dry Pond	11.19	32.77	51.92
Scenario2	2-10YR-24HR	Post-Gdwtr	8.00	0.00	0.00
Scenario2	2-10YR-24HR	Post-Outfall	8.00	0.41	0.00
Scenario2	2-10YR-24HR	Post-Site	11.33	51.92	30.23
Scenario2	2-10YR-24HR	Post-Wet Pond	11.19	35.57	0.41
Scenario2	2-10YR-24HR	Pre-Outfall	0.00	14.01	0.00
Scenario2	2-10YR-24HR	~~D~Control Structure~N	8.00	0.00	0.00
Scenario2	3-10YR-72HR	Post-Dry Pond	11.78	35.57	51.92
Scenario2	3-10YR-72HR	Post-Gdwtr	8.00	0.00	0.00
Scenario2	3-10YR-72HR	Post-Outfall	8.00	1.08	0.00
Scenario2	3-10YR-72HR	Post-Site	11.78	51.92	32.37
Scenario2	3-10YR-72HR	Post-Wet Pond	11.77	37.44	1.08
Scenario2	3-10YR-72HR	Pre-Outfall	0.00	16.08	0.00
Scenario2	3-10YR-72HR	~~D~Control Structure~N	8.01	0.00	0.00
Scenario2	4-25YR-24R	Post-Dry Pond	11.51	37.50	51.92
Scenario2	4-25YR-24R	Post-Gdwtr	8.00	0.00	0.00
Scenario2	4-25YR-24R	Post-Outfall	8.00	0.44	0.00
Scenario2	4-25YR-24R	Post-Site	11.51	51.92	34.46
Scenario2	4-25YR-24R	Post-Wet Pond	11.51	40.88	0.44
Scenario2	4-25YR-24R	Pre-Outfall	0.00	16.32	0.00
Scenario2	4-25YR-24R	~~D~Control Structure~N	8.00	0.00	0.00
Scenario2	5-25YR-72HR	Post-Dry Pond	11.87	39.88	51.92

Scenario	Sim	Node Name	Maximum Stage [ft]	Maximum Total Inflow Rate [cfs]	Maximum Total Outflow Rate [cfs]
Scenario2	5-25YR-72HR	Post-Gdwtr	8.00	0.00	0.00
Scenario2	5-25YR-72HR	Post-Outfall	8.00	3.01	0.00
Scenario2	5-25YR-72HR	Post-Site	11.88	51.92	36.22
Scenario2	5-25YR-72HR	Post-Wet Pond	11.87	35.46	3.01
Scenario2	5-25YR-72HR	Pre-Outfall	0.00	18.15	0.00
Scenario2	5-25YR-72HR	~~D~Control Structure~N	8.10	0.00	0.00
Scenario2	6-100YR-24HR	Post-Dry Pond	11.88	50.45	51.92
Scenario2	6-100YR-24HR	Post-Gdwtr	8.00	0.00	0.00
Scenario2	6-100YR-24HR	Post-Outfall	8.00	3.14	0.00
Scenario2	6-100YR-24HR	Post-Site	11.92	51.92	46.04
Scenario2	6-100YR-24HR	Post-Wet Pond	11.87	55.43	3.14
Scenario2	6-100YR-24HR	Pre-Outfall	0.00	22.67	0.00
Scenario2	6-100YR-24HR	~~D~Control Structure~N	8.11	0.00	0.00
Scenario2	7-100YR-72HR	Post-Dry Pond	12.22	49.30	51.92
Scenario2	7-100YR-72HR	Post-Gdwtr	8.00	0.00	0.00
Scenario2	7-100YR-72HR	Post-Outfall	8.00	16.11	0.00
Scenario2	7-100YR-72HR	Post-Site	12.43	51.92	44.69
Scenario2	7-100YR-72HR	Post-Wet Pond	12.21	40.04	16.12
Scenario2	7-100YR-72HR	Pre-Outfall	0.00	23.76	0.00
Scenario2	7-100YR-72HR	~~D~Control Structure~N	11.22	0.00	0.00

Background Image: 2025-01-30 routing



Simple Basin: Post-Dry Pond

Scenario:	Scenario2
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:	0.8700 ac
Curve Number:	77.0
% Impervious:	0.00

% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Post-Site

Scenario:	Scenario2
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:	7.6600 ac
Curve Number:	94.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Post-Wet Pond

Scenario:	Scenario2
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:	1.1460 ac
Curve Number:	91.7
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Pre-Basin

Scenario:	Scenario2
Node:	Pre-Outfall
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	48.1000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	9.6300 ac
Curve Number:	87.1
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Node: Post-Dry Pond

Scenario:	Scenario2
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	10.00 ft
Warning Stage:	12.00 ft

Stage [ft]	Area [ac]	Area [ft2]
8.00	0.0000	0
9.90	0.0010	44
10.00	0.6630	28880
11.00	0.7630	33236
12.00	0.8650	37679

Comment:

Node: Post-Gdwtr

Scenario:	Scenario2
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

Year	Month	Day	Hour	Stage [ft]
0	0	0	999.0000	8.00

Comment:

Node: Post-Outfall

Scenario: Scenario2
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: Scenario2
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 8.00 ft
Warning Stage: 13.50 ft

Stage [ft]	Area [ac]	Area [ft2]
8.00	0.0000	0
12.15	0.0010	44
13.50	6.6830	291111

Comment:

Node: Post-Wet Pond

Scenario: Scenario2
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

Stage [ft]	Area [ac]	Area [ft2]
9.03	0.8400	36590
12.00	1.1460	49920

Comment:

Node: Pre-Outfall

Scenario: Scenario2
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	0.00
0	0	0	999.0000	0.00

Comment:

Drop Structure Link: Control Structure

Scenario: Scenario2
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:

Top Clip

Pipe Comment:

Weir Component

Weir: 1
Weir Count: 1
Weir Flow Direction: Both
Damping: 0.0000 ft
Weir Type: Sharp Crested Vertical

Bottom Clip

Default: 0.00 ft
Op Table:
Ref Node:

Top Clip

Geometry Type:	Circular
Invert:	8.00 ft
Control Elevation:	8.00 ft
Max Depth:	0.25 ft

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:	11.50 ft
Control Elevation:	11.50 ft
Max Depth:	99999.00 ft
Max Width:	1.00 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:

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: Scenario2	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:	2.50 ft	Max Depth:	2.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	83.00 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:	Scenario2	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:	646.00 ft
Flow Direction:	None	Perimeter 2:	831.00 ft
Aquifer Base Elevation:	3.00 ft	Perimeter 3:	1962.00 ft
Water Table Elevation:	8.00 ft	Distance P1 to P2:	50.00 ft
Annual Recharge Rate:	0 ipy	Distance P2 to P3:	250.00 ft
Horizontal Conductivity:	9.900 fpd	# of Cells P1 to P2:	5
Vertical Conductivity:	2.100 fpd	# of Cells P2 to P3:	25
Fillable Porosity:	0.400		
Layer Thickness:	2.00 ft		

Comment:

Weir Link: Weir

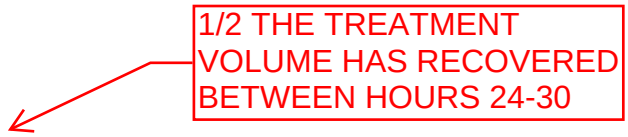
Scenario:	Scenario2	Bottom Clip	
From Node:	Post-Wet Pond	Default:	0.00 ft
To Node:	Post-Dry Pond	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Broad Crested Vertical	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	10.50 ft	Discharge Coefficients	
Control Elevation:	10.50 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:

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	5-25YR-72HR	Post-Dry Pond	0.0000	10.50
Recovery	5-25YR-72HR	Post-Dry Pond	1.0027	10.47
Recovery	5-25YR-72HR	Post-Dry Pond	2.0027	10.44
Recovery	5-25YR-72HR	Post-Dry Pond	3.0027	10.42
Recovery	5-25YR-72HR	Post-Dry Pond	4.0027	10.40
Recovery	5-25YR-72HR	Post-Dry Pond	5.0027	10.39
Recovery	5-25YR-72HR	Post-Dry Pond	6.0027	10.37
Recovery	5-25YR-72HR	Post-Dry Pond	7.0027	10.36
Recovery	5-25YR-72HR	Post-Dry Pond	8.0027	10.34
Recovery	5-25YR-72HR	Post-Dry Pond	9.0027	10.33
Recovery	5-25YR-72HR	Post-Dry Pond	10.0027	10.32
Recovery	5-25YR-72HR	Post-Dry Pond	11.0027	10.31
Recovery	5-25YR-72HR	Post-Dry Pond	12.0027	10.30
Recovery	5-25YR-72HR	Post-Dry Pond	13.0027	10.29
Recovery	5-25YR-72HR	Post-Dry Pond	14.0027	10.29
Recovery	5-25YR-72HR	Post-Dry Pond	15.0027	10.28
Recovery	5-25YR-72HR	Post-Dry Pond	16.0027	10.27
Recovery	5-25YR-72HR	Post-Dry Pond	17.0027	10.26
Recovery	5-25YR-72HR	Post-Dry Pond	18.0027	10.26
Recovery	5-25YR-72HR	Post-Dry Pond	19.0027	10.25
Recovery	5-25YR-72HR	Post-Dry Pond	20.0027	10.24
Recovery	5-25YR-72HR	Post-Dry Pond	21.0027	10.24
Recovery	5-25YR-72HR	Post-Dry Pond	22.0027	10.23
Recovery	5-25YR-72HR	Post-Dry Pond	23.0027	10.22
Recovery	5-25YR-72HR	Post-Dry Pond	24.0027	10.22
Recovery	5-25YR-72HR	Post-Dry Pond	25.0027	10.21
Recovery	5-25YR-72HR	Post-Dry Pond	26.0027	10.21
Recovery	5-25YR-72HR	Post-Dry Pond	27.0027	10.20
Recovery	5-25YR-72HR	Post-Dry Pond	28.0027	10.19
Recovery	5-25YR-72HR	Post-Dry Pond	29.0027	10.19
Recovery	5-25YR-72HR	Post-Dry Pond	30.0027	10.18
Recovery	5-25YR-72HR	Post-Dry Pond	31.0027	10.18
Recovery	5-25YR-72HR	Post-Dry Pond	32.0027	10.17
Recovery	5-25YR-72HR	Post-Dry Pond	33.0027	10.17
Recovery	5-25YR-72HR	Post-Dry Pond	34.0027	10.16
Recovery	5-25YR-72HR	Post-Dry Pond	35.0027	10.16
Recovery	5-25YR-72HR	Post-Dry Pond	36.0027	10.16
Recovery	5-25YR-72HR	Post-Dry Pond	37.0027	10.15
Recovery	5-25YR-72HR	Post-Dry Pond	38.0027	10.15
Recovery	5-25YR-72HR	Post-Dry Pond	39.0027	10.14
Recovery	5-25YR-72HR	Post-Dry Pond	40.0027	10.14
Recovery	5-25YR-72HR	Post-Dry Pond	41.0027	10.13

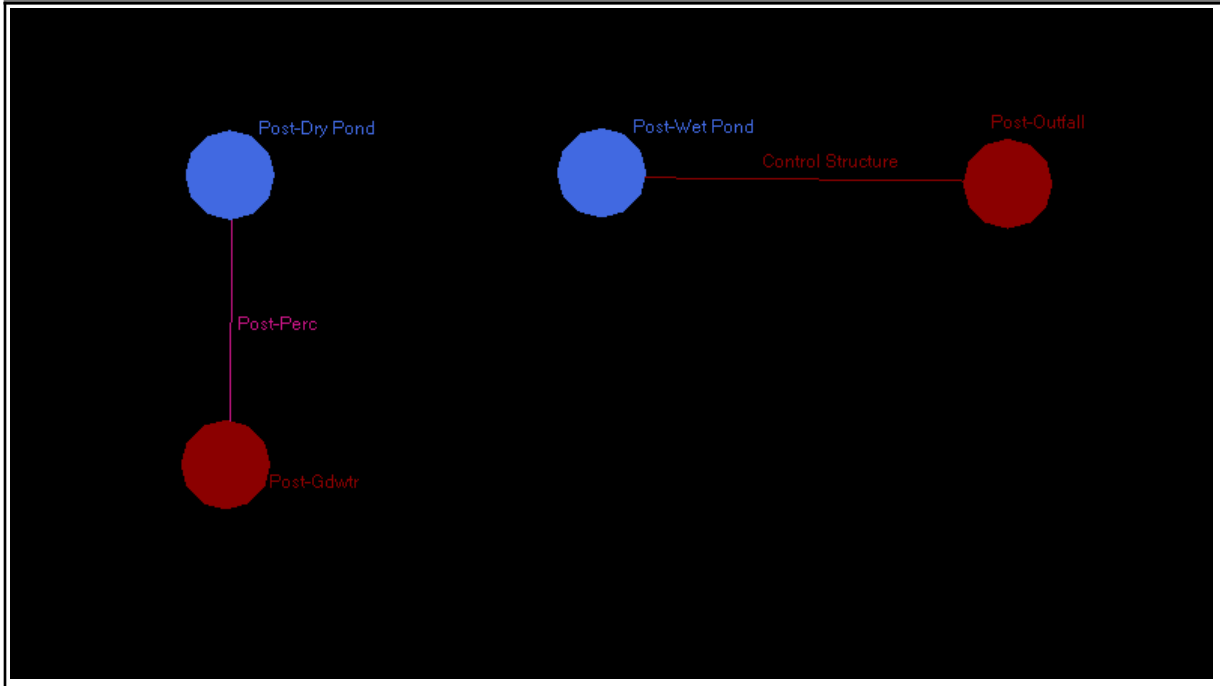
Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	5-25YR-72HR	Post-Dry Pond	42.0027	10.13
Recovery	5-25YR-72HR	Post-Dry Pond	43.0027	10.13
Recovery	5-25YR-72HR	Post-Dry Pond	44.0027	10.12
Recovery	5-25YR-72HR	Post-Dry Pond	45.0027	10.12
Recovery	5-25YR-72HR	Post-Dry Pond	46.0027	10.11
Recovery	5-25YR-72HR	Post-Dry Pond	47.0027	10.11
Recovery	5-25YR-72HR	Post-Dry Pond	48.0027	10.11
Recovery	5-25YR-72HR	Post-Dry Pond	49.0027	10.10
Recovery	5-25YR-72HR	Post-Dry Pond	50.0027	10.10
Recovery	5-25YR-72HR	Post-Dry Pond	51.0027	10.09
Recovery	5-25YR-72HR	Post-Dry Pond	52.0027	10.09
Recovery	5-25YR-72HR	Post-Dry Pond	53.0027	10.09
Recovery	5-25YR-72HR	Post-Dry Pond	54.0027	10.08
Recovery	5-25YR-72HR	Post-Dry Pond	55.0027	10.08
Recovery	5-25YR-72HR	Post-Dry Pond	56.0027	10.08
Recovery	5-25YR-72HR	Post-Dry Pond	57.0027	10.07
Recovery	5-25YR-72HR	Post-Dry Pond	58.0027	10.07
Recovery	5-25YR-72HR	Post-Dry Pond	59.0027	10.07
Recovery	5-25YR-72HR	Post-Dry Pond	60.0027	10.06
Recovery	5-25YR-72HR	Post-Dry Pond	61.0027	10.06
Recovery	5-25YR-72HR	Post-Dry Pond	62.0027	10.06
Recovery	5-25YR-72HR	Post-Dry Pond	63.0027	10.05
Recovery	5-25YR-72HR	Post-Dry Pond	64.0027	10.05
Recovery	5-25YR-72HR	Post-Dry Pond	65.0027	10.05
Recovery	5-25YR-72HR	Post-Dry Pond	66.0027	10.04
Recovery	5-25YR-72HR	Post-Dry Pond	67.0027	10.04
Recovery	5-25YR-72HR	Post-Dry Pond	68.0027	10.04
Recovery	5-25YR-72HR	Post-Dry Pond	69.0027	10.03
Recovery	5-25YR-72HR	Post-Dry Pond	70.0027	10.03
Recovery	5-25YR-72HR	Post-Dry Pond	71.0027	10.03
Recovery	5-25YR-72HR	Post-Dry Pond	72.0027	10.02
Recovery	5-25YR-72HR	Post-Wet Pond	0.0000	9.03
Recovery	5-25YR-72HR	Post-Wet Pond	1.0027	9.01
Recovery	5-25YR-72HR	Post-Wet Pond	2.0027	8.99
Recovery	5-25YR-72HR	Post-Wet Pond	3.0027	8.96
Recovery	5-25YR-72HR	Post-Wet Pond	4.0027	8.94
Recovery	5-25YR-72HR	Post-Wet Pond	5.0027	8.92
Recovery	5-25YR-72HR	Post-Wet Pond	6.0027	8.90
Recovery	5-25YR-72HR	Post-Wet Pond	7.0027	8.88
Recovery	5-25YR-72HR	Post-Wet Pond	8.0027	8.86
Recovery	5-25YR-72HR	Post-Wet Pond	9.0027	8.84
Recovery	5-25YR-72HR	Post-Wet Pond	10.0027	8.82

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	5-25YR-72HR	Post-Wet Pond	11.0027	8.80
Recovery	5-25YR-72HR	Post-Wet Pond	12.0027	8.78
Recovery	5-25YR-72HR	Post-Wet Pond	13.0027	8.76
Recovery	5-25YR-72HR	Post-Wet Pond	14.0027	8.74
Recovery	5-25YR-72HR	Post-Wet Pond	15.0027	8.72
Recovery	5-25YR-72HR	Post-Wet Pond	16.0027	8.70
Recovery	5-25YR-72HR	Post-Wet Pond	17.0027	8.68
Recovery	5-25YR-72HR	Post-Wet Pond	18.0027	8.66
Recovery	5-25YR-72HR	Post-Wet Pond	19.0027	8.65
Recovery	5-25YR-72HR	Post-Wet Pond	20.0027	8.63
Recovery	5-25YR-72HR	Post-Wet Pond	21.0027	8.61
Recovery	5-25YR-72HR	Post-Wet Pond	22.0027	8.59
Recovery	5-25YR-72HR	Post-Wet Pond	23.0027	8.58
Recovery	5-25YR-72HR	Post-Wet Pond	24.0027	8.56
Recovery	5-25YR-72HR	Post-Wet Pond	25.0027	8.54
Recovery	5-25YR-72HR	Post-Wet Pond	26.0027	8.53
Recovery	5-25YR-72HR	Post-Wet Pond	27.0027	8.51
Recovery	5-25YR-72HR	Post-Wet Pond	28.0027	8.49
Recovery	5-25YR-72HR	Post-Wet Pond	29.0027	8.48
Recovery	5-25YR-72HR	Post-Wet Pond	30.0027	8.46
Recovery	5-25YR-72HR	Post-Wet Pond	31.0027	8.45
Recovery	5-25YR-72HR	Post-Wet Pond	32.0027	8.43
Recovery	5-25YR-72HR	Post-Wet Pond	33.0027	8.42
Recovery	5-25YR-72HR	Post-Wet Pond	34.0027	8.41
Recovery	5-25YR-72HR	Post-Wet Pond	35.0027	8.39
Recovery	5-25YR-72HR	Post-Wet Pond	36.0027	8.38
Recovery	5-25YR-72HR	Post-Wet Pond	37.0027	8.37
Recovery	5-25YR-72HR	Post-Wet Pond	38.0027	8.35
Recovery	5-25YR-72HR	Post-Wet Pond	39.0027	8.34
Recovery	5-25YR-72HR	Post-Wet Pond	40.0027	8.33
Recovery	5-25YR-72HR	Post-Wet Pond	41.0027	8.32
Recovery	5-25YR-72HR	Post-Wet Pond	42.0027	8.30
Recovery	5-25YR-72HR	Post-Wet Pond	43.0027	8.29
Recovery	5-25YR-72HR	Post-Wet Pond	44.0027	8.28
Recovery	5-25YR-72HR	Post-Wet Pond	45.0027	8.27
Recovery	5-25YR-72HR	Post-Wet Pond	46.0027	8.26
Recovery	5-25YR-72HR	Post-Wet Pond	47.0027	8.25
Recovery	5-25YR-72HR	Post-Wet Pond	48.0027	8.25
Recovery	5-25YR-72HR	Post-Wet Pond	49.0027	8.24
Recovery	5-25YR-72HR	Post-Wet Pond	50.0027	8.23
Recovery	5-25YR-72HR	Post-Wet Pond	51.0027	8.22
Recovery	5-25YR-72HR	Post-Wet Pond	52.0027	8.21



Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Recovery	5-25YR-72HR	Post-Wet Pond	53.0027	8.21
Recovery	5-25YR-72HR	Post-Wet Pond	54.0027	8.20
Recovery	5-25YR-72HR	Post-Wet Pond	55.0027	8.19
Recovery	5-25YR-72HR	Post-Wet Pond	56.0027	8.19
Recovery	5-25YR-72HR	Post-Wet Pond	57.0027	8.18
Recovery	5-25YR-72HR	Post-Wet Pond	58.0027	8.18
Recovery	5-25YR-72HR	Post-Wet Pond	59.0027	8.17
Recovery	5-25YR-72HR	Post-Wet Pond	60.0027	8.17
Recovery	5-25YR-72HR	Post-Wet Pond	61.0027	8.16
Recovery	5-25YR-72HR	Post-Wet Pond	62.0027	8.16
Recovery	5-25YR-72HR	Post-Wet Pond	63.0027	8.15
Recovery	5-25YR-72HR	Post-Wet Pond	64.0027	8.15
Recovery	5-25YR-72HR	Post-Wet Pond	65.0027	8.14
Recovery	5-25YR-72HR	Post-Wet Pond	66.0027	8.14
Recovery	5-25YR-72HR	Post-Wet Pond	67.0027	8.14
Recovery	5-25YR-72HR	Post-Wet Pond	68.0027	8.13
Recovery	5-25YR-72HR	Post-Wet Pond	69.0027	8.13
Recovery	5-25YR-72HR	Post-Wet Pond	70.0027	8.13
Recovery	5-25YR-72HR	Post-Wet Pond	71.0027	8.12
Recovery	5-25YR-72HR	Post-Wet Pond	72.0027	8.12

Background Image: 2025-01-30 recovery



Node: Post-Dry Pond

Scenario: Recovery
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 10.50 ft
Warning Stage: 12.00 ft

Stage [ft]	Area [ac]	Area [ft2]
8.00	0.0000	0
9.90	0.0010	44
10.00	0.6630	28880
11.00	0.7630	33236
12.00	0.8650	37679

Comment:

Node: Post-Gdwtr

Scenario: Recovery
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: Recovery
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-Wet Pond

Scenario: Recovery
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 9.03 ft
Warning Stage: 12.00 ft

Stage [ft]	Area [ac]	Area [ft2]
8.00	0.6830	29751
9.03	0.8400	36590
12.00	1.1460	49920

Comment:

Drop Structure Link: Control Structure

Scenario: Recovery
From Node: Post-Wet Pond
To Node: Post-Outfall
Link Count: 1

Upstream Pipe

Invert: 7.00 ft
Manning's N: 0.0120

Geometry: Circular

Max Depth: 1.50 ft

Downstream Pipe

Invert: 6.50 ft
Manning's N: 0.0120

Geometry: Circular

Max Depth: 1.50 ft

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

Bottom Clip			
Default:	0.00 ft	Default:	0.00 ft
Op Table:		Op Table:	
Ref Node:		Ref Node:	
Manning's N:	0.0000	Manning's N:	0.0000
Top Clip			
Default:	0.00 ft	Default:	0.00 ft
Op Table:		Op Table:	
Ref Node:		Ref Node:	
Manning's N:	0.0000	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:	11.50 ft
Control Elevation:	11.50 ft
Max Depth:	99999.00 ft
Max Width:	1.00 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:

Weir Component

Weir:	3
Weir Count:	1
Weir Flow Direction:	Both

Bottom Clip	
Default:	0.00 ft
Op Table:	

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

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:

Percolation Link: Post-Perc

Scenario:	Recovery	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:	646.00 ft
Flow Direction:	Both	Perimeter 2:	831.00 ft
Aquifer Base Elevation:	3.00 ft	Perimeter 3:	1962.00 ft
Water Table Elevation:	8.00 ft	Distance P1 to P2:	50.00 ft
Annual Recharge Rate:	0 ipy	Distance P2 to P3:	250.00 ft
Horizontal Conductivity:	9.900 fpd	# of Cells P1 to P2:	5
Vertical Conductivity:	2.100 fpd	# of Cells P2 to P3:	25
Fillable Porosity:	0.400		
Layer Thickness:	2.00 ft		

Comment:

Simulation: 5-25YR-72HR

Scenario:	Recovery
Run Date/Time:	1/30/2025 12:07:50 PM
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	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:

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Dry Pond	0.0000	10.00
Scenario2	5-25YR-72HR	Post-Dry Pond	1.0044	9.96
Scenario2	5-25YR-72HR	Post-Dry Pond	2.0004	9.91
Scenario2	5-25YR-72HR	Post-Dry Pond	3.0014	9.86
Scenario2	5-25YR-72HR	Post-Dry Pond	4.0003	9.90
Scenario2	5-25YR-72HR	Post-Dry Pond	5.0005	9.91
Scenario2	5-25YR-72HR	Post-Dry Pond	6.0003	9.91
Scenario2	5-25YR-72HR	Post-Dry Pond	7.0001	9.92
Scenario2	5-25YR-72HR	Post-Dry Pond	8.0002	9.92
Scenario2	5-25YR-72HR	Post-Dry Pond	9.0001	9.94
Scenario2	5-25YR-72HR	Post-Dry Pond	10.0001	9.96
Scenario2	5-25YR-72HR	Post-Dry Pond	11.0002	9.97
Scenario2	5-25YR-72HR	Post-Dry Pond	12.0000	9.99
Scenario2	5-25YR-72HR	Post-Dry Pond	13.0000	10.00
Scenario2	5-25YR-72HR	Post-Dry Pond	14.0001	10.02
Scenario2	5-25YR-72HR	Post-Dry Pond	15.0001	10.04
Scenario2	5-25YR-72HR	Post-Dry Pond	16.0002	10.06
Scenario2	5-25YR-72HR	Post-Dry Pond	17.0000	10.08
Scenario2	5-25YR-72HR	Post-Dry Pond	18.0002	10.10
Scenario2	5-25YR-72HR	Post-Dry Pond	19.0002	10.12
Scenario2	5-25YR-72HR	Post-Dry Pond	20.0001	10.14
Scenario2	5-25YR-72HR	Post-Dry Pond	21.0001	10.17
Scenario2	5-25YR-72HR	Post-Dry Pond	22.0001	10.19
Scenario2	5-25YR-72HR	Post-Dry Pond	23.0001	10.22
Scenario2	5-25YR-72HR	Post-Dry Pond	24.0000	10.24
Scenario2	5-25YR-72HR	Post-Dry Pond	25.0001	10.28
Scenario2	5-25YR-72HR	Post-Dry Pond	26.0000	10.32
Scenario2	5-25YR-72HR	Post-Dry Pond	27.0001	10.36
Scenario2	5-25YR-72HR	Post-Dry Pond	28.0002	10.41
Scenario2	5-25YR-72HR	Post-Dry Pond	29.0001	10.45
Scenario2	5-25YR-72HR	Post-Dry Pond	30.0001	10.49
Scenario2	5-25YR-72HR	Post-Dry Pond	31.0000	10.52
Scenario2	5-25YR-72HR	Post-Dry Pond	32.0002	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	33.0001	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	34.0000	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	35.0000	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	36.0004	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	37.0001	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	38.0000	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	39.0001	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	40.0002	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	41.0002	10.53

