CITY OF FORT PIERCE
TECHNICAL REVIEW COMMITTEE

AGENDA

Regular Meeting of the Fort Pierce Technical Review Committee to be held Thursday, December 18, 2025 at 10:00 a.m. in the William D. Dannahower, 2nd Floor Conference Room, 100 North U.S. Highway 1.

1. **New Business:**

   a. **PZVAR2025-00009**
   Variance - Lot Coverage
   Helseth Residence
   1601 Frances Avenue

   b. **PZANN2025-00006**
   Annexation
   Tony Acerra
   Parcel ID: 2413-501-0154-000-6

   c. **PZANN2025-00008**
   John Alberti
   Annexation
   Parcel ID: 2413-501-0155-000-3

   d. **PZANN2025-00009**
   Annexation
   Michael Fowler and Sean Murray
   Parcel ID: 2413-501-0102-000-07

   e. **PZANN2025-00007**
   Annexation
   Tony Acerra
   Parcel ID: 2413-501-158-000-4

   f. **PZSITE2025-00041**
   Minor Site Plan
   FPUA Moore's Creek Booster Station
   Parcel ID: 2409-232-0007-000-3

g. **PZSITE2025-00043**
Major Site Plan Amendment
John Carroll High School
407 S. 33rd Street

Technical Review Committee - 10:00 AM **1. a.**

Meeting Date: 12/18/2025

REQUESTED ACTION

PZVAR2025-00009
Variance - Lot Coverage
Helseth Residence
1601 Frances Avenue

SUMMARY

A variance application has been submitted by applicant Steven Helseth, property owner, to add 178 sf to the existing driveway and carport. The requested extension is to deviate from the zoning requirements of only a 30% lot coverage. The request will add an additional 1.79% to the coverage. The property is located at 1601 Frances Ave., parcel ID: 2401-605-0096-000-3 is approximately 0.23 acres. The future land use is Residential Low (RL) and has a zoning of Single-Family Intermediate Density (R-2).

Please review the attached file and provide comments at least two days before the scheduled TRC meeting date by either emailing them to kdriver@cityoffortpierce.com adn planning@cityoffortpierce.com or direct upload onto Tyler. Please be sure to notify me via email if comments are directly uploaded. Should you require additional information, you may contact me at 773-467-3739.

LOCATION

Address: 1601 Frances Avenue
Parcel ID: 2401-605-0096-000-3
Legal Description: THUMB POINT BLK 6 LOT 7

RESPONSIBLE STAFF

Kerry C. Driver - Senior Planner

RECOMMENDATION

N/A

Attachments

TRC Packet

Form Review

Form Started By: Kerry Driver Started On: 12/03/2025 05:06 PM
Final Approval Date: 12/04/2025

Variance Request

Helseth Residence
1601 Frances Avenue
Lot 7 Block 6 of Thumb Point
Parcel ID# 2401-605-0096-000-3

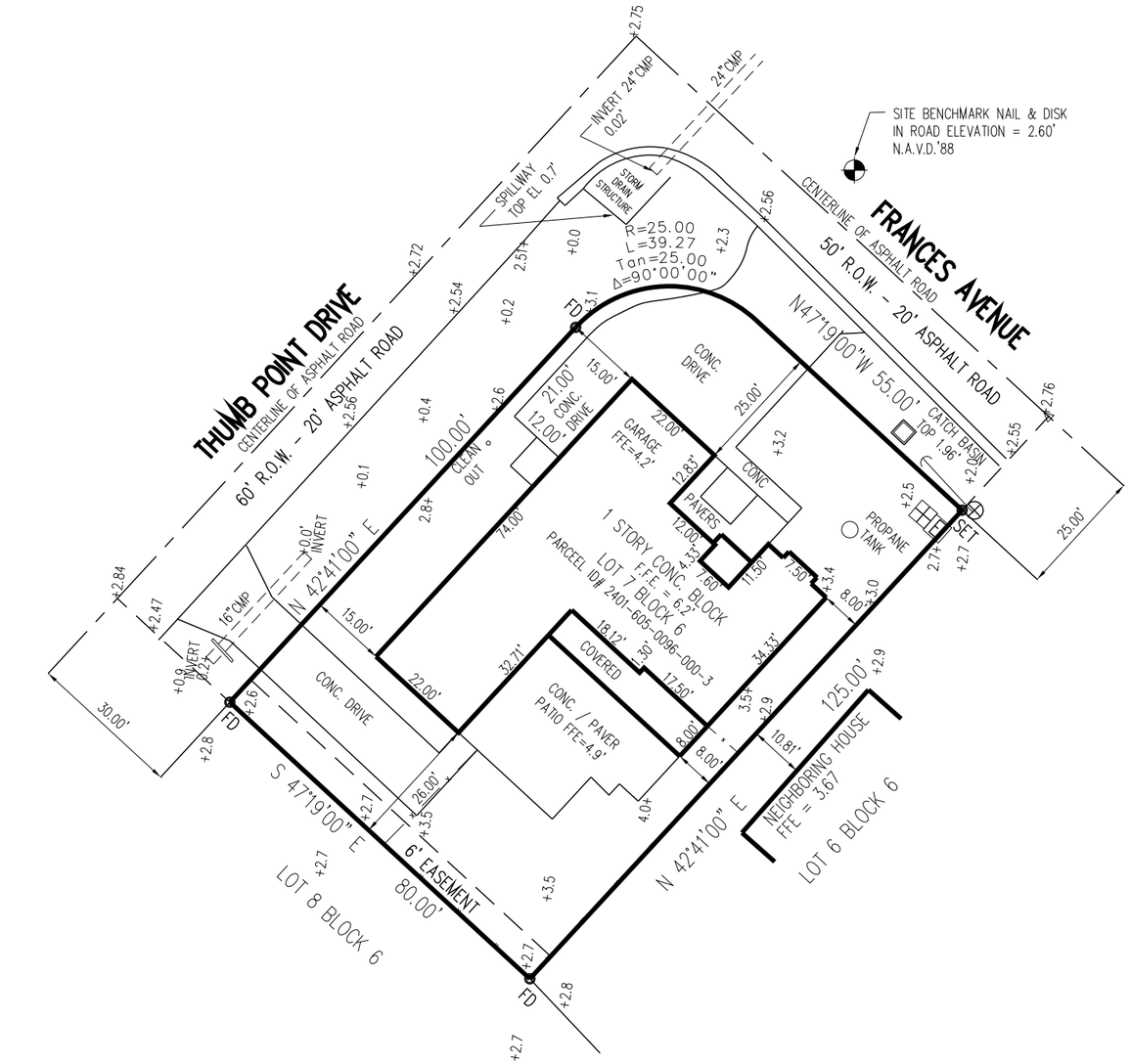
Mr. Helseth is seeking a dimensional variance from the current lot coverage code standard of 30% maximum building coverage (R-2).

His home is on a 10,000 SF lot with an allowed building coverage of 3,000 SF. Building a proposed roof extension over the existing rear driveway would provide necessary covered storage. The proposed covered carport addition would add 486 SF of coverage. If approved, his existing building coverage of 2,692 SF + 486 SF additional = 3,178 SF Total building / lot coverage.

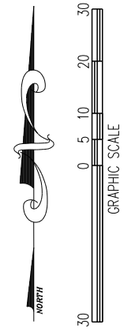
The 178 SF variance amount is the least departure from code standard which yields functional covered parking on this constrained corner lot with limited rear buildable area. Achieving required clearances and functional on-site covered parking within the setbacks creates a unique difficulty at this corner lot parcel.

The minimum impact design of this open ended carport (no walls) would allow for safe covered parking, maneuvering and storage of vehicles. No new enclosed area is requested beyond the roof. The design would ensure property setback compliance with no encroachments. The proposed construction quality is engineered to ASCE 7-22 wind loads and complies with impact protection as required in hurricane prone regions. The proposed concrete stucco / metal roof carport addition is compatible with similar structures in the neighborhood and would match the current home design. The roof addition would be well under the maximum height allowed by R-2 zoning requirements and under the highest point of the current home roof. On-site drainage would be maintained per current existing rear driveway plan.

BOUNDARY SURVEY



ALL ELEVATIONS SHOWN HEREON ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D.'88)



LEGAL DESCRIPTION:

(Supplied by Client)

LOT 7 IN BLOCK 6 OF THUMB POINT ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 10, PAGE 79, OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.

ABBREVIATIONS:

SET = SET 5/8" IRON REBAR WITH YELLOW CAP MARKED "PSM5543"
FD = FOUND 5/8 IRON REBAR
R/W = RIGHT OF WAY
(M) = MEASURED
(P) = PLATTED
(C) = CALCULATED
R = RADIUS OF CURVE
L = LENGTH OF CURVE
D= DELTA OF CURVE
FFE = FINISHED FLOOR ELEVATION
OH-OH-OH- = OVERHEAD WIRES
X-X-X- = CHAINLINK FENCE
-□-□-□- = PLASTIC FENCE
O-O-O- = WOOD FENCE
CONC. = CONCRETE
C.P.= CONCRETE PAD
Cov.= COVERED

SURVEYORS NOTES:

1. UNLESS OTHERWISE NOTED ONLY PLATTED EASEMENTS ARE SHOWN HEREON.
2. ALL LOT DIMENSIONS SHOWN ARE PER PLAT UNLESS OTHERWISE SHOWN.
3. NO UNDERGROUND UTILITIES OR IMPROVEMENTS WERE LOCATED UNLESS OTHERWISE SHOWN.
4. THIS SITE LIES WITHIN FLOOD INSURANCE RATE MAP ZONE AE5 MAP# 12111C0181K DATED: 2-19-20.
5. 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.
6. BEARINGS SHOWN HEREON ARE BASED ON THE SOUTHEAST LINE OF LOT 7 BLOCK 6 AS BEING N42°41'00"E ACCORDING TO THE PLAT DESCRIBED HEREON.
7. P.U.D.E. DENOTES PUBLIC UTILITIES AND DRAINAGE EASEMENT, U.E. DENOTES UTILITY EASEMENT.
8. THE ACCURACY OF THIS SURVEY IS PREMISED ON THE EXPECTED USE OF THE SURVEY. THE EXPECTED USE/PURPOSE OF THIS SURVEY IS HOME ADDITION CONSTRUCTION. ACCURACY=1 FOOT IN 7.500 FEET OR BETTER.
9. ADDITIONS OR DELETIONS TO THIS SURVEY MAP BY ANYONE OTHER THAN THE SIGNING SURVEYOR IS PROHIBITED WITHOUT WRITTEN CONSENT.

SYMBOLS:

- = CATCH BASIN
- = ELECTRIC BOX
- = FIRE HYDRANT
- = FPL TRANFORMER
- = GUY WIRE
- = LIGHT POLE
- = PROPANE TANK
- = WOOD POWER POLE
- = SANITARY SEWER MANHOLE
- = SEWER VALVE
- = WATER METER
- = WATER VALVE
- = WELL
- = DRAINAGE PROPOSED AND EXISTING

1601 FRANCES AVENUE

SCALE: 1"=30'
DATE: 9/16/25
DRAWN: MC/JC
2025-0568

Atlantic Land Designs
of the Treasure Coast, LB7468
754 NE Jensen Beach Blvd. Jensen Beach, FL 34957
Mailing Address:
P.O. Box 1421 Jensen Beach, FL 34958
ALD5543@gmail.com (772) 398-4290

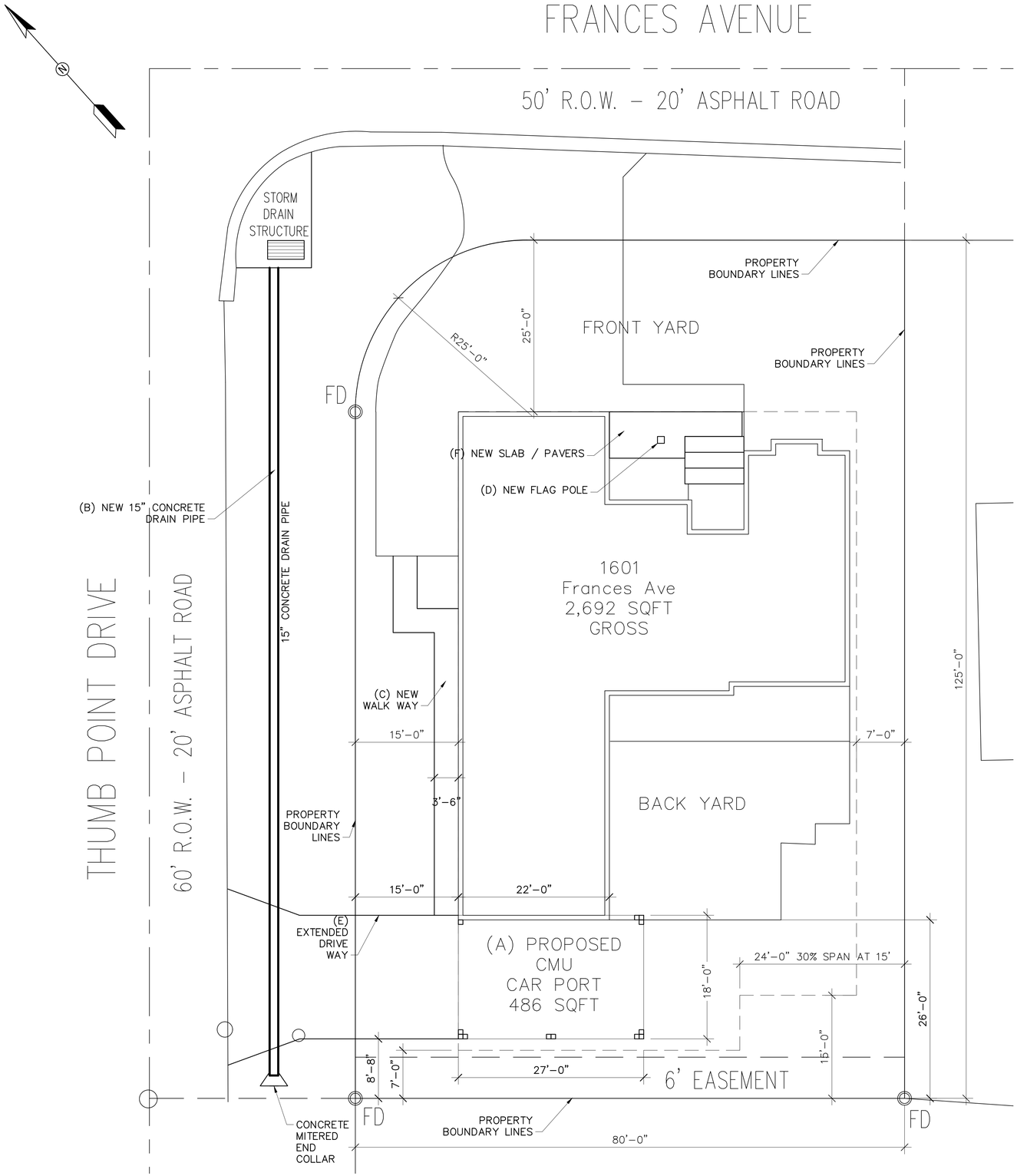
DATE:	REVISIONS

LAST FIELD DATE:9/3/25

Certified to: STEVEN HELSETH

I HEREBY CERTIFY THAT THIS SURVEY MEETS OR EXCEEDS THE STANDARDS OF PRACTICE PER CHAPTER 5J-17.051 AND 5J-17.052 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES AND THAT ELECTRONIC SIGNATURE AND SEAL HEREON MEETS PROCEDURES AS SET FORTH IN CHAPTER 5J-17.062, PURSUANT TO SECTION 472.025, FLORIDA STATUTES.

JAMES A. CESIRO JR. PROFESSIONAL SURVEYOR & MAPPER
FLORIDA REGISTRATION NO. 5543
NOT VALID WITHOUT AN AUTHENTICATED ELECTRONIC SEAL



1 SP PROPOSED SITE PLAN (10,000 sqft lot)

SCALE: 1/8" = 1'-0" A/R:N/A

SITE PLAN SCOPE OF WORK:

(A) PROPOSED CMU CAR PORT 486 SQFT

(B) NEW 15" CONCRETE DRAIN PIPE

(C) NEW WALK WAY

(D) NEW FLAG POLE

(E) EXTENDED DRIVE WAY

(F) NEW SLAB / PAVERS

PROJECT DESIGN DATA	
JURISDICTION	City of Fort Pierce
CODE	FBC 2023 8th Edition, FBCR 2023 8th Edition
PROJECT NAME	1601 Frances Ave, Fort Pierce, FL 34949
PROJECT ADDRESS	1602 Frances Ave, Fort Pierce, FL 34949
RISK CATEGORY	II
WIND SPEED ASCE 7-16 (3 Sec Gust)	160 MPH
ASD	132 MPH
EXPOSURE	C
MEAN BUILDING HEIGHT`	<15'-0"

PRELIMINARY CODE REVIEW / ZONING NOTES (SHEET–READY)

ADDRESS: 1601 FRANCES AVE, FORT PIERCE, FL •ZONING: R–2 (SINGLE–FAMILY INTERMEDIATE DENSITY) •LOT TYPE: CORNER LOT.

LOT & BASIS OF DESIGN

PLATTED DIMENSIONS USED ON THIS SHEET: 80' (REAR WIDTH) ×125' (DEPTH).

LOT AREA USED ON PLANS: 10,000 SF (PER PROPERTY APPRAISER).

YARD SETBACKS –R–2 (SEC. 125–192(B)(2))

FRONT: 25 FT MINIMUM.

INTERIOR SIDE: 7 FT MINIMUM.

STREET SIDE (CORNER): 15 FT MINIMUM.

REAR (SPECIAL RULE): PROVIDE 15 FT SETBACK ALONG A CONTIGUOUS 30% OF THE REAR WIDTH; THE REMAINDER MAY BE 7 FT (WATERFRONT/DOUBLE–FRONTAGE = 15 FT ACROSS 100%).

REAR WIDTH USED = 80' → 30% = 24' AT 15' SETBACK; 70% = 56' AT ⩾7'. KEEP THE 24' SPAN CONTIGUOUS.

LOT COVERAGE – R–2 (SEC. 125–192(B)(3))

MAX BUILDING COVERAGE: 30% OF LOT AREA → ALLOWED = 3,000 SF ON A 10,000 SF LOT.

EXISTING ROOFED FOOTPRINT: 2,692 SF.

PROPOSED NEW WORK: CARPORT 27' × 18' = 486 SF.

COVERAGE CHECK: 2,692 + 486 = 3,178 SF = 31.78% → OVER BY 178 SF RELATIVE TO 3,000 SF ALLOWED.

COMPLIANCE OPTIONS: SEEK VARIANCE TO 31.78% COVERAGE. (ACCESSORY COVERAGE COUNTS TOWARD THE CAP.)

BUILDING HEIGHT – R–2 (SEC. 125–192(B)(4))

MAX HEIGHT: 28 FT ABOVE GRADE (CARPORT INTENT ≈ 14 FT).

ACCESSORY STRUCTURES – R–2 (SEC. 125–192(C)(1))

ACCESSORY ELEMENTS MUST MEET ALL YARD, COVERAGE, AND HEIGHT LIMITS; ON NON–DOUBLE–FRONTAGE LOTS THEY MAY BE IN THE REAR YARD IF ⩾7 FT FROM THE REAR LINE (SUBJECT TO THE REAR–YARD RULE ABOVE).

WIND DESIGN (ASCE 7–22)

ULTIMATE 3–SEC GUST (RISK CAT II): VULT = 160 MPH AT THIS SITE; HURRICANE–PRONE REGION; GLAZED OPENINGS REQUIRE WIND–BORNE DEBRIS PROTECTION PER §26.12.3. DESIGNING TO 180 MPH IS ACCEPTABLE WITH ENGINEERING/PRODUCT APPROVALS.

ACCESS / PARKING / DRAINAGE

PROVIDE DRIVEWAY/GRADING/DRAINAGE TO MEET JURISDICTIONAL STANDARDS; ALL USES MUST COMPLY WITH ACCESS, PARKING, AND LOADING REQUIREMENTS (CODE §§125–315, 125–316).

PLAN NOTES / APPROVALS

PRELIMINARY ZONING/CODE REVIEW FOR PERMITTING GUIDANCE. FINAL COMPLIANCE SUBJECT TO CURRENT SURVEY, FIELD VERIFICATION, PRODUCT APPROVALS, AND ENGINEERED CONSTRUCTION DOCUMENTS (FOUNDATIONS, CONNECTIONS, UPLIFT/OVERTURNING CHECKS, ROOF SYSTEM, DEBRIS PROTECTION).

REQUESTED RELIEF (DIMENSIONAL VARIANCE —LOT COVERAGE) CODE STANDARD: 30% MAXIMUM BUILDING COVERAGE (R–2).

LOT AREA (USED ON PLANS): 10,000 SF ALLOWED COVERAGE: 3,000 SF EXISTING ROOFED FOOTPRINT: 2,692 SF

PROPOSED ROOFED ADDITION: CARPORT 27' ×18' = 486 SF PROPOSED TOTAL COVERAGE: 3,178 SF = 31.78%

VARIANCE AMOUNT REQUESTED: +178 SF OVER THE 3,000 SF CAP (≈ +1.78 PERCENTAGE POINTS OVER THE 30% LIMIT).

JUSTIFICATION (SUMMARY POINTS FOR NARRATIVE)

CORNER–LOT GEOMETRY + REAR–YARD FORMULA CONSTRAIN BUILDABLE AREA; ACHIEVING REQUIRED CLEARANCES AND FUNCTIONAL ON–SITE COVERED PARKING WITHIN SETBACKS CREATES A UNIQUE DIFFICULTY AT THIS PARCEL.

MINIMUM–IMPACT DESIGN: OPEN–SIDED CARPORT (NO WALLS) AT 27' ×18' FOR SAFE MANEUVERING; NO NEW ENCLOSED AREA REQUESTED BEYOND THE ROOF.

SETBACK COMPLIANCE: NO SETBACK ENCROACHMENTS—FRONT 25', STREET–SIDE 15', INTERIOR SIDE 7', AND REAR–YARD RULE ALL SATISFIED; THE REQUEST IS COVERAGE–ONLY.

PUBLIC SAFETY / CONSTRUCTION QUALITY: ENGINEERED TO ASCE 7–22 WIND LOADS; SITE VULT ≈ 160 MPH (OWNER REQUESTS 180 MPH DESIGN). IMPACT PROTECTION AS REQUIRED IN HURRICANE–PRONE REGIONS.

NEIGHBORHOOD COMPATIBILITY: NO HEIGHT INCREASE; OPEN FORM PRESERVES LIGHT/AIR; ON–SITE DRAINAGE MAINTAINED PER PLAN.

MINIMUM NECESSARY RELIEF: THE +178 SF REQUEST IS THE LEAST DEPARTURE THAT YIELDS FUNCTIONAL COVERED PARKING ON THIS CONSTRAINED CORNER LOT.

REVISIONS	BY
10-23-25	RAT

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CAD-CON DESIGN
DRAFTING SERVICES
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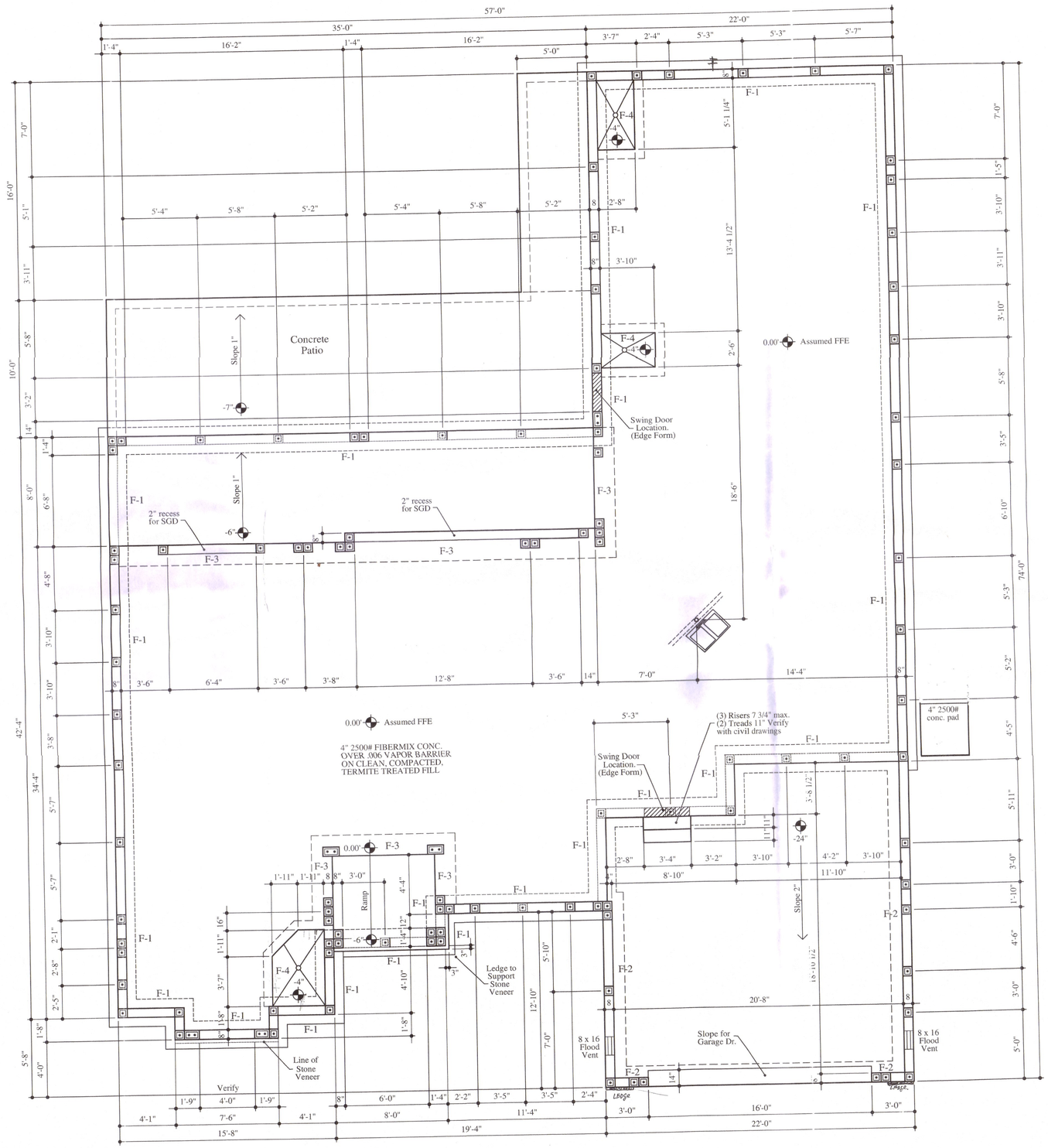
(772) 408-8175

1601 Frances Ave, Fort Pierce, FL 34949

772-408-8175 CADCONDESIGN.COM DRAFTING SERVICES

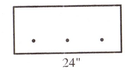
DATE	08-20-25
SCALE	
DRAWN	08-20-25
JOB	
SHEET	SP
OF	SHEETS

R1_10-22-25_1601_RAT



F-1

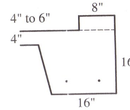
24" x 16" footing with (3) #5 rebar cont. Centered on Stemwall



STEMWALL FOOTING

F-2

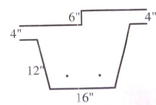
16" x 16" mono. footing with (2) #5 rebar cont. and curb



CURB FOOTING
AT GARAGE

F-3

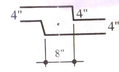
16" x 16" mono. footing with (2) #5 rebar cont.



STEP FOOTING

F-4

8" x 8" thick edge with (1) #5 rebar cont.



TYP. SHOWER RECESS

GENERAL FOUNDATION NOTES

Concrete shall be a minimum of 4" thick over clean, compacted, termite treated fill and 6 mil polyethylene vapor barrier.

If concrete slab contains 6" x 6" 10/10 WWM provide 1" coverage

Concrete shall have at minimum compressive strength of not less than 2500 p.s.i.

All 90% hooks are to be extended 10" minimum beyond the turn. Field bends are to be done cold and the diameter of the bend, measured on the inside of the bar, is not to be less than six bar diameters.

Minimum coverage for rebar shall be 3" in footings and 1 1/2" in bond beams. Hooks may be rotated horizontally if required to achieve minimum coverages.

Rebar overlap shall be 48 bar diameters. 30" for #5 rebar

The foundation design assumes that the soil has a minimum load carrying capacity of 2000 p.s.f.

In the event the soil bearing capacity falls below 2000 p.s.f. This foundation plan may be superceded by Foundation Design Engineer.

Satisfactory compaction test of fill does not verify lower soils are adequate.

All specifications and dimensions to be verified by contractor.

All exterior slabs shall slope a minimum 1/8" per foot for drainage

FORMWORK & SHORING

No structural concrete shall be stripped until it has reached at least 80% of the 28 day design strength.

Design, Erection, & Removal of all formwork, shores, & reshores shall meet meet the ACI Standards 347 and 301

Contractor to verify all building setbacks prior to the start of construction. A formboard survey shall be submitted to the building department for approval prior to pouring concrete.

SOIL STATEMENT:

Foundation has been designed for a soil bearing capacity of 2000 p.s.i. Fill shall be laid in layers of 6". Each layer to be compacted to 95% compaction.

If the contractor encounters, while digging the foundation, any discrepancy to suggest the soil may be inadecuate, he must immediately report it to the owner and the Architect or Engineer so as to order a soil boring test.

Dowel Rod Repair Note

In the event vertical steel has been omitted from the down pour locations, drill 5" into concrete (no closer than 3 3/4" from edges and 5" from ends of cap walls) Remove dust per manufacturers instructions and use Two part epoxy to anchor the #5 rebar in place. Use either "Hilti C-100" or Simpson Epoxy-Tie.

PLUMBING NOTES:

Plumber to consult with contractor and equipment ordered for rough in dimensions.

Verify all dimensions with the floor plan. The floor plan dimensions dictates all other dimensions on other sheets.

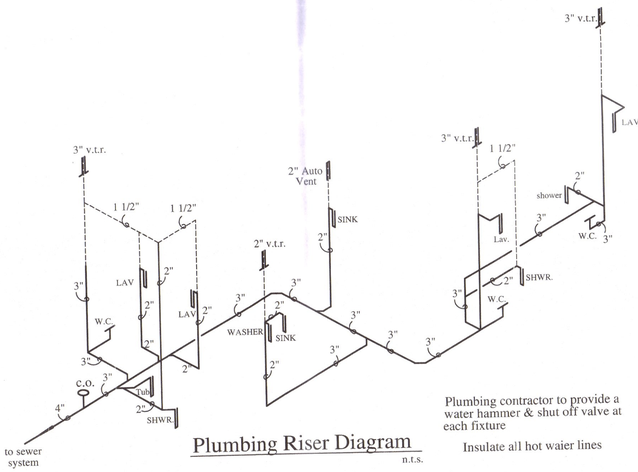
Do not scale drawings, if any conflicts arise, contact the Architect or Engineer for clarification prior to construction.

All sanitary lines 2" or less shall have a slope of 1/4" per foot minimum.

All sanitary lines above 2" shall have a slope of 1/8" per foot minimum.

Provide Anti-Scalding Valve in all showers.

Lowest living area floor elevation (refered as 0.00') to be set by a professional land surveyor to the required building department elevation, but not less than 18" above the crown of the road.



Plumbing Riser Diagram
n.t.s.

Plumbing contractor to provide a water hammer & shut off valve at each fixture

Insulate all hot waier lines

Steve LiCausi Design Group, Inc.
RESIDETIAL DESIGNERS
10710 SW Westlawn Blvd., Port St. Lucie, FL, 34987
Office & Fax: (772) 785-6465

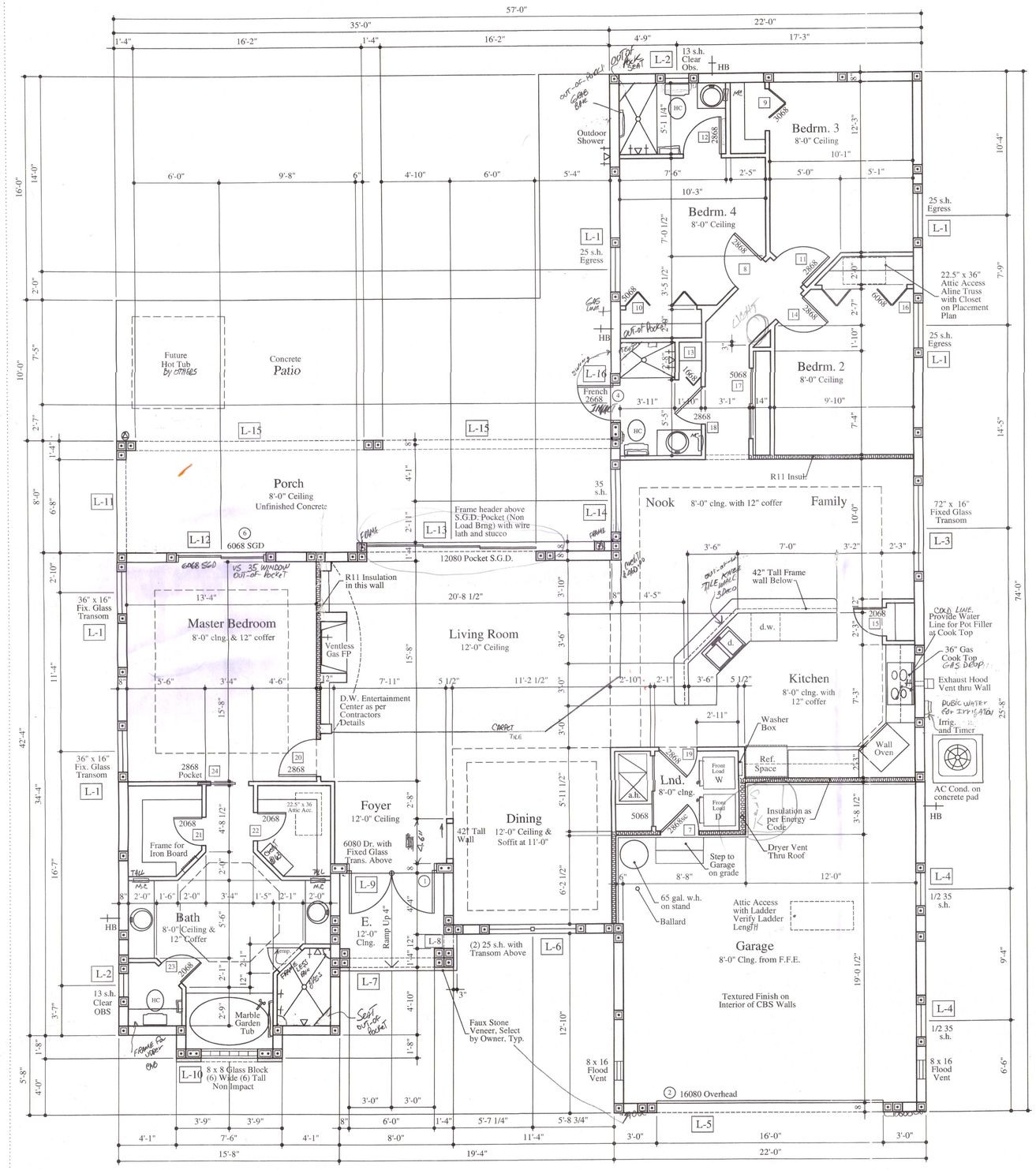
Associated Homes, Inc.
Helseth Residence
1601 Frances Ave. Ft. Pierce
Parcel ID: 2401-605-0096-000-3
Lot 7, Block 6 of Thumb Point

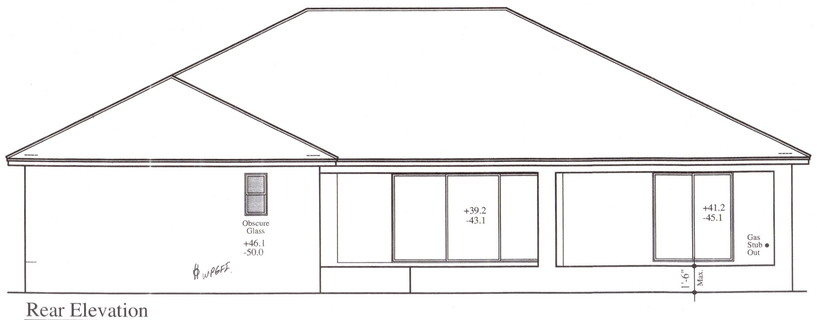
date	revision
drawn	
s.l.	
checked	
s.l.	
date	
1/21/15	
scale	
as noted	
job number	
14090	
sheet	
A-2	

Plan Session Date: January 27, 2015

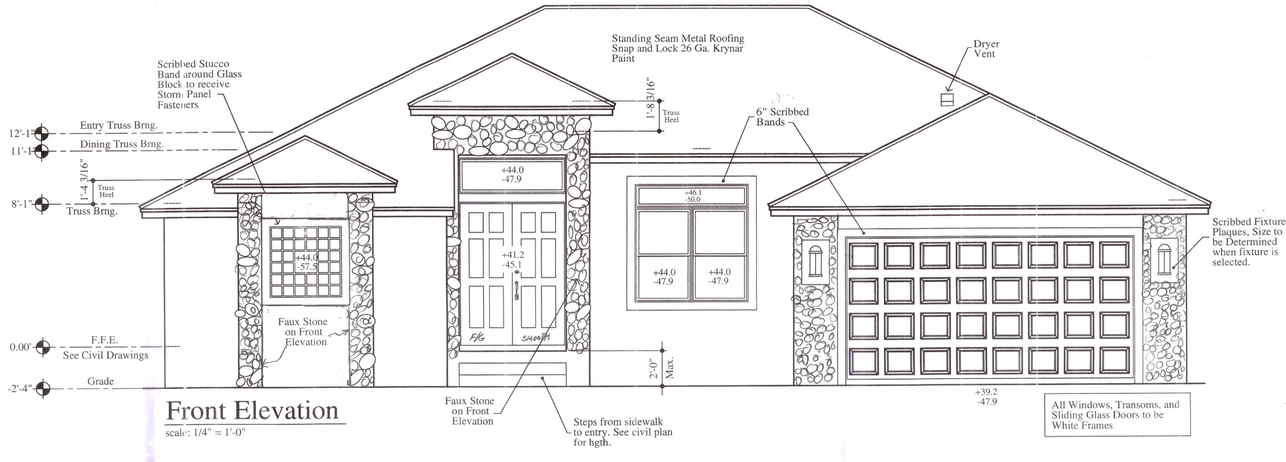
Steve Helseth

Lisa Helseth

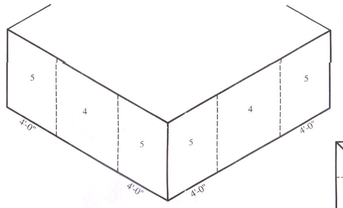

57'-0"
35'-0"
22'-0"
16'-2"
17'-3"
Bedrm. 3
8'-0" Ceiling
Bedrm. 4
8'-0" Ceiling
Bedrm. 2
8'-0" Ceiling
Outdoor Shower
13 s.h. Clear Obs.
25 s.h. Egress
22.5" x 36" Attic Access Aline Truss with Closet on Placement Plan
Future Hot Tub by others
Concrete Patio
French 2668
Porch
8'-0" Ceiling
Unfinished Concrete
Frame header above S.G.D. Pocket (Non Load Brng) with wire lath and stucco
6068 SGD
12080 Pocket S.G.D.
R11 Insul
Nook
8'-0" clng. with 12" coffer
Family
72" x 16" Fixed Glass Transom
42" Tall Frame wall Below
R11 Insulation in this wall
Ventless Gas FP
Master Bedroom
8'-0" clng. & 12" coffer
Living Room
12'-0" Ceiling
Kitchen
8'-0" clng. with 12" coffer
D.W. Entertainment Center as per Contractors Details
Provide Water Line for Pot Filler at Cook Top
36" Gas Cook Top
Exhaust Hood Vent thru Wall
Irrig. and Timer
Washer Box
Wall Oven
AC Cond. on concrete pad
Ref. Space
Lnd.
8'-0" clng.
Front Load W
Front Load D
Insulation as per Energy Code
Dryer Vent Thru Roof
Step to Garage on grade
65 gal. w.h. on stand
Ballard
Attic Access with Ladder Verify Ladder Length
Garage
8'-0" Clng. from F.F.E.
Textured Finish on Interior of CBS Walls
Foyer
12'-0" Ceiling
6080 Dr. with Fixed Glass Trans. Above
42" Tall Wall
Dining
12'-0" Ceiling & Soffit at 11'-0"
Frame for Iron Board
Bath
8'-0" Ceiling & 12" Coffer
Marble Garden Tub
8 x 8 Glass Block (6) Wide (6) Tall Non Impact
Faux Stone Veneer, Select by Owner, Typ.
(2) 25 s.h. with Transom Above
E.
12'-0" Clng.
Ramp Up 4"
8 x 16 Flood Vent
(2) 16080 Overhead
36" x 16" Fix. Glass Transom
2868 Pocket
Entertainment Center
CHANGE TO 6068 SGD
VS. 35 WINDOW OUT-OF-POCKET
CHANGE TO 6068 SGD
OUT-OF-POCKET
TILE WAINSCOT
STUCCO
COLD LINE
CHANGE TO 6068 SGD
OUT-OF-POCKET
CHANGE TO 6068 SGD
OUT-OF-POCKET
SEAT OUT-OF-POCKET
FRAME FOR SHOWER DOOR
CHANGE TO FIXED GLASS AND DOOR
CHANGE TO 6068 SGD
OUT-OF-POCKET
CHANGE TO 6068 SGD
OUT-OF-POCKET
CHANGE TO 6068 SGD
OUT-OF-POCKET



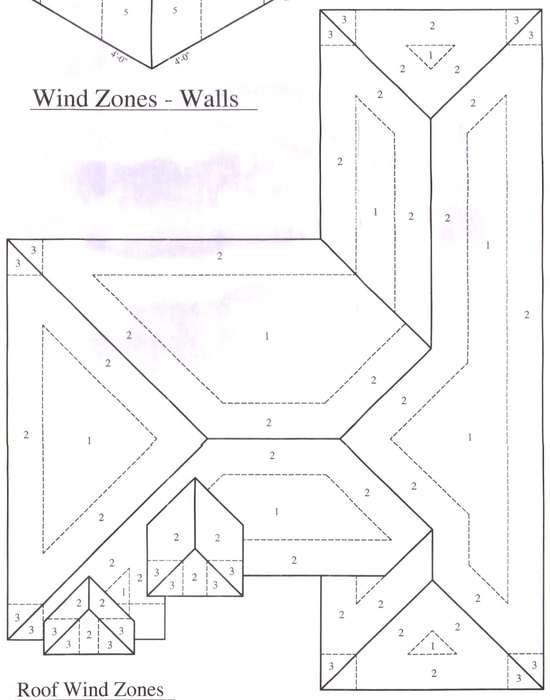
Rear Elevation
scale: 3/16" = 1'-0"



Front Elevation
scale: 1/4" = 1'-0"

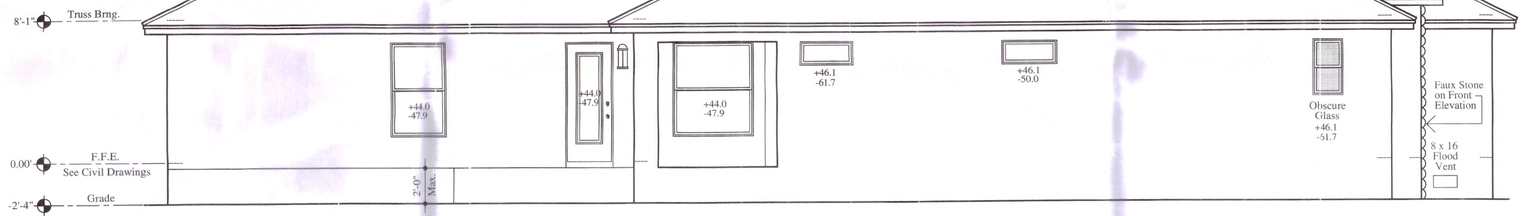


Wind Zones - Walls

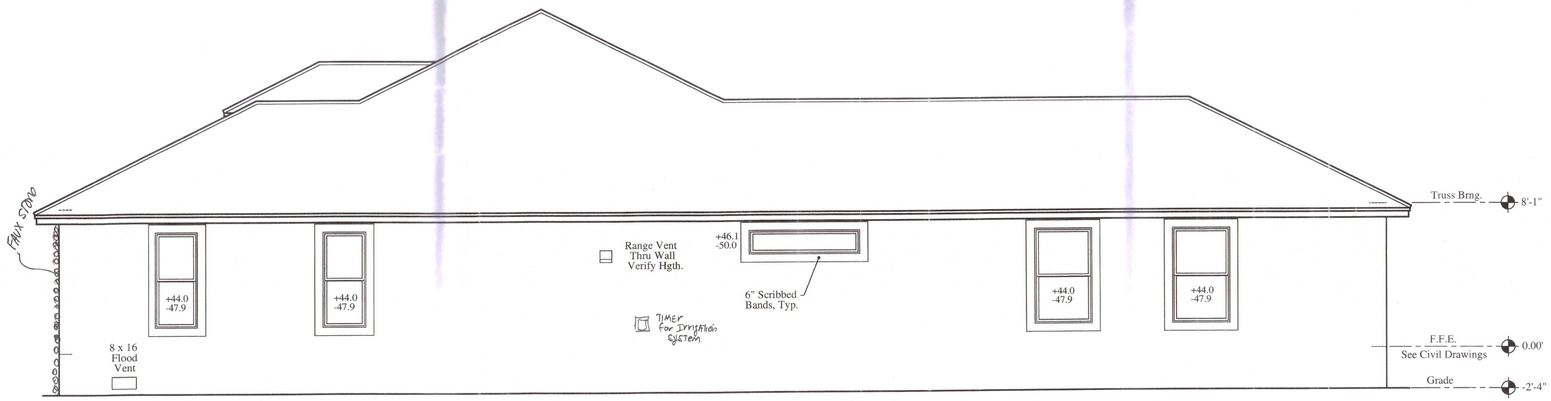


Roof Wind Zones

Gross Wind Pressures							
End Zone	Wind Speed	Trib. Area	Zones - PSF				
			1	2	3	4	5
4 ft.	160 mph	<10 s.f.	-40.5	-47.3	-47.3	+46.1 -50.0	+46.1 -61.7
		20 s.f.	-38.4	-45.3	-45.3	+44.0 -47.9	+44.0 -57.5
		50 s.f.	-35.7	-42.5	-42.5	+41.2 -45.1	+41.2 -52.0
		100 s.f.	-33.6	-40.5	-40.5	+39.2 -43.1	+39.2 -47.9
		500 s.f.					



Left Elevation
scale: 1/4" = 1'-0"



Right Elevation
scale: 1/4" = 1'-0"

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job number: 14090
sheet: A-3

Plan Session Date: January 27, 2015

Steve Helseth

Lisa Helseth

Connector Schedule

Truss	Bearing Point	Truss Uplift	Connector ID	Qnty.	Connector Uplift	Fasteners
A01G	Left	753	HETA20	1	1810#	(9) 10d x 1 1/2"
	Right	753	HETA20	1	1810#	(9) 10d x 1 1/2"
A05G	Left	2337	HETA20	2	2500#	(12) 16d x 1 1/2" per strap
	Right	3029	HHETA20	2	3350#	(14) 16d x 1 1/2" per strap
BO1G	Left	578	HETA20	1	1810#	(9) 10d x 1 1/2"
	Right	By Truss Manufacturer				
BO2G	Left	969	HETA20	1	1810#	(9) 10d x 1 1/2"
	Right		By Truss Manufacturer			
D01G	Left	749	HETA20	1	1810#	(9) 10d x 1 1/2"
	Center	2077	HETA20	2	2500#	(12) 16d x 1 1/2" per strap
	Right	By Truss Manufacturer				
All other trusses to CBS	ALL	<1000	HETA20	1	1810#	(9) 10d x 1 1/2"
All other trusses to Ledger	ALL UNO	<800	MTS18	1	1000#	(9) 10d x 1 1/2"
Valley Trusses	Supporting Framing	<250#	VTCR	1	370#	(4) 10d
	Valley Truss					(3) 10d x 1 1/2"

Data obtained from truss layouts and engineering prepared by A-1 Roof Trusses dated 1/10/15 Job Number 60406

Connector Notes:

Do not substitute connectors

Do not sheath trusses before all straps are in place

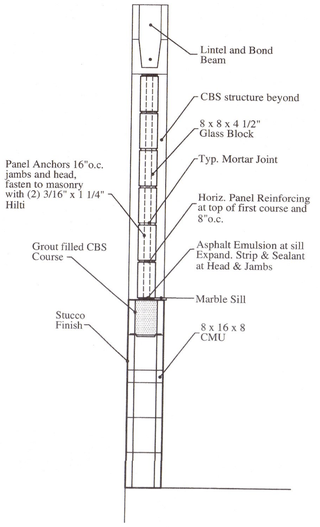
Attach valley trusses and piggy back trusses, if present, to main trusses per truss manufacturer drawing.

Truss to truss connection by truss company, installed per manufacturers specs.

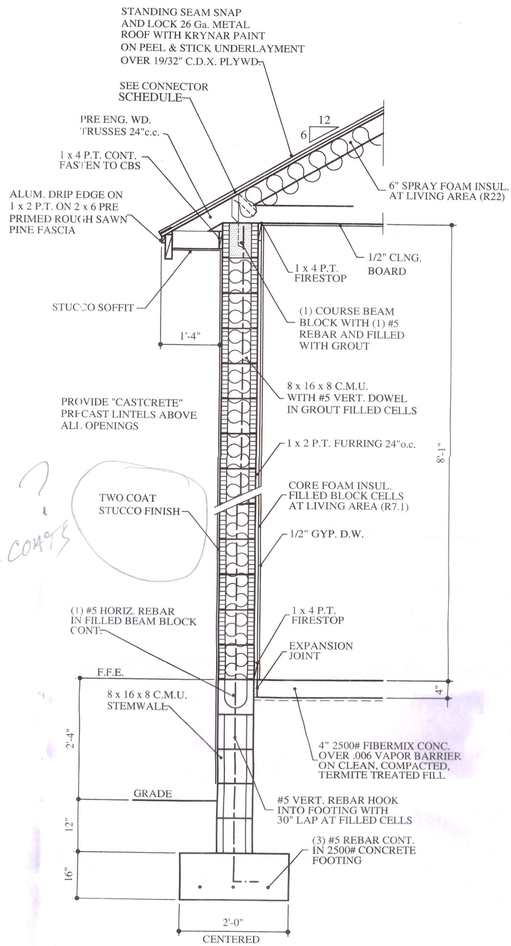
Lateral forces perpendicular and parallel to wall has been considered (less than 300 p.l.f.)

Contractor to approve temporary bracing to prevent toppling of trusses, see HIB-9.

Other specs, if different from above, have priority.



Section thru Glass Block
scale: 3/4" = 1'-0"

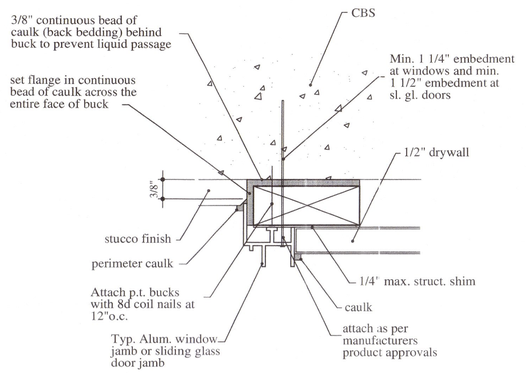


Typical Wall Section
scale: 3/4" = 1'-0"

Spray Foam Insulation to be SES Foam 0.50 pcf which complies with the applicable requirements of ICC-E-S AC377 Appendix X Approved June 2010 as per Evaluation Report Number 100432887SAT-002A_Rev. Original Issue Date June 28, 2011. Revised Date 1/9/12

Evaluation Center

Intertek Testing Services NA, Inc.



NOTE: Method of attachment and waterproofing procedures are the same at poured concrete sill.

Gunable sealants shall comply with ASTM C 920 Class 25 grade or greater for proper joint expansion and contraction

Typical Window & S.G.D. Jamb Detail at CBS Wall
Includes Buck Attachment Method

DESIGNED TO MEET THE REQUIREMENTS OF FBC 2010 SECTION R703.8 "FLASHING"

Typical Precast Conc. Sill Detail

PRODUCT APPROVAL

Approval Number	Product	Model Number	Manufacturer	Glass Type	Attachment Method	Building Rated Design Pressures	Product Rated Design Pressures
NOA:11.1115.08	S.H. Windows	Series 110 Alum.	C.G.I.	Impact	1/4" x 1 3/8" min embedment ELCO Tapcons at 6"/15"o.c.	+46.1 -61.7	+/- 74.0
NOA:14.0515	Fixed Window	Series 130 Alum.	C.G.I.	Impact	1/4" x 1 1/4" min embedment ELCO Tapcons at 6"/12"o.c.	+46.1 -61.7	+/- 80.0
NOA: 13.1121.08	Sliding Glass Door	Series 150 Alum.	C.G.I.	Impact	(2 Rows) 1/4" x 1 3/8" min embedment ULTRA Tapcons at 6"/16"o.c. & clusters of 4 at panel interlocks	+41.2 -45.1	+/- 70.0
FL#:11-321.9	Swing Doors	FiberClassic	Therma Tru	NA	1/4" x 1 1/4" min embedment Tapcons at 4"/14" o.c.	+41.2 -45.1	+/- 65.0
FL#:5684.19	Overhead Door	14 W8	Clopay	NA	5/16" x 1 5/8" min. embed. lag screw each bracket	+39.2 -47.9	+62.0 / -72.0
FL#:15371.1	Overhead Door (Alternate)	824/811	DAB Door Company	NA	5/16" x 1 5/8" min. embed. lag screw each bracket	+39.2 -47.9	+48.0 / -52.0
NOA: 12-0406.06	Glass Block	Glass Block Mortar System	Pittsburg Corning	Non Impact	(2 Rows) 3/16" x 1" min embedment HILTI CON II at 2"/16"o.c.	+44.0 -57.5	+/- 80.0

Approval Number	Product	Model Number	Manufacturer	Attachment Method	Building Rated Design Pressures	Product Rated Design Pressures
NOA: 12-1220.15	Mullions	Alum.	C.G.I.	1/4" x 1 3/4" min embedment Tapcons (4 per clip)	+46.1 -50.0	+/- 84.9
FL#: 9911-R2	Roofing	DCSM VS-150	D.C.S.M.	#10 x 1" Flat Head Deck Screw (2 per clip) Clips at 6"o.c. perimeter and corners, 16"o.c. Field	-40.5 -47.3	-86.0 -116.0
——	Soffit	Stucco	NA	See Plan	+/- 65.0	+/- 80.0
FL#: 11389.1	Storm Panels Less than 6'-0" Span	.050" Alum.	Town & Country	1/4" - 20 x 3/4" S.S. Knurled Studs 12 1/2"o.c. Top & Bottom	+44.0 -57.5	+/- 79.0
FL#: 9777-R2	Underlayment	Weather Lock Metal	Owens Corning	Remove backing and press to plywood deck. 6" staggered laps and 3" side laps.	-40.5 -47.3	-86.0 -116.0

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Steve Helseth

Lisa Helseth

GENERAL ROOFING NOTES

Roofing to be composed of and attached to pre manufactured wood trusses as follows:

Felt underlayment (min. ASTM 0 226 Type II) with 4" min. side and end laps, fasten with coorosion resistant annular ring shank nails at 6"o.c. in laps and in staggered rows spaced 12"o.c. in field.
If roof pitch is < 4/12 install (2) layers 15# felt.
If roof pitch is 4/12 or greater, install (1) layer 30# felt.

7/16" o.s.b. sheathing or equal installed with staggered joints & GI clips, nailed to trusses with 8d corrosion resistant annular ring shank nails spaced max. 6"o.c. throughout, except max. 4"o.c. at gable ends.

All roof trusses are to be pre-manufactured assemblies provided by a licensed wood truss fabricator with seperate drawings and data prepared for actual project conditions by a Florida registered professional engineer certified for truss design. Any deviation from the proposed plans as shown regarding placement or bearing shall be brought to the attention of the truss engineer prior to fabrication of the trusses. The truss manufacturer's certified layout shall govern after fabrication.

The handling, erection, and fixing of wood trusses shall be in accordance with the specifications contained on the certified mfgr's. drawings and data.

All engineered headers and truss hangers to be provided by the truss manufacturer.

Splitting or cracking of structural components due to installation of hardware is not permitted.

Unless otherwise noted, the installation of specified hardware shall conform to the truss manufacturer's installation instructions and standard practice.

BUCK ATTACHMENT NOTES

AT DOORS USE *P.T. PINE OR SPRUCE AND ATTACH BUCKS* TO BLOCK WITH 1/4" DIA. TAPCONS WITH 2 1/4" EMBEDMENT INTO C.B.S. SET A 6" FROM CORNERS AND AT 12"o.c. MAX.

AT WINDOWS USE P.T. PINE OR SPRUCE AND ATTACH BUCKS TO BLOCK WITH 8d CASED HARD COIL NAILS OR T NAILS 4" FROM ENDS AND 12"o.c.

USE "STRUCTURAL" SHIMS DURING DOOR INSTALLATION WOOD AND/OR CEDAR SHIMS SHALL NOT BE USED.

SHEATHING NAILING NOTES

Nailing Pattern

Zone 1: 8d at 6"o.c. field & 4"o.c. edges
Zone 2: 8d at 4"o.c. edges & field
Zone 3: 8d at 4"o.c. edges & field

Pneumatic Nails

Pneumatic or mechanicaly driven nails will be accepted under the following conditions:

Min. nails size 8d or larger ring shank with
Min. shank diameter: .113
Min. Length: 2"
Min. Head Diameter: .280 Full Round
Min. Ring Diameter .012 over shank dia.
Min. 16 to 20 Rings per Inch

Note

Gun nails shall be permitted as an acceptable fastener from any manufacturer

Wood screws meeting the same size requirement may be used in lieu of nails without comment

Nailing Schedule

ROOF & FLOOR DIAGRAM

Use sheathing with #8 gun nails at 6"o.c. at supported panel edges and #8 gun nails at 6"o.c. at intermediate supports.

ROOF SHEATHING TO GABLE END FRAME

Use #8 gun nails at 4"o.c.

EXTERIOR SHEATHING

Use #8 gun nails at 4"o.c. at panel edges and #8 gun nails at 4"o.c. at panel top and bottom and 6"o.c. in field

EXTERIOR CEILING & SOFFIT NOTE

7/8" Stucco finish over 3/8" high ribbed galv. wire lath fastened to framing members with No. 11 guage nails with 1 3/4" embed. with 3/8" dia. head 6"o.c. max. edges to be tied and nailed at 9"o.c.
Provide one layer of 15# felt to bottom of framing before installing lath.

INTERIOR WALL FRAMING NOTE

Interior non bearing walls to be 2 x 4 studs 24"o.c.
Spruce, Pine, Fir (SPF) #2 Grade lumber or better or metal studs (25 Ga.) Crimper may be used in lieu of screws.

STRUCTURAL NOTES:

All reinforcing steel shall be high strength billet steel and shall conform to ASTM A-615 grade 60 specifications. Lap continuous reinforcing 48 bar diameters or 30" in beams and in slabs. Lap bottom steel over supports and top steel at midspan. Hook discontinuous ends of all top bars. Reinforcing steel shall have a minimum of 1" concrete cover, or as follows:

	BOTTOM	TOP	SIDES
Beams:	1 1/2"	1 1/2"	1 1/2"
Slab on Grade:	1 1/2"	1"	—
Structural Poured:	3/4"	3/4"	—
Poured Walls:	—	—	3/4"
Slabs exposed to the weather	3/4"	1"	—

Reinforcing steel shall be detailed and fabricated in accordance with the "Manual of Standard Practice of Detailing Reinforcing Concrete Structures" and the current "ACI Building Code 318"

All structural steel shall conform to current ASTM Specification A-36

All wood in contact with masonry shall be pressure treated or approved seperating material.

All dimensions shall be verified in field by the contractor. If there are any discrepancies the Architect or Engineer shall be notified before proceeding.

No slump over 5" shall be permitted for any structural concrete without the Architect or Engineer approval.

All Design and Construction shall be inaccordance with the current American Concrete Institute (ACI), and the American Institute of Steel Construction (AISC), The Florida Building Code and all applicable local codes.

Structural Concrete shall attain a minimum ultimate compressive strength (Fc') in 28 days as follows:

Column Footing and Wall Footing: 3000 p.s.i.
Column and walls from foundation to roof: see column schedule.
All other concrete: 2500 p.s.i.

Footing sizes and reinforcing are based on allowable soil bearing capacity of 2000 p.s.i. All footings shall bear in virgin soil. If this is not the case, the Architect or Engineer shall be notified before proceeding with the work.

Timber (Heavy Timber Construction)
(a) Truss manufacturer shall submit a signed and sealed shop drawings by a registered Engineer.
(b) Wood rafters to have a Stress Grade of Fb=1200 p.s.i.
(c) Roof members should be secured to the beams or other structural components with hurricane anchors for wind uplift.

All wood members shall have a minimum fiber stress in bending of 1200 p.s.i. with 1/360 max. deflection.

All bolted connections shall be 1/2" Cadmium plated or better.

Lag bolts to be used only in shear connections with minimum 4" threaded penetration past steel plate.

Lag bolted conditions shall be drill tapped no larger than the internal thread diameter and shall not be hammer driven.

Under Girder Trusses provide equal number of studs as girder plys at frame bearing locations

GENERAL REQUIREMENTS

All work to be as per the current edition of the Florida Building Code and meet or exceed all applicable local requirements.

General contractor is responsible for all labor, materials, utilities, testing, waste removal, storage, securing of site, accomodation, transport/freight, and all other cost related to the completion of this project., unless explicitly identified here.

Owner is responsible for all municipal related charges such as impact fees, and water connection, except building permit fees, which are to be included in the construction bid.

General contractor to check all drawings for errors and ommissions and bring them to the attention of the architect prior to starting any work, or ordering any materials of the respective division of work. If such errors and ommissions are not reported in writingto the architect, any resulting damages or costs shall be born entirely by the general contractor.

Architect is not responsible for the contractors method or means of construction.

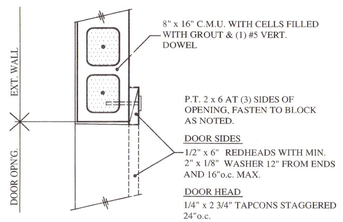
General contractor is to keep the site in a clean and safe state through out the course of construction. On building turnover, general contractor to clean all surfaces so as to be free of dust, grease, stains, scuffs, etc.

Unless otherwise noted, the installation of specified hardware shall conform to the manufacturers instructions and standard practice.

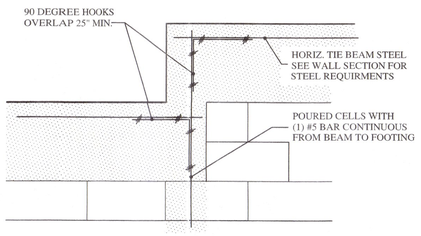
All plans and drawings are not considered complete until they have been reviewed and approved by the Building Department and the building permit has been issued.

THRESHOLD NOTE

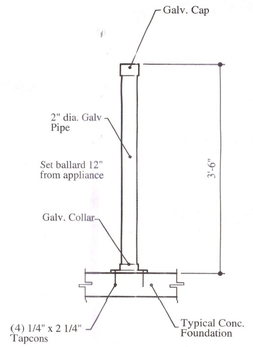
At egress door (Entry Door) the max. hgth. of the threshold shall be 1/2"



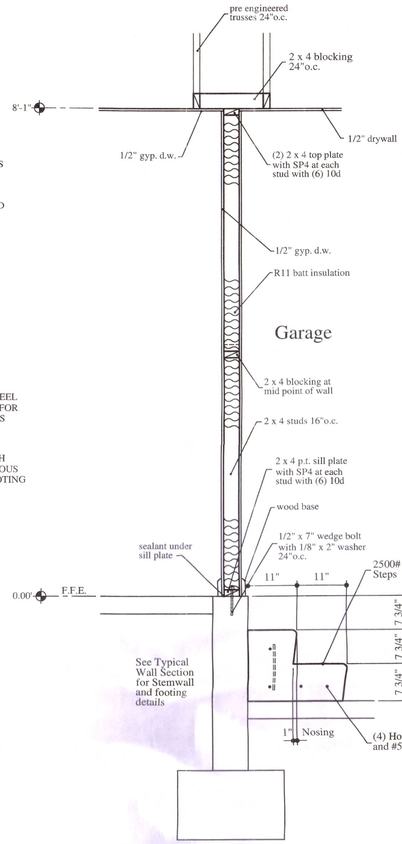
Garage Door Buck Detail



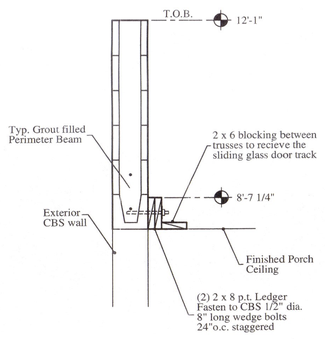
Change in Bond Beam Elev.



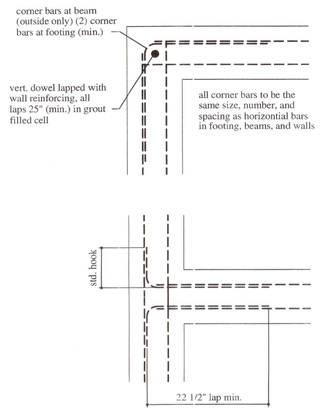
Ballard Detail
scale: 1" = 1'-0"



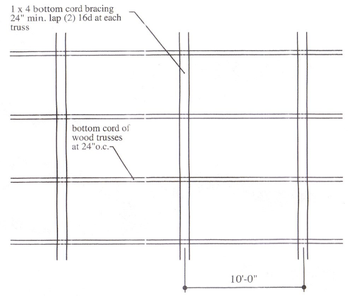
Adj. Wall at Garage
With Step Detail



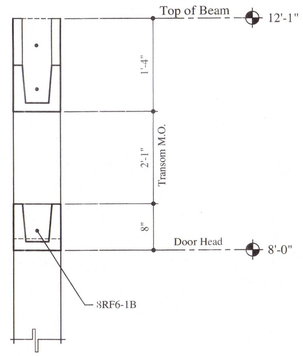
Ledger to CBS Detail



Corner Reinforcing Detail



Bottom Cord Lateral Bracing



Door Tranom Detail

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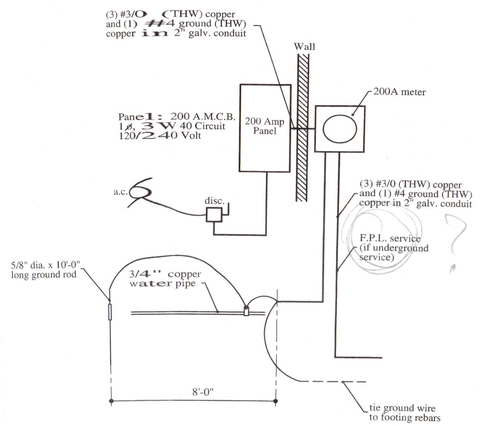


Electrical Riser Diagram

Electrical Load Calculations

2191 Living S.F. at 3 VA	6573 VA	
One 20 Amp Appliance Ckts.	1500 VA	
Laundry	1500 VA	
Dryer	5000 VA	
Dishwasher	1200 VA	
Range	12000 VA	
Water Heater	4500 VA	
Two Ref. Circuit	2600 VA	
Spa Equipment	3000 VA	
Total	37,873 VA	
First 10 KVA at 100%	10,000 VA	
Remainder at 40%	11,149 VA	
Total	21,149 VA	
AC Heat at 100%	18,000 VA	
Total	39,149 VA	

39,149 VA / 240 V = 163.12 Amps

200 Amp Existing Service

Smoke detectors wired to 120V Bathroom lights
Non Switchable, Non GFI

Electrical contractor to verify all equipment loads prior to start of construction. Electrical contractor to recalculate electrical schedule if loads are to be modified

SECURITY CAMERA'S & LOW VOLTAGE, CAMERA PRE-WIRE BY OTHERS ADVISE OF POWER NEEDS.