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Dry Pond	42.0000	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	43.0001	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	44.0000	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	45.0000	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	46.0000	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	47.0001	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	48.0009	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	49.0000	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	50.0002	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	51.0000	10.54
Scenario2	5-25YR-72HR	Post-Dry Pond	52.0001	10.54
Scenario2	5-25YR-72HR	Post-Dry Pond	53.0001	10.55
Scenario2	5-25YR-72HR	Post-Dry Pond	54.0001	10.56
Scenario2	5-25YR-72HR	Post-Dry Pond	55.0000	10.56
Scenario2	5-25YR-72HR	Post-Dry Pond	56.0001	10.57
Scenario2	5-25YR-72HR	Post-Dry Pond	57.0001	10.58
Scenario2	5-25YR-72HR	Post-Dry Pond	58.0001	10.59
Scenario2	5-25YR-72HR	Post-Dry Pond	59.0001	10.62
Scenario2	5-25YR-72HR	Post-Dry Pond	60.0004	11.22
Scenario2	5-25YR-72HR	Post-Dry Pond	61.0003	11.73
Scenario2	5-25YR-72HR	Post-Dry Pond	62.0000	11.82
Scenario2	5-25YR-72HR	Post-Dry Pond	63.0000	11.83
Scenario2	5-25YR-72HR	Post-Dry Pond	64.0001	11.83
Scenario2	5-25YR-72HR	Post-Dry Pond	65.0000	11.80
Scenario2	5-25YR-72HR	Post-Dry Pond	66.0001	11.79
Scenario2	5-25YR-72HR	Post-Dry Pond	67.0000	11.78
Scenario2	5-25YR-72HR	Post-Dry Pond	68.0001	11.78
Scenario2	5-25YR-72HR	Post-Dry Pond	69.0000	11.77
Scenario2	5-25YR-72HR	Post-Dry Pond	70.0001	11.76
Scenario2	5-25YR-72HR	Post-Dry Pond	71.0000	11.75
Scenario2	5-25YR-72HR	Post-Dry Pond	72.0001	11.75
Scenario2	5-25YR-72HR	Post-Dry Pond	73.0019	11.71
Scenario2	5-25YR-72HR	Post-Dry Pond	74.0079	11.68
Scenario2	5-25YR-72HR	Post-Dry Pond	75.0079	11.65
Scenario2	5-25YR-72HR	Post-Dry Pond	76.0079	11.62
Scenario2	5-25YR-72HR	Post-Dry Pond	77.0079	11.59
Scenario2	5-25YR-72HR	Post-Dry Pond	78.0079	11.57
Scenario2	5-25YR-72HR	Post-Dry Pond	79.0079	11.55
Scenario2	5-25YR-72HR	Post-Dry Pond	80.0079	11.52
Scenario2	5-25YR-72HR	Post-Dry Pond	81.0079	11.50
Scenario2	5-25YR-72HR	Post-Dry Pond	82.0079	11.48
Scenario2	5-25YR-72HR	Post-Dry Pond	83.0079	11.46

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Dry Pond	84.0079	11.44
Scenario2	5-25YR-72HR	Post-Dry Pond	85.0079	11.42
Scenario2	5-25YR-72HR	Post-Dry Pond	86.0079	11.40
Scenario2	5-25YR-72HR	Post-Dry Pond	87.0079	11.38
Scenario2	5-25YR-72HR	Post-Dry Pond	88.0079	11.36
Scenario2	5-25YR-72HR	Post-Dry Pond	89.0079	11.34
Scenario2	5-25YR-72HR	Post-Dry Pond	90.0079	11.32
Scenario2	5-25YR-72HR	Post-Dry Pond	91.0079	11.30
Scenario2	5-25YR-72HR	Post-Dry Pond	92.0079	11.28
Scenario2	5-25YR-72HR	Post-Dry Pond	93.0079	11.26
Scenario2	5-25YR-72HR	Post-Dry Pond	94.0079	11.24
Scenario2	5-25YR-72HR	Post-Dry Pond	95.0079	11.22
Scenario2	5-25YR-72HR	Post-Dry Pond	96.0079	11.20
Scenario2	5-25YR-72HR	Post-Dry Pond	97.0079	11.18
Scenario2	5-25YR-72HR	Post-Dry Pond	98.0079	11.16
Scenario2	5-25YR-72HR	Post-Dry Pond	99.0079	11.14
Scenario2	5-25YR-72HR	Post-Dry Pond	100.0079	11.12
Scenario2	5-25YR-72HR	Post-Dry Pond	101.0079	11.10
Scenario2	5-25YR-72HR	Post-Dry Pond	102.0079	11.08
Scenario2	5-25YR-72HR	Post-Dry Pond	103.0079	11.06
Scenario2	5-25YR-72HR	Post-Dry Pond	104.0079	11.04
Scenario2	5-25YR-72HR	Post-Dry Pond	105.0079	11.02
Scenario2	5-25YR-72HR	Post-Dry Pond	106.0079	11.00
Scenario2	5-25YR-72HR	Post-Dry Pond	107.0079	10.98
Scenario2	5-25YR-72HR	Post-Dry Pond	108.0079	10.96
Scenario2	5-25YR-72HR	Post-Dry Pond	109.0079	10.94
Scenario2	5-25YR-72HR	Post-Dry Pond	110.0079	10.92
Scenario2	5-25YR-72HR	Post-Dry Pond	111.0079	10.90
Scenario2	5-25YR-72HR	Post-Dry Pond	112.0079	10.88
Scenario2	5-25YR-72HR	Post-Dry Pond	113.0079	10.86
Scenario2	5-25YR-72HR	Post-Dry Pond	114.0079	10.85
Scenario2	5-25YR-72HR	Post-Dry Pond	115.0079	10.83
Scenario2	5-25YR-72HR	Post-Dry Pond	116.0079	10.81
Scenario2	5-25YR-72HR	Post-Dry Pond	117.0079	10.79
Scenario2	5-25YR-72HR	Post-Dry Pond	118.0079	10.77
Scenario2	5-25YR-72HR	Post-Dry Pond	119.0079	10.75
Scenario2	5-25YR-72HR	Post-Dry Pond	120.0079	10.73
Scenario2	5-25YR-72HR	Post-Dry Pond	121.0079	10.71
Scenario2	5-25YR-72HR	Post-Dry Pond	122.0079	10.70
Scenario2	5-25YR-72HR	Post-Dry Pond	123.0079	10.68
Scenario2	5-25YR-72HR	Post-Dry Pond	124.0079	10.66
Scenario2	5-25YR-72HR	Post-Dry Pond	125.0079	10.64

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Dry Pond	126.0079	10.62
Scenario2	5-25YR-72HR	Post-Dry Pond	127.0079	10.60
Scenario2	5-25YR-72HR	Post-Dry Pond	128.0079	10.59
Scenario2	5-25YR-72HR	Post-Dry Pond	129.0079	10.57
Scenario2	5-25YR-72HR	Post-Dry Pond	130.0079	10.55
Scenario2	5-25YR-72HR	Post-Dry Pond	131.0079	10.53
Scenario2	5-25YR-72HR	Post-Dry Pond	132.0079	10.51
Scenario2	5-25YR-72HR	Post-Dry Pond	133.0079	10.50
Scenario2	5-25YR-72HR	Post-Dry Pond	134.0079	10.50
Scenario2	5-25YR-72HR	Post-Dry Pond	135.0079	10.50
Scenario2	5-25YR-72HR	Post-Dry Pond	136.0079	10.50
Scenario2	5-25YR-72HR	Post-Dry Pond	137.0079	10.50
Scenario2	5-25YR-72HR	Post-Dry Pond	138.0079	10.50
Scenario2	5-25YR-72HR	Post-Dry Pond	139.0079	10.49
Scenario2	5-25YR-72HR	Post-Dry Pond	140.0079	10.49
Scenario2	5-25YR-72HR	Post-Dry Pond	141.0079	10.49
Scenario2	5-25YR-72HR	Post-Dry Pond	142.0079	10.49
Scenario2	5-25YR-72HR	Post-Dry Pond	143.0079	10.49
Scenario2	5-25YR-72HR	Post-Dry Pond	144.0079	10.49
Scenario2	5-25YR-72HR	Post-Dry Pond	145.0079	10.48
Scenario2	5-25YR-72HR	Post-Dry Pond	146.0079	10.48
Scenario2	5-25YR-72HR	Post-Dry Pond	147.0079	10.48
Scenario2	5-25YR-72HR	Post-Dry Pond	148.0079	10.48
Scenario2	5-25YR-72HR	Post-Dry Pond	149.0079	10.48
Scenario2	5-25YR-72HR	Post-Dry Pond	150.0079	10.47
Scenario2	5-25YR-72HR	Post-Dry Pond	151.0079	10.47
Scenario2	5-25YR-72HR	Post-Dry Pond	152.0079	10.47
Scenario2	5-25YR-72HR	Post-Dry Pond	153.0079	10.47
Scenario2	5-25YR-72HR	Post-Dry Pond	154.0079	10.47
Scenario2	5-25YR-72HR	Post-Dry Pond	155.0079	10.46
Scenario2	5-25YR-72HR	Post-Dry Pond	156.0079	10.46
Scenario2	5-25YR-72HR	Post-Dry Pond	157.0079	10.46
Scenario2	5-25YR-72HR	Post-Dry Pond	158.0079	10.46
Scenario2	5-25YR-72HR	Post-Dry Pond	159.0079	10.46
Scenario2	5-25YR-72HR	Post-Dry Pond	160.0079	10.45
Scenario2	5-25YR-72HR	Post-Dry Pond	161.0079	10.45
Scenario2	5-25YR-72HR	Post-Dry Pond	162.0079	10.45
Scenario2	5-25YR-72HR	Post-Dry Pond	163.0079	10.45
Scenario2	5-25YR-72HR	Post-Dry Pond	164.0079	10.45
Scenario2	5-25YR-72HR	Post-Dry Pond	165.0079	10.44
Scenario2	5-25YR-72HR	Post-Dry Pond	166.0079	10.44
Scenario2	5-25YR-72HR	Post-Dry Pond	167.0079	10.44

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Dry Pond	168.0079	10.44
Scenario2	5-25YR-72HR	Post-Dry Pond	169.0079	10.44
Scenario2	5-25YR-72HR	Post-Dry Pond	170.0079	10.43
Scenario2	5-25YR-72HR	Post-Dry Pond	171.0079	10.43
Scenario2	5-25YR-72HR	Post-Dry Pond	172.0079	10.43
Scenario2	5-25YR-72HR	Post-Dry Pond	173.0079	10.43
Scenario2	5-25YR-72HR	Post-Dry Pond	174.0079	10.43
Scenario2	5-25YR-72HR	Post-Dry Pond	175.0079	10.43
Scenario2	5-25YR-72HR	Post-Dry Pond	176.0079	10.42
Scenario2	5-25YR-72HR	Post-Dry Pond	177.0079	10.42
Scenario2	5-25YR-72HR	Post-Dry Pond	178.0079	10.42
Scenario2	5-25YR-72HR	Post-Dry Pond	179.0079	10.42
Scenario2	5-25YR-72HR	Post-Dry Pond	180.0079	10.42
Scenario2	5-25YR-72HR	Post-Dry Pond	181.0079	10.41
Scenario2	5-25YR-72HR	Post-Dry Pond	182.0079	10.41
Scenario2	5-25YR-72HR	Post-Dry Pond	183.0079	10.41
Scenario2	5-25YR-72HR	Post-Dry Pond	184.0079	10.41
Scenario2	5-25YR-72HR	Post-Dry Pond	185.0079	10.41
Scenario2	5-25YR-72HR	Post-Dry Pond	186.0079	10.40
Scenario2	5-25YR-72HR	Post-Dry Pond	187.0079	10.40
Scenario2	5-25YR-72HR	Post-Dry Pond	188.0079	10.40
Scenario2	5-25YR-72HR	Post-Dry Pond	189.0079	10.40
Scenario2	5-25YR-72HR	Post-Dry Pond	190.0079	10.40
Scenario2	5-25YR-72HR	Post-Dry Pond	191.0079	10.39
Scenario2	5-25YR-72HR	Post-Dry Pond	192.0079	10.39
Scenario2	5-25YR-72HR	Post-Dry Pond	193.0079	10.39
Scenario2	5-25YR-72HR	Post-Dry Pond	194.0079	10.39
Scenario2	5-25YR-72HR	Post-Dry Pond	195.0079	10.39
Scenario2	5-25YR-72HR	Post-Dry Pond	196.0079	10.38
Scenario2	5-25YR-72HR	Post-Dry Pond	197.0079	10.38
Scenario2	5-25YR-72HR	Post-Dry Pond	198.0079	10.38
Scenario2	5-25YR-72HR	Post-Dry Pond	199.0079	10.38
Scenario2	5-25YR-72HR	Post-Dry Pond	200.0079	10.38
Scenario2	5-25YR-72HR	Post-Dry Pond	201.0079	10.38
Scenario2	5-25YR-72HR	Post-Dry Pond	202.0079	10.37
Scenario2	5-25YR-72HR	Post-Dry Pond	203.0079	10.37
Scenario2	5-25YR-72HR	Post-Dry Pond	204.0079	10.37
Scenario2	5-25YR-72HR	Post-Dry Pond	205.0079	10.37
Scenario2	5-25YR-72HR	Post-Dry Pond	206.0079	10.37
Scenario2	5-25YR-72HR	Post-Dry Pond	207.0079	10.36
Scenario2	5-25YR-72HR	Post-Dry Pond	208.0079	10.36
Scenario2	5-25YR-72HR	Post-Dry Pond	209.0079	10.36

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Dry Pond	210.0079	10.36
Scenario2	5-25YR-72HR	Post-Dry Pond	211.0079	10.36
Scenario2	5-25YR-72HR	Post-Dry Pond	212.0079	10.36
Scenario2	5-25YR-72HR	Post-Dry Pond	213.0079	10.35
Scenario2	5-25YR-72HR	Post-Dry Pond	214.0079	10.35
Scenario2	5-25YR-72HR	Post-Dry Pond	215.0079	10.35
Scenario2	5-25YR-72HR	Post-Dry Pond	216.0079	10.35
Scenario2	5-25YR-72HR	Post-Dry Pond	217.0079	10.35
Scenario2	5-25YR-72HR	Post-Dry Pond	218.0079	10.34
Scenario2	5-25YR-72HR	Post-Dry Pond	219.0079	10.34
Scenario2	5-25YR-72HR	Post-Dry Pond	220.0079	10.34
Scenario2	5-25YR-72HR	Post-Dry Pond	221.0079	10.34
Scenario2	5-25YR-72HR	Post-Dry Pond	222.0079	10.34
Scenario2	5-25YR-72HR	Post-Dry Pond	223.0079	10.34
Scenario2	5-25YR-72HR	Post-Dry Pond	224.0079	10.33
Scenario2	5-25YR-72HR	Post-Dry Pond	225.0079	10.33
Scenario2	5-25YR-72HR	Post-Dry Pond	226.0079	10.33
Scenario2	5-25YR-72HR	Post-Dry Pond	227.0079	10.33
Scenario2	5-25YR-72HR	Post-Dry Pond	228.0079	10.33
Scenario2	5-25YR-72HR	Post-Dry Pond	229.0079	10.33
Scenario2	5-25YR-72HR	Post-Dry Pond	230.0079	10.32
Scenario2	5-25YR-72HR	Post-Dry Pond	231.0079	10.32
Scenario2	5-25YR-72HR	Post-Dry Pond	232.0079	10.32
Scenario2	5-25YR-72HR	Post-Dry Pond	233.0079	10.32
Scenario2	5-25YR-72HR	Post-Dry Pond	234.0079	10.32
Scenario2	5-25YR-72HR	Post-Dry Pond	235.0079	10.32
Scenario2	5-25YR-72HR	Post-Dry Pond	236.0079	10.31
Scenario2	5-25YR-72HR	Post-Dry Pond	237.0079	10.31
Scenario2	5-25YR-72HR	Post-Dry Pond	238.0079	10.31
Scenario2	5-25YR-72HR	Post-Dry Pond	239.0079	10.31
Scenario2	5-25YR-72HR	Post-Dry Pond	240.0079	10.31
Scenario2	5-25YR-72HR	Post-Dry Pond	241.0079	10.30
Scenario2	5-25YR-72HR	Post-Dry Pond	242.0079	10.30
Scenario2	5-25YR-72HR	Post-Dry Pond	243.0079	10.30
Scenario2	5-25YR-72HR	Post-Dry Pond	244.0079	10.30
Scenario2	5-25YR-72HR	Post-Dry Pond	245.0079	10.30
Scenario2	5-25YR-72HR	Post-Dry Pond	246.0079	10.30
Scenario2	5-25YR-72HR	Post-Dry Pond	247.0079	10.29
Scenario2	5-25YR-72HR	Post-Dry Pond	248.0079	10.29
Scenario2	5-25YR-72HR	Post-Dry Pond	249.0079	10.29
Scenario2	5-25YR-72HR	Post-Dry Pond	250.0079	10.29
Scenario2	5-25YR-72HR	Post-Dry Pond	251.0079	10.29

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Dry Pond	252.0079	10.29
Scenario2	5-25YR-72HR	Post-Dry Pond	253.0079	10.28
Scenario2	5-25YR-72HR	Post-Dry Pond	254.0079	10.28
Scenario2	5-25YR-72HR	Post-Dry Pond	255.0079	10.28
Scenario2	5-25YR-72HR	Post-Dry Pond	256.0079	10.28
Scenario2	5-25YR-72HR	Post-Dry Pond	257.0079	10.28
Scenario2	5-25YR-72HR	Post-Dry Pond	258.0079	10.28
Scenario2	5-25YR-72HR	Post-Dry Pond	259.0079	10.28
Scenario2	5-25YR-72HR	Post-Dry Pond	260.0079	10.27
Scenario2	5-25YR-72HR	Post-Dry Pond	261.0079	10.27
Scenario2	5-25YR-72HR	Post-Dry Pond	262.0079	10.27
Scenario2	5-25YR-72HR	Post-Dry Pond	263.0079	10.27
Scenario2	5-25YR-72HR	Post-Dry Pond	264.0079	10.27
Scenario2	5-25YR-72HR	Post-Dry Pond	265.0079	10.27
Scenario2	5-25YR-72HR	Post-Dry Pond	266.0079	10.26
Scenario2	5-25YR-72HR	Post-Dry Pond	267.0079	10.26
Scenario2	5-25YR-72HR	Post-Dry Pond	268.0079	10.26
Scenario2	5-25YR-72HR	Post-Dry Pond	269.0079	10.26
Scenario2	5-25YR-72HR	Post-Dry Pond	270.0079	10.26
Scenario2	5-25YR-72HR	Post-Dry Pond	271.0079	10.26
Scenario2	5-25YR-72HR	Post-Dry Pond	272.0079	10.25
Scenario2	5-25YR-72HR	Post-Dry Pond	273.0079	10.25
Scenario2	5-25YR-72HR	Post-Dry Pond	274.0079	10.25
Scenario2	5-25YR-72HR	Post-Dry Pond	275.0079	10.25
Scenario2	5-25YR-72HR	Post-Dry Pond	276.0079	10.25
Scenario2	5-25YR-72HR	Post-Dry Pond	277.0079	10.25
Scenario2	5-25YR-72HR	Post-Dry Pond	278.0079	10.25
Scenario2	5-25YR-72HR	Post-Dry Pond	279.0079	10.24
Scenario2	5-25YR-72HR	Post-Dry Pond	280.0079	10.24
Scenario2	5-25YR-72HR	Post-Dry Pond	281.0079	10.24
Scenario2	5-25YR-72HR	Post-Dry Pond	282.0079	10.24
Scenario2	5-25YR-72HR	Post-Dry Pond	283.0079	10.24
Scenario2	5-25YR-72HR	Post-Dry Pond	284.0079	10.24
Scenario2	5-25YR-72HR	Post-Dry Pond	285.0079	10.23
Scenario2	5-25YR-72HR	Post-Dry Pond	286.0079	10.23
Scenario2	5-25YR-72HR	Post-Dry Pond	287.0079	10.23
Scenario2	5-25YR-72HR	Post-Dry Pond	288.0079	10.23
Scenario2	5-25YR-72HR	Post-Dry Pond	289.0079	10.23
Scenario2	5-25YR-72HR	Post-Dry Pond	290.0079	10.23
Scenario2	5-25YR-72HR	Post-Dry Pond	291.0079	10.23
Scenario2	5-25YR-72HR	Post-Dry Pond	292.0079	10.22
Scenario2	5-25YR-72HR	Post-Dry Pond	293.0079	10.22

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Dry Pond	294.0079	10.22
Scenario2	5-25YR-72HR	Post-Dry Pond	295.0079	10.22
Scenario2	5-25YR-72HR	Post-Dry Pond	296.0079	10.22
Scenario2	5-25YR-72HR	Post-Dry Pond	297.0079	10.22
Scenario2	5-25YR-72HR	Post-Dry Pond	298.0079	10.22
Scenario2	5-25YR-72HR	Post-Dry Pond	299.0079	10.21
Scenario2	5-25YR-72HR	Post-Dry Pond	300.0079	10.21
Scenario2	5-25YR-72HR	Post-Dry Pond	301.0079	10.21
Scenario2	5-25YR-72HR	Post-Dry Pond	302.0079	10.21
Scenario2	5-25YR-72HR	Post-Dry Pond	303.0079	10.21
Scenario2	5-25YR-72HR	Post-Dry Pond	304.0079	10.21
Scenario2	5-25YR-72HR	Post-Dry Pond	305.0079	10.20
Scenario2	5-25YR-72HR	Post-Dry Pond	306.0079	10.20
Scenario2	5-25YR-72HR	Post-Dry Pond	307.0079	10.20
Scenario2	5-25YR-72HR	Post-Dry Pond	308.0079	10.20
Scenario2	5-25YR-72HR	Post-Dry Pond	309.0079	10.20
Scenario2	5-25YR-72HR	Post-Dry Pond	310.0079	10.20
Scenario2	5-25YR-72HR	Post-Dry Pond	311.0079	10.20
Scenario2	5-25YR-72HR	Post-Dry Pond	312.0079	10.19
Scenario2	5-25YR-72HR	Post-Dry Pond	313.0079	10.19
Scenario2	5-25YR-72HR	Post-Dry Pond	314.0079	10.19
Scenario2	5-25YR-72HR	Post-Dry Pond	315.0079	10.19
Scenario2	5-25YR-72HR	Post-Dry Pond	316.0079	10.19
Scenario2	5-25YR-72HR	Post-Dry Pond	317.0079	10.19
Scenario2	5-25YR-72HR	Post-Dry Pond	318.0079	10.19
Scenario2	5-25YR-72HR	Post-Dry Pond	319.0079	10.18
Scenario2	5-25YR-72HR	Post-Dry Pond	320.0079	10.18
Scenario2	5-25YR-72HR	Post-Dry Pond	321.0079	10.18
Scenario2	5-25YR-72HR	Post-Dry Pond	322.0079	10.18
Scenario2	5-25YR-72HR	Post-Dry Pond	323.0079	10.18
Scenario2	5-25YR-72HR	Post-Dry Pond	324.0079	10.18
Scenario2	5-25YR-72HR	Post-Dry Pond	325.0079	10.18
Scenario2	5-25YR-72HR	Post-Dry Pond	326.0079	10.18
Scenario2	5-25YR-72HR	Post-Dry Pond	327.0079	10.17
Scenario2	5-25YR-72HR	Post-Dry Pond	328.0079	10.17
Scenario2	5-25YR-72HR	Post-Dry Pond	329.0079	10.17
Scenario2	5-25YR-72HR	Post-Dry Pond	330.0079	10.17
Scenario2	5-25YR-72HR	Post-Dry Pond	331.0079	10.17
Scenario2	5-25YR-72HR	Post-Dry Pond	332.0079	10.17
Scenario2	5-25YR-72HR	Post-Dry Pond	333.0079	10.17
Scenario2	5-25YR-72HR	Post-Dry Pond	334.0079	10.16
Scenario2	5-25YR-72HR	Post-Dry Pond	335.0079	10.16

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Dry Pond	336.0079	10.16
Scenario2	5-25YR-72HR	Post-Dry Pond	337.0079	10.16
Scenario2	5-25YR-72HR	Post-Dry Pond	338.0079	10.16
Scenario2	5-25YR-72HR	Post-Dry Pond	339.0079	10.16
Scenario2	5-25YR-72HR	Post-Dry Pond	340.0079	10.16
Scenario2	5-25YR-72HR	Post-Dry Pond	341.0079	10.15
Scenario2	5-25YR-72HR	Post-Dry Pond	342.0079	10.15
Scenario2	5-25YR-72HR	Post-Dry Pond	343.0079	10.15
Scenario2	5-25YR-72HR	Post-Dry Pond	344.0079	10.15
Scenario2	5-25YR-72HR	Post-Dry Pond	345.0079	10.15
Scenario2	5-25YR-72HR	Post-Dry Pond	346.0079	10.15
Scenario2	5-25YR-72HR	Post-Dry Pond	347.0079	10.15
Scenario2	5-25YR-72HR	Post-Dry Pond	348.0079	10.15
Scenario2	5-25YR-72HR	Post-Dry Pond	349.0079	10.14
Scenario2	5-25YR-72HR	Post-Dry Pond	350.0079	10.14
Scenario2	5-25YR-72HR	Post-Dry Pond	351.0079	10.14
Scenario2	5-25YR-72HR	Post-Dry Pond	352.0079	10.14
Scenario2	5-25YR-72HR	Post-Dry Pond	353.0079	10.14
Scenario2	5-25YR-72HR	Post-Dry Pond	354.0079	10.14
Scenario2	5-25YR-72HR	Post-Dry Pond	355.0079	10.14
Scenario2	5-25YR-72HR	Post-Dry Pond	356.0079	10.13
Scenario2	5-25YR-72HR	Post-Dry Pond	357.0079	10.13
Scenario2	5-25YR-72HR	Post-Dry Pond	358.0079	10.13
Scenario2	5-25YR-72HR	Post-Dry Pond	359.0079	10.13
Scenario2	5-25YR-72HR	Post-Dry Pond	360.0079	10.13
Scenario2	5-25YR-72HR	Post-Wet Pond	0.0000	8.00
Scenario2	5-25YR-72HR	Post-Wet Pond	1.0044	8.00
Scenario2	5-25YR-72HR	Post-Wet Pond	2.0004	8.00
Scenario2	5-25YR-72HR	Post-Wet Pond	3.0014	8.00
Scenario2	5-25YR-72HR	Post-Wet Pond	4.0003	8.00
Scenario2	5-25YR-72HR	Post-Wet Pond	5.0005	8.00
Scenario2	5-25YR-72HR	Post-Wet Pond	6.0003	8.00
Scenario2	5-25YR-72HR	Post-Wet Pond	7.0001	8.00
Scenario2	5-25YR-72HR	Post-Wet Pond	8.0002	8.00
Scenario2	5-25YR-72HR	Post-Wet Pond	9.0001	8.00
Scenario2	5-25YR-72HR	Post-Wet Pond	10.0001	8.01
Scenario2	5-25YR-72HR	Post-Wet Pond	11.0002	8.01
Scenario2	5-25YR-72HR	Post-Wet Pond	12.0000	8.01
Scenario2	5-25YR-72HR	Post-Wet Pond	13.0000	8.01
Scenario2	5-25YR-72HR	Post-Wet Pond	14.0001	8.02
Scenario2	5-25YR-72HR	Post-Wet Pond	15.0001	8.02
Scenario2	5-25YR-72HR	Post-Wet Pond	16.0002	8.02

THE DRY DETENTION HAS RECOVERED WITHIN ACCEPTABLE LIMITS

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Wet Pond	17.0000	8.03
Scenario2	5-25YR-72HR	Post-Wet Pond	18.0002	8.03
Scenario2	5-25YR-72HR	Post-Wet Pond	19.0002	8.03
Scenario2	5-25YR-72HR	Post-Wet Pond	20.0001	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	21.0001	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	22.0001	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	23.0001	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	24.0000	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	25.0001	8.06
Scenario2	5-25YR-72HR	Post-Wet Pond	26.0000	8.06
Scenario2	5-25YR-72HR	Post-Wet Pond	27.0001	8.07
Scenario2	5-25YR-72HR	Post-Wet Pond	28.0002	8.08
Scenario2	5-25YR-72HR	Post-Wet Pond	29.0001	8.08
Scenario2	5-25YR-72HR	Post-Wet Pond	30.0001	8.09
Scenario2	5-25YR-72HR	Post-Wet Pond	31.0000	8.10
Scenario2	5-25YR-72HR	Post-Wet Pond	32.0002	8.15
Scenario2	5-25YR-72HR	Post-Wet Pond	33.0001	8.19
Scenario2	5-25YR-72HR	Post-Wet Pond	34.0000	8.24
Scenario2	5-25YR-72HR	Post-Wet Pond	35.0000	8.28
Scenario2	5-25YR-72HR	Post-Wet Pond	36.0004	8.32
Scenario2	5-25YR-72HR	Post-Wet Pond	37.0001	8.36
Scenario2	5-25YR-72HR	Post-Wet Pond	38.0000	8.40
Scenario2	5-25YR-72HR	Post-Wet Pond	39.0001	8.44
Scenario2	5-25YR-72HR	Post-Wet Pond	40.0002	8.48
Scenario2	5-25YR-72HR	Post-Wet Pond	41.0002	8.52
Scenario2	5-25YR-72HR	Post-Wet Pond	42.0000	8.55
Scenario2	5-25YR-72HR	Post-Wet Pond	43.0001	8.59
Scenario2	5-25YR-72HR	Post-Wet Pond	44.0000	8.63
Scenario2	5-25YR-72HR	Post-Wet Pond	45.0000	8.66
Scenario2	5-25YR-72HR	Post-Wet Pond	46.0000	8.70
Scenario2	5-25YR-72HR	Post-Wet Pond	47.0001	8.73
Scenario2	5-25YR-72HR	Post-Wet Pond	48.0009	8.76
Scenario2	5-25YR-72HR	Post-Wet Pond	49.0000	8.80
Scenario2	5-25YR-72HR	Post-Wet Pond	50.0002	8.84
Scenario2	5-25YR-72HR	Post-Wet Pond	51.0000	8.89
Scenario2	5-25YR-72HR	Post-Wet Pond	52.0001	8.94
Scenario2	5-25YR-72HR	Post-Wet Pond	53.0001	9.01
Scenario2	5-25YR-72HR	Post-Wet Pond	54.0001	9.11
Scenario2	5-25YR-72HR	Post-Wet Pond	55.0000	9.23
Scenario2	5-25YR-72HR	Post-Wet Pond	56.0001	9.37
Scenario2	5-25YR-72HR	Post-Wet Pond	57.0001	9.53
Scenario2	5-25YR-72HR	Post-Wet Pond	58.0001	9.73

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Wet Pond	59.0001	10.00
Scenario2	5-25YR-72HR	Post-Wet Pond	60.0004	11.18
Scenario2	5-25YR-72HR	Post-Wet Pond	61.0003	11.73
Scenario2	5-25YR-72HR	Post-Wet Pond	62.0000	11.82
Scenario2	5-25YR-72HR	Post-Wet Pond	63.0000	11.83
Scenario2	5-25YR-72HR	Post-Wet Pond	64.0001	11.82
Scenario2	5-25YR-72HR	Post-Wet Pond	65.0000	11.80
Scenario2	5-25YR-72HR	Post-Wet Pond	66.0001	11.79
Scenario2	5-25YR-72HR	Post-Wet Pond	67.0000	11.78
Scenario2	5-25YR-72HR	Post-Wet Pond	68.0001	11.78
Scenario2	5-25YR-72HR	Post-Wet Pond	69.0000	11.77
Scenario2	5-25YR-72HR	Post-Wet Pond	70.0001	11.76
Scenario2	5-25YR-72HR	Post-Wet Pond	71.0000	11.75
Scenario2	5-25YR-72HR	Post-Wet Pond	72.0001	11.75
Scenario2	5-25YR-72HR	Post-Wet Pond	73.0019	11.71
Scenario2	5-25YR-72HR	Post-Wet Pond	74.0079	11.68
Scenario2	5-25YR-72HR	Post-Wet Pond	75.0079	11.65
Scenario2	5-25YR-72HR	Post-Wet Pond	76.0079	11.62
Scenario2	5-25YR-72HR	Post-Wet Pond	77.0079	11.59
Scenario2	5-25YR-72HR	Post-Wet Pond	78.0079	11.57
Scenario2	5-25YR-72HR	Post-Wet Pond	79.0079	11.55
Scenario2	5-25YR-72HR	Post-Wet Pond	80.0079	11.52
Scenario2	5-25YR-72HR	Post-Wet Pond	81.0079	11.50
Scenario2	5-25YR-72HR	Post-Wet Pond	82.0079	11.48
Scenario2	5-25YR-72HR	Post-Wet Pond	83.0079	11.46
Scenario2	5-25YR-72HR	Post-Wet Pond	84.0079	11.44
Scenario2	5-25YR-72HR	Post-Wet Pond	85.0079	11.42
Scenario2	5-25YR-72HR	Post-Wet Pond	86.0079	11.40
Scenario2	5-25YR-72HR	Post-Wet Pond	87.0079	11.38
Scenario2	5-25YR-72HR	Post-Wet Pond	88.0079	11.36
Scenario2	5-25YR-72HR	Post-Wet Pond	89.0079	11.34
Scenario2	5-25YR-72HR	Post-Wet Pond	90.0079	11.32
Scenario2	5-25YR-72HR	Post-Wet Pond	91.0079	11.30
Scenario2	5-25YR-72HR	Post-Wet Pond	92.0079	11.28
Scenario2	5-25YR-72HR	Post-Wet Pond	93.0079	11.26
Scenario2	5-25YR-72HR	Post-Wet Pond	94.0079	11.23
Scenario2	5-25YR-72HR	Post-Wet Pond	95.0079	11.21
Scenario2	5-25YR-72HR	Post-Wet Pond	96.0079	11.19
Scenario2	5-25YR-72HR	Post-Wet Pond	97.0079	11.17
Scenario2	5-25YR-72HR	Post-Wet Pond	98.0079	11.15
Scenario2	5-25YR-72HR	Post-Wet Pond	99.0079	11.14
Scenario2	5-25YR-72HR	Post-Wet Pond	100.0079	11.12

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Wet Pond	101.0079	11.10
Scenario2	5-25YR-72HR	Post-Wet Pond	102.0079	11.08
Scenario2	5-25YR-72HR	Post-Wet Pond	103.0079	11.06
Scenario2	5-25YR-72HR	Post-Wet Pond	104.0079	11.04
Scenario2	5-25YR-72HR	Post-Wet Pond	105.0079	11.02
Scenario2	5-25YR-72HR	Post-Wet Pond	106.0079	11.00
Scenario2	5-25YR-72HR	Post-Wet Pond	107.0079	10.98
Scenario2	5-25YR-72HR	Post-Wet Pond	108.0079	10.96
Scenario2	5-25YR-72HR	Post-Wet Pond	109.0079	10.94
Scenario2	5-25YR-72HR	Post-Wet Pond	110.0079	10.92
Scenario2	5-25YR-72HR	Post-Wet Pond	111.0079	10.90
Scenario2	5-25YR-72HR	Post-Wet Pond	112.0079	10.88
Scenario2	5-25YR-72HR	Post-Wet Pond	113.0079	10.86
Scenario2	5-25YR-72HR	Post-Wet Pond	114.0079	10.84
Scenario2	5-25YR-72HR	Post-Wet Pond	115.0079	10.83
Scenario2	5-25YR-72HR	Post-Wet Pond	116.0079	10.81
Scenario2	5-25YR-72HR	Post-Wet Pond	117.0079	10.79
Scenario2	5-25YR-72HR	Post-Wet Pond	118.0079	10.77
Scenario2	5-25YR-72HR	Post-Wet Pond	119.0079	10.75
Scenario2	5-25YR-72HR	Post-Wet Pond	120.0079	10.73
Scenario2	5-25YR-72HR	Post-Wet Pond	121.0079	10.71
Scenario2	5-25YR-72HR	Post-Wet Pond	122.0079	10.69
Scenario2	5-25YR-72HR	Post-Wet Pond	123.0079	10.68
Scenario2	5-25YR-72HR	Post-Wet Pond	124.0079	10.66
Scenario2	5-25YR-72HR	Post-Wet Pond	125.0079	10.64
Scenario2	5-25YR-72HR	Post-Wet Pond	126.0079	10.62
Scenario2	5-25YR-72HR	Post-Wet Pond	127.0079	10.60
Scenario2	5-25YR-72HR	Post-Wet Pond	128.0079	10.58
Scenario2	5-25YR-72HR	Post-Wet Pond	129.0079	10.56
Scenario2	5-25YR-72HR	Post-Wet Pond	130.0079	10.55
Scenario2	5-25YR-72HR	Post-Wet Pond	131.0079	10.53
Scenario2	5-25YR-72HR	Post-Wet Pond	132.0079	10.51
Scenario2	5-25YR-72HR	Post-Wet Pond	133.0079	10.48
Scenario2	5-25YR-72HR	Post-Wet Pond	134.0079	10.46
Scenario2	5-25YR-72HR	Post-Wet Pond	135.0079	10.43
Scenario2	5-25YR-72HR	Post-Wet Pond	136.0079	10.40
Scenario2	5-25YR-72HR	Post-Wet Pond	137.0079	10.37
Scenario2	5-25YR-72HR	Post-Wet Pond	138.0079	10.34
Scenario2	5-25YR-72HR	Post-Wet Pond	139.0079	10.31
Scenario2	5-25YR-72HR	Post-Wet Pond	140.0079	10.28
Scenario2	5-25YR-72HR	Post-Wet Pond	141.0079	10.25
Scenario2	5-25YR-72HR	Post-Wet Pond	142.0079	10.22

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Wet Pond	143.0079	10.19
Scenario2	5-25YR-72HR	Post-Wet Pond	144.0079	10.16
Scenario2	5-25YR-72HR	Post-Wet Pond	145.0079	10.13
Scenario2	5-25YR-72HR	Post-Wet Pond	146.0079	10.10
Scenario2	5-25YR-72HR	Post-Wet Pond	147.0079	10.07
Scenario2	5-25YR-72HR	Post-Wet Pond	148.0079	10.04
Scenario2	5-25YR-72HR	Post-Wet Pond	149.0079	10.01
Scenario2	5-25YR-72HR	Post-Wet Pond	150.0079	9.99
Scenario2	5-25YR-72HR	Post-Wet Pond	151.0079	9.96
Scenario2	5-25YR-72HR	Post-Wet Pond	152.0079	9.93
Scenario2	5-25YR-72HR	Post-Wet Pond	153.0079	9.90
Scenario2	5-25YR-72HR	Post-Wet Pond	154.0079	9.87
Scenario2	5-25YR-72HR	Post-Wet Pond	155.0079	9.85
Scenario2	5-25YR-72HR	Post-Wet Pond	156.0079	9.82
Scenario2	5-25YR-72HR	Post-Wet Pond	157.0079	9.79
Scenario2	5-25YR-72HR	Post-Wet Pond	158.0079	9.76
Scenario2	5-25YR-72HR	Post-Wet Pond	159.0079	9.74
Scenario2	5-25YR-72HR	Post-Wet Pond	160.0079	9.71
Scenario2	5-25YR-72HR	Post-Wet Pond	161.0079	9.68
Scenario2	5-25YR-72HR	Post-Wet Pond	162.0079	9.66
Scenario2	5-25YR-72HR	Post-Wet Pond	163.0079	9.63
Scenario2	5-25YR-72HR	Post-Wet Pond	164.0079	9.60
Scenario2	5-25YR-72HR	Post-Wet Pond	165.0079	9.58
Scenario2	5-25YR-72HR	Post-Wet Pond	166.0079	9.55
Scenario2	5-25YR-72HR	Post-Wet Pond	167.0079	9.52
Scenario2	5-25YR-72HR	Post-Wet Pond	168.0079	9.50
Scenario2	5-25YR-72HR	Post-Wet Pond	169.0079	9.47
Scenario2	5-25YR-72HR	Post-Wet Pond	170.0079	9.45
Scenario2	5-25YR-72HR	Post-Wet Pond	171.0079	9.42
Scenario2	5-25YR-72HR	Post-Wet Pond	172.0079	9.40
Scenario2	5-25YR-72HR	Post-Wet Pond	173.0079	9.37
Scenario2	5-25YR-72HR	Post-Wet Pond	174.0079	9.35
Scenario2	5-25YR-72HR	Post-Wet Pond	175.0079	9.32
Scenario2	5-25YR-72HR	Post-Wet Pond	176.0079	9.30
Scenario2	5-25YR-72HR	Post-Wet Pond	177.0079	9.27
Scenario2	5-25YR-72HR	Post-Wet Pond	178.0079	9.25
Scenario2	5-25YR-72HR	Post-Wet Pond	179.0079	9.23
Scenario2	5-25YR-72HR	Post-Wet Pond	180.0079	9.20
Scenario2	5-25YR-72HR	Post-Wet Pond	181.0079	9.18
Scenario2	5-25YR-72HR	Post-Wet Pond	182.0079	9.15
Scenario2	5-25YR-72HR	Post-Wet Pond	183.0079	9.13
Scenario2	5-25YR-72HR	Post-Wet Pond	184.0079	9.11

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Wet Pond	185.0079	9.09
Scenario2	5-25YR-72HR	Post-Wet Pond	186.0079	9.06
Scenario2	5-25YR-72HR	Post-Wet Pond	187.0079	9.04
Scenario2	5-25YR-72HR	Post-Wet Pond	188.0079	9.02
Scenario2	5-25YR-72HR	Post-Wet Pond	189.0079	9.00
Scenario2	5-25YR-72HR	Post-Wet Pond	190.0079	8.98
Scenario2	5-25YR-72HR	Post-Wet Pond	191.0079	8.95
Scenario2	5-25YR-72HR	Post-Wet Pond	192.0079	8.93
Scenario2	5-25YR-72HR	Post-Wet Pond	193.0079	8.91
Scenario2	5-25YR-72HR	Post-Wet Pond	194.0079	8.89
Scenario2	5-25YR-72HR	Post-Wet Pond	195.0079	8.87
Scenario2	5-25YR-72HR	Post-Wet Pond	196.0079	8.85
Scenario2	5-25YR-72HR	Post-Wet Pond	197.0079	8.83
Scenario2	5-25YR-72HR	Post-Wet Pond	198.0079	8.81
Scenario2	5-25YR-72HR	Post-Wet Pond	199.0079	8.79
Scenario2	5-25YR-72HR	Post-Wet Pond	200.0079	8.77
Scenario2	5-25YR-72HR	Post-Wet Pond	201.0079	8.75
Scenario2	5-25YR-72HR	Post-Wet Pond	202.0079	8.73
Scenario2	5-25YR-72HR	Post-Wet Pond	203.0079	8.71
Scenario2	5-25YR-72HR	Post-Wet Pond	204.0079	8.69
Scenario2	5-25YR-72HR	Post-Wet Pond	205.0079	8.67
Scenario2	5-25YR-72HR	Post-Wet Pond	206.0079	8.66
Scenario2	5-25YR-72HR	Post-Wet Pond	207.0079	8.64
Scenario2	5-25YR-72HR	Post-Wet Pond	208.0079	8.62
Scenario2	5-25YR-72HR	Post-Wet Pond	209.0079	8.60
Scenario2	5-25YR-72HR	Post-Wet Pond	210.0079	8.59
Scenario2	5-25YR-72HR	Post-Wet Pond	211.0079	8.57
Scenario2	5-25YR-72HR	Post-Wet Pond	212.0079	8.55
Scenario2	5-25YR-72HR	Post-Wet Pond	213.0079	8.53
Scenario2	5-25YR-72HR	Post-Wet Pond	214.0079	8.52
Scenario2	5-25YR-72HR	Post-Wet Pond	215.0079	8.50
Scenario2	5-25YR-72HR	Post-Wet Pond	216.0079	8.49
Scenario2	5-25YR-72HR	Post-Wet Pond	217.0079	8.47
Scenario2	5-25YR-72HR	Post-Wet Pond	218.0079	8.46
Scenario2	5-25YR-72HR	Post-Wet Pond	219.0079	8.44
Scenario2	5-25YR-72HR	Post-Wet Pond	220.0079	8.43
Scenario2	5-25YR-72HR	Post-Wet Pond	221.0079	8.41
Scenario2	5-25YR-72HR	Post-Wet Pond	222.0079	8.40
Scenario2	5-25YR-72HR	Post-Wet Pond	223.0079	8.39
Scenario2	5-25YR-72HR	Post-Wet Pond	224.0079	8.37
Scenario2	5-25YR-72HR	Post-Wet Pond	225.0079	8.36
Scenario2	5-25YR-72HR	Post-Wet Pond	226.0079	8.35

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Wet Pond	227.0079	8.33
Scenario2	5-25YR-72HR	Post-Wet Pond	228.0079	8.32
Scenario2	5-25YR-72HR	Post-Wet Pond	229.0079	8.31
Scenario2	5-25YR-72HR	Post-Wet Pond	230.0079	8.30
Scenario2	5-25YR-72HR	Post-Wet Pond	231.0079	8.29
Scenario2	5-25YR-72HR	Post-Wet Pond	232.0079	8.28
Scenario2	5-25YR-72HR	Post-Wet Pond	233.0079	8.27
Scenario2	5-25YR-72HR	Post-Wet Pond	234.0079	8.26
Scenario2	5-25YR-72HR	Post-Wet Pond	235.0079	8.25
Scenario2	5-25YR-72HR	Post-Wet Pond	236.0079	8.24
Scenario2	5-25YR-72HR	Post-Wet Pond	237.0079	8.23
Scenario2	5-25YR-72HR	Post-Wet Pond	238.0079	8.23
Scenario2	5-25YR-72HR	Post-Wet Pond	239.0079	8.22
Scenario2	5-25YR-72HR	Post-Wet Pond	240.0079	8.21
Scenario2	5-25YR-72HR	Post-Wet Pond	241.0079	8.20
Scenario2	5-25YR-72HR	Post-Wet Pond	242.0079	8.20
Scenario2	5-25YR-72HR	Post-Wet Pond	243.0079	8.19
Scenario2	5-25YR-72HR	Post-Wet Pond	244.0079	8.18
Scenario2	5-25YR-72HR	Post-Wet Pond	245.0079	8.18
Scenario2	5-25YR-72HR	Post-Wet Pond	246.0079	8.17
Scenario2	5-25YR-72HR	Post-Wet Pond	247.0079	8.17
Scenario2	5-25YR-72HR	Post-Wet Pond	248.0079	8.16
Scenario2	5-25YR-72HR	Post-Wet Pond	249.0079	8.16
Scenario2	5-25YR-72HR	Post-Wet Pond	250.0079	8.15
Scenario2	5-25YR-72HR	Post-Wet Pond	251.0079	8.15
Scenario2	5-25YR-72HR	Post-Wet Pond	252.0079	8.15
Scenario2	5-25YR-72HR	Post-Wet Pond	253.0079	8.14
Scenario2	5-25YR-72HR	Post-Wet Pond	254.0079	8.14
Scenario2	5-25YR-72HR	Post-Wet Pond	255.0079	8.14
Scenario2	5-25YR-72HR	Post-Wet Pond	256.0079	8.13
Scenario2	5-25YR-72HR	Post-Wet Pond	257.0079	8.13
Scenario2	5-25YR-72HR	Post-Wet Pond	258.0079	8.13
Scenario2	5-25YR-72HR	Post-Wet Pond	259.0079	8.12
Scenario2	5-25YR-72HR	Post-Wet Pond	260.0079	8.12
Scenario2	5-25YR-72HR	Post-Wet Pond	261.0079	8.12
Scenario2	5-25YR-72HR	Post-Wet Pond	262.0079	8.11
Scenario2	5-25YR-72HR	Post-Wet Pond	263.0079	8.11
Scenario2	5-25YR-72HR	Post-Wet Pond	264.0079	8.11
Scenario2	5-25YR-72HR	Post-Wet Pond	265.0079	8.11
Scenario2	5-25YR-72HR	Post-Wet Pond	266.0079	8.11
Scenario2	5-25YR-72HR	Post-Wet Pond	267.0079	8.10
Scenario2	5-25YR-72HR	Post-Wet Pond	268.0079	8.10

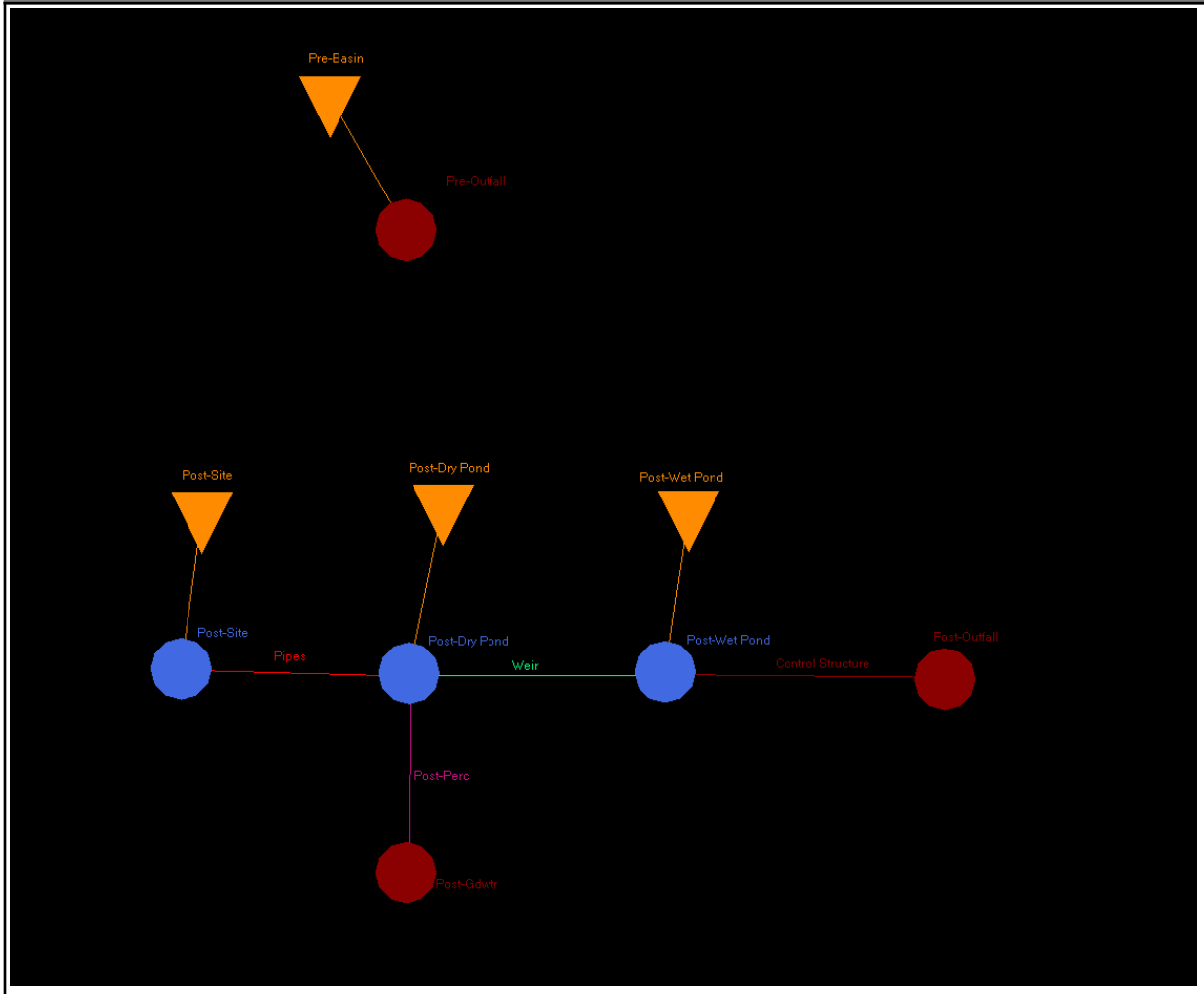
Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Wet Pond	269.0079	8.10
Scenario2	5-25YR-72HR	Post-Wet Pond	270.0079	8.10
Scenario2	5-25YR-72HR	Post-Wet Pond	271.0079	8.10
Scenario2	5-25YR-72HR	Post-Wet Pond	272.0079	8.09
Scenario2	5-25YR-72HR	Post-Wet Pond	273.0079	8.09
Scenario2	5-25YR-72HR	Post-Wet Pond	274.0079	8.09
Scenario2	5-25YR-72HR	Post-Wet Pond	275.0079	8.09
Scenario2	5-25YR-72HR	Post-Wet Pond	276.0079	8.09
Scenario2	5-25YR-72HR	Post-Wet Pond	277.0079	8.09
Scenario2	5-25YR-72HR	Post-Wet Pond	278.0079	8.08
Scenario2	5-25YR-72HR	Post-Wet Pond	279.0079	8.08
Scenario2	5-25YR-72HR	Post-Wet Pond	280.0079	8.08
Scenario2	5-25YR-72HR	Post-Wet Pond	281.0079	8.08
Scenario2	5-25YR-72HR	Post-Wet Pond	282.0079	8.08
Scenario2	5-25YR-72HR	Post-Wet Pond	283.0079	8.08
Scenario2	5-25YR-72HR	Post-Wet Pond	284.0079	8.08
Scenario2	5-25YR-72HR	Post-Wet Pond	285.0079	8.08
Scenario2	5-25YR-72HR	Post-Wet Pond	286.0079	8.07
Scenario2	5-25YR-72HR	Post-Wet Pond	287.0079	8.07
Scenario2	5-25YR-72HR	Post-Wet Pond	288.0079	8.07
Scenario2	5-25YR-72HR	Post-Wet Pond	289.0079	8.07
Scenario2	5-25YR-72HR	Post-Wet Pond	290.0079	8.07
Scenario2	5-25YR-72HR	Post-Wet Pond	291.0079	8.07
Scenario2	5-25YR-72HR	Post-Wet Pond	292.0079	8.07
Scenario2	5-25YR-72HR	Post-Wet Pond	293.0079	8.07
Scenario2	5-25YR-72HR	Post-Wet Pond	294.0079	8.07
Scenario2	5-25YR-72HR	Post-Wet Pond	295.0079	8.07
Scenario2	5-25YR-72HR	Post-Wet Pond	296.0079	8.06
Scenario2	5-25YR-72HR	Post-Wet Pond	297.0079	8.06
Scenario2	5-25YR-72HR	Post-Wet Pond	298.0079	8.06
Scenario2	5-25YR-72HR	Post-Wet Pond	299.0079	8.06
Scenario2	5-25YR-72HR	Post-Wet Pond	300.0079	8.06
Scenario2	5-25YR-72HR	Post-Wet Pond	301.0079	8.06
Scenario2	5-25YR-72HR	Post-Wet Pond	302.0079	8.06
Scenario2	5-25YR-72HR	Post-Wet Pond	303.0079	8.06
Scenario2	5-25YR-72HR	Post-Wet Pond	304.0079	8.06
Scenario2	5-25YR-72HR	Post-Wet Pond	305.0079	8.06
Scenario2	5-25YR-72HR	Post-Wet Pond	306.0079	8.06
Scenario2	5-25YR-72HR	Post-Wet Pond	307.0079	8.06
Scenario2	5-25YR-72HR	Post-Wet Pond	308.0079	8.06
Scenario2	5-25YR-72HR	Post-Wet Pond	309.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	310.0079	8.05

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Wet Pond	311.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	312.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	313.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	314.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	315.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	316.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	317.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	318.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	319.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	320.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	321.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	322.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	323.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	324.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	325.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	326.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	327.0079	8.05
Scenario2	5-25YR-72HR	Post-Wet Pond	328.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	329.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	330.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	331.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	332.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	333.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	334.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	335.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	336.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	337.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	338.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	339.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	340.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	341.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	342.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	343.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	344.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	345.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	346.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	347.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	348.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	349.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	350.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	351.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	352.0079	8.04

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]
Scenario2	5-25YR-72HR	Post-Wet Pond	353.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	354.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	355.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	356.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	357.0079	8.04
Scenario2	5-25YR-72HR	Post-Wet Pond	358.0079	8.03
Scenario2	5-25YR-72HR	Post-Wet Pond	359.0079	8.03
Scenario2	5-25YR-72HR	Post-Wet Pond	360.0079	8.03

THE WET DETENTION HAS RECOVERED WITHIN ACCEPTABLE LIMITS

Background Image: 2025-01-30 routing



Simple Basin: Post-Dry Pond

Scenario:	Scenario2
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:	0.8700 ac
Curve Number:	77.0
% Impervious:	0.00

% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Post-Site

Scenario:	Scenario2
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:	7.6600 ac
Curve Number:	94.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Post-Wet Pond

Scenario:	Scenario2
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:	1.1460 ac
Curve Number:	91.7
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Pre-Basin