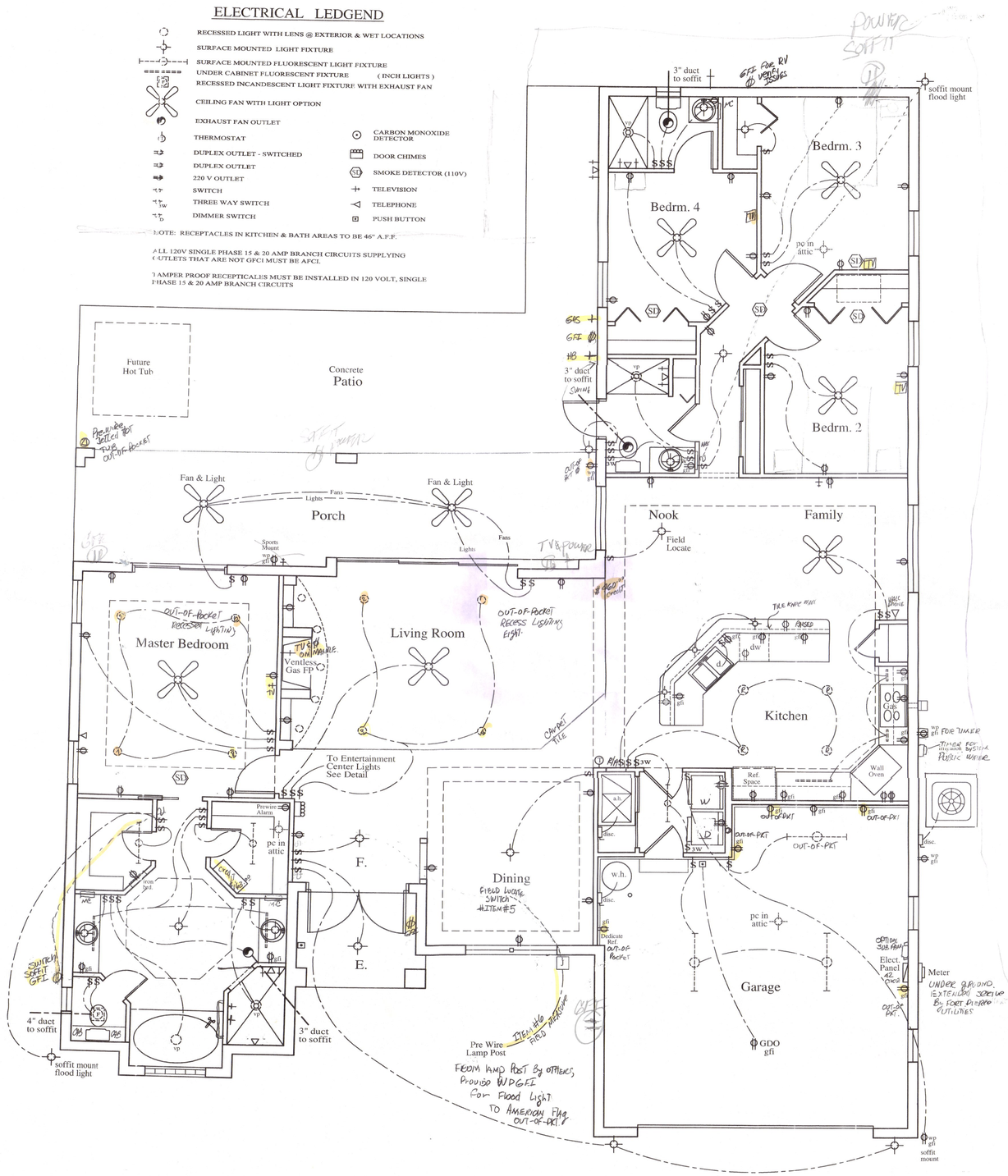
ELECTRICAL LEDGEND

- RECESSED LIGHT WITH LENS @ EXTERIOR & WET LOCATIONS
- SURFACE MOUNTED LIGHT FIXTURE
- SURFACE MOUNTED FLUORESCENT LIGHT FIXTURE
- UNDER CABINET FLUORESCENT FIXTURE (INCH LIGHTS)
- RECESSED INCANDESCENT LIGHT FIXTURE WITH EXHAUST FAN
- CEILING FAN WITH LIGHT OPTION
- EXHAUST FAN OUTLET
- THERMOSTAT
- DUPLEX OUTLET - SWITCHED
- DUPLEX OUTLET
- 220 V OUTLET
- SWITCH
- THREE WAY SWITCH
- DIMMER SWITCH
- CARBON MONOXIDE DETECTOR
- DOOR CHIMES
- SMOKE DETECTOR (110V)
- TELEVISION
- TELEPHONE
- PUSH BUTTON

NOTE: RECEPTACLES IN KITCHEN & BATH AREAS TO BE 46" A.F.F.

ALL 120V SINGLE PHASE 15 & 20 AMP BRANCH CIRCUITS SUPPLYING OUTLETS THAT ARE NOT GFCI MUST BE AFCI.

TAMPER PROOF RECEPTICALES MUST BE INSTALLED IN 120 VOLT, SINGLE PHASE 15 & 20 AMP BRANCH CIRCUITS



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Plan Session Date: January 27, 2015

Steve Helseth

Lisa Helseth

Technical Review Committee - 10:00 AM **1. b.**

Meeting Date: 12/18/2025

REQUESTED ACTION

PZANN2025-00006
Annexation
Tony Acerra
Parcel ID: 2413-501-0154-000-6

SUMMARY

Review and Approval of a Voluntary Annexation by owner, Tony Acerra, to extend the territorial limits of the City of Fort Pierce, Florida, to include one parcel containing 0.19 acres, located along South Ocean Drive approximately 1,540 feet south of Blue Heron Boulevard. The proposed City Future Land Use is Residential Low (RL) and the proposed Zoning is Single Family Low Density Zone (R-1). Parcel ID: 2413-501-0154-000-6.

The applicant wishes to annex into the City of Fort Pierce in order to construct a single family residence on the subject property.

LOCATION

Hutchinson Island along South Ocean Drive approximately 1,540 feet south of its intersection with Blue Heron Boulevard.

RESPONSIBLE STAFF

Chris Suneson

RECOMMENDATION

TBD

Attachments

Application Files

Form Review

Form Started By: Christopher Suneson Started On: 12/04/2025 01:41 PM
Final Approval Date: 12/04/2025

Close Record Card

Property Identification

Site Address:	OCEAN DR
Sec/Town/Range:	18/35S/41E
Parcel ID:	**2413-501-0154-000-6**
Jurisdiction:	Saint Lucie County
Land Use Code:	0000 - Vac Residential
Account #:	**150186**
Map ID:	25/18N
Zoning:	Hutch Isla

Legal Description

SURFSIDE HARBOR BLK 10 LOT 10

Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	0.19
Land Size (SF):	8,100

Map

Building Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	160	170

Sources/links:

Ownership

Anthony S Acerra
Claudia F Acerra

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT Florida

APPLICATION FOR ANNEXATION

Annexation applications will require the adoption of an ordinance which will require a public meeting before the Planning Board and two public hearings before the City Commission.

Application submission shall include the following:

- **TRC** (*Initial Submission): One (1) original and (8) paper copies of the application and support documents and provide one (1) electronic copy of the application packet as described below.
- **Planning Board**: One (1) original and (16) paper copies of the application and support documents and provide one (1) electronic copy of the application packet as described below.
- **City Commission**: One (1) original and (11) paper copies of the application and support documents and provide one (1) electronic copy of the application packet as described below.

In addition to a complete application, packets shall include:

- Warranty Deed
- Current Survey (completed within the last 12 months)

1. Address: SURFSIDE HARBOUR HUTCHINSON ISLAND, FORT PIERCE
2. Legal description of real property for which annexation is being requested: SURFSIDE HARBOUR BLK 10 - LOT 10

   Property Tax ID: 2413-501-0154-000-6
3. Size of described property: 8,100 sq. ft. - .19 ACRES
4. Project description: ANNEXATION INTO City of FORT PIERCE
5. Current St. Lucie County Future Land Use Designation: RESIDENTIAL R-1
6. Current St. Lucie County Zoning: HUTCHINSON ISLAND
7. Is this a Historic property? NO
8. Appraised value: $20,933
9. Name of Owner(s): ANTHONY S. ACERRA + CLAUDIA F. ACERRA

   Signature of Owner(s): Anthony S. Acerra,
   Mailing Address: 302 SW KANE AVE.
   City PORT SAINT LUCIE State FL. Zip 34953
   Phone 732-822-1859 Fax

10. Name of Representative: _____

Signature of representative: _____
Mailing Address: _____
City) _____ State _____ Zip _____
Phone _____ Fax _____
E-mail: _____

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

OFFICE USE:

DATE RECEIVED:_____ Signed:_____

File Number:_____ Check No: _____ Receipt No: _____

TRC Review:_____ Planning Board Review: _____ City Commission: _____

Ordinance No:_____ Date Approved: _____

EDWIN M. FRY, Jr., CLERK OF THE CIRCUIT COURT
SAINT LUCIE COUNTY
FILE # 3225398 06/26/2008 at 11:32 AM
OR BOOK 2989 PAGE 434 - 434 Doc Type: DEED
RECORDING: $10.00
D DOC STAMP COLLECTION: $0.70

QUITCLAIM DEED

This quitclaim deed made on 6-7-08, between CLAUDIA F. GLOGOWSKI Anthony S. ACERRA (TRANSFEROR), of 24 DELAWARE AVE. (ADDRESS), WEST LONG BRANCH (CITY), MONMOUTH Co. (COUNTY), NJ. 07764 (STATE), and Anthony S. ACERRA / CLAUDIA F. ACERRA (TRANSFEREE), of WEST LONG BRANCH (CITY), MONMOUTH (COUNTY), _____ (STATE).

That for and in the consideration of the sum of ONE Dollars, the receipt of which is hereby acknowledged, Anthony S. ACERRA (TRANSFEROR) + CLAUDIA ~~F. Glowski~~ Glogowski does hereby release, remise and forever quitclaim unto Anthony S. ACERRA / CLAUDIA F. ACERRA (TRANSFEREE) all of his interest, if any, in that certain real property commonly known as #2413-501-0154-000-6 (PARCEL) (Property Address), located in the City of FORT PIERCE, County of ST. LUCIE, State of FLORIDA, described as follows:

Legal Description SURFSIDE HARBOR BLK 10 LOT 10

Together with all the tenements, hereditaments, and appurtenances thereunto belonging, and the reversions, remainders, rents, issues, and profits thereof.

To have and to hold, all and singular the premises, with the appurtenances, unto Anthony S. ACERRA CLAUDIA F. ACERRA (TRANSFEREE) and his heirs and assigns forever.

In witness whereof, Anthony S. ACERRA CLAUDIA F. Glogowski (TRANSFEROR) has hereunto this day and year as set forth above.

Anthony S. Acerra
Claudia Glogowski
[Signature]
Claudia Acerra

[Acknowledgment] Signed, sealed and delivered in the presence of:

WITNESSES

Anta Carstens
, Daniel Cappola
Amy Sobotka

ANTA CARSTENS
Notary Public of New Jersey
My Commission Expires May 9, 2012

Prepared By and Return To:
Gail Logan, AVP
Fidelity National Title Insurance Company of New York
118 North Second Street
Fort Pierce, FL 34950

File No. 03-020-702292

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

2413-501-0152-000/2

RETURN TO:
Fidelity National Title
Courthouse Box 121

WARRANTY DEED

THIS WARRANTY DEED dated April 7, 2003, by Marion Paul Broome hereinafter called the grantor, to Anthony S. Acerra and Claudia F. M. Glogowski whose post office address is 24 Delaware Avenue , West Long Branch, New Jersey 07764, hereinafter called the grantee: **AS JOINT TENANTS WITH RIGHTS OF SURVIVORSHIP.

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

WITNESSETH: That the grantor, for and in consideration of the sum of $10.00 and other valuable consideration, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys, and confirms unto the grantee, all the certain land situated in St. Lucie County, Florida, viz:

Lot 10, Block 10, Surfside Harbor Subdivision, according to the plat thereof, as recorded in Plat Book 10, Page 68 the Public Records of St. Lucie County, Florida.

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

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

TO HAVE AND TO HOLD the same in fee simple forever.

AND the grantor hereby covenants with said grantee that the grantor is lawfully seized of said land in fee simple; that the grantor has good right and lawful authority to sell and convey said land; that the grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to December 31, 2002.

Grantor hereby certifies that subject property is vacant land and does not represent homestead property.

JOANNE HOLMAN, CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
File Number: 2192653 OR BOOK 1699 PAGE 927
Recorded:04/24/03 10:49

* Doc Assump: $ 0.00
* Doc Tax : $ 273.00
* Int Tax : $ 0.00

**THIS DEED IS BEING RE-RECORDED TO ADD VESTING TO GRANTEES.

JOANNE HOLMAN, CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
File Number: 2207688 OR BOOK 1717 PAGE 2702
Recorded:05/21/03 15:43

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

Signed, sealed and delivered in the presence of:

Roxanne M. Huldeen
(Witness Signature)

Roxanne Huldeen
(Print Name of Witness)

Linda B. Hays
(Witness Signature)

LINDA B. HAYS
(Print Name of Witness)

Marion Paul Broome

(Address and Phone Number)

STATE of Fl.

COUNTY of St. Lucie

I HEREBY CERTIFY that on this day, before me, an Officer duly authorized in the State aforesaid and the County aforesaid to take acknowledgements, personally appeared Marion Paul Broome, to me known to be the person(s) described in or who has/have produced personally known as identification and who executed the foregoing instrument and he/she/they acknowledged before me that he/she/they executed the same.

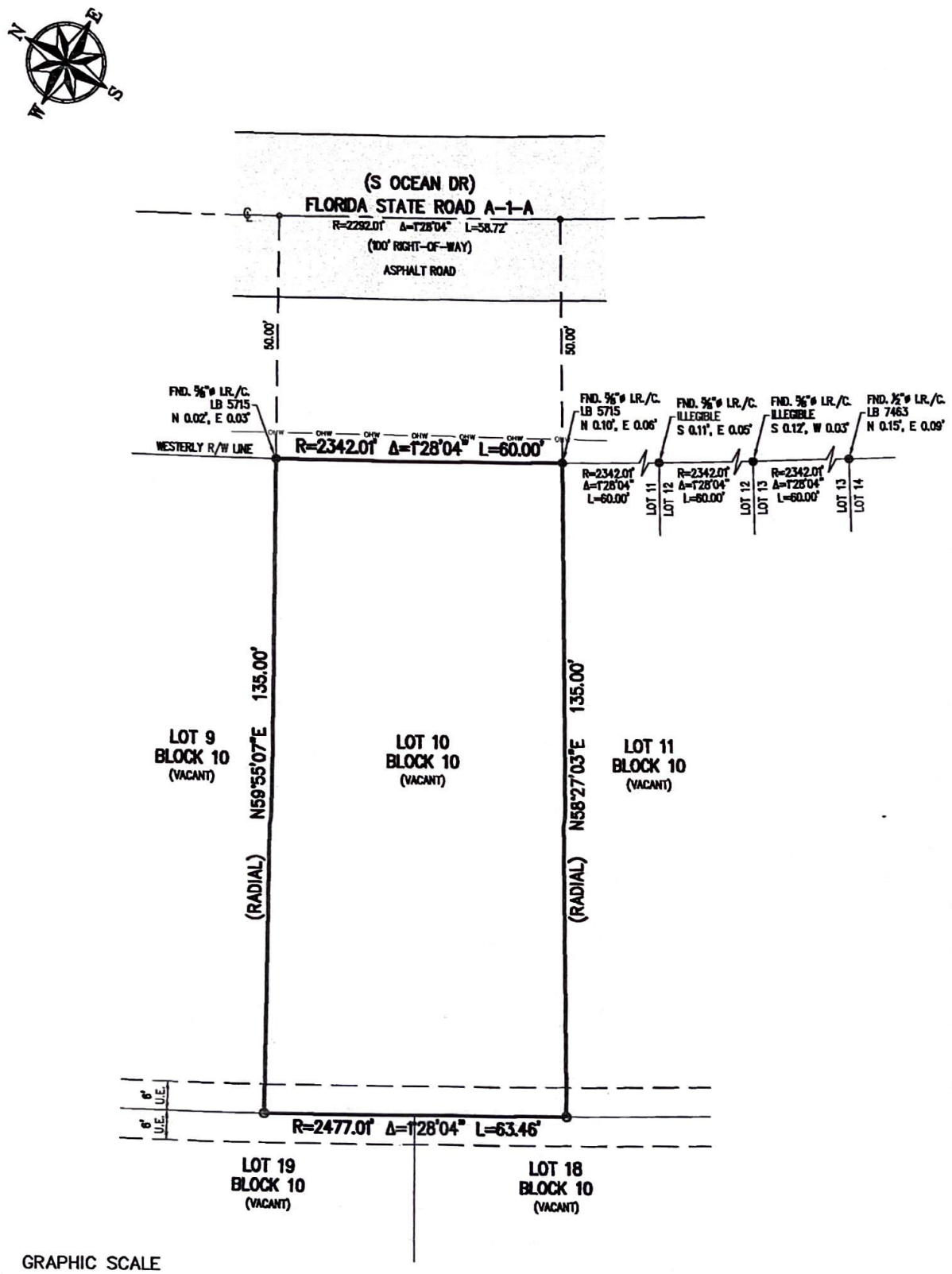
WITNESS my hand and official seal in the County and State last aforesaid this 11th day of April, 2003.

Roxanne M. Huldeen
Notary Signature

Roxanne M. Huldeen
Printed Notary Name

My commission expires: _____

ROXANNE M. HULDEEN
MY COMMISSION # DD 023560
EXPIRES: May 7, 2005
Bonded Thru Notary Public Underwriters



GRAPHIC SCALE

20 0 10 20

(IN FEET)

SHEET 2 OF 2

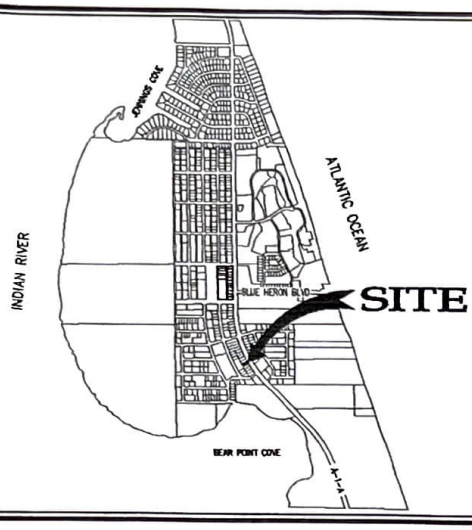
CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33434
PHONE (561)-392-1991 / FAX (561)-750-1452

SURFSIDE HARBOR
LOT 10, BLOCK 10 – BOUNDARY SURVEY

REVISIONS	DATE	BY

FILE NAME: 9873_ Lot 10 Blk 10 Boundary.dwg

DATE	2/22/2022
DRAWN BY	RFC
F.B./ PG.	N/A
SCALE	1" = 20'
JOB NO.	9873



LEGEND

Δ	– DELTA (CENTRAL ANGLE)	L.M.E.	– LIMITED MAINTENANCE EASEMENT
℄	– CENTER LINE	L.P. ☼	– LIGHT POLE
A/C	– AIR CONDITIONER	(N.R.)	– NON RADIAL
A.K.A.	– ALSO KNOWN AS	O.R.B.	– OFFICIAL RECORD BOOK
ALUM.	– ALUMINUM	P.B.	– PLAT BOOK
B.E.	– BUFFER EASEMENT	P.C.	– POINT OF CURVATURE
C.B.	– CATCH BASIN	P.C.C.	– POINT OF COMPOUND CURVATURE
C.O. ●	– CLEANOUT	P.I.	– POINT OF INTERSECTION
C.L.F	– CHAIN LINK FENCE	PGS.	– PAGE(S)
CONC.	– CONCRETE	P.R.C.	– POINT OF REVERSE CURVATURE
COV.	– COVERED	P.R.M. ■	– PERMANENT REFERENCE MONUMENT
C.U.E.	– CITY UTILITY EASEMENT	PROP.	– PROPOSED
D.E.	– DRAINAGE EASEMENT	R	– RADIUS
ELEC.	– ELECTRIC	R.P.	– RADIUS POINT
ELEV.	– ELEVATION	R/W	– RIGHT-OF-WAY
EQUIP.	– EQUIPMENT	(RAD.)	– RADIAL
ESMT.	– EASEMENT	SQ. FT.	– SQUARE FEET
EXIST.	– EXISTING	TYP.	– TYPICAL
F.H.	– FIRE HYDRANT	U.E.	– UTILITY EASEMENT
F.P.L.	– FLORIDA POWER & LIGHT	W.M. ⊡	– WATER METER
FIN.	– FINISHED	(00.00)	– DENOTES PROPOSED ELEVATION
FLR.	– FLOOR	0.00	– DENOTES EXISTING ELEVATION
FND.	– FOUND		– DIRECTION OF FLOW
G.V. ⋈	– GATE VALVE	Ⓜ	– DRAINAGE MANHOLE
H.H.	– HAND HOLE	Ⓘ	– IRRIGATION CONTROL VALVE
H.P.	– HIGH POINT	—OHW—	– OVERHEAD WIRES
I.R./CAP	– IRON ROD & CAP	Ⓢ	– SANITARY MANHOLE
L	– ARC LENGTH	○	– SET 5/8" IR/CAP LB 3591
L.E.	– LANDSCAPE EASEMENT	—○—	– SIGN

NOTES:

1. THIS SURVEY OR REPRODUCTIONS THEREOF ARE NOT VALID WITHOUT THE ORIGINAL SIGNATURE AND THE ORIGINAL SEAL, OR THE AUTHENTICATED ELECTRONIC SIGNATURE AND SEAL, OF A FLORIDA LICENSED PROFESSIONAL SURVEYOR AND MAPPERS.
2. THE LANDS, AS SHOWN HEREON, WERE NOT ABSTRACTED FOR RIGHT-OF-WAY, EASEMENTS, OWNERSHIP, OR OTHER INSTRUMENT OF RECORD.
3. THE ELEVATIONS, AS SHOWN HEREON, ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.
4. BEARINGS SHOWN HEREON REFER TO RECORD PLAT AND ASSUMES THE SOUTH LINE OF LOT 10, BLOCK 10 AS N58°27'03"E.
5. THE DESCRIPTION, AS SHOWN HEREON, IS IN ACCORD WITH THE INSTRUMENT OF RECORD.
6. ANY UNDERGROUND FOUNDATIONS WERE NOT LOCATED.
7. ADDITIONS OR DELETIONS TO SURVEY MAPS BY OTHER THAN THE SIGNING PARTY, OR PARTIES, IS PROHIBITED, WITHOUT WRITTEN CONSENT OF SAID SIGNING PARTY, OR PARTIES.
8. FLOOD ZONE: "AE" BASE FLOOD ELEV.: 4.0'; FIRM MAP NO. 12111C0192K; COMMUNITY NO. 120285; DATED: FEBRUARY 19, 2020.
9. BENCHMARK: NATIONAL GEODETIC SURVEY MONUMENT "97 77 A 21", ELEVATION = 2.48'.
10. PROPERTY ADDRESS: S OCEAN DRIVE

DESCRIPTION:

LOT 10, BLOCK 10, SURFSIDE HARBOR SUBDIVISION, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 10, PAGE 68, OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.

SUBJECT TO EASEMENTS, RESTRICTIONS, RESERVATIONS AND LIMITATIONS OF RECORD.

CONTAINING 8,333 SQUARE FEET OR 0.1913 ACRES, MORE OR LESS.

CERTIFICATE:

I HEREBY CERTIFY THAT THE ATTACHED BOUNDARY SURVEY OF THE HEREON DESCRIBED PROPERTY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AS SURVEYED UNDER MY DIRECTION, ON FEBRUARY 22, 2022. I FURTHER CERTIFY THAT THIS BOUNDARY SURVEY MEETS THE STANDARDS OF PRACTICE SET FORTH IN CHAPTER 5J-17, ADOPTED BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, PURSUANT TO FLORIDA STATUTES 472.027.

David Lindley

Digitally signed by David Lindley
DN: c=US, st=FL, l=Boca Raton, o=Caulfield & Wheeler, Inc., ou=Surveying, cn=David Lindley, email=dlindley@cwinc.com
Date: 2022.03.23 13:41:58 -05'00'

DAVID P. LINDLEY, P.L.S.
REG. LAND SURVEYOR #5005
STATE OF FLORIDA – LB #3591

SHEET 1 OF 2

CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33434
PHONE (561)-392-1991 / FAX (561)-750-1452

SURFSIDE HARBOR
LOT 10, BLOCK 10 – BOUNDARY SURVEY

REVISIONS	DATE	BY

FILE NAME: 9873_ Lot 10 Blk 10 Boundary.dwg

DATE	2/22/2022
DRAWN BY	RFC
F.B./ PG.	N/A
SCALE	1" = 20'
JOB NO.	9873

Justification Statement

All my life I enjoyed creating and building. In 1979 I became a union carpenter and worked in the extreme heat and cold for 38 years. I first visited Florida in 1975 with a couple of friends and returned many times afterwards. In 1989 I visited friends and Stuart. Their parents just built a house on the river in Sewall's Point. The sunsets were amazing and the warmth thawed my frostbitten fingers and toes. I knew I had to return here someday. My dream was to build a home with a sunset view.

I bought a fixer-upper house in my hometown and worked on it for 35 years. I also sacrificed to save money by working side jobs, nights and weekends. In 2003, 12 years before my retirement in 2015 because of spinal injuries. I bought my first Lot #14 on Hutchinson Island at Bear Point Sanctuary in the Surfside Harbor subdivision. I envisioned my dream three-story home with 360° sunrise to sunset views. I was curious why no one had built in the area after finding out that those lots were plotted out in 1950. So, I did my due diligence and visited the county building department on 2300 Virginia Ave in 2003 a couple of weeks later. The gentleman in the office there took me into the conference room and I showed him what I had just purchased. weeks later. He told me, "You are grandfathered into the lot size and setbacks for your house and septic tank". I felt relieved, so I bought my second lot #10.

Soon after I did a lot of legwork and asked many questions. I hired a wetlands consultant and started my mitigation process for Lot 14 with Lauri Heistermann at the Bear point Mitigation Bank. I paid for one reservation credit to mitigate the mangoes which amounted to 1/10th of an acre, or 4,500 square ft. I then hired my wetlands consultant to begin my DEP application much time and money later. I also have my DEP approval. Which, by the way, included a septic tank because the county did not provide sewer or water service. The City of Fort Pierce had a waterline installed only. Powerlines were there, and my dream was coming true. Little did I know my nightmare was just about to begin. Not just for me, before the whole subdivision dozens of lots were sold off during 2003 to 2004 and no one discovered any restrictions either.

Then a stroke of luck. After buying YMCA Easter house tickets since 1989, yes 31 years, I got a call from the YMCA in 2020. " You won the house". A year later our house was sold in a good market and my wife and I moved into the house in Port St. Lucie. I was ready to build. But, not so fast. First, the county said they would not allow a septic tank. I needed a sewer line. One day I was speaking to a builder/ developer from West Palm Beach who had bought a lot just up from me about my sewer petition. He said he was told the county had created. Something called an NCLOR, which rendered our lots, non-conforming, not billable, I basically worthless. Deep depression. I had been in the process of trying to get a sewer line from the county 1.5 miles to the south of our subdivision at a cost of $1.5 million in 2021. This first MSBU consisted of 75 lots from Blue Heron Boulevard to the end of our subdivision just north of the Bear Point Sanctuary parking lot. I questioned Barbara Getler and Cathy Altizer about the targeted area because it included the lots not just fronting A1A, but also the lots behind us. I mentioned that I was always told that the back lots were never going to be able to be built on. Barbara said, "This is what they gave us".

I had no choice, but to continue on with the MSBU, even though I told Barbara and Cathy, that I was afraid for my life. Can you imagine me getting them to pay for my sewer line knowing that they could not use it? They know where I live, and everyone in Florida has a gun. I had checked in with the petition count for the MSBU from time to time. Two years later, I was seven petitions short.

The next time I called Barbara, she told me my MSBU would not be allowed because our properties were not valuable enough. I said they were not valuable because we do not have a sewer line. I called Ray Morankus from the county sewer department to ask him if our subdivision could self-pay. He said the cost to install the sewer line went from $1.5 million to $4.5 million during that two year time period. This MSBU was doomed to fail from the beginning. Even if I did get the last seven properties, my MSBU would have been rejected by the county attorney anyway. I know this now only because of what happened next.

One day, I went to talk to Otis the owner of the Pie Hole pizza restaurant in our subdivision. The waitress said he was out of town. I mentioned about the sewer line and she told me he got approval from FPUA to bring it from Blue Heron Boulevard to the north south to his restaurant and properties. I was confused. When I inquired about that, I was told that would not be possible because that line was installed with federal money and it could not be extended south of Blue Heron Boulevard. Apparently, I was given wrong information again.

In March 2022, I decided to hire a lawyer to see what my options were. He told me that I needed to annex into the City of Fort Pierce because they did not change their ordinance and our lots would be considered conforming and buildable. I got in contact with Venus Gilmore, who is very helpful. My lawyer set up a meeting with him at City Hall. At that meeting, Venus confirmed that I could annex, my lots would be conforming, and that I could have a septic tank.

Great, I didn't have to bother with another MSBU for sewer line. Weeks later, I walked into the annexation meeting, and Ryan Altizer said, "You're going to be quick and easy so we are going to do yours first". I was annexing my Lot 14 to the lot across A1A to whom I paid $2100 for his survey to get him to annex because he was contiguous with the lot next to him thus making me contiguous with his lot across A1A. This is basically what lot number #9 did which my second lot to be annexed #10 is contiguous to. He annexed his lot in 2007 according to ordinance K-438 which was created by the City of Fort Pierce in 2006. But it wasn't that easy. As soon as the mention of a septic tank, I believe it was Alicia, said septic tanks were not allowed. At this point, the highs and lows are destroying my soul. Kevin Freeman said my annexation was on hold until we had a sewer line, not canceled.

So I contacted Bo Hutchinson and Lugey Dawson at the FPUA. He said yes the sewer line was federally funded. I asked him then how was Pie Whole Pizza was able to bring the sewer line down about 800' to his restaurant. He told me he paid for it himself. Private money. I contacted Barbara to start another MSBU to service the second half of our subdivision with FPUA. Bo said we first had to ge approval from Florida Fish And Wildlife. We called and emailed Patricia Kelly. She explained to us over the phone and through emails that she would only give permission for the 26 lots fronting A1A, and it had to be paid for by our private money. There was no formal application or document. The new 26 lot approval map was drawn up and Patricia indicated the area with a red arrow.

The new area map is part of my application and has been uploaded to the portal.

Of the 26 parcels, I have more than 75% of the required MSBU applications signed. Only 51% is required for approval. So here we are today because our MSBU was denied by the county because 10 of the 26 lots that are in the county are nonconforming. The county attorney said an owner of a nonconforming lot cannot be forced to pay for a MSBU if they are not able to build. We need to annex the 10 county lots first into the City of Fort Pierce to be conforming. Then, at that time, the sewer line can be installed. 16 of the 26 lots south of Pie Hole Pizza are already city lots in our MSBU. The lots from Blue Heron Boulevard south to Pie Hole Pizza are all city lots which make up the northern half of our subdivision. That makes about 90% city lots and 10% county lots total in our Surfside Harbor subdivision. This annexation process will conform the whole subdivision to city lots. Note, the FPUA owns the water line already and because of this if anyone were ever to build they would have to sign an annexation agreement for the City of Fort Pierce before any building would be able to commence. Thank you for considering our annexation applications.

CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33434
PHONE (561)-392-1991 / FAX (561)-750-1452

SURFSIDE HARBOR
LOT 10, BLOCK 10 - BOUNDARY SURVEY

REVISIONS	DATE	BY
FILE NAME: 9873_ Lot 10 Blk 10 Boundary.dwg		

DATE	2/22/2022
DRAWN BY	RFC
F.B./ PG.	N/A
SCALE	1" = 20'
JOB NO.	9873

(S OCEAN DR)
FLORIDA STATE ROAD A-1-A
R=2292.01' Δ=1°28'04" L=58.72'
(100' RIGHT-OF-WAY)
ASPHALT ROAD

50.00'

FND. ⅝"ø I.R./C. LB 5715 N 0.02', E 0.03'

FND. ⅝"ø I.R./C. LB 5715 N 0.10', E 0.06'

FND. ⅝"ø I.R./C. ILLEGIBLE S 0.11', E 0.05'

FND. ⅝"ø I.R./C. ILLEGIBLE S 0.12', W 0.03'

FND. ½"ø I.R./C. LB 7443 N 0.15', E 0.09'

WESTERLY R/W LINE

R=2342.01' Δ=1°28'04" L=60.00'

R=2342.01' Δ=1°28'04" L=60.00'

R=2342.01' Δ=1°28'04" L=60.00'

R=2342.01' Δ=1°28'04" L=60.00'

LOT 11 | LOT 12

LOT 12 | LOT 13

LOT 13 | LOT 14

135.00'

N59°55'07"E (RADIAL)

135.00'

N58°27'03"E (RADIAL)

LOT 9
BLOCK 10
(VACANT)

LOT 10
BLOCK 10
(VACANT)

LOT 11
BLOCK 10
(VACANT)

6' U.E.

6' U.E.

R=2477.01' Δ=1°28'04" L=63.46'

LOT 19
BLOCK 10
(VACANT)

LOT 18
BLOCK 10
(VACANT)

GRAPHIC SCALE
20 0 10 20
(IN FEET)

SHEET 2 OF 2

CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
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SURFSIDE HARBOR
LOT 10, BLOCK 10 - BOUNDARY SURVEY

REVISIONS | DATE | BY
FILE NAME: 9873_ Lot 10 Blk 10 Boundary.dwg

DATE 2/22/2022
DRAWN BY RFC
F.B./ PG. N/A
SCALE 1" = 20'
JOB NO. 9873

Parcel I.D. #: 2413-501-0154-000-6

Wetland Delineation

Field Report

St. Lucie County, FL

BLK 10 - LOT 10

Surfside Harbor:
Block 10, Lot 10,
St. Lucie County

P.I.N. #: 2413-501-0154-000-6

Table of Contents:

Location Map: Delorme Topo USA

Field Report: To Include Detailed Findings & Conclusion

Aerial Map: St. Lucie County Property Appraiser
Aerial of Site

Site Map: LABINS Aerial of Site
With Wetland Delineation Lines Superimposed

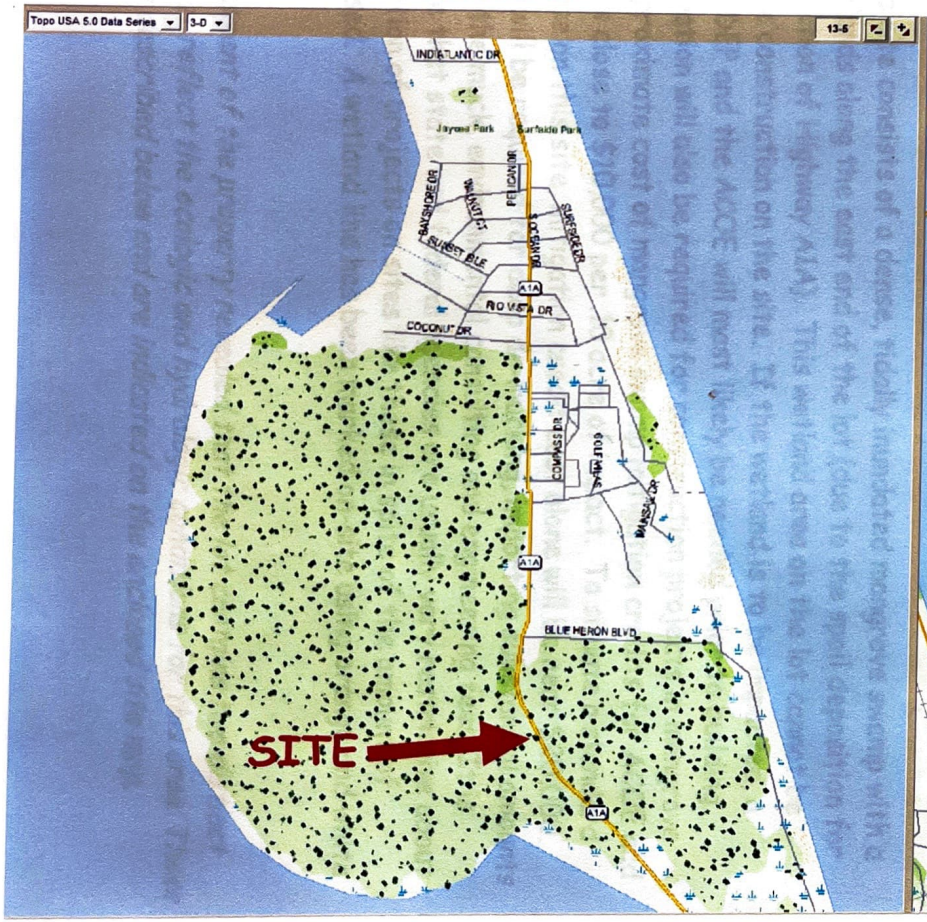
Site Photos: On Site Digital Photographs

LOCATION MAP

PIN: 2413-501-0154-000-6 ,
Surfside Harbor Block 10, Lot 10, St. Lucie County

N

CLOSE UP



REGIONAL

Mark Youmans
Environmental Consultant
909 SW Idol Avenue
Port St. Lucie, FL 34986
Phone/Fax # (772) 340-0749

Client: Mr. Anthony Acerra

Location: PIN: 2413-501-0154-000-6, Surfside Harbor,
Block 10, Lot 10 (OR 1699-927: 1717-2702),
Hutchinson Island, Highway A1A, St. Lucie County, FL

On October 11, 2006, a wetland survey was performed at the above referenced property, utilizing the wetland delineation standards set forth in 62-340 F.A.C. The findings are outlined below:

-Property Size: 0.19 Acres

-Approximate Percentage of Wetlands: 95%

-Approximate Percentage of Uplands: 05%

Comments: The site consists of a dense, tidally inundated mangrove swamp with a thin fringe of uplands along the east end of the lot (due to the spoil deposition for the road construction of Highway A1A). This wetland area on the lot cannot be avoided for house construction on the site. If the wetland is to be impacted, a permit from the DEP and the ACOE will most likely be needed prior to building. Substantial mitigation will also be required for construction projects in mangrove swamps. The approximate cost of mangrove swamp mitigation credits for ACOE and DEP dual credit is close to $10,000 per .10 acre of impact. To situate a standard single family house on this site, mitigation credit cost alone will be near $20,000. Additional costs will be required for deep de-mucking, importing substantial amounts of fill to replace the muck, environmental consulting and engineering fees. It is important to note that state and federal agencies are usually very restrictive about the size and location of projects on sites like these in spite of the amount of mitigation proposed. A wetland line has been marked on-site using orange and white striped ribbon.

An on-site assessment of the property revealed that the lot contains two distinct habitat types that reflect the ecologic and hydrologic conditions for this area. These two habitats are described below and are indicated on the enclosed site map.

Habitat Types:

(Habitats are described using D.O.T. F.L.U.C.C.S. Codes and the 10YR page of the Munsell Soil Chart)

HABITAT #1 -WETLAND MANGROVE SWAMP

F.L.U.C.C.S. CODE # 612

Biological Description of Wetland Habitat:

These dense, brackish water swamps occur along low-energy shorelines and in protected, tidally influenced bays of southern Florida. This community is composed of freeze-intolerant tree species that are distributed south of a line from Cedar Key on the Gulf coast to St Augustine on the Atlantic coast. These swamp communities are usually dominated by red, black, and white mangroves that progress in a sere from seaward to landward areas, respectively, while buttonwood trees occur in areas above high tide. Openings and transitional areas in mangrove swamps sometimes contain glasswort, saltwort, and other salt marsh species. All three major species of mangroves are mapped as a single class with no effort made to differentiate these species into separate zones.

PLANT COVERAGE OF THE WETLAND HABITAT AREA

Upland Plants:
(Upper Canopy & Sub-canopy): NONE

(Ground Cover): NONE

Percentage of total habitat coverage = **0%**

Facultative Plants:
(Upper Canopy & Sub-canopy): BRAZILIAN PEPPER, AUSTRALIAN PINE

(Ground Cover): NONE

Percentage of total habitat coverage = **10%**

Facultative Wetland Plants:
(Upper Canopy & Sub-canopy): NONE

(Ground Cover): NONE

Percentage of total habitat coverage = **0%**

Obligate Wetland Plants:

(Upper Canopy & Sub-canopy): RED MANGROVE, BLACK MANGROVE, WHITE MANGROVE

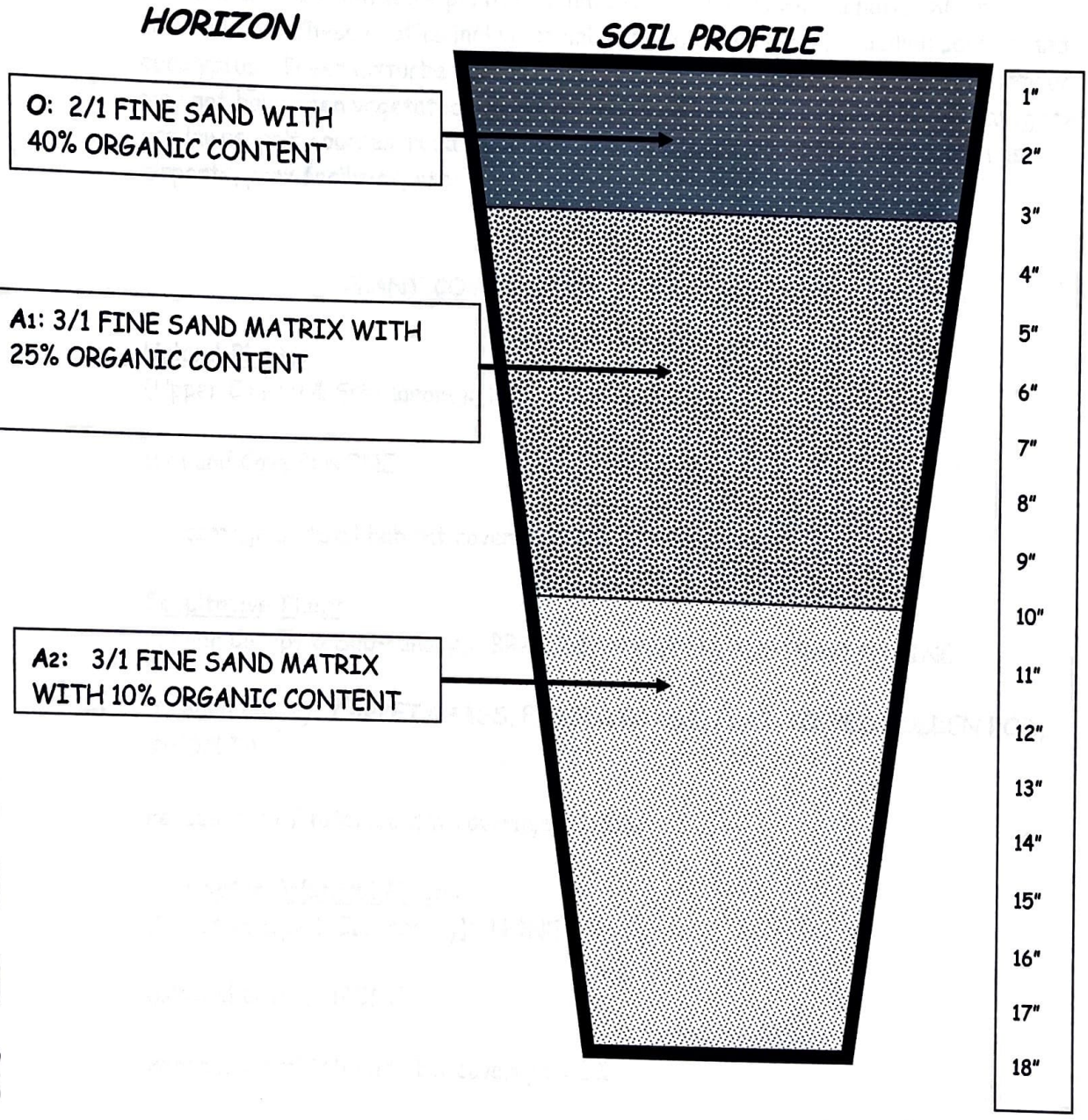
(Ground Cover): NONE

Percentage of total habitat coverage = **90%**

TYPICAL SOIL PROFILE IN THE WETLAND HABITAT AREA

(Using the 10YR page of the Munsell Soil Chart)

Soil Type: ARENT SOIL (INUNDATED ALONG WETLAND LINE)
Hydric/Depressional: YES



Hydrologic indicators present in this habitat area: Tidally Influenced Water Levels. Water Stains, Aquatic Plants, Aquatic Fauna, Adventitious Roots, Muck, Hydrogen Sulfide In The Upper 6" Of Soil & Defined Ecotone

HABITAT #2 - UPLAND- EXOTIC PLANT COMMUNITY
F.L.U.C.C.S. CODE # 422

Biological Description of Upland Habitat:
This community is defined by disturbed upland areas that are dominated by non-native trees that were planted or have escaped and invaded native plant communities. These exotics include melaleuca, Australian pine, Brazilian pepper, and eucalyptus. These disturbed areas usually occur within urbanized areas that may or may not have been vegetated. Some examples of land uses included in this category are lawns, golf courses, road shoulders, grassy areas surrounding places such as airports, park facilities, etc.

PLANT COVERAGE OF THE UPLAND HABITAT AREA

Upland Plants:
(Upper Canopy & Sub-canopy): NONE

(Ground Cover): NONE

Percentage of total habitat coverage = **0%**

Facultative Plants:
(Upper Canopy & Sub-canopy): BRAZILIAN PEPPER, AUSTRALIAN PINE

(Ground Cover): CARPET GRASS, FINGER GRASS, FLAT-TOPPED GOLDEN ROD, WEDILIA

Percentage of total habitat coverage = **100%**

Facultative Wetland Plants:
(Upper Canopy & Sub-canopy): NONE

(Ground Cover): NONE

Percentage of total habitat coverage = **0%**

Obligate Wetland Plants:
(Upper Canopy & Sub-canopy): NONE

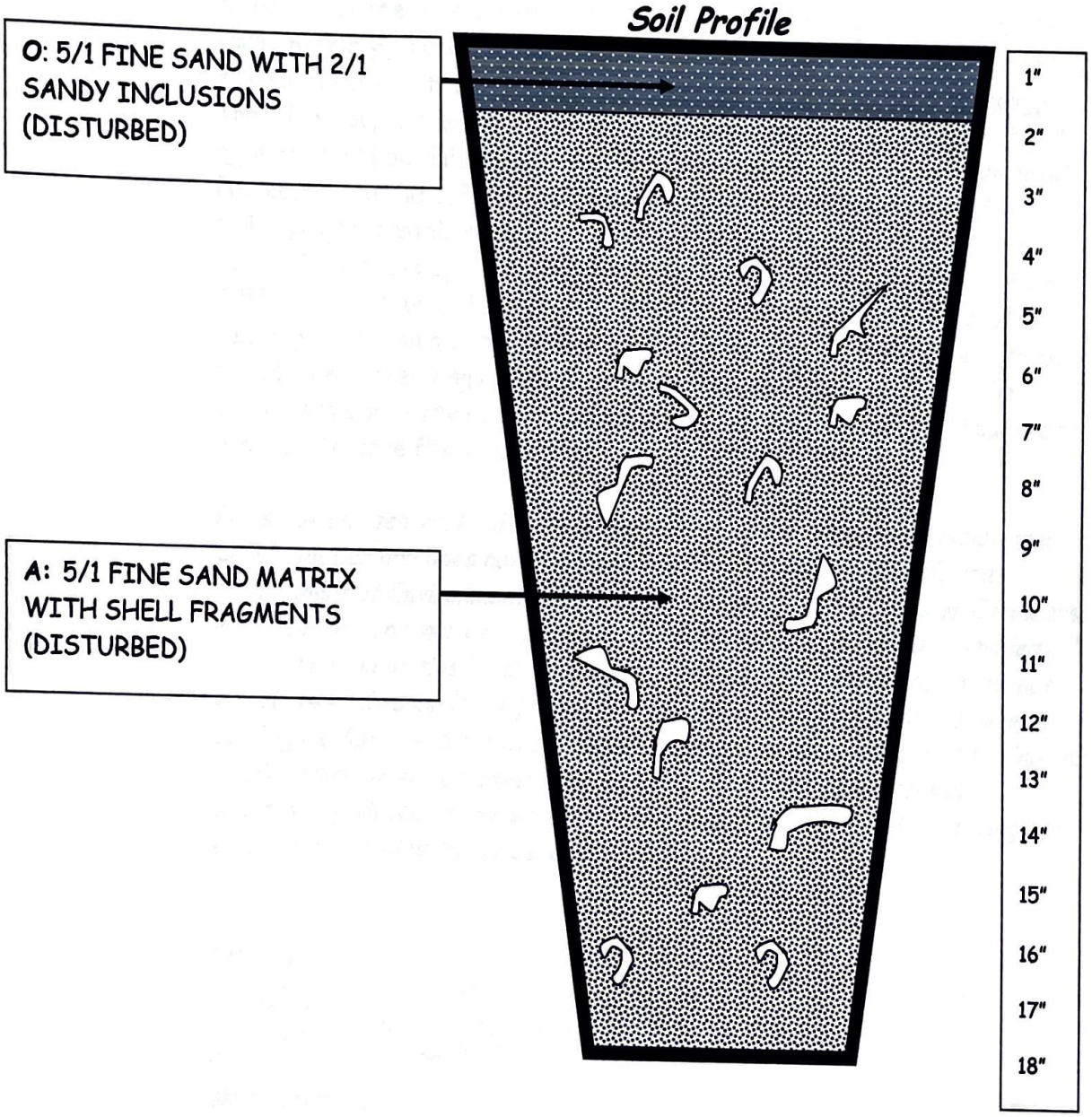
(Ground Cover): NONE

Percentage of total habitat coverage = **0%**

TYPICAL SOIL PROFILE IN THE UPLAND HABITAT AREA

(Using the 10YR page of the Munsell Soil Chart)

Soil Type: ARENT (Disturbed- soil deposited during adjacent road construction)
Hydric/Depressional: N/A



Hydrologic indicators present in this habitat area: None

Conclusion:

After careful review of aerial photographs, St. Lucie County soil maps, on-site soil samples, hydrologic conditions and botanical observations, it is my professional opinion, based on reasonable scientific judgment that Habitat #1 of this lot lies within the State of Florida's wetland regulatory jurisdiction. This opinion is based on the fact that the site characteristics of Habitat #1 satisfy all of the four wetland tests (A, B, C & D). In this habitat area I have found hydric soils in all of the sample locations, obligate plants dominating the ecological community and there is convincing evidence of wetland hydrology. Therefore, approximately 95% of this lot lies within a jurisdictional wetland area and could be claimed by both the Florida Department of Environmental Protection and the U.S. Army Corps of Engineers. Any proposed dredging or filling projects within wetland areas should require an environmental resource permit from these agencies. Fines of $10,000 per day may be imposed by the D.E.P. for unauthorized activities in wetland areas; additional fines and/or felony prosecution may be imposed by the federal government. The wetland boundary has been flagged with orange and white stripped ribbons. The approximate property corners along the roadside have been flagged using pink, green and orange fluorescent tape.

Please be advised that this assessment is an informal wetland jurisdictional determination and does not in any way bind the consultant, the Florida Department of Environmental Protection or the U.S. Army Corps of Engineers to its conclusions, nor does it convey any legal rights, expressed or implied. Persons obtaining this informal wetland jurisdictional determination are not entitled to rely upon it for purposes of compliance with provisions of law. A binding wetland jurisdictional determination can be obtained by petitioning the Florida Department of Environmental Protection for a jurisdictional declaratory statement pursuant to Rule 62-340.300, FAC, or by applying for an environmental resource permit.

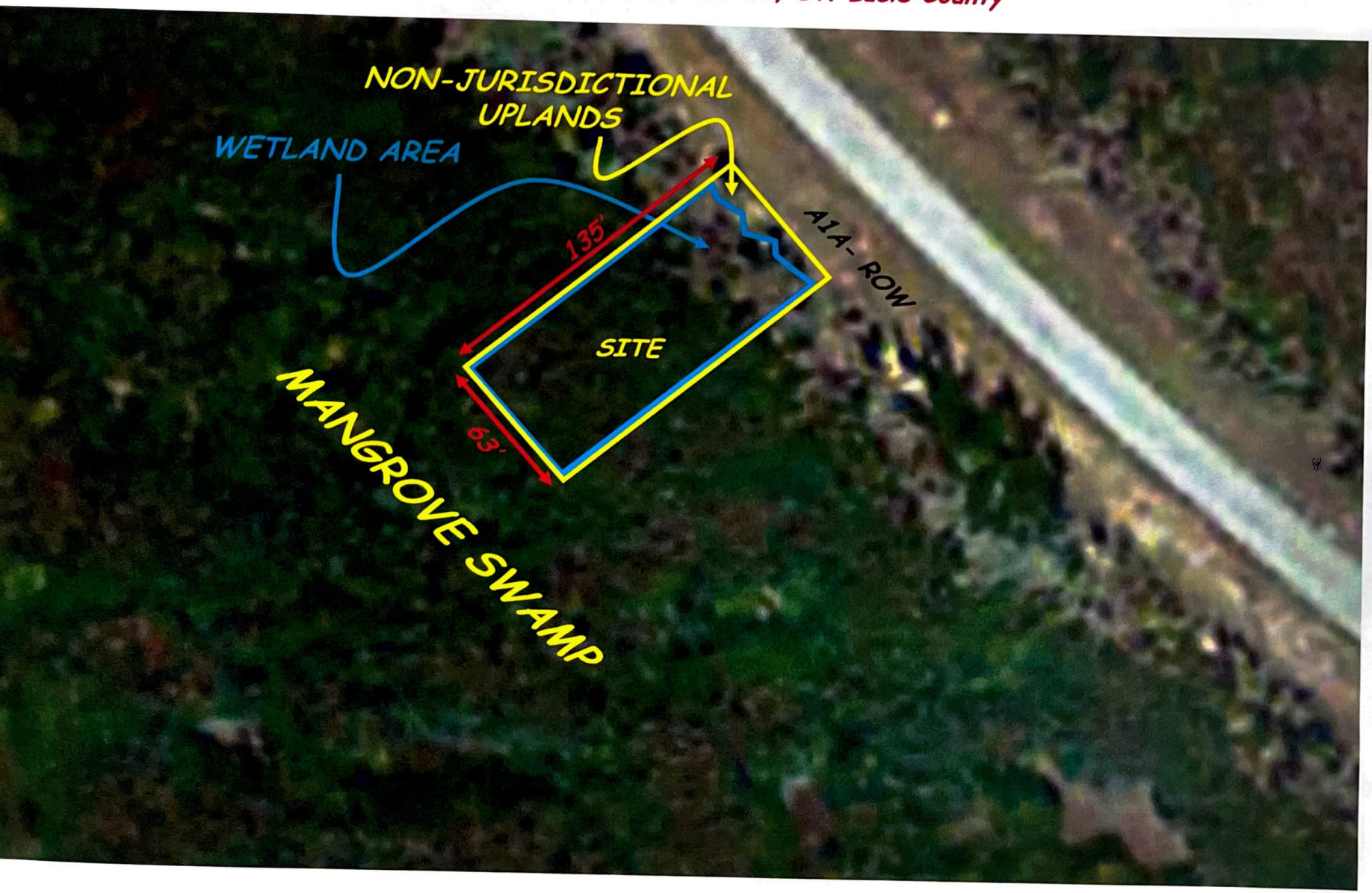
Sincerely,

Mark Youmans
Environmental Consultant

MANGROVE SWAMP
DRIVE
OCEAN
SITE
MANGROVE SWAMP

SITE MAP

PIN: 2413-501-0154-000-6
Surfside Harbor Block 10, Lot 10, St. Lucie County



SITE PHOTO'S

PIN: 2413-501-0154-000-6 ,
Surfside Harbor Block 10, Lot 10, St. Lucie County

October 11, 2006

CENTRAL WETLAND BOUNDARY LOOKING WEST

UPLAND FRINGE LOOKING WEST FROM ROAD R.O.W.

From: **Tony Acerra** tonyacerra@comcast.net
Subject: **Re: [EXTERNAL] Re: Please Respond / Sewer line extension Surfside Harbor**
Date: **Nov 10, 2025 at 10:44:49 AM**
To: **Patricia Kelly** patricia_kelly@fws.gov

Good morning Patricia,

I am in the process of annexing into the City of Fort Pierce. They are asking for an official letter from you stating your approval of our sewer line install on A1A on Hutchinson Island in Fort Pierce at Bear Point Sanctuary. I sent them your below response of "Yes", but they want an official letter from your department.
Could you please send that letter?

Thanks, Tony

Sent from my iPad

> On Jan 19, 2025, at 2:45 PM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:
>
> Yes. Thanks for your patience.
>
> Patty Kelly
> Wildlife Biologist
> & Regional CBRA Coordinator for Region 4
> US Fish & Wildlife Service
> Florida Ecological Services Field Office
> 1601 Balboa Avenue
> Panama City, FL 32405
>
> email: patricia_kelly@fws.gov
> *Ph: 850-273-4611
>
> ---
>
> **From:** Tony Acerra <tonyacerra@comcast.net>
> **Sent:** Thursday, January 16, 2025 3:20 PM
> **To:** Kelly, Patricia <patricia_kelly@fws.gov>
> **Cc:** Bo Hutchinson <bhutchinson@fpua.com>
> **Subject:** Re: [EXTERNAL] Re: Please Respond / Sewer line extension Surfside Harbor

Patty,

Ok, understood. With that being said, can we get started?
Can you give us a firm
YES or No.

Thanks, Tony

Sent from my iPhone

On Jan 16, 2025, at 3:00 PM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:

Mr. Acerra and Mr. Hutchinson,

That is correct, there can be no federal dollars used to support development into areas designated as a System Unit under the Coastal Barrier Resources Act (CBRA) unless that action meets an exception. The purposes of the CBRA are to 1) keep human life out of harms way but not supporting development in high risk areas, 2) minimize wasteful expenditure of federal funds [construction in high risk areas are likely to be repeatedly damaged and require funds to repair; 3) minimize damage to fish, wildlife, and natural resources. Expanding development via construction of water, sewer, electrical lines does not meet any exception even if the facility that supplies the utilities are located out of a CBRA System Unit, as is the case here.

No funds can be used to finance nor upgrade nor repair utilities that FPUA intends to provide to the private citizens within Hutchinson Island that occur within the CBRA Unit. We recommend that separate records are kept if FPUA ever receives federal funds to upgrade the facility that occurs outside of the CBRA Unit but that will support the residents inside of the Unit. IF FPUA receives funds to upgrade/repair/maintain the main FPUA facility that is to service Hutchinson Island, they will need to pro-rate all funds. For example, lets assume that Hutchinson Island accounts for 10% of FPUA's business. If FPUA has a $100,000 damage to their facility and FEMA might assist in repairs, FPUA will need to pay for $10,000 of damages out of pocket. That $10,000 cannot be considered as part of a percentage match that is often required as

part of a Federal loan or grant for the remainder of the repair calculation.

It can get complicated but its doable. Thanks for the coordination.

Patty Kelly
Wildlife Biologist
& Regional CBRA Coordinator for Region 4
US Fish & Wildlife Service
Florida Ecological Services Field Office
1601 Balboa Avenue
Panama City, FL 32405

email: patricia_kelly@fws.gov
*Ph: 850-273-4611

From: Tony Acerra <tonyacerra@comcast.net>
Sent: Thursday, January 16, 2025 1:30 PM
To: Kelly, Patricia <patricia_kelly@fws.gov>
Cc: Bo Hutchinson <bhutchinson@fpua.com>; Tony Acerra <tonyacerra@comcast.net>
Subject: [EXTERNAL] Re: Please Respond / Sewer line extension Surfside Harbor

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

Good afternoon Patty,

As per our conversation on Friday 1-10-24, you informed me that it would be ok for Bo Hutchinson at FPUA to began the process of having the sewer line installed on A1A at the Surfside Harbor subdivision in Fort Pierce. I have a petition in place and it will be funded privately. There will be no Federal money

used for this project.
Please give an official response to this email to Bo Hutchinson so he will know we can get started on our sewer line installation process.

Thank you, Tony Acerra

Sent from my iPad

> On Oct 16, 2024, at 12:19 PM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:
>
> **Mr Acerra, apologies. Its on my list but there are other pressing documents ahead of it but it will get completed. Thanks for your patience.**
>
> **Patty Kelly**
> **Wildlife Biologist**
> **& Regional CBRA Coordinator for Region 4**
> **US Fish & Wildlife Service**
> **Florida Ecological Services Field Office**
> **1601 Balboa Avenue**
> **Panama City, FL 32405**
>
> **email: patricia_kelly@fws.gov**
> ***Ph: 850-273-4611**
>
> ---
>
> **From:** Tony Acerra <tonyacerra@comcast.net>
> **Sent:** Wednesday, October 16, 2024 8:19 AM
> **To:** Kelly, Patricia <patricia_kelly@fws.gov>
> **Subject:** Re: [EXTERNAL] Map-Sewer line extension Surfside Harbor
>
> Good morning Patricia,
>
> I'm sure this might be a busy time for you and I hope you fared well with the

Hurricane.
I noticed it's been it's been about six weeks since our last email. I was wondering if you were able to send out the letter for the sewer line at Surfside Harbor.

Thanks, Tony Acerra

Sent from my iPad

On Aug 29, 2024, at 5:13 PM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:

Hi Tony.. Sorry, I was pulled onto another project but its completed so this letter is near the top of my list. Hoping by next week it will be approved to send out.

Patty Kelly
Wildlife Biologist
& Regional CBRA Coordinator for Region 4
US Fish & Wildlife Service
Florida Ecological Services Field Office
1601 Balboa Avenue
Panama City, FL 32405

email: patricia_kelly@fws.gov
***Ph: 850-273-4611**

From: Tony Acerra <tonyacerra@comcast.net>
Sent: Wednesday, August 28, 2024 8:33 AM
To: Kelly, Patricia <patricia_kelly@fws.gov>
Subject: Re: [EXTERNAL] Map-Sewer line extension Surfside Harbor

Good Morning Patty,

I spoke to several property owners. They are very excited about finally getting sewer service to our properties at Surfside Harbor. Hope we are still on track. If there is any other information you need please call me. 732-822-1859

Thank you, Tony

Sent from my iPad

On Jul 31, 2024, at 12:56 PM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:

This helps a lot. Thanks.

Patty Kelly
Wildlife Biologist
& Regional CBRA Coordinator for Region 4
US Fish & Wildlife Service
Florida Ecological Services Field Office
1601 Balboa Avenue
Panama City, FL 32405

email: patricia_kelly@fws.gov
*Ph: 850-273-4611

From: Tony Acerra <tonyacerra@comcast.net>
Sent: Wednesday, July 31, 2024 11:35 AM
To: Kelly, Patricia <patricia_kelly@fws.gov>
Subject: Re: [EXTERNAL] Map-Sewer line extension Surfside Harbor

<IMG_0194.png>

Sent from my iPad
Hi Patty,

This is the are of our MSBU. It consists of 26 lots fronting A1A only on both sides of the road represented by the red line and arrow heading south of the pizza restaurant. Our subdivision is called Surfside Harbor. For reference, the pizza restaurant is just north of the red horizontal line on the right/east side of A1A. Note, the nearest crossroad is just north of us labeled Blue Heron Blvd as shown on the map.

Thank you for your help,
Tony Acerra

On Jul 23, 2024, at 12:37 PM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:

Thanks!

Patty Kelly
Wildlife Biologist
& Regional CBRA Coordinator for Region 4
US Fish & Wildlife Service
Florida Ecological Services Field Office
1601 Balboa Avenue
Panama City, FL 32405

email: patricia_kelly@fws.gov
***Ph: 850-273-4611**

From: Tony Acerra <tonyacerra@comcast.net>
Sent: Tuesday, July 23, 2024 11:32 AM
To: Kelly, Patricia <patricia_kelly@fws.gov>
Subject: Re: [EXTERNAL] Sewer line extension Surfside Harbor

Patricia,

Bo's email is....bhutchinson@fpua.com.
Please copy me in.

Thank you Tony

Sent from my iPad

On Jul 23, 2024, at 12:08 PM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:

Hi Mr. Acerra-- I did receive the attached letter from Atlanta and tried to reach out via phone ion April 9th but did not receive a return call from FPUA. I can write them a response to their request. Would you be able to find an "email address" for Bo Hutchinson, Director of Water/Wastewater Systems?

Thanks.

Patty Kelly
Wildlife Biologist
& Regional CBRA Coordinator for Region 4
US Fish & Wildlife Service
Florida Ecological Services Field Office
1601 Balboa Avenue
Panama City, FL 32405

email: patricia_kelly@fws.gov
*Ph: 850-273-4611

From: Tony Acerra <tonyacerra@comcast.net>
Sent: Tuesday, July 23, 2024 7:03 AM
To: Kelly, Patricia <patricia_kelly@fws.gov>
Subject: Re: [EXTERNAL] Sewer line extension Surfside Harbor

<IMG_0194.png>
Good Morning Patty,

Thank you for helping me with this matter. Above is a copy of the letter from FPUA that was sent to US Fish and Wildlife Service in Atlanta, GA. Included is a copy of the map provided to me from the MSBU that shows the are we are requesting to be serviced by the sewer line. It consists of 26 lots fronting A1A only in Fort Pierce south of Blue Heron Blvd at the Surfside Harbor subdivision. I have more than enough petitions for the MSBU, and at this point all the FPUA needs is approval to extend the line down another roughly 1,200 feet south of the red line. North of the red line has already been extended south of Blue Heron Blvd about 800 feet to the pizza restaurant. I already have obtained DEP approval and paid my mitigation fees to the Bear Point Mitigation Bank on one of my lots. All we need is a sewer line to have a buildable and conforming lot and will greatly help the environment. I have owned my two lots for 21 years and people have been paying property taxes in that section for 75 years. A lack of sewer is causing a great financial hardship for many people in that area. Most of those lots are Fort Pierce city lots, and are service by their water line.

Thank you,
Tony Acerra 732-822-1859

Sent from my iPad

On Jul 22, 2024, at 11:48 AM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:

Perhaps. Send me the letter/info and we can figure out where you need to be. Sorry for the delay in response.

Patty Kelly
Wildlife Biologist
& Regional CBRA Coordinator for Region 4
US Fish & Wildlife Service
Florida Ecological Services Field Office
1601 Balboa Avenue
Panama City, FL 32405

email: patricia_kelly@fws.gov
*Ph: 850-273-4611

From: Tony Acerra <tonyacerra@comcast.net>
Sent: Sunday, July 21, 2024 6:16 PM
To: Kelly, Patricia <patricia_kelly@fws.gov>
Subject: [EXTERNAL] Sewer line extension Surfside Harbor

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Good Morning,

A letter was sent to the US Fish and Wildlife Service in Atlanta, GA five months ago and no response. Bo said perhaps we need to contact a local division. Can you help me with that?

Thank you, Tony

Sent from my iPad

Technical Review Committee - 10:00 AM **1. c.**

Meeting Date: 12/18/2025

REQUESTED ACTION

PZANN2025-00008
John Alberti
Annexation
Parcel ID: 2413-501-0155-000-3

SUMMARY

Review and Approval of a Voluntary Annexation by owner, John Alberti, represented by Tony Acerra to extend the territorial limits of the City of Fort Pierce, Florida, to include one parcel, containing 0.19 acres, located along South Ocean Drive approximately 1,600 feet south of Blue Heron Boulevard. The proposed City Future Land Use is Residential Low (RL) and the proposed Zoning is Single-Family Low Density Zone (R-1). Parcel ID: 2413-501-0155-000-3.

The applicant proposed to annex into the City of Fort Pierce in order to construct a single family residence on the subject parcel.

LOCATION

Hutchinson Island along South Ocean Boulevard approximately 1,600 feet south of Blue Heron Boulevard.

RESPONSIBLE STAFF

Chris Suneson

RECOMMENDATION

TBD

Attachments

Application Files

Form Review

Form Started By: Christopher Suneson Started On: 12/04/2025 03:25 PM
Final Approval Date: 12/04/2025

Property Identification

Site Address:	S OCEAN DR
Sec/Town/Range:	18/35S/41E
Parcel ID:	**2413-501-0155-000-3**
Jurisdiction:	Saint Lucie County
Land Use Code:	0000 - Vac Residential
Account #:	**150187**
Map ID:	25/18N
Zoning:	Hutch Isla

Legal Description

SURFSIDE HARBOR BLK 10 LOT 11

Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	0.19
Land Size (SF):	8,100

Map

Building Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	160	170

Sources/links:

Ownership

John C Alberti
39 Walnut Pl

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT Florida

APPLICATION FOR ANNEXATION

Annexation applications will require the adoption of an ordinance which will require a public meeting before the Planning Board and two public hearings before the City Commission.

Application submission shall include the following:

- **TRC (*Initial Submission):** One (1) original and (8) paper copies of the application and support documents and provide one (1) electronic copy of the application packet as described below.
- **Planning Board:** One (1) original and (16) paper copies of the application and support documents and provide one (1) electronic copy of the application packet as described below.
- **City Commission:** One (1) original and (11) paper copies of the application and support documents and provide one (1) electronic copy of the application packet as described below.

In addition to a complete application, packets shall include:

- Warranty Deed
- Current Survey (completed within the last 12 months)

1. Address: SURFSIDE HARBOUR, HUTCHINSON ISLAND, FORT PIERCE
2. Legal description of real property for which annexation is being requested:
   SURFSIDE HARBOUR BLK 10 LOT 11

   Property Tax ID: 2413-501-0155-000-3
3. Size of described property: 8,100 SF
4. Project description: ANNEXATION INTO CITY OF FORT PIERCE
5. Current St. Lucie County Future Land Use Designation: RESIDENTIAL R-1
6. Current St. Lucie County Zoning: HUTCHINSON ISLAND
7. Is this a Historic property? NO
8. Appraised value: $ 27,860.00
9. Name of Owner(s): JOHN C. ALBERTI

   * Signature of Owner(s): John C. Alberti
   Mailing Address: 39 WALNUT PL.
   City WEST LONG BRANCH State NJ. Zip 07764
   Phone 848-207-1593 Fax

10. Name of Representative: Tony ACERRA

Signature of representative: Anthony D. Acerra

Mailing Address: 302 SW KANE Ave

City) PORT SAINT LUCIE State FL Zip 34953

Phone 732-822-1859 Fax

E-mail: TONY ACERRA @ COMCAST. NET

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

OFFICE USE:

DATE RECEIVED: Signed:

File Number: Check No: Receipt No:

TRC Review: Planning Board Review: City Commission:

Ordinance No: Date Approved:

Prepared By and Return To:
Gail Logan, AVP
Fidelity National Title Insurance Company of New York
118 North Second Street
Fort Pierce, FL 34950

File No. 03-020-702887

Property Appraiser's Parcel I.D.(folio) Number(s)
2413-501-0155-000/3

SS#: ~~RETURN TO:~~
Fidelity National Title
Courthouse Box 121

WARRANTY DEED

THIS WARRANTY DEED dated August 8, 2003, by Marion Paul Broome hereinafter called the grantor, to John C. Alberti, a single man whose post office address is 39 Walnut Place , West Long Branch, New Jersey 07764, hereinafter called the grantee:

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

WITNESSETH: That the grantor, for and in consideration of the sum of $10.00 and other valuable consideration, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys, and confirms unto the grantee, all the certain land situated in St. Lucie County, Florida, viz:

Lot 11, Block 10, Surfside Harbor Subdivision, according to the plat thereof, as recorded in Plat Book 10, Page 68 of the Public Records of St. Lucie County, Florida.

Together with an easement for ingress and egress across that strip of land recorded in O.R. Book 1597, Page 1382, Public Records of St. Lucie County, Florida.

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

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

TO HAVE AND TO HOLD the same in fee simple forever.