Scenario:	Scenario2
Node:	Pre-Outfall
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	48.1000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	9.6300 ac
Curve Number:	87.1
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Node: Post-Dry Pond

Scenario:	Scenario2
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	10.00 ft
Warning Stage:	12.00 ft

Stage [ft]	Area [ac]	Area [ft2]
8.00	0.0000	0
9.90	0.0010	44
10.00	0.6630	28880
11.00	0.7630	33236
12.00	0.8650	37679

Comment:

Node: Post-Gdwtr

Scenario:	Scenario2
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

Year	Month	Day	Hour	Stage [ft]
0	0	0	999.0000	8.00

Comment:

Node: Post-Outfall

Scenario: Scenario2
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: Scenario2
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 8.00 ft
Warning Stage: 13.50 ft

Stage [ft]	Area [ac]	Area [ft2]
8.00	0.0000	0
12.15	0.0010	44
13.50	6.6830	291111

Comment:

Node: Post-Wet Pond

Scenario: Scenario2
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

Stage [ft]	Area [ac]	Area [ft2]
9.03	0.8400	36590
12.00	1.1460	49920

Comment:

Node: Pre-Outfall

Scenario: Scenario2
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	0.00
0	0	0	999.0000	0.00

Comment:

Drop Structure Link: Control Structure

Scenario: Scenario2
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

Bottom Clip

Default: 0.00 ft
Op Table:
Ref Node:

Top Clip

Geometry Type:	Circular
Invert:	8.00 ft
Control Elevation:	8.00 ft
Max Depth:	0.25 ft

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:	11.50 ft
Control Elevation:	11.50 ft
Max Depth:	99999.00 ft
Max Width:	1.00 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:

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: Scenario2	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:	2.50 ft	Max Depth:	2.50 ft
Flow Direction:	Both	Bottom Clip			
Damping:	0.0000 ft	Default:	0.00 ft	Default:	0.00 ft
Length:	83.00 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:	Scenario2	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:	646.00 ft
Flow Direction:	Both	Perimeter 2:	831.00 ft
Aquifer Base Elevation:	3.00 ft	Perimeter 3:	1962.00 ft
Water Table Elevation:	8.00 ft	Distance P1 to P2:	50.00 ft
Annual Recharge Rate:	0 ipy	Distance P2 to P3:	250.00 ft
Horizontal Conductivity:	9.900 fpd	# of Cells P1 to P2:	5
Vertical Conductivity:	2.100 fpd	# of Cells P2 to P3:	25
Fillable Porosity:	0.400		
Layer Thickness:	2.00 ft		

Comment:

Weir Link: Weir

Scenario:	Scenario2	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:	10.50 ft	Discharge Coefficients	
Control Elevation:	10.50 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:

Simulation: 5-25YR-72HR

Scenario: Scenario2
Run Date/Time: 1/30/2025 2:56:18 PM
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

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:	~SFWMD-72
		Rainfall Amount:	9.50 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:

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	1	0.00	
13	1	0.00	
14	2	0.00	
15	3	0.00	
16	5	0.00	
17	8	0.00	
18	11	0.00	
19	16	0.00	
20	21	0.00	
21	27	0.00	
22	35	0.00	
23	45	0.00	
24	56	0.00	0.00
25	69	0.00	0.00
26	85	0.00	0.00
27	105	0.00	0.00
28	145	0.00	0.00
29	235	0.01	0.01
30	393	0.01	0.01
31	618	0.01	0.01
32	901	0.02	0.02
33	1250	0.03	0.03
34	1641	0.04	0.04
35	2065	0.05	0.05
36	2521	0.06	0.06
37	3004	0.07	0.07

9.63	ac	site area
1.61	ac-ft	max allow. disch.
1.42	ac-ft	max discharge

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

38	3514	0.08	0.08
39	4049	0.09	0.09
40	4607	0.11	0.11
41	5186	0.12	0.12
42	5787	0.13	0.13
43	6407	0.15	0.15
44	7045	0.16	0.16
45	7702	0.18	0.18
46	8376	0.19	0.19
47	9066	0.21	0.21
48	9773	0.22	0.22
49	10495	0.24	0.24
50	11235	0.26	0.26
51	11993	0.28	0.27
52	12772	0.29	0.29
53	13576	0.31	0.31
54	14413	0.33	0.32
55	15289	0.35	0.34
56	16212	0.37	0.35
57	17187	0.39	0.37
58	18221	0.42	0.38
59	19323	0.44	0.40
60	20557	0.47	0.41
61	22114	0.51	0.44
62	24186	0.56	0.47
63	26838	0.62	0.52
64	29929	0.69	0.58
65	33673	0.77	0.65
66	37492	0.86	0.73
67	41356	0.95	0.80
68	45246	1.04	0.88
69	48931	1.12	0.95
70	52232	1.20	1.01
71	55342	1.27	1.06
72	58379	1.34	1.12
73	61289	1.41	1.17
74	63923	1.47	1.21
75	66331	1.52	1.25
76	68546	1.57	1.28
77	70599	1.62	1.31
78	72513	1.66	1.33
79	74314	1.71	1.36
80	76020	1.75	1.37
81	77652	1.78	1.39

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

82	79233	1.82	1.40
83	80793	1.85	1.41
84	82349	1.89	1.42
85	83901	1.93	1.42
86	85449	1.96	1.41
87	86992	2.00	1.38
88	88530	2.03	1.35
89	90064	2.07	1.29
90	91594	2.10	1.24
91	93120	2.14	1.19
92	94640	2.17	1.13
93	96157	2.21	1.08
94	97669	2.24	1.04
95	99177	2.28	1.01
96	100680	2.31	0.97
97	102179	2.35	0.94
98	103673	2.38	0.91
99	105163	2.41	0.89
100	106648	2.45	0.87
			1.42

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Outflow Volume [ft3]
Scenario2	3-10YR-72HR	Post-Wet Pond	0.0000	8.00	0
Scenario2	3-10YR-72HR	Post-Wet Pond	1.0044	8.00	0
Scenario2	3-10YR-72HR	Post-Wet Pond	2.0044	8.00	0
Scenario2	3-10YR-72HR	Post-Wet Pond	3.0044	8.00	0
Scenario2	3-10YR-72HR	Post-Wet Pond	4.0001	8.00	0
Scenario2	3-10YR-72HR	Post-Wet Pond	5.0001	8.00	0
Scenario2	3-10YR-72HR	Post-Wet Pond	6.0002	8.00	0
Scenario2	3-10YR-72HR	Post-Wet Pond	7.0000	8.00	0
Scenario2	3-10YR-72HR	Post-Wet Pond	8.0003	8.00	0
Scenario2	3-10YR-72HR	Post-Wet Pond	9.0000	8.00	0
Scenario2	3-10YR-72HR	Post-Wet Pond	10.0001	8.00	0
Scenario2	3-10YR-72HR	Post-Wet Pond	11.0001	8.01	0
Scenario2	3-10YR-72HR	Post-Wet Pond	12.0002	8.01	1
Scenario2	3-10YR-72HR	Post-Wet Pond	13.0000	8.01	1
Scenario2	3-10YR-72HR	Post-Wet Pond	14.0004	8.01	2
Scenario2	3-10YR-72HR	Post-Wet Pond	15.0000	8.02	3
Scenario2	3-10YR-72HR	Post-Wet Pond	16.0001	8.02	5
Scenario2	3-10YR-72HR	Post-Wet Pond	17.0001	8.02	8
Scenario2	3-10YR-72HR	Post-Wet Pond	18.0001	8.02	11
Scenario2	3-10YR-72HR	Post-Wet Pond	19.0000	8.03	16
Scenario2	3-10YR-72HR	Post-Wet Pond	20.0002	8.03	21
Scenario2	3-10YR-72HR	Post-Wet Pond	21.0002	8.03	27
Scenario2	3-10YR-72HR	Post-Wet Pond	22.0001	8.04	35
Scenario2	3-10YR-72HR	Post-Wet Pond	23.0003	8.04	45
Scenario2	3-10YR-72HR	Post-Wet Pond	24.0001	8.04	56
Scenario2	3-10YR-72HR	Post-Wet Pond	25.0001	8.05	69
Scenario2	3-10YR-72HR	Post-Wet Pond	26.0001	8.05	85
Scenario2	3-10YR-72HR	Post-Wet Pond	27.0002	8.06	105
Scenario2	3-10YR-72HR	Post-Wet Pond	28.0001	8.10	145
Scenario2	3-10YR-72HR	Post-Wet Pond	29.0000	8.15	235
Scenario2	3-10YR-72HR	Post-Wet Pond	30.0002	8.19	393
Scenario2	3-10YR-72HR	Post-Wet Pond	31.0000	8.24	618
Scenario2	3-10YR-72HR	Post-Wet Pond	32.0001	8.28	901
Scenario2	3-10YR-72HR	Post-Wet Pond	33.0001	8.32	1250
Scenario2	3-10YR-72HR	Post-Wet Pond	34.0002	8.36	1641
Scenario2	3-10YR-72HR	Post-Wet Pond	35.0003	8.39	2065
Scenario2	3-10YR-72HR	Post-Wet Pond	36.0000	8.43	2521
Scenario2	3-10YR-72HR	Post-Wet Pond	37.0001	8.47	3004
Scenario2	3-10YR-72HR	Post-Wet Pond	38.0001	8.50	3514
Scenario2	3-10YR-72HR	Post-Wet Pond	39.0002	8.54	4049
Scenario2	3-10YR-72HR	Post-Wet Pond	40.0000	8.57	4607
Scenario2	3-10YR-72HR	Post-Wet Pond	41.0002	8.61	5186

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Outflow Volume [ft3]
Scenario2	3-10YR-72HR	Post-Wet Pond	42.0002	8.64	5787
Scenario2	3-10YR-72HR	Post-Wet Pond	43.0001	8.67	6407
Scenario2	3-10YR-72HR	Post-Wet Pond	44.0001	8.71	7045
Scenario2	3-10YR-72HR	Post-Wet Pond	45.0001	8.74	7702
Scenario2	3-10YR-72HR	Post-Wet Pond	46.0001	8.77	8376
Scenario2	3-10YR-72HR	Post-Wet Pond	47.0000	8.80	9066
Scenario2	3-10YR-72HR	Post-Wet Pond	48.0001	8.83	9773
Scenario2	3-10YR-72HR	Post-Wet Pond	49.0001	8.86	10495
Scenario2	3-10YR-72HR	Post-Wet Pond	50.0001	8.90	11235
Scenario2	3-10YR-72HR	Post-Wet Pond	51.0001	8.94	11993
Scenario2	3-10YR-72HR	Post-Wet Pond	52.0000	8.99	12772
Scenario2	3-10YR-72HR	Post-Wet Pond	53.0001	9.05	13576
Scenario2	3-10YR-72HR	Post-Wet Pond	54.0000	9.14	14413
Scenario2	3-10YR-72HR	Post-Wet Pond	55.0001	9.24	15289
Scenario2	3-10YR-72HR	Post-Wet Pond	56.0001	9.37	16212
Scenario2	3-10YR-72HR	Post-Wet Pond	57.0000	9.52	17187
Scenario2	3-10YR-72HR	Post-Wet Pond	58.0002	9.70	18221
Scenario2	3-10YR-72HR	Post-Wet Pond	59.0001	9.93	19323
Scenario2	3-10YR-72HR	Post-Wet Pond	60.0001	11.05	20557
Scenario2	3-10YR-72HR	Post-Wet Pond	61.0001	11.55	22114
Scenario2	3-10YR-72HR	Post-Wet Pond	62.0001	11.67	24186
Scenario2	3-10YR-72HR	Post-Wet Pond	63.0000	11.73	26838
Scenario2	3-10YR-72HR	Post-Wet Pond	64.0002	11.77	29929
Scenario2	3-10YR-72HR	Post-Wet Pond	65.0001	11.77	33673
Scenario2	3-10YR-72HR	Post-Wet Pond	66.0000	11.77	37492
Scenario2	3-10YR-72HR	Post-Wet Pond	67.0001	11.77	41356
Scenario2	3-10YR-72HR	Post-Wet Pond	68.0002	11.77	45246
Scenario2	3-10YR-72HR	Post-Wet Pond	69.0000	11.76	48931
Scenario2	3-10YR-72HR	Post-Wet Pond	70.0002	11.76	52232
Scenario2	3-10YR-72HR	Post-Wet Pond	71.0001	11.75	55342
Scenario2	3-10YR-72HR	Post-Wet Pond	72.0000	11.74	58379
Scenario2	3-10YR-72HR	Post-Wet Pond	73.0035	11.72	61289
Scenario2	3-10YR-72HR	Post-Wet Pond	74.0035	11.68	63923
Scenario2	3-10YR-72HR	Post-Wet Pond	75.0035	11.66	66331
Scenario2	3-10YR-72HR	Post-Wet Pond	76.0035	11.63	68546
Scenario2	3-10YR-72HR	Post-Wet Pond	77.0035	11.61	70599
Scenario2	3-10YR-72HR	Post-Wet Pond	78.0035	11.58	72513
Scenario2	3-10YR-72HR	Post-Wet Pond	79.0035	11.56	74314
Scenario2	3-10YR-72HR	Post-Wet Pond	80.0035	11.54	76020
Scenario2	3-10YR-72HR	Post-Wet Pond	81.0035	11.52	77652
Scenario2	3-10YR-72HR	Post-Wet Pond	82.0035	11.50	79233
Scenario2	3-10YR-72HR	Post-Wet Pond	83.0035	11.48	80793

Scenario	Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Outflow Volume [ft3]
Scenario2	3-10YR-72HR	Post-Wet Pond	84.0035	11.46	82349
Scenario2	3-10YR-72HR	Post-Wet Pond	85.0035	11.45	83901
Scenario2	3-10YR-72HR	Post-Wet Pond	86.0035	11.43	85449
Scenario2	3-10YR-72HR	Post-Wet Pond	87.0035	11.41	86992
Scenario2	3-10YR-72HR	Post-Wet Pond	88.0035	11.39	88530
Scenario2	3-10YR-72HR	Post-Wet Pond	89.0035	11.37	90064
Scenario2	3-10YR-72HR	Post-Wet Pond	90.0035	11.35	91594
Scenario2	3-10YR-72HR	Post-Wet Pond	91.0035	11.33	93120
Scenario2	3-10YR-72HR	Post-Wet Pond	92.0035	11.31	94640
Scenario2	3-10YR-72HR	Post-Wet Pond	93.0035	11.30	96157
Scenario2	3-10YR-72HR	Post-Wet Pond	94.0035	11.28	97669
Scenario2	3-10YR-72HR	Post-Wet Pond	95.0035	11.26	99177
Scenario2	3-10YR-72HR	Post-Wet Pond	96.0035	11.24	100680
Scenario2	3-10YR-72HR	Post-Wet Pond	97.0035	11.22	102179
Scenario2	3-10YR-72HR	Post-Wet Pond	98.0035	11.20	103673
Scenario2	3-10YR-72HR	Post-Wet Pond	99.0035	11.19	105163
Scenario2	3-10YR-72HR	Post-Wet Pond	100.0035	11.17	106648

Appendix B

Nutrient Analysis by BMP Trains

Complete Report (not including cost) Ver 4.3.5

Project: Bev Smith Kia
Date: 1/30/2025 2:41:38 PM

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)	9.63
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)	16.059
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	47.523
Phosphorus Loading (kg/yr)	6.831

Post-Condition Landuse Information

Landuse	High-Intensity Commercial: TN=2.40 TP=0.345
Area (acres)	9.63
Rational Coefficient (0-1)	0.68
Non DCIA Curve Number	77.00
DCIA Percent (0-100)	81.00
Wet Pond Area (ac)	0.73
Nitrogen EMC (mg/l)	2.400
Phosphorus EMC (mg/l)	0.345
Runoff Volume (ac-ft/yr)	28.241
Groundwater N (kg/yr)	0.000

Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	83.571
Phosphorus Loading (kg/yr)	12.013

Catchment Number: 1 Name: 1

Project: Bev Smith Kia
Date: 1/30/2025

Multiple BMP in Series Design Parameters

BMP in Series Number: 1
BMP Type: Retention

Retention Depth (in)	0.464
Retention Volume (ac-ft)	0.344

BMP in Series Number: 2
BMP Type: Wet Detention

Permanent Pool Volume (ac-ft)	5.830
Permanent Pool Volume (ac-ft) for 31 days residence	2.399
Annual Residence Time (days)	75
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

BMP in Series Number: 3
BMP Type: None

BMP in Series Number: 4
BMP Type: None

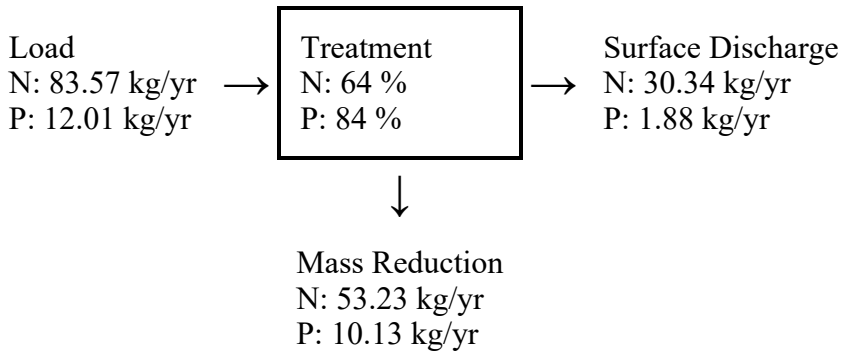
Watershed Characteristics

Catchment Area (acres)	9.63
Contributing Area (acres)	8.900
Non-DCIA Curve Number	77.00
DCIA Percent	81.00
Rainfall Zone	Florida Zone 5
Rainfall (in)	56.00

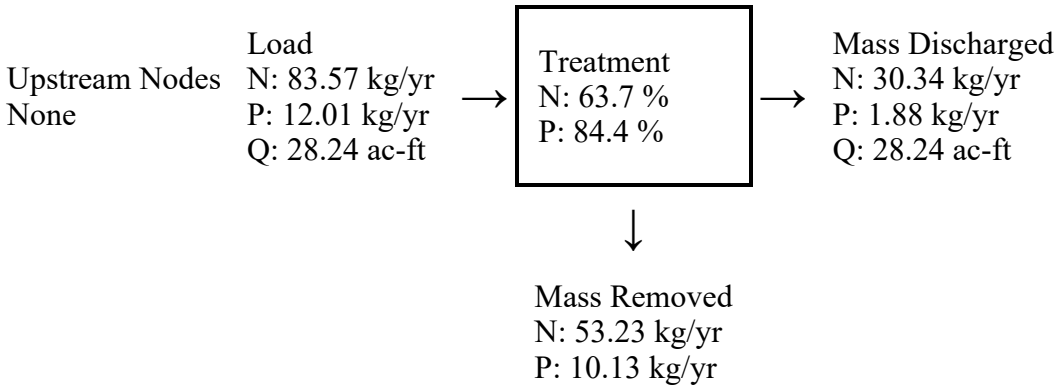
Surface Water Discharge

Required TN Treatment Efficiency (%)	43
Provided TN Treatment Efficiency (%)	64
Required TP Treatment Efficiency (%)	43
Provided TP Treatment Efficiency (%)	84

Load for Multiple BMP in Series



Load Diagram for Multiple BMP (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: Bev Smith Kia

Date:1/30/2025

Analysis Type: Net Improvement
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	47.52 kg/yr	
Total N post load	83.57 kg/yr	
Target N load reduction	43 %	
Target N discharge load	47.52 kg/yr	
Percent N load reduction	64 %	
Provided N discharge load	30.34 kg/yr	66.9 lb/yr
Provided N load removed	53.23 kg/yr	117.37 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	6.831 kg/yr	
Total P post load	12.013 kg/yr	
Target P load reduction	43 %	
Target P discharge load	6.831 kg/yr	
Percent P load reduction	84 %	
Provided P discharge load	1.879 kg/yr	4.14 lb/yr
Provided P load removed	10.134 kg/yr	22.346 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

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.

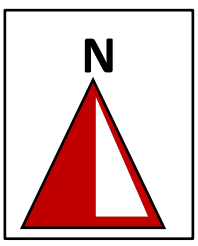
Any third-party reliance of our geotechnical report or parts thereof is strictly prohibited without the express written consent of Universal Engineering Sciences. The applicable auger boring methodology (ASTM D 1452) used in performing our borings, and for determining penetration resistance and soil 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.

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)			
	80					
5.0	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.

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.

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	80		Dark gray fine sand (SP)			
	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.

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	80		Gray fine sand (SP)			
	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.

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

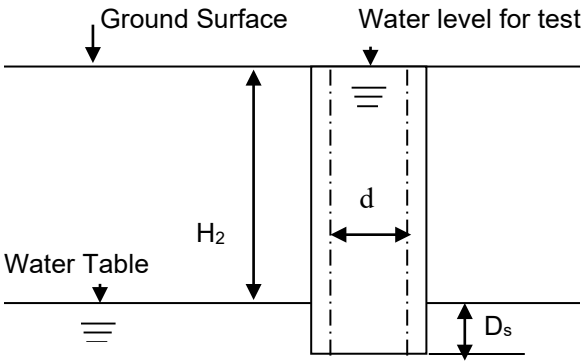
Test Date: 1/15/2022
Technician: LO

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.

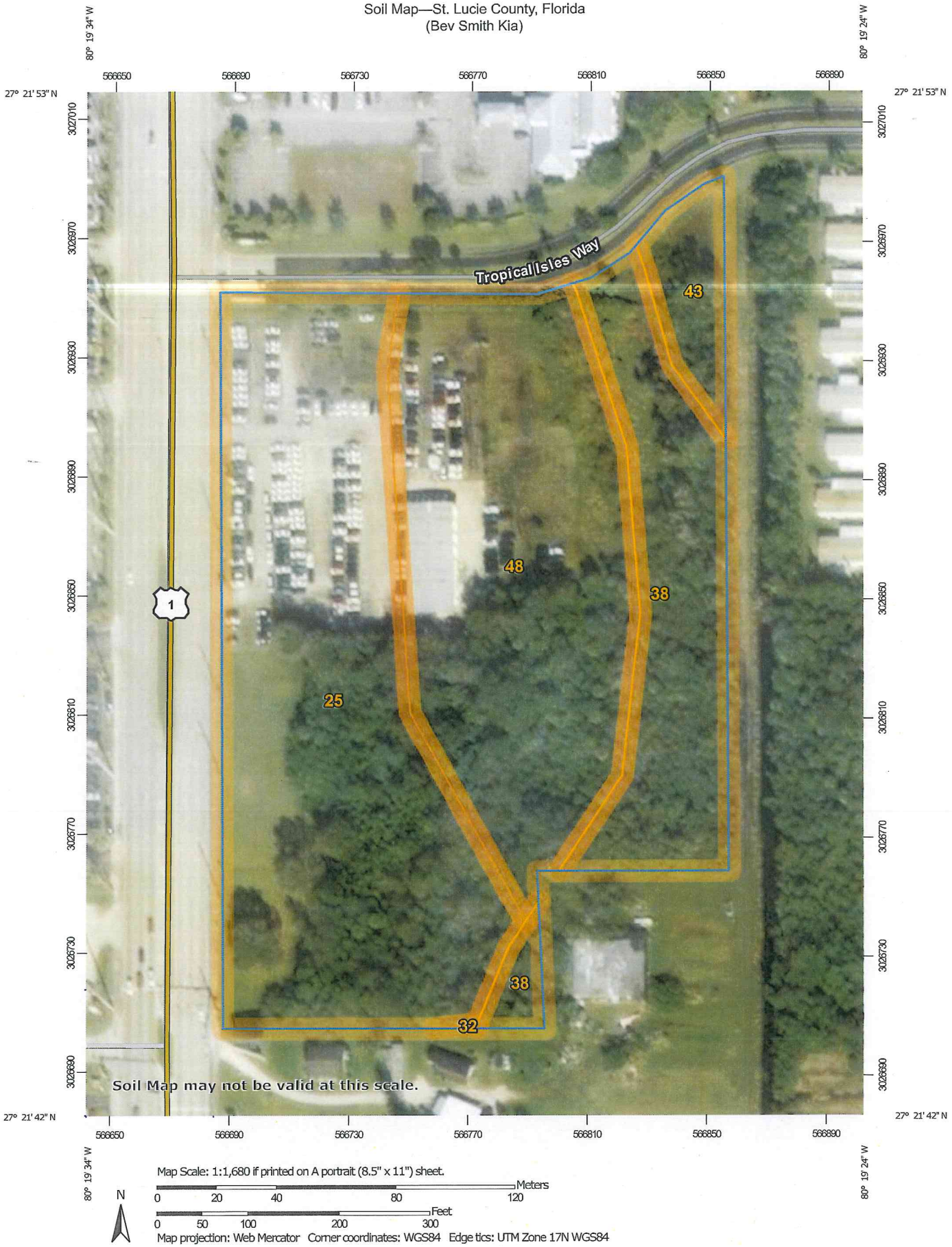
HIGHLY ORGANIC SOILS

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

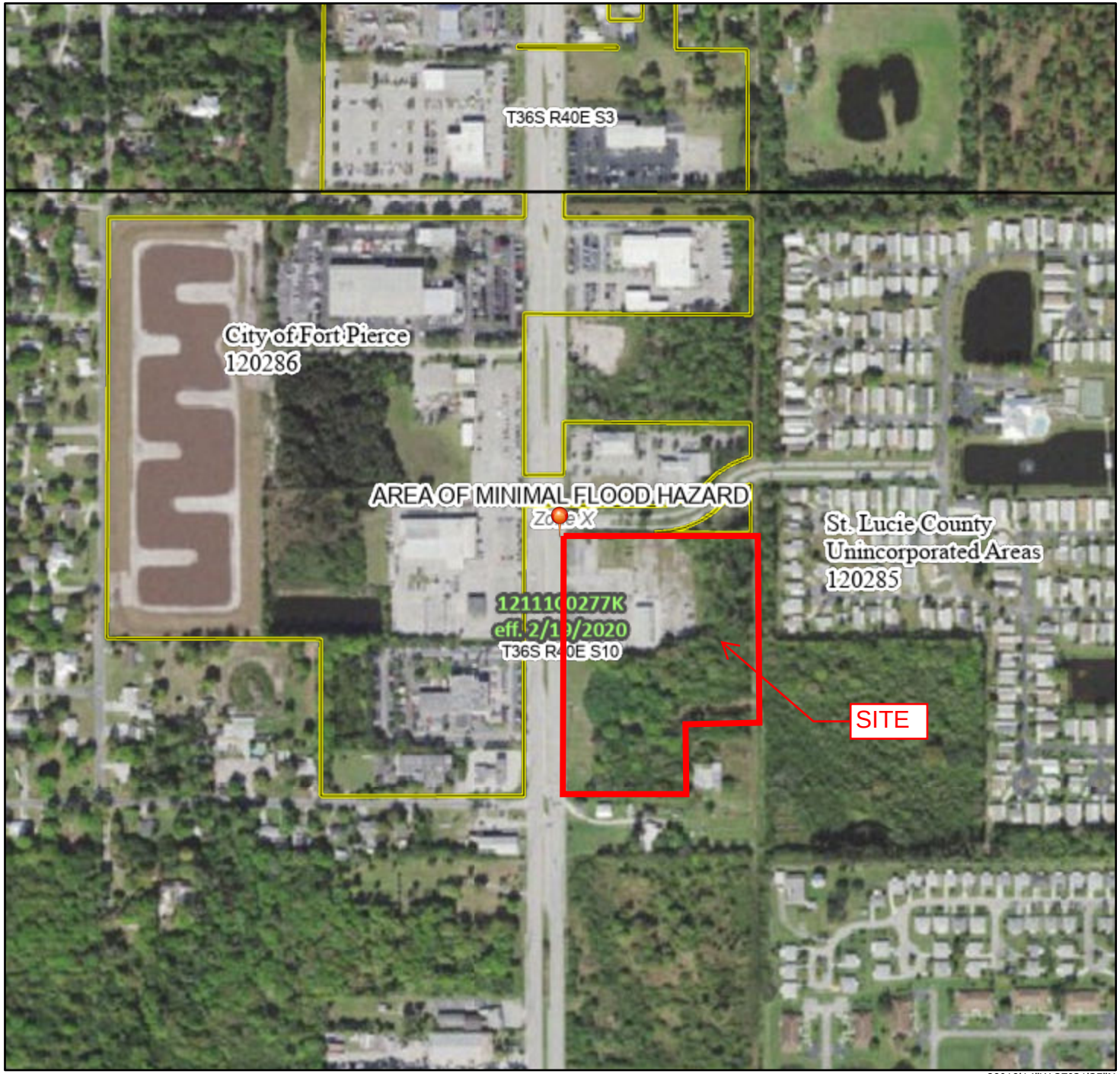
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
25	Nettles and Oldsmar sands	4.3	43.9%
32	Pineda sand, 0 to 2 percent slopes	0.0	0.0%
38	Riviera fine sand, 0 to 2 percent slopes	1.8	18.1%
43	Susanna and Wauchula sands	0.4	4.0%
48	Wabasso sand, 0 to 2 percent slopes	3.3	33.9%
Totals for Area 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



80°19'14"W 27°21'35"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

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 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- 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)

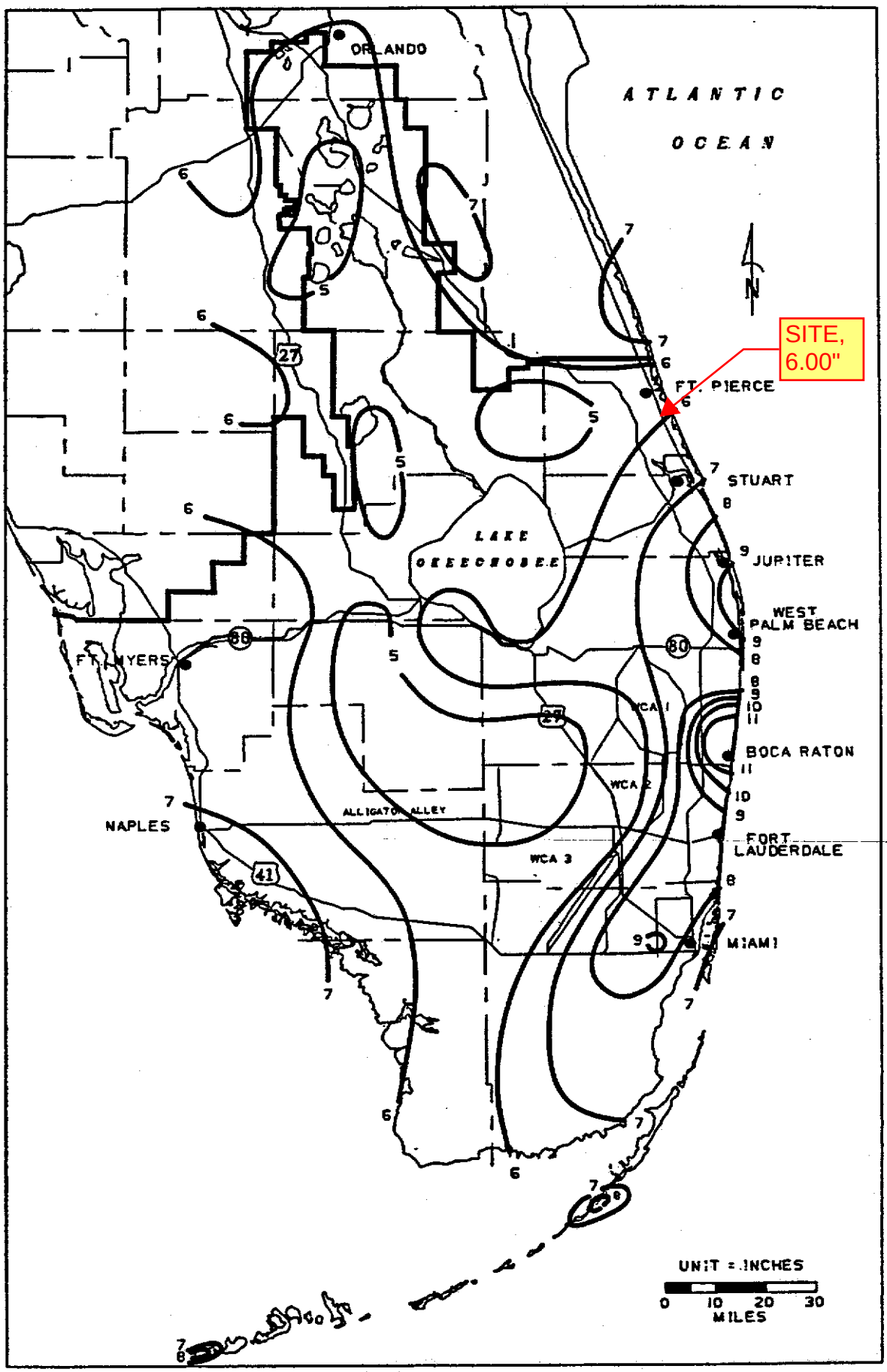


FIGURE C-4. 1-DAY RAINFALL: 10-YEAR RETURN PERIOD

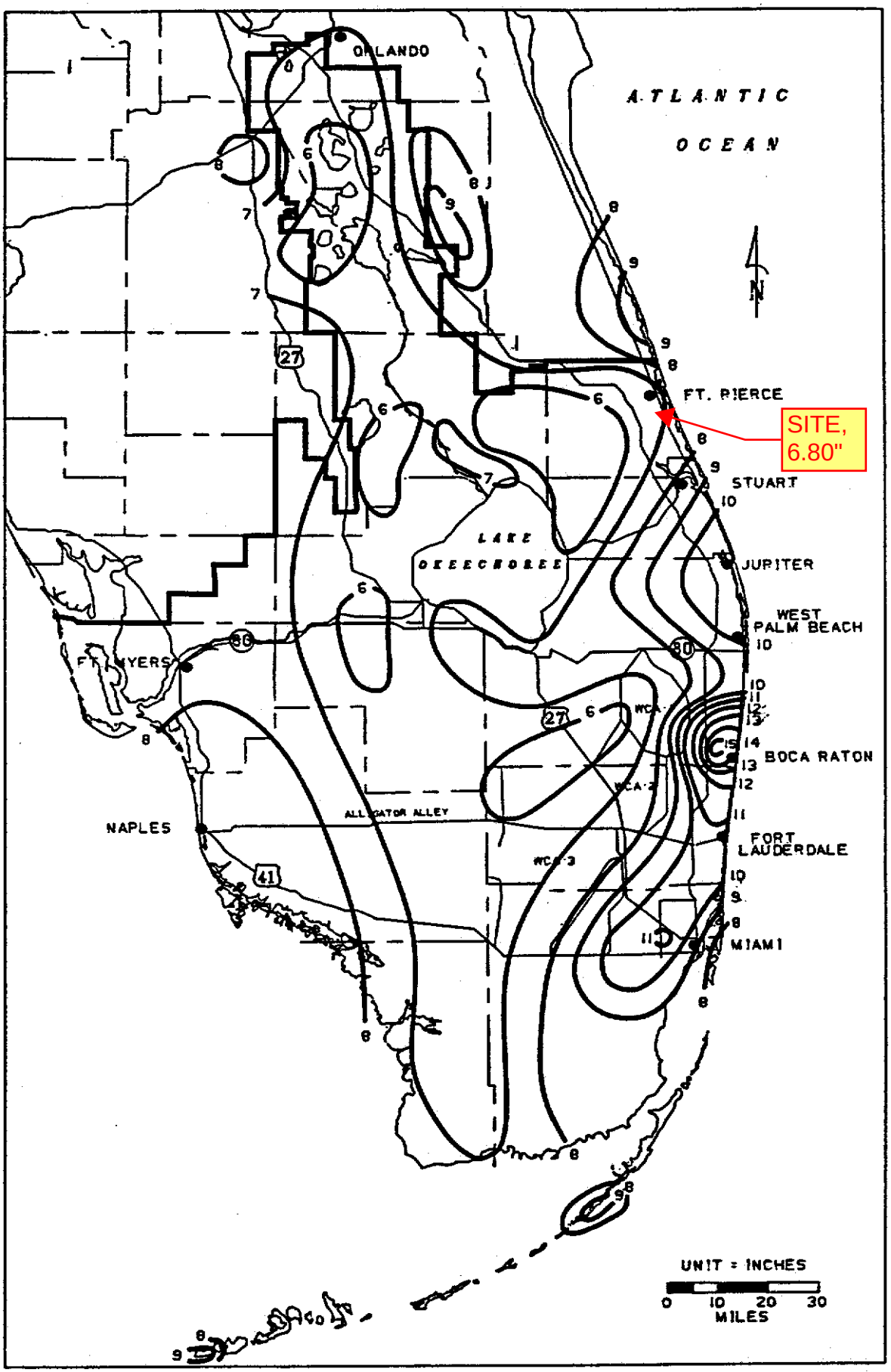


FIGURE C-5. 1-DAY RAINFALL: 25-YEAR RETURN PERIOD

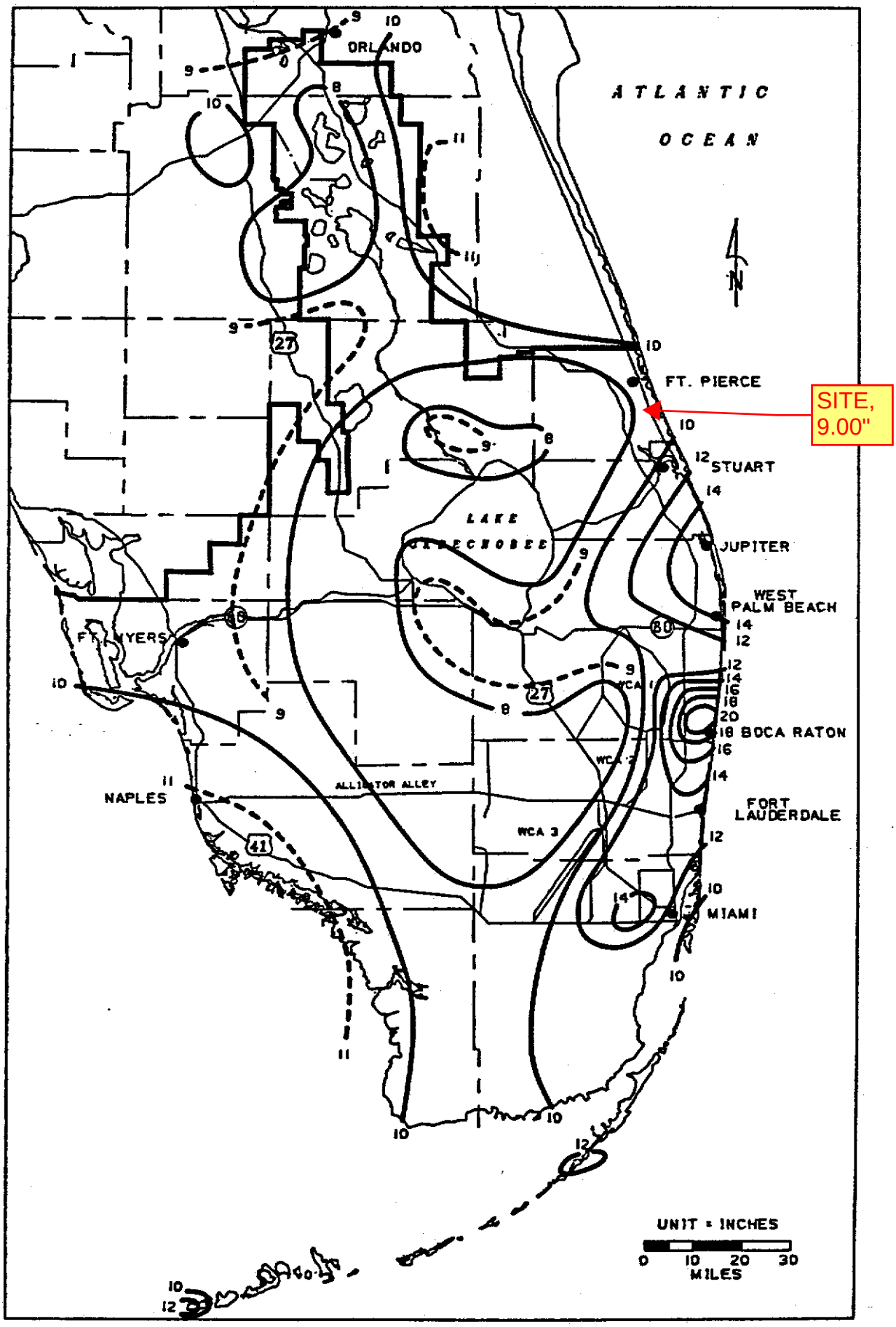


FIGURE C-6. 1-DAY RAINFALL: 100-YEAR RETURN PERIOD

Figure C-6

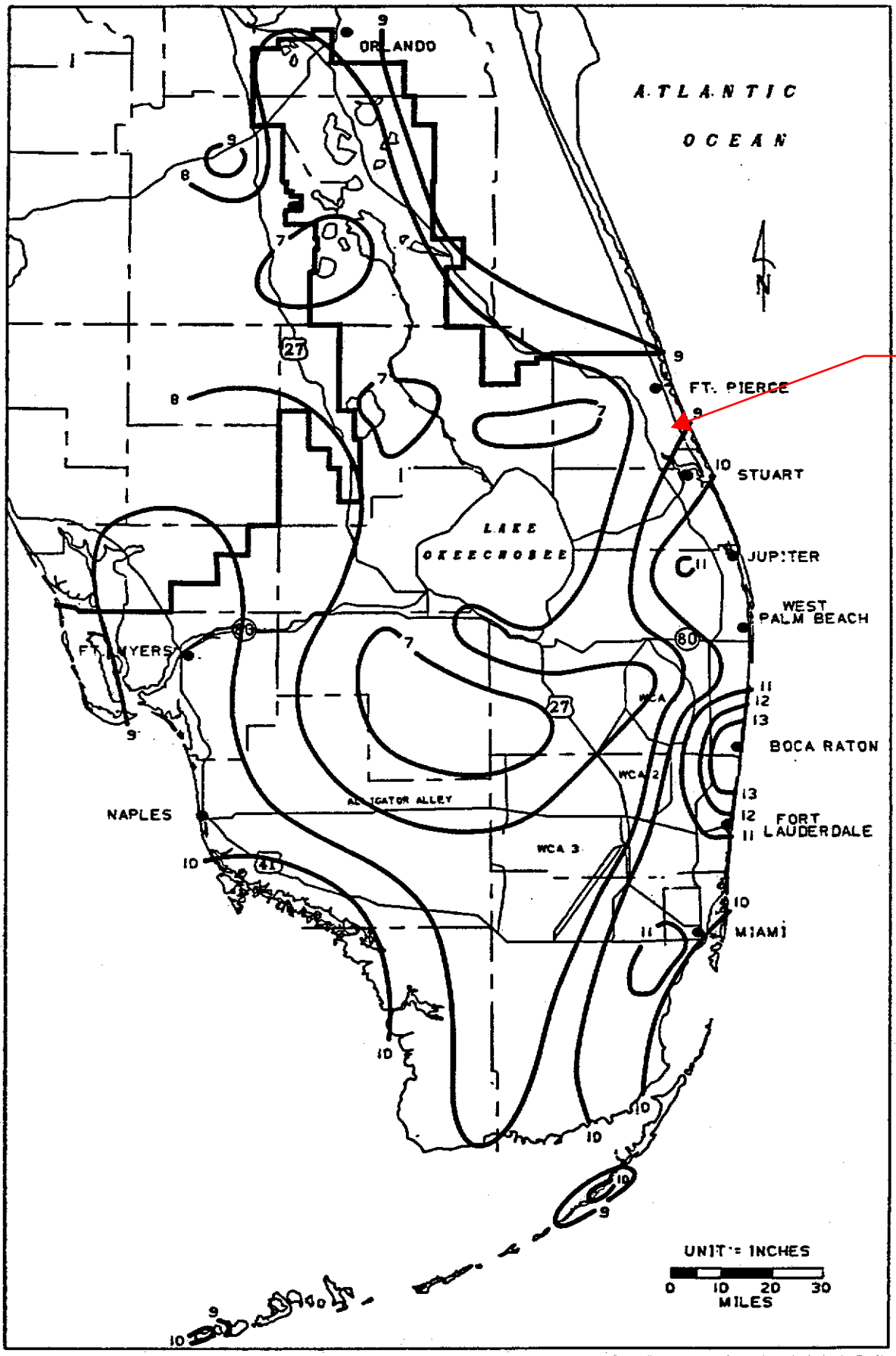


FIGURE C-7. 3-DAY RAINFALL: 10-YEAR RETURN PERIOD

Figure C-7

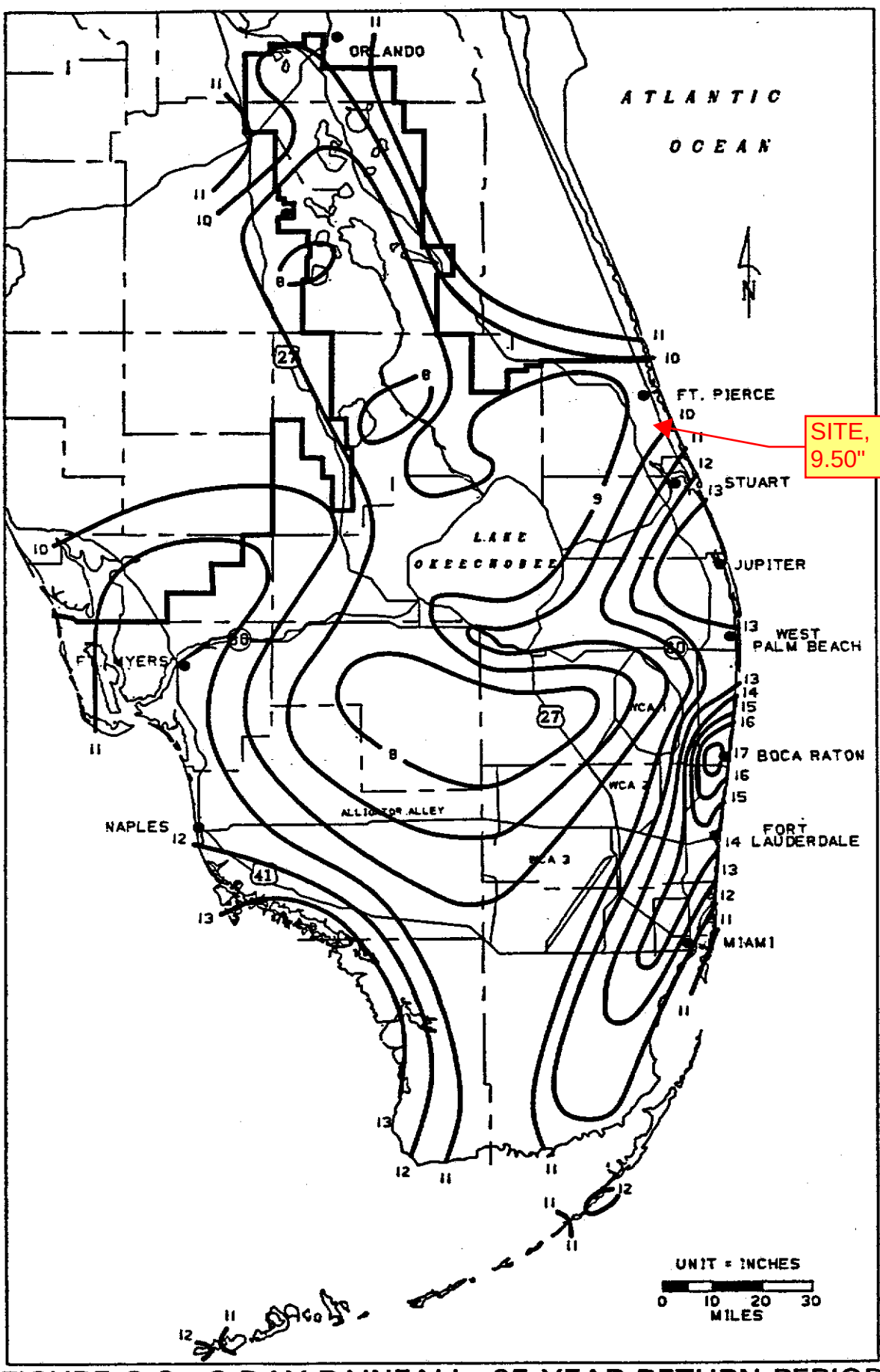


FIGURE C-8. 3-DAY RAINFALL: 25-YEAR RETURN PERIOD

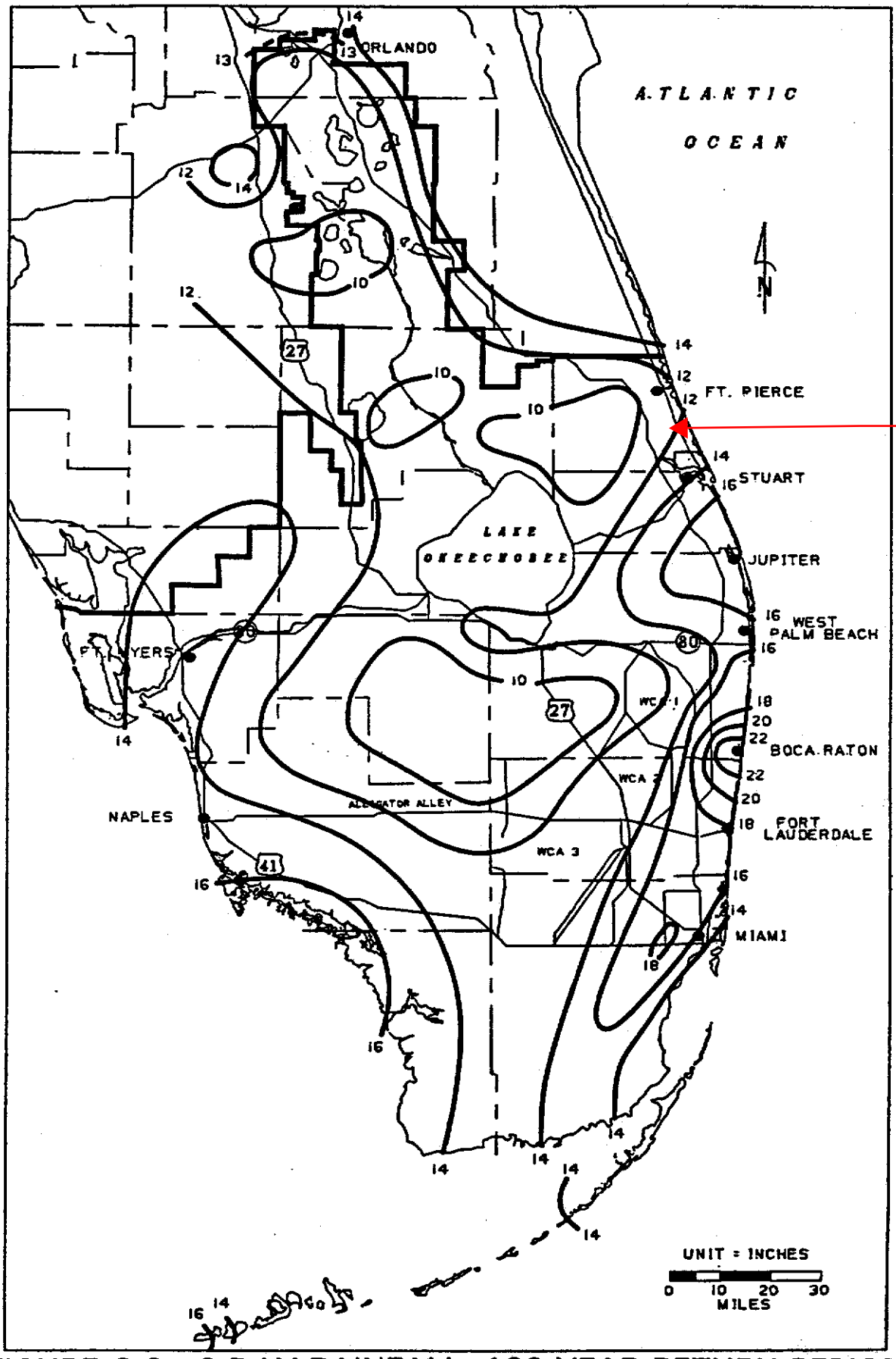


FIGURE C-9. 3-DAY RAINFALL: 100-YEAR RETURN PERIOD

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.

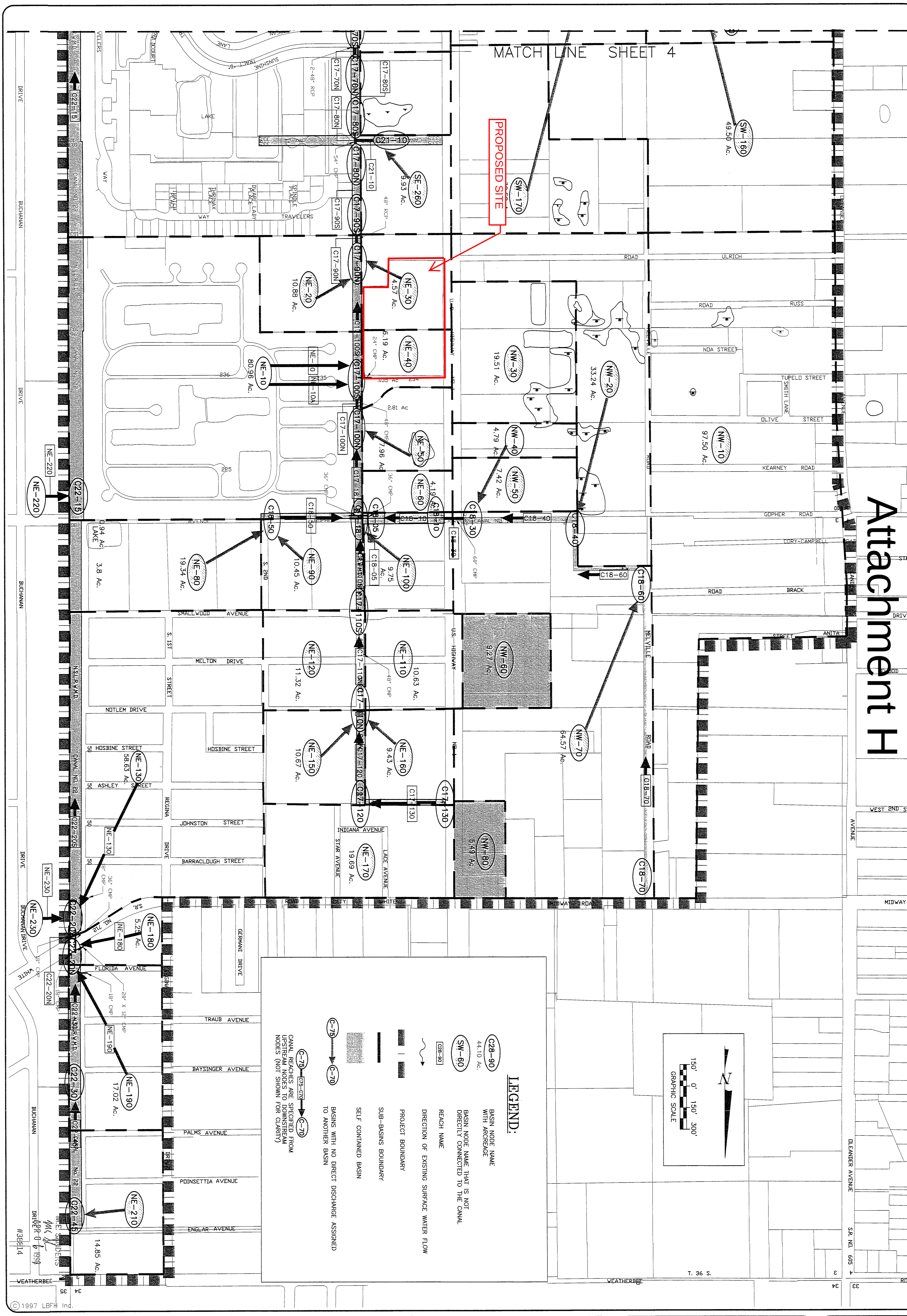
6 *Poor:* Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.
Fair: Woods are grazed but not burned, and some forest litter covers the soil.
Good: Woods are protected from grazing, and litter and brush adequately cover the soil.