AND the grantor hereby covenants with said grantee that the grantor is lawfully seized of said land in fee simple; that the grantor has good right and lawful authority to sell and convey said land; that the grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to December 31, 2002.

JOANNE HOLMAN, CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
File Number: 2289767 OR BOOK 1822 PAGE 986
Recorded:10/15/03 15:40

* Doc Assump: $ 0.00
* Doc Tax : $ 420.00
* Int Tax : $ 0.00

OR BOOK 1822 PAGE 987

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

Signed, sealed ~~and~~ delivered in the presence of:

Gail Logan
(Witness Signature)

GAIL LOGAN
(Print Name of Witness)

Roxanne Holdeen
(Witness Signature)

Roxanne HoldeeN
(Print Name of Witness)

Marion Paul Broome

(Address and Phone Number)

STATE of Florida

COUNTY of St. Lucie

I HEREBY CERTIFY that on this day, before me, an Officer duly authorized in the State aforesaid and the County aforesaid to take acknowledgements, personally appeared Marion Paul Broome, to me known to be the person(s) described in or who has/have produced D.K. as identification and who executed the foregoing instrument and he/she/they acknowledged before me that he/she/they executed the same.

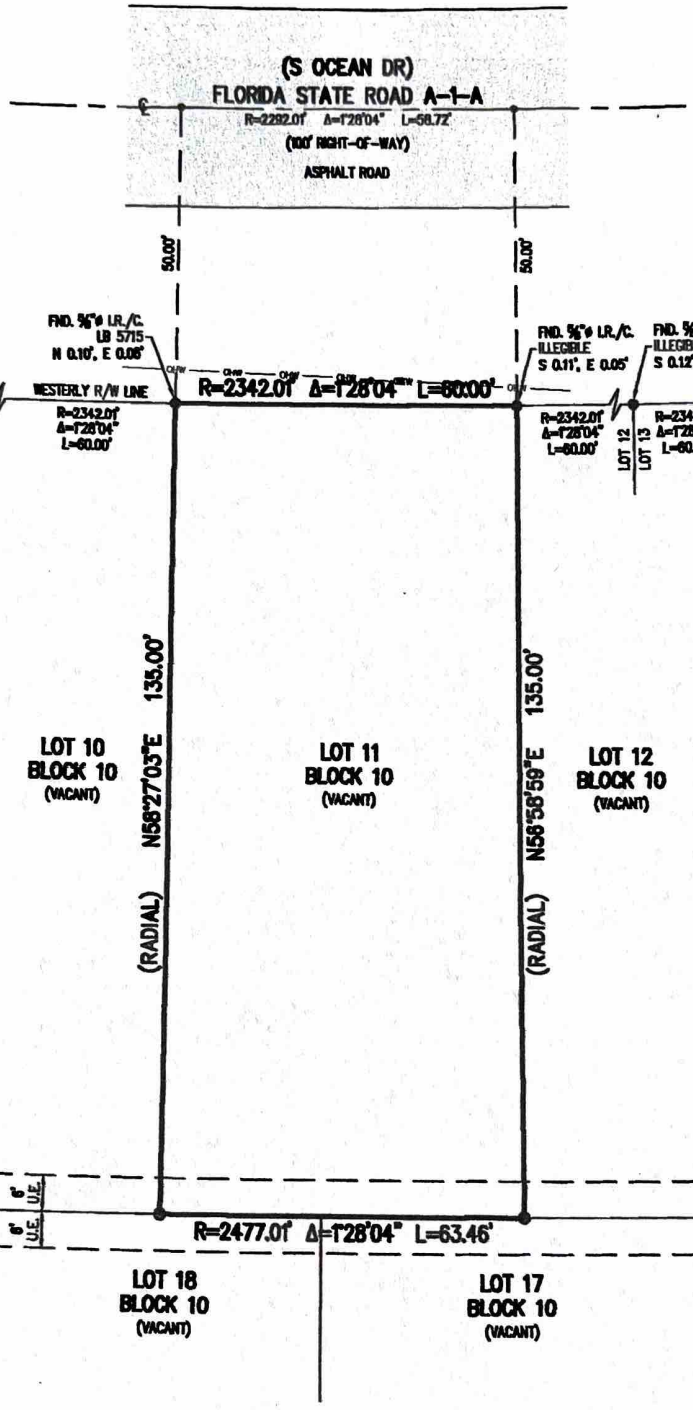
WITNESS my hand and official seal in the County and State last aforesaid this 14 day of August, 2003.

Gail Logan
Notary Signature

GAIL LOGAN
Printed Notary Name

NOTARY PUBLIC STATE OF FLORIDA
Gail Logan
MY COMMISSION # DD167037 EXPIRES
December 13, 2006
BONDED THRU TROY FAIN INSURANCE, INC.

My commission expires: _____



GRAPHIC SCALE

20 0 10 20

(IN FEET)

SHEET 2 OF 2

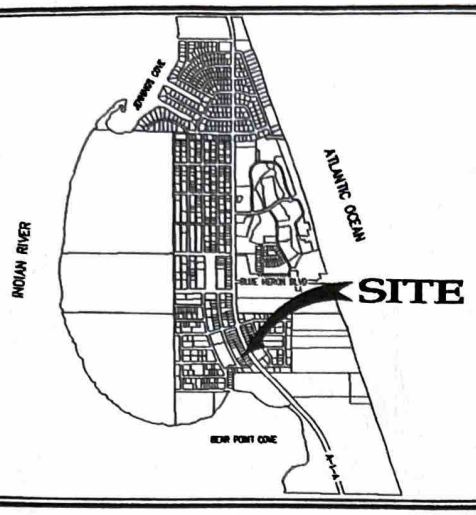
CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33434
PHONE (561)-392-1991 / FAX (561)-750-1452

SURFSIDE HARBOR
LOT 11, BLOCK 10 – BOUNDARY SURVEY

REVISIONS	DATE	BY

FILE NAME: 9873_ Lot 11 Blk 10 Boundary.dwg

DATE	2/22/2022
DRAWN BY	RFC
F.B./ PG.	N/A
SCALE	1" = 20'
JOB NO.	9873



LEGEND

Δ	– DELTA (CENTRAL ANGLE)	L.M.E.	– LIMITED MAINTENANCE EASEMENT
℄	– CENTER LINE	L.P. ☼	– LIGHT POLE
A/C	– AIR CONDITIONER	(N.R.)	– NON RADIAL
A.K.A.	– ALSO KNOWN AS	O.R.B.	– OFFICIAL RECORD BOOK
ALUM.	– ALUMINUM	P.B.	– PLAT BOOK
B.E.	– BUFFER EASEMENT	P.C.	– POINT OF CURVATURE
C.B.	– CATCH BASIN	P.C.C.	– POINT OF COMPOUND CURVATURE
C.O. ●	– CLEANOUT	P.I.	– POINT OF INTERSECTION
C.L.F.	– CHAIN LINK FENCE	PGS.	– PAGE(S)
CONC.	– CONCRETE	P.R.C.	– POINT OF REVERSE CURVATURE
CON.	– CONIFER	P.R.M. ■	– PERMANENT REFERENCE MONUMENT
C.U.E.	– CITY UTILITY EASEMENT	PROP.	– PROPOSED
D.E.	– DRAINAGE EASEMENT	R	– RADIUS
ELEC.	– ELECTRIC	R.P.	– RADIUS POINT
ELEV.	– ELEVATION	R/W	– RIGHT-OF-WAY
EQUIP.	– EQUIPMENT	(RAD.)	– RADIAL
ESMT.	– EASEMENT	SQ. FT.	– SQUARE FEET
EXIST.	– EXISTING	TYP.	– TYPICAL
F.H.	– FIRE HYDRANT	U.E.	– UTILITY EASEMENT
F.P.L.	– FLORIDA POWER & LIGHT	W.M. ⊟	– WATER METER
FIN.	– FINISHED	(19.19)	– DENOTES PROPOSED ELEVATION
FLR.	– FLOOR	19.00	– DENOTES EXISTING ELEVATION
FND.	– FOUND		– DIRECTION OF FLOW
G.V. ⋈	– GATE VALVE	◉	– DRAINAGE MANHOLE
H.H.	– HAND HOLE	⊖	– IRRIGATION CONTROL VALVE
H.P.	– HIGH POINT	—OHP—	– OVERHEAD WIRES
I.R./CAP	– IRON ROD & CAP	Ⓢ	– SANITARY MANHOLE
L	– ARC LENGTH	○	– SET 5/8" IR/CAP LB 3591
L.E.	– LANDSCAPE EASEMENT	—○—	– SIGN

NOTES:

1. THIS SURVEY OR REPRODUCTIONS THEREOF ARE NOT VALID WITHOUT THE ORIGINAL SIGNATURE AND THE ORIGINAL SEAL, OR THE AUTHENTICATED ELECTRONIC SIGNATURE AND SEAL, OF A FLORIDA LICENSED PROFESSIONAL SURVEYOR AND MAPPERS.
2. THE LANDS, AS SHOWN HEREON, WERE NOT ABSTRACTED FOR RIGHT-OF-WAY, EASEMENTS, OWNERSHIP, OR OTHER INSTRUMENT OF RECORD.
3. THE ELEVATIONS, AS SHOWN HEREON, ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.
4. BEARINGS SHOWN HEREON REFER TO RECORD PLAT AND ASSUMES THE NORTH LINE OF LOT 11, BLOCK 10 AS N58°27'03"E.
5. THE DESCRIPTION, AS SHOWN HEREON, IS IN ACCORD WITH THE INSTRUMENT OF RECORD.
6. ANY UNDERGROUND FOUNDATIONS WERE NOT LOCATED.
7. ADDITIONS OR DELETIONS TO SURVEY MAPS BY OTHER THAN THE SIGNING PARTY, OR PARTIES, IS PROHIBITED, WITHOUT WRITTEN CONSENT OF SAID SIGNING PARTY, OR PARTIES.
8. FLOOD ZONE: "AE" BASE FLOOD ELEV.: 4.0'; FIRM MAP NO. 12111C0192K; COMMUNITY NO. 120285; DATED: FEBRUARY 19, 2020.
9. BENCHMARK: NATIONAL GEODETIC SURVEY MONUMENT "97 77 A 21", ELEVATION = 2.48'.
10. PROPERTY ADDRESS: S OCEAN DRIVE

DESCRIPTION:

LOT 11, BLOCK 10, SURFSIDE HARBOR SUBDIVISION, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 10, PAGE 68, OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.

SUBJECT TO EASEMENTS, RESTRICTIONS, RESERVATIONS AND LIMITATIONS OF RECORD.

CONTAINING 8,333 SQUARE FEET OR 0.1913 ACRES, MORE OR LESS.

CERTIFICATE:

I HEREBY CERTIFY THAT THE ATTACHED BOUNDARY SURVEY OF THE HEREON DESCRIBED PROPERTY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AS SURVEYED UNDER MY DIRECTION, ON FEBRUARY 22, 2022. I FURTHER CERTIFY THAT THIS BOUNDARY SURVEY MEETS THE STANDARDS OF PRACTICE SET FORTH IN CHAPTER 5J-17, ADOPTED BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, PURSUANT TO FLORIDA STATUTES 472.027.

David Lindley

DAVID P. LINDLEY, P.L.S.
REG. LAND SURVEYOR #5005
STATE OF FLORIDA – LB #3591

SHEET 1 OF 2

CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33434
PHONE (561)-392-1991 / FAX (561)-750-1452

SURFSIDE HARBOR
LOT 11, BLOCK 10 – BOUNDARY SURVEY

REVISIONS	DATE	BY

FILE NAME: 9873_ Lot 11 Blk 10 Boundary.dwg

DATE	2/22/2022
DRAWN BY	RFC
F.B./ PG.	N/A
SCALE	1" = 20'
JOB NO.	9873

ALBERTO

Owner's Authorization Letter

I/we hereby certify that I/we am/are the owner(s) of the described property. I/we am/are respectfully requesting processing and approval of permit(s) and/or project(s) reviews. I/we hereby authorize the Applicant listed on this letter to act on my/our behalf during the processing, review, presentation of this request and any inspections associated with this request. They shall be the principal contact with the City during the processing, review, prese tation of this request and any inspections associated with this request

Anthony S. ACERRA — 10/6/2025

Name of Applicant or Company (Printed) — Date

John Alberti — 10/10/25

1st Owners Signature — Date

John Alberti — 10/10/25

1st Owners Printed Name — Date

2nd Owners Signature — Date

2nd Owners Printed Name — Date

Additional property owners must provide their signatures, printed names, and dates on a separate letter. This letter must also be notarized. Failure to include additional property owner(s) or to submit the document correctly may result in delays.

Be aware that individuals representing a corporation, limited liability company (LLC), or similar entity in matters of property ownership must include documentation with this letter confirming their authority to sign on behalf of the entity. Failure to provide this documentation may result in delays.

ATTEST: THE STATE OF NEW JERSEY : MONMOUTH **COUNTY**

BEFORE ME, the undersigned authority, a Notary Public in and for the State of New Jersey on this day personally appeared John Alberti, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS

THE 10th DAY OF October, 2025

NOTARY PUBLIC

GLORIA M. TARTARO
NOTARY PUBLIC, STATE OF NEW JERSEY
COMMISSION # 2457018
MY COMMISSION EXPIRES 9/28/2027

(Seal)

Justification Statement

All my life I enjoyed creating and building. In 1979 I became a union carpenter and worked in the extreme heat and cold for 38 years. I first visited Florida in 1975 with a couple of friends and returned many times afterwards. In 1989 I visited friends and Stuart. Their parents just built a house on the river in Sewall's Point. The sunsets were amazing and the warmth thawed my frostbitten fingers and toes. I knew I had to return here someday. My dream was to build a home with a sunset view.

I bought a fixer-upper house in my hometown and worked on it for 35 years. I also sacrificed to save money by working side jobs, nights and weekends. In 2003, 12 years before my retirement in 2015 because of spinal injuries. I bought my first Lot #14 on Hutchinson Island at Bear Point Sanctuary in the Surfside Harbor subdivision. I envisioned my dream three-story home with 360° sunrise to sunset views. I was curious why no one had built in the area after finding out that those lots were plotted out in 1950. So, I did my due diligence and visited the county building department on 2300 Virginia Ave in 2003 a couple of weeks later. The gentleman in the office there took me into the conference room and I showed him what I had just purchased. weeks later. He told me, "You are grandfathered into the lot size and setbacks for your house and septic tank". I felt relieved, so I bought my second lot #10.

Soon after I did a lot of legwork and asked many questions. I hired a wetlands consultant and started my mitigation process for Lot 14 with Lauri Heistermann at the Bear point Mitigation Bank. I paid for one reservation credit to mitigate the mangoes which amounted to 1/10th of an acre, or 4,500 square ft. I then hired my wetlands consultant to begin my DEP application much time and money later. I also have my DEP approval. Which, by the way, included a septic tank because the county did not provide sewer or water service. The City of Fort Pierce had a waterline installed only. Powerlines were there, and my dream was coming true. Little did I know my nightmare was just about to begin. Not just for me, before the whole subdivision dozens of lots were sold off during 2003 to 2004 and no one discovered any restrictions either.

Then a stroke of luck. After buying YMCA Easter house tickets since 1989, yes 31 years, I got a call from the YMCA in 2020. " You won the house". A year later our house was sold in a good market and my wife and I moved into the house in Port St. Lucie. I was ready to build. But, not so fast. First, the county said they would not allow a septic tank. I needed a sewer line. One day I was speaking to a builder/ developer from West Palm Beach who had bought a lot just up from me about my sewer petition. He said he was told the county had created. Something called an NCLOR, which rendered our lots, non-conforming, not billable, I basically worthless. Deep depression. I had been in the process of trying to get a sewer line from the county 1.5 miles to the south of our subdivision at a cost of $1.5 million in 2021. This first MSBU consisted of 75 lots from Blue Heron Boulevard to the end of our subdivision just north of the Bear Point Sanctuary parking lot. I questioned Barbara Getler and Cathy Altizer about the targeted area because it included the lots not just fronting A1A, but also the lots behind us. I mentioned that I was always told that the back lots were never going to be able to be built on. Barbara said, "This is what they gave us".

I had no choice, but to continue on with the MSBU, even though I told Barbara and Cathy, that I was afraid for my life. Can you imagine me getting them to pay for my sewer line knowing that they could not use it? They know where I live, and everyone in Florida has a gun. I had checked in with the petition count for the MSBU from time to time. Two years later, I was seven petitions short.

The next time I called Barbara, she told me my MSBU would not be allowed because our properties were not valuable enough. I said they were not valuable because we do not have a sewer line. I called Ray Morankus from the county sewer department to ask him if our subdivision could self-pay. He said the cost to install the sewer line went from $1.5 million to $4.5 million during that two year time period. This MSBU was doomed to fail from the beginning. Even if I did get the last seven properties, my MSBU would have been rejected by the county attorney anyway. I know this now only because of what happened next.

One day, I went to talk to Otis the owner of the Pie Hole pizza restaurant in our subdivision. The waitress said he was out of town. I mentioned about the sewer line and she told me he got approval from FPUA to bring it from Blue Heron Boulevard to the north south to his restaurant and properties. I was confused. When I inquired about that, I was told that would not be possible because that line was installed with federal money and it could not be extended south of Blue Heron Boulevard. Apparently, I was given wrong information again.

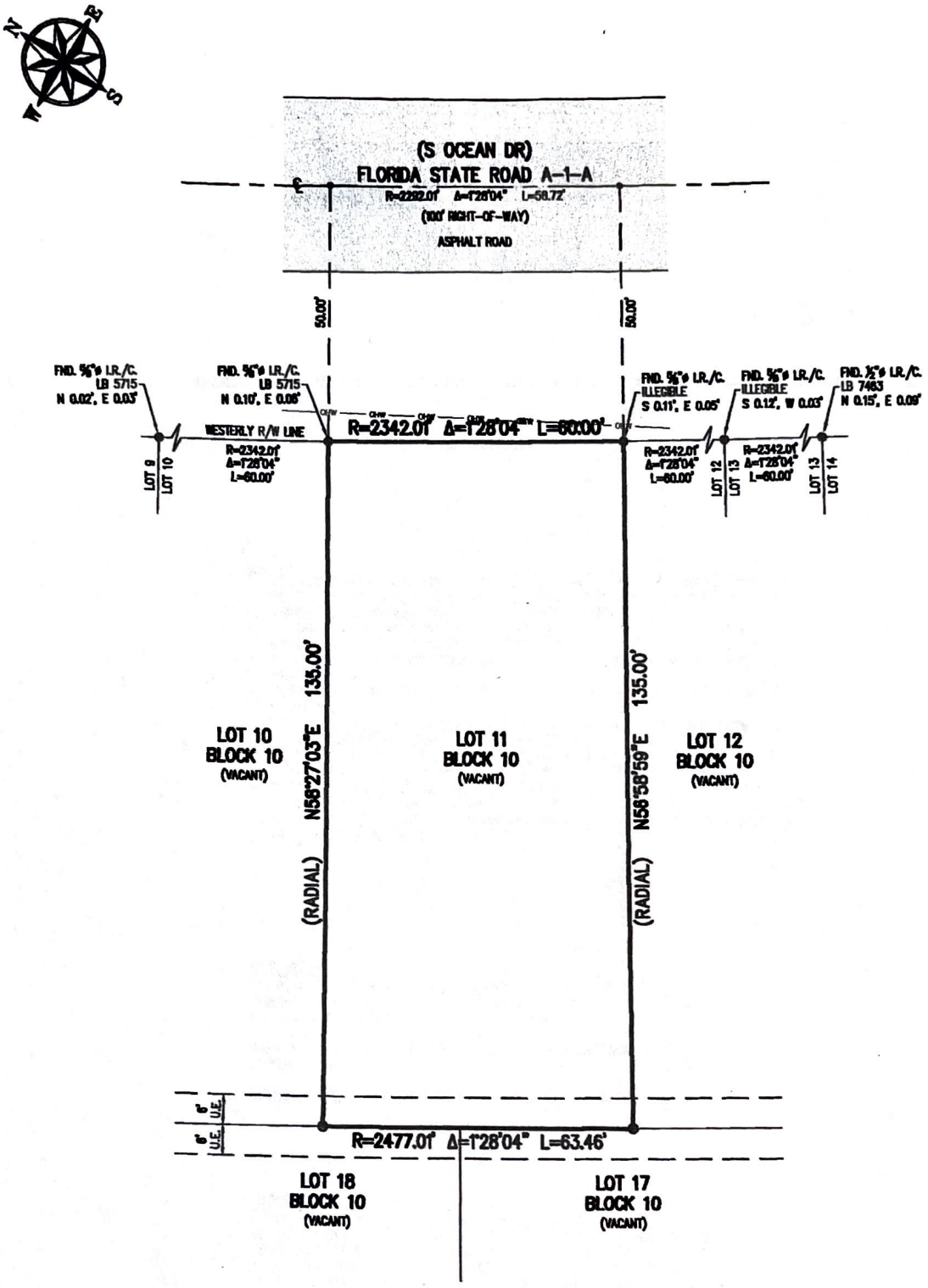
In March 2022, I decided to hire a lawyer to see what my options were. He told me that I needed to annex into the City of Fort Pierce because they did not change their ordinance and our lots would be considered conforming and buildable. I got in contact with Venus Gilmore, who is very helpful. My lawyer set up a meeting with him at City Hall. At that meeting, Venus confirmed that I could annex, my lots would be conforming, and that I could have a septic tank.

Great, I didn't have to bother with another MSBU for sewer line. Weeks later, I walked into the annexation meeting, and Ryan Altizer said, "You're going to be quick and easy so we are going to do yours first". I was annexing my Lot 14 to the lot across A1A to whom I paid $2100 for his survey to get him to annex because he was contiguous with the lot next to him thus making me contiguous with his lot across A1A. This is basically what lot number #9 did which my second lot to be annexed #10 is contiguous to. He annexed his lot in 2007 according to ordinance K-438 which was created by the City of Fort Pierce in 2006. But it wasn't that easy. As soon as the mention of a septic tank, I believe it was Alicia, said septic tanks were not allowed. At this point, the highs and lows are destroying my soul. Kevin Freeman said my annexation was on hold until we had a sewer line, not canceled.

So I contacted Bo Hutchinson and Lugey Dawson at the FPUA. He said yes the sewer line was federally funded. I asked him then how was Pie Whole Pizza was able to bring the sewer line down about 800' to his restaurant. He told me he paid for it himself. Private money. I contacted Barbara to start another MSBU to service the second half of our subdivision with FPUA. Bo said we first had to ge approval from Florida Fish And Wildlife. We called and emailed Patricia Kelly. She explained to us over the phone and through emails that she would only give permission for the 26 lots fronting A1A, and it had to be paid for by our private money. There was no formal application or document. The new 26 lot approval map was drawn up and Patricia indicated the area with a red arrow.

The new area map is part of my application and has been uploaded to the portal.

Of the 26 parcels, I have more than 75% of the required MSBU applications signed. Only 51% is required for approval. So here we are today because our MSBU was denied by the county because 10 of the 26 lots that are in the county are nonconforming. The county attorney said an owner of a nonconforming lot cannot be forced to pay for a MSBU if they are not able to build. We need to annex the 10 county lots first into the City of Fort Pierce to be conforming. Then, at that time, the sewer line can be installed. 16 of the 26 lots south of Pie Hole Pizza are already city lots in our MSBU. The lots from Blue Heron Boulevard south to Pie Hole Pizza are all city lots which make up the northern half of our subdivision. That makes about 90% city lots and 10% county lots total in our Surfside Harbor subdivision. This annexation process will conform the whole subdivision to city lots. Note, the FPUA owns the water line already and because of this if anyone were ever to build they would have to sign an annexation agreement for the City of Fort Pierce before any building would be able to commence. Thank you for considering our annexation applications.



GRAPHIC SCALE

20 0 10 20

(IN FEET)

SHEET 2 OF 2

CAULFIELD & WHEELER, INC.
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SURFSIDE HARBOR
LOT 11, BLOCK 10 – BOUNDARY SURVEY

REVISIONS	DATE	BY

FILE NAME: 9873_ Lot 11 Blk 10 Boundary.dwg

DATE	2/22/2022
DRAWN BY	RFC
F.B./ PG.	N/A
SCALE	1" = 20'
JOB NO.	9873

Technical Review Committee - 10:00 AM **1. d.**

Meeting Date: 12/18/2025

REQUESTED ACTION

PZANN2025-00009
Annexation
Michael Fowler and Sean Murray
Parcel ID: 2413-501-0102-000-07

SUMMARY

Review and Approval of a Voluntary Annexation by owners, **Michael Fowler and Sean Murray,** represented by Tony Acerra, to extend the territorial limits of the City of Fort Pierce, Florida, to include one parcel, containing 0.73 acres, located along South Ocean Boulevard approximately 1,650 feet south of Blue Heron Boulevard. The proposed City Future Land Use is General Commercial (GC) and the proposed Zoning is General Commercial Zone (C-3). Parcel ID: 2413-501-0102-000-07.

The owners desire to annex into the City of Fort Pierce to expand development potential of the subject parcel.

LOCATION

Hutchinson Island along South Ocean Drive approximately 1,650 feet south of Blue Heron Boulevard.

RESPONSIBLE STAFF

Chris Suneson

RECOMMENDATION

TBD

Attachments

Application Materials

Form Review

Form Started By: Christopher Suneson Started On: 12/04/2025 03:30 PM
Final Approval Date: 12/04/2025

Property Identification

Site Address:	S OCEAN DR
Sec/Town/Range:	18/35S/41E
Parcel ID:	**2413-501-0102-000-7**
Jurisdiction:	Saint Lucie County
Land Use Code:	1000 - Vac Comm
Account #:	**24350**
Map ID:	25/18N
Zoning:	Hutch Isla

Legal Description

SURFSIDE HARBOR BLK 8 LOTS 10, 11, 12, 13, 20, 21, 22 AND 23 (OR 209-2992: 269-1437: 393-358: 1224-906: 1486-615)

Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	0.73
Land Size (SF):	31,750

Map

Building Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	160	170

Sources/links:

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT Florida

APPLICATION FOR ANNEXATION

Annexation applications will require the adoption of an ordinance which will require a public meeting before the Planning Board and two public hearings before the City Commission.

Application submission shall include the following:

- **TRC** (*Initial Submission): One (1) original and (8) paper copies of the application and support documents and provide one (1) electronic copy of the application packet as described below.
- **Planning Board:** One (1) original and (16) paper copies of the application and support documents and provide one (1) electronic copy of the application packet as described below.
- **City Commission:** One (1) original and (11) paper copies of the application and support documents and provide one (1) electronic copy of the application packet as described below.

In addition to a complete application, packets shall include:

- Warranty Deed
- Current Survey (completed within the last 12 months)

1. Address: South Ocean Drive
2. Legal description of real property for which annexation is being requested:
   Lots 10, 11, 12, 13, 20, 21, 22, 23, Block 8, SURFSIDE HARBOR, according to the plat thereof,
   as recorded in Plat Book 10, Page 68, of the Public Records of St. Lucie County, Florida.
   Property Tax ID: 2413-501-0102-000-7
3. Size of described property: 31,750 square feet
4. Project description: Annexation into the City of Ft. Pierce
5. Current St. Lucie County Future Land Use Designation: Residential/Commercial
6. Current St. Lucie County Zoning: Hutchinson Island
7. Is this a Historic property? No
8. Appraised value: $134,000.00
9. Name of Owner(s): Sean M. Murray and Michael D. Fowler
   Signature of Owner(s):
   Mailing Address: 9530 Laurelwood Court
   City Ft. Pierce State FL Zip 34951
   Phone 772-579-6147 Fax 772-617-1252

10. Name of Representative: [redacted] TONY ACERRA

Signature of representative: Anthony D. Acerra

Mailing Address: 302 S.W KANEI AVE.

City) PORT SAINT LUCIE State FL. Zip 34953

Phone 772-822-1859 Fax —

E-mail: TONYACERRA@COMCAST.NET

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

OFFICE USE:

DATE RECEIVED: _____ Signed: _____

File Number: _____ Check No: _____ Receipt No: _____

TRC Review: _____ Planning Board Review: _____ City Commission: _____

Ordinance No: _____ Date Approved: _____

JoAnne Holman, Clerk of the Circuit Court - St. Lucie County
File Number:1721574 OR BOOK 1224 PAGE 0906
Recorded: 05-20-99 11:04 A.M.

Prepared by and Return to:
Kevin H. Hendrickson
310 South Second Street
Fort Pierce, FL 34950
[TITLE NOT EXAMINED BY SCRIVENER]

PERSONAL REPRESENTATIVE'S DEED

THIS INDENTURE, executed on May 14, 1999, between **Lela McCarty Mitchell**, as Successor Personal Representative of the Estate of **MICHAEL S. MCCARTY**, deceased, pursuant to execution of letters of administration on October 16, 1996, whose post office address is Post Office Box 976, Thomasville, Georgia 31799, **Grantor**, and **Michael D. Fowler**, **Grantee**, whose mailing address is P. O. Box 1270, Fort Pierce, Florida 34954.

0.00
0.70
0.00

* Doc Assump: $
* Doc Tax : $
* Int Tax : $

WITNESSETH:

WHEREAS, MICHAEL S. MCCARTY (the "Decedent") died testate resident of St. Lucie County, Florida, on May 6, 1995.

WHEREAS, the decedent in his Last Will and Testament, dated April 10, 1995, which has been duly admitted to probate by the Circuit Court of the Nineteenth Judicial Circuit in and for St. Lucie County, Florida, Probate Division, in File No. 95-394-CP on the 26th day of May, 1995 along with the execution of Letters of Administration on May 26, 1995 and

WHEREAS, Michael D. Fowler is entitled to reasonable compensation for services rendered as the attorney of record for the predecessor personal representative, Lisa McCarty, and has agreed to take in kind distribution of real property in lieu of monetary remuneration and

NOW, THEREFORE, in the consideration of the sum of One Dollars ($1.00), and pursuant to the agreement between the parties hereto to settle the outstanding balance of attorneys fee due **Michael D. Fowler**, the Grantor has granted, bargained, sold, released, conveyed and confirmed to the said Grantee, his heirs and assigns forever, the following described land, situate, lying and being in St. Lucie County, Florida, to wit:

> An undivided one-half interest in and to the following:
> Lots 10, 11, 12, 13, 20, 21, 22 and 23, Block 8, SURFSIDE HARBOR, Plat Book 10, page 68, in the Public Records of St. Lucie County, Florida.
> **TIN # 2413-501-0102-0007**

This deed was prepared based upon information provided by the parties hereto and without the benefit of title examination. By the delivery (by grantor) and acceptance (by grantee)

of this deed, the grantor and the grantee agree to indemnify and hold harmless the preparer of this deed from any and all liability arising by reason of matters which would have been revealed by a search of the public records.

TOGETHER with all singular tenements, hereditaments and appurtenances belonging or in any way appertaining to that real property.

TO HAVE AND TO HOLD, the above described premises unto the Grantee in fee simple forever, and the Grantor, as Successor Personal Representative, does hereby covenant with the Grantee against all persons whomsoever lawfully claiming or to claim by, through or under the Grantor as Personal Representative, that the Grantor as Successor Personal Representative is lawfully possessed of the above described premises, that they are free and clear of all encumbrances and that the grantor as Successor Personal Representative has good, right and lawfully authority to sell, convey, alienate, hypothecate, transfer and assign the same and that in all things preliminary to and in and about, this conveyance, the laws of Florida have been followed and complied with in all respects. The Grantor as Successor Personal Representative does hereby fully warrant the title to that land and will defend the same against the lawful claims of all persons whomsoever claiming by, through or under the Grantor as Successor Personal Representative.

IN WITNESS WHEREOF, the Grantor, as duly constituted and appointed Successor Personal Representative of the Estate of **MICHAEL S. MCCARTY**, Deceased, has hereunto set her hand and seal the day and year first above written.

Signed, sealed and delivered
in the Presence of :

Patricia B Durrance
Witness's Signature

Patricia B. Durrance
Witness's Printed Name

Travis Shepherd
Witness's Signature

Travis Shepherd
Witness's Printed Name

Lela McCarty Mitchell
Lela McCarty Mitchell, as Successor
Personal Representative of the Estate of
MICHAEL S. MCCARTY
Post Office Box 976
Thomasville, Georgia 31799

OR BOOK 1224 PAGE 0907

STATE OF GEORGIA
COUNTY OF

The foregoing instrument was acknowledge before me this 14 day of MAY, 1999, by **Lela McCarty Mitchell**, as Successor Personal Representative of the estate of **MICHAEL S. MCCARTY**, who is personally known to me or has produced _____ as identification.

Ramona L Benton
Notary Public

Ramona L Benton
Printed Name
My commission Expires:

NOTARY PUBLIC, THOMAS COUNTY, GA.
MY COMMISSION EXPIRES JUNE 16, 2001

Prepared by and Return to:
Kevin H. Hendrickson
310 South Second Street
Fort Pierce, FL 34950

OR BOOK 1224 PAGE 0908

Return to: (enclose self-addressed stamped envelope)
Name: Thomas L. Campbell
Address: 1800-C Okeechobee Road
Ft. Pierce, FL 34950

WARRANTY DEED
INDIVID. TO INDIVID

RAMCO FORM 01

JOANNE HOLMAN, CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
File Number: 2002965 OR BOOK 1486 PAGE 615
Recorded:01/31/02 12:27

This Instrument Prepared by:
Thomas L. Campbell
Address: 1800-C Okeechobee Road
Ft. Pierce, FL 34950

Doc Assump: $ 0.00
Doc Tax : $ 0.70
* Int Tax : $ 0.00

Property Appraisers Parcel I.D. (Folio) Number(s):

Grantee(s) S.S.#(s):

SPACE ABOVE THIS LINE FOR PROCESSING DATA — SPACE ABOVE THIS LINE FOR RECORDING DATA

This Warranty Deed *Made the* 30th *day of* November *A. D.* 19 89 *by*

GEORGE E. MURRAY, a single adult,

hereinafter called the grantor, to

SEAN M. MURRAY, a single adult,

whose postoffice address is P.O. Box 3121, Ft. Pierce, Florida 34948
hereinafter called the grantee:

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

Witnesseth: *That the grantor, for and in consideration of the sum of* $ 10.00 *and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the grantee, all that certain land situate in County, Florida, viz:*

An undivided one-half interest in and to the following:

Lots 10, 11, 12, 13, 20, 21, 22 and 23, Block 8, SURFSIDE HARBOR, according to the Plat thereof as recorded in Plat Book 10, Page 68 of the Public Records of St. Lucie County, Florida.

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

To Have and to Hold, *the same in fee simple forever.*

And *the grantor hereby covenants with said grantee that the grantor is lawfully seized of said land in fee simple; that the grantor has good right and lawful authority to sell and convey said land; that the grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to December 31, 19*

In Witness Whereof, *the said grantor has signed and sealed these presents the day and year first above written.*

Signed, sealed and delivered in our presence:

John V. Cahill — Sean M. Murray L.S.

Katherine L. Blusser — L.S.

STATE OF Florida
COUNTY OF St. Lucie

I HEREBY CERTIFY that on this day, before me, an officer duly authorized in the State aforesaid and in the County aforesaid, to take acknowledgments, personally appeared GEORGE E. MURRAY to me known to be the person described in and who executed the foregoing instrument and HE acknowledged before me that HE executed the same.

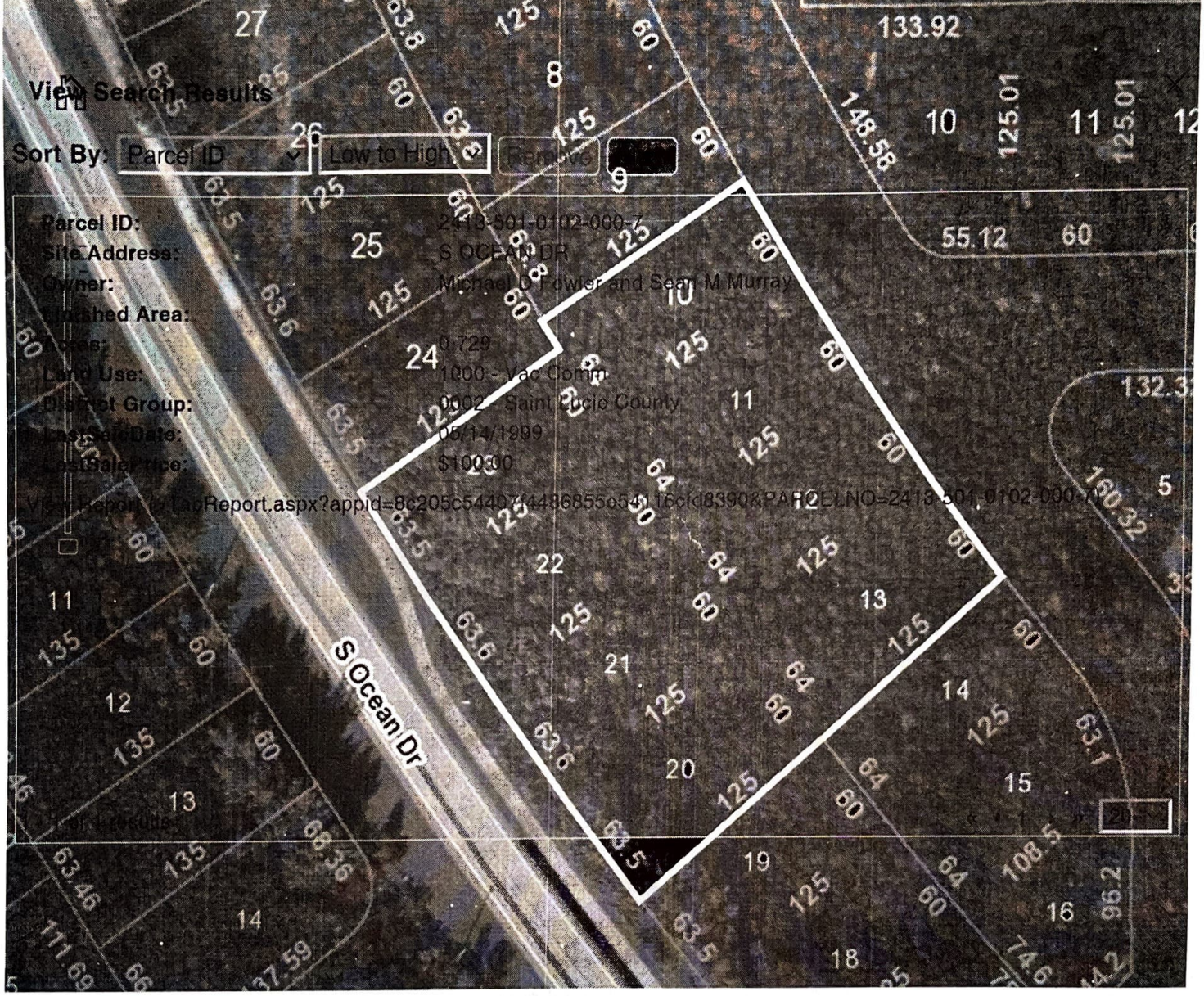
WITNESS my hand and official seal in the County and State last aforesaid this 8 day of DECEMBER A. D. 1989

NOTARY PUBLIC, STATE OF FLORIDA AT LARGE
MY COMMISSION EXPIRES FEB. 7, 1991
BONDED BY [illegible] SURETY CORP.

Ann Procino

ANN PROCINO NOTARY PUBLIC STATE OF FLORIDA AT LARGE

Kelton - Murray
OHO 72



Export as: TXT Download

100ft

2021-09-28

Click here for Legal Disclaimer

CITY OF
FT PIERCE
PLANNING & DEVELOPMENT

Owner's Authorization Letter

I/we hereby certify that I/we am/are the owner(s) of the described property. I/we am/are respectfully requesting processing and approval of permit(s) and/or project(s) reviews. I/we hereby authorize the Applicant listed on this letter to act on my/our behalf during the processing, review, presentation of this request and any inspections associated with this request. They shall be the principal contact with the City during the processing, review, presentation of this request and any inspections associated with this request for annexation of property into the City of Ft Pierce, FL.

Anthony S. ACERRA	10/6/2025
Name of Applicant or Company (Printed)	Date
[signature]	11.18.25
1st Owners Signature	Date
MICHAEL D. FOWLER	11.18.25
1st Owners Printed Name	Date
2nd Owners Signature	Date
2nd Owners Printed Name	Date

Additional property owners must provide their signatures, printed names, and dates on a separate letter. This letter must also be notarized. Failure to include additional property owner(s) or to submit the document correctly may result in delays.

Be aware that individuals representing a corporation, limited liability company (LLC), or similar entity in matters of property ownership must include documentation with this letter confirming their authority to sign on behalf of the entity. Failure to provide this documentation may result in delays.

ATTEST: THE STATE OF Florida **:** St. Lucie **COUNTY**

BEFORE ME, the undersigned authority, a Notary Public in and for the State of Florida, on this day personally appeared Michael Fowler, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS

THE 18th DAY OF November, 2025

[signature]
NOTARY PUBLIC

ASHLEY D WOOD
Notary Public - State of Florida
Commission # HH 325[illegible]
My Comm. Expires Oct 24, 2026
Bonded through National Notary Assn.

CITY OF
FT PIERCE
PLANNING & DEVELOPMENT

Owner's Authorization Letter

I/we hereby certify that I/we am/are the owner(s) of the described property. I/we am/are respectfully requesting processing and approval of permit(s) and/or project(s) reviews. I/we hereby authorize the Applicant listed on this letter to act on my/our behalf during the processing, review, presentation of this request and any inspections associated with this request. They shall be the principal contact with the City during the processing, review, presentation of this request and any inspections associated with this request for annexation of property into the City of Ft. Pierce, FL.

Anthony S. ACERRA — Name of Applicant or Company (Printed)

10/6/2025 — Date

[signature] — 1st Owners Signature

11/06/2025 — Date

Sean M. Murray — 1st Owners Printed Name

11/06/2025 — Date

2nd Owners Signature

Date

2nd Owners Printed Name

Date

Additional property owners must provide their signatures, printed names, and dates on a separate letter. This letter must also be notarized. Failure to include additional property owner(s) or to submit the document correctly may result in delays.

Be aware that individuals representing a corporation, limited liability company (LLC), or similar entity in matters of property ownership must include documentation with this letter confirming their authority to sign on behalf of the entity. Failure to provide this documentation may result in delays.

ATTEST: THE STATE OF Florida **:** Highland **COUNTY**

BEFORE ME, the undersigned authority, a Notary Public in and for the State of Florida, on this day personally appeared Sean M. Murray, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS

THE 6th DAY OF November, 2025

[signature]

NOTARY PUBLIC

KAREN L. GRIFFIN
MY COMMISSION # HH 599324
EXPIRES: December 19, 2028

(Seal)

Justification Statement

All my life I enjoyed creating and building. In 1979 I became a union carpenter and worked in the extreme heat and cold for 38 years. I first visited Florida in 1975 with a couple of friends and returned many times afterwards. In 1989 I visited friends and Stuart. Their parents just built a house on the river in Sewall's Point. The sunsets were amazing and the warmth thawed my frostbitten fingers and toes. I knew I had to return here someday. My dream was to build a home with a sunset view.

I bought a fixer-upper house in my hometown and worked on it for 35 years. I also sacrificed to save money by working side jobs, nights and weekends. In 2003, 12 years before my retirement in 2015 because of spinal injuries. I bought my first Lot #14 on Hutchinson Island at Bear Point Sanctuary in the Surfside Harbor subdivision. I envisioned my dream three-story home with 360° sunrise to sunset views. I was curious why no one had built in the area after finding out that those lots were plotted out in 1950. So, I did my due diligence and visited the county building department on 2300 Virginia Ave in 2003 a couple of weeks later. The gentleman in the office there took me into the conference room and I showed him what I had just purchased. weeks later. He told me, "You are grandfathered into the lot size and setbacks for your house and septic tank". I felt relieved, so I bought my second lot #10.

Soon after I did a lot of legwork and asked many questions. I hired a wetlands consultant and started my mitigation process for Lot 14 with Lauri Heistermann at the Bear point Mitigation Bank. I paid for one reservation credit to mitigate the mangoes which amounted to 1/10th of an acre, or 4,500 square ft. I then hired my wetlands consultant to begin my DEP application much time and money later. I also have my DEP approval. Which, by the way, included a septic tank because the county did not provide sewer or water service. The City of Fort Pierce had a waterline installed only. Powerlines were there, and my dream was coming true. Little did I know my nightmare was just about to begin. Not just for me, before the whole subdivision dozens of lots were sold off during 2003 to 2004 and no one discovered any restrictions either.

Then a stroke of luck. After buying YMCA Easter house tickets since 1989, yes 31 years, I got a call from the YMCA in 2020. " You won the house". A year later our house was sold in a good market and my wife and I moved into the house in Port St. Lucie. I was ready to build. But, not so fast. First, the county said they would not allow a septic tank. I needed a sewer line. One day I was speaking to a builder/ developer from West Palm Beach who had bought a lot just up from me about my sewer petition. He said he was told the county had created. Something called an NCLOR, which rendered our lots, non-conforming, not billable, I basically worthless. Deep depression. I had been in the process of trying to get a sewer line from the county 1.5 miles to the south of our subdivision at a cost of $1.5 million in 2021. This first MSBU consisted of 75 lots from Blue Heron Boulevard to the end of our subdivision just north of the Bear Point Sanctuary parking lot. I questioned Barbara Getler and Cathy Altizer about the targeted area because it included the lots not just fronting A1A, but also the lots behind us. I mentioned that I was always told that the back lots were never going to be able to be built on. Barbara said, "This is what they gave us".

I had no choice, but to continue on with the MSBU, even though I told Barbara and Cathy, that I was afraid for my life. Can you imagine me getting them to pay for my sewer line knowing that they could not use it? They know where I live, and everyone in Florida has a gun. I had checked in with the petition count for the MSBU from time to time. Two years later, I was seven petitions short.

The next time I called Barbara, she told me my MSBU would not be allowed because our properties were not valuable enough. I said they were not valuable because we do not have a sewer line. I called Ray Morankus from the county sewer department to ask him if our subdivision could self-pay. He said the cost to install the sewer line went from $1.5 million to $4.5 million during that two year time period. This MSBU was doomed to fail from the beginning. Even if I did get the last seven properties, my MSBU would have been rejected by the county attorney anyway. I know this now only because of what happened next.

One day, I went to talk to Otis the owner of the Pie Hole pizza restaurant in our subdivision. The waitress said he was out of town. I mentioned about the sewer line and she told me he got approval from FPUA to bring it from Blue Heron Boulevard to the north south to his restaurant and properties. I was confused. When I inquired about that, I was told that would not be possible because that line was installed with federal money and it could not be extended south of Blue Heron Boulevard. Apparently, I was given wrong information again.

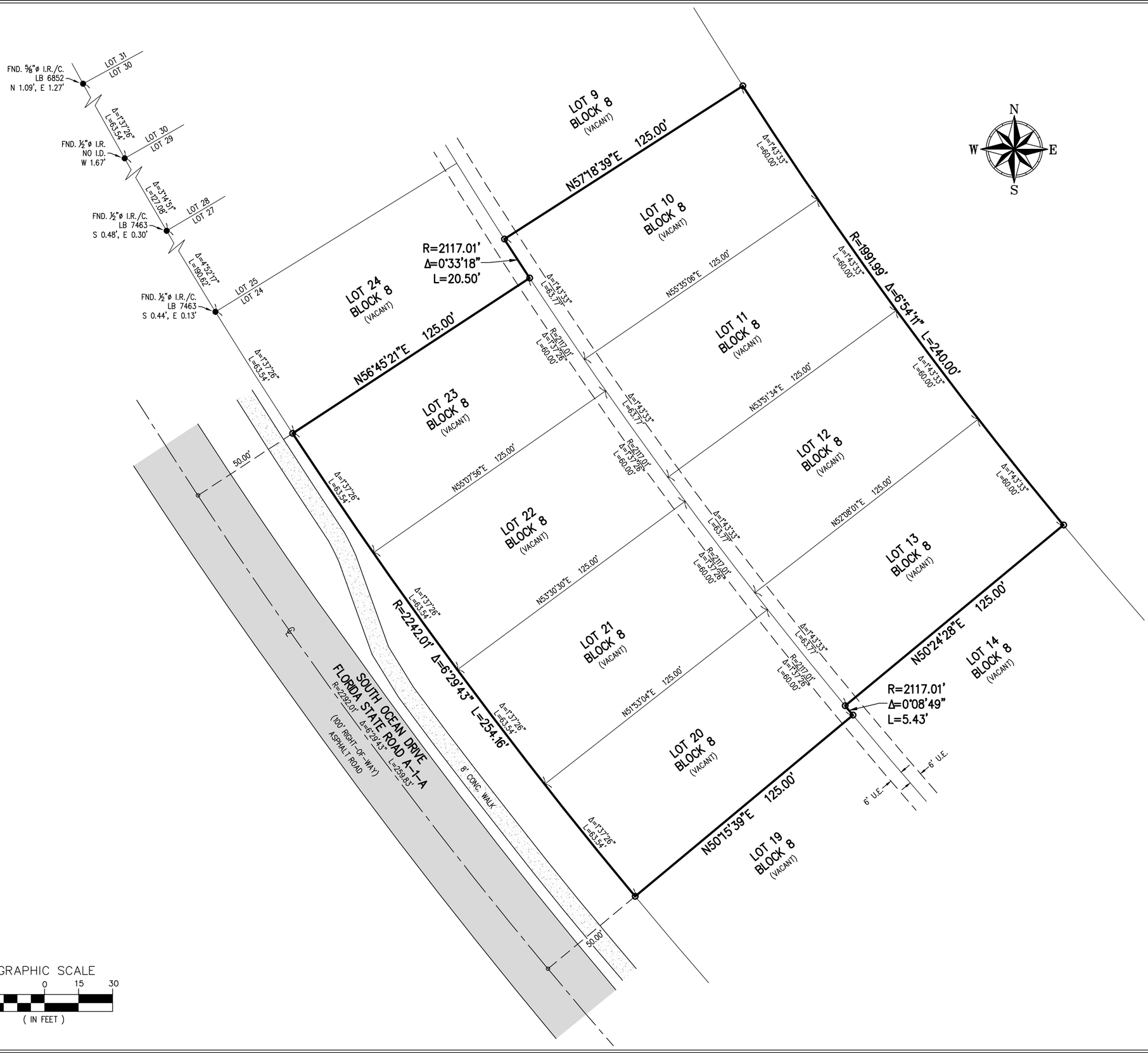
In March 2022, I decided to hire a lawyer to see what my options were. He told me that I needed to annex into the City of Fort Pierce because they did not change their ordinance and our lots would be considered conforming and buildable. I got in contact with Venus Gilmore, who is very helpful. My lawyer set up a meeting with him at City Hall. At that meeting, Venus confirmed that I could annex, my lots would be conforming, and that I could have a septic tank.

Great, I didn't have to bother with another MSBU for sewer line. Weeks later, I walked into the annexation meeting, and Ryan Altizer said, "You're going to be quick and easy so we are going to do yours first". I was annexing my Lot 14 to the lot across A1A to whom I paid $2100 for his survey to get him to annex because he was contiguous with the lot next to him thus making me contiguous with his lot across A1A. This is basically what lot number #9 did which my second lot to be annexed #10 is contiguous to. He annexed his lot in 2007 according to ordinance K-438 which was created by the City of Fort Pierce in 2006. But it wasn't that easy. As soon as the mention of a septic tank, I believe it was Alicia, said septic tanks were not allowed. At this point, the highs and lows are destroying my soul. Kevin Freeman said my annexation was on hold until we had a sewer line, not canceled.

So I contacted Bo Hutchinson and Lugey Dawson at the FPUA. He said yes the sewer line was federally funded. I asked him then how was Pie Whole Pizza was able to bring the sewer line down about 800' to his restaurant. He told me he paid for it himself. Private money. I contacted Barbara to start another MSBU to service the second half of our subdivision with FPUA. Bo said we first had to ge approval from Florida Fish And Wildlife. We called and emailed Patricia Kelly. She explained to us over the phone and through emails that she would only give permission for the 26 lots fronting A1A, and it had to be paid for by our private money. There was no formal application or document. The new 26 lot approval map was drawn up and Patricia indicated the area with a red arrow.

The new area map is part of my application and has been uploaded to the portal.

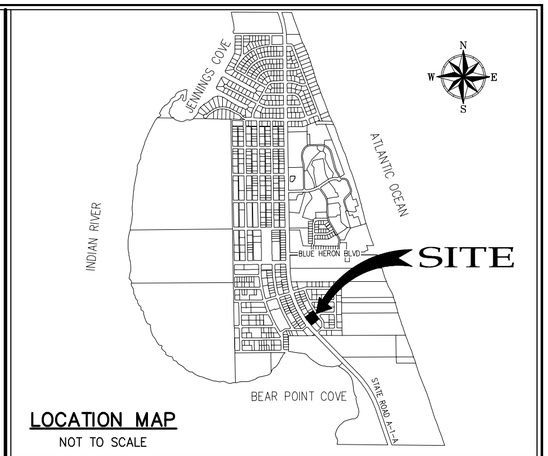
Of the 26 parcels, I have more than 75% of the required MSBU applications signed. Only 51% is required for approval. So here we are today because our MSBU was denied by the county because 10 of the 26 lots that are in the county are nonconforming. The county attorney said an owner of a nonconforming lot cannot be forced to pay for a MSBU if they are not able to build. We need to annex the 10 county lots first into the City of Fort Pierce to be conforming. Then, at that time, the sewer line can be installed. 16 of the 26 lots south of Pie Hole Pizza are already city lots in our MSBU. The lots from Blue Heron Boulevard south to Pie Hole Pizza are all city lots which make up the northern half of our subdivision. That makes about 90% city lots and 10% county lots total in our Surfside Harbor subdivision. This annexation process will conform the whole subdivision to city lots. Note, the FPUA owns the water line already and because of this if anyone were ever to build they would have to sign an annexation agreement for the City of Fort Pierce before any building would be able to commence. Thank you for considering our annexation applications.



GRAPHIC SCALE

30 0 15 30

(IN FEET)



LOCATION MAP

NOT TO SCALE

LEGEND

Δ	– DELTA (CENTRAL ANGLE)	L.M.E.	– LIMITED MAINTENANCE EASEMENT
℄	– CENTER LINE	L.P.	– LIGHT POLE
A/C	– AIR CONDITIONER	(N.R.)	– NON RADIAL
A.K.A.	– ALSO KNOWN AS	O.R.B.	– OFFICIAL RECORD BOOK
ALUM.	– ALUMINUM	P.B.	– PLAT BOOK
B.E.	– BUFFER EASEMENT	P.C.	– POINT OF CURVATURE
C.B.	– CATCH BASIN	P.C.C.	– POINT OF COMPOUND CURVATURE
C.O.	– CLEANOUT	P.I.	– POINT OF INTERSECTION
CLF	– CHAIN LINK FENCE	PGS.	– PAGE(S)
CONC.	– CONCRETE	P.R.C.	– POINT OF REVERSE CURVATURE
COV.	– COVERED	P.R.M.	– PERMANENT REFERENCE MONUMENT
C.U.E.	– CITY UTILITY EASEMENT	PROP.	– PROPOSED
D.E.	– DRAINAGE EASEMENT	R	– RADIUS
ELEC.	– ELECTRIC	R.P.	– RADIUS POINT
ELEV.	– ELEVATION	R/W	– RIGHT–OF–WAY
EQUIP.	– EQUIPMENT	(RAD.)	– RADIAL
ESMT.	– EASEMENT	SQ. FT.	– SQUARE FEET
EXIST.	– EXISTING	TYP.	– TYPICAL
F.H.	– FIRE HYDRANT	U.E.	– UTILITY EASEMENT
F.P.L.	– FLORIDA POWER & LIGHT	W.M.	– WATER METER
FIN.	– FINISHED	00.00	– DENOTES PROPOSED ELEVATION
FLR.	– FLOOR	0.00	– DENOTES EXISTING ELEVATION
FND.	– FOUND		– DIRECTION OF FLOW
G.V.	– GATE VALVE		– DRAINAGE MANHOLE
H.H.	– HAND HOLE		– IRRIGATION CONTROL VALVE
H.P.	– HIGH POINT	OHW	– OVERHEAD WIRES
I.R./CAP	– IRON ROD & CAP		– SANITARY MANHOLE
L	– ARC LENGTH		– SET 5/8" IR/CAP LB 3591
L.E.	– LANDSCAPE EASEMENT		– SIGN

NOTES:

1. THIS SURVEY OR REPRODUCTIONS THEREOF ARE NOT VALID WITHOUT THE ORIGINAL SIGNATURE AND THE ORIGINAL SEAL, OR THE AUTHENTICATED ELECTRONIC SIGNATURE AND SEAL, OF A FLORIDA LICENSED PROFESSIONAL SURVEYOR AND MAPPERS.
2. THE LANDS, AS SHOWN HEREON, WERE NOT ABSTRACTED FOR RIGHT–OF–WAY, EASEMENTS, OWNERSHIP, OR OTHER INSTRUMENT OF RECORD.
3. THE ELEVATIONS, AS SHOWN HEREON, ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.
4. BEARINGS SHOWN HEREON REFER TO RECORD PLAT AND ASSUMES THE NORTHWEST LINE OF LOT 23, BLOCK 8 AS N56°45'21"E. ALL OTHERS RELATIVE THERETO.
5. THE DESCRIPTION, AS SHOWN HEREON, IS IN ACCORD WITH THE INSTRUMENT OF RECORD.
6. ANY UNDERGROUND FOUNDATIONS WERE NOT LOCATED.
7. ADDITIONS OR DELETIONS TO SURVEY MAPS BY OTHER THAN THE SIGNING PARTY, OR PARTIES, IS PROHIBITED, WITHOUT WRITTEN CONSENT OF SAID SIGNING PARTY, OR PARTIES.
8. FLOOD ZONE: "AE" BASE FLOOD ELEV.: 4.0'; FIRM MAP NO. 12111C0192K; COMMUNITY NO. 120285; DATED: FEBRUARY 19, 2020.
9. BENCHMARK: NATIONAL GEODETIC SURVEY MONUMENT "97 77 A 21", ELEVATION = 2.48'.
10. PROPERTY ADDRESS: S OCEAN DRIVE

LEGAL DESCRIPTION:

LOTS 10, 11, 12, 13, 20, 21, 22 AND 23, BLOCK 8, SURFSIDE HARBOR, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 10, PAGE 68, OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.

SUBJECT TO EASEMENTS, RESTRICTIONS, RESERVATIONS AND LIMITATIONS OF RECORD.

CONTAINING 61,825.96 SQUARE FEET OR 1.419 ACRES, MORE OR LESS.

CERTIFICATE:

I HEREBY CERTIFY THAT THE ATTACHED BOUNDARY SURVEY OF THE HEREON DESCRIBED PROPERTY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AS SURVEYED UNDER MY DIRECTION, ON JANUARY 12, 2023. I FURTHER CERTIFY THAT THIS BOUNDARY SURVEY MEETS THE STANDARDS OF PRACTICE SET FORTH IN CHAPTER 5J–17, ADOPTED BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, PURSUANT TO FLORIDA STATUTES 472.027.

_____

DAVID P. LINDLEY, P.L.S.
REG. LAND SURVEYOR #5005
STATE OF FLORIDA – LB #3591

CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33434
PHONE (561)-392-1991 / FAX (561)-750-1452

BOUNDARY SURVEY
LOTS 10, 11, 12, 13, 20, 21, 22 AND 23, BLOCK 8
SURFSIDE HARBOR

BOUNDARY SURVEY	1/12/2023	RFC
REVISIONS	DATE	BY

DATE	1/12/2023	SCALE	1"=30'
FLD.BK.	N/A	CHECKED BY	RAL
PAGE	N/A		
FILE NAME 10299_Survey.dwg			

10299

SHT.NO. 1 OF 1 SHEETS

Technical Review Committee - 10:00 AM **1. e.**

Meeting Date: 12/18/2025

REQUESTED ACTION

PZANN2025-00007
Annexation
Tony Acerra
Parcel ID: 2413-501-158-000-4

SUMMARY

Review and Approval of a Voluntary Annexation by owner, Tony Acerra, to extend the territorial limits of the City of Fort Pierce, Florida, to include one parcel, containing 0.21 acres, located along South Ocean Drive approximately 1,750 feet south of Blue Heron Boulevard. The proposed City Future Land Use is Residential Low (RL) and the proposed Zoning is Single Family Low Density Zone (R-1). Parcel ID: 2413-501-158-000-4.

The applicant wishes to annex into the City in order to construct a single family residence on the subject parcel.

LOCATION

Hutchinson Island along South Ocean Drive approixately 1,750 feet south of Blue Heron Boulevard.

RESPONSIBLE STAFF

Chris Suneson

RECOMMENDATION

TBD

Attachments

Application Files

Form Review

Form Started By: Christopher Suneson Started On: 12/04/2025 03:47 PM
Final Approval Date: 12/04/2025

Close Record Card

Property Identification

Site Address:	OCEAN DR
Sec/Town/Range:	18/35S/41E
Parcel ID:	**2413-501-0158-000-4**
Jurisdiction:	Saint Lucie County
Land Use Code:	0000 - Vac Residential
Account #:	**150188**
Map ID:	25/18N
Zoning:	Hutch Isla

Legal Description

SURFSIDE HARBOR BLK 10 LOT 14 (OR 1656-2398)

Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	0.21
Land Size (SF):	9,148

Map

Building Wind Speed

Occupancy Category	I	II	III & IV
Speed	140	160	170

Sources/links:

Ownership

Anthony S Acerra

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT Florida

APPLICATION FOR ANNEXATION

Annexation applications will require the adoption of an ordinance which will require a public meeting before the Planning Board and two public hearings before the City Commission.

Application submission shall include the following:

- **TRC** (*Initial Submission): One (1) original and (8) paper copies of the application and support documents and provide one (1) electronic copy of the application packet as described below.
- **Planning Board**: One (1) original and (16) paper copies of the application and support documents and provide one (1) electronic copy of the application packet as described below.
- **City Commission**: One (1) original and (11) paper copies of the application and support documents and provide one (1) electronic copy of the application packet as described below.

In addition to a complete application, packets shall include:

- Warranty Deed
- Current Survey (completed within the last 12 months)

1. Address: SURFSIDE HARBOUR Hutchinson ISLAND, FORT PIERCE
2. Legal description of real property for which annexation is being requested:
   SURFSIDE HARBOR BLK 10 - LOT 14

   Property Tax ID: 2413-501-0158-000-4
3. Size of described property: 9,148 sq. ft. - .21 ACRES
4. Project description: Annexation into City of FORT PIERCE
5. Current St. Lucie County Future Land Use Designation: RESIDENTIAL R-1
6. Current St. Lucie County Zoning: Hutchinson ISLAND
7. Is this a Historic property? NO
8. Appraised value: $ 23,837.00
9. Name of Owner(s): Anthony S. ACERRA

   Signature of Owner(s): Anthony S. Acerra
   Mailing Address: 302 SW KANE AVE.
   City PORT SAINT LUCIE State FL. Zip 34953
   Phone 732-822-1859 Fax

10. Name of Representative: _____

Signature of representative: _____
Mailing Address: _____
City) _____ State _____ Zip _____
Phone _____ Fax _____
E-mail: _____

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

OFFICE USE:

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

Unique Code : BAA-BAA-BCBBB-CBFGDBF-BFFJJJ-E Page 1 of 2

Prepared By and Return To:
Gail Logan, AVP
Fidelity National Title Insurance Company of New York
118 North Second Street
Fort Pierce, FL 34950

File No. 03-020-702020

Property Appraiser's Parcel I.D.(folio) Number(s)
2518-221-0010-000/8

SS#: _____

RETURN TO:
~~Fidelity National Title~~
Courthouse Box 121

* Doc Assump: $ 0.00
* Doc Tax : $ 273.00
* Int Tax : $ 0.00

WARRANTY DEED

THIS WARRANTY DEED dated February 3, 2002, by Marion Paul Broome, a married man, hereinafter called the grantor, to Anthony S. Acerra, a single man whose post office address is 24 Delaware Avenue, W. Long Branch, NJ 07764, hereinafter called the grantee:

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

WITNESSETH: That the grantor, for and in consideration of the sum of $10.00 and other valuable consideration, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys, and confirms unto the grantee, all the certain land situated in St. Lucie County, Florida, viz:

Lot 14, Block 10, Surfside Harbor Subdivision, according to the plat thereof, as recorded in Plat Book 10, Page 68 of the Public Records of St. Lucie County, Florida.

Together with an easement for ingress and egress across that property as described in O.R. Book 1597, Page 1382, Public Records of St. Lucie County, Florida.

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

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

TO HAVE AND TO HOLD the same in fee simple forever.
The above described property is vacant land and not the homestead of the grantor.
AND the grantor hereby covenants with said grantee that the grantor is lawfully seized of said land in fee simple; that the grantor has good right and lawful authority to sell and convey said land; that the grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances, except taxes accruing subsequent to December 31, 2002.

JOANNE HOLMAN, CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
File Number: 2156315 OR BOOK 1656 PAGE 2398
Recorded:02/11/03 08:50

I HEREBY CERTIFY THAT THIS DOCUMENT IS A TRUE AND CORRECT COPY OF AN OFFICIAL RECORD OR DOCUMENT AUTHORIZED BY LAW TO BE RECORDED OR FILED AND ACTUALLY RECORDED OR FILED IN THE OFFICE OF THE ST. LUCIE COUNTY CLERK OF THE CIRCUIT COURT.
THIS DOCUMENT MAY HAVE REDACTIONS AS REQUIRED BY LAW.
VISIT HTTPS://STLUCIECLERK.COM/SERVICES/E-CERTIFY-OFFICIAL-RECORDS TO VALIDATE THIS DOCUMENT.

Digitally signed by The Honorable Michelle R. Miller
Date: 2022.12.05 13:11:54 -05:00
Reason: Electronically Certified Copy

Unique Code : BAA-BAA-BCBBB-CBFGDBF-BFFJJJ-E Page 2 of 2

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

Signed, sealed and delivered in the presence of:

Roxanne Huldeen
(Witness Signature)

Roxanne Huldeen
(Print Name of Witness)

Gail Logan
(Witness Signature)

GAIL LOGAN
(Print Name of Witness)

Marion Paul Broome

STATE of FLORIDA

COUNTY of ST. LUCIE

I HEREBY CERTIFY that on this day, before me, an Officer duly authorized in the State aforesaid and the County aforesaid to take acknowledgements, personally appeared MARION PAUL BROOME to me known to be the person(s) described in or who has/have produced D.K. as identification and who executed the foregoing instrument and he/she/they acknowledged before me that he/she/they executed the same.

WITNESS my hand and official seal in the County and State last aforesaid this 3 day of FEBRAURY, 2003.

Gail Logan
MY COMMISSION # DD147037 EXPIRES
December 13, 2006
BONDED THRU TROY FAIN INSURANCE, INC.

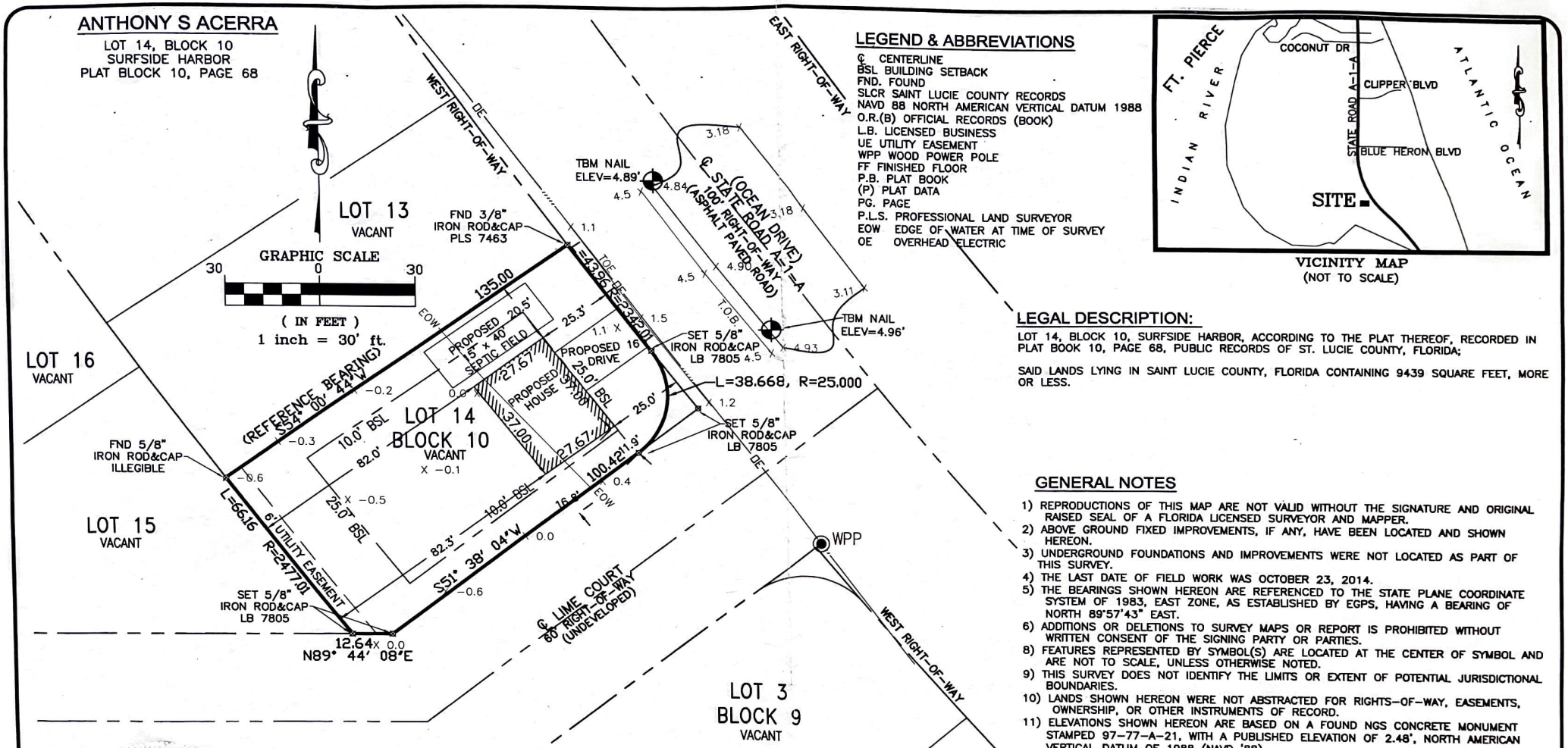
Gail Logan
Notary Signature

GAIL LOGAN
Printed Notary Name

My commission expires: _____

ANTHONY S ACERRA

LOT 14, BLOCK 10
SURFSIDE HARBOR
PLAT BLOCK 10, PAGE 68



LEGEND & ABBREVIATIONS

- ℄ CENTERLINE
- BSL BUILDING SETBACK
- FND. FOUND
- SLCR SAINT LUCIE COUNTY RECORDS
- NAVD 88 NORTH AMERICAN VERTICAL DATUM 1988
- O.R.(B) OFFICIAL RECORDS (BOOK)
- L.B. LICENSED BUSINESS
- UE UTILITY EASEMENT
- WPP WOOD POWER POLE
- FF FINISHED FLOOR
- P.B. PLAT BOOK
- (P) PLAT DATA
- PG. PAGE
- P.L.S. PROFESSIONAL LAND SURVEYOR
- EOW EDGE OF WATER AT TIME OF SURVEY
- OE OVERHEAD ELECTRIC

VICINITY MAP
(NOT TO SCALE)

LEGAL DESCRIPTION:

LOT 14, BLOCK 10, SURFSIDE HARBOR, ACCORDING TO THE PLAT THEREOF, RECORDED IN PLAT BOOK 10, PAGE 68, PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA;

SAID LANDS LYING IN SAINT LUCIE COUNTY, FLORIDA CONTAINING 9439 SQUARE FEET, MORE OR LESS.