Pre-site pervious condition

Post-site pervious condition

P:\98-0036\EN6\98036C05.dwg Wed Mar 31 15:26:58 1999 LBFH Inc.

Attachment H



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

LBFH
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

Original Signed
by
ANTHONY M. WATERHOUSE, P.E.,
DEPUTY DIRECTOR
WATER MANAGEMENT DIVISION
RESOURCE CONTROL DEPARTMENT

FILED WITH THE CLERK OF THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT

ON Original signed by: Vern Kaiser

BY _____ DEPUTY CLERK

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

GRAPHIC SCALE

0 — 80 — 160

(IN FEET)

1 inch = 80 ft.

LEGEND

- EXISTING CONTOUR
- TIME OF CONCENTRATION FLOW PATH
- LIMITS OF DEVELOPMENT

BASIN AREAS

		AC	%
DRAINAGE BASIN (TOTAL)	=	9.63 AC	100.0%

REVISIONS	DATE

JOB NO.	24-0465
DESIGNED	CJS
DRAWN	CJS
DATE	JANUARY 2025
CHECKED	AS
DATE ISSUED	

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728

1835 20TH STREET
VERO BEACH, FL 32960
PH. (772) 569-0035
FX. (772) 778-3617

MELBOURNE, FL - PH (321) 253-1510
FT. PIERCE, FL - PH (772) 468-9055

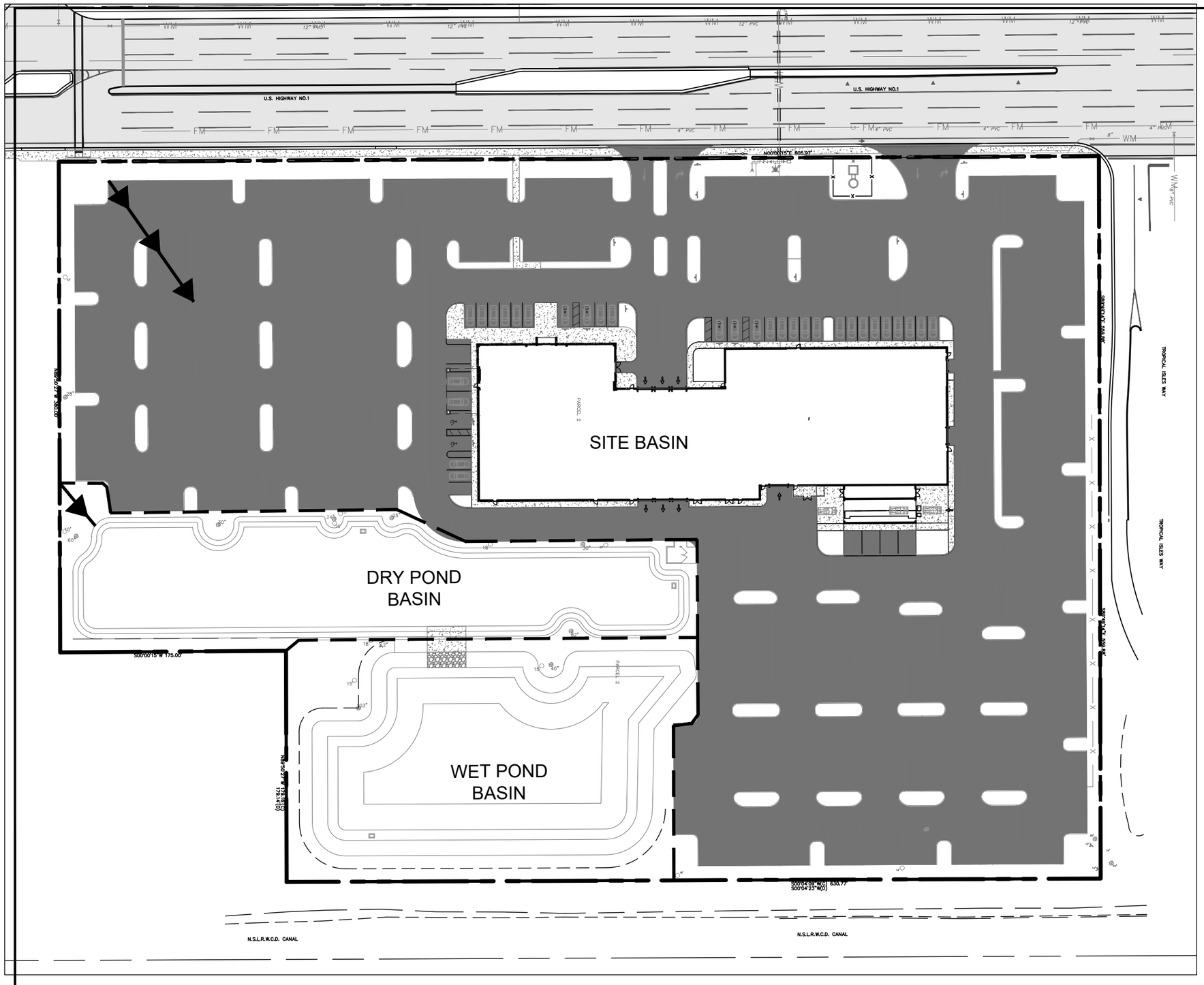
BEV-SMITH KIA

CITY OF FORT PIERCE — FLORIDA

PRE-DEVELOPMENT BASIN MAP

DATE: 01-30-2025

SHEET G1



GRAPHIC SCALE

0 80 160

(IN FEET)

1 inch = 80 ft.

LEGEND

EXISTING CONTOUR

TIME OF CONCENTRATION FLOW PATH

LIMITS OF DEVELOPMENT

BASIN AREAS		AC	%
DRAINAGE BASIN (TOTAL)	=	9.63 AC	100.0%
SITE BASIN	=	7.62 AC	79.1%
DRY POND BASIN	=	0.87 AC	9.0%
WET POND BASIN	=	1.15 AC	11.9%

REVISIONS	DATE

JOB NO.	24-0465
DESIGNED	CJS
DRAWN	CJS
DATE	JANUARY 2025
CHECKED	AS
DATE ISSUED	

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728

1835 20TH STREET
VERO BEACH, FL 32960
PH. (772) 569-0035
FX. (772) 778-3617

MELBOURNE, FL - PH (321) 253-1510
FT. PIERCE, FL - PH (772) 468-9055

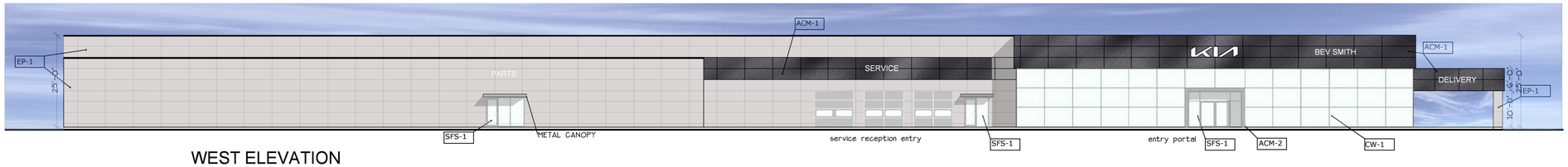
BEV-SMITH KIA

CITY OF FORT PIERCE FLORIDA

POST-DEVELOPMENT BASIN MAP

DATE: 01-30-2025

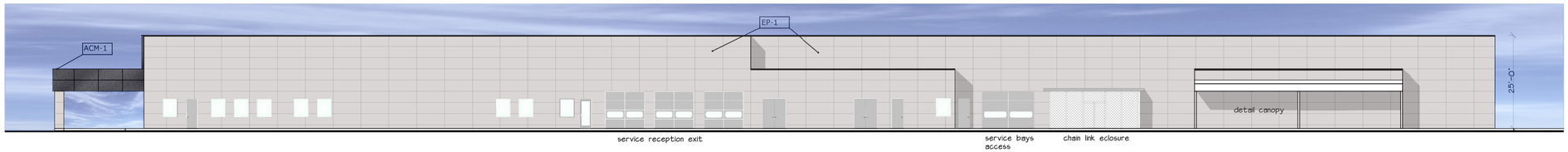
SHEET G2



WEST ELEVATION

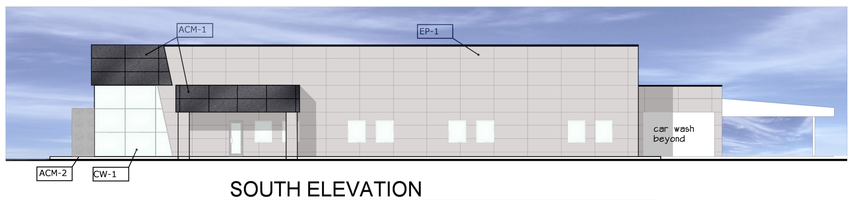
1/16"=1'-0"

0' 5' 10' 15' 20'



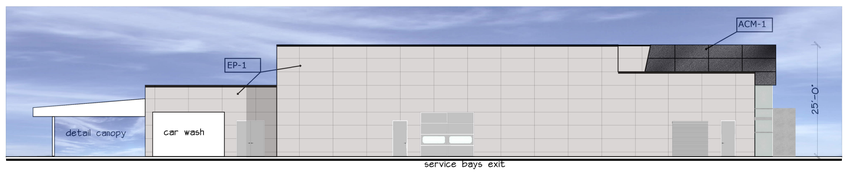
EAST ELEVATION

1/16"=1'-0"



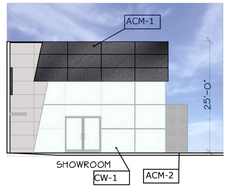
SOUTH ELEVATION

1/16"=1'-0"



NORTH ELEVATION

1/16"=1'-0"



PARTIAL NORTH ELEVATION

1/16"=1'-0"

EXTERIOR MATERIAL

ACM-1	ALUMINUM COMPOSITE MATERIAL
ACM-2	ALUMINUM COMPOSITE MATERIAL
CW-1	CURTAIN WALL clear anodized frame finish
SFS-1	STORE FRONT SYSTEM clear anodized frame finish
EP-1	STUCCO PAINTED BENJAMIN MOORE COLOR: BM HC-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

BEV SMITH KIA

5560 SOUTH U.S. HIGHWAY ONE, FORT PIERCE, FLORIDA

EXTERIOR ELEVATIONS

DATE: 1/28/25
DRAWN BY: G.P.
PROJ. NO. 2405
REVISED:

SHEET:

A-2

IRRIGATION NOTES:

1. Irrigation system design requirements: 60 GPM minimum @ 40 PSI minimum at the point of connection. The Irrigation Contractor shall verify the available GPM and PSI prior to installation of the system. Point of connection shall be to the potable water service line..

2. Do not willfully install the irrigation system as shown on the drawings when it is obvious in the field that conditions exist that might not have been considered in the design process. For example : obstructions, grade differences, water levels, dimensional differences, etc. Refer to the Landscape Plan to avoid conflicts with proposed trees or shrubs.

3. Piping may sometimes be indicated as being located in unlikely areas: i.e., under buildings or pavement, outside of property lines, in lakes or ditches, etc. This is done for graphic clarity only. Whenever possible, piping is to be installed in open, "green" areas.

4. Contractor shall verify all underground utilities prior to commencement of work. The contractor is advised that city underground utilities are present in the work area. Contractor shall secure locates from utilities prior to any excavation. use permits.

5. Contractor shall install pop-up sprinklers 6" from edge of sidewalk, 12" from walls and edge of road or parking area. Install shrub risers 18" from sidewalk, walls and edge of road or parking area.

6. Irrigation system design is diagrammatic to improve clarity. All mainline piping, electric valves and wiring are to be installed in landscape areas and within Right of Way boundaries.

7. If required, the Irrigation Contractor shall provide the necessary "Right of Way"

8. Install bubblers on all large trees and palms.

9. Size all pipe to insure flow velocity is under 5 feet per second.

10. Pipe sizes shall conform to those on the drawings. Substituting with smaller pipe sizes will not be permitted.

11. Mainline shall be installed with a minimum of 24" depth of cover. Lateral lines shall be installed with a minimum of 12" depth of cover.

12. Wherever practical, install valves in mulched beds and/or out of high traffic areas. All valves and wire splices shall be installed in heavy duty plastic valves boxes with covers that read irrigation and be sized as follows:

Remote Control Valves: standard 12" deep rectangle valve box
Drip Zone Control Kits: jumbo 15" deep rectangle valve box
Isolation Gate Valves: standard 12" deep rectangle valve box
Wire Splices: standard 12" deep rectangle valve box

13. Refer to Valve Designation Symbols for valve size, station number and designed flow rate for each remote control valve.

14. All 24 volt control cable to be UL Listed, single strand, type UF 600 Volt control cable. Size and color as follows:

Common Wires - size AWG #14 and WHITE in color.
Hot Wires - size AWG #14 and RED in color.
Spare Wires - size AWG #14 and BLUE in color.

15. All splices to the 24 volt control wiring shall be made with DBY or equal type connectors.

16. Run one (2) spare wires from controller in each direction of the mainline to furthest valves.

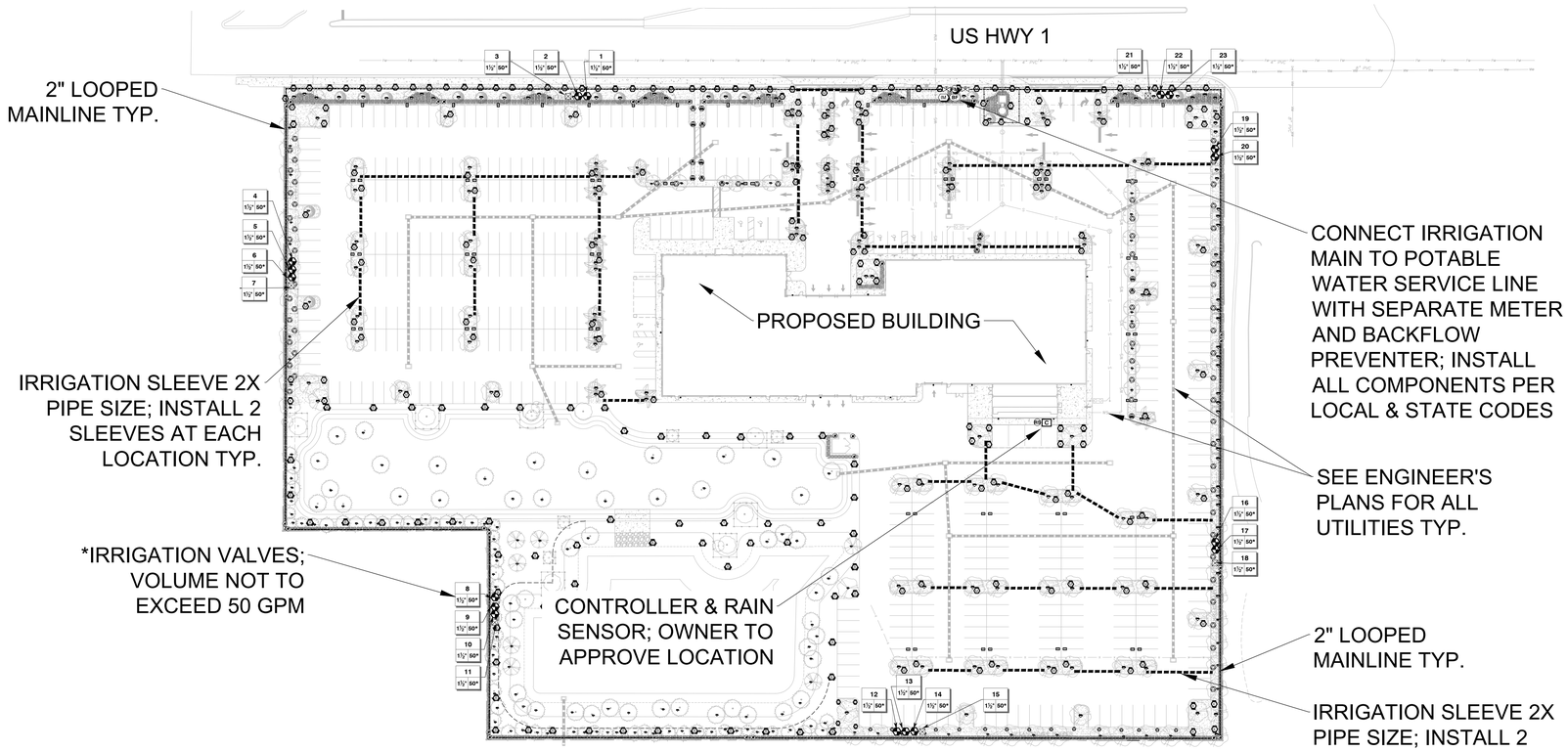
17. All pop-up sprinkler heads shall be installed level and flush to grade.

18. Provide and install rain sensor where it will be exposed to unobstructed sun/rainfall and connect to irrigation controller.

19. All sleeves shall be 2 nominal pipe sizes larger than the size of the pipe to be accommodated. All pipe crossings over 5 feet in length shall be installed inside PVC pipe sleeving.

20. Any other equipment required that is not other wise detailed or specified shall be installed as per manufacturer's recommendations and specifications.

21. The final location of all components shall be approved by the project engineer and/or owner.



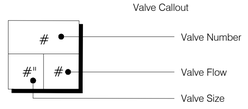
IRRIGATION SCHEDULE:

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
LST RST SST	Hunter MP Strip PROS-06-PRS40-CV-F Turf Rotator, 6" pop-up with factory installed check valve, floguard, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. LST=Ivory left strip, SST=Brown side strip, RST=Copper right strip.	93	40
M L O	Hunter MP1000 PROS-06-PRS40-CV-F Turf Rotator, 6" pop-up with check valve, floguard, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. M=Maroon adj arc 90 to 210, L=Light Blue 210 to 270 arc, O=Olive 360 arc.	150	40
K G R	Hunter MP2000 PROS-06-PRS40-CV-F Turf Rotator, 6" pop-up with factory installed check valve, floguard, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. K=Black adj arc 90-210, G=Green adj arc 210-270, R=Red 360 arc.	31	40
B Y A	Hunter MP3000 PROS-06-PRS40-CV-F Turf Rotator, 6" pop-up with factory installed check valve, floguard, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. B=Blue adj arc 90-210, Y=Yellow adj arc 210-270, A=Gray 360 arc.	60	40
25 50 10 20	Hunter PROS-00-PCN 10 Flood Bubbler, on a PROS-04.	359	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Hunter ICZ-151-XL-40 Drip Control Zone Kit. 1-1/2in. ICV Globe Valve with 1in. HY100 filter system. Pressure Regulation: 40psi. Flow Range: 20 GPM to 60 GPM. 120 mesh stainless steel screen. 1-1/2in. inlet x single 2in. outlet	6
	Pipe Transition Point in Drip Box	35
	Area to Receive Dripline Hunter HDL-06-18 On-Surface Pressure Compensating Landscape Dripline. 0.6 GPH emitters at 18" O.C. Dripline laterals spaced at 18" apart, with emitters offset for triangular pattern.	6,542 lf

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Hunter PGV-151 1-1/2" Plastic Electric Remote Control Valves, Globe Configuration	17
	Gate Valve Aqualine Gate Valve or approved equal	2
BF	Febco 765 1-1/2" Pressure Vacuum Breaker, brass with ball valve SOV. Install 12" (305MM) above highest downstream outlet and the highest point in the downstream piping.	1
C	Hunter PHC-2400 Wi-Fi enabled, full-functioning controller with touchscreen, 24-Station fixed controller, 120 VAC, Outdoor model.	1
FM	Hunter HC-200 2" Flow Meter	1
RS	Hunter RAIN-CLIK Rain Sensor, with conduit installation, mount as noted. Normally closed switch.	1
IM	Irrigation Meter 1-1/2" Irrigation Meter	1
	Irrigation Lateral Line: PVC Class 200	TBD*
	Irrigation Mainline: PVC Schedule 40	2,750 lf

Valve Callout



PIPE SIZING:

PIPE SIZE	GPM
3/4"	6-10
1"	11-16
1-1/4"	17-28
1-1/2"	29-35
2"	36-55
2-1/2"	56-80
3"	81-130

-CONTRACTOR TO FIELD VERIFY ALL IRRIGATION HEAD QUANTITIES TO ENSURE INDUSTRY STANDARD COVERAGE
-ALL TREES BUBBLERS, SHRUB DRIP AREAS, & LAWN ROTORS TO BE ON SEPARATE ZONES
-*INSTALL ALL LATERAL LINES AS NEEDED WITH 12" COVER MINIMUM PER PIPE SIZING CHART
-MAINLINE & VALVE LOCATIONS ARE SHOWN FOR GRAPHIC PURPOSES ONLY; CONTRACTOR TO FIELD LOCATE AS NEEDED TO AVOID CONFLICTS WITH CIVIL OR LANDSCAPE ITEMS.
-IRRIGATION COMPONENTS MAY BE SUBSTITUTED WITH LA/OWNER APPROVED ITEMS

DRAWING INDEX:

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

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
5560 US Hwy 1
Fort Pierce, Florida
Irrigation Plan

Revisions		
Date	Init.	Description
7.17.24	PG	1st Submittal
1.31.25	PG	Resubmittal

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" = 60'

0 30' 60' 120'

IRR-1

IRRIGATION SLEEVE 2X PIPE SIZE; INSTALL 2 SLEEVES AT EACH LOCATION TYP.

CONNECT IRRIGATION MAIN TO POTABLE WATER SERVICE LINE WITH SEPARATE METER AND BACKFLOW PREVENTER; INSTALL ALL COMPONENTS PER LOCAL & STATE CODES

US HWY 1

*IRRIGATION VALVES TYP.; VOLUME NOT TO EXCEED 50 GPM

2" LOOPED MAINLINE TYP.

AREAS TO RECEIVE DRIPLINE; SEE DETAIL ON SHEET IRR-3 TYP.

TREE BUBBLER; SEE DETAIL ON SHEET IRR-3 TYP.

PROPOSED BUILDING

IRRIGATION SLEEVE 2X PIPE SIZE; INSTALL 2 SLEEVES AT EACH LOCATION TYP.

SEE ENGINEER'S PLANS FOR ALL UTILITIES TYP.

LAWN ROTOR; SEE DETAIL ON SHEET IRR-3 TYP.

CONTROLLER & RAIN SENSOR; OWNER TO APPROVE LOCATION

*IRRIGATION VALVES TYP.; VOLUME NOT TO EXCEED 50 GPM

AREAS TO RECEIVE DRIPLINE; SEE DETAIL ON SHEET IRR-3 TYP.

2" LOOPED MAINLINE TYP.

TREE BUBBLER; SEE DETAIL ON SHEET IRR-3 TYP.

LAWN ROTOR; SEE DETAIL ON SHEET IRR-3 TYP.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*	1½" 50*

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MOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #37108

Bev Smith Kia Used Car Center

5560 US Hwy 1
Fort Pierce, Florida

Detail Irrigation Plan

Revisions

Date	Init.	Description
7.17.24	PG	1st Submittal
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REGISTERED LANDSCAPE ARCHITECT PAUL A. GOULAS LA 6666807 STATE OF FLORIDA

PAUL GOULAS, RLA
FLORIDA REG. # LA6666807

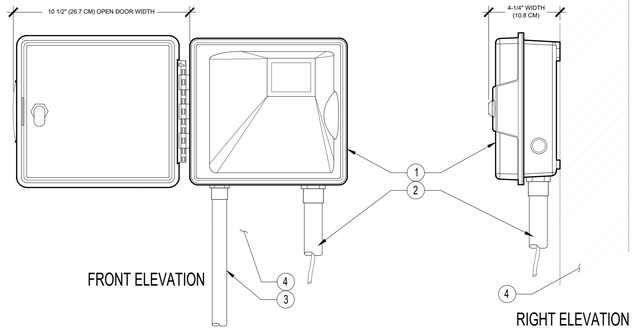
Drawn By:	PG
Checked By:	PG
Municipal Project:	
Scale:	

NORTH

SCALE: 1" = 30'

0 15' 30' 60'

IRR-2

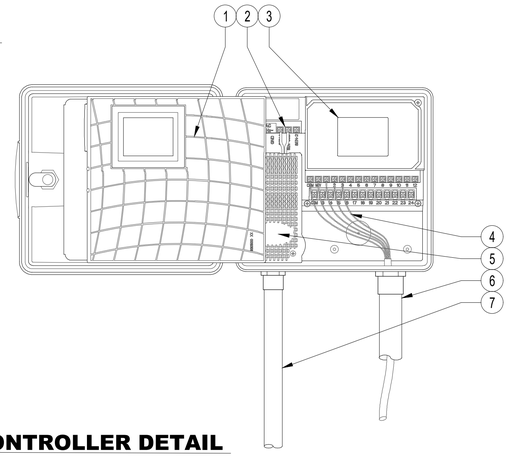


LEGEND:

1. IRRIGATION CONTROLLER (PRO-HC) PER PLAN
2. IRRIGATION CONTROL WIRE IN CONDUIT SIZE AND TYPE PER LOCAL CODES
3. ELECTRICAL SUPPLY CONDUIT CONNECT TO POWER SOURCE, J-BOX INSIDE CONTROLLER
4. ADJACENT SURFACE TO MOUNT CONTROLLER PER PLAN

NOTE
MOUNT CONTROLLER LCD SCREEN AT EYE LEVEL, CONTROLLER SHALL BE HARD-WIRED TO GROUNDED 110 VAC POWER SOURCE

CONTROLLER DETAIL



CONTROLLER DETAIL

LEGEND:

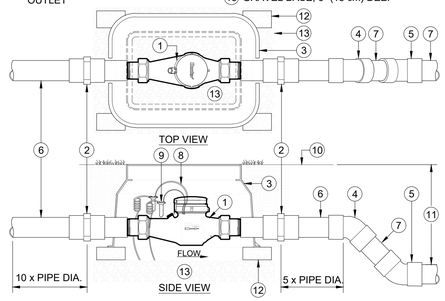
1. OPENED FACE PLATE
2. SENSOR INPUTS
3. SCREEN
4. CONTROL WIRES
5. TRANSFORMER
6. IRRIGATION CONTROL WIRE IN CONDUIT SIZE AND TYPE PER LOCAL CODES
7. ELECTRICAL SUPPLY CONDUIT CONNECT TO POWER SOURCE, J-BOX INSIDE CONTROLLER

NOTE
MOUNT CONTROLLER LCD SCREEN AT EYE LEVEL, CONTROLLER SHALL BE HARD-WIRED TO GROUNDED 110 VAC POWER SOURCE

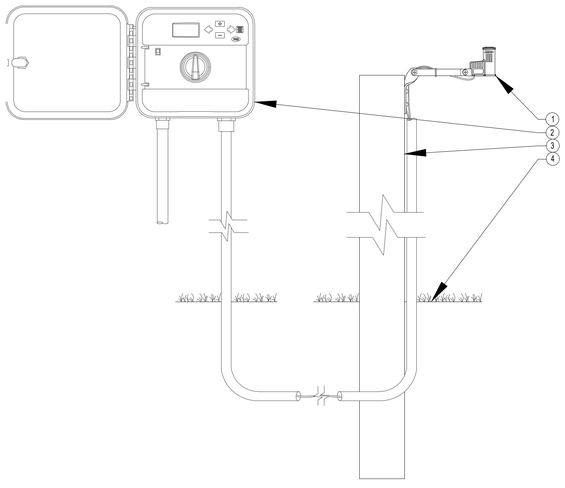
NOTE: INLET PIPE ENTERING METER: LENGTH MUST BE A MIN. OF 10 X PIPE DIA.
OUTLET PIPE LEAVING METER: LENGTH MUST BE MIN. OF 5 X PIPE DIA.
INLET AND OUTLET PIPE MUST BE STRAIGHT PIPE WITH NO FITTINGS OR TURNS UNTIL AFTER THESE SPECIFIED LENGTHS. PIPE AND FITTINGS MAY BE SCH 80 PVC SOLVENT WELD, THREADED SCH 80 PVC OR BRASS, AS REQUIRED FOR PROJECT.

DETAIL LEGEND:

1. HUNTER HC FLOW METER HC-200 WITH UNION CONNECTIONS
2. SCH 80 PVC FEMALE ADAPTER (S X T)
3. RECTANGULAR VALVE BOX PER SPECIFICATIONS
4. SCH 80 PVC 45 DEGREE ELBOW (S X S) TO LOWER MAIN LINE TO PROPER DEPTH (SIZE FOR LARGER MAIN LINE AS NEEDED)
5. SCH 80 PVC 45 DEGREE ELBOW (S X S) TO LOWER MAIN LINE TO PROPER DEPTH
6. 3" DIA. (80 mm) MAIN LINE AT INLET & OUTLET
7. MAIN LINE TO SYSTEM (SEE LEGEND AND PLANS FOR TYPE AND SIZE)
8. TWO WIRES TO FLOW SENSOR TERMINALS AT CONTROLLER. MIN. 18 AWG-UF (2.08 mm²), SHIELDED WIRE WITH DIFFERENT COLOR FROM CONTROL/COMMON WIRE.
9. WEATHERPROOF WIRE CONNECTOR
10. FINISH GRADE
11. SPECIFIED SOIL COVER (SEE LEGEND)
12. COMMON BRICK
13. GRAVEL BASE, 6" (15 cm) DEEP



FLOW METER DETAIL



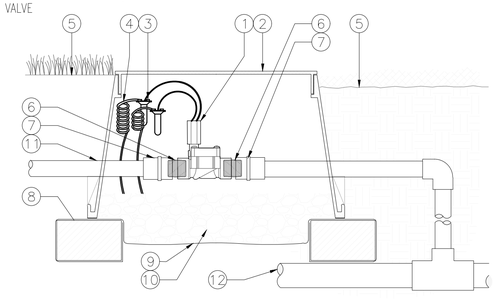
LEGEND:

1. RAIN-CLIK SENSOR
2. WALL MOUNT CONTROLLER
3. POST OR SUITABLE MOUNTING SURFACE
4. FINISHED GRADE

RAIN SENSOR DETAIL

LEGEND

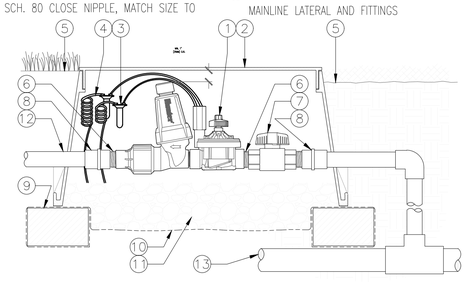
1. HUNTER REMOTE CONTROL VALVE (PGV)
2. IRRIGATION VALVE BOX: HEAT STAMP LID WITH 'RCV' IN 2" LETTERS
3. WATERPROOF CONNECTORS (2)
4. 18"–24" COILED WIRE TO CONTROLLER
5. FINISH GRADE AT ADJACENT SURFACE (TURF OR MULCH)
6. SCH. 80 CLOSE NIPPLE, MATCH SIZE TO VALVE
7. PVC SLIP X FPT ADAPTOR
8. BRICK SUPPORTS (4)
9. FILTER FABRIC – WRAP TWICE AROUND BRICK SUPPORTS
10. 3/4" WASHED GRAVEL – 4" MIN. DEPTH
11. IRRIGATION LATERAL
12. MAINLINE AND FITTINGS



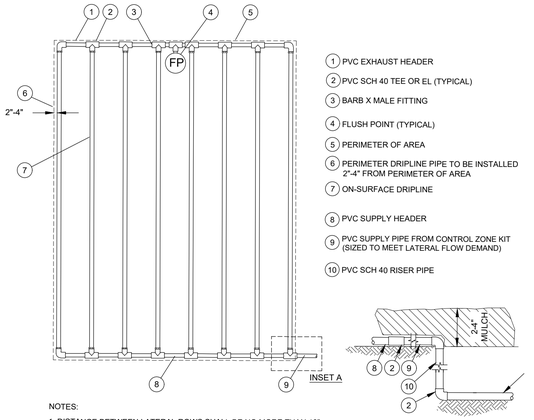
VALVE DETAIL

LEGEND

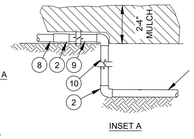
1. HUNTER REMOTE CONTROL VALVE (ICZ) WITH FILTER REGULATOR
2. IRRIGATION VALVE BOX: HEAT STAMP LID WITH 'RCV' IN 2" LETTERS
3. WATERPROOF CONNECTORS (2)
4. 18"–24" COILED WIRE TO CONTROLLER
5. FINISH GRADE AT ADJACENT SURFACE (TURF OR MULCH)
6. SCH. 80 CLOSE NIPPLE, MATCH SIZE TO MAINLINE LATERAL AND FITTINGS
7. VALVE
8. ISOLATION VALVE, SIZE AND TYPE PER PLAN
9. PVC SLIP X MPT ADAPTOR
10. BRICK SUPPORTS (4)
11. FILTER FABRIC – WRAP TWICE AROUND BRICK SUPPORTS
12. 3/4" WASHED GRAVEL – 4" MIN. DEPTH
13. IRRIGATION LATERAL



DRIP VALVE DETAIL

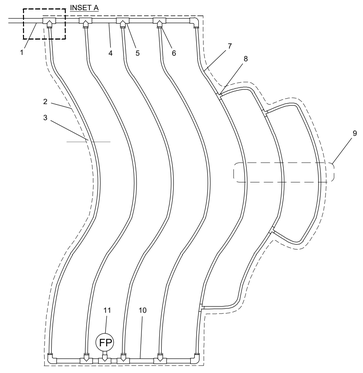


1. PVC EXHAUST HEADER
2. PVC SCH 40 TEE OR EL (TYPICAL)
3. BARB X MALE FITTING
4. FLUSH POINT (TYPICAL)
5. PERIMETER OF AREA
6. PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
7. ON-SURFACE DRIPLINE
8. PVC SUPPLY HEADER
9. PVC SUPPLY PIPE FROM CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
10. PVC SCH 40 RISER PIPE

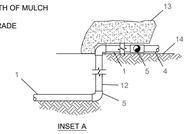


NOTES:
1. DISTANCE BETWEEN LATERAL ROWS SHALL BE NO MORE THAN 18".
2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED 230 FT.

ON-SURFACE DRIPLINE/END FEED LAYOUT



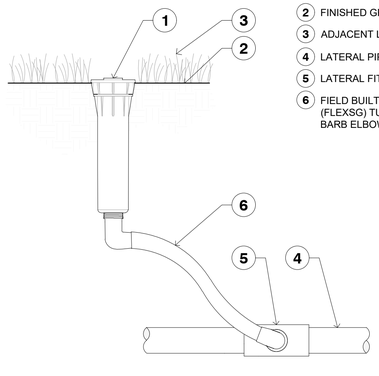
1. PVC SUPPLY PIPE FROM CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
2. PERIMETER OF AREA
3. PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
4. PVC SUPPLY MANIFOLD
5. PVC SCH 40 TEE OR EL (TYPICAL)
6. BARB X MALE FITTING:
7. ON-SURFACE DRIPLINE:
8. BARB X BARB INSERT TEE:
9. TOTAL LENGTH OF SELECTED DRIPLINE SHOULD NOT EXCEED LENGTH AS NOTED.
10. PVC FLUSH HEADER
11. FLUSH POINT
12. PVC RISER PIPE
13. 2"-4" DEPTH OF MULCH
14. FINISH GRADE



NOTES:
1. DISTANCE BETWEEN LATERAL ROWS SHALL BE NO MORE THAN 18".
2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED 230 FT.

ON-SURFACE DRIPLINE / TYPICAL ODD CURVES LAYOUT

DRIP DETAILS



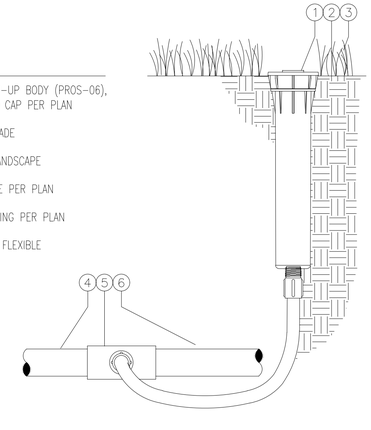
LEGEND

1. HUNTER POP-UP BODY PROS-04: WITH BUBBLER NOZZLE PER PLAN
2. FINISHED GRADE
3. ADJACENT LANDSCAPE
4. LATERAL PIPE PER PLAN
5. LATERAL FITTING PER PLAN
6. FIELD BUILT SWING ARM WITH (FLEXSG) TUBING AND SPIRAL BARB ELBOWS (HSBE)

PROS-4/BUBBLER DETAIL

LEGEND

1. HUNTER POP-UP BODY (PROS-06), NOZZLE AND CAP PER PLAN
2. FINISHED GRADE
3. ADJACENT LANDSCAPE
4. LATERAL PIPE PER PLAN
5. LATERAL FITTING PER PLAN
6. FIELD-BUILT FLEXIBLE SWING ARM



PROS-6 DETAIL

Project Team

Landscape Architect:

LANDSCAPE ARCHITECTURAL SERVICES, LLC

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

Civil Engineer:

MBV ENGINEERING, INC.
MOA HOMES, MILLMAN & ASSOCIATES
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Bev Smith Kia
Used Car Center
5560 US Hwy 1
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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:	

IRR-3

TECHLIGHT
INNOVATION IN ILLUMINATION

CTLW 1 SERIES

Cutlass LED - Wall Pack

Catalog Number	
Project	Type

SERIES	LENGTH HEIGHT & WIDTH
CTLW 1	11.54" x 6.12" x 7.46"

FEATURES & SPECIFICATIONS

APPLICATION — The high performance luminaire is designed for full cutoff applications where long life, low maintenance, and consistent color rendering are required. Areas with limited accessibility due to fixture location or where heavy pedestrian traffic makes maintenance difficult are ideal applications such as building facade lighting or wall mounted security lighting. The contemporary design style of the luminaire allows it to be seamlessly integrated into existing systems when necessary.

CONSTRUCTION — The heavy duty housing is constructed of die cast aluminum. The optical assemblies are sealed in place using a silicone gasket for weather tight protection. IP66 rating available upon request.

FINISH — A Super Durable Polyester E-coat powder coat finish is electrostatically applied in our state of the art paint facility. Standard colors available: Black, Bronze, US Green, White. Custom colors available upon request.

OPTICAL SYSTEM — Made with a state of the art UV stabilized acrylic high performance refractive optical assemblies that use high transmittance materials to achieve precise photometric distributions. Available in Type II, III, and IV beam configurations. Star Light Friendly (meets or exceeds Dark Sky requirements) in the horizontal position.

ELECTRICAL SYSTEM —Available in a high output LED system in 5000K Cool White (+/- 500K) , 4000K Neutral White or 3000K Warm White color. Available with 90-300V 50/60 Hz Class II power supply. LED's rated for over 100,000 hours at 55°C ambient temperature. Available with 120~277V 50/60 Hz power supply. 480V and 347V input option. Built-in surge protection up to 6 kV. Built-in Active PFC Function LED driver conforms to UL8750 standards.

MOUNTING — Quick mount bracket connects to a standard J-Box. The bracket has a unique hanging feature to allow easy wire connections. After connections are made, the fixture swings down and is secured with two retaining screws at the bottom of the fixture.

LISTINGS — LED Driver listed for wet locations. LED bricks ETL listed for wet locations. Meets US and Canadian safety standards. -40°C to 50°C ambient operation.

ORDERING INFORMATION

Choose the bold face options for the appropriate luminaire configuration for your application and enter on the line above each fixture attribute. Accessories may be factory installed, depending on the particular accessory chosen, but still be ordered as a separate line item.

EXAMPLE:
CTLW 1 N 8L T4 1 BZ SCE

CTLW 1						
SERIES	COLOR TEMP/CCT	NOMINAL LUMENS[8]	OPTICS	VOLTAGE	FINISH	OPTIONS
	C = Cool White (5000K) **N** = Neutral White (4000K) **W** = Warm White (3000K)	**2L** = 2,000 Lumens **3L** = 3,000 Lumens **4L** = 4,000 Lumens **5L** = 5,000 Lumens **6L** = 6,000 Lumens **7L** = 7,000 Lumens **8L** = 8,000 Lumens **9L** = 9,000 Lumens **10L**[9] = 10,000 Lumens	**T2** = Type II **T3** = Type III **T4** = Type IV	**1** = Multi-Volt[1] **2** = 347-480V[8]	**BZ** = Bronze **BK** = Black **GR** = US Green **WH** = White **SP** = Special[2]	**SCE** = Side Conduit Entry (2 x ¾"-14 NPS Conduit) **BDS8** = Bird-deterrent spikes **PC3**[5] = Button Type Photocell 208-277V (1200W) **P1000PC**[5] = Button Type Photocell 120V (1000W) **HOEB**[6] = LED Battery Pack, 90 min **IMS**[3] = Fixture Mount Passive Infrared Motion Sensor **(IMS Lenses Below, Ordered Separately)** **TLWSFSP-L2**[4] = 360° lens, maximum coverage 48' diameter from 8' height **(IMS)** **TLWSFSP-L3**[4] = 360° lens, maximum coverage 40' diameter from 20' height **(IMS)** **IMSBTM**[7] = AC Powered Internal Network Wireless PIR & Daylight Harvesting Sensor. IMSBTM not available with HOEB option. ***(IMSBTM Lenses Below, Ordered as a Separate Line Item)*** **WHBL1**[7] = 360° PIR lens, maximum coverage 80' dia. from 40' height **(IMSBTM)**

ACCESSORIES (Order as separate line items)

TLWSFSIR-100 Remote Handheld Sensor Configuration Tool (For IMS Option)

Image of **IMS**[3] mounted externally when combined with **HOEB**[6] option.

NOTES

1 = Multi-Volt is an auto ranging power supply from 100V to 300V input.

2 = Custom RAL color matching is available. Contact your sales representative for additional info.

3 = TLWSFSP-L3 or L7 Lens must be ordered along with this sensor.

4 = Photo control shield available upon request. Lens must be ordered with IMS option.

5 =P1000PC operates at 120V and PC3 operates at 208-277V only.

6 =If selecting the HOEB option alongside the IMS option, the IMS sensor will be 'externally mounted' outside of the fixture. IMSBTM not available with HOEB option.

7 =WHBL1 Lens must be ordered along with the IMSBTM sensor.

8 =347-480V input available in 6L, 8L, and 10L ONLY.

9 = Reference Lumen Chart to identify CCT and Optic Type availability for 10L module. Some combinations may deviate from ordering logic shown above.

IP66

www.techlight.com

CTLW 1 Cutlass LED - Wall Pack

LUMINAIRE CHARACTERISTICS

Cool White - 5000K

Output ID	Nominal Lumens	TYPE II System Lumens	TYPE II System Watts	TYPE II Lm/W	TYPE III System Lumens	TYPE III System Watts	TYPE III Lm/W	TYPE IV System Lumens	TYPE IV System Watts	TYPE IV Lm/W
			BUG Rating			BUG Rating			BUG Rating	
2L	2,000	2,034	14	145	2,032	14	145	2,111	17	151
Bug Rating			B1-U0-G1			B0-U0-G1			B1-U0-G0	
3L	3,000	3,110	23	135	3,106	23	135	2,857	20	143
Bug Rating			B1-U0-G1			B1-U0-G1			B1-U0-G1	
4L	4,000	4,171	32	130	4,166	32	130	3,964	29	137
Bug Rating			B1-U0-G1			B1-U0-G1			B1-U0-G1	
5L	5,000	4,982	36	138	4,911	36	136	4,917	34	145
Bug Rating			B1-U0-G1			B1-U0-G1			B1-U0-G1	
6L	6,000	6,077	45	135	5,990	45	133	6,064	43	141
Bug Rating			B1-U0-G1			B1-U0-G1			B1-U0-G1	
7L	7,000	6,889	52	133	7,056	54	131	6,916	50	138
Bug Rating			B1-U0-G1			B1-U0-G2			B2-U0-G1	
8L	8,000	7,961	61	131	8,109	63	129	8,039	59	136
Bug Rating			B1-U0-G1			B1-U0-G2			B2-U0-G2	
9L	9,000	9,020	71	127	8,890	71	125	8,872	66	134
Bug Rating			B1-U0-G1			B1-U0-G2			B2-U0-G2	
10L	10,000	-	-	-	-	-	-	9,698	73	133
Bug Rating			-			-			B2-U0-G2	

Neutral White - 4000K

Output ID	Nominal Lumens	TYPE II System Lumens	TYPE II System Watts	TYPE II Lm/W	TYPE III System Lumens	TYPE III System Watts	TYPE III Lm/W	TYPE IV System Lumens	TYPE IV System Watts	TYPE IV Lm/W
			BUG Rating			BUG Rating			BUG Rating	
2L	2,000	2,034	14	145	2,032	14	145	2,111	14	151
Bug Rating			B1-U0-G1			B0-U0-G1			B1-U0-G0	
3L	3,000	3,110	14	145	3,106	23	135	2,857	20	143
Bug Rating			B1-U0-G1			B1-U0-G1			B1-U0-G1	
4L	4,000	4,171	32	130	4,166	32	130	3,964	29	137
Bug Rating			B1-U0-G1			B1-U0-G1			B1-U0-G1	
5L	5,000	4,982	36	138	4,911	36	136	4,917	34	145
Bug Rating			B1-U0-G1			B1-U0-G1			B1-U0-G1	
6L	6,000	6,077	45	135	5,990	45	133	6,064	43	141
Bug Rating			B1-U0-G1			B1-U0-G1			B1-U0-G1	
7L	7,000	6,889	52	133	7,056	54	131	6,916	50	138
Bug Rating			B1-U0-G1			B1-U0-G2			B2-U0-G1	
8L	8,000	7,961	61	131	8,109	63	129	8,039	59	136
Bug Rating			B1-U0-G1			B1-U0-G2			B2-U0-G2	
9L	9,000	9,020	71	127	8,890	71	125	8,872	66	134
Bug Rating			B2-U0-G1			B1-U0-G2			B2-U0-G2	
10L	10,000	-	-	-	-	-	-	9,698	73	133
Bug Rating			-			-			B2-U0-G2	

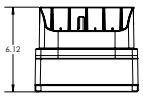
Warm White - 3000K

Output ID	Nominal Lumens	TYPE II System Lumens	TYPE II System Watts	TYPE II Lm/W	TYPE III System Lumens	TYPE III System Watts	TYPE III Lm/W	TYPE IV System Lumens	TYPE IV System Watts	TYPE IV Lm/W
			BUG Rating			BUG Rating			BUG Rating	
2L	2,000	1,932	14	138	1,930	14	138	2,006	14	143
Bug Rating			B1-U0-G1			B0-U0-G1			B1-U0-G0	
3L	3,000	2,954	23	128	2,951	23	128	3,066	23	133
Bug Rating			B1-U0-G1			B1-U0-G1			B1-U0-G1	
4L	4,000	3,963	32	124	3,958	32	124	4,113	32	129
Bug Rating			B1-U0-G1			B1-U0-G1			B1-U0-G1	
5L	5,000	4,733	36	132	4,665	36	130	4,671	34	137
Bug Rating			B1-U0-G1			B1-U0-G1			B1-U0-G1	
6L	6,000	5,773	45	128	5,690	45	126	5,761	43	134
Bug Rating			B1-U0-G1			B1-U0-G1			B1-U0-G1	
7L	7,000	6,545	52	126	6,703	54	124	6,570	50	131
Bug Rating			B1-U0-G1			B1-U0-G2			B2-U0-G1	
8L	8,000	7,563	61	124	7,703	63	122	7,637	59	129
Bug Rating			B1-U0-G1			B1-U0-G2			B2-U0-G2	
9L	9,000	8,569	71	121	8,446	71	119	8,953	71	126
Bug Rating			B2-U0-G1			B1-U0-G2			B2-U0-G2	
10L	10,000	-	-	-	-	-	-	-	-	-
Bug Rating			-			-			-	

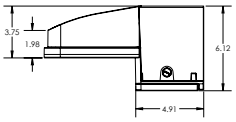
AVAILABLE FIXTURE DIMENSIONS

Dimensions shown are for fixture bodies only. Mounting options must be ordered separately.

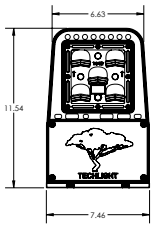
Front View



Side View

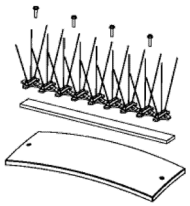


Bottom View



ADDITIONAL FIXTURE OPTIONS & ACCESSORIES

BDS8
Bird-Deterrent Spikes



P1000PC
Button-Type Photocell

LED's rated for over 50,000 hours at 25°C ambient temperature.

- = 347-480V Not Available

System Wattage	L70 @ 25°C	Amperage Draw 120V	208V	240V	277V	347V	480V
17	>100K	0.14	0.08	0.07	0.06	-	-
26	>100K	0.22	0.13	0.11	0.09	-	-
30	>100K	0.25	0.15	0.13	0.11	-	-
35	>100K	0.29	0.17	0.14	0.13	-	-
37	>100K	0.31	0.18	0.15	0.13	0.11	0.08
39	>100K	0.32	0.19	0.16	0.14	0.11	0.08
42	>100K	0.35	0.20	0.18	0.15	0.12	0.09
47	>100K	0.39	0.22	0.19	0.17	0.13	0.10
53	>100K	0.44	0.25	0.22	0.19	0.15	0.11
59	>100K	0.49	0.28	0.25	0.21	0.17	0.12
65	>100K	0.54	0.31	0.27	0.24	0.19	0.14
71	>100K	0.60	0.34	0.30	0.26	0.21	0.15
78	>100K	0.65	0.37	0.32	0.28	0.22	0.16

TECHLIGHT
GROUNDED IN ILLUMINATION
2707 SATSUMA I DR. DALLAS, TX 75229 I PH: 800.225.0727 I www.techlight.com

CTLW 1 Cutlass LED - Wall Pack

Integral Motion Sensor Blue Tooth Module (IMSBTM)

APPLICATION — The IMSBTM is an AC-powered, Integral Motion Sensor Blue Tooth Module, that is highly versatile for various indoor and outdoor lighting fixtures. It provides **360° coverage**, making it optimal for open spaces and aisleways. This sensor is particularly suitable for environments such as parking lots, fuel stations, walkways, and storage facilities. The WHBL1 lens is crafted for fixtures at mounting heights ranging from **20 to 40 feet**, ensuring a coverage span of up to **80 feet in diameter** at the maximum height of **40 feet**. These lenses are designed with multiple cells and tiers, creating a dense pattern of coverage.

- Analog Sensor Built-in
- Replaceable lens options
- 120-277V Line Voltage input
- Daylight harvesting available

OPERATION — Typically, the sensor ramps lighting On to the selected High mode level when motion is detected and the ambient light level is below the hold off setpoint. After the sensor stops detecting movement and the time delay elapses, lights fade to the Low mode level. If there is no motion during the subsequent cut off time delay, the lights will turn Off. For dusk to dawn control, the integral photocell can switch the lights On and Off based on the ambient light level so that lighting remains on overnight even without motion detection.

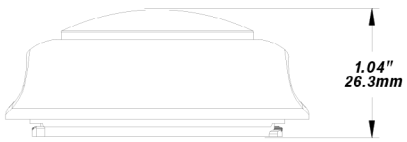
ADDITIONAL FEATURES

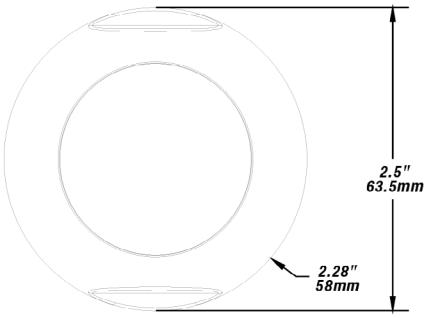
- **Wireless Control System:** Bluetooth® Low Energy Mesh 4.2 & 5.0 protocols. Enables individual or group control of luminaires.
- **Mobile App Operation:** Intuitive interface for easy management.
- **Flexible Commissioning:** Components commissioned via the Mobile App. No need for a gateway during commissioning.
- **Sensor Integration:** Works seamlessly with various sensors. Enhances energy efficiency and responsive lighting.
- **Mesh Network Range:** Wireless communication up to 100 feet or more between devices. Ideal for diverse spatial configurations.
- **Internet Independence:** Commissioning and operation without internet access. Ensures functionality in various environments.
- **Security Measures:** Data encryption for mesh network security. Device access restricted without encrypted QR codes.
- **UL 1376 Verification:** LiteTrace, the manufacturer, has UL 1376 verification. Ensures adherence to stringent security standards.
- **In-House R&D Capabilities:** Full-stack, in-house R&D for networked sensors and controllers. Reflects a high level of control and innovation.
- **Industry Recognition:** One of the first systems listed to DLC's Networked Lighting Controls (NLC5). Compliance with industry standards and specifications.

SENSOR LENS FIELD OF VIEW AND DIMENSIONS

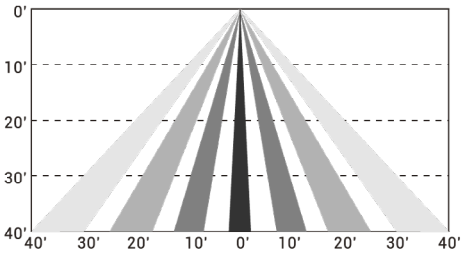
Note = WHBL1 Lens must be ordered along with the IMSBTM sensor.

WHBL1

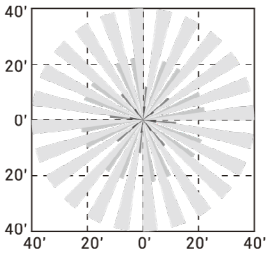




Coverage Side View

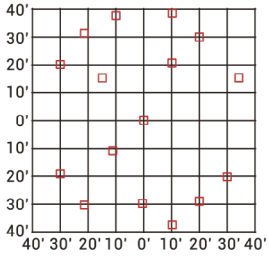


Coverage Top View



Height 40ft

Detecting Spots For Ref



Network Lighting Control App Instruction Manual
located on the Techlight Website -> Resources Page.
Location shown below, ***or*** scan the QR code to the right.
https://techlight.com/pdf/IMSBTM%20Manual.pdf

Download on the App Store

GET IT ON Google Play

FIXTURE MOUNT SENSOR (IMS)

FEATURES & SPECIFICATIONS

APPLICATION — The sensor is ideal for areas such as parking facilities, gas stations, pedestrian pathways, and warehouses. A choice of four lenses ensures complete coverage for mounting heights up to 40'.

OPERATION — Typically, the sensor ramps lighting On to the selected High mode level when motion is detected and the ambient light level is below the hold off setpoint. After the sensor stops detecting movement and the time delay elapses, lights fade to the Low mode level. If there is no motion during the subsequent cut off time delay, the lights will turn Off. For dusk to dawn control, the integral photocell can switch the lights On and Off based on the ambient light level so that lighting remains on overnight even without motion detection.

FEATURES —

- Provides line voltage On/Off switching
- High and low modes fully adjustable from 0 to 10V
- Time delay from 5 to 30 minutes
- Optional cut off delay
- Adjustable ramp up and fade down times
- Optional daylighting setpoints feature automatic calibration, or permit manual adjustment
- Polycarbonate construction; flame retardant, UV resistant, impact resistant, recyclable

TLWSFSIR-100
Remote Handheld Sensor Configuration Tool

SENSOR LENSES FIELD OF VIEW

4 = Photo control shield available upon request. Lens must be ordered with IMS option.