GENERAL NOTES

1) REPRODUCTIONS OF THIS MAP ARE NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
2) ABOVE GROUND FIXED IMPROVEMENTS, IF ANY, HAVE BEEN LOCATED AND SHOWN HEREON.
3) UNDERGROUND FOUNDATIONS AND IMPROVEMENTS WERE NOT LOCATED AS PART OF THIS SURVEY.
4) THE LAST DATE OF FIELD WORK WAS OCTOBER 23, 2014.
5) THE BEARINGS SHOWN HEREON ARE REFERENCED TO THE STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE, AS ESTABLISHED BY EGPS, HAVING A BEARING OF NORTH 89°57'43" EAST.
6) ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORT IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.
8) FEATURES REPRESENTED BY SYMBOL(S) ARE LOCATED AT THE CENTER OF SYMBOL AND ARE NOT TO SCALE, UNLESS OTHERWISE NOTED.
9) THIS SURVEY DOES NOT IDENTIFY THE LIMITS OR EXTENT OF POTENTIAL JURISDICTIONAL BOUNDARIES.
10) LANDS SHOWN HEREON WERE NOT ABSTRACTED FOR RIGHTS-OF-WAY, EASEMENTS, OWNERSHIP, OR OTHER INSTRUMENTS OF RECORD.
11) ELEVATIONS SHOWN HEREON ARE BASED ON A FOUND NGS CONCRETE MONUMENT STAMPED 97-77-A-21, WITH A PUBLISHED ELEVATION OF 2.48', NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88).
12) ACCORDING TO THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP (FIRM) MAP NO. 120287, COMMUNITY PANEL NO.12111C0191J, REVISED DATE FEBRUARY 16, 2012, THIS PROPERTY LIES IN ZONE "AE",WITH A BASE FLOOD ELEVATION OF 5'. THIS INFORMATION SHOULD BE CONFIRMED WITH ST. LUCIE COUNTY PRIOR TO CONSTRUCTION.

CERTIFICATE

I HEREBY CERTIFY THAT THE ATTACHED BOUNDARY AND TOPOGRAPHIC SURVEY OF THE HEREON DESCRIBED PROPERTY IS DEPICTED TO THE BEST OF MY KNOWLEDGE, BELIEF, AND INFORMATION AS SURVEYED UNDER MY DIRECTION ON OCTOBER 23, 2014. I FURTHER CERTIFY THAT THIS BOUNDARY AND TOPOGRAPHIC SURVEY MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUES, SUBJECT TO THE QUALIFICATIONS NOTED HEREON.
CIVILSURV DESIGN GROUP, INC.

BY: ROBERT N. JOHNSON
PROFESSIONAL SURVEYOR & MAPPER
FLORIDA REGISTRATION NO. 6540 (FOR THE FIRM)

10/30/14
DATE OF SIGNATURE

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CIVILSURV DESIGN GROUP, INC.

CELL PHONE (954) 649-9328
CIVILSURV
A Tradition of Innovative Engineering
2400 RHODE ISLAND AVENUE
FORT PIERCE, Florida, 34950
L.B. No.7805

File & Drawing No.
ACERRA.dwg

Scale:	Date:
1" = 30'	10/23/14
Drawn By:	Sheet
RNJ	1 of 1

BOUNDARY SURVEY for:
ANTHONY S ACERRA
OCEAN DRIVE
ST. LUCIE COUNTY, FL.

Justification Statement

All my life I enjoyed creating and building. In 1979 I became a union carpenter and worked in the extreme heat and cold for 38 years. I first visited Florida in 1975 with a couple of friends and returned many times afterwards. In 1989 I visited friends and Stuart. Their parents just built a house on the river in Sewall's Point. The sunsets were amazing and the warmth thawed my frostbitten fingers and toes. I knew I had to return here someday. My dream was to build a home with a sunset view.

I bought a fixer-upper house in my hometown and worked on it for 35 years. I also sacrificed to save money by working side jobs, nights and weekends. In 2003, 12 years before my retirement in 2015 because of spinal injuries. I bought my first Lot #14 on Hutchinson Island at Bear Point Sanctuary in the Surfside Harbor subdivision. I envisioned my dream three-story home with 360° sunrise to sunset views. I was curious why no one had built in the area after finding out that those lots were plotted out in 1950. So, I did my due diligence and visited the county building department on 2300 Virginia Ave in 2003 a couple of weeks later. The gentleman in the office there took me into the conference room and I showed him what I had just purchased. weeks later. He told me, "You are grandfathered into the lot size and setbacks for your house and septic tank". I felt relieved, so I bought my second lot #10.

Soon after I did a lot of legwork and asked many questions. I hired a wetlands consultant and started my mitigation process for Lot 14 with Lauri Heistermann at the Bear point Mitigation Bank. I paid for one reservation credit to mitigate the mangoes which amounted to 1/10th of an acre, or 4,500 square ft. I then hired my wetlands consultant to begin my DEP application much time and money later. I also have my DEP approval. Which, by the way, included a septic tank because the county did not provide sewer or water service. The City of Fort Pierce had a waterline installed only. Powerlines were there, and my dream was coming true. Little did I know my nightmare was just about to begin. Not just for me, before the whole subdivision dozens of lots were sold off during 2003 to 2004 and no one discovered any restrictions either.

Then a stroke of luck. After buying YMCA Easter house tickets since 1989, yes 31 years, I got a call from the YMCA in 2020. " You won the house". A year later our house was sold in a good market and my wife and I moved into the house in Port St. Lucie. I was ready to build. But, not so fast. First, the county said they would not allow a septic tank. I needed a sewer line. One day I was speaking to a builder/ developer from West Palm Beach who had bought a lot just up from me about my sewer petition. He said he was told the county had created. Something called an NCLOR, which rendered our lots, non-conforming, not billable, I basically worthless. Deep depression. I had been in the process of trying to get a sewer line from the county 1.5 miles to the south of our subdivision at a cost of $1.5 million in 2021. This first MSBU consisted of 75 lots from Blue Heron Boulevard to the end of our subdivision just north of the Bear Point Sanctuary parking lot. I questioned Barbara Getler and Cathy Altizer about the targeted area because it included the lots not just fronting A1A, but also the lots behind us. I mentioned that I was always told that the back lots were never going to be able to be built on. Barbara said, "This is what they gave us".

I had no choice, but to continue on with the MSBU, even though I told Barbara and Cathy, that I was afraid for my life. Can you imagine me getting them to pay for my sewer line knowing that they could not use it? They know where I live, and everyone in Florida has a gun. I had checked in with the petition count for the MSBU from time to time. Two years later, I was seven petitions short.

The next time I called Barbara, she told me my MSBU would not be allowed because our properties were not valuable enough. I said they were not valuable because we do not have a sewer line. I called Ray Morankus from the county sewer department to ask him if our subdivision could self-pay. He said the cost to install the sewer line went from $1.5 million to $4.5 million during that two year time period. This MSBU was doomed to fail from the beginning. Even if I did get the last seven properties, my MSBU would have been rejected by the county attorney anyway. I know this now only because of what happened next.

One day, I went to talk to Otis the owner of the Pie Hole pizza restaurant in our subdivision. The waitress said he was out of town. I mentioned about the sewer line and she told me he got approval from FPUA to bring it from Blue Heron Boulevard to the north south to his restaurant and properties. I was confused. When I inquired about that, I was told that would not be possible because that line was installed with federal money and it could not be extended south of Blue Heron Boulevard. Apparently, I was given wrong information again.

In March 2022, I decided to hire a lawyer to see what my options were. He told me that I needed to annex into the City of Fort Pierce because they did not change their ordinance and our lots would be considered conforming and buildable. I got in contact with Venus Gilmore, who is very helpful. My lawyer set up a meeting with him at City Hall. At that meeting, Venus confirmed that I could annex, my lots would be conforming, and that I could have a septic tank.

Great, I didn't have to bother with another MSBU for sewer line. Weeks later, I walked into the annexation meeting, and Ryan Altizer said, "You're going to be quick and easy so we are going to do yours first". I was annexing my Lot 14 to the lot across A1A to whom I paid $2100 for his survey to get him to annex because he was contiguous with the lot next to him thus making me contiguous with his lot across A1A. This is basically what lot number #9 did which my second lot to be annexed #10 is contiguous to. He annexed his lot in 2007 according to ordinance K-438 which was created by the City of Fort Pierce in 2006. But it wasn't that easy. As soon as the mention of a septic tank, I believe it was Alicia, said septic tanks were not allowed. At this point, the highs and lows are destroying my soul. Kevin Freeman said my annexation was on hold until we had a sewer line, not canceled.

So I contacted Bo Hutchinson and Lugey Dawson at the FPUA. He said yes the sewer line was federally funded. I asked him then how was Pie Whole Pizza was able to bring the sewer line down about 800' to his restaurant. He told me he paid for it himself. Private money. I contacted Barbara to start another MSBU to service the second half of our subdivision with FPUA. Bo said we first had to ge approval from Florida Fish And Wildlife. We called and emailed Patricia Kelly. She explained to us over the phone and through emails that she would only give permission for the 26 lots fronting A1A, and it had to be paid for by our private money. There was no formal application or document. The new 26 lot approval map was drawn up and Patricia indicated the area with a red arrow.

The new area map is part of my application and has been uploaded to the portal.

Of the 26 parcels, I have more than 75% of the required MSBU applications signed. Only 51% is required for approval. So here we are today because our MSBU was denied by the county because 10 of the 26 lots that are in the county are nonconforming. The county attorney said an owner of a nonconforming lot cannot be forced to pay for a MSBU if they are not able to build. We need to annex the 10 county lots first into the City of Fort Pierce to be conforming. Then, at that time, the sewer line can be installed. 16 of the 26 lots south of Pie Hole Pizza are already city lots in our MSBU. The lots from Blue Heron Boulevard south to Pie Hole Pizza are all city lots which make up the northern half of our subdivision. That makes about 90% city lots and 10% county lots total in our Surfside Harbor subdivision. This annexation process will conform the whole subdivision to city lots. Note, the FPUA owns the water line already and because of this if anyone were ever to build they would have to sign an annexation agreement for the City of Fort Pierce before any building would be able to commence. Thank you for considering our annexation applications.

Surfside Harbor-Hutchinson Island

Parcel I.D. #: 2413-501-0158-000-4

Wetland Delineation

Field Report

St. Lucie County, FL

BLK-10- LOT-14

Surfside Harbor:
Block 10, Lot 14,
St. Lucie County

P.I.N. #: 2413-501-0158-000-4

Table of Contents:

Location Map: Delorme Topo USA

Field Report: To Include Detailed Findings & Conclusion

Aerial Map: St. Lucie County Property Appraiser
Aerial of Site

Site Map: LABINS Aerial of Site
With Wetland Delineation Lines Superimpose

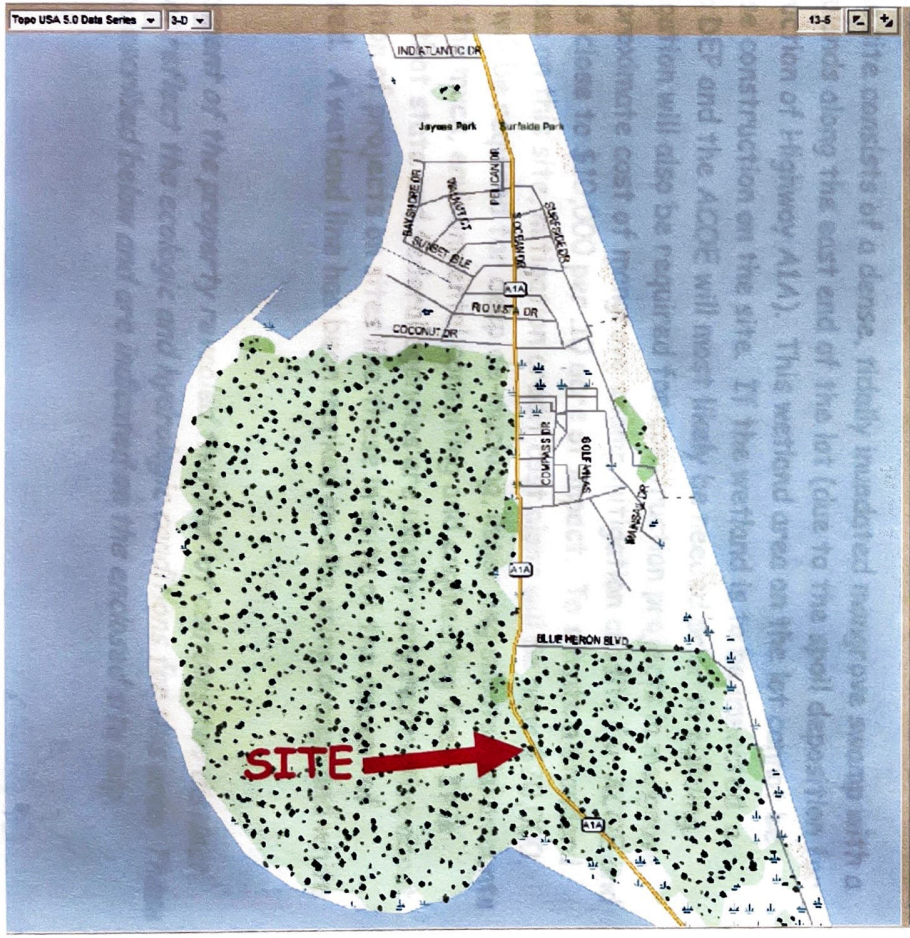
Site Photos: On Site Digital Photographs

LOCATION MAP

PIN: 2413-501-0158-000-4 ,
Surfside Harbor Block 10, Lot 14, St. Lucie County

N

CLOSE UP



REGIONAL

Mark Youmans
Environmental Consultant
909 SW Idol Avenue
Port St. Lucie, FL 34986
Phone/Fax # (772) 340-0749

Client: Mr. Anthony Acerra

Location: PIN: 2413-501-0158-000-4, Surfside Harbor,
Block 10, Lot 14 (OR 1656-2398),
Hutchinson Island, Highway A1A, St. Lucie County, FL

On October 11, 2006, a wetland survey was performed at the above referenced property, utilizing the wetland delineation standards set forth in 62-340 F.A.C. The findings are outlined below:

-Property Size: 0.21 Acres

-Approximate Percentage of Wetlands: 98%

-Approximate Percentage of Uplands: 02%

Comments: The site consists of a dense, tidally inundated mangrove swamp with a thin fringe of uplands along the east end of the lot (due to the spoil deposition for the road construction of Highway A1A). This wetland area on the lot cannot be avoided for house construction on the site. If the wetland is to be impacted, a permit from the DEP and the ACOE will most likely be needed prior to building. Substantial mitigation will also be required for construction projects in mangrove swamps. The approximate cost of mangrove swamp mitigation credits for ACOE and DEP dual credit is close to $10,000 per .10 acre of impact. To situate a standard single family house on this site, mitigation credit cost alone will be near $20,000. Additional costs will be required for deep de-mucking, importing substantial amounts of fill to replace the muck, environmental consulting and engineering fees. It is important to note that state and federal agencies are usually very restrictive about the size and location of projects on sites like these in spite of the amount of mitigation proposed. A wetland line has been marked on-site using orange and white striped ribbon.

An on-site assessment of the property revealed that the lot contains two distinct habitat types that reflect the ecologic and hydrologic conditions for this area. These two habitats are described below and are indicated on the enclosed site map.

Habitat Types:

(Habitats are described using D.O.T. F.L.U.C.C.S. Codes and the 10YR page of the Munsell Soil Chart)

HABITAT #1 -WETLAND MANGROVE SWAMP

F.L.U.C.C.S. CODE # 612

Biological Description of Wetland Habitat:

These dense, brackish water swamps occur along low-energy shorelines and in protected, tidally influenced bays of southern Florida. This community is composed of freeze-intolerant tree species that are distributed south of a line from Cedar Key on the Gulf coast to St Augustine on the Atlantic coast. These swamp communities are usually dominated by red, black, and white mangroves that progress in a sere from seaward to landward areas, respectively, while buttonwood trees occur in areas above high tide. Openings and transitional areas in mangrove swamps sometimes contain glasswort, saltwort, and other salt marsh species. All three major species of mangroves are mapped as a single class with no effort made to differentiate these species into separate zones.

PLANT COVERAGE OF THE WETLAND HABITAT AREA

Upland Plants:
(Upper Canopy & Sub-canopy): NONE

(Ground Cover): NONE

Percentage of total habitat coverage = **0%**

Facultative Plants:
(Upper Canopy & Sub-canopy): BRAZILIAN PEPPER, AUSTRALIAN PINE

(Ground Cover): NONE

Percentage of total habitat coverage = **5%**

Facultative Wetland Plants:
(Upper Canopy & Sub-canopy): NONE

(Ground Cover): NONE

Percentage of total habitat coverage = **0%**

Obligate Wetland Plants:

(Upper Canopy & Sub-canopy): RED MANGROVE, BLACK MANGROVE, WHITE MANGROVE

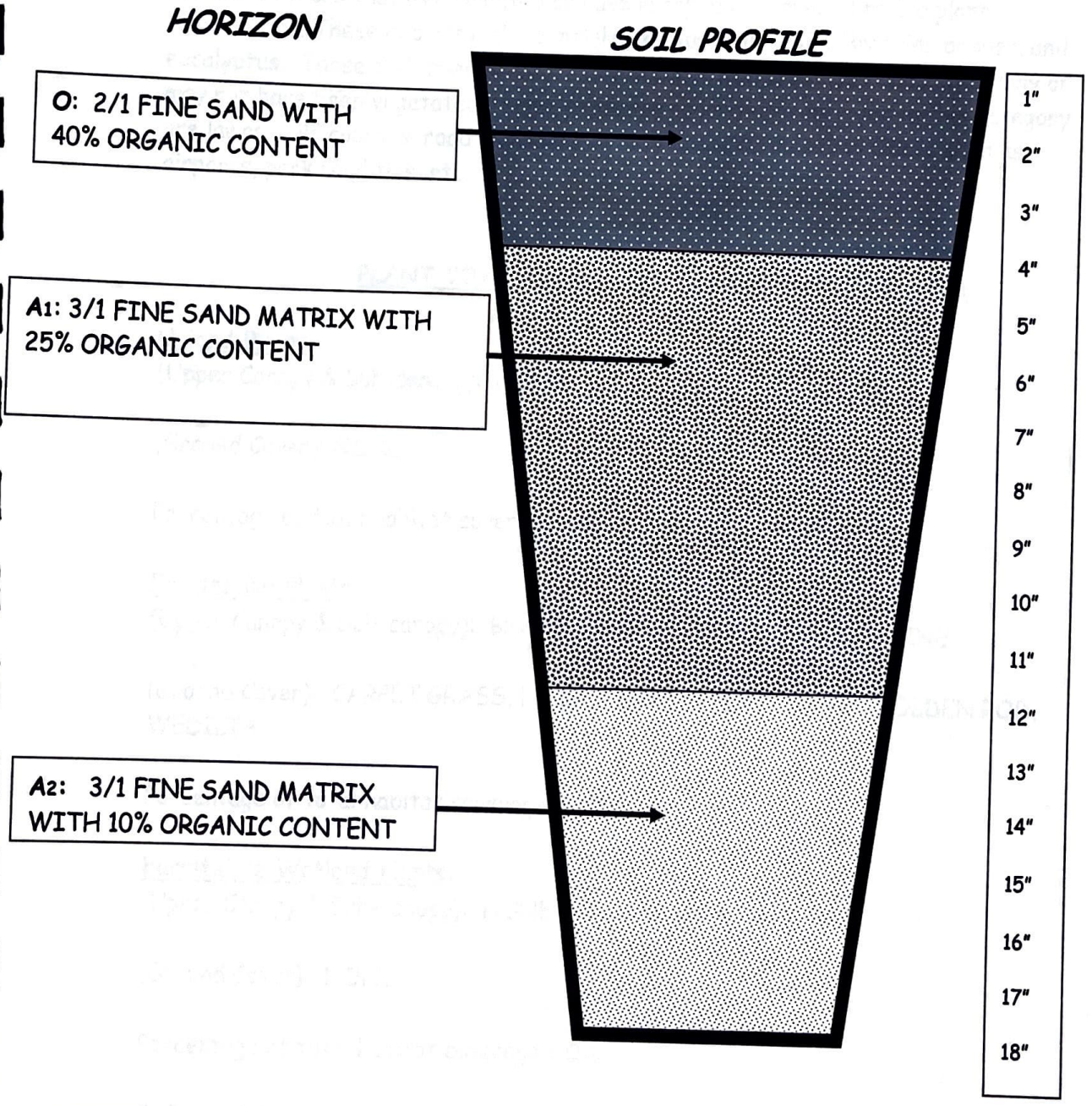
(Ground Cover): NONE

Percentage of total habitat coverage = **95%**

TYPICAL SOIL PROFILE IN THE WETLAND HABITAT AREA

(Using the 10YR page of the Munsell Soil Chart)

Soil Type: ARENT SOIL (INUNDATED ALONG WETLAND LINE)
Hydric/Depressional: YES



Hydrologic indicators present in this habitat area: Tidally Influenced Water Levels. Water Stains, Aquatic Plants, Aquatic Fauna, Adventitious Roots, Muck, Hydrogen Sulfide In The Upper 6" Of Soil & Defined Ecotone

HABITAT #2 - UPLAND- EXOTIC PLANT COMMUNITY
F.L.U.C.C.S. CODE # 422

Biological Description of Upland Habitat:
This community is defined by disturbed upland areas that are dominated by non-native trees that were planted or have escaped and invaded native plant communities. These exotics include melaleuca, Australian pine, Brazilian pepper, and eucalyptus. These disturbed areas usually occur within urbanized areas that may or may not have been vegetated. Some examples of land uses included in this category are lawns, golf courses, road shoulders, grassy areas surrounding places such as airports, park facilities, etc.

PLANT COVERAGE OF THE UPLAND HABITAT AREA

Upland Plants:
(Upper Canopy & Sub-canopy): NONE

(Ground Cover): NONE

Percentage of total habitat coverage = **0%**

Facultative Plants:
(Upper Canopy & Sub-canopy): BRAZILIAN PEPPER, AUSTRALIAN PINE

(Ground Cover): CARPET GRASS, FINGER GRASS, FLAT-TOPPED GOLDEN ROD, WEDILIA

Percentage of total habitat coverage = **100%**

Facultative Wetland Plants:
(Upper Canopy & Sub-canopy): NONE

(Ground Cover): NONE

Percentage of total habitat coverage = **0%**

Obligate Wetland Plants:
(Upper Canopy & Sub-canopy): NONE

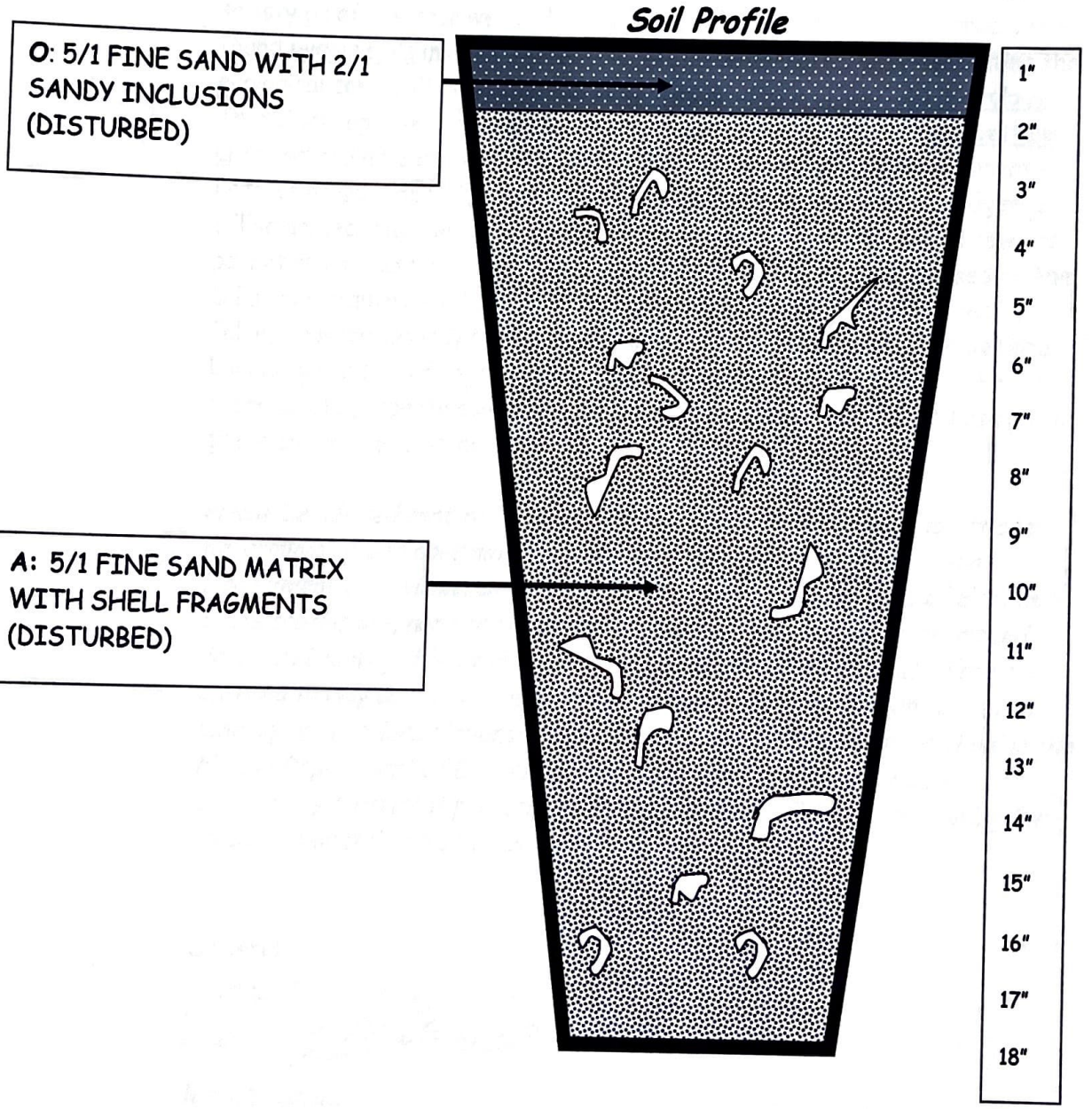
(Ground Cover): NONE

Percentage of total habitat coverage = **0%**

TYPICAL SOIL PROFILE IN THE UPLAND HABITAT AREA

(Using the 10YR page of the Munsell Soil Chart)

Soil Type: ARENT (Disturbed- soil deposited during adjacent road construction)
Hydric/Depressional: N/A



Hydrologic indicators present in this habitat area: None

Conclusion:

After careful review of aerial photographs, St. Lucie County soil maps, on-site soil samples, hydrologic conditions and botanical observations, it is my professional opinion, based on reasonable scientific judgment that Habitat #1 of this lot lies within the State of Florida's wetland regulatory jurisdiction. This opinion is based on the fact that the site characteristics of Habitat #1 satisfy all of the four wetland tests (A, B, C & D). In this habitat area I have found hydric soils in all of the sample locations, obligate plants dominating the ecological community and there is convincing evidence of wetland hydrology. Therefore, approximately 98% of this lot lies within a jurisdictional wetland area and could be claimed by both the Florida Department of Environmental Protection and the U.S. Army Corps of Engineers. Any proposed dredging or filling projects within wetland areas should require an environmental resource permit from these agencies. Fines of $10,000 per day may be imposed by the D.E.P. for unauthorized activities in wetland areas; additional fines and/or felony prosecution may be imposed by the federal government. The wetland boundary has been flagged with orange and white stripped ribbons. The approximate property corners along the roadside have been flagged using pink, green and orange fluorescent tape.

Please be advised that this assessment is an informal wetland jurisdictional determination and does not in any way bind the consultant, the Florida Department of Environmental Protection or the U.S. Army Corps of Engineers to its conclusions, nor does it convey any legal rights, expressed or implied. Persons obtaining this informal wetland jurisdictional determination are not entitled to rely upon it for purposes of compliance with provisions of law. A binding wetland jurisdictional determination can be obtained by petitioning the Florida Department of Environmental Protection for a jurisdictional declaratory statement pursuant to Rule 62-340.300, FAC, or by applying for an environmental resource permit.

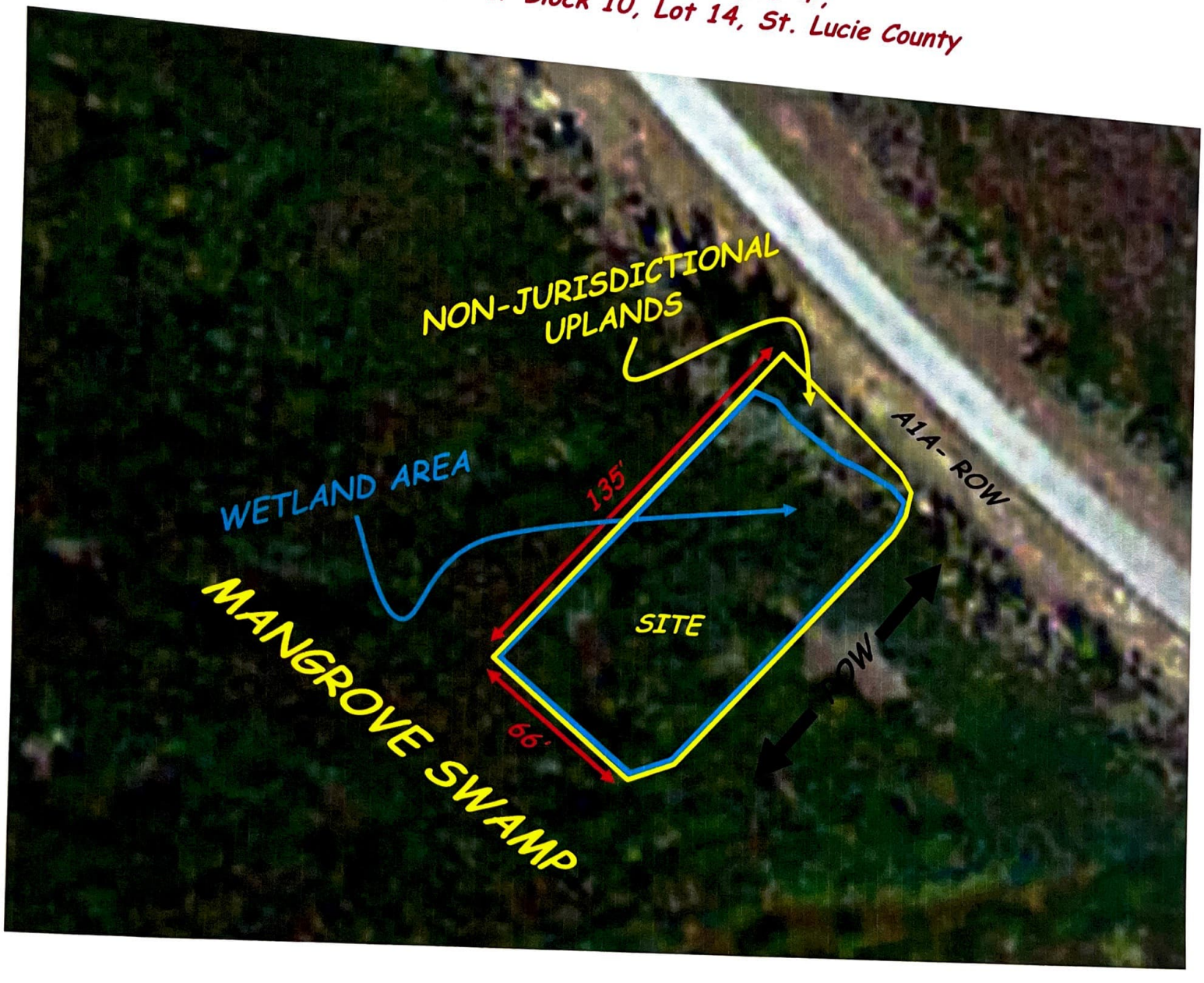
Sincerely,

Mark Youmans
Environmental Consultant

AERIAL MAP

PIN: 2413-501-0158-000-4,
Surfside Harbor Block 10, Lot 14, St. Lucie County

Harbor Block 10, Lot 14, St. Lucie County



SITE PHOTO'S

PIN: 2413-501-0158-000-4 ,
Surfside Harbor Block 10, Lot 14, St. Lucie County

October 11, 2006

WETLAND BOUNDARY LOOKING WEST

UPLAND FRINGE LOOKING NORTH ALONG THE ROAD R.O.W.

DocuSign Envelope ID: 66FDFDEA-6863-4E5B-A588-0FF80305CE37

Expires July 17, 2026

C14-07-672

SIXTH AMENDMENT TO JULY 18, 2014 MITIGATION BANK CREDIT RESERVATION AGREEMENT

THIS SIXTH AMENDMENT made and entered into this 3 day of June, 2024 by and between **ST. LUCIE COUNTY**, a political subdivision of the State of Florida, ("County"), whose address is 2300 Virginia Avenue, Fort Pierce, Florida 34982, and **ANTHONY ACERRA**, ("Developer"), whose address is 302 SW Kane Ave., Pt. St. Lucie, FL 34953.

WITNESSETH

WHEREAS, the County owns and operates the Bear Point Mitigation Bank, ("Bank"); and,

WHEREAS, the Developer is the owner of certain property lying in the Bank's Mitigation Service Area, ("Site"); and,

WHEREAS, on July 18, 2014, the parties entered into a Mitigation Bank Credit Reservation Agreement ("Agreement") which reserved 0.1 State mitigation credits in the Bank ("Credits") for the Developer in order to seek the necessary permits for the proposed development of the Site ("Project"); and,

WHEREAS, the Agreement provided for a one (1) year term; and,

WHEREAS, on June 19, 2015, the parties entered into a First Amendment to the Agreement which extended the term through and including July 17, 2016; and,

WHEREAS, on May 14, 2016, the parties entered into a Second Amendment to the Agreement which extended the term through and including July 17, 2018; and,

WHEREAS, on May 25, 2018, the parties entered into a Third Amendment to the Agreement which extended the term through and including July 17, 2020; and,

WHEREAS, on May 22, 2020, the parties entered into a Fourth Amendment to the Agreement which extended the term through and including July 17, 2022; and,

WHEREAS, on August 1, 2022, the parties entered into a Fifth Amendment to the Agreement which extended the term through and including July 17, 2024; and,

WHEREAS, the Developer has requested an additional extension of the term in order to allow additional time to obtain the necessary permits for the Project.

NOW, THEREFORE, in consideration of the mutual promises contained herein, the parties agree as follows:

DocuSign Envelope ID: 66FDFDEA-6863-4E5B-A588-0FF60305CE37

1. Paragraph 1 of the Agreement is hereby amended to read as follows:

- The County agrees to reserve 0.1 State Credits for the Project as set forth in this Agreement. The term of this reservation shall begin on July 18, 2014 and shall continue through and including July 17, 2026, subject to extension upon the prior written agreement of the parties.

2. Except as otherwise amended herein, the remaining terms and conditions of the Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the parties have caused this Fifth Amendment to be executed on the day first above written.

BOARD OF COUNTY COMMISSIONER
ST. LUCIE COUNTY, FLORIDA

BY: _____
COUNTY ADMINISTRATOR

APPROVED AS TO FORM AND CORRECTNESS:

_____
COUNTY ATTORNEY

ANTHONY ACERRA

BY: Tony Acerra

DATE: 5/30/2024

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHEAST DISTRICT BRANCH OFFICE
337 N US HIGHWAY 1, SUITE 307
FT. PIERCE, FL 34950-4255
(772) 467-5500

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

July 1, 2014

24'x66' to REMAIN WETLANDS (137.9 to S.)

Anthony Acerra
24 Delaware Avenue
West Long Branch, NJ 07764
Sent via e-mail: tonyacerra@comcast.net

LOT = 66 x 135' = 111' DEEP
(READ) - 24'
= 111

Flevit = 68.36

Dear Mr. Acerra:

Enclosed is Environmental Resource Permit No. 56-0324541-002, issued pursuant to Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62, Florida Administrative Code (F.A.C.).

Appeal rights for you as the permittee and for any affected third party are described in the text of the permit along with conditions which must be met when permitted activities are undertaken. Please review this document carefully to ensure compliance with both the general and specific conditions contained herein. As the permittee, you are responsible for compliance with these conditions. **Please ensure all construction personnel associated with your activity review and understand the attached drawings and conditions.** Failure to comply with this permit may result in liability for damages and restoration, and the imposition of civil penalties up to $10,000.00 per violation per day pursuant to Sections 403.141 and 403.161, F.S.

In addition, please ensure the construction commencement notice and all other reporting conditions are forwarded to the appropriate office as indicated in the specific conditions.

If you have any questions about this document, please contact me at (772) 467-5560 or by email at cynthia.lott@dep.state.fl.us.

Sincerely,

Cynthia E. Lott

Cynthia Lott
Environmental Specialist III
Submerged Lands & Environmental
Resources Program

From: **Tony Acerra** tonyacerra@comcast.net
Subject: **Re: [EXTERNAL] Re: Please Respond / Sewer line extension Surfside Harbor**
Date: **Nov 10, 2025 at 10:44:49 AM**
To: **Patricia Kelly** patricia_kelly@fws.gov

Good morning Patricia,

I am in the process of annexing into the City of Fort Pierce. They are asking for an official letter from you stating your approval of our sewer line install on A1A on Hutchinson Island in Fort Pierce at Bear Point Sanctuary. I sent them your below response of "Yes", but they want an official letter from your department.
Could you please send that letter?

Thanks, Tony

Sent from my iPad

> On Jan 19, 2025, at 2:45 PM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:
>
> Yes. Thanks for your patience.
>
> Patty Kelly
> Wildlife Biologist
> & Regional CBRA Coordinator for Region 4
> US Fish & Wildlife Service
> Florida Ecological Services Field Office
> 1601 Balboa Avenue
> Panama City, FL 32405
>
> email: patricia_kelly@fws.gov
> *Ph: 850-273-4611
>
> ---
>
> **From:** Tony Acerra <tonyacerra@comcast.net>
> **Sent:** Thursday, January 16, 2025 3:20 PM
> **To:** Kelly, Patricia <patricia_kelly@fws.gov>
> **Cc:** Bo Hutchinson <bhutchinson@fpua.com>
> **Subject:** Re: [EXTERNAL] Re: Please Respond / Sewer line extension Surfside Harbor

Patty,

Ok, understood. With that being said, can we get started?
Can you give us a firm
YES or No.

Thanks, Tony

Sent from my iPhone

On Jan 16, 2025, at 3:00 PM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:

Mr. Acerra and Mr. Hutchinson,

That is correct, there can be no federal dollars used to support development into areas designated as a System Unit under the Coastal Barrier Resources Act (CBRA) unless that action meets an exception. The purposes of the CBRA are to 1) keep human life out of harms way but not supporting development in high risk areas, 2) minimize wasteful expenditure of federal funds [construction in high risk areas are likely to be repeatedly damaged and require funds to repair; 3) minimize damage to fish, wildlife, and natural resources. Expanding development via construction of water, sewer, electrical lines does not meet any exception even if the facility that supplies the utilities are located out of a CBRA System Unit, as is the case here.

No funds can be used to finance nor upgrade nor repair utilities that FPUA intends to provide to the private citizens within Hutchinson Island that occur within the CBRA Unit. We recommend that separate records are kept if FPUA ever receives federal funds to upgrade the facility that occurs outside of the CBRA Unit but that will support the residents inside of the Unit. IF FPUA receives funds to upgrade/repair/maintain the main FPUA facility that is to service Hutchinson Island, they will need to pro-rate all funds. For example, lets assume that Hutchinson Island accounts for 10% of FPUA's business. If FPUA has a $100,000 damage to their facility and FEMA might assist in repairs, FPUA will need to pay for $10,000 of damages out of pocket. That $10,000 cannot be considered as part of a percentage match that is often required as

part of a Federal loan or grant for the remainder of the repair calculation.

It can get complicated but its doable. Thanks for the coordination.

Patty Kelly
Wildlife Biologist
& Regional CBRA Coordinator for Region 4
US Fish & Wildlife Service
Florida Ecological Services Field Office
1601 Balboa Avenue
Panama City, FL 32405

email: patricia_kelly@fws.gov
*Ph: 850-273-4611

From: Tony Acerra <tonyacerra@comcast.net>
Sent: Thursday, January 16, 2025 1:30 PM
To: Kelly, Patricia <patricia_kelly@fws.gov>
Cc: Bo Hutchinson <bhutchinson@fpua.com>; Tony Acerra <tonyacerra@comcast.net>
Subject: [EXTERNAL] Re: Please Respond / Sewer line extension Surfside Harbor

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

Good afternoon Patty,

As per our conversation on Friday 1-10-24, you informed me that it would be ok for Bo Hutchinson at FPUA to began the process of having the sewer line installed on A1A at the Surfside Harbor subdivision in Fort Pierce. I have a petition in place and it will be funded privately. There will be no Federal money

used for this project.
Please give an official response to this email to Bo Hutchinson so he will know we can get started on our sewer line installation process.

Thank you, Tony Acerra

Sent from my iPad

> On Oct 16, 2024, at 12:19 PM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:
>
> **Mr Acerra, apologies. Its on my list but there are other pressing documents ahead of it but it will get completed. Thanks for your patience.**
>
> **Patty Kelly**
> **Wildlife Biologist**
> **& Regional CBRA Coordinator for Region 4**
> **US Fish & Wildlife Service**
> **Florida Ecological Services Field Office**
> **1601 Balboa Avenue**
> **Panama City, FL 32405**
>
> **email: patricia_kelly@fws.gov**
> ***Ph: 850-273-4611**
>
> ---
>
> **From:** Tony Acerra <tonyacerra@comcast.net>
> **Sent:** Wednesday, October 16, 2024 8:19 AM
> **To:** Kelly, Patricia <patricia_kelly@fws.gov>
> **Subject:** Re: [EXTERNAL] Map-Sewer line extension Surfside Harbor
>
> Good morning Patricia,
>
> I'm sure this might be a busy time for you and I hope you fared well with the

Hurricane.
I noticed it's been it's been about six weeks since our last email. I was wondering if you were able to send out the letter for the sewer line at Surfside Harbor.

Thanks, Tony Acerra

Sent from my iPad

On Aug 29, 2024, at 5:13 PM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:

Hi Tony.. Sorry, I was pulled onto another project but its completed so this letter is near the top of my list. Hoping by next week it will be approved to send out.

Patty Kelly
Wildlife Biologist
& Regional CBRA Coordinator for Region 4
US Fish & Wildlife Service
Florida Ecological Services Field Office
1601 Balboa Avenue
Panama City, FL 32405

email: patricia_kelly@fws.gov
***Ph: 850-273-4611**

From: Tony Acerra <tonyacerra@comcast.net>
Sent: Wednesday, August 28, 2024 8:33 AM
To: Kelly, Patricia <patricia_kelly@fws.gov>
Subject: Re: [EXTERNAL] Map-Sewer line extension Surfside Harbor

Good Morning Patty,

I spoke to several property owners. They are very excited about finally getting sewer service to our properties at Surfside Harbor. Hope we are still on track. If there is any other information you need please call me. 732-822-1859

Thank you, Tony

Sent from my iPad

On Jul 31, 2024, at 12:56 PM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:

This helps a lot. Thanks.

Patty Kelly
Wildlife Biologist
& Regional CBRA Coordinator for Region 4
US Fish & Wildlife Service
Florida Ecological Services Field Office
1601 Balboa Avenue
Panama City, FL 32405

email: patricia_kelly@fws.gov
*Ph: 850-273-4611

From: Tony Acerra <tonyacerra@comcast.net>
Sent: Wednesday, July 31, 2024 11:35 AM
To: Kelly, Patricia <patricia_kelly@fws.gov>
Subject: Re: [EXTERNAL] Map-Sewer line extension Surfside Harbor

<IMG_0194.png>

Sent from my iPad
Hi Patty,

This is the are of our MSBU. It consists of 26 lots fronting A1A only on both sides of the road represented by the red line and arrow heading south of the pizza restaurant. Our subdivision is called Surfside Harbor. For reference, the pizza restaurant is just north of the red horizontal line on the right/east side of A1A. Note, the nearest crossroad is just north of us labeled Blue Heron Blvd as shown on the map.

Thank you for your help,
Tony Acerra

On Jul 23, 2024, at 12:37 PM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:

Thanks!

Patty Kelly
Wildlife Biologist
& Regional CBRA Coordinator for Region 4
US Fish & Wildlife Service
Florida Ecological Services Field Office
1601 Balboa Avenue
Panama City, FL 32405

email: patricia_kelly@fws.gov
***Ph: 850-273-4611**

From: Tony Acerra <tonyacerra@comcast.net>
Sent: Tuesday, July 23, 2024 11:32 AM
To: Kelly, Patricia <patricia_kelly@fws.gov>
Subject: Re: [EXTERNAL] Sewer line extension Surfside Harbor

Patricia,

Bo's email is....bhutchinson@fpua.com.
Please copy me in.

Thank you Tony

Sent from my iPad

On Jul 23, 2024, at 12:08 PM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:

Hi Mr. Acerra-- I did receive the attached letter from Atlanta and tried to reach out via phone ion April 9th but did not receive a return call from FPUA. I can write them a response to their request. Would you be able to find an "email address" for Bo Hutchinson, Director of Water/Wastewater Systems?

Thanks.

Patty Kelly
Wildlife Biologist
& Regional CBRA Coordinator for Region 4
US Fish & Wildlife Service
Florida Ecological Services Field Office
1601 Balboa Avenue
Panama City, FL 32405

email: patricia_kelly@fws.gov
*Ph: 850-273-4611

From: Tony Acerra <tonyacerra@comcast.net>
Sent: Tuesday, July 23, 2024 7:03 AM
To: Kelly, Patricia <patricia_kelly@fws.gov>
Subject: Re: [EXTERNAL] Sewer line extension Surfside Harbor

<IMG_0194.png>
Good Morning Patty,

Thank you for helping me with this matter. Above is a copy of the letter from FPUA that was sent to US Fish and Wildlife Service in Atlanta, GA. Included is a copy of the map provided to me from the MSBU that shows the are we are requesting to be serviced by the sewer line. It consists of 26 lots fronting A1A only in Fort Pierce south of Blue Heron Blvd at the Surfside Harbor subdivision. I have more than enough petitions for the MSBU, and at this point all the FPUA needs is approval to extend the line down another roughly 1,200 feet south of the red line. North of the red line has already been extended south of Blue Heron Blvd about 800 feet to the pizza restaurant. I already have obtained DEP approval and paid my mitigation fees to the Bear Point Mitigation Bank on one of my lots. All we need is a sewer line to have a buildable and conforming lot and will greatly help the environment. I have owned my two lots for 21 years and people have been paying property taxes in that section for 75 years. A lack of sewer is causing a great financial hardship for many people in that area. Most of those lots are Fort Pierce city lots, and are service by their water line.

Thank you,
Tony Acerra 732-822-1859

Sent from my iPad

On Jul 22, 2024, at 11:48 AM, Kelly, Patricia <patricia_kelly@fws.gov> wrote:

Perhaps. Send me the letter/info and we can figure out where you need to be. Sorry for the delay in response.

Patty Kelly
Wildlife Biologist
& Regional CBRA Coordinator for Region 4
US Fish & Wildlife Service
Florida Ecological Services Field Office
1601 Balboa Avenue
Panama City, FL 32405

email: patricia_kelly@fws.gov
*Ph: 850-273-4611

From: Tony Acerra <tonyacerra@comcast.net>
Sent: Sunday, July 21, 2024 6:16 PM
To: Kelly, Patricia <patricia_kelly@fws.gov>
Subject: [EXTERNAL] Sewer line extension Surfside Harbor

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

Good Morning,

A letter was sent to the US Fish and Wildlife Service in Atlanta, GA five months ago and no response. Bo said perhaps we need to contact a local division. Can you help me with that?

Thank you, Tony

Sent from my iPad

ANTHONY S ACERRA

LOT 14, BLOCK 10
SURFSIDE HARBOR
PLAT BLOCK 10, PAGE 68

CERTIFICATE

I HEREBY CERTIFY THAT THE ATTACHED BOUNDARY AND TOPOGRAPHIC SURVEY OF THE HEREON DESCRIBED PROPERTY IS DEPICTED TO THE BEST OF MY KNOWLEDGE, BELIEF, AND INFORMATION AS SURVEYED UNDER MY DIRECTION ON OCTOBER 23, 2014. I FURTHER CERTIFY THAT THIS BOUNDARY AND TOPOGRAPHIC SURVEY MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUES, SUBJECT TO THE QUALIFICATIONS NOTED HEREON.
CIVILSURV DESIGN GROUP, INC.

BY: ROBERT N. JOHNSON
PROFESSIONAL SURVEYOR & MAPPER
FLORIDA REGISTRATION NO. 6540 (FOR THE FIRM)

11/5/2014
DATE OF SIGNATURE

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CIVILSURV DESIGN GROUP, INC.

Technical Review Committee - 10:00 AM **1. f.**

Meeting Date: 12/18/2025

REQUESTED ACTION

PZSITE2025-00041
Minor Site Plan
FPUA Moore's Creek Booster Station
Parcel ID: 2409-232-0007-000-3

SUMMARY

A minor site plan application has been submitted by applicant Kimley-Horn Associates and Inc. on behalf of Fort Pierce Utilities Authority to construct a new 1,650 sq. ft. booster station building. The site is located on parcel number 2409-232-0007-000-3, and has approximately 0.54 acres. The future land use is General Commercial (GC) and has a zoning of General Commercial (C-3).

Please review the attached file and provide comments at least two days before the scheduled TRC meeting date by either emailing them to kdriver@cityoffortpierce.com and planning@cityoffortpierce.com or direct upload onto Tyler. Please be sure to notify me via email if comments are directly uploaded. Should you require additional information, you may contact me at 773-467-3739.

LOCATION

Address: N/A
Parcel ID: 2409-232-00007-000-3
Legal Description: 9 35 40 BEG AT NE COR LOT 1 BLK 14 FT PIERCE HEIGHTS S/D, RUN W 280 FT M/L TO NW COR LOT 5 BLK 14 OF SD S/D, TH N ON EXT W LI OF SD LOT 5 88 FT M/L TO SLY BANK OF MOORE`S CREEK, TH E ALG SD SLY BANK TO PT ON LI EXT N OF E LI, TH RUN S 86 FT M/L TO POB-LESS W 10 FT (18)

RESPONSIBLE STAFF

Kerry C. Driver - Senior Planner

RECOMMENDATION

N/A

Attachments

TRC Packet

Form Review

Form Started By: Kerry Driver Started On: 12/01/2025 03:37 PM
Final Approval Date: 12/02/2025

Kimley»Horn

FPUA CIP 3 – Moore's Creek Booster Station

CIP 3 includes a new booster station for the Fort Pierce Utilities Authority (FPUA), a concrete block masonry building containing three (3) screw centrifugal pumps, 150-HP each, to be operated in two (2) Duty and one (1) Standby configuration. The site is approximately 0.54 acres, and the building is approximately 1,650 square feet. The booster station will re-direct domestic wastewater flows from the existing Master Lift Station A and discharge flows to the new Mainland Water Reclamation Facility (MWRF), currently under construction. The existing 16-inch nominal PVC force main located adjacent to the property will be interconnected to the suction side of the new booster pump station and will be configured to discharge back into the existing 16-inch force main.

The building will be constructed with a stem wall and footer using split face concrete masonry block units with a hollow core concrete plank ceiling and completed with a metal standing seam roof. The building will contain two rooms separated with a common wall and traversable with an interior door to access the pump room and electrical room. The electrical room will be climate controlled via two HVAC units to protect electrical gear and have an exterior double door to access the room from outside. The electrical room houses the necessary electrical gear and is configured so power can be redistributed across two lineups in case of electrical equipment failure. A generator, with a belly fuel tank, can provide emergency power to both electrical lineups. This design provides for EPA Class 1 Reliability.

The pump room will be ventilated with louvers and ventilation fans and house the three pumps on individual floating concrete pedestals. The influent piping will enter the building from below grade and the discharge header piping with be above grade. The discharge piping exits the building on the north side via an above grade magnetic flowmeter assembly and then into the existing force main piping. The pumping room will be accessible via a large roll-up door to provide maintenance access.

The booster station will be constructed with a valving configuration to allow bypassing of the station, bypassing of the pumps, and bypassing of individual pumps to allow flexibility in the operation of the booster station and for maintenance purposes. The piping is equipped with air release valves and venting on the pump volutes which evacuate to floor drains in the building that convey to an existing manhole located on North 24th Street.

The site will contain a 6-ft chain-link fence to provide site security with double gate access on the east side of the property from N 24th Street. A 10-ft landscape buffer on the North, East, and South sides and a 15-ft landscape buffer on the west side of the site will be provided with perimeters screening plantings. The site has an asphalt entrance and driveway that will be graded to shed rainwater southerly to a conveyance swale to capture runoff into a dry retention pond located on the west side of the property.

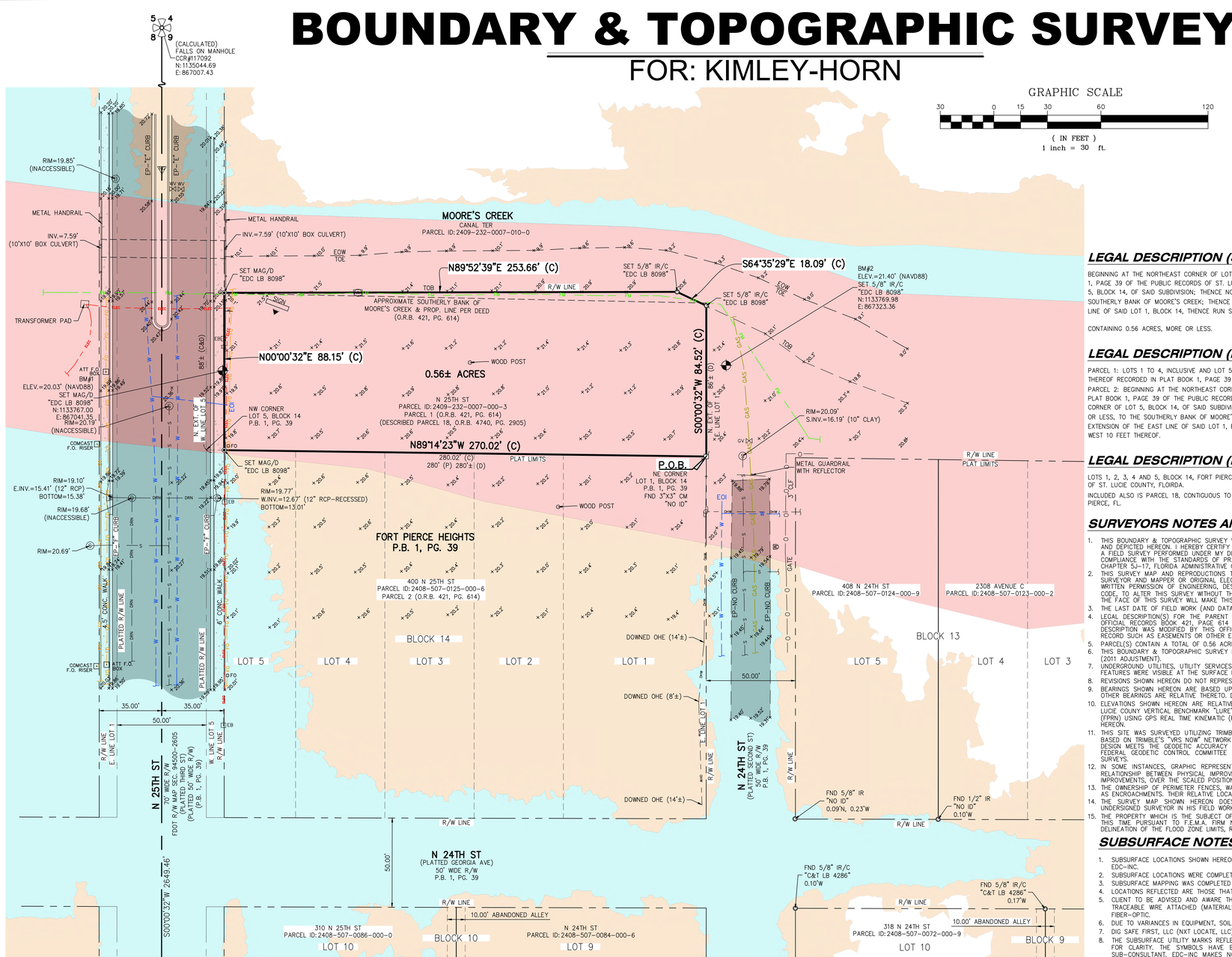
Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

Brendon Blum, P.E.
772.794.4100 (office) or brendon.blum@kimley-horn.com

BOUNDARY & TOPOGRAPHIC SURVEY

FOR: KIMLEY-HORN

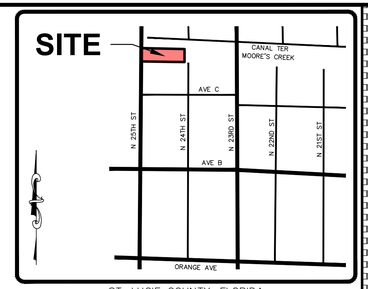


GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

NORTH



ST. LUCIE COUNTY, FLORIDA

VICINITY MAP

NO SCALE

LEGAL DESCRIPTION (SUBJECT PROPERTY):

BEGINNING AT THE NORTHEAST CORNER OF LOT 1, BLOCK 14, FORT PIERCE HEIGHTS, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 1, PAGE 39 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA, RUN WEST 280 FEET MORE OR LESS, TO THE NORTHWEST CORNER OF LOT 5, BLOCK 14, OF SAID SUBDIVISION; THENCE NORTH ON THE EXTENSION OF THE WEST LINE OF SAID LOT 5 FOR 88 FEET, MORE OR LESS, TO THE SOUTHERLY BANK OF MOORE'S CREEK; THENCE EAST ALONG SAID SOUTHERLY BANK TO A POINT ON A LINE BEING THE EXTENSION OF THE EAST LINE OF SAID LOT 1, BLOCK 14, THENCE RUN SOUTH 86 FEET, MORE OR LESS, THE POINT OF BEGINNING, LESS THE WEST 10 FEET THEREOF.

CONTAINING 0.56 ACRES, MORE OR LESS.

LEGAL DESCRIPTION (PARENT PROPERTY-O.R.B. 421, PG. 614):

PARCEL 1: LOTS 1 TO 4, INCLUSIVE AND LOT 5 LESS THE WEST 10 FEET FOR STREET. BLOCK 14, FOR PIERCE HEIGHTS, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 1, PAGE 39 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.

PARCEL 2: BEGINNING AT THE NORTHEAST CORNER OF LOT 1, BLOCK 14, FORT PIERCE HEIGHTS, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 1, PAGE 39 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA, RUN WEST 280 FEET MORE OR LESS, TO THE NORTHWEST CORNER OF LOT 5, BLOCK 14, OF SAID SUBDIVISION; THENCE NORTH ON THE EXTENSION OF THE WEST LINE OF SAID LOT 5 FOR 88 FEET, MORE OR LESS, TO THE SOUTHERLY BANK OF MOORE'S CREEK; THENCE EAST ALONG SAID SOUTHERLY BANK TO A POINT ON A LINE BEING THE EXTENSION OF THE EAST LINE OF SAID LOT 1, BLOCK 14, THENCE RUN SOUTH 86 FEET, MORE OR LESS, THE POINT OF BEGINNING, LESS THE WEST 10 FEET THEREOF.

LEGAL DESCRIPTION (PARENT PROPERTY-O.R.B. 4740, PG. 2905):

LOTS 1, 2, 3, 4 AND 5, BLOCK 14, FORT PIERCE HEIGHTS, AS PER PLAT THEREOF ON FILE IN PLAT BOOK 1, PAGE 39 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.

INCLUDED ALSO IS PARCEL 18, CONTIGUOUS TO THE NORTH BETWEEN NORTH 25TH AND 24TH STREETS. NORTH 25TH STREET AT AVENUE C. FT. PIERCE, FL.

SURVEYORS NOTES AND REPORT:

1. THIS BOUNDARY & TOPOGRAPHIC SURVEY WAS PERFORMED FOR THE PURPOSE OF MAPPING EXISTING FEATURES AND CONDITIONS, AS SHOWN AND DEPICTED HEREON. I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS IS A TRUE AND ACCURATE DEPICTION OF A FIELD SURVEY PERFORMED UNDER MY DIRECTION AND COMPLETED ON NOVEMBER 20, 2024. I FURTHER CERTIFY THAT SAID DRAWING IS IN COMPLIANCE WITH THE STANDARDS OF PRACTICE AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE PURSUANT TO SECTION 472.027, FLORIDA STATUTES.
2. THIS SURVEY MAP AND REPRODUCTIONS THEREOF ARE NOT VALID WITHOUT THE ORIGINAL SIGNATURE AND SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER OR ORIGINAL ELECTRONIC SIGNATURE. THIS SURVEY CANNOT BE TRANSFERRED OR ASSIGNED WITHOUT THE SPECIFIC WRITTEN PERMISSION OF ENGINEERING, DESIGN AND CONSTRUCTION, INC.. IT IS A VIOLATION OF CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, TO ALTER THIS SURVEY WITHOUT THE EXPRESS PRIOR WRITTEN CONSENT OF THE SURVEYOR. ADDITIONS AND/OR DELETIONS MADE TO THE FACE OF THIS SURVEY WILL MAKE THIS SURVEY INVALID.
3. THE LAST DATE OF FIELD WORK (AND DATA ACQUISITION) WAS NOVEMBER 18, 2024.
4. LEGAL DESCRIPTION(S) FOR THE PARENT PROPERTY HEREON SHOWN IN REFERENCE TO OFFICIAL RECORDS BOOK 4740, PAGE 2905 AND OFFICIAL RECORDS BOOK 421, PAGE 614 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA AND THE SUBJECT PROPERTY LEGAL DESCRIPTION WAS PROVIDED BY THIS OFFICE. A TITLE SEARCH FOR THIS PROPERTY HAS NOT BEEN ABSTRACTED TO SHOW MATTERS OF RECORD SUCH AS EASEMENTS OR OTHER ENCUMBRANCES OR RESTRICTIONS.
5. PARCEL(S) CONTAIN A TOTAL OF 0.56 ACRES, MORE OR LESS.
6. THIS BOUNDARY & TOPOGRAPHIC SURVEY HAS BEEN REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM–EAST ZONE, NAD 83 (2011 ADJUSTMENT).
7. UNDERGROUND UTILITIES, UTILITY SERVICES, FOUNDATIONS, AND IMPROVEMENTS WERE NOT LOCATED AS A PART OF THIS SURVEY, UNLESS FEATURES WERE VISIBLE AT THE SURFACE LEVEL.
8. REVISIONS SHOWN HEREON DO NOT REPRESENT A "FIELD SURVEY UPDATE" UNLESS OTHERWISE NOTED.
9. BEARINGS SHOWN HEREON ARE BASED UPON GRID NORTH AND REFERENCE TO THE LINE LABELED HEREON AS (BEARING BASIS) AND ALL OTHER BEARINGS ARE RELATIVE THERETO. DISTANCES ARE IN U.S. SURVEY FEET AND DECIMAL PARTS THEREOF.
10. ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND ARE BASED ON THE ST. LUCIE COUNY VERTICAL BENCHMARK "LURE" HAVNG AN ELEVATION OF 20.39' (NAVD88) AND THE FLORIDA PERMANENT REFERENCE NETWORKS (FPRN) USING GPS REAL TIME KINEMATIC (RTK) OBSERVATION WITH AND ACCURACY OF ±0.06'–0.10'. SITE BENCHMARKS UTILIZED ARE SHOWN HEREON.
11. THIS SITE WAS SURVEYED UTILIZING TRIMBLE/SPECTRA HARDWARE TOGETHER WITH SPECTRA SURVEY PRO REALTIME PROCESSING AND WAS BASED ON TRIMBLE'S "VRS NOW" NETWORK AND/OR THE FLORIDA PERMANENT REFERENCE NETWORK (FPRN). THE PROCEDURES AND NETWORK DESIGN MEETS THE GEODETIC ACCURACY STANDARDS AND SPECIFICATIONS FOR USING GPS RELATED POSITIONING AS SET FORTH BY THE FEDERAL GEODETIC CONTROL COMMITTEE IN THE MOST CURRENT PUBLICATION FOR 3RD ORDER CLASS ONE FOR HORIZONTAL CONTROL SURVEYS.
12. IN SOME INSTANCES, GRAPHIC REPRESENTATIONS AND SYMBOLS SHOWN HAVE BEEN EXAGGERATED TO MORE CLEARLY ILLUSTRATE THE RELATIONSHIP BETWEEN PHYSICAL IMPROVEMENTS AND/OR LOT LINES. THE DIMENSIONS SHOWN SHALL CONTROL THE LOCATION, OF THE IMPROVEMENTS, OVER THE SCALED POSITIONS.
13. THE OWNERSHIP OF PERIMETER FENCES, WALLS, HEDGES, AND LANDSCAPING, IF ANY, SHOWN HEREON ARE NOT KNOWN AND ARE NOT LISTED AS ENCROACHMENTS. THEIR RELATIVE LOCATION IS SHOWN IN RELATION TO THE BOUNDARY LINES SHOWN.
14. THE SURVEY MAP SHOWN HEREON DOES NOT NECESSARILY CONTAIN ALL OF THE INFORMATION OBTAINED OR DEVELOPED BY THE UNDERSIGNED SURVEYOR IN HIS FIELD WORK, OFFICE WORK OR RESEARCH.
15. THE PROPERTY WHICH IS THE SUBJECT OF THIS SURVEY APPEARS TO BE SITUATE IN AN AREA OF REGULATORY FLOODWAY (ZONE AE) AT THIS TIME PURSUANT TO F.E.M.A. FIRM NUMBER 12111C0178J, HAVING AN EFFECTIVE DATE OF FEBRUARY 16, 2012. FOR APPROXIMATE DELINEATION OF THE FLOOD ZONE LIMITS, REFER TO AFOREMENTIONED FIRM PANELS.

SUBSURFACE NOTES AND REPORT:

1. SUBSURFACE LOCATIONS SHOWN HEREON WERE MARKED BY DIG SAFE FIRST, LLC (NXT LOCATE, LLC) AND FIELD LOCATED BY EDC–INC.
2. SUBSURFACE LOCATIONS WERE COMPLETED ON NOVEMBER 7, 2024.
3. SUBSURFACE MAPPING WAS COMPLETED ON NOVEMBER 13, 2024.
4. LOCATIONS REFLECTED ARE THOSE THAT WERE ACCESSIBLE AT TIME OF WORK.
5. CLIENT TO BE ADVISED AND AWARE THAT LIMITATIONS EXIST IN LOCATING NON–METALLIC MATERIALS AND UTILITIES WITHOUT TRACEABLE WIRE ATTACHED (MATERIALS SUCH AS, BUT NOT LIMITED TO, PLASTICS, POLYVINYL CHLORIDE, FIBERGLASS AND FIBER–OPTIC.
6. DUE TO VARIANCES IN EQUIPMENT, SOIL AND SITE CONDITIONS, NO DEPTHS WERE PROVIDED.
7. DIG SAFE FIRST, LLC (NXT LOCATE, LLC) IS SOLELY RESPONSIBLE FOR THE ACCURACY OF THE UTILITY MARKINGS.
8. THE SUBSURFACE UTILITY MARKS REFLECTED IN THE LEGEND AND ON THIS SURVEY MAY HAVE BEEN ENLARGED OR REDUCED FOR CLARITY. THE SYMBOLS HAVE BEEN PLOTTED AT THE CENTER OF THE FIELD LOCATION, AS DESIGNATED BY A SUB–CONSULTANT. EDC–INC MAKES NO WARRANTIES OR GUARANTEES REGARDING THE SUBSURFACE ACCURACY. SEE THE NOTES SECTION OF THIS SURVEY FOR MORE INFORMATION.

FLOOD ZONE LEGEND:

- ZONE X
- ZONE X (1% ANNUAL FLOOD CHANCE)
- ZONE AE
- ZONE AE (REGULATORY FLOODWAY)

SYMBOL & ABBREVIATION LEGEND:

- (A) AIR RELEASE VALVE
- BENCHMARK (BM) OR GROUND CONTROL POINT (GCP)
- (C) CALCULATED
- CCR CERTIFIED CORNER RECORD
- CLF CHAIN LINK FENCE
- CONC CONCRETE
- CM CONCRETE MONUMENT
- CURB INLET
- (D) DEED
- (D) DRAINAGE MANHOLE
- EP EDGE OF PAVEMENT
- EOW EDGE OF WATER
- EB ELECTRIC BOX
- EL./ELEV. ELEVATION
- EOI END OF INFORMATION
- EXT. EXTENSION
- F.O. FIBER OPTIC
- FO FIBER OPTIC RISER
- FLOOD LIGHT
- FDOT FLORIDA DEPARTMENT OF TRANSPORTATION
- FND FOUND
- GAS MARKER
- GV GAS VALVE
- GUY WIRE ANCHOR
- ID IDENTIFICATION
- INV INVERT
- IR IRON ROD
- IR/C IRON ROD AND CAP
- LB LICENSED BUSINESS
- MAG/D MAG NAIL & DISK
- (M) MAILBOX
- METAL LIGHT POST
- NAVD88 NORTH AMERICAN VERTICAL DATUM OF 1988
- O.R.B. OFFICIAL RECORDS BOOK
- OHW OVER HEAD WIRES
- PG PAGE
- P.B. PLAT BOOK
- (P) PLAT DATA
- P.O.B. POINT OF BEGINNING
- PROP. PROPERTY
- RCP REINFORCED CONCRETE PIPE
- R/W RIGHT–OF–WAY
- (S) SANITARY MANHOLE
- SEC SECTION
- SIGN
- TOE TOE OF SLOPE
- TOB TOP OF BANK/BERM
- X 0.0 TOPOGRAPHIC DATA (SOFT SURFACE)
- X 0.00 TOPOGRAPHIC DATA (HARD SURFACE)
- WV WATER VALVE (WV)
- WOOD POWER POLE

- GAS — SUBSURFACE GAS LINE
- S — SUBSURFACE SANITARY LINE
- FM — SUBSURFACE SANITARY FORCE MAIN
- DRN — SUBSURFACE STORM – DRAINAGE
- FO — SUBSURFACE FIBER OPTIC
- ELEC — SUBSURFACE ELECTRICAL LINE
- W — SUBSURFACE WATER/FIRE LINE

MICHAEL T. OWEN PROFESSIONAL SURVEYOR AND MAPPER
FLORIDA REGISTRATION #5556

SIGNATURE DATE:

ENGINEERS ✪ SURVEYORS
ENVIRONMENTAL
10250 VILLAGE PARKWAY
UNIT 201
PORT ST. LUCIE, FL 34987
772-462-2455
www.edc-inc.com
F.B.P.E. CERTIFICATE OF AUTHORIZATION 9935
L.B. CERTIFICATE OF AUTHORIZATION 8098

DRAWN BY	R.B.
CHECKED BY	MTO
FIELD CREW	GH
FILENAME	24-216D - BOOSTER STATION BT.DWG
SCALE	AS SHOWN
DATE	November 20, 2024

REVISION COMMENTS — DATE

BOUNDARY & TOPOGRAPHIC SURVEY
FOR: KIMLEY-HORN
LAND LYING IN
SEC. 09, TWNSHP. 35 SOUTH, RGE. 40 EAST
ST. LUCIE COUNTY, FLORIDA

10250 VILLAGE PARKWAY
UNIT 201
PORT ST. LUCIE, FL 34987
772-462-2455

24-216D

1 OF 1

Z:\EDC-20\24\24-216 - Kimley - FPUA Phase Ia - 4 CIP Sites\SURVEY\Dwg - PDF\DWG\24-216D, BOOSTER STATION BT.DWG, 11/20/2024 2:13 PM
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FORT PIERCE UTILITIES AUTHORITY

SYSTEMATIC WASTEWATER CONVEYANCE SYSTEM REDIRECTION TO THE NEW MAINLAND RECLAMATION FACILITY

CIP 3 - MOORE'S CREEK BOOSTER STATION

NOV 2025

PROJECT TEAM

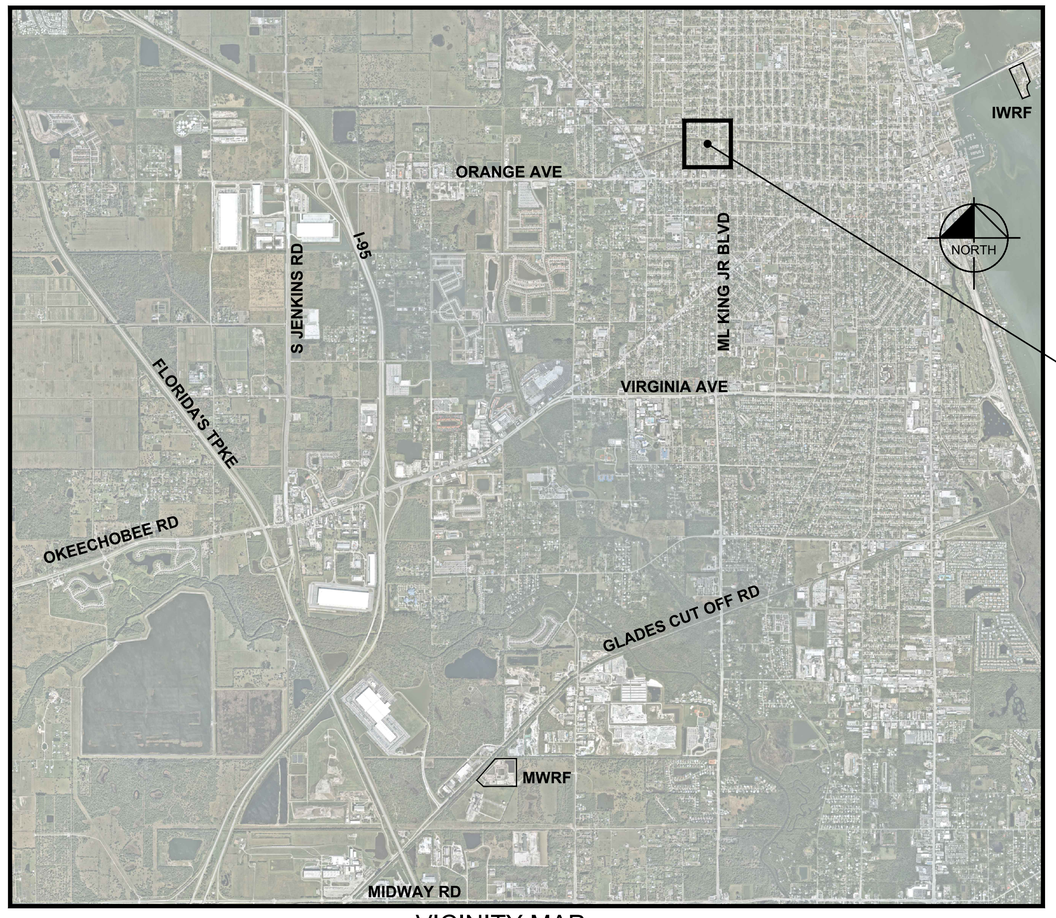
OWNER
FORT PIERCE UTILITIES AUTHORITY
206 S 6th STREET
FORT PIERCE, FL 34950

CONTRACTOR
TLC DIVERSIFIED, INC.
2719 17TH ST E
PALMETTO, FL 34221

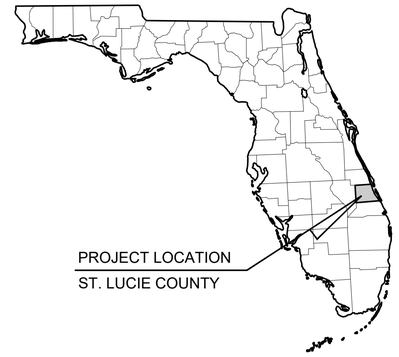
PIPING CONTRACTOR
FELIX CIVIL CONSTRUCTION, LLC
8528 SW KANSAS AVE
STUART, FL 34997

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

SURVEYOR
ENGINEERING DESIGN & CONSTRUCTION
10250 SW VILLAGE PKWY, SUITE 201
PORT ST LUCIE, FL 34987



VICINITY MAP



PROJECT EXTENTS

NOTES

THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REGULATIONS, FORT PIERCE UTILITIES AUTHORITY STANDARDS, AND THE F.E.C. RAILROAD STANDARDS ARE INCORPORATED IN THIS PLANSHEET BY REFERENCE.

PERMITTING SET

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No.	REVISIONS	BY	DATE
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2	PER FPUA AUG 2025 COMMENTS	MJS	9/09/2025
1	BID SET	RDC	4/09/2025

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445 24TH STREET SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT	147923001
DATE	NOV 2025
SCALE	AS SHOWN
DESIGNED BY	TMC
DRAWN BY	TMC
CHECKED BY	DHE

CIP 3 - MOORE'S CREEK BOOSTER STATION
PREPARED FOR
FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW
FL LICENSE NUMBER 82414

COVER SHEET

SHEET NUMBER
G-3-000

Plotted By: Powell, Harper Sheet Set: CIP 3 MOORE'S CREEK BPS Layout: G-3-000 COVER SHEET November 04, 2025 09:01:40am K:\VRB_WaterResources\147923001 - FPUA WW Redirection Phase 1a\CAD\CIP 3 - Moore's Creek Booster\PlanSheets\G-3-001 COVER SHEET.dwg
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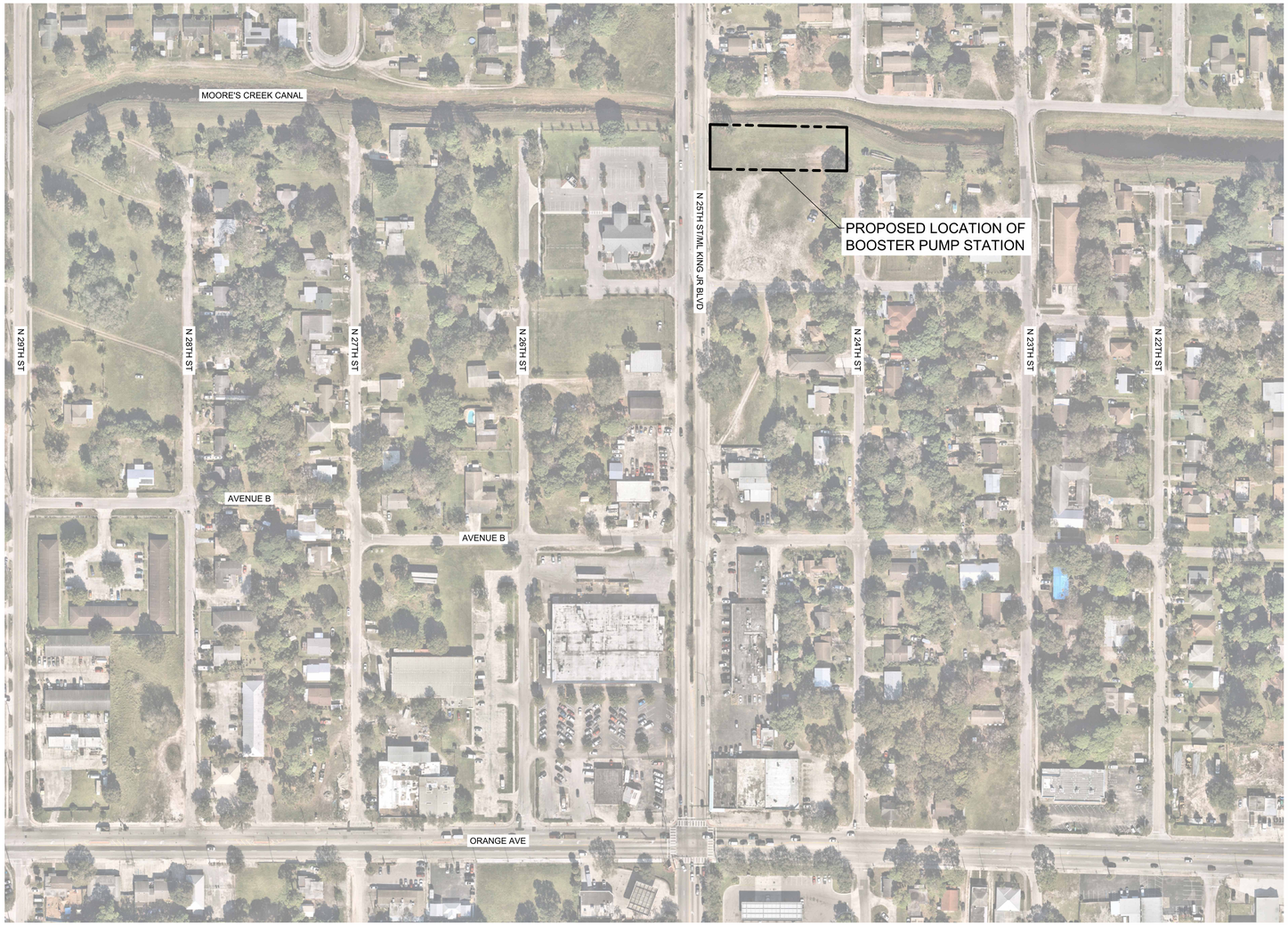

1 G-3-001 KEY MAP N.T.S.

GRAPHIC SCALE IN INCHES
0 1/2" 1" 2"
0 4' 8'

NORTH

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KHA PROJECT 147923001
DATE NOV 2025
SCALE AS SHOWN
DESIGNED BY: HR
DRAWN BY: DC
CHECKED BY: DE

CIP 3 - MOORES CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

LICENSED PROFESSIONAL:

MATTHEW MICHAEL TEBOW

FL LICENSE NUMBER 82414

DATE:

SHEET INDEX AND KEY MAP

SHEET NUMBER

G-3-001

Autodesk Docs://147923001 FPUA VAV Redirection Ph1A/CIP3 SHEETS - FPUA PHASE1A.rvt

GENERAL NOTES:

1. ALL CONNECTIONS TO EXISTING MAINS SHALL BE OBSERVED BY FORT PIERCE UTILITIES AUTHORITY. VALVES ON EXISTING MAINS SHALL BE OPERATED BY CITY PERSONNEL OR UNDER THEIR DIRECT SUPERVISION. TAPPING SLEEVE AND VALVE SHALL BE PRESSURE TESTED PRIOR TO TAPPING. IF SERVICE MUST BE CUT OFF TO EXISTING CUSTOMERS, THE DEPARTMENT MUST HAVE THREE DAYS NOTICE TO MAKE NECESSARY NOTIFICATIONS. THE CONTRACTOR MAY BE REQUIRED TO ASSIST IN NOTIFICATIONS. IN THIS EVENT, CONTRACTOR SHALL BE READY TO PROCEED WITH AS MUCH MATERIAL PRE-ASSEMBLED AS POSSIBLE AT THE SITE TO MINIMIZE THE LENGTH OF SERVICE INTERRUPTION. FPUA WILL POSTPONE A SERVICE CUT OFF IF THE CONTRACTOR IS NOT READY TO PROCEED ON SCHEDULE. SUCH PROJECTIONS SHALL BE MADE AT NIGHT TO MINIMIZE EFFECTS UNLESS OTHERWISE AUTHORIZED BY FPUA. NO CUSTOMER SHOULD BE WITHOUT SERVICE FOR MORE THAN FOUR HOURS.

   LOCAL CHLORINATION WILL BE REQUIRED FOR ALL PIPE AND FITTINGS USED TO COMPLETE CONNECTIONS WITH POTABLE WATER.

2. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF FORT PIERCE UTILITIES AUTHORITY MINIMUM DESIGN AND CONSTRUCTION STANDARDS, ONE COPY OF THE CONTRACT DOCUMENTS, INCLUDING PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS, AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.

3. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.

4. THE LOCATION AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHOD AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS SHALL BE RESOLVED BY THE ENGINEER AND DEPARTMENT PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

5. LOCATION OF PROPOSED FACILITIES WILL BE STAKED BY CONTRACTOR. CONTRACTOR MUST GIVE 48 HOURS NOTICE TO FPUA IN ADVANCE OF LAYOUT.

6. PROJECT SUPERINTENDENT: THE CONTRACTOR SHALL PROVIDE A QUALIFIED SUPERINTENDENT TO REMAIN ON THE JOB SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. THE SUPERINTENDENT SHALL BE PRESENT AT THE PRE-CONSTRUCTION MEETINGS. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT BY LETTER PRIOR TO THE PRE-CONSTRUCTION MEETING APPOINTING THE SUPERINTENDENT FOR THIS PROJECT INCLUDING A FORMAL RESUME SHOWING QUALIFICATIONS. IN THE EVENT THE SUPERINTENDENT WILL NOT BE PRESENT FOR ANY PERIOD OF TIME DURING CONTRACT WORK THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE IN WRITING TO THE CITY, INCLUDING THE APPOINTMENT OF A QUALIFIED REPLACEMENT SUPERINTENDENT WHO WILL BE PRESENT DURING THE CONSTRUCTION. WORK SHALL NOT BE ALLOWED TO PROCEED UNLESS THE ASSIGNED SUPERINTENDENT IS PRESENT.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE HIS COMPLETE FAMILIARITY WITH THE PROJECT SITE AND COMPONENTS TO INCLUDE SUBSURFACE CONDITIONS OF SOIL AND GROUNDWATER TABLE.

   WARNING: EXACT LOCATION OF UNDERGROUND UTILITIES IS NOT KNOWN NOR IS THIS DRAWING TO BE CONSTRUED AS DEPICTING THE LOCATION OF ALL UNDERGROUND UTILITIES OR STRUCTURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINATION OF LOCATION PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR IS RESPONSIBLE, THEREFORE, FOR ALL DAMAGE AND REPAIR COSTS.

8. DENSITY TESTS OF TRENCH BACKFILL MATERIAL SHALL BE REQUIRED AT INTERVALS OF NOT MORE THAN 500 FEET. DENSITY TESTS OF PAVEMENT OPEN-CUT AREAS INCLUDING ROADS, TURN LANES, AND DRIVES SHALL BE REQUIRED AT EACH OPEN-CUT AT INTERVALS OF NOT MORE THAN 50 FEET. ALL TESTS SHALL COMMENCE AT THE TOP OF CONDUIT AND EVERY 12 INCHES TO THE FINISH GRADE. COMPACTION SHALL BE IN ACCORDANCE WITH FPUA STANDARDS. FLORIDA BEARING TESTS FOR THE STABILITY OF EXISTING SUBSOIL SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 500 FEET, AND CLOSER AS MIGHT BE NECESSARY IN THE EVENT OF VARIATIONS IN THE STRATA. A CERTIFIED COPY OF THE TESTS SHALL BE PROVIDED TO FPUA AND THE FLORIDA DEPARTMENT OF TRANSPORTATION DEPENDING ON JURISDICTION.

9. ANY LANDSCAPING DISTURBED, UNLESS OTHERWISE SHOWN ON THE PLANS, SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF FPUA AT THE CONTRACTORS EXPENSE.

10. ANY SIDEWALK, CURB AND GUTTER OR PAVEMENT DISTURBED, UNLESS OTHERWISE SHOWN ON PLANS, SHALL BE REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS AND ALL CONCRETE 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. ALL CONSTRUCTION SHALL MEET ADA REQUIREMENTS. THIS INCLUDES, BUT IS NOT LIMITED TO, DETECTABLE WARNING SURFACES.

11. ALL SOD IS TO BE PLACED FOR THE FULL WIDTH DISTURBED AT THE PER SQUARE YARD PRICE. SOD SHALL BE REPLACED TO MATCH EXISTING KIND UNLESS OTHERWISE SHOWN ON PLANS.

12. CONTRACTOR SHALL PROVIDE PROPER BENDS TO MAINTAIN REQUIRED DEPTH AND ALIGNMENT OF PIPE. BENDS NOT DESIGNATED ON PLANS SHALL BE INCLUDED.

13. ANY TREES AND/OR SCRUB OR OTHER VEGETATION NOT TO BE REPLACED SHALL BE REMOVED FROM THE PROJECT AT THE CONTRACTOR'S EXPENSE.

14. ALL RUBBLE AND UNSUITABLE MATERIAL MUST BE REMOVED FROM THE PROJECT AND DISPOSED OF PROPERLY BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

15. MAILBOXES MUST BE CAPABLE OF RECEIVING MAIL AT ALL TIMES.

16. DEFLECT PIPE AS NECESSARY TO OBTAIN THE REQUIRED ALIGNMENT. USE APPROPRIATE FITTINGS WHEN DEFLECTION EXCEEDS 75% OF MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.

17. ALL FITTINGS SHALL BE MECHANICALLY RESTRAINED. REFER TO FORT PIERCE UTILITIES AUTHORITY MINIMUM DESIGN & CONSTRUCTION STANDARDS (LATEST EDITION).

18. ALL CONSTRUCTION DEWATERING (WELL POINTS, SUMPS, ETC.) WILL REQUIRE A DEWATERING PERMIT FROM SOUTH FLORIDA WATER MANAGEMENT DISTRICT. THIS SHALL BE OBTAINED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE PRIOR TO BEGINNING OF CONSTRUCTION.

19. THE "TRENCH SAFETY ACT" SHALL BE INCORPORATED INTO THIS CONTRACT AS ENACTED BY THE LEGISLATURE OF THE STATE OF FLORIDA TO BE IN EFFECT AS OF OCTOBER 1, 1990.

20. ALL CONCRETE AND ASPHALT DRIVES MUST BE REPLACED FROM SAW CUT TO EDGE OF PAVEMENT, OR AS NOTED ON THE PLANS.

21. LOCATIONS OF AIR RELEASE VALVES ARE APPROXIMATE ONLY. FINAL LOCATIONS WILL BE DETERMINED FPUA PERSONNEL IN FIELD.

22. MAXIMUM LENGTH OF FORCE MAIN PRESSURE TEST SHALL BE 2000 FEET. WATER SOURCE FOR FLUSHING, FILLING AND PRESSURE TESTING THE WATER MAIN SHALL BE FROM A TREATED SOURCE APPROVED BY THE DEPARTMENT.

23. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND RESTORATION (IF DAMAGED) OF ALL EXISTING STRUCTURES WITHIN THE CONSTRUCTION LIMITS OF THE PROJECT, INCLUDING BUT NOT LIMITED TO WALLS, FENCES, POWER POLES, MAIL BOXES, DRAINAGE PIPES AND STRUCTURES, ETC.

24. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING WATER SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROTECT THE EXISTING WATER SERVICES FROM DAMAGE AND REPAIR ANY BREAKS IMMEDIATELY.

25. "RECORD DRAWINGS" SHALL INCLUDE FURNISHING FPUA WITH ALL INFORMATION NECESSARY FOR A COMPLETE SET OF RECORD DRAWINGS AS STIPULATED IN THE FORT PIERCE UTILITIES AUTHORITY DEPARTMENT MINIMUM DESIGN AND CONSTRUCTION STANDARDS (LATEST EDITION).

26. MECHANICALLY RESTRAIN LENGTHS, AS INDICATED ON DRAWING, ON EACH SIDE OF ALL BENDS AND AS INSTRUCTED IN FORT PIERCE UTILITY AUTHORITY SPECIFICATIONS. MECHANICAL RESTRAINTS SHALL BE EITHER MEG-A-LUG, TYLER OR UNIFLANGE. THE CONTRACTORS BID PRICE FOR PIPE, GATE VALVES AND FITTINGS SHALL INCLUDE MECHANICAL RESTRAINT.

27. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL SUPPORT UTILITIES AND SHORE TRENCH AS REQUIRED TO PROTECT AND MAINTAIN EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY EACH UTILITY PRIOR TO ATTEMPTING TO SUPPORT THEIR FACILITIES. IF THE UTILITY REQUIRES THAT ONLY THEIR CREWS SHALL BE ALLOWED TO SUPPORT THEIR FACILITIES, THEN IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE WORK AND PAY THE UTILITY FOR THEIR EXPENSES IF REQUIRED. ALL COSTS FOR THIS WORK SHALL BE AT THE CONTRACTORS EXPENSE AND INCLUDED IN THE CONTRACTORS BID PRICE.

28. ALL PRESSURE TESTS SHALL BE IN ACCORDANCE WITH AWWA STANDARDS.

29. AIR RELEASE VALVE SHALL BE CONSTRUCTED PER FPUA DETAIL AS SHOWN IN THE DEPARTMENTS MINIMUM DESIGN AND CONSTRUCTION STANDARDS.

30. VALVE STEM RISER SHALL BE REQUIRED WHERE OPERATING NUT DEPTH EXCEEDS 4 FEET. THE RISER SHALL BE BOLTED TO THE VALVE NUT. METHOD AND MATERIALS SHALL BE APPROVED BY THE DEPARTMENT. COST FOR THIS WORK SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT PRICE FOR GATE VALVES.

31. THE CONTRACTOR SHALL CLEAN MAINS USING APPROVED POLYURETHANE PIG(S). TEMPORARY CLEANING STATIONS SHALL BE CONSTRUCTED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A CLEANING PLAN SHOWING METHOD OF FILLING AND CLEANING MAINS PRIOR TO START OF CONSTRUCTION. THE CLEANING PLAN SHALL BE APPROVED BY THE DEPARTMENT PRIOR TO CONSTRUCTION. ALL COSTS FOR FILLING AND CLEANING SHALL BE AT THE CONTRACTORS EXPENSE.

32. A FLORIDA DEPARTMENT OF TRANSPORTATION PERMIT IS REQUIRED FOR ALL WORK, EXCEPT PERPENDICULAR CONNECTIONS, WITHIN THE STATE RIGHT-OF-WAY. A COPY OF THIS PERMIT MUST BE MAINTAINED ON THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.

33. THE CONTRACTOR SHALL INSTALL TESTING POINTS FOR TESTING OF MAINS.

34. FORCE MAINS AND APPURTENANCES SHALL BE IN ACCORDANCE WITH CURRENT AWWA, FDEP STANDARDS.

35. MINIMUM COVER TO FINISHED GRADE OVER FORCE MAINS SHALL BE 36 INCHES.

36. ALL MAINS SHALL BE TESTED FOR LEAKAGE. WATER SHALL BE SUPPLIED TO THE MAIN AND PUMPED TO THE REQUIRED 150 PSI PRESSURE. THE MAIN TESTED SHALL EITHER BE ISOLATED FROM PRESENTLY POTABLE LINES OR PROTECTED FROM LEAKAGE BY A DOUBLE VALVE ARRANGEMENT.

    FPUA SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF ANY TESTING PROCEDURES. AFTER FLUSHING IS COMPLETED, LINE PRESSURE SHALL BE APPLIED TO THE SYSTEM TO DETERMINE IF ANY MAJOR DEFECTS ARE PRESENT. THE COMPLETE SYSTEM SHALL THEN BE TESTED AT A PRESSURE OF 150 PSI FOR A PERIOD OF NOT LESS THAN TWO HOURS. FPUA MAY, AT ITS DISCRETION, INCREASE THE PERIOD TO FOUR HOURS. MAXIMUM LENGTH OF LINE TO BE TESTED AT ONE TIME SHALL NOT EXCEED 2000 LINEAR FEET. AN OIL FILLED PRESSURE GAUGE UP TO 200 PSI AT 2 POUND INCREMENTS SHALL BE USED FOR ALL PRESSURE TESTS. NO VISIBLE MOVEMENT OF THE SYSTEM SHALL OCCUR AND LEAKAGE SHALL NOT EXCEED:

$$L = \frac{N\,D\,\sqrt{P}}{7400}$$

    WHERE: L = LEAKAGE IN GALLONS
    N = NUMBER OF JOINTS IN TEST SECTION
    P = TEST PRESSURE IN PSI
    D = DIAMETER OF PIPE IN INCHES

    NOTE: FORT PIERCE UTILITY AUTHORITY STANDARDS MANUAL (LATEST EDITION) ARE TO BE ADHERED TO AND WILL BE ENFORCED TO AT LEAST THESE MINIMUM STANDARDS.

37. ALL REFERENCES TO STAINLESS STEEL SHALL REFER TO GRADE 316 UNLESS OTHERWISE NOTED.

38. WATER, WASTEWATER AND RECLAIMED WATER LINES SHALL NOT BE CONSTRUCTED WITHOUT FIRST OBTAINING AN APPROVAL OR PERMIT, AS APPLICABLE, FROM FPUA.

39. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH FPUA UTILITY STANDARDS MANUAL, FORT PIERCE UTILITIES AUTHORITY CODE OF ORDINANCES, AND WITH ALL APPLICABLE FDEP RULES AND REGULATIONS. IF ANY CONFLICTS EXISTS BETWEEN THE STANDARDS, THE MORE STRINGENT GOVERNS, AS DETERMINED BY FPUA. COPIES OF FPUA CODE OF ORDINANCES ARE AVAILABLE WITH FPUA OFFICE AND CAN ALSO BE ACCESSED ONLINE.

    FDEP RULES ARE AVAILABLE ONLINE AT WWW.DEP.STATE.FL.US.

40. CONSTRUCTION SHALL BE IN ACCORDANCE WITH UTILITY STANDARDS IN EFFECT AT THE TIME THE PROJECT WAS APPROVED BY FPUA AND WILL NOT BE SUBJECT TO CHANGES IN THE STANDARDS DURING THE LIFE OF THE PROJECT.

41. WASTEWATER DISCHARGE SHALL BE SUBJECT TO FPUA WASTEWATER SYSTEM USER RULES IN ACCORDANCE WITH FORT PIERCE UTILITIES AUTHORITY.

42. ALL ABANDONED MAINS AND SERVICE LINES SHALL BE REMOVED OR FILLED WITH CEMENT GROUT AT THE DISCRETION OF FPUA. ASBESTOS CEMENT PIPE (ACP) MUST BE REMOVED AND HANDLED IN COMPLIANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS. ALL CUTTING, REMOVAL AND DISPOSAL OF ACP SHALL BE PERFORMED BY A FLORIDA LICENSED ASBESTOS ABATEMENT CONTRACTOR.

43. PERMITS SHALL BE OBTAINED FOR SUBAQUEOUS AND AERIAL PIPE CROSSING CANALS AND OTHER SURFACE WATERS FROM JURISDICTIONAL AGENCIES AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PERMITTED PLANS AND CONDITIONS.

44. ALL NEW/REPLACED FACILITIES SHALL BE RESTORED WITH A MINIMUM OF ONE FULL ROW (1' WIDE) OF SOD.

45. ON FORCE MAINS LESS THAN OR EQUAL TO 16 INCHES IN DIAMETER, RESILIENT SEAL GATE VALVES SHALL BE INSTALLED AT A MAXIMUM OF 1,000 FEET INTERVALS AND BRANCHES OF INTERSECTING FORCE MAINS ON TEES AND WYES AND AT FORCE MAIN STUBS. ON FORCE MAINS GREATER THAN 16 INCHES, VALVES SHALL BE LOCATED AT MAXIMUM 2,500 FEET INTERVALS.

46. AIR RELEASE VALVES SHALL BE PLACED AT ALL CANAL CROSSINGS, HIGH POINTS AND OTHER LOCATIONS SPECIFIED BY FPUA. THE EOR SHALL CONSULT WITH FPUA REGARDING THE TYPE OF VALVE TO BE USED AND ITS LOCATION. FOR BELOW GROUND INSTALLATION, THE AIR RELEASE VALVE SHALL BE LOCATED INSIDE AN ABOVE-GROUND ACCESS STRUCTURE AS SHOWN IN THE STANDARD DETAILS. VALVES SHALL BE SIZED AS PER MANUFACTURER'S RECOMMENDATION.

47. PRODUCTS LISTED ON THE QUALIFIED PRODUCT LIST (QPL) HAVE BEEN APPROVED BY FPUA FOR USE IN THE CONSTRUCTION OF WATER, WASTEWATER AND RECLAIMED WATER FACILITIES. PRIOR TO THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL SUBMIT TO FPUA A LIST OF PRODUCTS AND EQUIPMENT TO BE INSTALLED SELECTED ON THE QPL. ANY MATERIAL NOT LISTED ON THE QPL SHALL REQUIRE SUBMITTAL OF SHOP DRAWINGS APPROVED BY THE EOR AND REVIEWED BY FPUA PRIOR TO ORDERING MATERIALS. USE OF PRODUCTS ON THE QPL WILL EXPEDITE THE REVIEW AND APPROVAL PROCESS AND IS, THEREFORE, ENCOURAGED. IF THE APPLICANT PREFERS TO USE OTHER PRODUCTS, IT IS STRONGLY SUGGESTED THAT A REQUEST BE SUBMITTED TO INCLUDE SUCH PRODUCTS ON THE QPL.

STANDARD WATER AND SEWER SEPARATION STATEMENT

1. STORM SEWER, GRAVITY WASTEWATER AND FORCE MAINS CROSSING UNDER POTABLE WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWELVE INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED BETWEEN GRAVITY SEWER OR STORM SEWER, THE CROSSING SHALL BE ARRANGED SO THAT THE STORM/GRAVITY SEWER PIPE JOINTS AND POTABLE WATER MAIN JOINTS ARE EQUAL DISTANCE FROM THE POINT OF CROSSING WITH NO LESS THAN SIX FEET BETWEEN ANY TWO JOINTS. BOTH PIPES SHALL BE D.I.P. AND THE MINIMUM VERTICAL SEPARATION SHALL BE SIX INCHES. WHERE THERE IS NO ALTERNATIVE TO STORM/WASTEWATER/FORCE MAIN MAINS CROSSING OVER A POTABLE WATER MAIN, THE CRITERIA FOR MINIMUM TWELVE INCH VERTICAL SEPARATION BETWEEN LINES AND JOINT ARRANGEMENT, AS STATED ABOVE, SHALL BE REQUIRED, AND BOTH PIPES SHALL BE D.I.P. IRRESPECTIVE OF SEPARATION. IN ALL THE ABOVE CASES D.I.P. IS NOT REQUIRED FOR STORM SEWER PIPE.

2. FORCE MAINS CROSSING STORM SEWER SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWELVE INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND THE OUTSIDE OF THE STORM SEWER.

3. AT THE UTILITY CROSSING DESCRIBED IN ITEMS 1 AND 2 ABOVE, ONE FULL LENGTH OF DUCTILE IRON WATER MAIN PIPE SHALL BE CENTERED SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE JOINTS. WHERE THIS IS NOT POSSIBLE, JOINTS SHALL BE AT LEAST THREE (3) FEET FROM STORM SEWERS AND SIX FEET FROM GRAVITY MAINS AND FORCE MAINS.

4. SEWER SERVICE LATERALS SHALL CROSS UNDER WATER MAINS WITH A MINIMUM VERTICAL SEPARATION OF TWELVE INCHES. IF TWELVE INCHES SEPARATION CANNOT BE MAINTAINED, THEN THE WATER MAIN SHALL BE D.I.P. AND THE SEWER SERVICE LATERAL SHALL BE C-900 SDR 18 OR BETTER AND THE MINIMUM SEPARATION SHALL BE SIX INCHES APART. WHEN IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER THE SEWER SERVICE LATERAL A MINIMUM VERTICAL SEPARATION OF AT LEAST TWELVE INCHES MUST BE MAINTAINED. THE WATER MAIN SHALL BE D.I.P. AND THE SEWER LATERAL SHALL BE C-900 SDR 18 OR BETTER.

5. MAINTAIN MINIMUM TEN FEET HORIZONTAL DISTANCE BETWEEN POTABLE WATER MAIN OR FORCE MAIN, STORM SEWER OR GRAVITY SEWER MAIN OR ON SITE SEWAGE DISPOSAL SYSTEMS. ADDITIONAL SEPARATION MAY BE REQUIRED AS DETERMINED BY THE LDRB.

6. IF THERE IS A CONFLICT BETWEEN THESE STANDARDS AND FPUA UTILITY STANDARDS MANUAL THE MORE STRINGENT SHALL APPLY.

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CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW

FL LICENSE NUMBER 82414

GENERAL NOTES

SHEET NUMBER G-3-002

Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:G-3-002 GENERAL NOTES November 04, 2025 09:01:40am K:\VRB_WaterResources\147923001 - FPUA WW Redirection Phase 1a\CAD\CIP 3 - Moore's Creek Booster\PlanSheets\G-3-001 COVER SHEET.dwg
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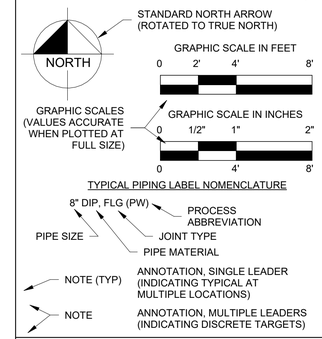
(A)ARV	(AUTOMATIC) AIR RELEASE VALVE
A/C	AIR CONDITIONING
A/VV	AIR/VACUUM AIR VALVE
AAV	AUTOMATIC AIR VENT
AB-xx	AUGER BORING (e.g. AB-1)
ABAN	ABANDON(ED)
ABFV	ACTUATED BUTTERFLY VALVE
ABRSV	ABRASIVE
ABS	ACRYLONITRILE BUTADIENE STYRENE
ACCV	ASPHALT-COATED CORRUGATED METAL PIPE
ACP	AIR CUSHION CHECK VALVE
ADH	ADHESIVE
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFS	ABOVE FINISHED SLAB
AG	AMMONIA GAS
AIR	AIR PIPE
AL	ALUMINUM
ALT	ALTERNATE
AMM	AMMONIATOR
AOD	ANGLE OF DEFLECTION
APPROX	APPROXIMATE
AS	AMMONIA SOLUTION
ASSY	ASSEMBLY
B	BRINE
B-xx	BORING (e.g. B-1)
B/W	BOTH WAYS
BCV	BALL CHECK VALVE
BF	BLIND FLANGE
BFP	BACKFLOW PREVENTER
BFV	BUTTERFLY VALVE
BGO	BURIED GEAR OPERATOR
BI	BLACK IRON
BIP	BLACK IRON PIPE
BITUM	BITUMINOUS or BITUMASTIC
BLDG	BUILDING
BM	BENCH MARK
BOC	BACK OF CURB
BOS	BOTTOM OF SLAB
BOT	BOTTOM
BSP	BLACK STEEL PIPE
BTWN	BETWEEN
BV	BALL VALVE
BW	BUTT WELD
BWR	BACKWASH RETURN
BWS	BACKWASH SUPPLY
BWW	BACKWASH WASTE
C	CAUSTIC SODA
C&G	CURB & GUTTER
C.F.	CUBIC FOOT
C.I.	CUBIC INCH
C.Y.	CUBIC YARD
C/C	CENTER TO CENTER
CA	COMPRESSED AIR
CaCL2	CALCIUM CHLORIDE
CAP	CAPACITY
CATV	CABLE TELEVISION
CAV	COMBINATION AIR VALVE
CBP	CHLORINE BOOSTER PUMP
CCC	CHLORINE CONTACT CHAMBER
CE	CHLORINATED EFFLUENT
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CIN	CORROSION INHIBITOR
CIPF	CLEAN-IN-PLACE FILL
CIPS-R	CLEAN-IN-PLACE SUPPLY or RETURN
CISP	CAST IRON SOIL PIPE
CL	CENTER LINE
CL2	CHLORINE GAS
CLD	CHLORINE DIOXIDE
CLF	CHAIN LINK FENCE
CLN	CLEANING
CLR	CLEAR(ANCE)
CMP	CORRUGATED METAL PIPE
CMPA	CORRUGATED METAL PIPE ARCH
CO	CLEAN OUT
CO2	CARBON DIOXIDE
COAG	COAGULANT
CONC	CONCENTRATE
CONN	CONNECTION
CONSTR	CONSTRUCT(ION)
CONT	CONTINUATION
COP	COPPER PIPE
CP	CONCRETE PIPE
CPA	CONCRETE PIPE ARCH
CPLG	COUPLING
CPP	CONCRETE PRESSURE PIPE
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CHLORINE SOLUTION
CV	CHECK VALVE
CW	DOMESTIC COLD WATER
CWT	CLARIFIED WATER TRANSFER
CYL	CYLINDER
D	DRAIN
DEG	DEGREE
DEMO	DEMOLITION
DF	DIESEL FUEL
DI/DIP	DUCTILE IRON (PIPE)
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIR	DIRECTION
DISCH	DISCHARGE
DJ	DISMANTLING JOINT
DMH	DROP MANHOLE
DN	DOWN
DR	DIMENSION RATIO
DV	DIAPHRAGM VALVE
DW	DISINFECTED WATER
DWG	DRAWING
DWV	DRAIN, WASTE, AND VENT
E	EAST(ING)
E.F.	EACH FACE
E.W.	EACH WAY
EA	EACH
ECC	ECCENTRIC
EFF	EFFLUENT
EGO	ELEVATED GEAR OPERATOR
EJ	EXPANSION JOINT
EL(EV)	ELEVATION
ELAST	ELASTOMERIC
ELL	ELBOW
EMER	EMERGENCY
EOP	EDGE OF PAVEMENT
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQUIP	EQUIPMENT
EST	ESTIMATE(D)
EVA	ELECTRIC VALVE ACTUATOR
EX(IST)	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F/F	FACE TO FACE
FA	FOUL AIR
FAB	FABRICATE(D)
FBW	FILTER BACKWASH
FC	FLEXIBLE COUPLING
FCA	FLANGED COUPLING ADAPTER
FCV	FLOW CONTROL VALVE
FD	FLOOR DRAIN
FE	FILTER(ED) EFFLUENT
FEED	RO FEED
FF	FINISHED FLOOR
FH	FIRE HYDRANT
FIG	FIGURE
FIN	FINISH(ED)
FL	FLUORIDE
FLEX	FLEXIBLE
FLG	FLANGE(D)
FLR	FLOOR
FM	FORCE MAIN
FO(L)(C)	FIBER OPTIC (LINE)(CONDUIT)
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FOOT OR FEET
FV	FOOT VALVE
FW	FINISHED WATER
G	GRIT
G.O.	GEAR OPERATED
GA	GAUGE
GAL	GALLON(S)
GALV	GALVANIZED
GBW	GAC BACKWASH
GCV	GLOBE CHECK VALVE
GE	GROOVED END
GEN	GENERATOR
GIP	GALVANIZED IRON PIPE
GJ	GROOVE JOINT
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPS	GALLONS PER SECOND
GR	GRADE
GS	GALVANIZED STEEL
GSP	GALVANIZED STEEL PIPE
GSR	GROUND STORAGE RESERVOIR
GST	GROUND STORAGE TANK
GV	GATE VALVE
HB	HOSE BIBB
HD	HEAVY DUTY
HDD	HORIZONTAL DIRECTIONAL DRILL
HDPE	HIGH-DENSITY POLYETHYLENE
HF6	HYDROGEN HEXAFLUORIDE
HFA	HYDROFLUOSILICIC ACID
HFCA	HARNESSED FLANGED COUPLING ADAPTER
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPA	HIGH PRESSURE AIR
HR	HOUR
HSP	HIGH SERVICE PUMP
HT	HEIGHT
HVA	HYDRAULIC VALVE ACTUATOR
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
HW	DOMESTIC HOT WATER
HWL	HIGH WATER LEVEL
HYD	HYDRAULIC
ID	INSIDE DIAMETER
IN	INCH(ES)
INF	INFLUENT
INV	INVERT
IP	IRON PIPE
IPS	INTERNATIONAL PIPE STANDARD
IR	INTERNAL RECYCLE
IRML	INTERNAL MIXED LIQUOR RETURN
IW	IRRIGATION WATER
IX	ION EXCHANGE
JB	JUNCTION BOX
JT	JOINT
KGV	KNIFE GATE VALVE
L,LT	LEFT
LAB	LABORATORY
LAM	LAMINATE OR LAMINATION
LAT	LATERAL
LB(S)	POUND(S)
LEN	LENGTH
LF	LINEAR FEET
LHDPE	LINEAR HIGH-DENSITY POLYETHYLENE
LS	LIME SLURRY
LSS	LIME STABILIZED SLUDGE
LWL	LOW WATER LEVEL
M	MECHANICAL JOINT
MAINT	MAINTAIN OR MAINTENANCE
MAN	MANUAL(LY)
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
ME(S)	MITERED END (SECTION)
MECH	MECHANICAL
MF	MICROFILTRATION
MFR	MANUFACTURE(R)
MG	MILLION GALLONS
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MI	MILE(S)
MIN	MINIMUM
MISC	MISCELLANEOUS
ML	MIXED LIQUOR
MPH	MILES PER HOUR
MRPP	METAL REINFORCED PLASTIC PIPE
MTD	MOUNTED
MV	MOTORIZED VALVE
MW	MANWAY
MWL	MEAN WATER LEVEL
N	NORTH(ING)
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
N/A	NOT APPLICABLE
NaOCl	SODIUM HYPOCHLORITE
NaOH	SODIUM HYDROXIDE
NE	NORTHEAST
NF	NANOFILTRATION
NIC, N.I.C.	NOT IN CONTRACT
NO., #	NUMBER
NOM	NOMINAL
NPT	NATIONAL PIPE TAPER
NPW	NON-POTABLE WATER
NSFC	NOT SHOWN FOR CLARITY
NTS,N.T.S.	NOT TO SCALE
NW	NORTHWEST
O2	OXYGEN
O&M	OPERATION AND MAINTENANCE
O.C.	ON CENTERS
O.C.E.W.	ON CENTERS EACH WAY
O/E	OR EQUAL
O/O	OUTSIDE TO OUTSIDE
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OFF	OFFSET
OH	OVERHEAD
OP	ORIFICE PLATE
OPER	OPERATOR
OPP	OPPOSITE
OPT	OPTION(AL)
OS&Y	OUTSIDE STEM & YOKE
OVF	OVERFLOW
P/L	PROPERTY LINE
PA	PROCESS AIR
PBV	PLASTIC BALL VALVE
PC	POINT OF CURVE
PE	PLAIN END (PIPE)
PE	PRIMARY EFFLUENT (SYSTEM)
PEP	POLYETHYLENE PIPE
PERM	PERMEATE
PG	PRESSURE GAUGE
PGL	PROPOSED GRADE LINE
PJ	PUSH-ON JOINT
PLC	PROGRAMMABLE LOGIC CONTROLLER
PM	PROCESS MECHANICAL
PNV	PINCH VALVE
POB	POINT OF BEGINNING
POI	POINT OF INTERSECTION
POJ	PUSH-ON JOINT
POL	POLYMER
POT	POINT OF TANGENCY
PPD	POUNDS PER DAY
PPM	PARTS PER MILLION
PREFAB	PREFABRICATED
PRES	PRESSURE
PROP	PROPOSED
PRV	PRESSURE REDUCING VALVE
PRW	PROCESS WATER
PS	PRIMARY SLUDGE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PVC-D	POLYVINYL CHLORIDE (DOUBLE CONTAINED)
PVDF	POLYVINYLIDENE FLUORIDE (KYNAR)
PVMT	PAVEMENT
PW	POTABLE WATER
Q	FLOW
QTY	QUANTITY
R,RT	RIGHT
R/W, R.O.W.	RIGHT OF WAY
RAD., R.	RADIUS
RAS	RETURN ACTIVATED SLUDGE
RAW	RAW WATER
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RCPA	REINFORCED CONCRETE PIPE ARCH
RCW,RW	RECLAIMED WATER
REBAR	REINFORCING STEEL
REC	RECIRCULATION (DISCHARGE/SUCTION)
RED	REDUCER
REEW	REUSE EFFLUENT WATER
REF	REFERENCE
REINF	REINFORCE(D)(ING)(MENT)
REJ	RO REJECT, REJECT
REQ'D	REQUIRED
REW	RETURN EFFLUENT WATER
RJ	RESTRAINED JOINT (BELL)
RMJ	RESTRAINED MECHANICAL JOINT
RNG	RANGE
RO	REVERSE OSMOSIS
ROC	RADIUS OF CURVATURE
RPM	REVOLUTIONS PER MINUTE
RPZBP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
RR	RAILROAD
RS	RAW SEWAGE
RWW	RAW WASTEWATER
S	SOUTH
S.F.	SQUARE FOOT
S.I.	SQUARE INCH
S.O.	SIDE OPERATED
S.STL	STAINLESS STEEL
S.Y.	SQUARE YARD
SA	SULFURIC ACID
SAMP	SAMPLE LINE
SAN	SANITARY SEWER
SB-xx	SOIL BORING (e.g., SB-1)
SC	SCUM
SCH	SCHEDULE
SCRE	SCREENED EFFLUENT
SCV	SILENT CHECK VALVE
SD	STORM DRAIN
SDR	STANDARD DIMENSION RATIO
SE	SOUTHEAST
SE	SECONDARY EFFLUENT
SEC	SECTION
SF	SQUARE FOOT or FEET
SHT	SHEET(ED)(ING)
SI	SCALE INHIBITOR
SIM	SIMILAR
SL	SLUDGE
SLV	SLEEVE
SM	SHEET METAL
SOL	SOLUTION
SP	SOIL PIPE
SPEC(S)	SPECIFICATION(S)
SPT-xx	STANDARD PENETRATION TEST BORING (e.g. SPT-1)
SQ	SQUARE
SS	SANITARY SEWER
SSE	SUBSTANDARD EFFLUENT
ST	SAMPLE TAP
STA	STATION
STD	STANDARD
STL	STEEL
STORM	STORMWATER
STR	STRAIGHT
SUP	SUPERNATANT
SV	SOLENOID VALVE
SVC	SERVICE
SVW	SERVICE WATER
SW	SOUTHWEST
SWD	SIDEWATER DEPTH
SYM	SYMBOL
SYMM	SYMMETRICAL
T&B	TOP AND BOTTOM
T.O.C.	TOP OF CONCRETE
T.O.S.	TOP OF SLAB
T.S.	TAPPING SLEEVE
T.V.	TAPPING VALVE
T/B	TOP OF BANK
T/C	TOP OF CURB
T/S	TOE OF SLOPE
TAN	TANGENT
TB-xx	TEST BORING-xx (e.g. TB-1)
TBM	TEMPORARY BENCHMARK
TDH	TOTAL DYNAMIC HEAD
TEL	TELEPHONE
TEMP	TEMPORARY
TH	TEST HOLE
THD	THREAD(ED)
THK	THICK(NESS)
TJ	TIED JOINT
TS	THICKENED SLUDGE
TV	TELEVISION
TWAS	THICKENED WASTE ACTIVATED SLUDGE
TWP	TOWNSHIP
TYP	TYPICAL
UD	UNDERDRAIN
UF	ULTRAFILTRATION
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UON	UNLESS OTHERWISE NOTED
UTC	UNDERGROUND TELEPHONE CABLE
UTIL	UTILITY
UV	ULTRAVIOLET
V	VENT
VAC	VACUUM
VAR	VARIES
VB	VALVE BOX
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VEL	VELOCITY
VENT	VENT
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VTR	VENT THROUGH ROOF
W	WEST
W.L.	WATER LEVEL
W.P.	WALL PIPE (WITH WATERSTOP)
W/	WITH
W/O	WITHOUT
WAS	WASTE ACTIVATED SLUDGE
WCO	WALL CLEANOUT
WF	WIDE FLANGE
WH	WALL HYDRANT
WM	WATER MAIN
WPR	WORKING PRESSURE
WS(P)	WELDED STEEL (PIPE)
WT	WEIGHT
WTF	WATER TREATMENT FACILITY
WTP	WATER TREATMENT PLANT
WW	WASTEWATER
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
WWTF	WASTEWATER TREATMENT FACILITY
WWTP	WASTEWATER TREATMENT PLANT
XFER	TRANSFER
XLHDPE	CROSS LINKED HIGH-DENSITY POLYETHYLENE
YD	YARD(S)
YH	YARD HYDRANT
YR	YEAR(S)

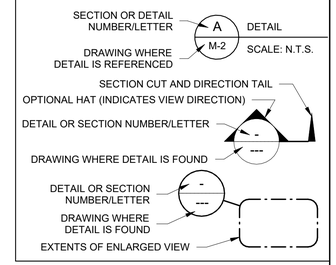
PROCESS PIPING LEGEND (DOUBLE-LINE OR 3D)

- MECHANICAL JOINT FITTINGS
- FLANGED FITTINGS
- SOLVENT WELD FITTINGS
- BUTT-WELD FITTINGS (S.STL SHOWN)
- BALL VALVE (SOLVENT WELD SHOWN)
- GATE VALVE (FLANGED SHOWN)
- PLUG VALVE (FLANGED SHOWN)
- BUTTERFLY VALVE (FLANGED SHOWN, WHEEL OPERATED)
- BUTTERFLY VALVE (WAFER, LEVER OPERATED)
- GLOBE CHECK VALVE (FLANGED SHOWN)
- SWING CHECK VALVE (FLANGED SHOWN)
- PIPE COUPLING
- EXPANSION JOINT (FLANGED SHOWN)
- FLOW CONTROL VALVE (FLANGED SHOWN)
- MAGNETIC FLOW METER
- PROPELLER FLOW METER
- V-CONE FLOW METER
- VENTURI FLOW METER
- SOLID LINE PIPING INDICATES ABOVE GRADE PIPING UNLESS OTHERWISE NOTED
- DASHED LINE PIPING INDICATES BELOW GRADE PIPING UNLESS OTHERWISE NOTED

DRAFTING LEGEND



DETAIL/SECTION REFERENCES



STANDARD ABBREVIATIONS

NOTE:
THIS LEGEND IS FOR GENERAL REFERENCE. NOT ALL ABBREVIATIONS, SYMBOLS, PROCESSES, MATERIALS, OR FITTINGS MAY BE USED IN THIS DESIGN, NOR IS THIS LEGEND COMPREHENSIVE. REFER TO INDIVIDUAL DRAWING LEGEND(S) IF SYMBOLS ARE NOT LISTED. INDIVIDUAL DISCIPLINE STANDARD LEGENDS SUPERCEDE THIS GENERAL LEGEND, IF PROVIDED.

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No.	REVISIONS	BY	DATE
1	PER FPUA AUG 2025 COMMENTS	MJS	09/09/2025

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KHA PROJECT 147923001
DATE NOV 2025
SCALE AS SHOWN
DESIGNED BY: HR
DRAWN BY: Tc
CHECKED BY: DE

CIP 3 - MOORES CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

LICENSED PROFESSIONAL:

MATTHEW MICHAEL TEBOW

FL LICENSE NUMBER 82414

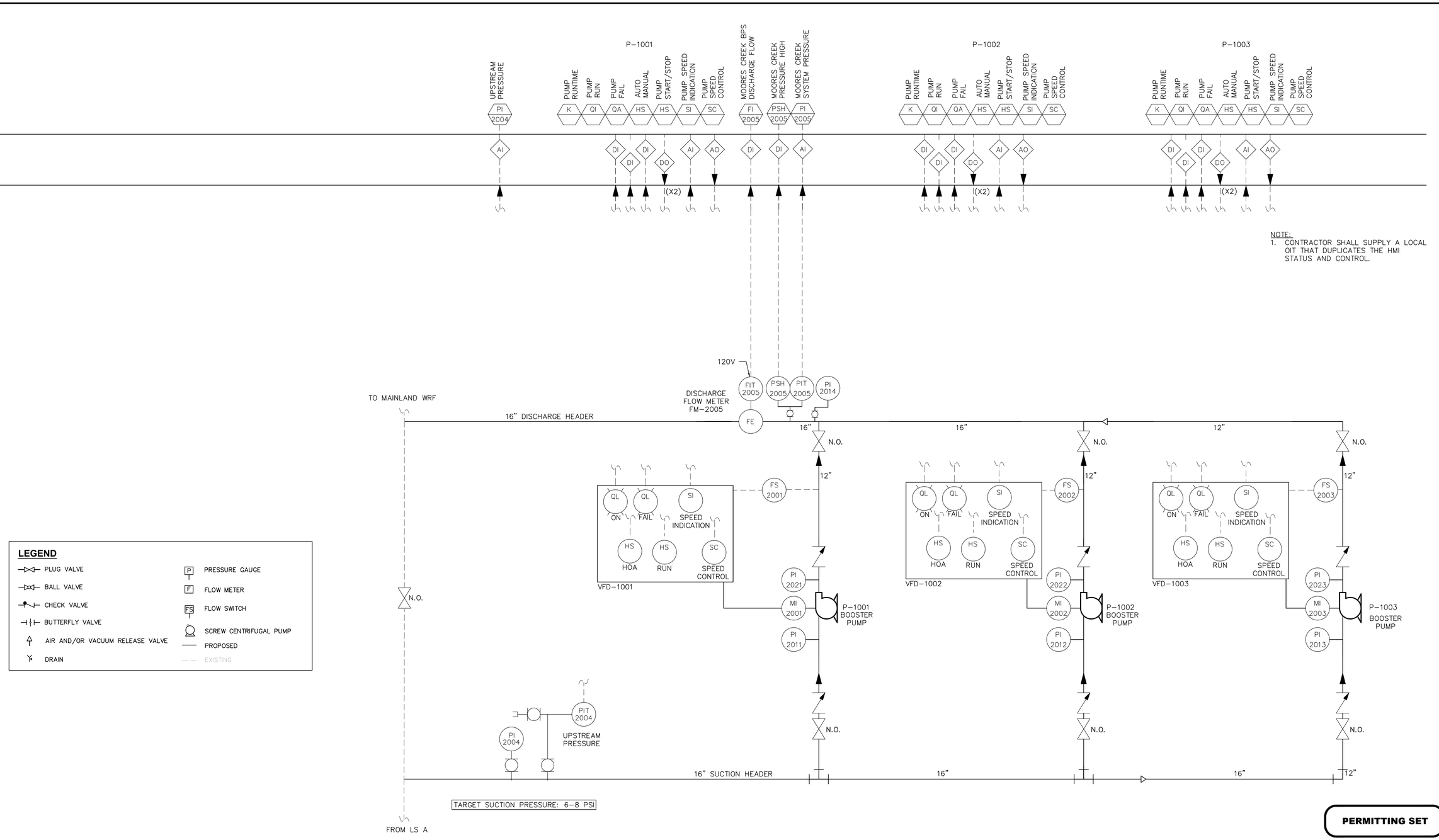
DATE:

STANDARD LEGEND AND ABBREVIATIONS

SHEET NUMBER

G-3-003

Autodesk Docs://147923001 FPUA WW Reflection PH1A/DP3 SHEETS - FPUA PHASE1A.rvt



LEGEND

- PLUG VALVE
- BALL VALVE
- CHECK VALVE
- BUTTERFLY VALVE
- AIR AND/OR VACUUM RELEASE VALVE
- DRAIN
- PRESSURE GAUGE
- FLOW METER
- FLOW SWITCH
- SCREW CENTRIFUGAL PUMP
- PROPOSED
- EXISTING

PERMITTING SET

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1	BID SET	RDC	4/09/2025

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DRAWN BY	TMC
CHECKED BY	DHE

CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW

FL LICENSE NUMBER 82414

PROCESS FLOW DIAGRAM

SHEET NUMBER

G-3-004

Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:G-3-004 PROCESS FLOW DIAGRAM November 04, 2025 09:02:36am K:\VRB_WaterResources\147923001 - FPUA WW Redirection Phase 1a\CAD\CIP 3 - Moore's Creek Booster\PlanSheets\G-3-004 PROCESS FLOW DIAGRAM.dwg
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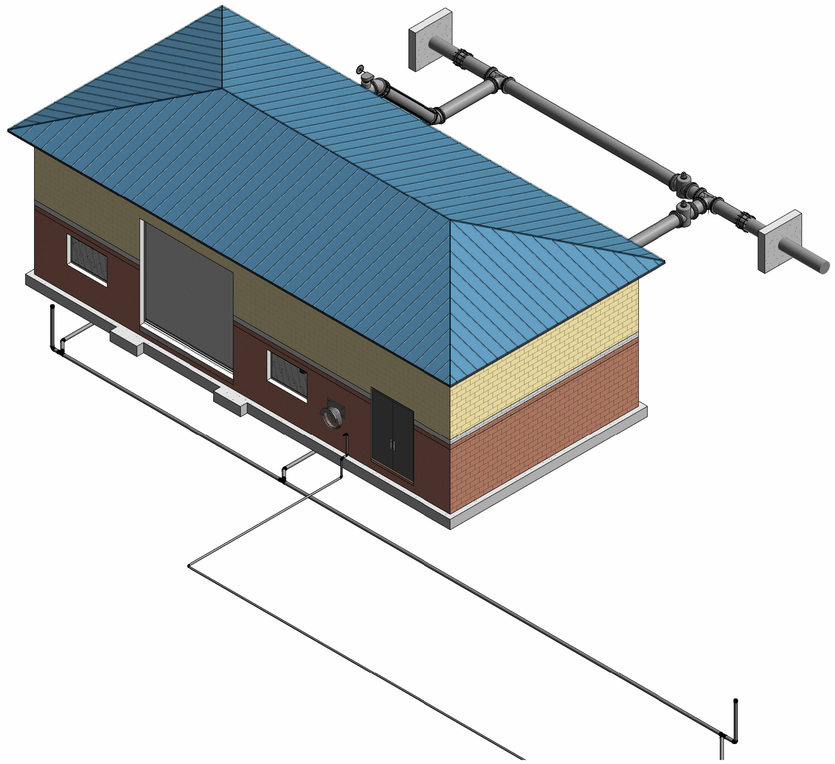
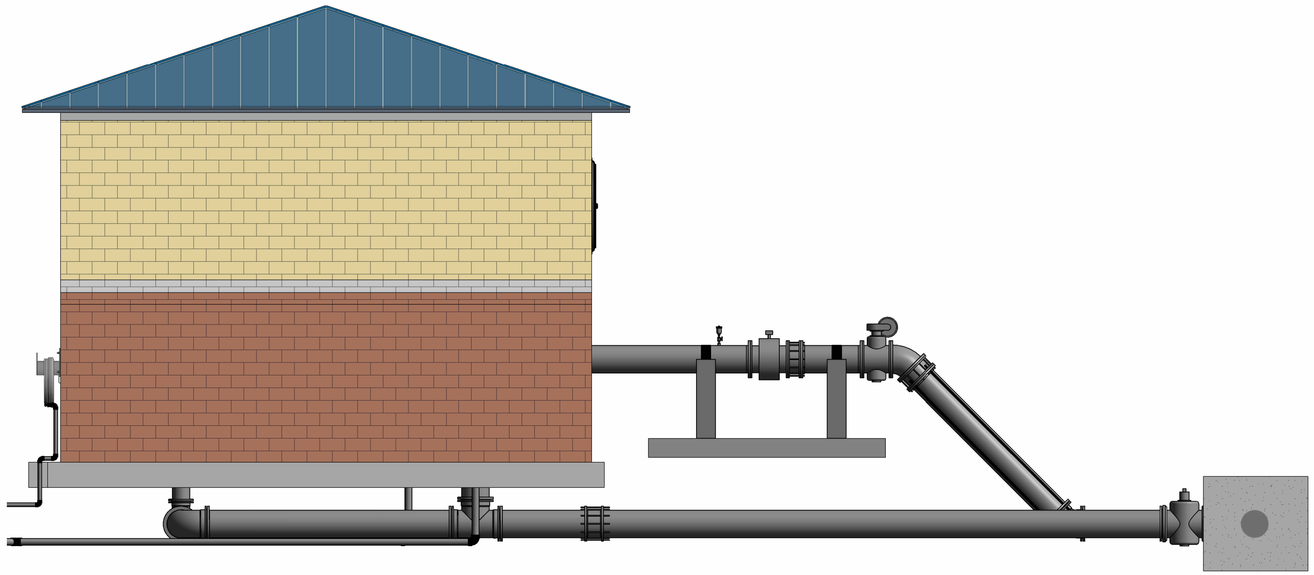


1 NE ISOMETRIC VIEW
N.T.S.



2 EAST ELEVATION 3D VIEW
G-3-005 N.T.S.

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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 147923001
DATE NOV 2025
SCALE AS SHOWN
DESIGNED BY: HR
DRAWN BY: TC
CHECKED BY: DE

CIP 3 - MOORES CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

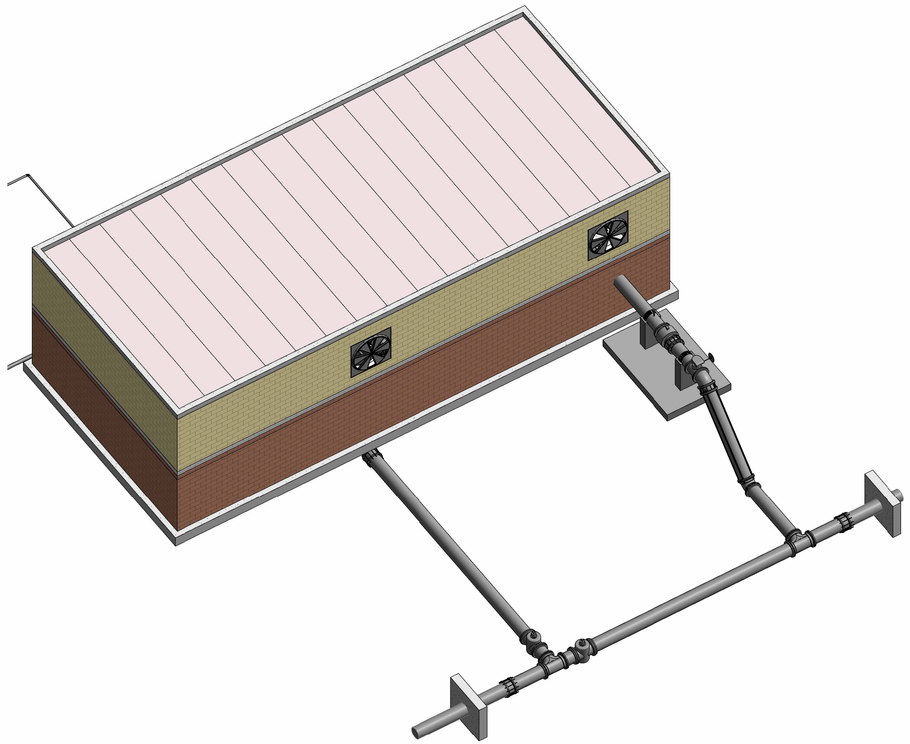
LICENSED PROFESSIONAL:

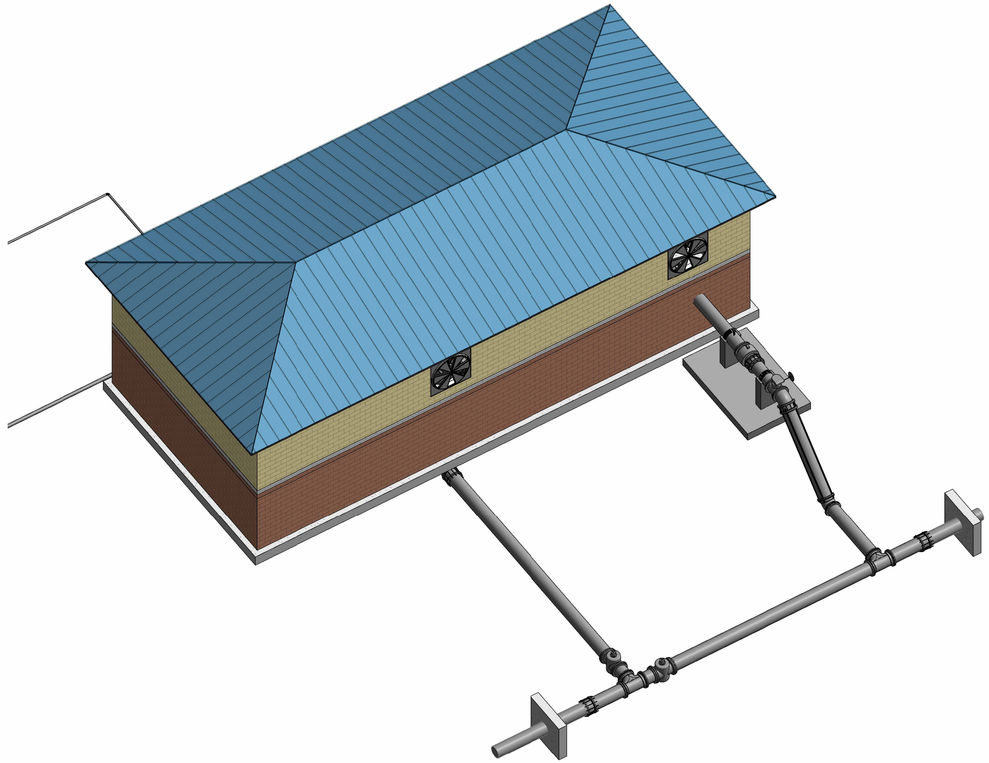
MATTHEW MICHAEL TEBOW
FL LICENSE NUMBER 82414
DATE:

ISOMETRIC VIEWS

SHEET NUMBER
G-3-005

Autodesk Docs://147923001 FPUA VAV Redirection Ph1A/OP3 SHEETS - FPUA PHASE1A.rvt





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CIP 3 - MOORES CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

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FL LICENSE NUMBER 82414

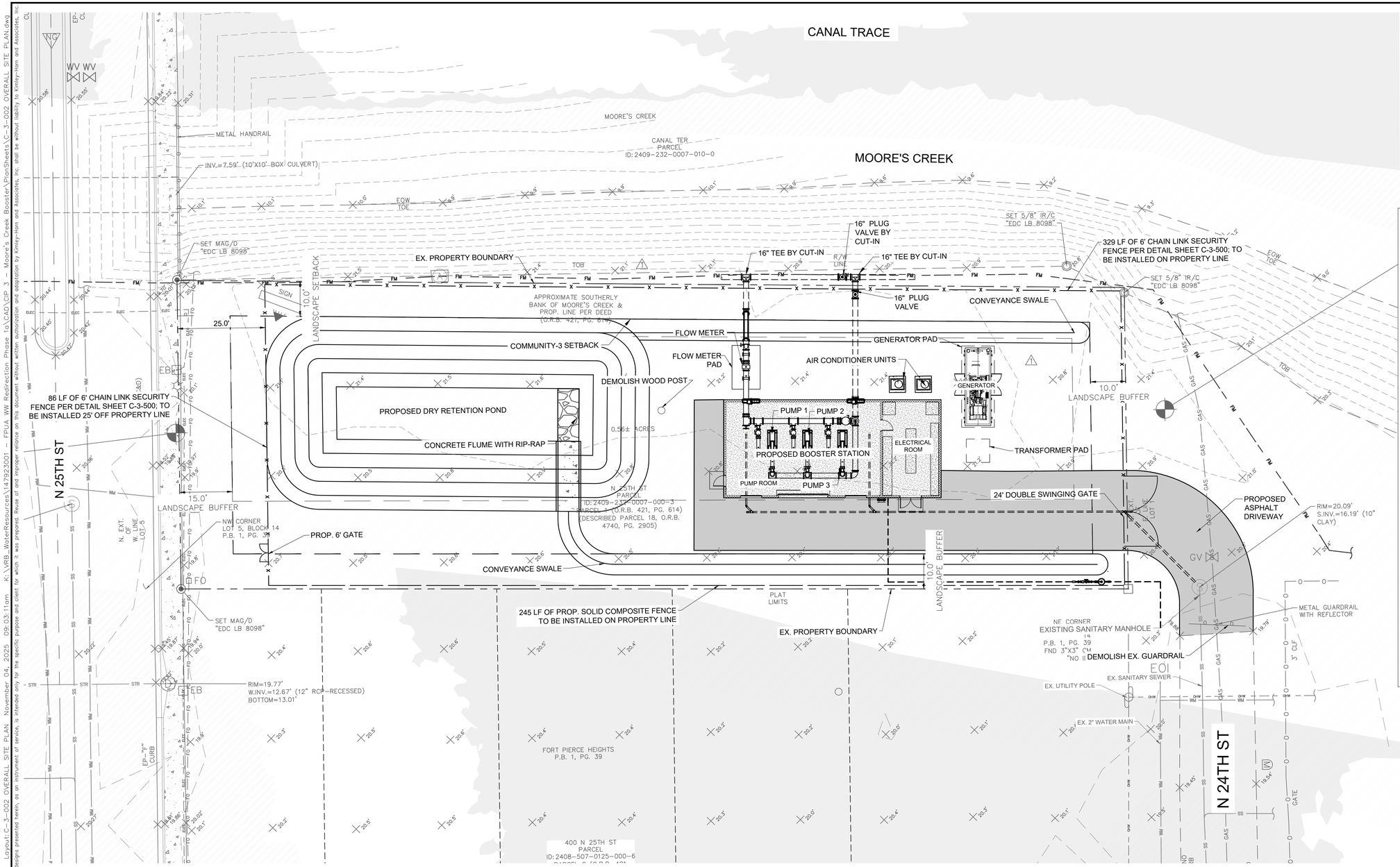
DATE:

ISOMETRIC VIEWS

SHEET NUMBER

G-3-006

Autodesk Docs://147923001 FPUA WW Redirection PH1A/CIP3 SHEETS - FPUA PHASE1A.rvt



SITE DATA

LOCATION:	N 25TH STREET, FORT PIERCE FL, 34946
PARCEL ID:	2409-232-0007-000
SITE AREA:	23490 SF 0.54 AC
FOLIO A:	C3 (COMMUNITY GENERAL)
BUILDING A:	1650 SF
TOTAL:	1650 SF
PROPOSED LAND USE:	
BUILDING AREA:	1650 SF 0.03 AC 7.02%
ASPHALT:	3143.67 SF 0.07 AC 13.38%
LANDSCAPE AREA:	18696.33 SF 0.43 AC 79.6%
TOTAL AREA	23490 SF 0.54 AC

BUILDING SETBACKS	REQUIRED	PROVIDED
FRONT:	25'	26'
LEFT SIDE:	15'	155
RIGHT SIDE:	15'	52'
BACK	15'	32'
MIN. OPEN SPACE:	20%	
LANDSCAPE BUFFER:		
NORTH, EAST, SOUTH PROPERTY BOUNDARY	10'	10'
WEST PROPERTY BOUNDARY	15'	15'

PARKING
PROVIDED PARKING 0 SPACES

LEGAL DESCRIPTION
9 35 40 BEG AT NE COR LOT 1 BLK 14 FT PIERCE HEIGHTS S/D
RUN W 280 FT M/L TO NW COR LOT 5 BLK 14 OF SD S/D
TH N ON EXT W LI OF SD LOT 5 88 FT M/L TO SLY BANK OF MOORE'S CREEK
TH E ALG SD SLY BANK TO PT ON LI EXT N OF E LI
TH RUN S 86 FT M/L TO POB-LESS W 10 FT (18)

PAVEMENT LEGEND
- ASPHALT PAVEMENT (SEE DETAILS SHEET 3-101)
- CONCRETE (SEE DETAILS SHEET 3-101)
- STABILIZED GRAVEL (SEE DETAILS SHEET 3-101)

LEGEND
- -FEMA FLOOD ZONE AE FLOODWAY
- -FEMA FLOOD ZONE AE
- -FEMA FLOOD ZONE X
- GAS — EXISTING GAS LINE
- x — FENCE
- FM — EXISTING FORCE MAIN
- WM — EXISTING WATER MAIN
- SS — EXISTING SANITARY SEWER
- PROPERTY BOUNDARY

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DESIGNED BY	HMR
DRAWN BY	TMC
CHECKED BY	DHE

CIP 3 - MOORE'S CREEK BOOSTER STATION
PREPARED FOR
FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW
FL LICENSE NUMBER 82414

OVERALL SITE PLAN

SHEET NUMBER C-3-002

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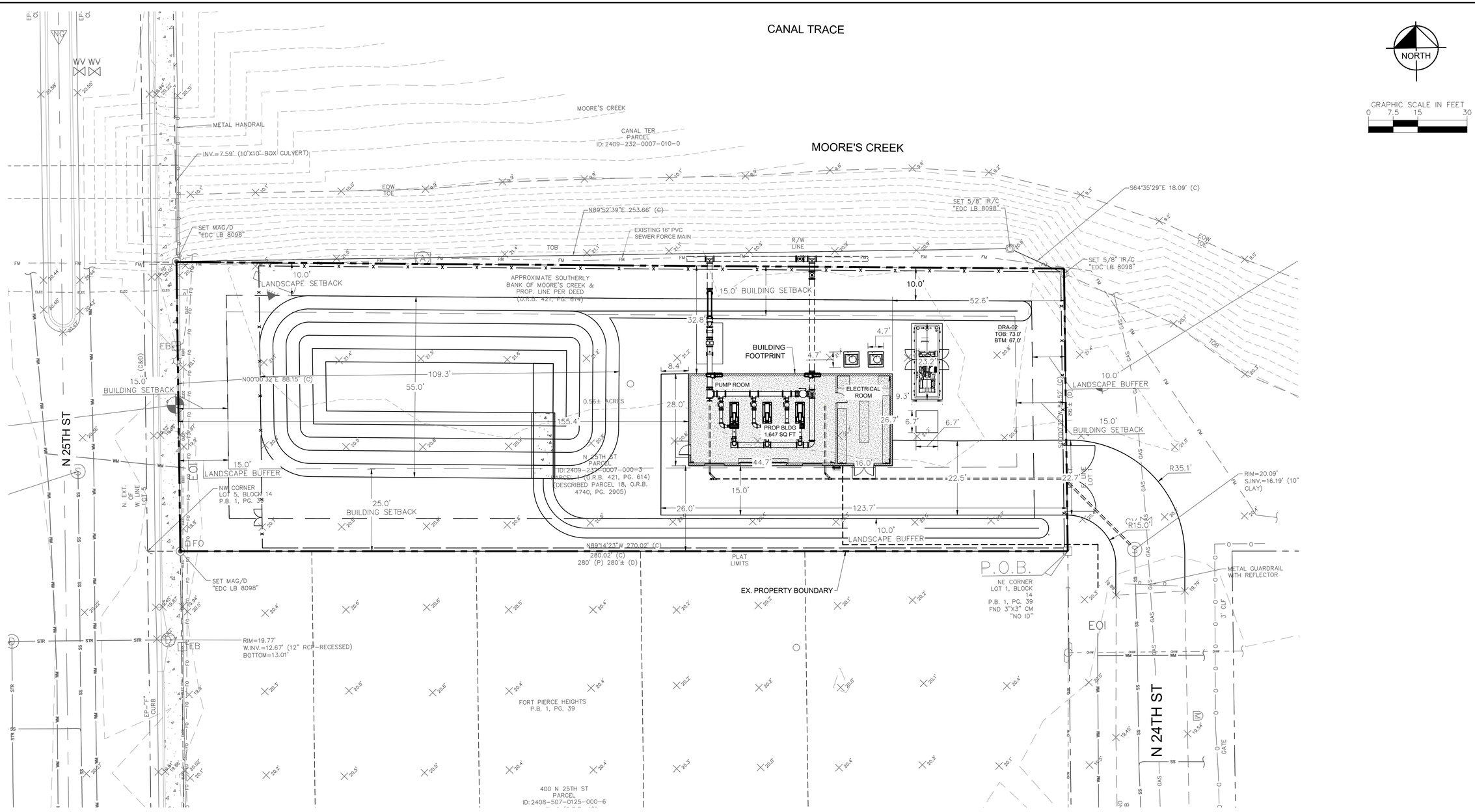

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HORIZONTAL CONTROL PLAN

SHEET NUMBER

C-3-100

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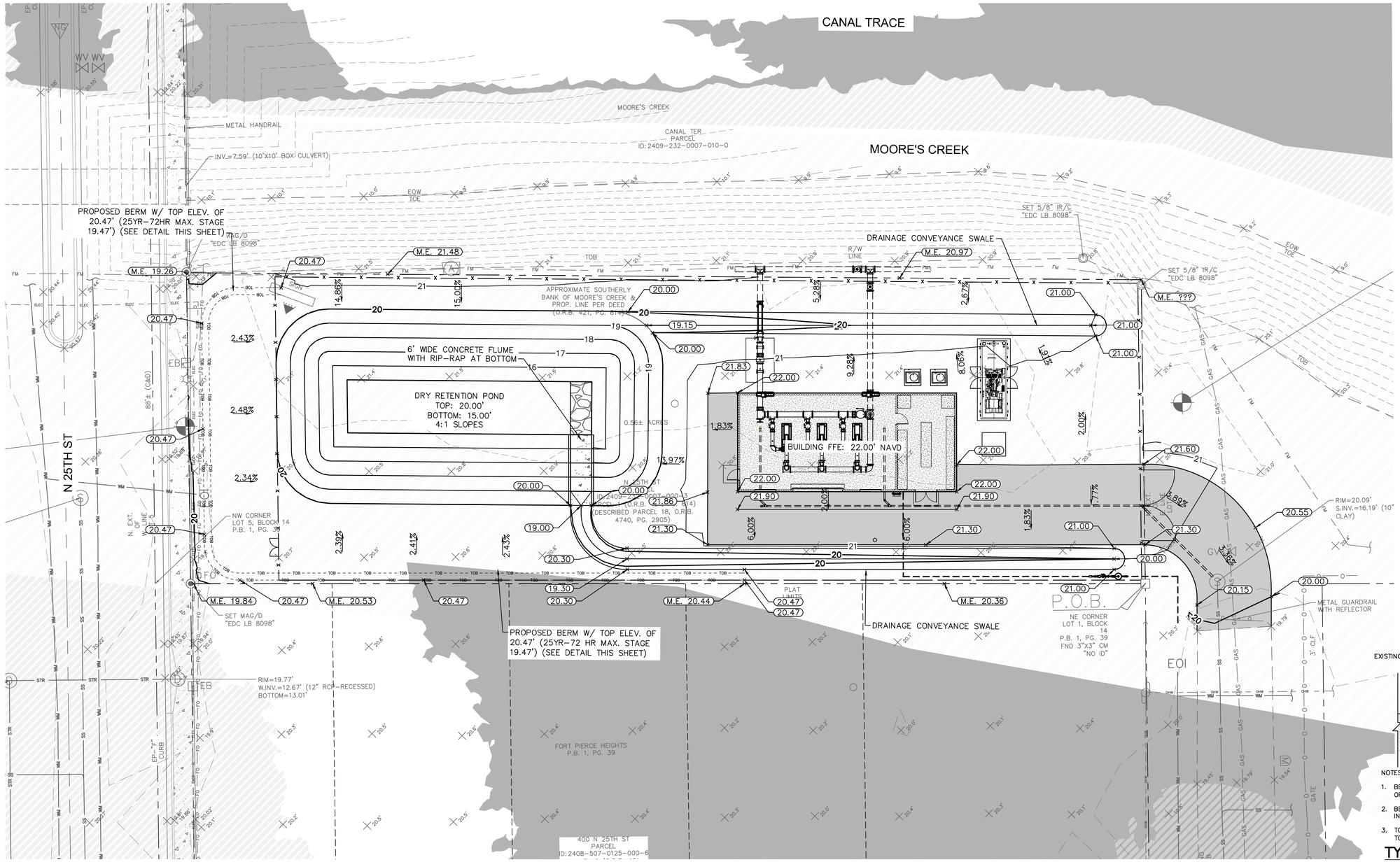

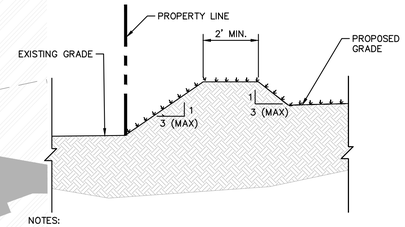

NOTES:

1. BERM TO BE CONSTRUCTED OF SUITABLE FILL MATERIAL. NO MUCK OR OPEN GRADED SILICA (SUGAR) SAND WILL BE ACCEPTABLE.
2. BERM TO BE COMPACTED TO 92% DENSITY AND SODDED OR STABILIZED IN AN APPROVED METHOD TO PREVENT EROSION.
3. TOP OR BERM TO BE CONSTRUCTED TO A MINIMUM ELEVATION EQUAL TO THE PROJECTED 25 YEAR 72 HOUR EVENT STORM 19.47' NAVD.

TYPICAL PERIMETER BERM DETAIL

SCALE: NOT TO SCALE

NORTH

GRAPHIC SCALE IN FEET
0 7.5 15 30

PAVEMENT LEGEND

- ASPHALT PAVEMENT (SEE DETAILS SHEET 3-101)
- CONCRETE (SEE DETAILS SHEET 3-101)
- STABILIZED GRAVEL (SEE DETAILS SHEET 3-101)

LEGEND

- TREES TO BE PRESERVED
- 100.00 - PROPOSED SPOT ELEVATION
- 80 - EXISTING CONTOURS
- 80 - PROPOSED CONTOURS
- PROPOSED FLOW DIRECTION ARROWS
- TOB - PROPOSED TOP OF BERM
- FEMA FLOOD ZONE AE FLOODWAY
- FEMA FLOOD ZONE AE
- FEMA FLOOD ZONE X

VOLUME CUT / FILL ANALYSIS	
CUT FACTOR	1.0000
FILL FACTOR	1.0000
CUT VOLUME (ADJUSTED)	988.34 CU YD
FILL VOLUME (ADJUSTED)	142.19 CU YD
NET VOLUME (ADJUSTED)	846.15 CU YD (CUT)
CUT VOLUME (UNADJUSTED)	988.34 CU YD
FILL VOLUME (UNADJUSTED)	142.19 CU YD
NET VOLUME (UNADJUSTED)	846.15 CU YD (CUT)

FLOOD PLAIN COMPENSATORY STORAGE	
COMPARISON	VOLUME STORAGE (CU YD) ELEVATION 15'-20.5'
EXISTING FLOOD PLAN	22.92
PROPOSED FLOOD PLAIN	771.10

NOTES:

1. ALL GRADES ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE INDICATED.
2. MAXIMUM RUNNING SLOPE ON SIDEWALKS SHALL NOT EXCEED 5.00% (1:20).
3. MAXIMUM CROSS SLOPE ON SIDEWALKS SHALL NOT EXCEED 2.00% (1:50).
4. MAXIMUM SLOPE IN ACCESSIBLE PARKING AREAS SHALL NOT EXCEED 2.00% (1:50) IN ANY DIRECTION.
5. STORM PIPE MATERIALS SHALL BE A-2000 PVC, HP STORM, RIGID WALL WATER TIGHT HDPE, OR RCP, AND CONFORM WITH THE LATEST EDITION OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
6. ALL FINAL STORM DRAIN MATERIALS SHALL BE APPROVED BY THE ENGINEER OF RECORD AND NOTED ON THE RECORD DRAWINGS.
7. ALL AREAS DISTURBED BY THE CONSTRUCTION OF THIS PROJECT WHICH ARE NOT OTHERWISE PAVED OR NOTED ON THE PLANS SHALL BE IMMEDIATELY STABILIZED FOLLOWING FINAL GRADING. SEE PLANS FOR NOTATION OF SOD AND SEED & MULCH LOCATIONS. ALLOW FOR THICKNESS OF SOD WITH A 2-INCH UNDERCUT. SOD SHALL BE ARGENTINA BAHIA, AND SHALL BE REGULARLY WATERED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION DURATION. LDR 102-312, 122-217 (3) (CC).
8. CONTRACTOR TO EXCAVATE TO AN ELEVATION OF 15.00' NAVD '88 UNDER POND BANK ENSURING THE REMOVAL OF HARDPAN LAYER AND REPLACE LOCAL SOIL WITH NATIVE IMPORT FILL SAND IF NEEDED. FILL MATERIAL SHOULD HAVE A MAXIMUM OF 10% PASSING #200 SIEVE, MINIMUM 50% PASSING #40 SIEVE, AND A FINENESS MODULUS OF 1.5 TO 1.8. FILL TEST RESULTS SHOULD BE CONSISTENT WITH CONSTRUCTION TESTING LAB TEST RESULTS PROVIDED BY KSM ENGINEERING AND TESTING ON 9/30/2025. CONTRACTOR TO PROVIDE CONSTRUCTION TESTING LAB TEST REPORT FOR FILL UPON PLACEMENT PRIOR TO FINAL ACCEPTANCE. THE IMPORT FILL NATIVE SAND SHOULD HAVE AN UNSATURATED VERTICAL INFILTRATION RATE OF 22.5 TO 50 FEET PER DAY, A HORIZONTAL SATURATED HYDRAULIC CONDUCTIVITY OF 22.5 TO 30 FEET PER DAY, AND A POROSITY IN THE RANGE OF 25 TO 30% POST-CONSTRUCTION PERMEABILITY TEST RESULTS ARE REQUIRED TO BE SUBMITTED TO THE EOR PRIOR TO FINAL ACCEPTANCE.

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1	BID SET	RDC	4/09/2025

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DATE NOV 2025
SCALE AS SHOWN
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DRAWN BY TMC
CHECKED BY DHE

CIP 3 - MOORE'S CREEK BOOSTER STATION

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FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW
FL LICENSE NUMBER
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PAVING, GRADING, AND DRAINAGE PLAN

SHEET NUMBER
C-3-101

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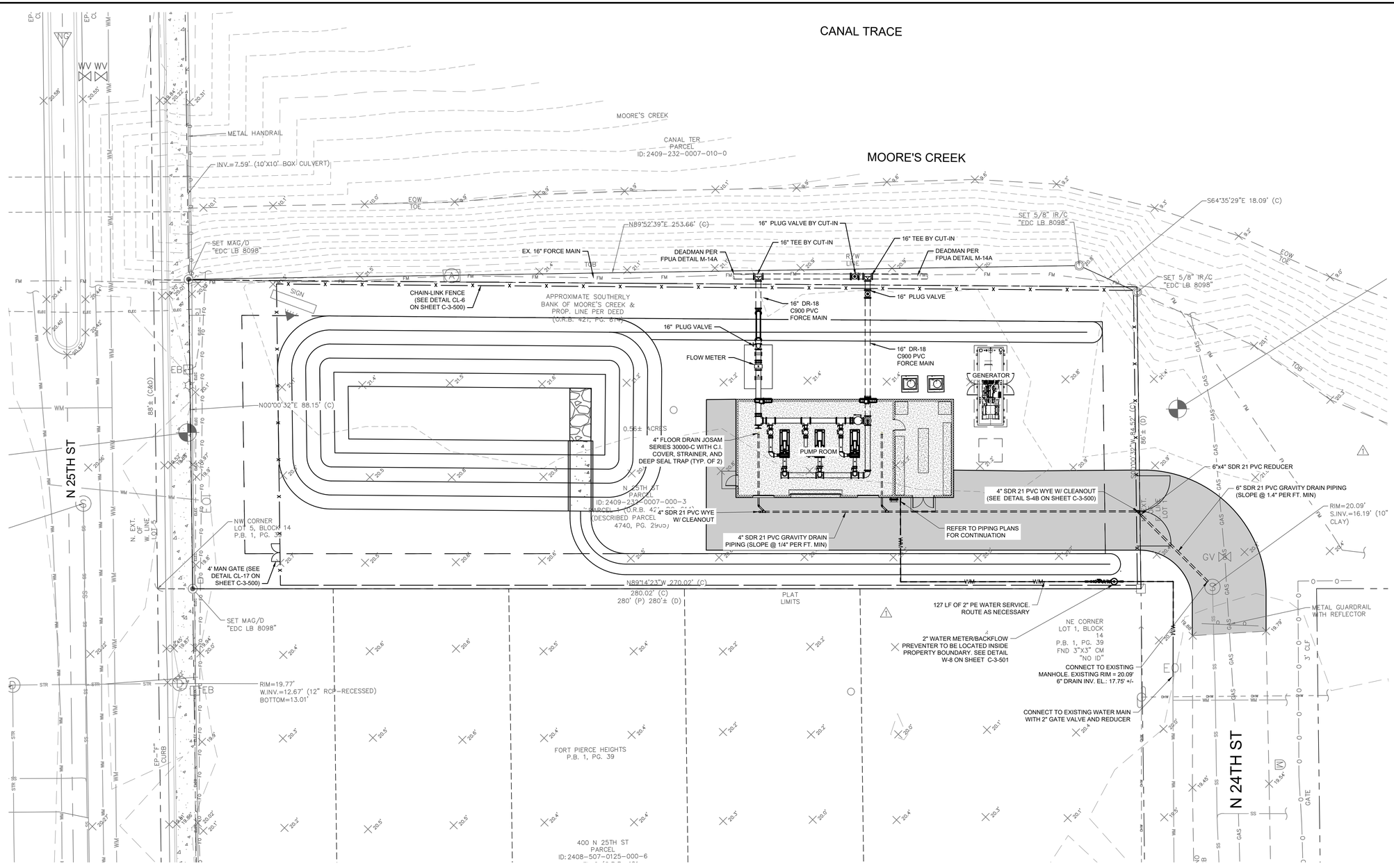

NORTH

GRAPHIC SCALE IN FEET
0 7.5 15 30

NOTES:

1) ALL SITE YARD PIPING IS TO BE FULLY RESTRAINED.

2) CONTRACTOR SHALL COORDINATE WITH FPUA ON THE PROPOSED CUT IN OF THE EXISTING FORCE MAIN. CONTRACTOR TO PROVIDE ALL REQUIRED SPOOL PIECES, RESTRAINTS, SLEEVES, AND OTHER REQUIRED APPERTUNANCES TO MAKE THE REQUIRED TIE-IN.

3) CONTRACTOR TO RESTRAIN EXISTING PIPING IF NOT CURRENTLY FULLY RESTRAINED. CONTRACTOR SHALL INSTALL CONCRETE RESTRAINT ON THE EXISTING PIPE PER FPUA DETAIL M-14A/B.

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SITE YARD PIPING

SHEET NUMBER

C-3-102

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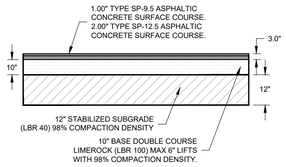
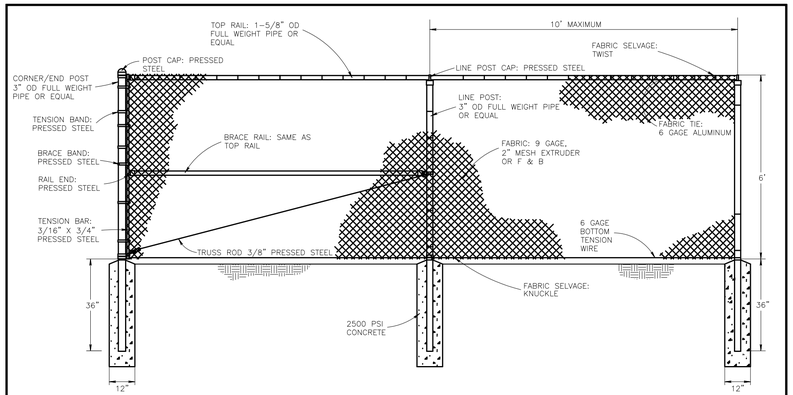


NOTE:

CONTRACTOR SHALL REMOVE ALL UNSUITABLE MATERIAL SUCH AS CLAY AND ROOTS PER AGENCY/GEOTECHNICAL REQUIREMENTS.

TYPICAL HEAVY DUTY PAVEMENT SECTION

PKKH38A.DWG N.T.S.

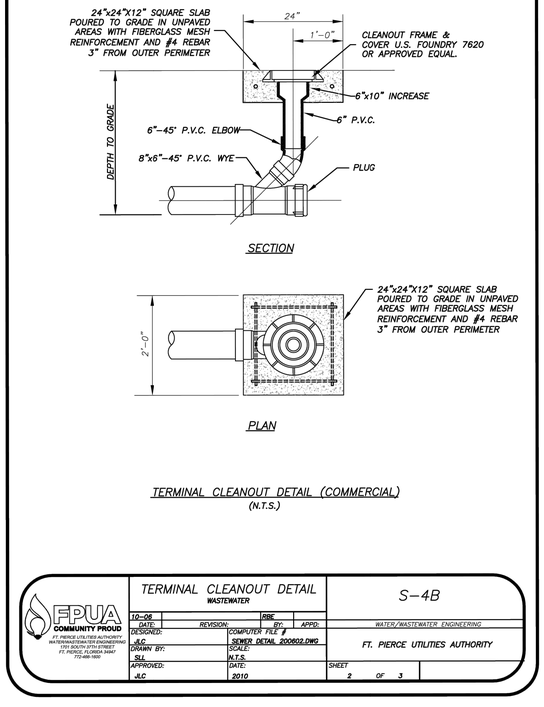


6' CHAIN-LINK FENCING DETAIL

NTS

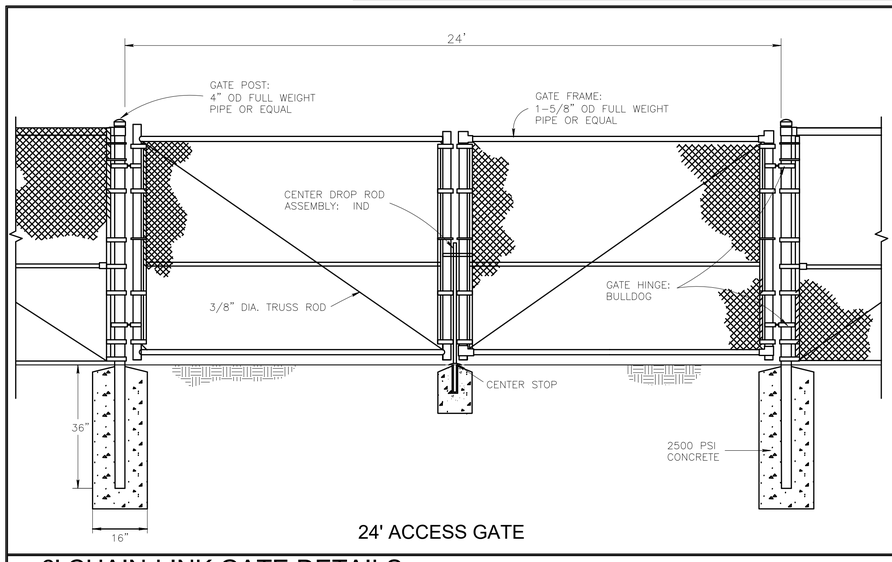
STYLE: TOP RAIL WITH BRACE UNIT

CL-6

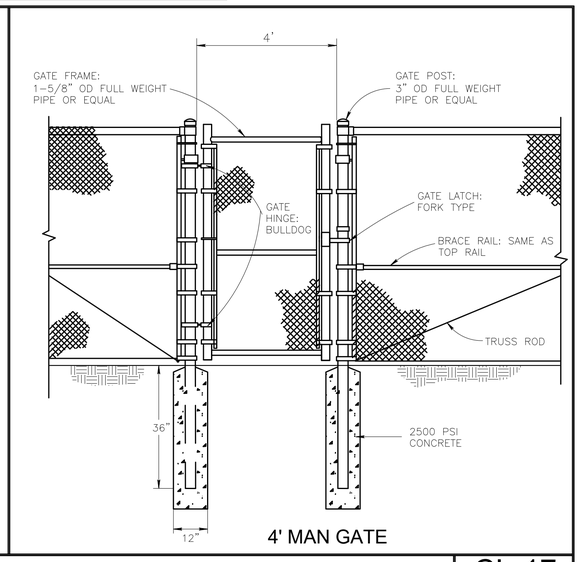


TERMINAL CLEANOUT DETAIL (COMMERCIAL)
(N.T.S.)

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY WATER/WASTEWATER ENGINEERING 1701 SOUTH 5TH STREET FT. PIERCE, FLORIDA 34947 772-466-1600	TERMINAL CLEANOUT DETAIL — WASTEWATER	S-4B
10-06 DATE:	REVISION:	RBE BY: APPD:
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG	WATER/WASTEWATER ENGINEERING
DRAWN BY: SLA	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 2 OF 3



24' ACCESS GATE



4' MAN GATE

6' CHAIN-LINK GATE DETAILS

NTS

CL-17

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82414

CIVIL DETAILS

SHEET NUMBER
C-3-500

Plotted By: Powell, Harper Sheet Set: CIP 3 MOORE'S CREEK BPS Layout: C-3-500 CIVIL DETAILS November 04, 2025 09:03:57am K:\VRB_WaterResources\147923001 — FPUA WW Redirection Phase 1a\CAD\CIP 3 – Moore's Creek Booster\PlanSheets\C-3-005 CIVIL DETAILS.dwg
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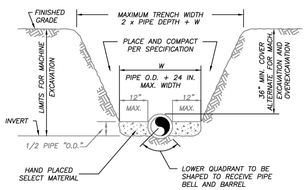


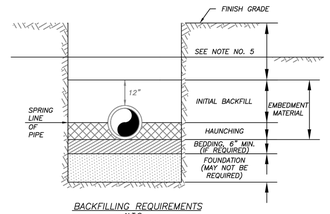
NOTES:

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

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

TYPICAL TRENCH DETAIL
N.T.S.

FPUA COMMUNITY PROUD	TYPICAL TRENCH DETAIL		M-1
03-09 DATE	CONCRETE SLAB REVISION:	SLL BY:	AJC APPD:
DESIGNED: AJC	COMPUTER FILE # MISC. DETAILS 200602.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: SLL	SCALE:		FT. PIERCE UTILITIES AUTHORITY
APPROVED: AJC	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.

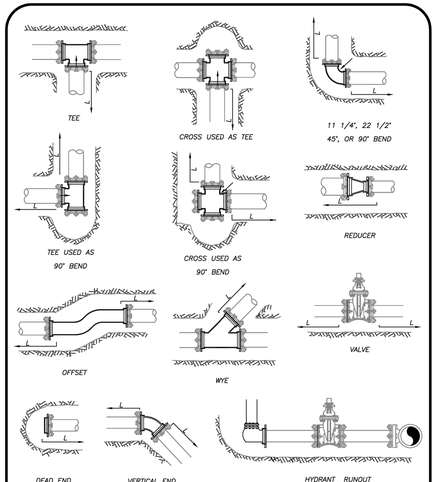
4) INITIAL BACKFILL MATERIAL SHALL BE HAND PLACED TO 12" ABOVE THE TOP OF PIPE. THE SOIL SHALL BE COMPACTED TO 100% MAX. DENSITY.(AASHTO T-99)

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.

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



MECHANICAL JOINT ANCHORING REQUIREMENTS
N.T.S.

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

MECHANICAL JOINT RESTRAINT NOTES

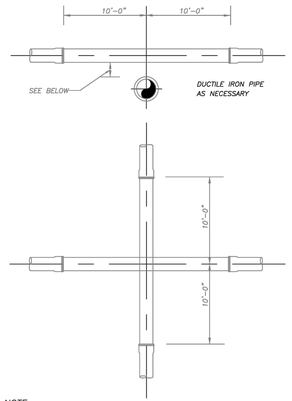
NOTES:

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.

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

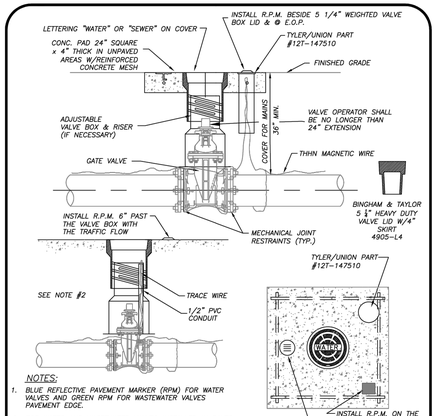


NOTE:

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

UTILITY CROSSING DETAIL
N.T.S.

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

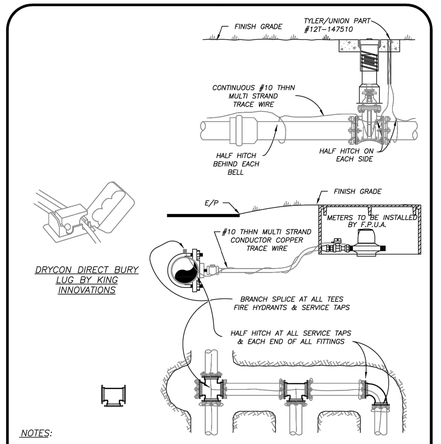


NOTES:

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

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

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

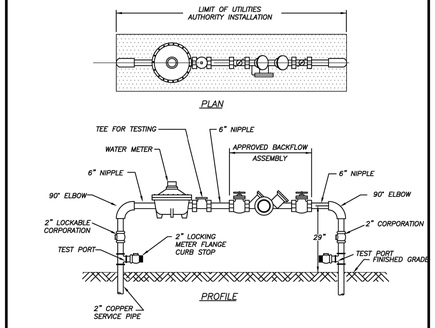


NOTES:

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.)

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



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.)

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

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2	PER FPUA AUG 2025 COMMENTS	MJS	9/09/2025
1	BID SET	RDC	4/09/2025

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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 147923001

DATE NOV 2025

SCALE AS SHOWN

DESIGNED BY HMR

DRAWN BY TMC

CHECKED BY DHE

CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW

FL LICENSE NUMBER 82414

CIVIL DETAILS

SHEET NUMBER

C-3-501

Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:C-3-501 CIVIL DETAILS November 04, 2025 09:03:58am K:\VRB_WaterResources\147923001 — FPUA WW Redirection Phase 1a\CAD\CIP 3 — Moore's Creek Booster\PlanSheets\C-3-005 CIVIL DETAILS.dwg
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Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:C-3-502 CIVIL DETAILS November 04, 2025 09:41:14am K:\VRB_WaterResources\147923001 – FPUA WW Redirection Phase 1a\CAD\CIP 3 – Moore's Creek Booster\PlanSheets\C-3-005 CIVIL DETAILS.dwg
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MATERIAL UPGRADE NOTES

MATERIAL UPGRADES ARE REQUIRED FOR UTILITY INSTALLATIONS THAT ARE IN CLOSE PROXIMITY TO SALT WATER (FOR EXAMPLE, HUTCHINSON ISLAND, INDIAN RIVER FLOOD PLAIN AND AREAS EAST OF U.S. HIGHWAY 1) AND AS DIRECTED BY FPUA WATER/WASTEWATER ENGINEERING DEPARTMENT.

1) PIPE – ALL DUCTILE IRON PIPE SHALL BE EPOXY COATED (EXTERIOR)

2) FITTINGS – ALL DUCTILE IRON FITTINGS SHALL BE EPOXY COATED (EXTERIOR). PVC FITTINGS CAN ALSO BE USED. HOWEVER, PVC FITTINGS MUST BE EXTRUDED OR FORMED FITTINGS MEETING ALL AWWA REQUIREMENTS. NO FABRICATED FITTINGS WILL BE ALLOWED. ALL NUTS AND BOLTS SHALL BE 316SS ONLY.

3) RESTRAINTS – ALL MECHANICAL JOINT RESTRAINTS SHALL BE EPOXY COATED. ALL HARDWARE (RODS, NUTS, BOLTS, WASHERS) SHALL BE 316SS ONLY.

4) FIRE HYDRANTS – ALL NUTS AND BOLTS SHALL BE 316SS ONLY.

5) VALVES – ALL VALVES SHALL BE EPOXY COATED. ALL NUTS AND BOLTS SHALL BE 316SS. VALVE STEM AND 2-INCH OPERATING NUT SHALL BE CAST BRONZE.

6) HARDWARE – 316 SS, A4-70 AND A4-80 ARE ACCEPTABLE NOMENCLATURES SEEN ON FASTENERS

7) ALL OTHER MATERIALS SHALL BE PROVIDED WITH MANUFACTURER'S STANDARD UPGRADES FOR USE IN CORROSIVE ENVIRONMENTS.

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING DEPARTMENT, 1001 SOUTH 4TH STREET, FT. PIERCE, FLORIDA 34950, 772-466-1600

MATERIAL UPGRADE NOTES — M-13

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

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER (2)	WATER MAIN — 3 FT. MINIMUM	WATER MAIN — 12 INCHES IS THE MINIMUM, EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM	ALTERNATE 3 FT. MINIMUM — WATER MAIN
VACUUM SANITARY SEWER	WATER MAIN — 10 FT. PREFERRED, 3 FT. MINIMUM	WATER MAIN — 12 INCHES PREFERRED 6 INCHES MINIMUM	ALTERNATE 3 FT. MINIMUM — WATER MAIN
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN, RECLAIMED WATER (4)	WATER MAIN — 10 FT. PREFERRED 6 FT. MINIMUM (3)	WATER MAIN — 12 INCHES IS THE MINIMUM, EXCEPT FOR GRAVITY SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED	ALTERNATE 6 FT. MINIMUM — WATER MAIN
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 FT. MINIMUM		

NOTES

1. WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
2. RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
3. 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
4. RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

SEPARATION OF WATER MAINS

N.T.S.

MINIMUM LENGTH OF PIPE "L" (FEET) TO BE RESTRAINED

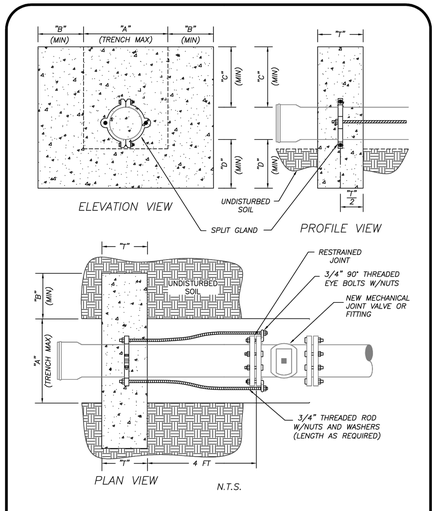
(SOURCES: EBBA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 3.1, AND DIPRA THRUST RESTRAINT FOR DUCTILE IRON PIPE, RELEASE 3.2)

FITTING TYPE		PIPE SIZE 4"	6"	8"	10"	12"	14"	16"	20"	24"
90° HORIZ. BEND		17	24	31	37	43	49	55	66	76
45° HORIZ. BEND		7	10	13	15	18	20	23	28	32
22.5° HORIZ. BEND		3	5	6	7	9	10	11	13	15
11.25° HORIZ. BEND		2	2	3	4	5	5	6	7	8
45° VERT. OFFSET	UPPER BEND	16	22	29	34	41	46	52	64	74
	LOWER BEND	7	10	13	15	18	20	23	28	32
22.5° VERT. OFFSET	UPPER BEND	7	12	15	17	20	22	25	31	36
	LOWER BEND	3	5	6	7	9	10	11	13	15
11.25° VERT. OFFSET	UPPER BEND	4	5	7	8	11	12	14	16	18
	LOWER BEND	2	2	3	4	4	5	7	7	8
PLUG (DEAD END)		38	53	69	83	98	112	129	153	179
VALVE		38	53	69	83	98	112	129	153	179
TEE (BRANCH REST.)	4"X *	19	–	–	–	–	–	–	–	–
	6"X *	10	35	–	–	–	–	–	–	–
	8"X *	1	28	51	–	–	–	–	–	–
	10"X *	1	28	46	64	–	–	–	–	–
	12"X *	1	15	40	60	79	–	–	–	–
	14"X *	1	8	35	56	75	92	–	–	–
	16"X *	1	1	29	51	71	90	106	–	–
	20"X *	1	1	18	42	64	85	101	133	–
	24"X *	1	1	5	32	55	77	95	128	158
REDUCER (LARGER PIPE RESTRAINT)	6"X *	27	–	–	–	–	–	–	–	–
	8"X *	50	29	–	–	–	–	–	–	–
	10"X *	68	51	28	–	–	–	–	–	–
	12"X *	85	71	52	48	–	–	–	–	–
	14"X *	101	89	73	69	29	–	–	–	–
	16"X *	117	106	92	89	54	29	–	–	–
	20"X *	146	138	126	113	96	77	54	–	–
	24"X *	173	166	157	146	132	98	77	54	–

NOTES:

1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:
   SOIL TYPE – SP; TRENCH TYPE – 3; TEST PRESSURE – 150 PSI
   SAFETY FACTOR – 1.5; DEPTH OF BURY – 3'; VERTICAL OFFSET – 3'
2. THE RESTRAINED PIPE LENGTHS APPLY TO DUCTILE IRON AND PVC PIPE.
3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
4. RESTRAINED PIPE LENGTHS FOR VALVES APPLY TO PIPE ON BOTH SIDES OF VALVES.
5. THIS TABLE IS FOR SP SOILS. THE ENGINEER IS TO BE NOTIFIED IF OTHER TYPE SOILS ARE ENCOUNTERED.
6. ALL PIPES SHALL BE RESTRAINED PER THE LENGTHS AS CALLED FOR IN THE ABOVE REFERENCED TABLE. THE COSTS FOR THESE RESTRAINED JOINTS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PIPE.

MECHANICAL JOINT RESTRAINTS



DEAD-MAN RESTRAINT BLOCK — M-14A

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

PIPE SIZE (in)	AVERAGE O.D. (in)	PRESSURE (lb/in²)	CALCULATED THRUST (lbf)	"A" (ft-in)	"B" (ft-in)	"C" (ft-in)	"D" (ft-in)	"T" (ft-in)	CONCRETE (yd³)
6	6.9	100	3739	2'-0"	1'-0"	1'-0"	1'-3"	2'-6"	1.00
8	9.05	100	6433	2'-0"	1'-6"	1'-0"	1'-6"	3'-0"	1.75
10	11.1	100	9677	2'-6"	1'-6"	1'-6"	1'-10"	3'-0"	2.57
12	13.2	100	13685	2'-6"	2'-0"	1'-6"	1'-9"	4'-0"	3.95
16	17.4	100	23779	3'-0"	2'-0"	1'-6"	2'-6"	5'-0"	6.49
18	19.5	100	29865	3'-0"	2'-0"	1'-6"	2'-6"	6'-0"	8.09
20	21.6	100	36644	3'-0"	2'-6"	1'-6"	2'-6"	6'-6"	9.98
24	25.8	100	52279	3'-0"	2'-6"	2'-0"	2'-9"	7'-6"	14.00

NOTES:

1. THE USE OF RESTRAINT BLOCKS SHALL BE LIMITED TO SITUATIONS WHERE EXPOSING SEVERAL JOINTS OF PIPE IS NOT FEASIBLE OR AS DIRECTED BY FPUA ENGINEER.
2. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED SOIL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE ALL LOOSE MATERIAL AND EXTEND RESTRAINT BLOCK TO UNDISTURBED MATERIAL.
3. RESTRAINT BLOCK SHALL BE INSTALLED A MINIMUM OF 4 FEET FROM ANY PIPE JOINT, FITTING OR VALVE, AT NO TIME SHALL A PIPE JOINT, FITTING OR VALVE BE ENCASED IN THE RESTRAINT BLOCK.
4. CONCRETE SHALL HAVE MINIMUM 28 DAYS COMPRESSIVE STRENGTH OF 3000 PSI.

DEAD-MAN RESTRAINT BLOCK — M-14B

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

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2	PER FPUA AUG 2025 COMMENTS	MJS	9/09/2025
1	BID SET	RDC	4/09/2025

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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 147923001
DATE NOV 2025
SCALE AS SHOWN
DESIGNED BY HMR
DRAWN BY TMC
CHECKED BY DHE

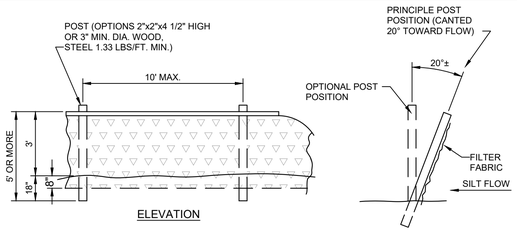
CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR
FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW
FL LICENSE NUMBER
82414

CIVIL DETAILS

SHEET NUMBER
C-3-502



ELEVATION

TYPICAL SILT FENCE
N.T.S.

FILTER FABRIC
(IN CONFORMANCE
WITH SEC. 985 FDOT
SPECIFICATIONS)

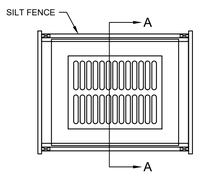
FIGURE 1

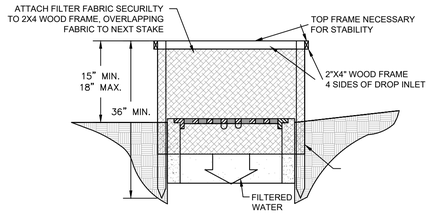
NOTES:
1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL NEARLY LEVEL DRAINAGE ARES. (LESS THAN 5%).

2. USE 2"X4" WOOD OR EQUIVALENT METAL STAKES (3 FT. MIN. LENGTH).

3. INSTALL 2"X4" WOOD FRAME TO INSURE STABILITY.

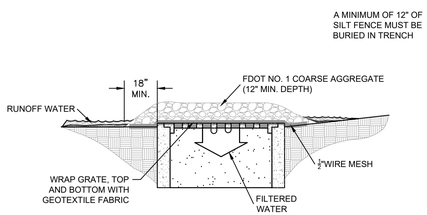
4. SEE EROSION CONTROL PLAN FOR LOCATIONS AND APPLICABILITY.





SECTION A-A

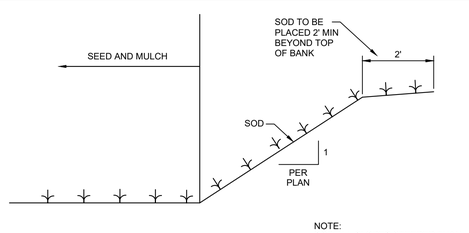
OPTION 1 SILT FENCE BARRIER



OPTION 2 GRAVEL AND WIRE MESH FILTER

DROP INLET SEDIMENT FILTER DETAIL
N.T.S.

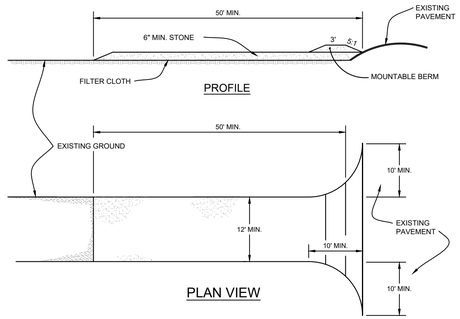
FIGURE 6



NOTE:
SOD ALL SLOPES STEEPER THAN 6:1, SEED PERMITTED ON SLOPES 6:1 OR FLATTER IF APPROVED BY THE ENGINEER.

TYPICAL DRY DRAINAGE RETENTION AREA SECTION
N.T.S.

FIGURE 2



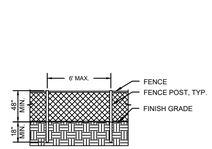
PROFILE

PLAN VIEW

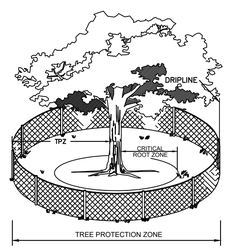
STABILIZED CONSTRUCTION ENTRANCE
1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

FIGURE 8



TREE PROTECTION DETAIL



TREE PROTECTION NOTES:
1. TREE PROTECTION BARRICADES SHALL BE INSTALLED AROUND ALL PROTECTED TREES AND GROUPS OF TREES PRIOR TO ANY CLEARING OR GRADING OPERATIONS, INCLUDING THE REMOVAL OF OTHER TREES.
2. FOR LARGE GROUPS OF TREES, BARRICADES MAY BE PLACED BETWEEN THE PROTECTED TREES AND THE CONSTRUCTION ACTIVITY AREA.
3. BARRICADES SHALL BE MADE OF RIGID MATERIAL CAPABLE OF SURVIVING FOR THE DURATION OF THE CONSTRUCTION.
4. BARRICADES SHALL BE INSPECTED WEEKLY DURING THE DURATION OF CONSTRUCTION AND REPAIRED/REINSTALLED AS REQUIRED.
5. CLEANING OF EQUIPMENT OR MATERIAL OR THE DISPOSAL OF WASTE MATERIALS, INCLUDING BUT NOT LIMITED TO, PAINT, OIL, SOLVENT, ASPHALT, CONCRETE, AND MORTAR WITHIN THE TREE PROTECTION ZONE (TPZ) OF ANY TREE IS NOT ALLOWED.
6. THE MOVEMENT OF EQUIPMENT OR STORAGE OF EQUIPMENT, MATERIALS, DEBRIS, OR FILL WITHIN THE TPZ OF ANY TREE IS NOT ALLOWED.

FIGURE 10

PERMITTING SET

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

No.	REVISIONS	BY	DATE
3	PER FPUA OCT 2025 COMMENTS	RMD	10/21/2025
2	PER FPUA AUG 2025 COMMENTS	MJS	9/09/2025
1	BID SET	RDC	4/09/2025

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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 147923001
DATE NOV 2025
SCALE AS SHOWN
DESIGNED BY HMR
DRAWN BY TMC
CHECKED BY DHE

CIP 3 - MOORE'S CREEK BOOSTER STATION
PREPARED FOR
FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW
FL LICENSE NUMBER
82414

EROSION CONTROL DETAILS

SHEET NUMBER
C-3-503

Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:C-3-503 EROSION CONTROL DETAILS November 04, 2025 09:04:07am K:\VRB_WaterResources\147923001 - FPUA WW Redirection Phase 1a\CAD\CIP 3 - Moore's Creek Booster\PlanSheets\C-3-005 CIVIL DETAILS.dwg
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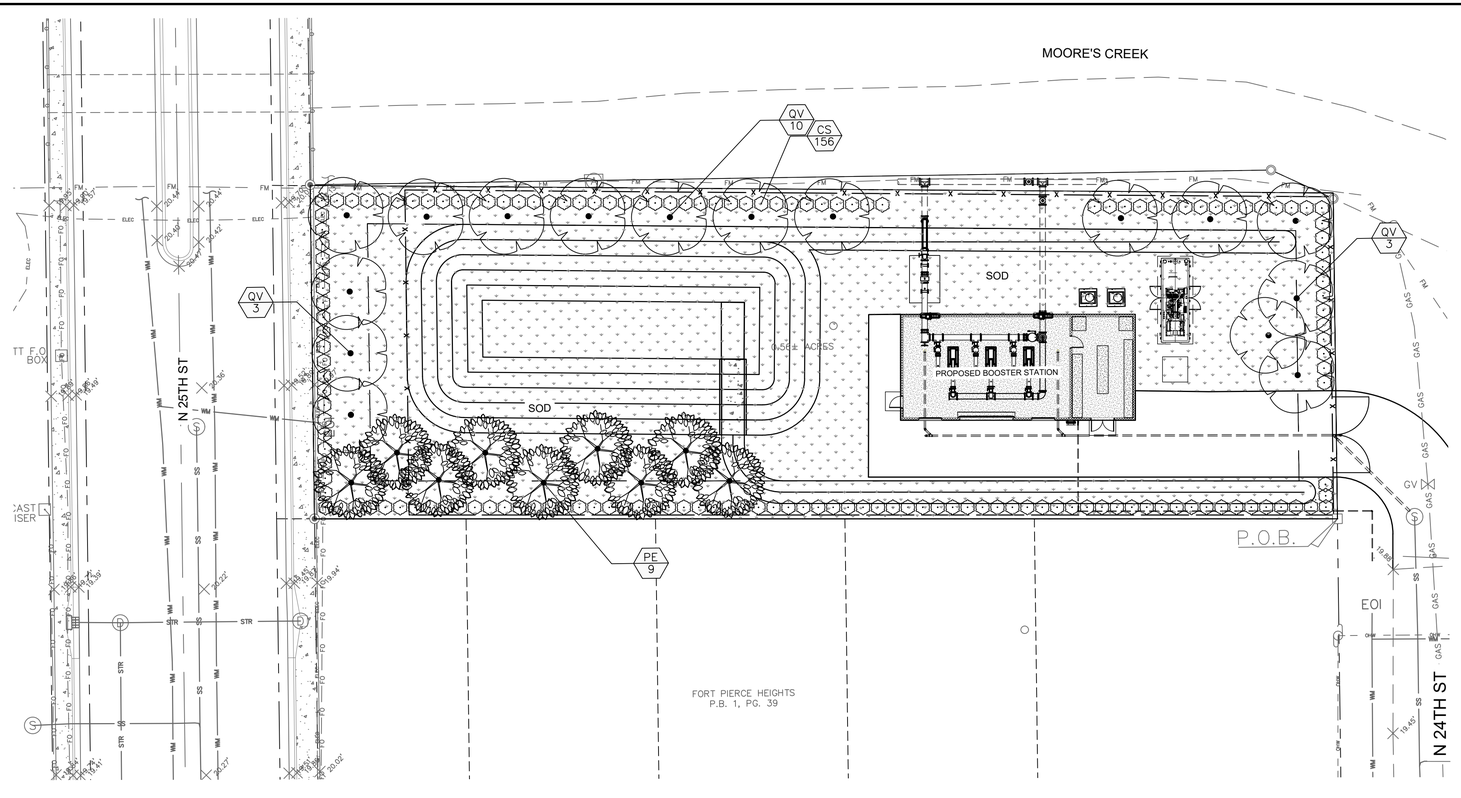

PLANT SCHEDULE

SYMBOL	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONTAINER	CAL	HT	NATIVE	WATER USE
TREES									
	PE	9	SLASH PINE	PINUS ELLIOTTII	F.G.	2.5" CAL MIN.	12' HT MIN	YES	MODERATE
	QV	15	SOUTHERN LIVE OAK	QUERCUS VIRGINIANA	F.G.	2.5" CAL MIN.	12' HT MIN	YES	MODERATE

SYMBOL	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONT	SPACING	SIZE	NATIVE	WATER USE
SHRUBS									
	CS	158	SMALL LEAF CLUSIA	CLUSIA GUTTIFERA	SOD	30" O.C.	36" HT MIN	NO	
GROUND COVERS									
	SO	17,308 SF	ST. AUGUSTINE GRASS	STENOTAPHRUM DIMIDIATUM	SOD	SOD	SOD		

LANDSCAPE REQUIREMENTS

BUFFERING (PER SECTION 123-37)

NORTH BUFFER	**REQUIRED**	**PROVIDED**
270 LINEAR FEET		
TREES	1 TREE / 30 LINEAR FEET OF PROPERTY LINE = TREES REQUIRED	270 LINEAR FEET / 30 FEET = 9 TREES
SHRUBS	CONTINUOUS, UNBROKEN, SOLID, VISUAL SCREEN	PROVIDED
EAST BUFFER	**REQUIRED**	**PROVIDED**
66 LINEAR FEET		
TREES	1 TREE / 30 LINEAR FEET OF PROPERTY LINE = TREES REQUIRED	66 LINEAR FEET / 30 FEET = 3 TREES
SHRUBS	CONTINUOUS, UNBROKEN, SOLID, VISUAL SCREEN	PROVIDED
SOUTH BUFFER	**REQUIRED**	**PROVIDED**
270 LINEAR FEET		
		270 LINEAR FEET / 30 FEET = 9 TREES
		* TREES CLUSTERED ON SOUTH WEST CORNER OF PROPERTY LINE TO ALLOCATE SPACE
TREES	1 TREE / 30 LINEAR FEET OF PROPERTY LINE = TREES REQUIRED	FOR DRAINAGE SWALE REQUIREMENT
SHRUBS	CONTINUOUS, UNBROKEN, SOLID, VISUAL SCREEN	PROVIDED
WEST BUFFER	**REQUIRED**	**PROVIDED**
TREES	1 TREE / 30 LINEAR FEET OF PROPERTY LINE = TREES REQUIRED	88 LINEAR FEET / 30 FEET = 3 TREES
SHRUBS	CONTINUOUS, UNBROKEN, SOLID, VISUAL SCREEN	PROVIDED
	TOTAL TREES:	24
	TOTAL SHRUBS:	158

LEGEND

- ASPHALT
- SS — EXISTING SANITARY SEWER
- PROPERTY BOUNDARY
- GAS — EXISTING GAS LINE
- x — FENCE
- FM — EXISTING FORCE MAIN
- EXISTING WATER MAIN

NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

PERMITTING SET

CALL 48 HOURS BEFORE YOU DIG
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Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

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KHA PROJECT	147923001
DATE	NOV 2025
SCALE	AS SHOWN
DESIGNED BY	DPOB
DRAWN BY	DPOB
CHECKED BY	KPD

KYLER DURHAM LICENSE No LA6667668 DATE: 11/4/2025 STATE OF FLORIDA PROFESSIONAL LANDSCAPE ARCHITECT

CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

LANDSCAPE PLAN

SHEET NUMBER

L-100

Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:L-100 November 04, 2025 09:04:52am K:\VRB_WaterResources\147923001 - FPUA WW Redirection Phase 1a\CAD\CIP 3 - Moore's Creek Booster\PlanSheets\L-000.dwg
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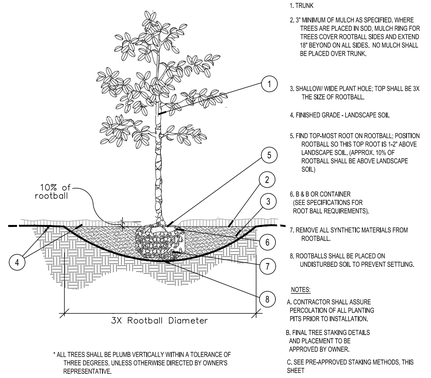
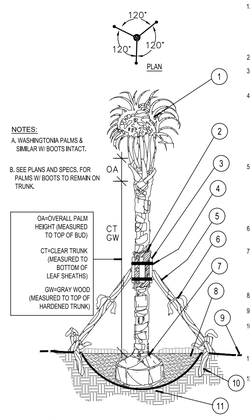


1. TRUNK
2. 3" MINIMUM OF MULCH AS SPECIFIED, WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES COVER ROOTBALL SIDES AND EXTEND 18" BEYOND ON ALL SIDES. NO MULCH SHALL BE PLACED OVER TRUNK.
3. SHALLOW WIDE PLANT HOLE: TOP SHALL BE 3X THE SIZE OF ROOTBALL.
4. FINISHED GRADE - LANDSCAPE SOIL
5. FIND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

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

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

A Tree Planting
SECTION NTS



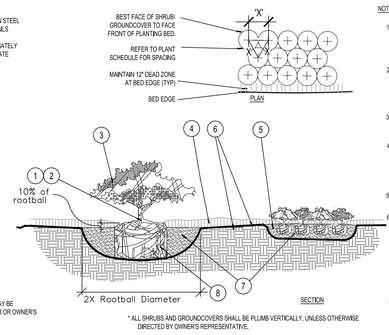
NOTES:
A. WASHINGTONIA PALMS & SIMILAR W/ BOOTS INTACT.
B. SEE PLANS AND SPECS. FOR PALMS W/ BOOTS TO REMAIN ON TRUNK.

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

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

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

B Palm Planting and Staking
SECTION NTS

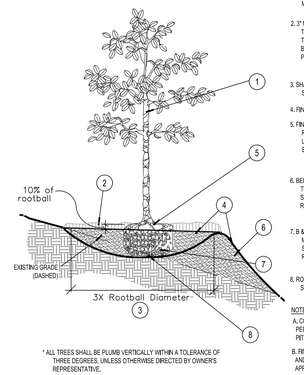


BEST FACE OF SHRUB/ GROUNDCOVER TO FACE FRONT OF PLANTING BED.
REFER TO PLANT SCHEDULE FOR SPACING
MAINTAIN 12" DEAD ZONE AT BED EDGE (TYP)
BED EDGE

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

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

C Shrub / Groundcover Planting
PLAN/SECTION NTS



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

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

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

D Planting on a Slope
SECTION NTS

1. FINISH GRADE
2. HORIZONTAL 2X2 SCREWED TO 2X3 STAKE. ALL WOOD SHALL BE #2 UNTREATED.
3. 3-1/2" DRYWALL SCREW, THREAD SIZE 12, SHARP POINT, FULL THREAD, BLACK PHOSPHATE FINISH
4. VERTICAL STAKES SHALL ABUT SIDE OF ROOTBALL
5. STAKES TO EXTEND INTO NATIVE SOIL BY 1-1/2 X THE ROOTBALL DEPTH MIN.

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

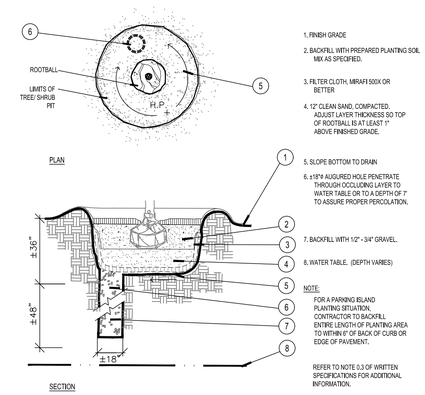
* Refer to details B and D for planting

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

SOD NOTES:
1. TYPICAL SOLID SOD LAID LEVEL WITH TIGHT JOINTS SET ADJACENT TO EDGE OF PAVEMENT SUCH THAT THE TOP OF SOD WHEN FRESHLY MOWED IS FLUSH WITH TOP OF PAVEMENT IN ORDER NOT TO IMPEDE THE FLOW OF RUNOFF INTO LANDSCAPE AREAS AND TO APPEAR NEAT AND WELL MAINTAINED.
2. ALL SOD LAID ADJACENT TO THE SHRUB OR GROUNDCOVER PLANTING AREAS SHALL HAVE WELL DEFINED BEDLINES, AND SHALL BE INSTALLED A DISTANCE BACK FROM THE FACE EDGE OF PLANT MATERIALS TO ALLOW FOR GROWTH OF THE PLANTS. THE TOP OF THE SOD AND THE FINISHED GRADE OF THE 3" MULCH COVER SHALL BE FLUSH AND LEVEL.
3. SOD SET ON PREPARED GRADE WHICH IS LEVEL OR GRADED TO MEET THE REQUIREMENTS OF THE ENGINEERED SITE DRAINAGE PLANS.

TOP SOIL NOTES:
1. PLANTING SOIL SHALL CONSIST OF 70% CLEAN, SHARP, SILICA SAND AND 30% EVERGLADES MUCK, MIXED WITH THE NATIVE, EXCAVATED SOIL IN A 1:1 RATIO (50/50).
2. TOPSOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANT PITS SHALL BE FERTILE, FRIABLE, AND OF A LOAMY CHARACTER; REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEEDS AND OTHER LITTER, FREE OF ROOTS, STUMPS, STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER AND A PH BETWEEN 5.5 AND 6.5 - SUBMIT SAMPLE AND PH TESTING RESULTS FOR APPROVAL.
3. CONTRACTOR TO SUBMIT SAMPLES OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.

F SOD
SECTION NTS

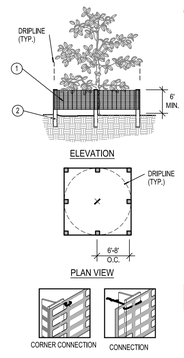


1. FINISH GRADE
2. BACKFILL WITH PREPARED PLANTING SOIL MIX AS SPECIFIED.
3. FILTER CLOTH, MIRAFI 500X OR BETTER
4. 12" CLEAN SAND, COMPACTED, ADJUST LAYER THICKNESS SO TOP OF ROOTBALL IS AT LEAST 1" ABOVE FINISHED GRADE.
5. SLOPE BOTTOM TO DRAIN
6. ±18"ø AUGURED HOLE PENETRATE THROUGH OCCLUDING LAYER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

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

REFER TO NOTE 0.3 OF WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION.

G Poor Drainage Condition
PLAN/SECTION NTS



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

INSTALLATION NOTES:
A. POST SELECTION SHOULD BE BASED ON EXPECTED STRENGTH NEEDS AND THE LENGTH OF TIME FENCE WILL BE IN PLACE. FLEXIBLE FIBERGLASS ROD POSTS ARE RECOMMENDED FOR PARKS, ATHLETIC EVENTS AND CROWD CONTROL INSTALLATIONS. METAL "T" POSTS OR TREATED WOOD POSTS ARE TYPICALLY USED FOR CONSTRUCTION AND OTHER APPLICATIONS.

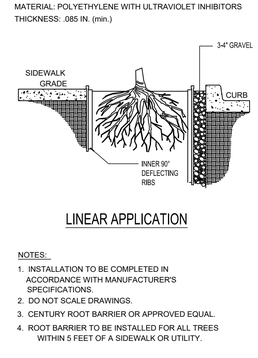
B. POSTS SHOULD BE DRIVEN INTO THE GROUND TO A DEPTH OF 1/4 OF THE HEIGHT OF THE POST. FOR EXAMPLE, A 8' POST SHOULD BE SET AT LEAST 2' INTO THE GROUND.

C. SPACE POSTS EVERY 6' (MIN.) TO 8' (MAX.).

D. SECURE FENCING TO POST WITH NYLON CABLE TIES (AVAILABLE FROM CONWED PLASTICS). WOOD STRIPS MAY BE ALSO BE USED TO PROVIDE ADDITIONAL SUPPORT AND PROTECTION BETWEEN TIES AND POSTS.

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

H Tree/Shrub Protector
Barrier Detail NTS



ROOT BARRIER BY: Century Root Barrier (714)632-7083
(or) DeepRoot (800)458-7668

SIZE: 36" D, OR AS NOTED ON PLAN
MATERIAL: POLYETHYLENE WITH ULTRAVIOLET INHIBITORS
THICKNESS: .085 IN. (min.)

LINEAR APPLICATION

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.
3. CENTURY ROOT BARRIER OR APPROVED EQUAL.
4. ROOT BARRIER TO BE INSTALLED FOR ALL TREES WITHIN 5 FEET OF A SIDEWALK OR UTILITY.

I Root Barrier
Barrier Detail NTS

1. INSTALL CONTINUOUS MULCH BED ADJACENT TO PARKING SPACES AS SHOWN. MULCH SHALL BE MIN. 3" DEEP.

NO POP-UP IRRIGATION HEADS SHALL BE LOCATED WITHIN 24" OF A PARKING SPACE ON ANY SIDE

2. CURB OR PARKING LOT EDGE, BY OTHERS

J Parking Space/Curb Planting
SECTION NTS

NOTES
* CLEAR ZONE: 36" MIN. FROM BUILDING TO CENTER OF NEAREST SHRUB.

K Plantings Adjacent to Buildings
SECTION NTS

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

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

L Planted Parking Lot Islands / Medians
SECTION NTS

1. FIRE HYDRANT
2. NO TREES SHALL BE PLACED WITHIN SHOWN RADIUS OF ALL PROPOSED OR EXISTING FIRE HYDRANTS. CONTRACTOR SHALL ADJUST PLANT MATERIAL SO THAT NO CONFLICTS WITH FIRE HYDRANTS OCCUR ON SITE.
3. PROVIDE A MULCH, 3" DEPTH MIN., SURROUNDING AREA INDICATED.

M Fire Hydrant Clear Zone
PLAN NTS

PERMITTING SET

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

No.	REVISIONS	BY	DATE
3	PER FPUA OCT 2025 COMMENTS	RMD	10/21/2025
2	PER FPUA AUG 2025 COMMENTS	MJS	9/09/2025
1	BID SET	RDC	4/09/2025

Kimley»Horn
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445 24TH STREET SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT	147923001
DATE	NOV 2025
SCALE	AS SHOWN
DESIGNED BY	DPOB
DRAWN BY	DPOB
CHECKED BY	KPD

CIP 3 - MOORE'S CREEK BOOSTER STATION
PREPARED FOR
FORT PIERCE UTILITIES AUTHORITY

KYLER DURHAM
LICENSE
No LA6667668
DATE: 11/4/2025
STATE OF FLORIDA
PROFESSIONAL LANDSCAPE ARCHITECT

LANDSCAPE DETAILS

SHEET NUMBER
L-150

Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:L-150 November 04, 2025 09:04:53am K:\VRB_WaterResources\147923001 - FPUA WW Redirection Phase 1a\CAD\CIP 3 – Moore's Creek Booster\PlanSheets\L-000.dwg
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Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:L-151 November 04, 2025 09:04:54am K:\VRB_WaterResources\147923001 – FPUA WW Redirection Phase 1a\CAD\CIP 3 – Moore's Creek Booster\PlanSheets\L-000.dwg
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GENERAL LANDSCAPE SPECIFICATIONS AND NOTES

A. SCOPE OF WORK

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

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

B. PROTECTION OF EXISTING STRUCTURES

ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, OTHER SITE CONSTRUCTION ITEMS, AND PLANTING ALREADY COMPLETED OR ESTABLISHED SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.

C. PROTECTION OF EXISTING PLANT MATERIALS OUTSIDE LIMIT OF WORK

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

D. MATERIALS

1. GENERAL

MATERIALS LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL. UPON SUBMITTALS' APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.

MATERIAL	SUBMITTAL
MULCH	PRODUCT DATA
TOPSOIL MIX	AMENDMENT MIX/ PRODUCT DATA/ TEST RESULTS
PLANTS	PHOTOGRAPHS OF ONE (1) OF EACH SPECIES (OR TAGGED IN NURSERY) INDICATE SIZES (HEIGHT/WIDTH) AND QUALITY PER SPEC. CLIENT-REQUESTED TAGGING MAY SUBSTITUTE PHOTOS.
FERTILIZER	PRODUCT DATA
INNOCULANT	PRODUCT DATA
HERBICIDE	PRODUCT DATA

2. PLANT MATERIALS

A. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARDIZED PLANT NAMES, 1942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL PLANTS SHALL BE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS. INSECT EGGS AND LARVAE AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. WHERE ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY WITH APPROVAL FROM OWNER OR OWNER'S REPRESENTATIVE. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE OWNER'S REPRESENTATIVE

B. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.