TLWSFSP-L2[4]

360° lens, maximum coverage 48' diameter from 8' height

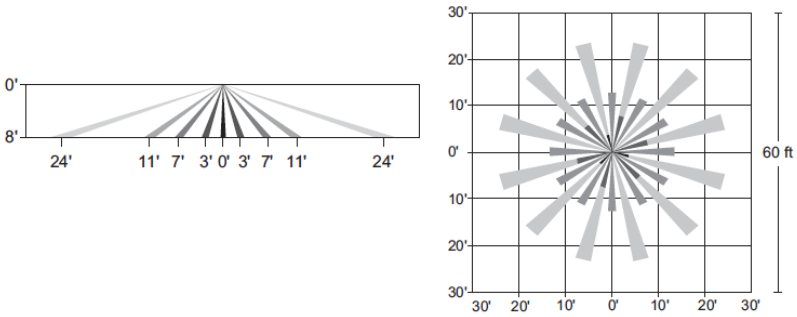
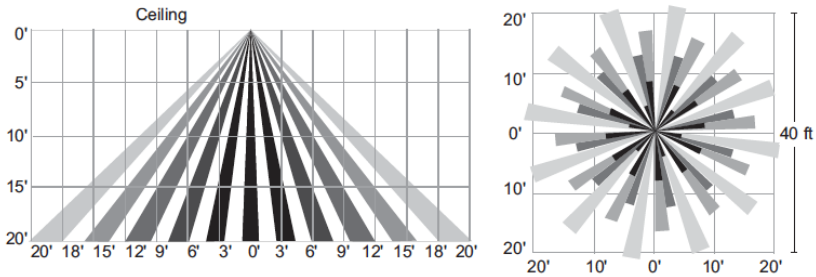


Image of **IMS**[3] mounted externally when combined with **HOEB**[6] option.

TLWSFSP-L3[4]

360° lens, maximum coverage 40' diameter from 20' height



WARNING: Maintenance performed including the replacement of LED bricks while power is still supplied to the lumenaire may result in system failures and will void the warranty

GridLite GL3

LED SITE + AREA LUMINAIRE

ENERGYLITE

PROJECT Bev Smith Kia

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

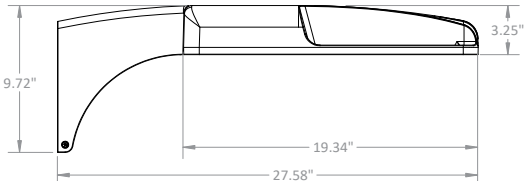
MOUNTING
- Extended site arm offers universal mounting, allowing for retrofit without drilling into existing poles
- All mounting options allow for multiple fixture installations at 90°
- Wall-mount and round pole adapters available for extended site arm

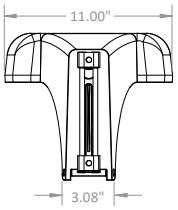
LISTINGS
- IP66-rated optical and electrical chambers
- 3G Vibration-rated (ANSI C136.31)
- cULus Listed for wet locations
- Zhaga D4i listed
- ANSI C136.15 labeling available
- Designed and manufactured in U.S.A.

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.

GridLite GL3

LED SITE + AREA LUMINAIRE

ENERGYLITE

PROJECT Bev Smith Kia

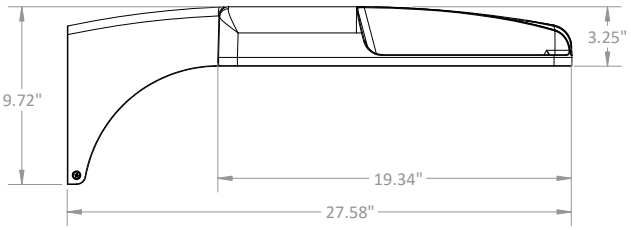
TYPE

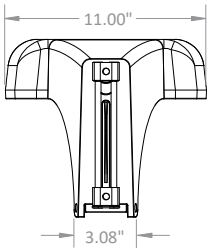
SPECIFICATION

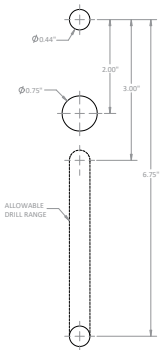
MOUNTING OPTIONS

EXTENDED SITE ARM (ES)

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

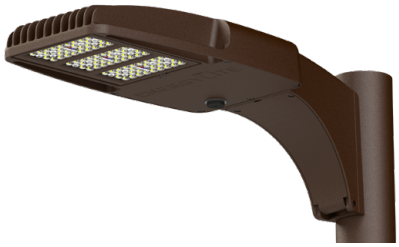






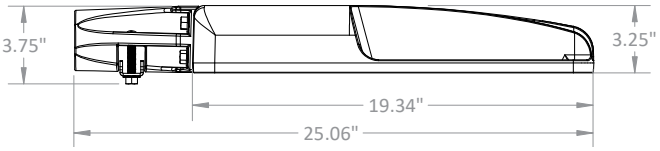
EXTENDED SITE ARM WITH WALL MOUNT (ES-WM)

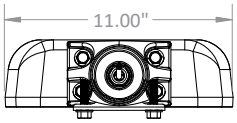
EXTENDED SITE ARM WITH ROUND POLE (ES-RP)



HORIZONTAL TENON (HT)

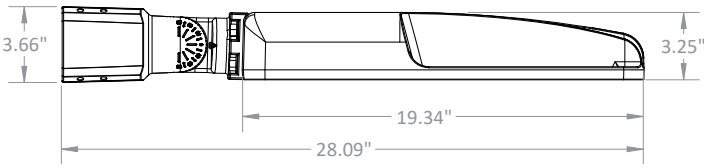
- Mounts to maximum 2⅜" O.D. tenon

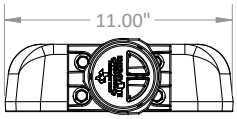


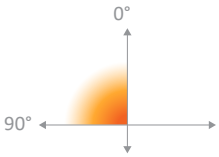


KNUCKLE MOUNT (KM)

- 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.

GridLite GL3

LED SITE + AREA LUMINAIRE

ENERGYLITE

PROJECT Bev Smith Kia

TYPE

SPECIFICATION

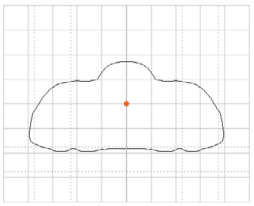
POLE CONFIGURATION EPAs

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

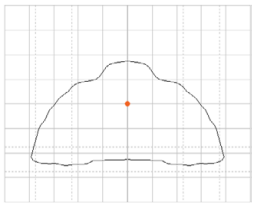
Mounting Type	Tilt	Single	2 at 90°	2 at 180°	2 at 120°	3 at 90°	3 at 120°	4 at 90°	2 Side-by-Side
Extended Site Arm	n/a	0.69 sq. ft.	1.10 sq. ft.	1.38 sq. ft.	1.46 sq. ft.	1.79 sq. ft.	1.87 sq. ft.	1.79 sq. ft.	0.82 sq. ft.
Extended Site Arm with Round Pole Adapter	n/a	0.73 sq. ft.	1.14 sq. ft.	1.46 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

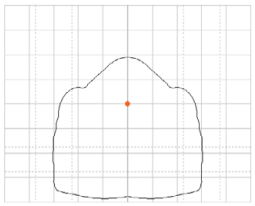
TYPE II ROADWAY MEDIUM



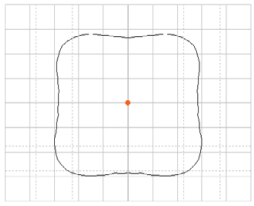
TYPE III ROADWAY MEDIUM



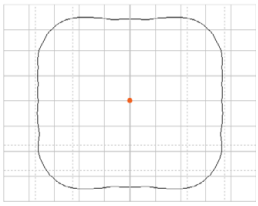
TYPE IV WIDE SHORT



TYPE V SQUARE SHORT



TYPE V SQUARE MEDIUM



SHIELD ACCESSORY DETAILS

HOUSE SIDE SHIELD

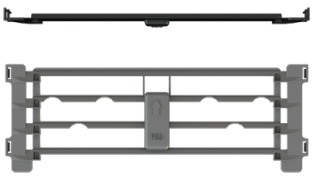
- Flat-black, injection-molded plastic resin
- Tool-less, clip-on discrete shield

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



GridLite GL3

LED SITE + AREA LUMINAIRE

ENERGYLITE

PROJECT: Bev Smith Kia

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

GridLite GL3

LED SITE + AREA LUMINAIRE

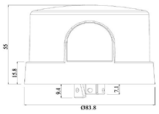
CONTROLS

0-10 V ZHAGA OPTIONS

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

PHOTOCELL OPTIONS

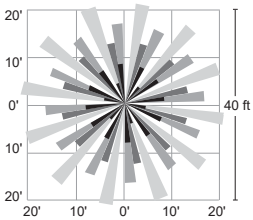
- PCL01: 120-277 V Photocell (640J, IP65); Blue
- PCL02: 120-277 V Photocell (1280J, IP66); Blue
- PCL03: 277-480 V Photocell (1280J, IP66); Yellow

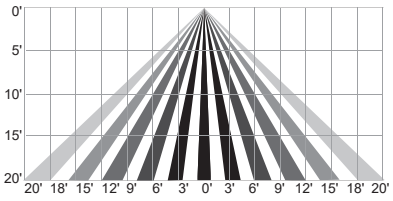


MOTION SENSOR DETAILS

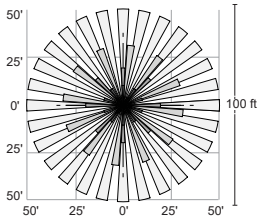
- Motion sensor option available – bi-level setting standard with low point of 50% and a 15-minute delay

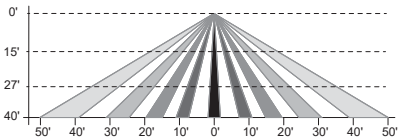
MOTION SENSOR COVERAGE (MS)
(for up to 20' height)





MOTION SENSOR COVERAGE (MH)
(for up to 40' height)





GridLite GL3

LED SITE + AREA LUMINAIRE

ENERGYLITE

PROJECT Bev Smith Kia

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

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

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.

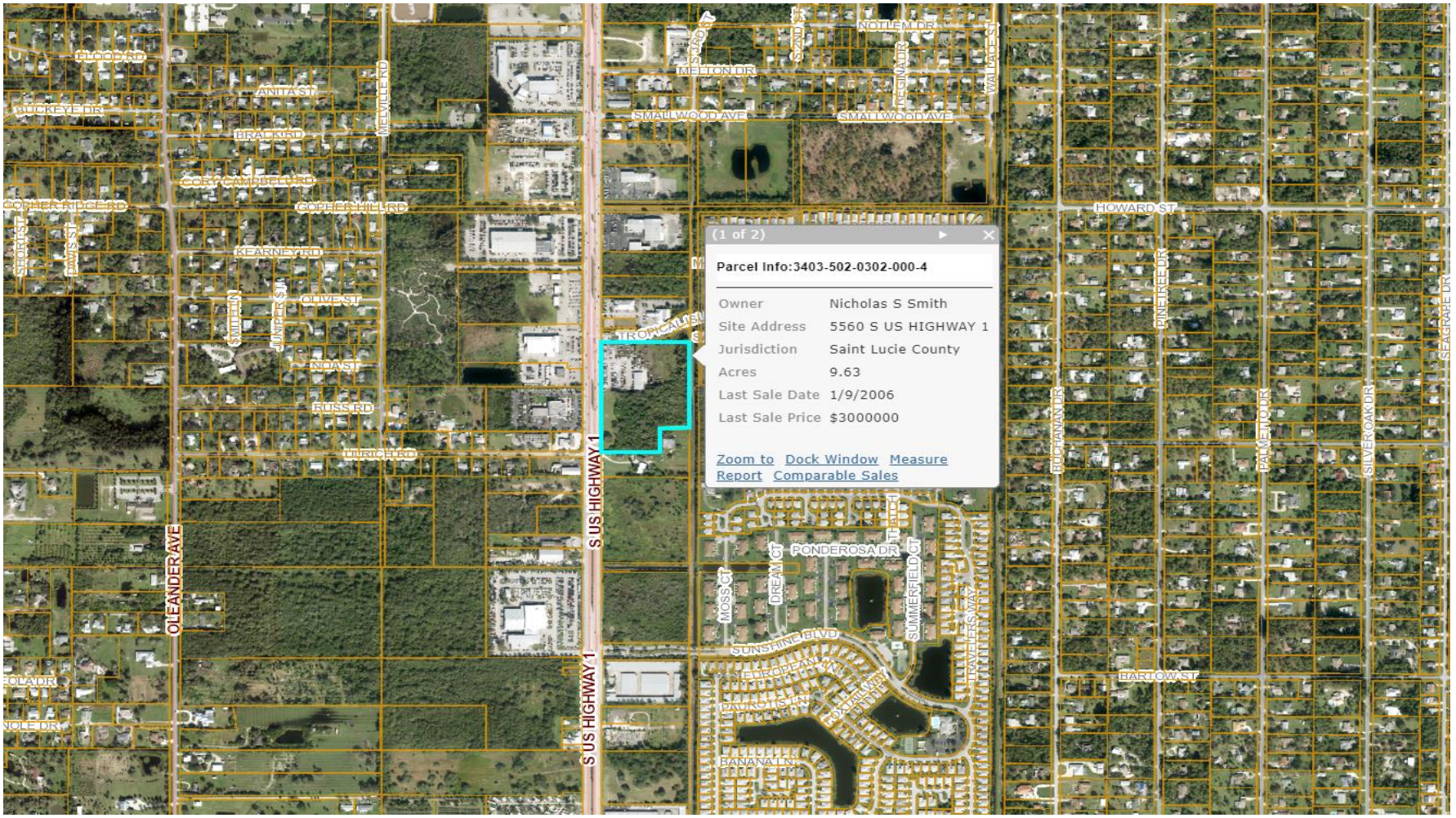
COUNTY REQUIREMENTS

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

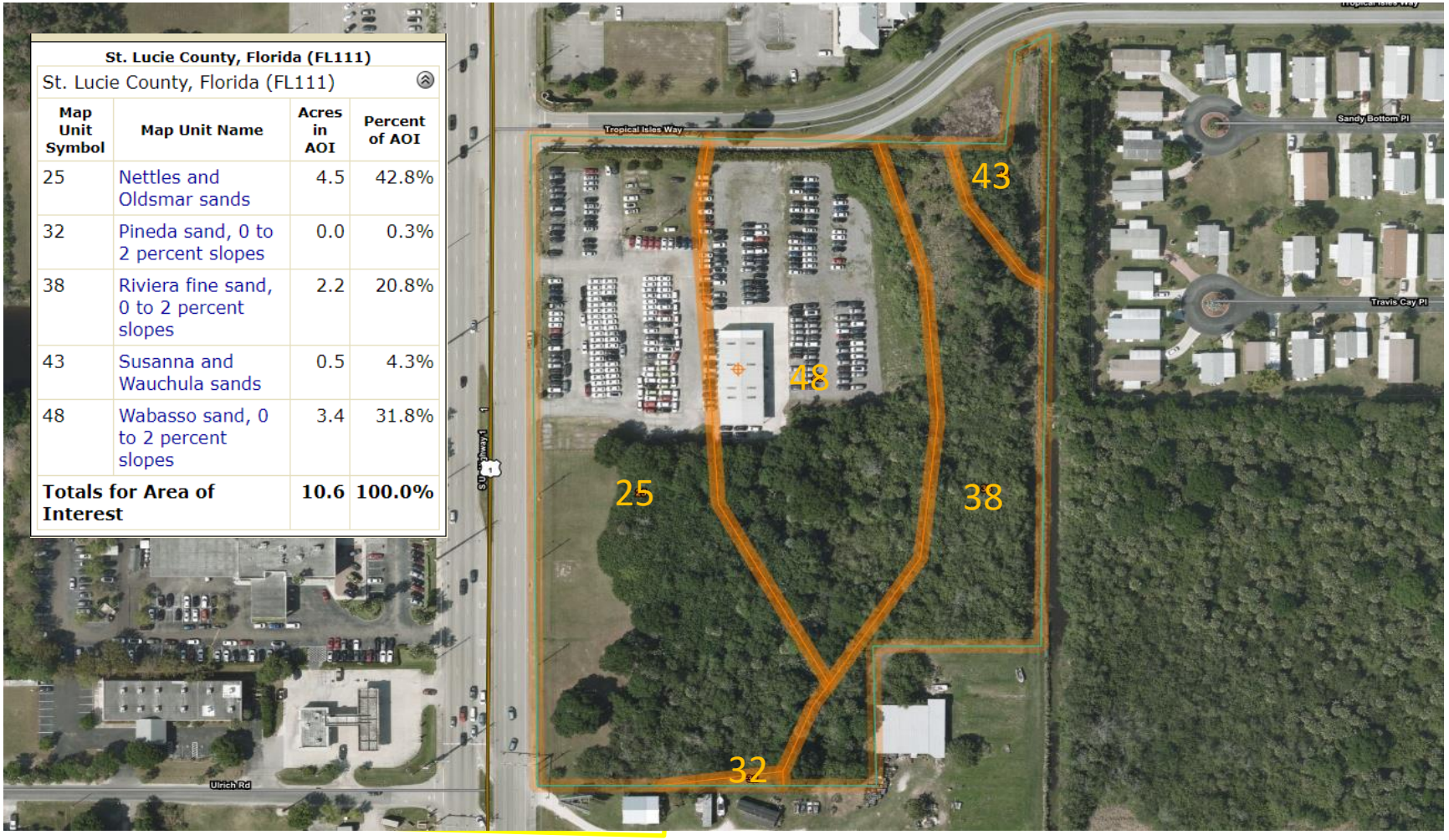
FLUCCS Map

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

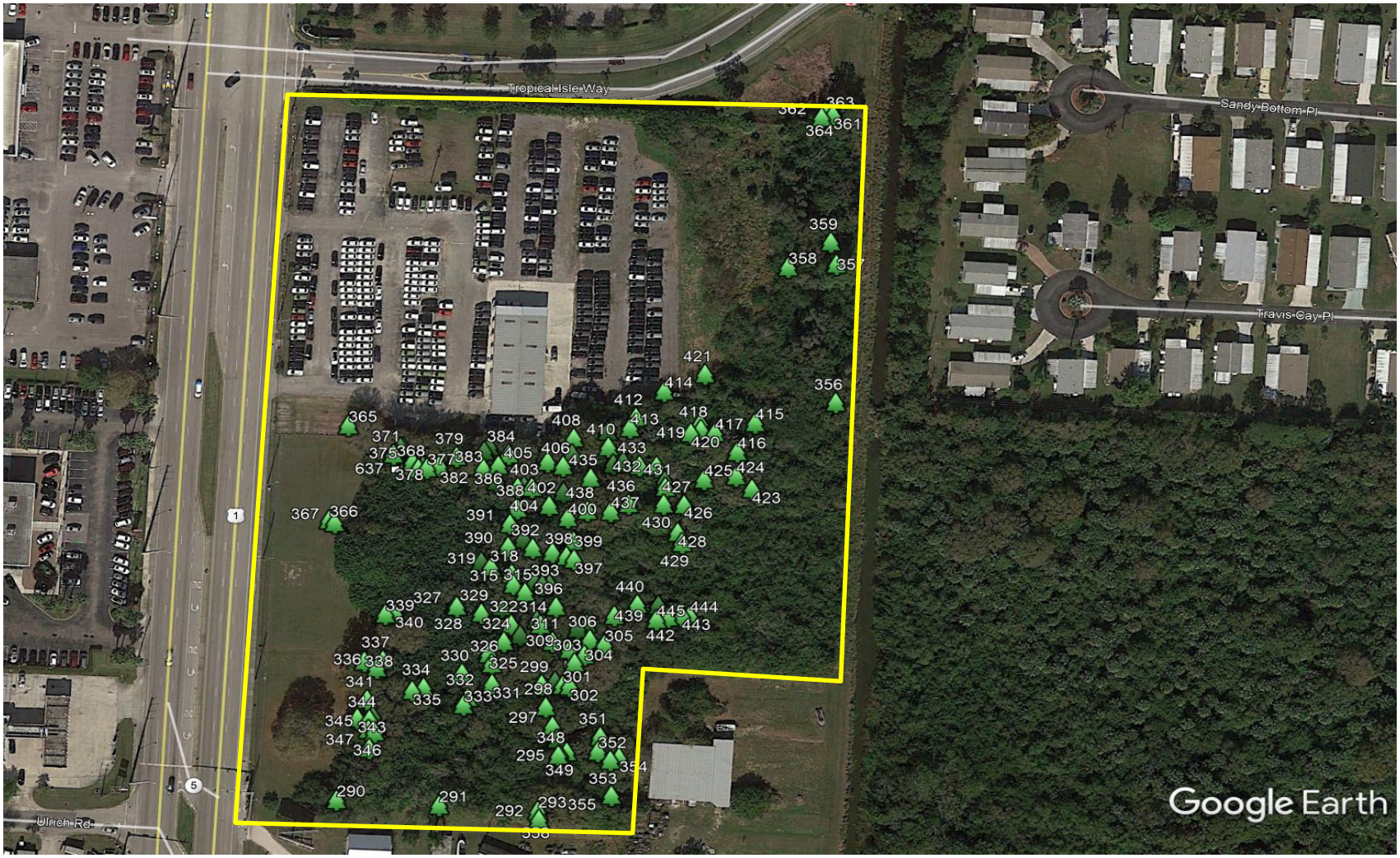
Soil Map

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

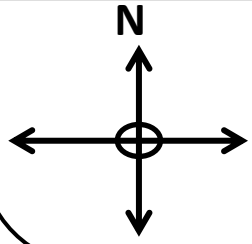
Advanced Restoration Ecology

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

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340	Laurel Oak	20"
341	Laurel Oak	13"
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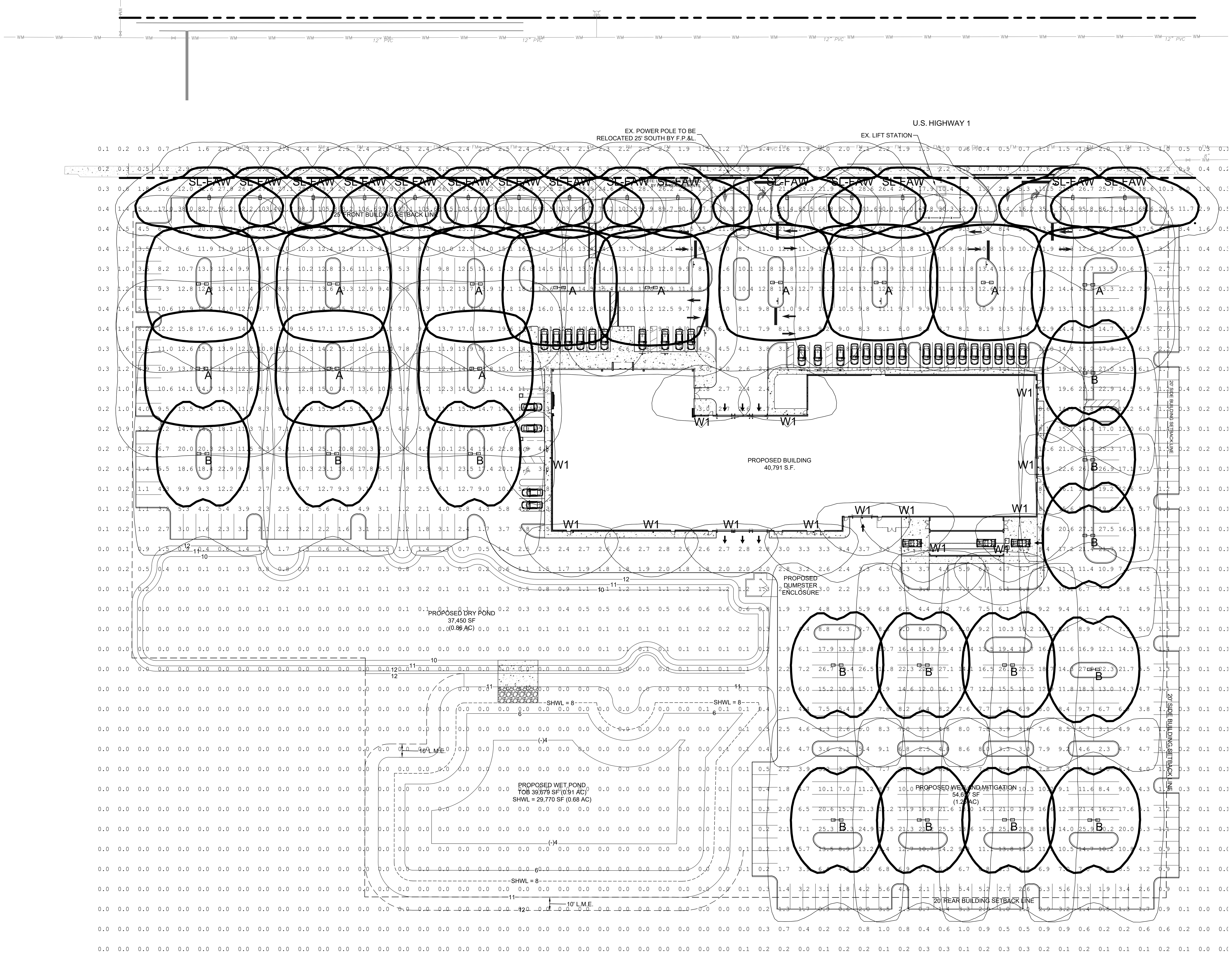
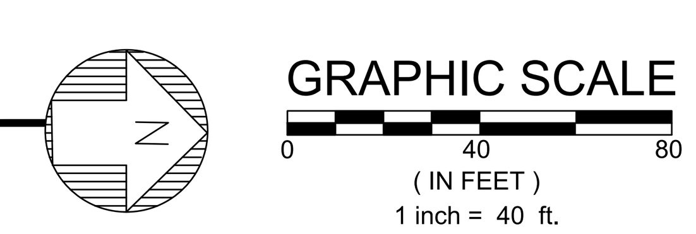


SITE LIGHTING PHOTOMETRY

SCALE: 1" = 40'



LIGHTING NOTES:

1. LIGHT POLES ARE DIRECT BURIAL, 25' TALL ABOVE GRADE.
2. WALL LIGHT FIXTURE LOCATIONS WILL BE FINALIZED WITH THE ELECTRICAL PLANS.

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ALL CALCULATION POINTS	Illuminance	Fc	7.35	106.6	0.0	N.A.	N.A.
FRONT ROW	Illuminance	Fc	78.04	106.6	5.1	15.30	20.90
SECONDARY DISPLAY AREAS	Illuminance	Fc	12.50	27.9	1.8	6.94	15.50

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Description	LLF	Watts	Total Watts
	14	W1	Single	WALL MOUNT CTLW-1-C-10-T3-1-COLOR / FINAL LOCATION AND HEIGHT T.B.D.	1.000	106.181	1486.534
	15	SL-FAW	Single	SINGLE LSMT 6 W 100L FAW / NEW 25' POLE / BLACK COLOR	1.000	699	10485
	12	B	Back-Back	TWIN GL3-40H-5SQ-750 / SP3225TII / BLACK COLOR	1.000	325	7800
	14	A	Back-Back	TWIN GL3-40H-3RM-750 / SP3225TII / BLACK COLOR	1.000	325	9100

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

O:\DRAWINGS\2024\24-0465 Bev Smith Kia New Dealership\2 - Correspondence\2 - Received\Lighting Consultant\2025-01-30 Lighting plans & cut sheets for sub\BW SLP1 - Standard\BW SLP1.dwg 1/31/2025 7:54 AM AARON STANTON

8	
7	
6	
5	
4	
3	
2	
1	
REVISIONS	DATE

JOB NO.	24-0465
DESIGNED	AS
DRAWN	GWR
DATE	JANUARY 2025
CHECKED	AS
DATE ISSUED	1/31/2025

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1835 - 20TH STREET
VERO BEACH, FL 32960
PH. (772) 569-0035
FX. (772) 778-3617
MELBOURNE, FL - PH (321) 253-1510
FT. PIERCE, FL - PH (772) 468-9055

SITE LIGHTING PHOTOMETRY

BEV SMITH KIA
NEW DEALERSHIP

CITY OF FORT PIERCE FLORIDA

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

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

SHEET

SLP1

24-0465

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

The following documents are NOT APPLICABLE to this project:

N/A Color Board

N/A Justification Statement

N/A Rendering of Signs (in Color)

Project Name: Bev Smith Kia

Application: Major Site Plan - Commercial Application

1835 20th Street
Vero Beach, FL 32960
772.569.0035
Fax: 772.778.3617

1250 W. Eau Gallie Blvd., Unit H
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

January 31, 2025

Re: Bev Smith KIA New Dealership

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

1835 20th Street
Vero Beach, FL 32960
772.569.0035
Fax: 772.778.3617

1250 W. Eau Gallie Blvd., Unit H
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