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

E. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, MIX)

1. SOIL MIXTURE SHALL CONSIST OF 70% COARSE SAND, 30% FLORIDA PEAT AS DESCRIBED BELOW.
2. SOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING SHALL BE FERTILE, FRIABLE, AND REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEED AND OTHER LITTER, FREE OF ROOTS, STUMPS, STONE LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL HAVE A PH BETWEEN 5.5 AND 7.0 - SUBMIT SAMPLE AND PH TESTING RESULTS FOR APPROVAL.
3. SAND SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE ORTONA MINED SAND. CONTRACTOR SHALL SUBMIT RESULTS OF SOIL TEST FOR PEAT AND SAND PROPOSED FOR USE UNDER THIS CONTRACT FOR APPROVAL.
4. CONTRACTOR SHALL SUBMIT SAMPLES OF SOIL MIXTURE FOR LANDSCAPE ARCHITECT REVIEW UNDER FORMAL SUBMITTAL AND SUBSEQUENTLY TO OWNER'S REPRESENTATIVE THEREAFTER FOR APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.
5. FLORIDA MUCK / FLORIDA MUCKY PEAT MAY BE PROVIDED AS A SUBSTITUTE FOR THE 30% FLORIDA PEAT, CONTINGENT UPON PRELIMINARY TEST RESULTS AND AS DETERMINED BY THE LANDSCAPE ARCHITECT DURING THE SUBMITTAL PROCESS. ANY CHANGES IN THE PERCENTAGES OR PARENT MATERIALS REQUIRED TO PROVIDE THE SPECIFIED MIXTURE AS DETERMINED BY THE LANDSCAPE ARCHITECT SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
6. CONTRACTOR SHALL PROVIDE PH TEST RESULTS FOR ALL MIX COMPONENTS AND FINAL MIX.
7. CONTRACTOR SHALL PROVIDE PENETROMETER ON-SITE AT ALL TIMES FOR COMPACTION INSPECTION AT THE DISCRETION OF THE LANDSCAPE ARCHITECT.
8. PENETROMETER CRITERIA / SPECIFICATIONS SHALL RANGE FROM APPROX. 75 PSI TO LESS THAN 300 PSI OR AS DETERMINED BY THE LANDSCAPE ARCHITECT.
9. FINAL MIX SHALL BE TESTED TO HAVE A SATURATED WEIGHT OF NO MORE THAN 85 POUNDS PER CUBIC FOOT WHEN COMPACTED TO 85% STANDARD PROCTOR. FERTILIZER PRODUCT DATA AND RATE SCHEDULE SHALL BE SUBMITTED CONCURRENTLY WITH THE SOIL SUBMITTAL FOR EVALUATION BY THE LANDSCAPE ARCHITECT.
10. SOIL SHALL BE SUPPLIED BY ATLAS PEAT & SOIL INC. 9621 STATE ROAD, BOYNTON BEACH, FLORIDA 33472 PHONE: 561-734-7300.

F. WATER

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

*WATERING/IRRIGATION RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

G. FERTILIZER

CONTRACTOR SHALL PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE. SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY-DERIVED.

*FERTILIZER RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

H. ROCK MULCH

ROCK MULCH MATERIAL SHALL BE TWO (2) TO THREE (3) INCHES DIAMETER CHATTAHOOCHEE ROCK (OR APPROVED EQUAL) AT A MINIMUM DEPTH OF THREE (3) INCHES IN ALL LANDSCAPE SHRUB AND GROUNDCOVER AREAS. THE ROCK MULCH SHALL CONFINE TO THE LANDSCAPE BED LINES ESTABLISHED BY ADJACENT SOD AREAS, HARDSCAPE AREAS, AND CURBS. CLEAR MULCH FROM EACH PLANT'S CROWN (BASE).

I. DIGGING AND HANDLING

1. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT DAMAGE DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO SITE SHALL BE SPRAYED WITH AN ANTITRANSPIRANT PRODUCT ("WILTPRUF" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.
2. BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A ROOT BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN, PLANTS BALLED AND BURLAPPED OR CONTAINER GROWN SHALL NOT BE HANDLED BY STEMS.
3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS, COMPLYING WITH FLORIDA GRADES AND STANDARDS FOR NURSERY PLANTS, CURRENT EDITION. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT DURING TRANSPORTATION AND PRIOR TO PLANTING.
4. PROTECTION OF PALMS (IF APPLICABLE): ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS SPECIFIED AFTER THE MINIMUM OF FRONDS HAVE BEEN REMOVED. ALL PALMS SHALL BE BRACED PER PALM PLANTING DETAIL.
5. EXCAVATION OF TREE PITS SHALL BE PERFORMED USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB- BASES.

J. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION, FLORIDA #1 OR BETTER.
2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.
3. PLANT ROOTS BOUND IN CONTAINERS ARE NOT ACCEPTABLE.
4. SUBSTITUTION OF NON-CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE CONTAINER GROWN WILL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL IS OBTAINED FROM THE OWNER OR OWNER'S REPRESENTATIVE.

K. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED BY THE OWNER OR OWNER'S REPRESENTATIVE. THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

L. NATIVE STOCK

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

M. MATERIALS LIST

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

N. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH. THIS CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.
3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS. REFER TO CIVIL ENGINEER'S PLANS FOR FINAL GRADES.

O. PLANTING PROCEDURES

1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE REMOVED FROM THE SURFACE OF ALL PLANT BEDS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, HE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.
2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS (LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER SYSTEMS, CABLE, AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES. CALL NATIONAL ONE CALL - 811 - TO LOCATE UTILITIES.
3. SUBGRADE EXCAVATION: CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36". CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY THE CONTRACTOR, AND ADEQUATE PERCOLATION CAN NOT BE ACHIEVED, CONTRACTOR SHALL UTILIZE PLANTING DETAIL THAT ADDRESSES POOR DRAINAGE.
4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS HEREIN SPECIFIED AND REQUIRED, INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.
5. GENERAL: COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. UPON ARRIVAL AT THE SITE, PLANTS SHALL BE THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS STORED ON-SITE SHALL NOT REMAIN UNPLANTED FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS, AT ALL TIMES, METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.
6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE PLANTING WITH IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION APPURTENANCES AND PLANTS.
7. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD FOR NURSERY STOCK Z60.1, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACKFILLED WITH THE PREPARED PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER PERCOLATION. IF POOR PERCOLATION EXISTS, UTILIZE "POOR DRAINAGE CONDITION" PLANTING DETAIL. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURES AND UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN. PROPER "JETTING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.
8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.
9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION E OF THESE SPECIFICATIONS.
10. TREES AND SHRUBS SHALL BE SET STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT, PLANTING SOIL MIXTURE SHALL BE BACKFILLED, THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).
11. AMEND PINE AND OAK PLANT PITS WITH ECTOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. ALL OTHER PLANT PITS SHALL BE AMENDED WITH ENDOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. PROVIDE PRODUCT INFORMATION SUBMITTAL PRIOR TO INOCULATION.
12. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES. STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET. ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE. ONLY WITH MULCH. ALL BURLAP, ROPE, WIRES, BASKETS, ETC., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS, BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.
13. PRUNING: TREES SHALL BE PRUNED, AT THE DIRECTION OF THE OWNER OR OWNER'S REPRESENTATIVE, TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT. ALL PRUNING TO BE PERFORMED BY LICENSED ARBORIST, IN ACCORDANCE WITH ANSI A-300.
14. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6", REMOVE AND DISPOSE ALL DEBRIS. MIX TOP 4" TO ACHIEVE SOIL MIXTURE AS SPECIFIED IN SECTION E. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.
15. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE CONTRACTOR AND OWNER DECIDE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING AND AGREE TO INDEMNIFY AND HOLD HARMLESS THE LANDSCAPE ARCHITECT IN THE EVENT UNSUPPORTED TREES PLANTED UNDER THIS CONTRACT FALL AND DAMAGE PERSON OR PROPERTY.
16. MULCHING: PROVIDE A THREE INCH (MINIMUM) LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER, VINE BED, AND TREE PIT PLANTED UNDER THIS CONTRACT.
17. HERBICIDE WEED CONTROL: ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "ROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER. (AS ALLOWED BY JURISDICTIONAL AUTHORITY)

P. LAWN SODDING

1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.
2. LAWN BED PREPARATION: ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS, AND THE GROUND BROUGHT TO AN EVEN GRADE. THE ENTIRE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE.
3. SOIL PREPARATION: PREPARE LOOSE BED FOUR (4) INCHES DEEP. HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.
4. SODDING
   - A. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.
   - B. THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS. ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.
   - C. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS, ADJACENT TO BUILDINGS. A 24 INCH STONE MULCH STRIP SHALL BE PROVIDED - REFER TO DETAILS. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND, AS APPROVED BY THE OWNER'S REPRESENTATIVE, SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN, FERTILIZE INSTALLED SOD AS ALLOWED BY PROPERTY'S JURISDICTIONAL AUTHORITY.
5. DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.
6. LAWN MAINTENANCE:
   - A. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS (LARGER THAN 12"X12") UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING REGRADING IF NECESSARY).
   - B. CONTRACTOR RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SOD/LAWN UNTIL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PRIOR TO AND UPON ACCEPTANCE, CONTRACTOR TO PROVIDE WATERING/IRRIGATION SCHEDULE TO OWNER. OBSERVE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.

Q. CLEANUP

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

R. PLANT MATERIAL MAINTENANCE

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

S. MAINTENANCE (ALTERNATE BID ITEM)

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

T. FINAL INSPECTION AND ACCEPTANCE OF WORK

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

U. WARRANTY

1. THE LIFE AND SATISFACTORY CONDITION OF ALL PLANT MATERIAL INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE.
2. REPLACEMENT: ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL B

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FPUA CIP 3 – Moore's Creek Booster Station

CIP 3 includes a new booster station for the Fort Pierce Utilities Authority (FPUA), a concrete block masonry building containing three (3) screw centrifugal pumps, 150-HP each, to be operated in two (2) Duty and one (1) Standby configuration. The site is approximately 0.54 acres, and the building is approximately 1,650 square feet. The booster station will re-direct domestic wastewater flows from the existing Master Lift Station A and discharge flows to the new Mainland Water Reclamation Facility (MWRF), currently under construction. The existing 16-inch nominal PVC force main located adjacent to the property will be interconnected to the suction side of the new booster pump station and will be configured to discharge back into the existing 16-inch force main.

The building will be constructed with a stem wall and footer using split face concrete masonry block units with a hollow core concrete plank ceiling and completed with a metal standing seam roof. The building will contain two rooms separated with a common wall and traversable with an interior door to access the pump room and electrical room. The electrical room will be climate controlled via two HVAC units to protect electrical gear and have an exterior double door to access the room from outside. The electrical room houses the necessary electrical gear and is configured so power can be redistributed across two lineups in case of electrical equipment failure. A generator, with a belly fuel tank, can provide emergency power to both electrical lineups. This design provides for EPA Class 1 Reliability.

The pump room will be ventilated with louvers and ventilation fans and house the three pumps on individual floating concrete pedestals. The influent piping will enter the building from below grade and the discharge header piping with be above grade. The discharge piping exits the building on the north side via an above grade magnetic flowmeter assembly and then into the existing force main piping. The pumping room will be accessible via a large roll-up door to provide maintenance access.

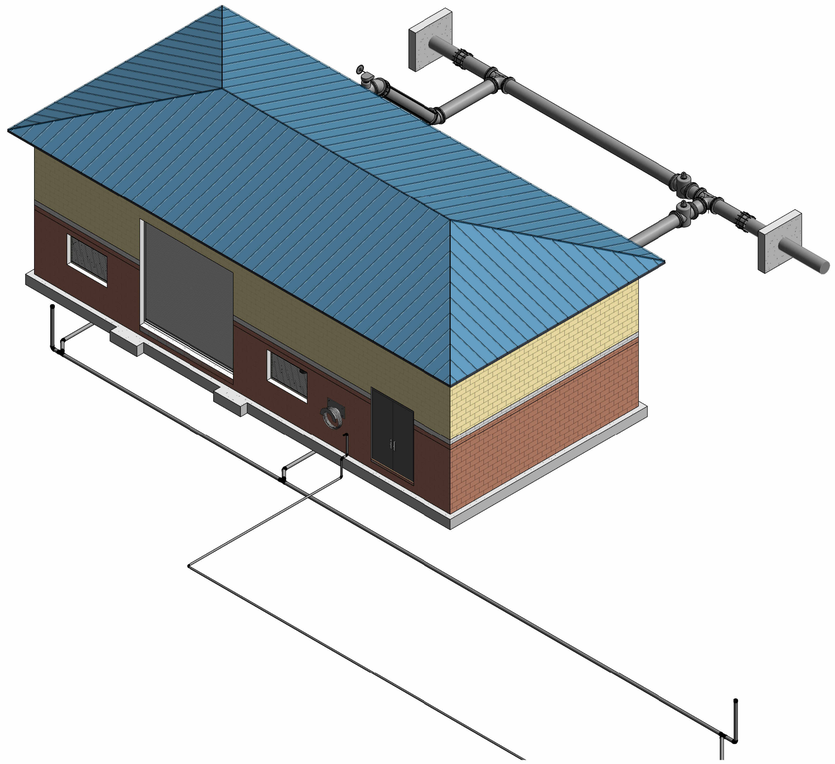
The booster station will be constructed with a valving configuration to allow bypassing of the station, bypassing of the pumps, and bypassing of individual pumps to allow flexibility in the operation of the booster station and for maintenance purposes. The piping is equipped with air release valves and venting on the pump volutes which evacuate to floor drains in the building that convey to an existing manhole located on North 24th Street.

The site will contain a 6-ft chain-link fence to provide site security with double gate access on the east side of the property from N 24th Street. A 10-ft landscape buffer on the North, East, and South sides and a 15-ft landscape buffer on the west side of the site will be provided with perimeters screening plantings. The site has an asphalt entrance and driveway that will be graded to shed rainwater southerly to a conveyance swale to capture runoff into a dry retention pond located on the west side of the property.

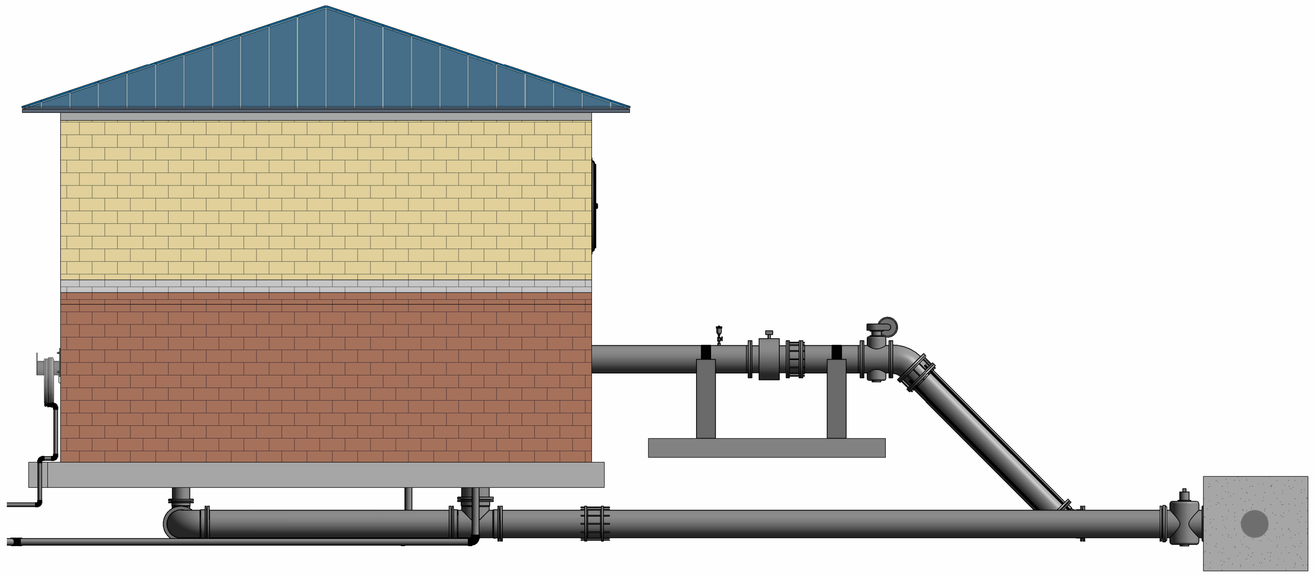
Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

Brendon Blum, P.E.
772.794.4100 (office) or brendon.blum@kimley-horn.com



1 NE ISOMETRIC VIEW
N.T.S.



2 EAST ELEVATION 3D VIEW
G-3-005 N.T.S.

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445 24TH STREET, SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 147923001
DATE NOV 2025
SCALE AS SHOWN
DESIGNED BY: HR
DRAWN BY: TC
CHECKED BY: DE

CIP 3 - MOORES CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

LICENSED PROFESSIONAL:

MATTHEW MICHAEL TEBOW
FL LICENSE NUMBER 82414
DATE:

ISOMETRIC VIEWS

SHEET NUMBER
G-3-005

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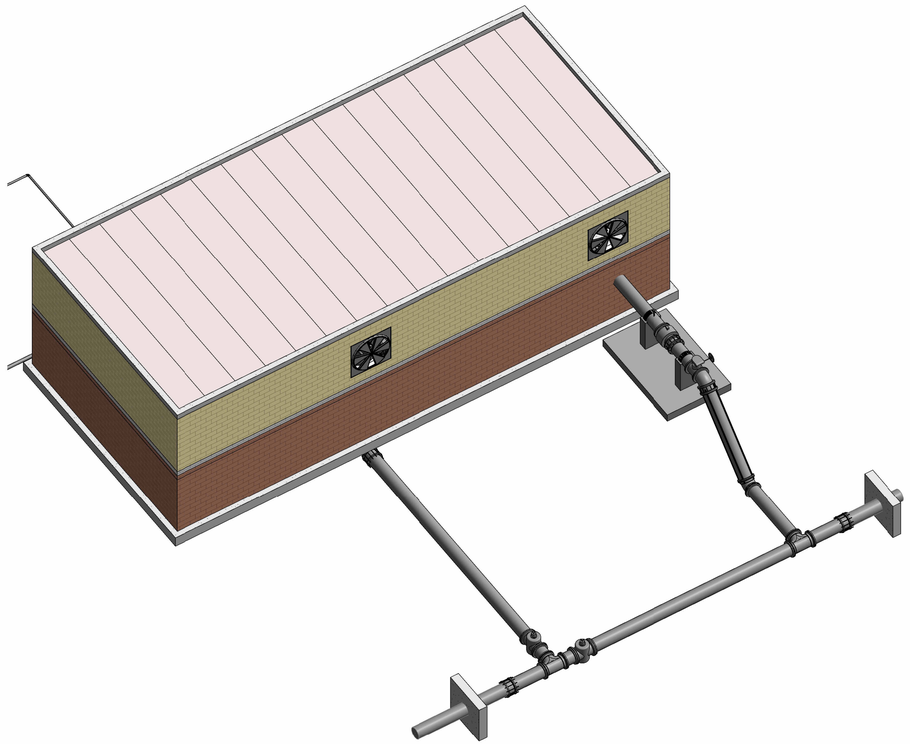

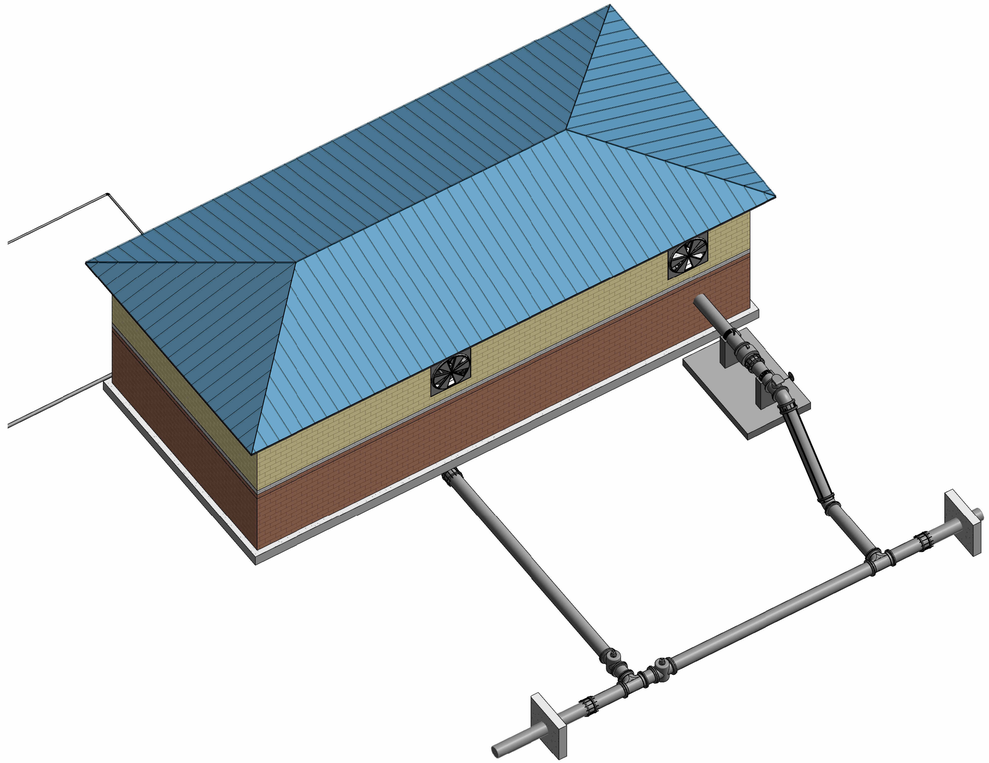

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KHA PROJECT	147923001
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DRAWN BY:	TC
CHECKED BY:	DE

CIP 3 - MOORES CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

LICENSED PROFESSIONAL:

MATTHEW MICHAEL TEBOW

FL LICENSE NUMBER 82414

DATE:

ISOMETRIC VIEWS

SHEET NUMBER

G-3-006

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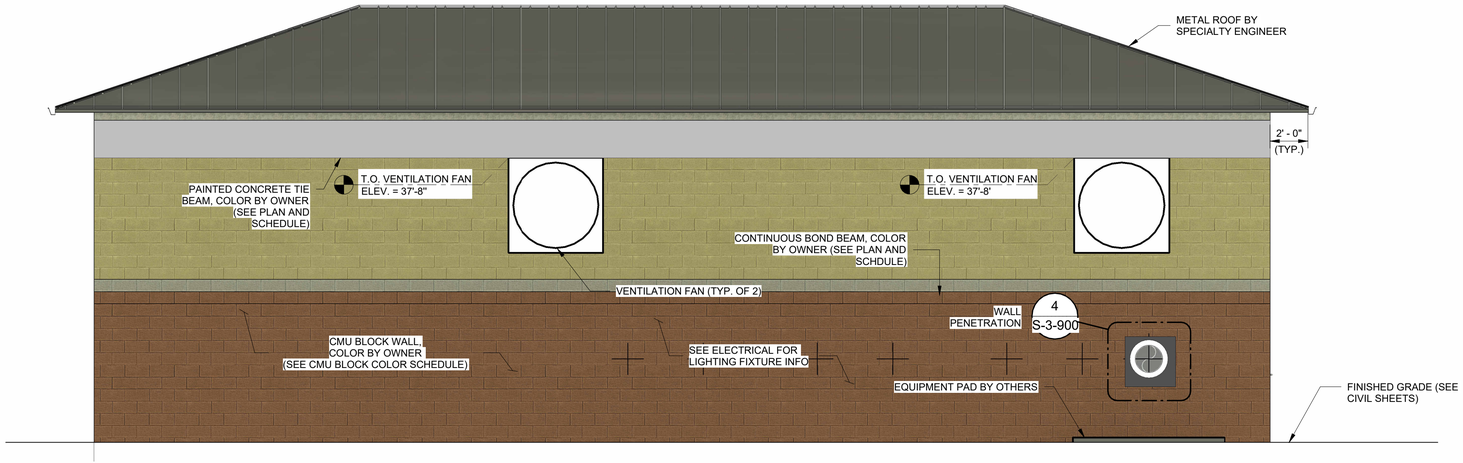


1 S-3-300 BUILDING NORTH ELEVATION
1/4" = 1'-0"

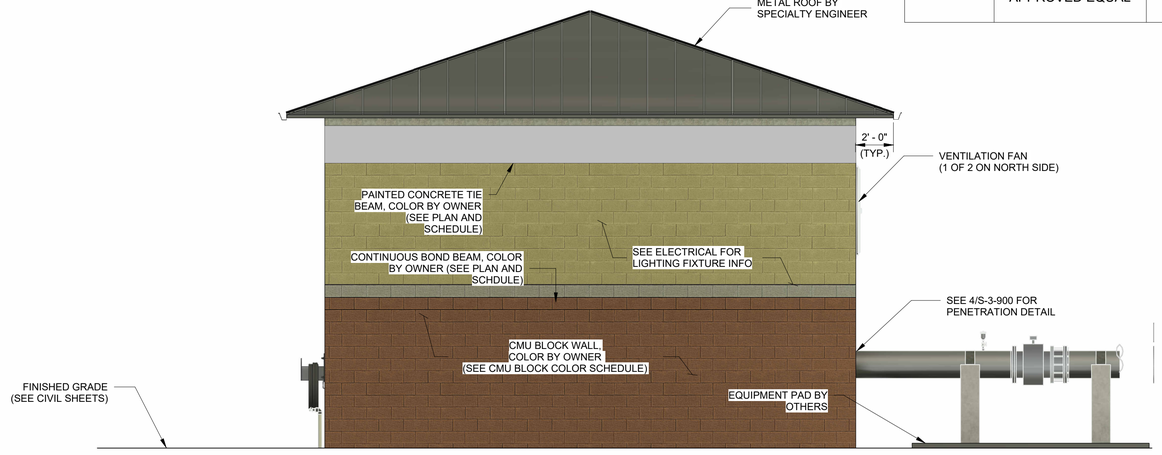
GRAPHIC SCALE IN INCHES
0 1/2" 1" 2"
0 4' 8'

NOTES:

1) CONTRACTOR TO SUBMIT CMU COLOR SHOP DRAWING FOR OWNER AND ENGINEER APPROVAL PRIOR TO CONSTRUCTION

CMU BLOCK COLOR SCHEDULE

EL. RANGE	COLOR	APPEARENCE	TYPE	DESCRIPTION
22' 1" - 30.40'	S-115 (A-1 BLOCK) OR APPROVED EQUAL		SPLIT FACE	THE CMU BLOCKS WITHIN THIS ELEVATION RANGE SPAN FROM THE FINISH FLOOR TO THE BOTTOM OF THE CONTINUOUS BOND BEAM
30.40' - 31.00'	S-115 (A-1 BLOCK) OR APPROVED EQUAL		SPLIT FACE	THE CMU BLOCKS WITHIN THIS ELEVATION RANGE MAKE UP THE CONTINUOUS BOND BEAM, AND ARE TO BE CONSTRUCTED AS SHOWN IN DETAIL 3 ON SHEET S-3-501
31.00' - 31.67'	S-203 (A-1 BLOCK) OR APPROVED EQUAL		SPLIT FACE	THIS IS A SINGLE ROW OF CMU BLOCKS LOCATED DIRECTLY ON TOP OF THE CONTINUOUS BOND BEAM
31.67' - 37.67'	S-168 (A-1 BLOCK) OR APPROVED EQUAL		GROUND	THE CMU BLOCKS WITHIN THIS ELEVATION RANGE SPAN FROM THE TOP OF THE SINGLE ROW OF S-203 BLOCKS TO THE BOTTOM OF THE CONCRETE TIE BEAM



2 S-3-300 BUILDING EAST ELEVATION
1/4" = 1'-0"

GRAPHIC SCALE IN INCHES
0 1/2" 1" 2"
0 4' 8'

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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 147923001
DATE NOV 2025
SCALE AS SHOWN
DESIGNED BY: RR
DRAWN BY: RDC
CHECKED BY: CL

CIP 3 - MOORES CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

LICENSED PROFESSIONAL:

RAYMOND S. RIZK

FL LICENSE NUMBER 98908

DATE:

STRUCTURAL BUILDING ELEVATIONS

SHEET NUMBER

S-3-300

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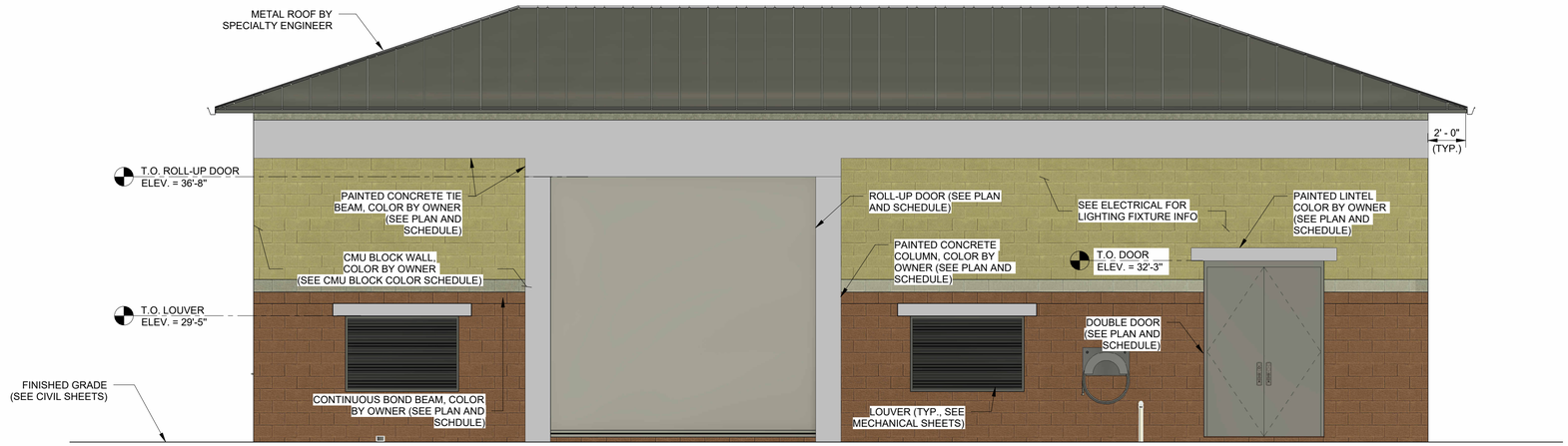
NOTES:

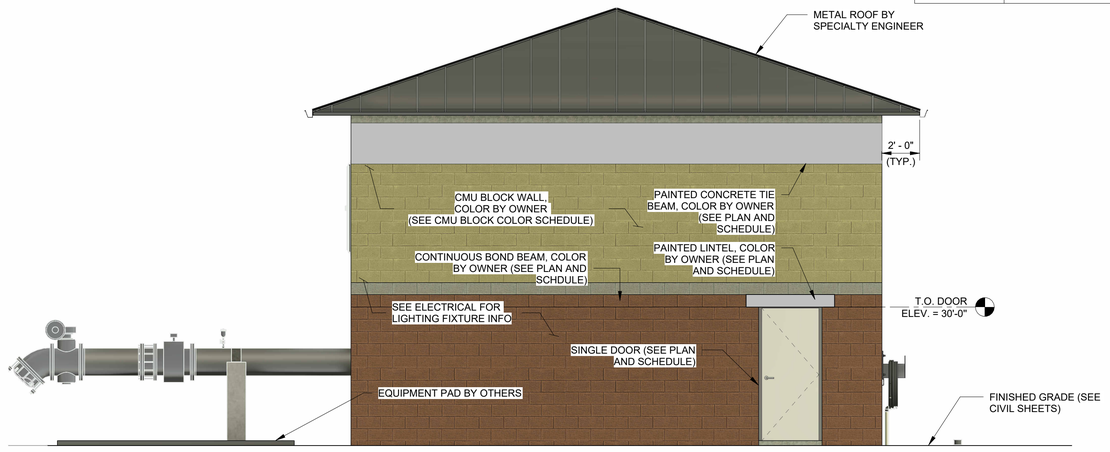
1) CONTRACTOR TO SUBMIT CMU COLOR SHOP DRAWING FOR OWNER AND ENGINEER APPROVAL PRIOR TO CONSTRUCTION



1 S-3-301 BUILDING SOUTH ELEVATION
1/4" = 1'-0"

GRAPHIC SCALE IN INCHES
0 1/2" 1" 2"
0 4' 8'

CMU BLOCK COLOR SCHEDULE				
EL. RANGE	COLOR	APPEARENCE	TYPE	DESCRIPTION
22' 1" - 30.40'	S-115 (A-1 BLOCK) OR APPROVED EQUAL		SPLIT FACE	THE CMU BLOCKS WITHIN THIS ELEVATION RANGE SPAN FROM THE FINISH FLOOR TO THE BOTTOM OF THE CONTINUOUS BOND BEAM
30.40' - 31.00'	S-115 (A-1 BLOCK) OR APPROVED EQUAL		SPLIT FACE	THE CMU BLOCKS WITHIN THIS ELEVATION RANGE MAKE UP THE CONTINUOUS BOND BEAM, AND ARE TO BE CONSTRUCTED AS SHOWN IN DETAIL 3 ON SHEET S-3-501
31.00' - 31.67'	S-203 (A-1 BLOCK) OR APPROVED EQUAL		SPLIT FACE	THIS IS A SINGLE ROW OF CMU BLOCKS LOCATED DIRECTLY ON TOP OF THE CONTINUOUS BOND BEAM
31.67' - 37.67'	S-168 (A-1 BLOCK) OR APPROVED EQUAL		GROUND	THE CMU BLOCKS WITHIN THIS ELEVATION RANGE SPAN FROM THE TOP OF THE SINGLE ROW OF S-203 BLOCKS TO THE BOTTOM OF THE CONCRETE TIE BEAM



2 S-3-301 BUILDING WEST ELEVATION
1/4" = 1'-0"

GRAPHIC SCALE IN INCHES
0 1/2" 1" 2"
0 4' 8'

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KHA PROJECT	147923001
DATE	NOV 2025
SCALE	AS SHOWN
DESIGNED BY:	RR
DRAWN BY:	RDC
CHECKED BY:	CL

CIP 3 - MOORES CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

LICENSED PROFESSIONAL:

RAYMOND S. RIZK

FL LICENSE NUMBER 98908

DATE:

STRUCTURAL BUILDING ELEVATIONS

SHEET NUMBER

S-3-301

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FORT PIERCE UTILITIES AUTHORITY

SYSTEMATIC WASTEWATER CONVEYANCE SYSTEM REDIRECTION TO THE NEW MAINLAND RECLAMATION FACILITY

CIP 3 - MOORE'S CREEK BOOSTER STATION

NOV 2025

PROJECT TEAM

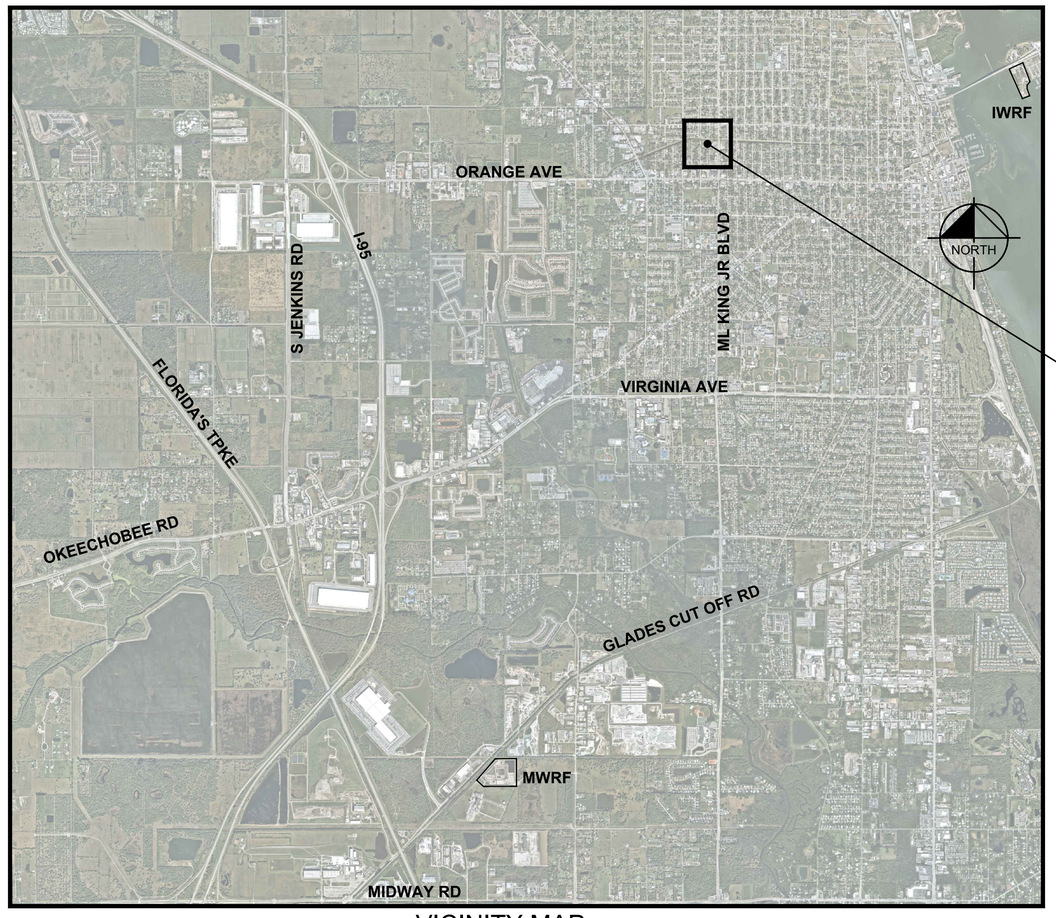
OWNER
FORT PIERCE UTILITIES AUTHORITY
206 S 6th STREET
FORT PIERCE, FL 34950

CONTRACTOR
TLC DIVERSIFIED, INC.
2719 17TH ST E
PALMETTO, FL 34221

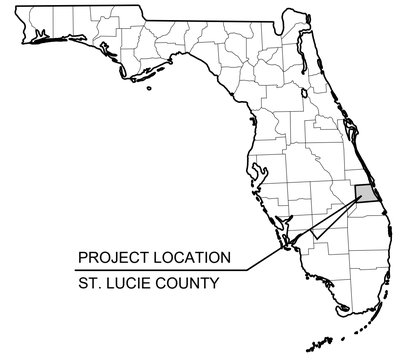
PIPING CONTRACTOR
FELIX CIVIL CONSTRUCTION, LLC
8528 SW KANSAS AVE
STUART, FL 34997

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

SURVEYOR
ENGINEERING DESIGN & CONSTRUCTION
10250 SW VILLAGE PKWY, SUITE 201
PORT ST LUCIE, FL 34987



VICINITY MAP



PROJECT EXTENTS

NOTES

THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REGULATIONS, FORT PIERCE UTILITIES AUTHORITY STANDARDS, AND THE F.E.C. RAILROAD STANDARDS ARE INCORPORATED IN THIS PLANSHEET BY REFERENCE.

PERMITTING SET

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No.	REVISIONS	BY	DATE
3	PER FPUA OCT 2025 COMMENTS	RMD	10/21/2025
2	PER FPUA AUG 2025 COMMENTS	MJS	9/09/2025
1	BID SET	RDC	4/09/2025

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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT	147923001
DATE	NOV 2025
SCALE	AS SHOWN
DESIGNED BY	TMC
DRAWN BY	TMC
CHECKED BY	DHE

CIP 3 - MOORE'S CREEK BOOSTER STATION
PREPARED FOR
FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW
FL LICENSE NUMBER 82414

COVER SHEET

SHEET NUMBER
G-3-000

Plotted By: Powell, Harper Sheet Set: CIP 3 MOORE'S CREEK BPS Layout: G-3-000 COVER SHEET November 04, 2025 09:01:40am K:\VRB_WaterResources\147923001 - FPUA WW Redirection Phase 1a\CAD\CIP 3 - Moore's Creek Booster\PlanSheets\G-3-001 COVER SHEET.dwg
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G-3-002	GENERAL NOTES	●
G-3-003	STANDARD LEGEND AND ABBREVIATIONS	●
G-3-004	PROCESS FLOW DIAGRAM	●
G-3-005	ISOMETRIC VIEWS	●
G-3-006	ISOMETRIC VIEWS	●
CIVIL		
C-3-001	GENERAL CIVIL/CONSTRUCTION NOTES	
C-3-002	OVERALL SITE PLAN	●
C-3-100	HORIZONTAL CONTROL PLAN	●
C-3-101	PAVING, GRADING, AND DRAINAGE PLAN	●
C-3-102	SITE YARD PIPING	●
C-3-500	CIVIL DETAILS	●
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S-3-002	STRUCTURAL BUILDING SCHEDULES	●
S-3-003	STRUCTURAL LIFE SAFETY BUILDING PLAN	●
S-3-100	STRUCTURAL BUILDING FOUNDATION PLAN	●
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E-3-003	ELECTRICAL SITE PLAN	●
E-3-004	PANELS PP1 & PP2 SINGLE LINE DIAGRAMS	●
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E-3-006	EQUIPMENT FRONT VIEWS	●
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E-3-008	ELEMENTARY DIAGRAMS	●
E-3-009	BOOSTER STATION ELECTRICAL PLAN	●
E-3-010	BOOSTER STATION LIGHTING PLAN	●
E-3-011	BOOSTER STATION LIGHTING PROTECTION & GROUNDING PLAN	●
E-3-012	PANEL SCHEDULES	●
E-3-013	LIGHTING FIXTURE SCHEDULE AND DETAILS	●
E-3-014	ELECTRICAL DETAILS - 1	●
E-3-015	ELECTRICAL DETAILS - 2	●
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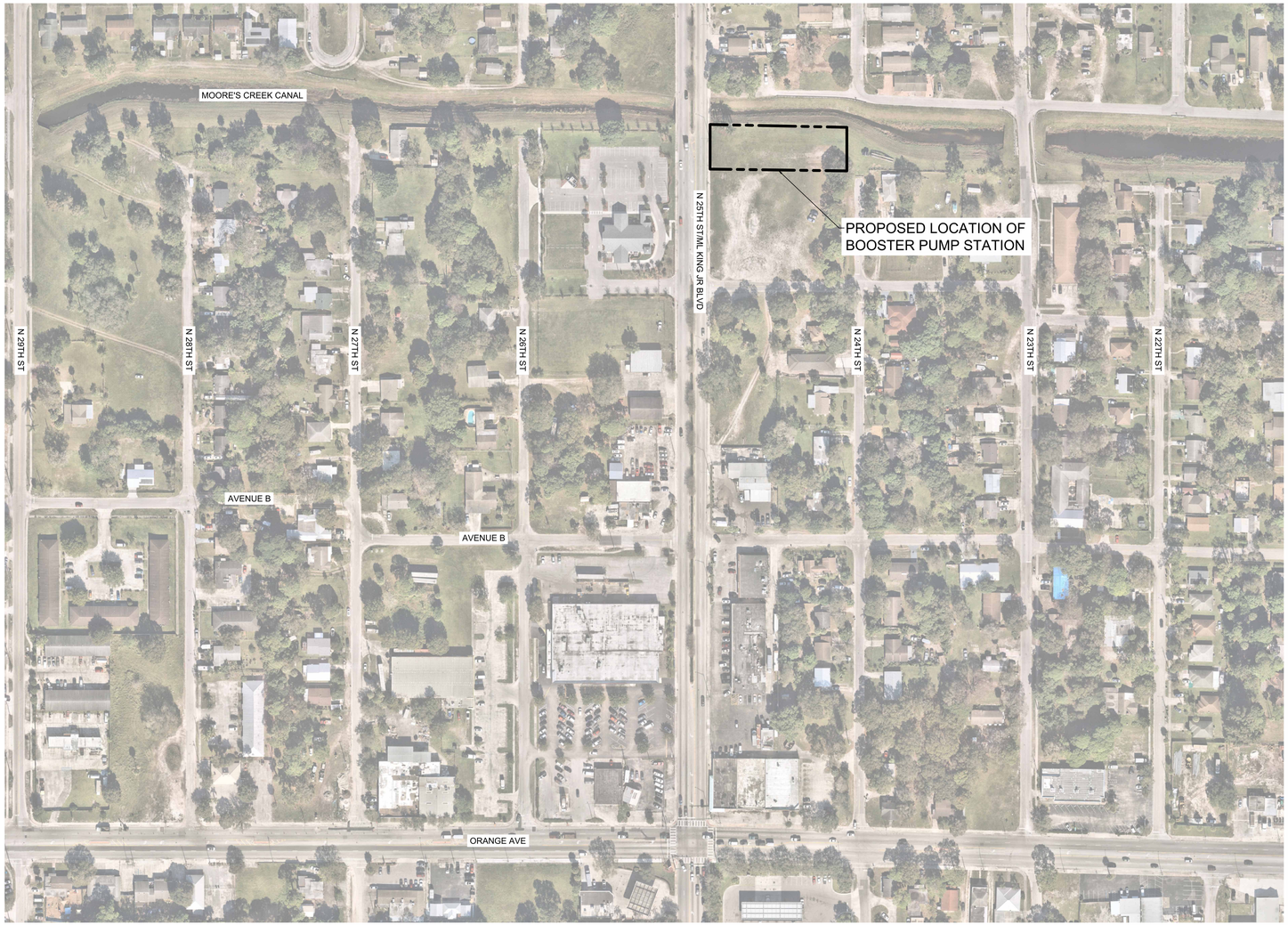
INSTRUMENTATION		
I-3-001	INSTRUMENTATION NOTES, LEGEND AND ABBREVIATIONS	●
I-3-002	PROCESS AND INSTRUMENTATION DIAGRAM	●
I-3-003	POWER MONITORING - P&ID	●
I-3-004	SYSTEM NETWORK DIAGRAM	●
I-3-005	INSTRUMENTATION DETAILS	●
LANDSCAPING		
L-100	LANDSCAPE PLAN	●
L-150	LANDSCAPE DETAILS	●
L-151	LANDSCAPE NOTES & SPECIFICATIONS	●



1 G-3-001 KEY MAP N.T.S.

GRAPHIC SCALE IN INCHES
0 1/2" 1" 2"
0 4' 8'

NORTH

PERMITTING SET

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

No.	REVISIONS	BY	DATE
1	PER FPUA AUG 2025 COMMENTS	MJS	09/09/2025

Kimley»Horn

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KHA PROJECT 147923001
DATE NOV 2025
SCALE AS SHOWN
DESIGNED BY: HR
DRAWN BY: DC
CHECKED BY: DE

CIP 3 - MOORES CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

LICENSED PROFESSIONAL:

MATTHEW MICHAEL TEBOW

FL LICENSE NUMBER 82414

DATE:

SHEET INDEX AND KEY MAP

SHEET NUMBER

G-3-001

Autodesk Docs://147923001 FPUA VAV Redirection Ph1A/CIP3 SHEETS - FPUA PHASE1A.rvt

GENERAL NOTES:

1. ALL CONNECTIONS TO EXISTING MAINS SHALL BE OBSERVED BY FORT PIERCE UTILITIES AUTHORITY. VALVES ON EXISTING MAINS SHALL BE OPERATED BY CITY PERSONNEL OR UNDER THEIR DIRECT SUPERVISION. TAPPING SLEEVE AND VALVE SHALL BE PRESSURE TESTED PRIOR TO TAPPING. IF SERVICE MUST BE CUT OFF TO EXISTING CUSTOMERS, THE DEPARTMENT MUST HAVE THREE DAYS NOTICE TO MAKE NECESSARY NOTIFICATIONS. THE CONTRACTOR MAY BE REQUIRED TO ASSIST IN NOTIFICATIONS. IN THIS EVENT, CONTRACTOR SHALL BE READY TO PROCEED WITH AS MUCH MATERIAL PRE-ASSEMBLED AS POSSIBLE AT THE SITE TO MINIMIZE THE LENGTH OF SERVICE INTERRUPTION. FPUA WILL POSTPONE A SERVICE CUT OFF IF THE CONTRACTOR IS NOT READY TO PROCEED ON SCHEDULE. SUCH PROJECTIONS SHALL BE MADE AT NIGHT TO MINIMIZE EFFECTS UNLESS OTHERWISE AUTHORIZED BY FPUA. NO CUSTOMER SHOULD BE WITHOUT SERVICE FOR MORE THAN FOUR HOURS.

   LOCAL CHLORINATION WILL BE REQUIRED FOR ALL PIPE AND FITTINGS USED TO COMPLETE CONNECTIONS WITH POTABLE WATER.

2. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF FORT PIERCE UTILITIES AUTHORITY MINIMUM DESIGN AND CONSTRUCTION STANDARDS, ONE COPY OF THE CONTRACT DOCUMENTS, INCLUDING PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS, AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.

3. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.

4. THE LOCATION AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHOD AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS SHALL BE RESOLVED BY THE ENGINEER AND DEPARTMENT PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

5. LOCATION OF PROPOSED FACILITIES WILL BE STAKED BY CONTRACTOR. CONTRACTOR MUST GIVE 48 HOURS NOTICE TO FPUA IN ADVANCE OF LAYOUT.

6. PROJECT SUPERINTENDENT: THE CONTRACTOR SHALL PROVIDE A QUALIFIED SUPERINTENDENT TO REMAIN ON THE JOB SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. THE SUPERINTENDENT SHALL BE PRESENT AT THE PRE-CONSTRUCTION MEETINGS. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT BY LETTER PRIOR TO THE PRE-CONSTRUCTION MEETING APPOINTING THE SUPERINTENDENT FOR THIS PROJECT INCLUDING A FORMAL RESUME SHOWING QUALIFICATIONS. IN THE EVENT THE SUPERINTENDENT WILL NOT BE PRESENT FOR ANY PERIOD OF TIME DURING CONTRACT WORK THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE IN WRITING TO THE CITY, INCLUDING THE APPOINTMENT OF A QUALIFIED REPLACEMENT SUPERINTENDENT WHO WILL BE PRESENT DURING THE CONSTRUCTION. WORK SHALL NOT BE ALLOWED TO PROCEED UNLESS THE ASSIGNED SUPERINTENDENT IS PRESENT.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE HIS COMPLETE FAMILIARITY WITH THE PROJECT SITE AND COMPONENTS TO INCLUDE SUBSURFACE CONDITIONS OF SOIL AND GROUNDWATER TABLE.

   WARNING: EXACT LOCATION OF UNDERGROUND UTILITIES IS NOT KNOWN NOR IS THIS DRAWING TO BE CONSTRUED AS DEPICTING THE LOCATION OF ALL UNDERGROUND UTILITIES OR STRUCTURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINATION OF LOCATION PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR IS RESPONSIBLE, THEREFORE, FOR ALL DAMAGE AND REPAIR COSTS.

8. DENSITY TESTS OF TRENCH BACKFILL MATERIAL SHALL BE REQUIRED AT INTERVALS OF NOT MORE THAN 500 FEET. DENSITY TESTS OF PAVEMENT OPEN-CUT AREAS INCLUDING ROADS, TURN LANES, AND DRIVES SHALL BE REQUIRED AT EACH OPEN-CUT AT INTERVALS OF NOT MORE THAN 50 FEET. ALL TESTS SHALL COMMENCE AT THE TOP OF CONDUIT AND EVERY 12 INCHES TO THE FINISH GRADE. COMPACTION SHALL BE IN ACCORDANCE WITH FPUA STANDARDS. FLORIDA BEARING TESTS FOR THE STABILITY OF EXISTING SUBSOIL SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 500 FEET, AND CLOSER AS MIGHT BE NECESSARY IN THE EVENT OF VARIATIONS IN THE STRATA. A CERTIFIED COPY OF THE TESTS SHALL BE PROVIDED TO FPUA AND THE FLORIDA DEPARTMENT OF TRANSPORTATION DEPENDING ON JURISDICTION.

9. ANY LANDSCAPING DISTURBED, UNLESS OTHERWISE SHOWN ON THE PLANS, SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF FPUA AT THE CONTRACTORS EXPENSE.

10. ANY SIDEWALK, CURB AND GUTTER OR PAVEMENT DISTURBED, UNLESS OTHERWISE SHOWN ON PLANS, SHALL BE REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS AND ALL CONCRETE 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. ALL CONSTRUCTION SHALL MEET ADA REQUIREMENTS. THIS INCLUDES, BUT IS NOT LIMITED TO, DETECTABLE WARNING SURFACES.

11. ALL SOD IS TO BE PLACED FOR THE FULL WIDTH DISTURBED AT THE PER SQUARE YARD PRICE. SOD SHALL BE REPLACED TO MATCH EXISTING KIND UNLESS OTHERWISE SHOWN ON PLANS.

12. CONTRACTOR SHALL PROVIDE PROPER BENDS TO MAINTAIN REQUIRED DEPTH AND ALIGNMENT OF PIPE. BENDS NOT DESIGNATED ON PLANS SHALL BE INCLUDED.

13. ANY TREES AND/OR SCRUB OR OTHER VEGETATION NOT TO BE REPLACED SHALL BE REMOVED FROM THE PROJECT AT THE CONTRACTOR'S EXPENSE.

14. ALL RUBBLE AND UNSUITABLE MATERIAL MUST BE REMOVED FROM THE PROJECT AND DISPOSED OF PROPERLY BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

15. MAILBOXES MUST BE CAPABLE OF RECEIVING MAIL AT ALL TIMES.

16. DEFLECT PIPE AS NECESSARY TO OBTAIN THE REQUIRED ALIGNMENT. USE APPROPRIATE FITTINGS WHEN DEFLECTION EXCEEDS 75% OF MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.

17. ALL FITTINGS SHALL BE MECHANICALLY RESTRAINED. REFER TO FORT PIERCE UTILITIES AUTHORITY MINIMUM DESIGN & CONSTRUCTION STANDARDS (LATEST EDITION).

18. ALL CONSTRUCTION DEWATERING (WELL POINTS, SUMPS, ETC.) WILL REQUIRE A DEWATERING PERMIT FROM SOUTH FLORIDA WATER MANAGEMENT DISTRICT. THIS SHALL BE OBTAINED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE PRIOR TO BEGINNING OF CONSTRUCTION.

19. THE "TRENCH SAFETY ACT" SHALL BE INCORPORATED INTO THIS CONTRACT AS ENACTED BY THE LEGISLATURE OF THE STATE OF FLORIDA TO BE IN EFFECT AS OF OCTOBER 1, 1990.

20. ALL CONCRETE AND ASPHALT DRIVES MUST BE REPLACED FROM SAW CUT TO EDGE OF PAVEMENT, OR AS NOTED ON THE PLANS.

21. LOCATIONS OF AIR RELEASE VALVES ARE APPROXIMATE ONLY. FINAL LOCATIONS WILL BE DETERMINED FPUA PERSONNEL IN FIELD.

22. MAXIMUM LENGTH OF FORCE MAIN PRESSURE TEST SHALL BE 2000 FEET. WATER SOURCE FOR FLUSHING, FILLING AND PRESSURE TESTING THE WATER MAIN SHALL BE FROM A TREATED SOURCE APPROVED BY THE DEPARTMENT.

23. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND RESTORATION (IF DAMAGED) OF ALL EXISTING STRUCTURES WITHIN THE CONSTRUCTION LIMITS OF THE PROJECT, INCLUDING BUT NOT LIMITED TO WALLS, FENCES, POWER POLES, MAIL BOXES, DRAINAGE PIPES AND STRUCTURES, ETC.

24. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING WATER SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROTECT THE EXISTING WATER SERVICES FROM DAMAGE AND REPAIR ANY BREAKS IMMEDIATELY.

25. "RECORD DRAWINGS" SHALL INCLUDE FURNISHING FPUA WITH ALL INFORMATION NECESSARY FOR A COMPLETE SET OF RECORD DRAWINGS AS STIPULATED IN THE FORT PIERCE UTILITIES AUTHORITY DEPARTMENT MINIMUM DESIGN AND CONSTRUCTION STANDARDS (LATEST EDITION).

26. MECHANICALLY RESTRAIN LENGTHS, AS INDICATED ON DRAWING, ON EACH SIDE OF ALL BENDS AND AS INSTRUCTED IN FORT PIERCE UTILITY AUTHORITY SPECIFICATIONS. MECHANICAL RESTRAINTS SHALL BE EITHER MEG-A-LUG, TYLER OR UNIFLANGE. THE CONTRACTORS BID PRICE FOR PIPE, GATE VALVES AND FITTINGS SHALL INCLUDE MECHANICAL RESTRAINT.

27. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL SUPPORT UTILITIES AND SHORE TRENCH AS REQUIRED TO PROTECT AND MAINTAIN EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY EACH UTILITY PRIOR TO ATTEMPTING TO SUPPORT THEIR FACILITIES. IF THE UTILITY REQUIRES THAT ONLY THEIR CREWS SHALL BE ALLOWED TO SUPPORT THEIR FACILITIES, THEN IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE WORK AND PAY THE UTILITY FOR THEIR EXPENSES IF REQUIRED. ALL COSTS FOR THIS WORK SHALL BE AT THE CONTRACTORS EXPENSE AND INCLUDED IN THE CONTRACTORS BID PRICE.

28. ALL PRESSURE TESTS SHALL BE IN ACCORDANCE WITH AWWA STANDARDS.

29. AIR RELEASE VALVE SHALL BE CONSTRUCTED PER FPUA DETAIL AS SHOWN IN THE DEPARTMENTS MINIMUM DESIGN AND CONSTRUCTION STANDARDS.

30. VALVE STEM RISER SHALL BE REQUIRED WHERE OPERATING NUT DEPTH EXCEEDS 4 FEET. THE RISER SHALL BE BOLTED TO THE VALVE NUT. METHOD AND MATERIALS SHALL BE APPROVED BY THE DEPARTMENT. COST FOR THIS WORK SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT PRICE FOR GATE VALVES.

31. THE CONTRACTOR SHALL CLEAN MAINS USING APPROVED POLYURETHANE PIG(S). TEMPORARY CLEANING STATIONS SHALL BE CONSTRUCTED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A CLEANING PLAN SHOWING METHOD OF FILLING AND CLEANING MAINS PRIOR TO START OF CONSTRUCTION. THE CLEANING PLAN SHALL BE APPROVED BY THE DEPARTMENT PRIOR TO CONSTRUCTION. ALL COSTS FOR FILLING AND CLEANING SHALL BE AT THE CONTRACTORS EXPENSE.

32. A FLORIDA DEPARTMENT OF TRANSPORTATION PERMIT IS REQUIRED FOR ALL WORK, EXCEPT PERPENDICULAR CONNECTIONS, WITHIN THE STATE RIGHT-OF-WAY. A COPY OF THIS PERMIT MUST BE MAINTAINED ON THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.

33. THE CONTRACTOR SHALL INSTALL TESTING POINTS FOR TESTING OF MAINS.

34. FORCE MAINS AND APPURTENANCES SHALL BE IN ACCORDANCE WITH CURRENT AWWA, FDEP STANDARDS.

35. MINIMUM COVER TO FINISHED GRADE OVER FORCE MAINS SHALL BE 36 INCHES.

36. ALL MAINS SHALL BE TESTED FOR LEAKAGE. WATER SHALL BE SUPPLIED TO THE MAIN AND PUMPED TO THE REQUIRED 150 PSI PRESSURE. THE MAIN TESTED SHALL EITHER BE ISOLATED FROM PRESENTLY POTABLE LINES OR PROTECTED FROM LEAKAGE BY A DOUBLE VALVE ARRANGEMENT.

    FPUA SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF ANY TESTING PROCEDURES. AFTER FLUSHING IS COMPLETED, LINE PRESSURE SHALL BE APPLIED TO THE SYSTEM TO DETERMINE IF ANY MAJOR DEFECTS ARE PRESENT. THE COMPLETE SYSTEM SHALL THEN BE TESTED AT A PRESSURE OF 150 PSI FOR A PERIOD OF NOT LESS THAN TWO HOURS. FPUA MAY, AT ITS DISCRETION, INCREASE THE PERIOD TO FOUR HOURS. MAXIMUM LENGTH OF LINE TO BE TESTED AT ONE TIME SHALL NOT EXCEED 2000 LINEAR FEET. AN OIL FILLED PRESSURE GAUGE UP TO 200 PSI AT 2 POUND INCREMENTS SHALL BE USED FOR ALL PRESSURE TESTS. NO VISIBLE MOVEMENT OF THE SYSTEM SHALL OCCUR AND LEAKAGE SHALL NOT EXCEED:

$$L = \frac{N\,D\,\sqrt{P}}{7400}$$

    WHERE: L = LEAKAGE IN GALLONS
    N = NUMBER OF JOINTS IN TEST SECTION
    P = TEST PRESSURE IN PSI
    D = DIAMETER OF PIPE IN INCHES

    NOTE: FORT PIERCE UTILITY AUTHORITY STANDARDS MANUAL (LATEST EDITION) ARE TO BE ADHERED TO AND WILL BE ENFORCED TO AT LEAST THESE MINIMUM STANDARDS.

37. ALL REFERENCES TO STAINLESS STEEL SHALL REFER TO GRADE 316 UNLESS OTHERWISE NOTED.

38. WATER, WASTEWATER AND RECLAIMED WATER LINES SHALL NOT BE CONSTRUCTED WITHOUT FIRST OBTAINING AN APPROVAL OR PERMIT, AS APPLICABLE, FROM FPUA.

39. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH FPUA UTILITY STANDARDS MANUAL, FORT PIERCE UTILITIES AUTHORITY CODE OF ORDINANCES, AND WITH ALL APPLICABLE FDEP RULES AND REGULATIONS. IF ANY CONFLICTS EXISTS BETWEEN THE STANDARDS, THE MORE STRINGENT GOVERNS, AS DETERMINED BY FPUA. COPIES OF FPUA CODE OF ORDINANCES ARE AVAILABLE WITH FPUA OFFICE AND CAN ALSO BE ACCESSED ONLINE.

    FDEP RULES ARE AVAILABLE ONLINE AT WWW.DEP.STATE.FL.US.

40. CONSTRUCTION SHALL BE IN ACCORDANCE WITH UTILITY STANDARDS IN EFFECT AT THE TIME THE PROJECT WAS APPROVED BY FPUA AND WILL NOT BE SUBJECT TO CHANGES IN THE STANDARDS DURING THE LIFE OF THE PROJECT.

41. WASTEWATER DISCHARGE SHALL BE SUBJECT TO FPUA WASTEWATER SYSTEM USER RULES IN ACCORDANCE WITH FORT PIERCE UTILITIES AUTHORITY.

42. ALL ABANDONED MAINS AND SERVICE LINES SHALL BE REMOVED OR FILLED WITH CEMENT GROUT AT THE DISCRETION OF FPUA. ASBESTOS CEMENT PIPE (ACP) MUST BE REMOVED AND HANDLED IN COMPLIANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS. ALL CUTTING, REMOVAL AND DISPOSAL OF ACP SHALL BE PERFORMED BY A FLORIDA LICENSED ASBESTOS ABATEMENT CONTRACTOR.

43. PERMITS SHALL BE OBTAINED FOR SUBAQUEOUS AND AERIAL PIPE CROSSING CANALS AND OTHER SURFACE WATERS FROM JURISDICTIONAL AGENCIES AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PERMITTED PLANS AND CONDITIONS.

44. ALL NEW/REPLACED FACILITIES SHALL BE RESTORED WITH A MINIMUM OF ONE FULL ROW (1' WIDE) OF SOD.

45. ON FORCE MAINS LESS THAN OR EQUAL TO 16 INCHES IN DIAMETER, RESILIENT SEAL GATE VALVES SHALL BE INSTALLED AT A MAXIMUM OF 1,000 FEET INTERVALS AND BRANCHES OF INTERSECTING FORCE MAINS ON TEES AND WYES AND AT FORCE MAIN STUBS. ON FORCE MAINS GREATER THAN 16 INCHES, VALVES SHALL BE LOCATED AT MAXIMUM 2,500 FEET INTERVALS.

46. AIR RELEASE VALVES SHALL BE PLACED AT ALL CANAL CROSSINGS, HIGH POINTS AND OTHER LOCATIONS SPECIFIED BY FPUA. THE EOR SHALL CONSULT WITH FPUA REGARDING THE TYPE OF VALVE TO BE USED AND ITS LOCATION. FOR BELOW GROUND INSTALLATION, THE AIR RELEASE VALVE SHALL BE LOCATED INSIDE AN ABOVE-GROUND ACCESS STRUCTURE AS SHOWN IN THE STANDARD DETAILS. VALVES SHALL BE SIZED AS PER MANUFACTURER'S RECOMMENDATION.

47. PRODUCTS LISTED ON THE QUALIFIED PRODUCT LIST (QPL) HAVE BEEN APPROVED BY FPUA FOR USE IN THE CONSTRUCTION OF WATER, WASTEWATER AND RECLAIMED WATER FACILITIES. PRIOR TO THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL SUBMIT TO FPUA A LIST OF PRODUCTS AND EQUIPMENT TO BE INSTALLED SELECTED ON THE QPL. ANY MATERIAL NOT LISTED ON THE QPL SHALL REQUIRE SUBMITTAL OF SHOP DRAWINGS APPROVED BY THE EOR AND REVIEWED BY FPUA PRIOR TO ORDERING MATERIALS. USE OF PRODUCTS ON THE QPL WILL EXPEDITE THE REVIEW AND APPROVAL PROCESS AND IS, THEREFORE, ENCOURAGED. IF THE APPLICANT PREFERS TO USE OTHER PRODUCTS, IT IS STRONGLY SUGGESTED THAT A REQUEST BE SUBMITTED TO INCLUDE SUCH PRODUCTS ON THE QPL.

STANDARD WATER AND SEWER SEPARATION STATEMENT

1. STORM SEWER, GRAVITY WASTEWATER AND FORCE MAINS CROSSING UNDER POTABLE WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWELVE INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED BETWEEN GRAVITY SEWER OR STORM SEWER, THE CROSSING SHALL BE ARRANGED SO THAT THE STORM/GRAVITY SEWER PIPE JOINTS AND POTABLE WATER MAIN JOINTS ARE EQUAL DISTANCE FROM THE POINT OF CROSSING WITH NO LESS THAN SIX FEET BETWEEN ANY TWO JOINTS. BOTH PIPES SHALL BE D.I.P. AND THE MINIMUM VERTICAL SEPARATION SHALL BE SIX INCHES. WHERE THERE IS NO ALTERNATIVE TO STORM/WASTEWATER/FORCE MAIN MAINS CROSSING OVER A POTABLE WATER MAIN, THE CRITERIA FOR MINIMUM TWELVE INCH VERTICAL SEPARATION BETWEEN LINES AND JOINT ARRANGEMENT, AS STATED ABOVE, SHALL BE REQUIRED, AND BOTH PIPES SHALL BE D.I.P. IRRESPECTIVE OF SEPARATION. IN ALL THE ABOVE CASES D.I.P. IS NOT REQUIRED FOR STORM SEWER PIPE.

2. FORCE MAINS CROSSING STORM SEWER SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWELVE INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND THE OUTSIDE OF THE STORM SEWER.

3. AT THE UTILITY CROSSING DESCRIBED IN ITEMS 1 AND 2 ABOVE, ONE FULL LENGTH OF DUCTILE IRON WATER MAIN PIPE SHALL BE CENTERED SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE JOINTS. WHERE THIS IS NOT POSSIBLE, JOINTS SHALL BE AT LEAST THREE (3) FEET FROM STORM SEWERS AND SIX FEET FROM GRAVITY MAINS AND FORCE MAINS.

4. SEWER SERVICE LATERALS SHALL CROSS UNDER WATER MAINS WITH A MINIMUM VERTICAL SEPARATION OF TWELVE INCHES. IF TWELVE INCHES SEPARATION CANNOT BE MAINTAINED, THEN THE WATER MAIN SHALL BE D.I.P. AND THE SEWER SERVICE LATERAL SHALL BE C-900 SDR 18 OR BETTER AND THE MINIMUM SEPARATION SHALL BE SIX INCHES APART. WHEN IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER THE SEWER SERVICE LATERAL A MINIMUM VERTICAL SEPARATION OF AT LEAST TWELVE INCHES MUST BE MAINTAINED. THE WATER MAIN SHALL BE D.I.P. AND THE SEWER LATERAL SHALL BE C-900 SDR 18 OR BETTER.

5. MAINTAIN MINIMUM TEN FEET HORIZONTAL DISTANCE BETWEEN POTABLE WATER MAIN OR FORCE MAIN, STORM SEWER OR GRAVITY SEWER MAIN OR ON SITE SEWAGE DISPOSAL SYSTEMS. ADDITIONAL SEPARATION MAY BE REQUIRED AS DETERMINED BY THE LDRB.

6. IF THERE IS A CONFLICT BETWEEN THESE STANDARDS AND FPUA UTILITY STANDARDS MANUAL THE MORE STRINGENT SHALL APPLY.

PERMITTING SET

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

No.	REVISIONS	BY	DATE
3	PER FPUA OCT 2025 COMMENTS	RMD	10/21/2025
2	PER FPUA AUG 2025 COMMENTS	MJS	9/09/2025
1	BID SET	RDC	4/09/2025

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KHA PROJECT 147923001
DATE NOV 2025
SCALE AS SHOWN
DESIGNED BY HMR
DRAWN BY TMC
CHECKED BY DHE

CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW

FL LICENSE NUMBER 82414

GENERAL NOTES

SHEET NUMBER G-3-002

Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:G-3-002 GENERAL NOTES November 04, 2025 09:01:40am K:\VRB_WaterResources\147923001 - FPUA WW Redirection Phase 1a\CAD\CIP 3 - Moore's Creek Booster\PlanSheets\G-3-001 COVER SHEET.dwg
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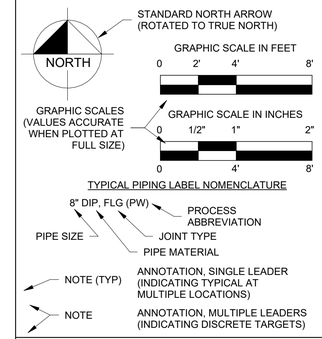
(A)ARV	(AUTOMATIC) AIR RELEASE VALVE
A/C	AIR CONDITIONING
A/VV	AIR/VACUUM AIR VALVE
AAV	AUTOMATIC AIR VENT
AB-xx	AUGER BORING (e.g. AB-1)
ABAN	ABANDON(ED)
ABFV	ACTUATED BUTTERFLY VALVE
ABRSV	ABRASIVE
ABS	ACRYLONITRILE BUTADIENE STYRENE
ACCV	ASPHALT-COATED CORRUGATED METAL PIPE
ACP	AIR CUSHION CHECK VALVE
ADH	ADHESIVE
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFS	ABOVE FINISHED SLAB
AG	AMMONIA GAS
AIR	AIR PIPE
AL	ALUMINUM
ALT	ALTERNATE
AMM	AMMONIATOR
AOD	ANGLE OF DEFLECTION
APPROX	APPROXIMATE
AS	AMMONIA SOLUTION
ASSY	ASSEMBLY
B	BRINE
B-xx	BORING (e.g. B-1)
B/W	BOTH WAYS
BCV	BALL CHECK VALVE
BF	BLIND FLANGE
BFP	BACKFLOW PREVENTER
BFV	BUTTERFLY VALVE
BGO	BURIED GEAR OPERATOR
BI	BLACK IRON
BIP	BLACK IRON PIPE
BITUM	BITUMINOUS or BITUMASTIC
BLDG	BUILDING
BM	BENCH MARK
BOC	BACK OF CURB
BOS	BOTTOM OF SLAB
BOT	BOTTOM
BSP	BLACK STEEL PIPE
BTWN	BETWEEN
BV	BALL VALVE
BW	BUTT WELD
BWR	BACKWASH RETURN
BWS	BACKWASH SUPPLY
BWW	BACKWASH WASTE
C	CAUSTIC SODA
C&G	CURB & GUTTER
C.F.	CUBIC FOOT
C.I.	CUBIC INCH
C.Y.	CUBIC YARD
C/C	CENTER TO CENTER
CA	COMPRESSED AIR
CaCL2	CALCIUM CHLORIDE
CAP	CAPACITY
CATV	CABLE TELEVISION
CAV	COMBINATION AIR VALVE
CBP	CHLORINE BOOSTER PUMP
CCC	CHLORINE CONTACT CHAMBER
CE	CHLORINATED EFFLUENT
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CIN	CORROSION INHIBITOR
CIPF	CLEAN-IN-PLACE FILL
CIPS-R	CLEAN-IN-PLACE SUPPLY or RETURN
CISP	CAST IRON SOIL PIPE
CL	CENTER LINE
CL2	CHLORINE GAS
CLD	CHLORINE DIOXIDE
CLF	CHAIN LINK FENCE
CLN	CLEANING
CLR	CLEAR(ANCE)
CMP	CORRUGATED METAL PIPE
CMPA	CORRUGATED METAL PIPE ARCH
CO	CLEAN OUT
CO2	CARBON DIOXIDE
COAG	COAGULANT
CONC	CONCENTRATE
CONN	CONNECTION
CONSTR	CONSTRUCT(ION)
CONT	CONTINUATION
COP	COPPER PIPE
CP	CONCRETE PIPE
CPA	CONCRETE PIPE ARCH
CPLG	COUPLING
CPP	CONCRETE PRESSURE PIPE
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CHLORINE SOLUTION
CV	CHECK VALVE
CW	DOMESTIC COLD WATER
CWT	CLARIFIED WATER TRANSFER
CYL	CYLINDER
D	DRAIN
DEG	DEGREE
DEMO	DEMOLITION
DF	DIESEL FUEL
DI/DIP	DUCTILE IRON (PIPE)
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIR	DIRECTION
DISCH	DISCHARGE
DJ	DISMANTLING JOINT
DMH	DROP MANHOLE
DN	DOWN
DR	DIMENSION RATIO
DV	DIAPHRAGM VALVE
DW	DISINFECTED WATER
DWG	DRAWING
DWV	DRAIN, WASTE, AND VENT
E	EAST(ING)
E.F.	EACH FACE
E.W.	EACH WAY
EA	EACH
ECC	ECCENTRIC
EFF	EFFLUENT
EGO	ELEVATED GEAR OPERATOR
EJ	EXPANSION JOINT
EL(EV)	ELEVATION
ELAST	ELASTOMERIC
ELL	ELBOW
EMER	EMERGENCY
EOP	EDGE OF PAVEMENT
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQUIP	EQUIPMENT
EST	ESTIMATE(D)
EVA	ELECTRIC VALVE ACTUATOR
EX(IST)	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F/F	FACE TO FACE
FA	FOUL AIR
FAB	FABRICATE(D)
FBW	FILTER BACKWASH
FC	FLEXIBLE COUPLING
FCA	FLANGED COUPLING ADAPTER
FCV	FLOW CONTROL VALVE
FD	FLOOR DRAIN
FE	FILTER(ED) EFFLUENT
FEED	RO FEED
FF	FINISHED FLOOR
FH	FIRE HYDRANT
FIG	FIGURE
FIN	FINISH(ED)
FL	FLUORIDE
FLEX	FLEXIBLE
FLG	FLANGE(D)
FLR	FLOOR
FM	FORCE MAIN
FO(L)(C)	FIBER OPTIC (LINE)(CONDUIT)
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FOOT OR FEET
FV	FOOT VALVE
FW	FINISHED WATER
G	GRIT
G.O.	GEAR OPERATED
GA	GAUGE
GAL	GALLON(S)
GALV	GALVANIZED
GBW	GAC BACKWASH
GCV	GLOBE CHECK VALVE
GE	GROOVED END
GEN	GENERATOR
GIP	GALVANIZED IRON PIPE
GJ	GROOVE JOINT
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPS	GALLONS PER SECOND
GR	GRADE
GS	GALVANIZED STEEL
GSP	GALVANIZED STEEL PIPE
GSR	GROUND STORAGE RESERVOIR
GST	GROUND STORAGE TANK
GV	GATE VALVE
HB	HOSE BIBB
HD	HEAVY DUTY
HDD	HORIZONTAL DIRECTIONAL DRILL
HDPE	HIGH-DENSITY POLYETHYLENE
HF6	HYDROGEN HEXAFLUORIDE
HFA	HYDROFLUOSILICIC ACID
HFCA	HARNESSED FLANGED COUPLING ADAPTER
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPA	HIGH PRESSURE AIR
HR	HOUR
HSP	HIGH SERVICE PUMP
HT	HEIGHT
HVA	HYDRAULIC VALVE ACTUATOR
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
HW	DOMESTIC HOT WATER
HWL	HIGH WATER LEVEL
HYD	HYDRAULIC
ID	INSIDE DIAMETER
IN	INCH(ES)
INF	INFLUENT
INV	INVERT
IP	IRON PIPE
IPS	INTERNATIONAL PIPE STANDARD
IR	INTERNAL RECYCLE
IRML	INTERNAL MIXED LIQUOR RETURN
IW	IRRIGATION WATER
IX	ION EXCHANGE
JB	JUNCTION BOX
JT	JOINT
KGV	KNIFE GATE VALVE
L,LT	LEFT
LAB	LABORATORY
LAM	LAMINATE OR LAMINATION
LAT	LATERAL
LB(S)	POUND(S)
LEN	LENGTH
LF	LINEAR FEET
LHDPE	LINEAR HIGH-DENSITY POLYETHYLENE
LS	LIME SLURRY
LSS	LIME STABILIZED SLUDGE
LWL	LOW WATER LEVEL
M	MECHANICAL JOINT
MAINT	MAINTAIN OR MAINTENANCE
MAN	MANUAL(LY)
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
ME(S)	MITERED END (SECTION)
MECH	MECHANICAL
MF	MICROFILTRATION
MFR	MANUFACTURE(R)
MG	MILLION GALLONS
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MI	MILE(S)
MIN	MINIMUM
MISC	MISCELLANEOUS
ML	MIXED LIQUOR
MPH	MILES PER HOUR
MRPP	METAL REINFORCED PLASTIC PIPE
MTD	MOUNTED
MV	MOTORIZED VALVE
MW	MANWAY
MWL	MEAN WATER LEVEL
N	NORTH(ING)
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
N/A	NOT APPLICABLE
NaOCl	SODIUM HYPOCHLORITE
NaOH	SODIUM HYDROXIDE
NE	NORTHEAST
NF	NANOFILTRATION
NIC, N.I.C.	NOT IN CONTRACT
NO., #	NUMBER
NOM	NOMINAL
NPT	NATIONAL PIPE TAPER
NPW	NON-POTABLE WATER
NSFC	NOT SHOWN FOR CLARITY
NTS,N.T.S.	NOT TO SCALE
NW	NORTHWEST
O2	OXYGEN
O&M	OPERATION AND MAINTENANCE
O.C.	ON CENTERS
O.C.E.W.	ON CENTERS EACH WAY
O/E	OR EQUAL
O/O	OUTSIDE TO OUTSIDE
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OFF	OFFSET
OH	OVERHEAD
OP	ORIFICE PLATE
OPER	OPERATOR
OPP	OPPOSITE
OPT	OPTION(AL)
OS&Y	OUTSIDE STEM & YOKE
OVF	OVERFLOW
P/L	PROPERTY LINE
PA	PROCESS AIR
PBV	PLASTIC BALL VALVE
PC	POINT OF CURVE
PE	PLAIN END (PIPE)
PE	PRIMARY EFFLUENT (SYSTEM)
PEP	POLYETHYLENE PIPE
PERM	PERMEATE
PG	PRESSURE GAUGE
PGL	PROPOSED GRADE LINE
PJ	PUSH-ON JOINT
PLC	PROGRAMMABLE LOGIC CONTROLLER
PM	PROCESS MECHANICAL
PNV	PINCH VALVE
POB	POINT OF BEGINNING
POI	POINT OF INTERSECTION
POJ	PUSH-ON JOINT
POL	POLYMER
POT	POINT OF TANGENCY
PPD	POUNDS PER DAY
PPM	PARTS PER MILLION
PREFAB	PREFABRICATED
PRES	PRESSURE
PROP	PROPOSED
PRV	PRESSURE REDUCING VALVE
PRW	PROCESS WATER
PS	PRIMARY SLUDGE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PVC-D	POLYVINYL CHLORIDE (DOUBLE CONTAINED)
PVDF	POLYVINYLIDENE FLUORIDE (KYNAR)
PVMT	PAVEMENT
PW	POTABLE WATER
Q	FLOW
QTY	QUANTITY
R,RT	RIGHT
R/W, R.O.W.	RIGHT OF WAY
RAD., R.	RADIUS
RAS	RETURN ACTIVATED SLUDGE
RAW	RAW WATER
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RCPA	REINFORCED CONCRETE PIPE ARCH
RCW,RW	RECLAIMED WATER
REBAR	REINFORCING STEEL
REC	RECIRCULATION (DISCHARGE/SUCTION)
RED	REDUCER
REEW	REUSE EFFLUENT WATER
REF	REFERENCE
REINF	REINFORCE(D)(ING)(MENT)
REJ	RO REJECT, REJECT
REQ'D	REQUIRED
REW	RETURN EFFLUENT WATER
RJ	RESTRAINED JOINT (BELL)
RMJ	RESTRAINED MECHANICAL JOINT
RNG	RANGE
RO	REVERSE OSMOSIS
ROC	RADIUS OF CURVATURE
RPM	REVOLUTIONS PER MINUTE
RPZBP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
RR	RAILROAD
RS	RAW SEWAGE
RWW	RAW WASTEWATER
S	SOUTH
S.F.	SQUARE FOOT
S.I.	SQUARE INCH
S.O.	SIDE OPERATED
S.STL	STAINLESS STEEL
S.Y.	SQUARE YARD
SA	SULFURIC ACID
SAMP	SAMPLE LINE
SAN	SANITARY SEWER
SB-xx	SOIL BORING (e.g., SB-1)
SC	SCUM
SCH	SCHEDULE
SCRE	SCREENED EFFLUENT
SCV	SILENT CHECK VALVE
SD	STORM DRAIN
SDR	STANDARD DIMENSION RATIO
SE	SOUTHEAST
SE	SECONDARY EFFLUENT
SEC	SECTION
SF	SQUARE FOOT or FEET
SHT	SHEET(ED)(ING)
SI	SCALE INHIBITOR
SIM	SIMILAR
SL	SLUDGE
SLV	SLEEVE
SM	SHEET METAL
SOL	SOLUTION
SP	SOIL PIPE
SPEC(S)	SPECIFICATION(S)
SPT-xx	STANDARD PENETRATION TEST BORING (e.g. SPT-1)
SQ	SQUARE
SS	SANITARY SEWER
SSE	SUBSTANDARD EFFLUENT
ST	SAMPLE TAP
STA	STATION
STD	STANDARD
STL	STEEL
STORM	STORMWATER
STR	STRAIGHT
SUP	SUPERNATANT
SV	SOLENOID VALVE
SVC	SERVICE
SVW	SERVICE WATER
SW	SOUTHWEST
SWD	SIDEWATER DEPTH
SYM	SYMBOL
SYMM	SYMMETRICAL
T&B	TOP AND BOTTOM
T.O.C.	TOP OF CONCRETE
T.O.S.	TOP OF SLAB
T.S.	TAPPING SLEEVE
T.V.	TAPPING VALVE
T/B	TOP OF BANK
T/C	TOP OF CURB
T/S	TOE OF SLOPE
TAN	TANGENT
TB-xx	TEST BORING-xx (e.g. TB-1)
TBM	TEMPORARY BENCHMARK
TDH	TOTAL DYNAMIC HEAD
TEL	TELEPHONE
TEMP	TEMPORARY
TH	TEST HOLE
THD	THREAD(ED)
THK	THICK(NESS)
TJ	TIED JOINT
TS	THICKENED SLUDGE
TV	TELEVISION
TWAS	THICKENED WASTE ACTIVATED SLUDGE
TWP	TOWNSHIP
TYP	TYPICAL
UD	UNDERDRAIN
UF	ULTRAFILTRATION
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UON	UNLESS OTHERWISE NOTED
UTC	UNDERGROUND TELEPHONE CABLE
UTIL	UTILITY
UV	ULTRAVIOLET
V	VENT
VAC	VACUUM
VAR	VARIES
VB	VALVE BOX
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VEL	VELOCITY
VENT	VENT
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VTR	VENT THROUGH ROOF
W	WEST
W.L.	WATER LEVEL
W.P.	WALL PIPE (WITH WATERSTOP)
W/	WITH
W/O	WITHOUT
WAS	WASTE ACTIVATED SLUDGE
WCO	WALL CLEANOUT
WF	WIDE FLANGE
WH	WALL HYDRANT
WM	WATER MAIN
WPR	WORKING PRESSURE
WS(P)	WELDED STEEL (PIPE)
WT	WEIGHT
WTF	WATER TREATMENT FACILITY
WTP	WATER TREATMENT PLANT
WW	WASTEWATER
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
WWTF	WASTEWATER TREATMENT FACILITY
WWTP	WASTEWATER TREATMENT PLANT
XFER	TRANSFER
XLHDPE	CROSS LINKED HIGH-DENSITY POLYETHYLENE
YD	YARD(S)
YH	YARD HYDRANT
YR	YEAR(S)

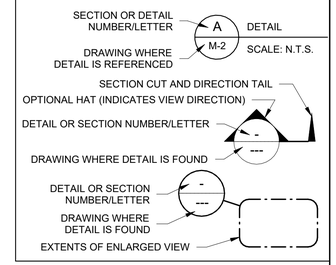
PROCESS PIPING LEGEND (DOUBLE-LINE OR 3D)

- MECHANICAL JOINT FITTINGS
- FLANGED FITTINGS
- SOLVENT WELD FITTINGS
- BUTT-WELD FITTINGS (S.STL SHOWN)
- BALL VALVE (SOLVENT WELD SHOWN)
- GATE VALVE (FLANGED SHOWN)
- PLUG VALVE (FLANGED SHOWN)
- BUTTERFLY VALVE (FLANGED SHOWN, WHEEL OPERATED)
- BUTTERFLY VALVE (WAFER, LEVER OPERATED)
- GLOBE CHECK VALVE (FLANGED SHOWN)
- SWING CHECK VALVE (FLANGED SHOWN)
- PIPE COUPLING
- EXPANSION JOINT (FLANGED SHOWN)
- FLOW CONTROL VALVE (FLANGED SHOWN)
- MAGNETIC FLOW METER
- PROPELLER FLOW METER
- V-CONE FLOW METER
- VENTURI FLOW METER
- SOLID LINE PIPING INDICATES ABOVE GRADE PIPING UNLESS OTHERWISE NOTED
- DASHED LINE PIPING INDICATES BELOW GRADE PIPING UNLESS OTHERWISE NOTED

DRAFTING LEGEND



DETAIL/SECTION REFERENCES



STANDARD ABBREVIATIONS

NOTE:
THIS LEGEND IS FOR GENERAL REFERENCE. NOT ALL ABBREVIATIONS, SYMBOLS, PROCESSES, MATERIALS, OR FITTINGS MAY BE USED IN THIS DESIGN, NOR IS THIS LEGEND COMPREHENSIVE. REFER TO INDIVIDUAL DRAWING LEGEND(S) IF SYMBOLS ARE NOT LISTED. INDIVIDUAL DISCIPLINE STANDARD LEGENDS SUPERCEDE THIS GENERAL LEGEND, IF PROVIDED.

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KHA PROJECT 147923001
DATE NOV 2025
SCALE AS SHOWN
DESIGNED BY: HR
DRAWN BY: Tc
CHECKED BY: DE

CIP 3 - MOORES CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

LICENSED PROFESSIONAL:

MATTHEW MICHAEL TEBOW

FL LICENSE NUMBER 82414

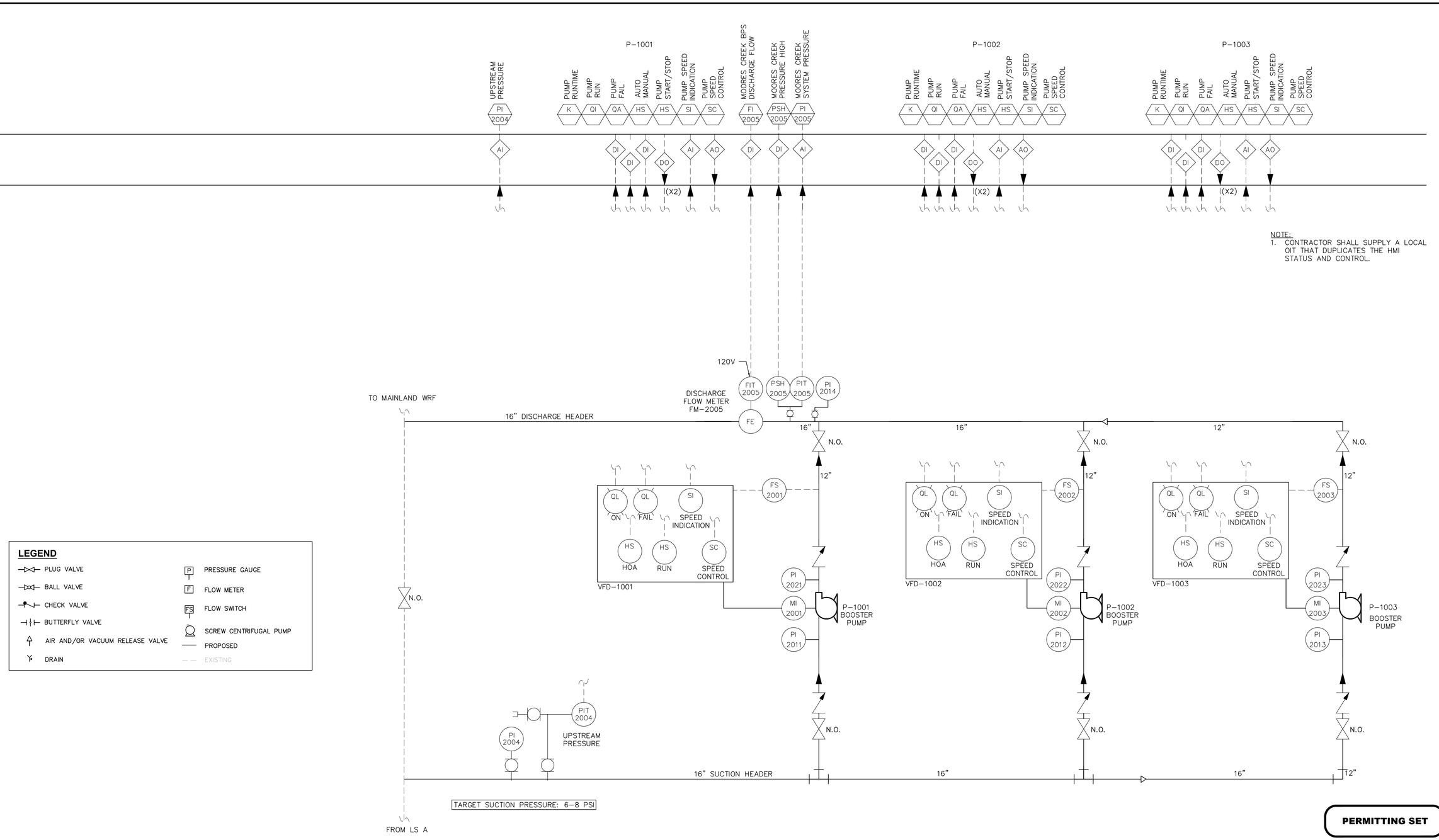
DATE:

STANDARD LEGEND AND ABBREVIATIONS

SHEET NUMBER

G-3-003

Autodesk Docs://147923001 FPUA WW Reflection PH1A/DP3 SHEETS - FPUA PHASE1A.rvt



LEGEND

- PLUG VALVE
- BALL VALVE
- CHECK VALVE
- BUTTERFLY VALVE
- AIR AND/OR VACUUM RELEASE VALVE
- DRAIN
- PRESSURE GAUGE
- FLOW METER
- FLOW SWITCH
- SCREW CENTRIFUGAL PUMP
- PROPOSED
- EXISTING

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PROCESS FLOW DIAGRAM

SHEET NUMBER

G-3-004

Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:G-3-004 PROCESS FLOW DIAGRAM November 04, 2025 09:02:36am K:\VRB_WaterResources\147923001 - FPUA WW Redirection Phase 1a\CAD\CIP 3 - Moore's Creek Booster\PlanSheets\G-3-004 PROCESS FLOW DIAGRAM.dwg
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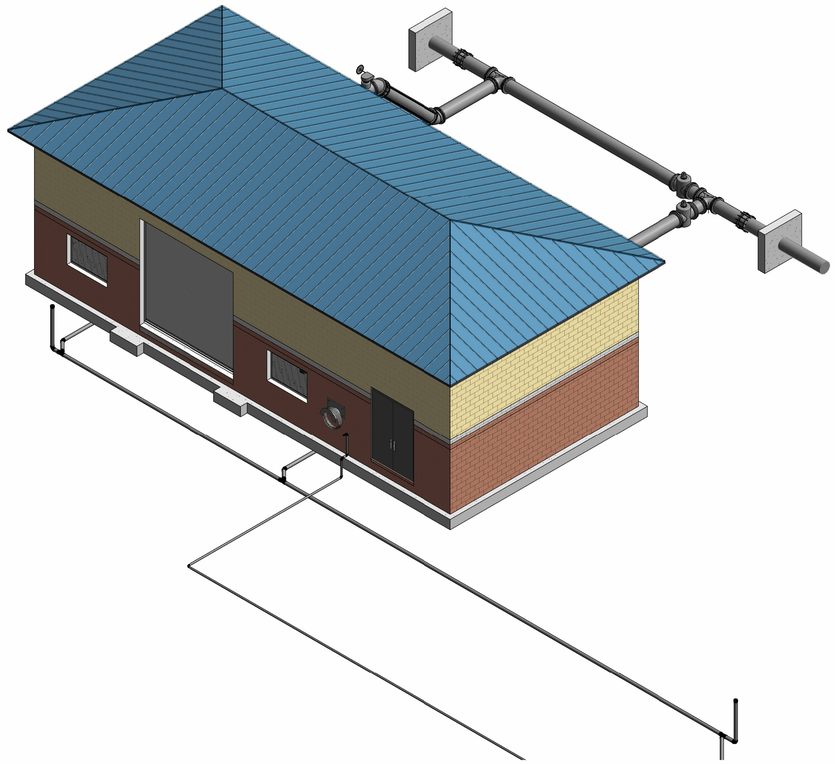
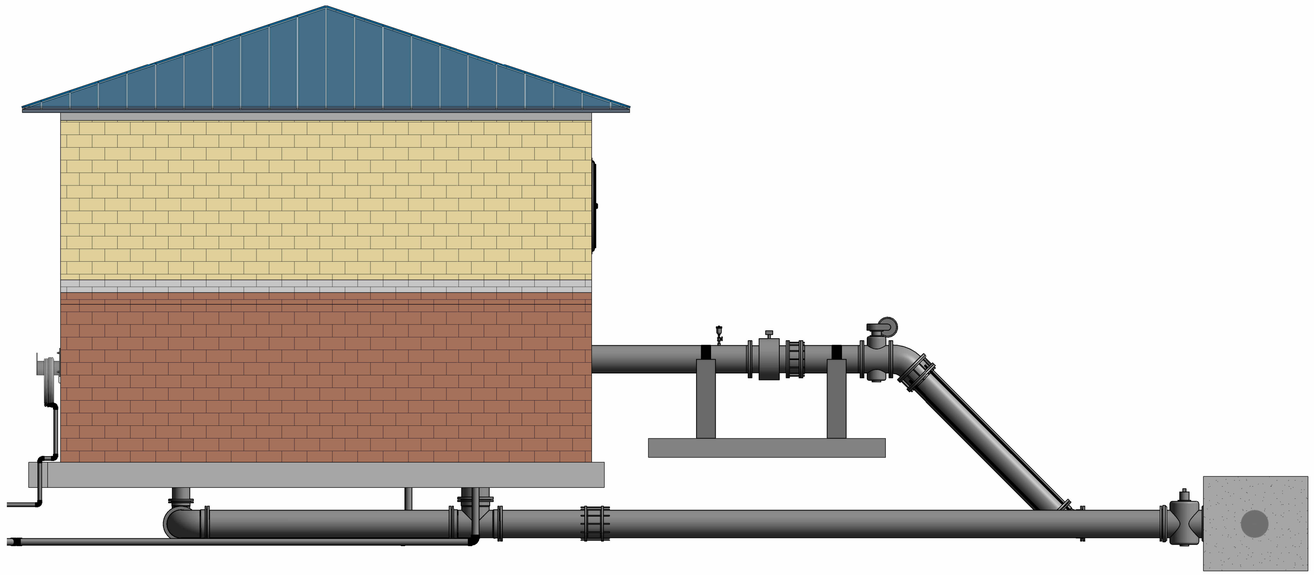


1 NE ISOMETRIC VIEW
N.T.S.



2 EAST ELEVATION 3D VIEW
G-3-005 N.T.S.

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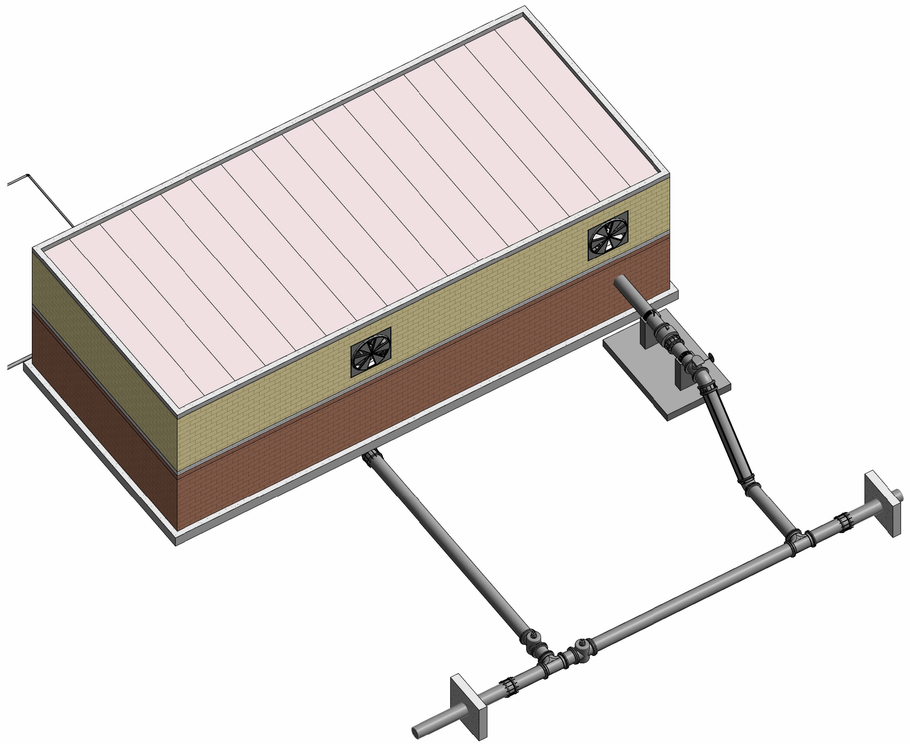

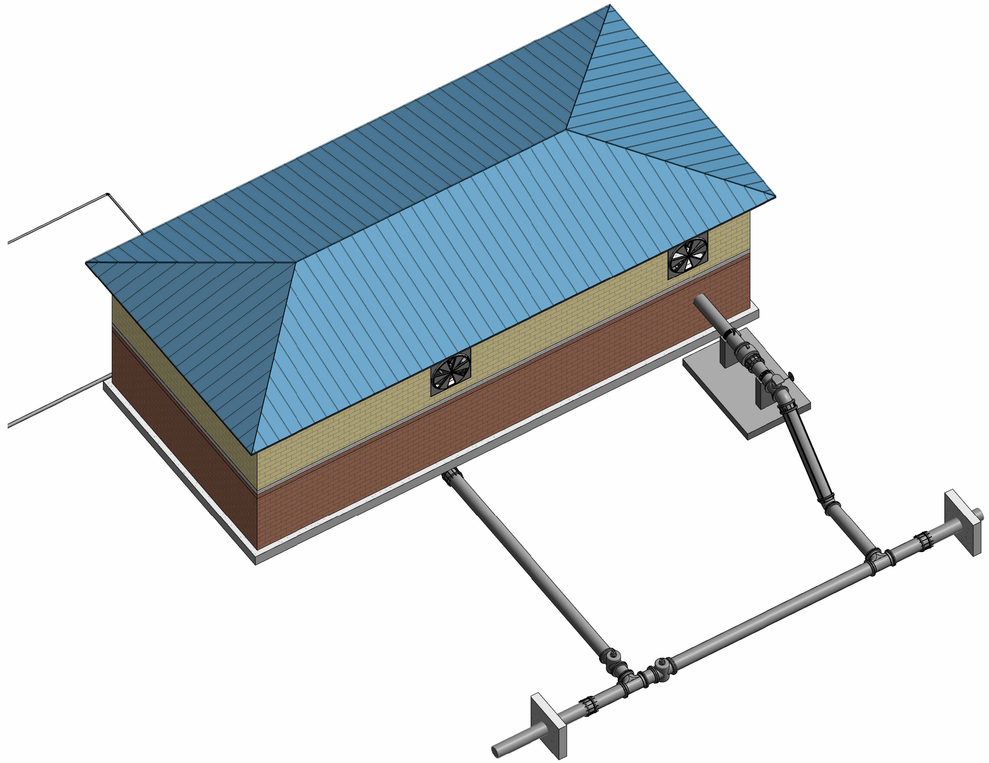

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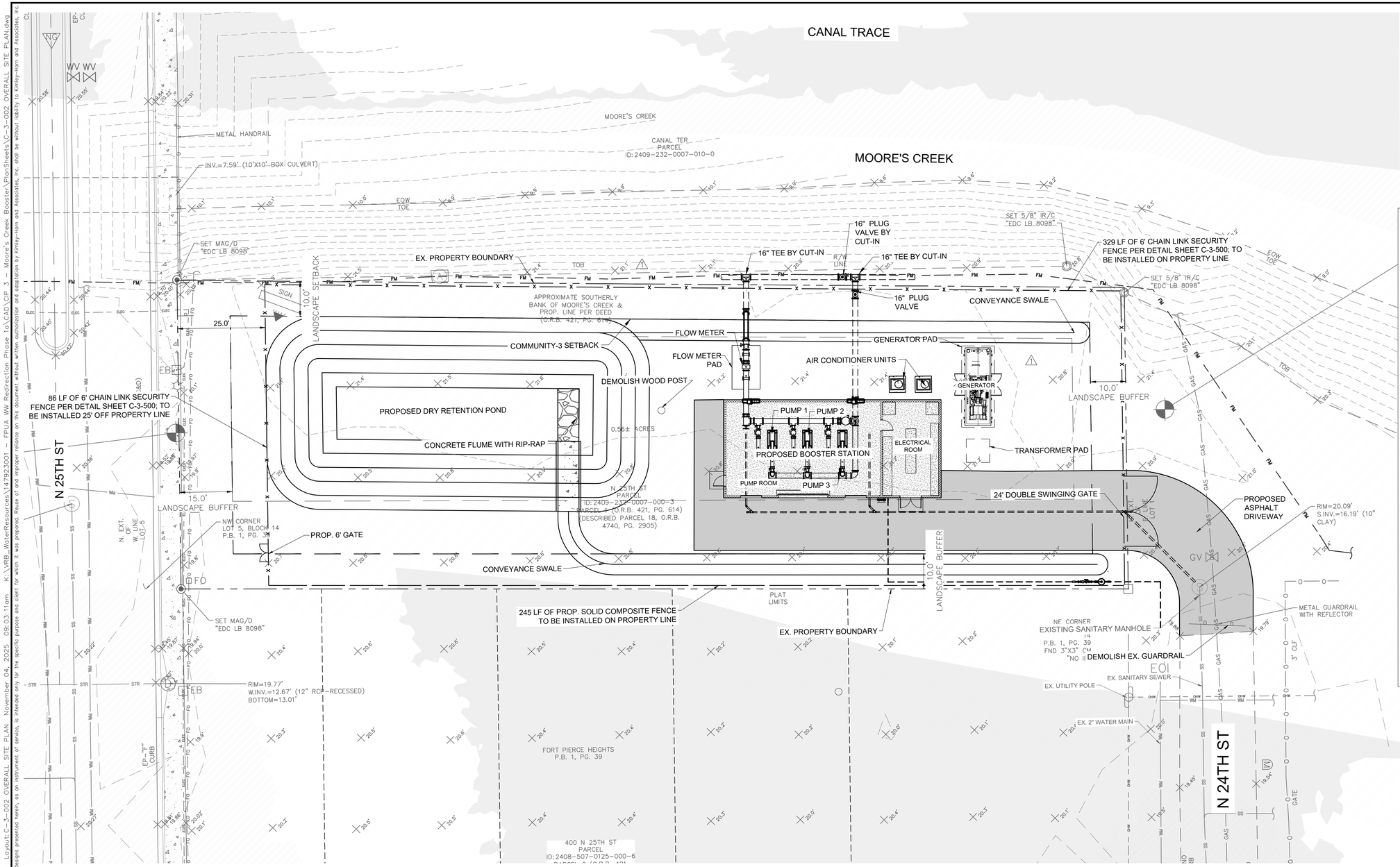
Sign renderings are not required/applicable.



SITE DATA

LOCATION:	N 25TH STREET, FORT PIERCE FL, 34946
PARCEL ID:	2409-232-0007-000
SITE AREA:	23490 SF 0.54 AC
FOLIO A:	C3 (COMMUNITY GENERAL)
BUILDING A:	1650 SF
TOTAL:	1650 SF
PROPOSED LAND USE:	
BUILDING AREA:	1650 SF 0.03 AC 7.02%
ASPHALT:	3143.67 SF 0.07 AC 13.38%
LANDSCAPE AREA:	18696.33 SF 0.43 AC 79.6%
TOTAL AREA	23490 SF 0.54 AC

BUILDING SETBACKS	REQUIRED	PROVIDED
FRONT:	25'	26'
LEFT SIDE:	15'	155
RIGHT SIDE:	15'	52'
BACK	15'	32'
MIN. OPEN SPACE:	20%	
LANDSCAPE BUFFER:		
NORTH, EAST, SOUTH PROPERTY BOUNDARY	10'	10'
WEST PROPERTY BOUNDARY	15'	15'

PARKING
PROVIDED PARKING 0 SPACES

LEGAL DESCRIPTION
9 35 40 BEG AT NE COR LOT 1 BLK 14 FT PIERCE HEIGHTS S/D
RUN W 280 FT M/L TO NW COR LOT 5 BLK 14 OF SD S/D
TH N ON EXT W LI OF SD LOT 5 88 FT M/L TO SLY BANK OF MOORE'S CREEK
TH E ALG SD SLY BANK TO PT ON LI EXT N OF E LI
TH RUN S 86 FT M/L TO POB-LESS W 10 FT (18)

PAVEMENT LEGEND
- ASPHALT PAVEMENT (SEE DETAILS SHEET 3-101)
- CONCRETE (SEE DETAILS SHEET 3-101)
- STABILIZED GRAVEL (SEE DETAILS SHEET 3-101)

LEGEND
- -FEMA FLOOD ZONE AE FLOODWAY
- -FEMA FLOOD ZONE AE
- -FEMA FLOOD ZONE X
- GAS — EXISTING GAS LINE
- x — FENCE
- FM — EXISTING FORCE MAIN
- WM — EXISTING WATER MAIN
- SS — EXISTING SANITARY SEWER
- PROPERTY BOUNDARY

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CIP 3 - MOORE'S CREEK BOOSTER STATION
PREPARED FOR
FORT PIERCE UTILITIES AUTHORITY

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OVERALL SITE PLAN

SHEET NUMBER C-3-002

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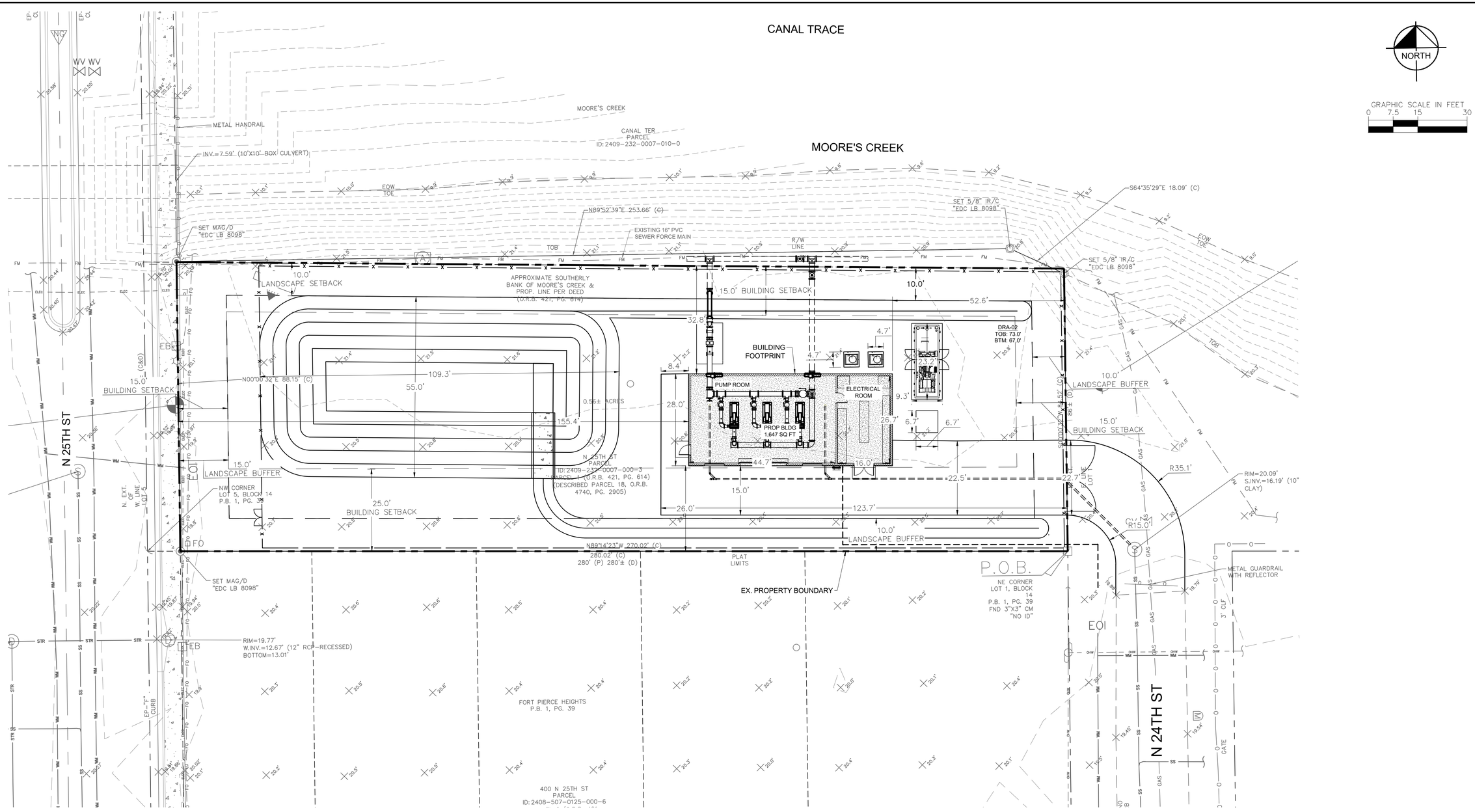
Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:C-3-002 OVERALL SITE PLAN November 04, 2025 09:03:11am K:\VRB_WaterResources\147923001 - FPUA WW Redirection Phase 1a\CAD\CIP 3 - Moore's Creek Booster\PlanSheets\C-3-002 OVERALL SITE PLAN.dwg



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1	PER FPUA AUG 2025 COMMENTS	MJS	9/09/2025
0	BID SET	RDC	4/09/2025

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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT	147923001
DATE	NOV 2025
SCALE	AS SHOWN
DESIGNED BY	HMR
DRAWN BY	TMC
CHECKED BY	DHE

CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW

FL LICENSE NUMBER 82414

HORIZONTAL CONTROL PLAN

SHEET NUMBER

C-3-100

Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:C-3-100 HORIZONTAL CONTROL PLAN November 04, 2025 09:03:25am K:\VRB_WaterResources\147923001 - FPUA WW Redirection Phase 1a\CAD\CIP 3 - Moore's Creek Booster\PlanSheets\C-3-100 HORIZONTAL CONTROL PLAN.dwg
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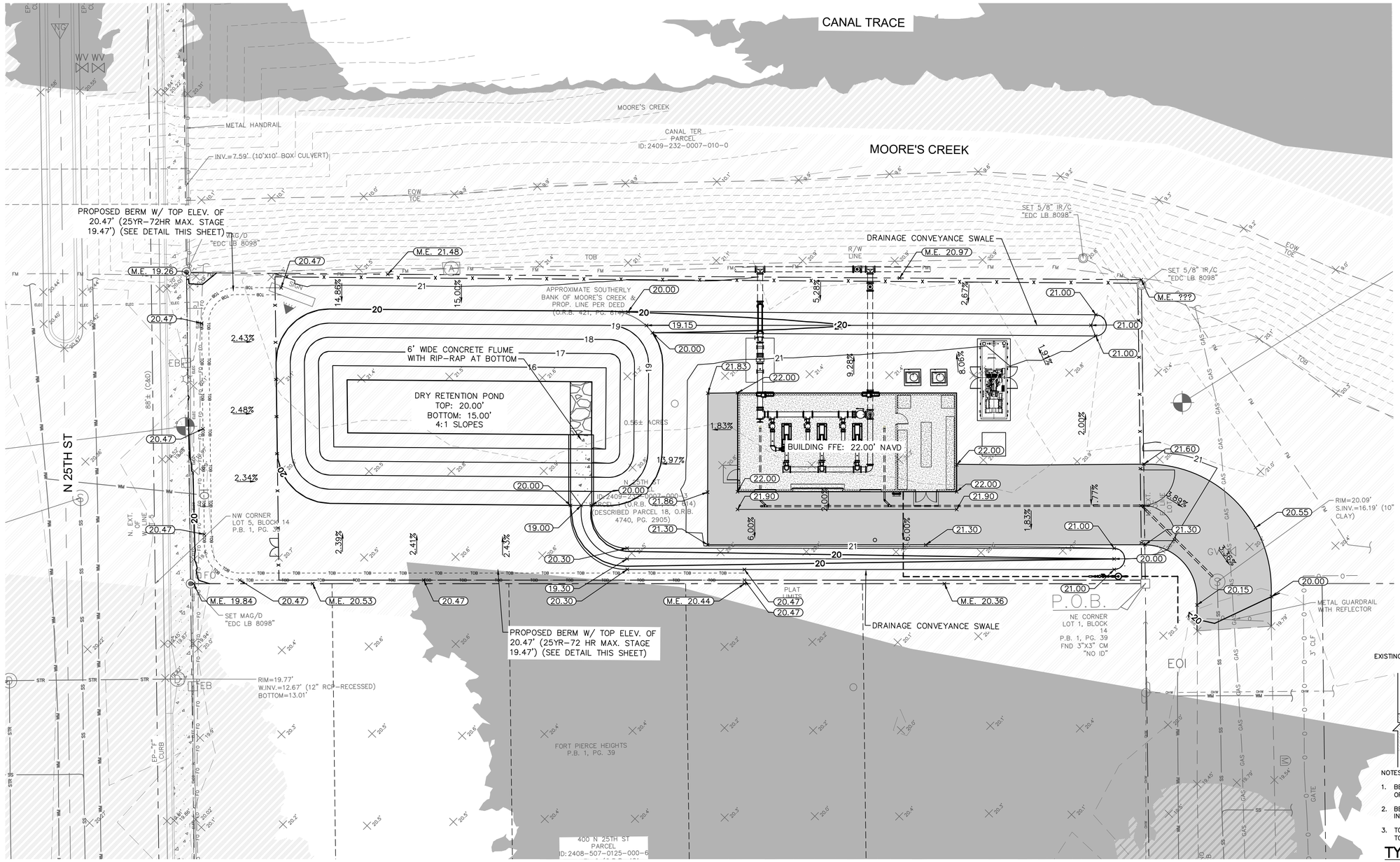

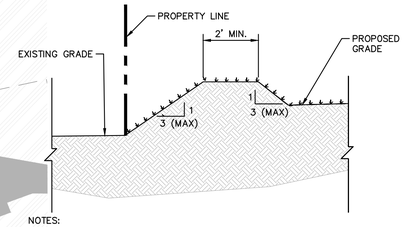

NOTES:

1. BERM TO BE CONSTRUCTED OF SUITABLE FILL MATERIAL. NO MUCK OR OPEN GRADED SILICA (SUGAR) SAND WILL BE ACCEPTABLE.
2. BERM TO BE COMPACTED TO 92% DENSITY AND SODDED OR STABILIZED IN AN APPROVED METHOD TO PREVENT EROSION.
3. TOP OR BERM TO BE CONSTRUCTED TO A MINIMUM ELEVATION EQUAL TO THE PROJECTED 25 YEAR 72 HOUR EVENT STORM 19.47' NAVD.

TYPICAL PERIMETER BERM DETAIL

SCALE: NOT TO SCALE

NORTH

GRAPHIC SCALE IN FEET
0 7.5 15 30

PAVEMENT LEGEND

- ASPHALT PAVEMENT (SEE DETAILS SHEET 3-101)
- CONCRETE (SEE DETAILS SHEET 3-101)
- STABILIZED GRAVEL (SEE DETAILS SHEET 3-101)

LEGEND

- TREES TO BE PRESERVED
- 100.00 - PROPOSED SPOT ELEVATION
- 80 - EXISTING CONTOURS
- 80 - PROPOSED CONTOURS
- PROPOSED FLOW DIRECTION ARROWS
- TOB - PROPOSED TOP OF BERM
- FEMA FLOOD ZONE AE FLOODWAY
- FEMA FLOOD ZONE AE
- FEMA FLOOD ZONE X

VOLUME CUT / FILL ANALYSIS	
CUT FACTOR	1.0000
FILL FACTOR	1.0000
CUT VOLUME (ADJUSTED)	988.34 CU YD
FILL VOLUME (ADJUSTED)	142.19 CU YD
NET VOLUME (ADJUSTED)	846.15 CU YD (CUT)
CUT VOLUME (UNADJUSTED)	988.34 CU YD
FILL VOLUME (UNADJUSTED)	142.19 CU YD
NET VOLUME (UNADJUSTED)	846.15 CU YD (CUT)

FLOOD PLAIN COMPENSATORY STORAGE	
COMPARISON	VOLUME STORAGE (CU YD) ELEVATION 15'-20.5'
EXISTING FLOOD PLAN	22.92
PROPOSED FLOOD PLAIN	771.10

NOTES:

1. ALL GRADES ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE INDICATED.
2. MAXIMUM RUNNING SLOPE ON SIDEWALKS SHALL NOT EXCEED 5.00% (1:20).
3. MAXIMUM CROSS SLOPE ON SIDEWALKS SHALL NOT EXCEED 2.00% (1:50).
4. MAXIMUM SLOPE IN ACCESSIBLE PARKING AREAS SHALL NOT EXCEED 2.00% (1:50) IN ANY DIRECTION.
5. STORM PIPE MATERIALS SHALL BE A-2000 PVC, HP STORM, RIGID WALL WATER TIGHT HDPE, OR RCP, AND CONFORM WITH THE LATEST EDITION OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
6. ALL FINAL STORM DRAIN MATERIALS SHALL BE APPROVED BY THE ENGINEER OF RECORD AND NOTED ON THE RECORD DRAWINGS.
7. ALL AREAS DISTURBED BY THE CONSTRUCTION OF THIS PROJECT WHICH ARE NOT OTHERWISE PAVED OR NOTED ON THE PLANS SHALL BE IMMEDIATELY STABILIZED FOLLOWING FINAL GRADING. SEE PLANS FOR NOTATION OF SOD AND SEED & MULCH LOCATIONS. ALLOW FOR THICKNESS OF SOD WITH A 2-INCH UNDERCUT. SOD SHALL BE ARGENTINA BAHIA, AND SHALL BE REGULARLY WATERED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION DURATION. LDR 102-312, 122-217 (3) (CC).
8. CONTRACTOR TO EXCAVATE TO AN ELEVATION OF 15.00' NAVD '88 UNDER POND BANK ENSURING THE REMOVAL OF HARDPAN LAYER AND REPLACE LOCAL SOIL WITH NATIVE IMPORT FILL SAND IF NEEDED. FILL MATERIAL SHOULD HAVE A MAXIMUM OF 10% PASSING #200 SIEVE, MINIMUM 50% PASSING #40 SIEVE, AND A FINENESS MODULUS OF 1.5 TO 1.8. FILL TEST RESULTS SHOULD BE CONSISTENT WITH CONSTRUCTION TESTING LAB TEST RESULTS PROVIDED BY KSM ENGINEERING AND TESTING ON 9/30/2025. CONTRACTOR TO PROVIDE CONSTRUCTION TESTING LAB TEST REPORT FOR FILL UPON PLACEMENT PRIOR TO FINAL ACCEPTANCE. THE IMPORT FILL NATIVE SAND SHOULD HAVE AN UNSATURATED VERTICAL INFILTRATION RATE OF 22.5 TO 50 FEET PER DAY, A HORIZONTAL SATURATED HYDRAULIC CONDUCTIVITY OF 22.5 TO 30 FEET PER DAY, AND A POROSITY IN THE RANGE OF 25 TO 30% POST-CONSTRUCTION PERMEABILITY TEST RESULTS ARE REQUIRED TO BE SUBMITTED TO THE EOR PRIOR TO FINAL ACCEPTANCE.

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KHA PROJECT 147923001
DATE NOV 2025
SCALE AS SHOWN
DESIGNED BY HMR
DRAWN BY TMC
CHECKED BY DHE

CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR
FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW
FL LICENSE NUMBER
82414

PAVING, GRADING, AND DRAINAGE PLAN

SHEET NUMBER
C-3-101

Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:C-3-101 PAVING GRADING AND DRAINAGE PLAN November 04, 2025 09:03:35am K:\VRB_WaterResources\147923001 - FPUA WW Redirection Phase 1a\CAD\CIP 3 - Moore's Creek Booster\PlanSheets\C-3-101 PAVING, GRADING, AND DRAINAGE PLAN.dwg
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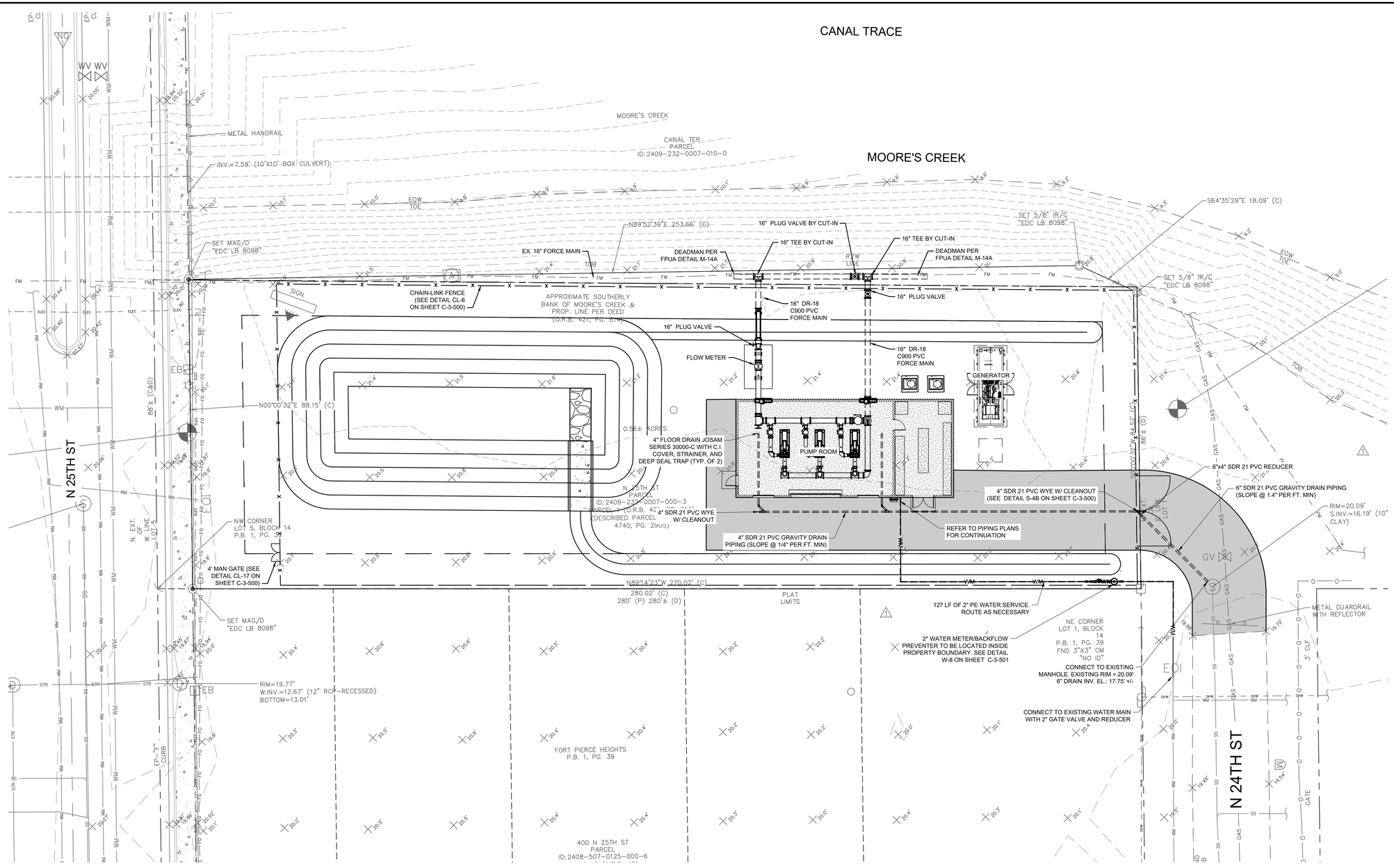

NORTH

GRAPHIC SCALE IN FEET
0 7.5 15 30

NOTES:

1) ALL SITE YARD PIPING IS TO BE FULLY RESTRAINED.

2) CONTRACTOR SHALL COORDINATE WITH FPUA ON THE PROPOSED CUT IN OF THE EXISTING FORCE MAIN. CONTRACTOR TO PROVIDE ALL REQUIRED SPOOL PIECES, RESTRAINTS, SLEEVES, AND OTHER REQUIRED APPERTUNANCES TO MAKE THE REQUIRED TIE-IN.

3) CONTRACTOR TO RESTRAIN EXISTING PIPING IF NOT CURRENTLY FULLY RESTRAINED. CONTRACTOR SHALL INSTALL CONCRETE RESTRAINT ON THE EXISTING PIPE PER FPUA DETAIL M-14A/B.

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DATE	NOV 2025
SCALE	AS SHOWN
DESIGNED BY	HMR
DRAWN BY	TMC
CHECKED BY	DHE

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FL LICENSE NUMBER
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SITE YARD PIPING

SHEET NUMBER

C-3-102

Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:C-3-102 SITE YARD PIPING November 04, 2025 09:41:11am K:\VRB_WaterResources\147923001 - FPUA WW Redirection Phase 1a\CAD\CIP 3 - Moore's Creek Booster\PlanSheets\C-3-102 SITE YARD PIPING.dwg
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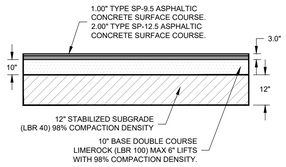
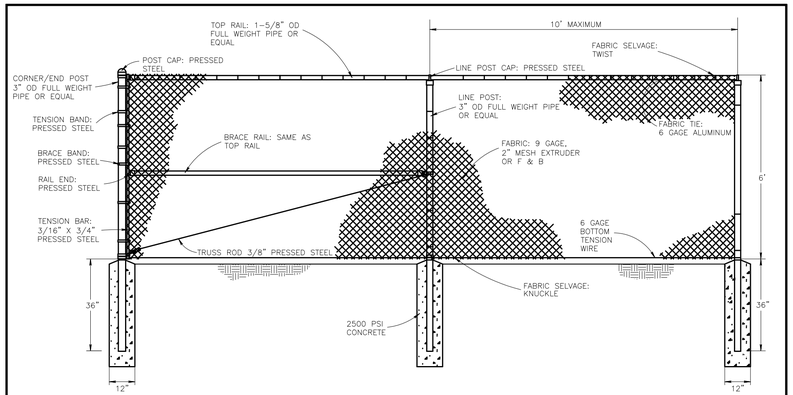


NOTE:

CONTRACTOR SHALL REMOVE ALL UNSUITABLE MATERIAL SUCH AS CLAY AND ROOTS PER AGENCY/GEOTECHNICAL REQUIREMENTS.

TYPICAL HEAVY DUTY PAVEMENT SECTION

PKKH38A.DWG N.T.S.

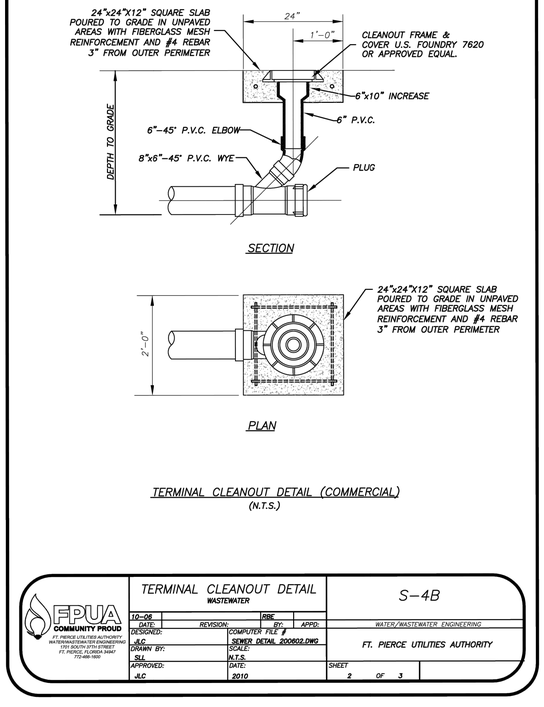


6' CHAIN-LINK FENCING DETAIL

NTS

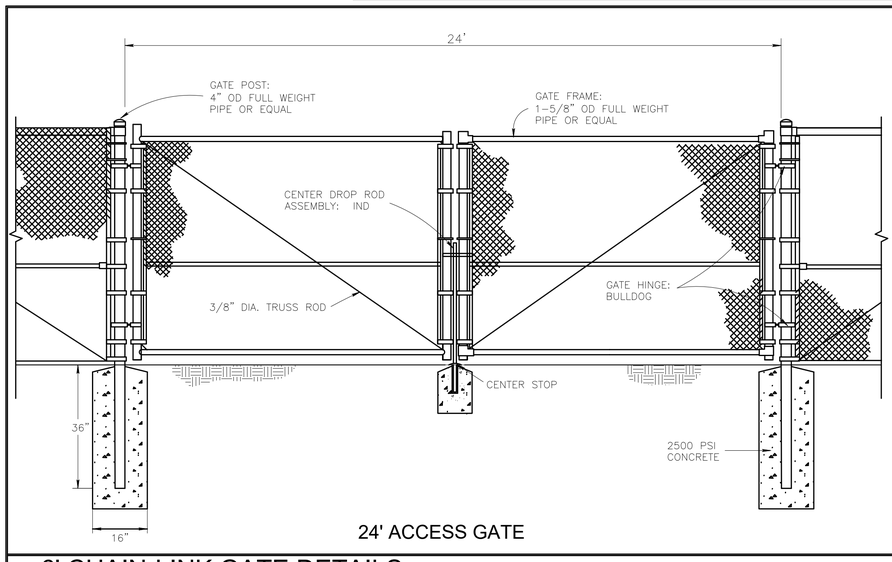
STYLE: TOP RAIL WITH BRACE UNIT

CL-6

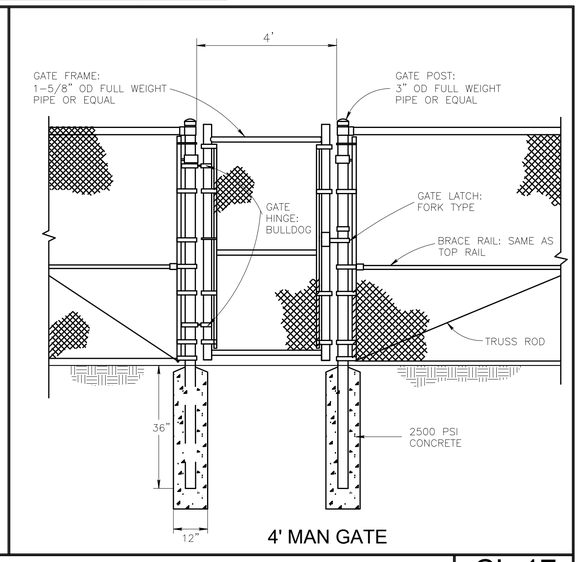


TERMINAL CLEANOUT DETAIL (COMMERCIAL)
(N.T.S.)

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY WATER/WASTEWATER ENGINEERING 1701 SOUTH 5TH STREET FT. PIERCE, FLORIDA 34947 772-466-1600	TERMINAL CLEANOUT DETAIL — WASTEWATER	S-4B
10-06 DATE:	REVISION:	RBE BY: APPD:
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 200602.DWG	WATER/WASTEWATER ENGINEERING
DRAWN BY: SLA	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 2 OF 3



24' ACCESS GATE



4' MAN GATE

6' CHAIN-LINK GATE DETAILS

NTS

CL-17

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DATE NOV 2025
SCALE AS SHOWN
DESIGNED BY HMR
DRAWN BY TMC
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CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR
FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW
FL LICENSE NUMBER
82414

CIVIL DETAILS

SHEET NUMBER
C-3-500

Plotted By: Powell, Harper Sheet Set: CIP 3 MOORE'S CREEK BPS Layout: C-3-500 CIVIL DETAILS November 04, 2025 09:03:57am K:\VRB_WaterResources\147923001 — FPUA WW Redirection Phase 1a\CAD\CIP 3 – Moore's Creek Booster\PlanSheets\C-3-005 CIVIL DETAILS.dwg
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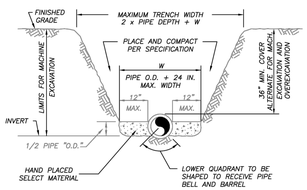


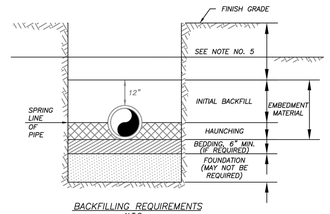
NOTES:

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

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

TYPICAL TRENCH DETAIL
N.T.S.

FPUA COMMUNITY PROUD	TYPICAL TRENCH DETAIL		M-1
03-09 DATE	CONCRETE SLAB REVISION:	SLL BY:	AJC APPD:
DESIGNED: AJC	COMPUTER FILE # MISC. DETAILS 200602.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: SLL	SCALE:		FT. PIERCE UTILITIES AUTHORITY
APPROVED: AJC	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.

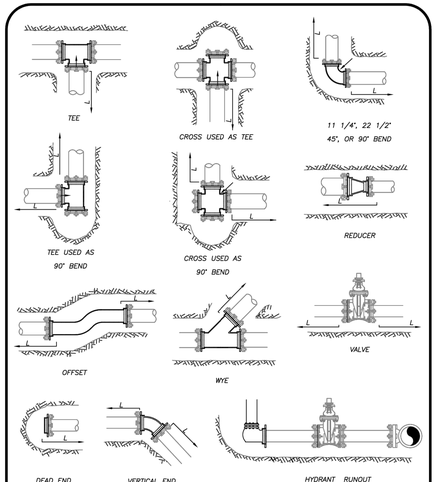
4) INITIAL BACKFILL MATERIAL SHALL BE HAND PLACED TO 12" ABOVE THE TOP OF PIPE. THE SOIL SHALL BE COMPACTED TO 100% MAX. DENSITY.(AASHTO T-99)

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.

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



MECHANICAL JOINT ANCHORING REQUIREMENTS
N.T.S.

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

MECHANICAL JOINT RESTRAINT NOTES

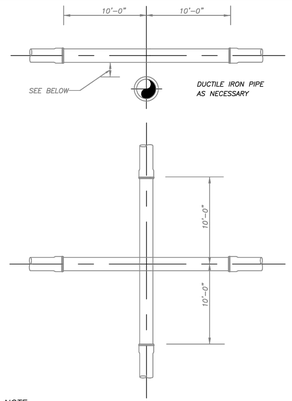
NOTES:

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.

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

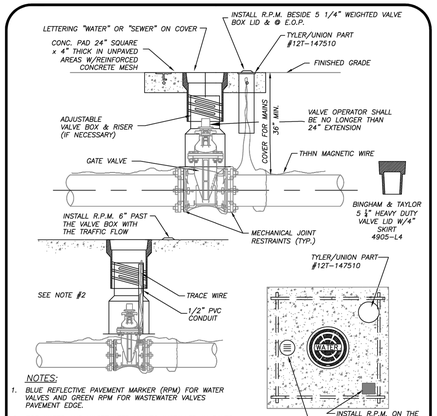


NOTE:

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

UTILITY CROSSING DETAIL
N.T.S.

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

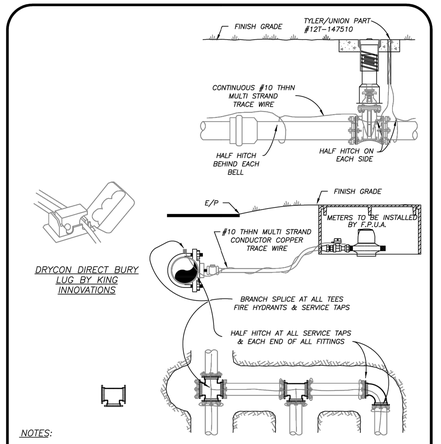


NOTES:

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

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

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

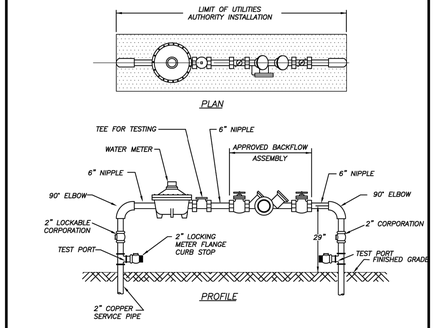


NOTES:

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.)

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



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.)

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

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No.	REVISIONS	BY	DATE
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2	PER FPUA AUG 2025 COMMENTS	MJS	9/09/2025
1	BID SET	RDC	4/09/2025

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KHA PROJECT 147923001

DATE NOV 2025

SCALE AS SHOWN

DESIGNED BY HMR

DRAWN BY TMC

CHECKED BY DHE

CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW

FL LICENSE NUMBER 82414

CIVIL DETAILS

SHEET NUMBER

C-3-501

Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:C-3-501 CIVIL DETAILS November 04, 2025 09:03:58am K:\VRB_WaterResources\147923001 — FPUA WW Redirection Phase 1a\CAD\CIP 3 — Moore's Creek Booster\PlanSheets\C-3-005 CIVIL DETAILS.dwg
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MATERIAL UPGRADE NOTES

MATERIAL UPGRADES ARE REQUIRED FOR UTILITY INSTALLATIONS THAT ARE IN CLOSE PROXIMITY TO SALT WATER (FOR EXAMPLE, HUTCHINSON ISLAND, INDIAN RIVER FLOOD PLAIN AND AREAS EAST OF U.S. HIGHWAY 1) AND AS DIRECTED BY FPUA WATER/WASTEWATER ENGINEERING DEPARTMENT.

1) PIPE – ALL DUCTILE IRON PIPE SHALL BE EPOXY COATED (EXTERIOR)

2) FITTINGS – ALL DUCTILE IRON FITTINGS SHALL BE EPOXY COATED (EXTERIOR). PVC FITTINGS CAN ALSO BE USED. HOWEVER, PVC FITTINGS MUST BE EXTRUDED OR FORMED FITTINGS MEETING ALL AWWA REQUIREMENTS. NO FABRICATED FITTINGS WILL BE ALLOWED. ALL NUTS AND BOLTS SHALL BE 316SS ONLY.

3) RESTRAINTS – ALL MECHANICAL JOINT RESTRAINTS SHALL BE EPOXY COATED. ALL HARDWARE (RODS, NUTS, BOLTS, WASHERS) SHALL BE 316SS ONLY.

4) FIRE HYDRANTS – ALL NUTS AND BOLTS SHALL BE 316SS ONLY.

5) VALVES – ALL VALVES SHALL BE EPOXY COATED. ALL NUTS AND BOLTS SHALL BE 316SS. VALVE STEM AND 2-INCH OPERATING NUT SHALL BE CAST BRONZE.

6) HARDWARE – 316 SS, A4-70 AND A4-80 ARE ACCEPTABLE NOMENCLATURES SEEN ON FASTENERS

7) ALL OTHER MATERIALS SHALL BE PROVIDED WITH MANUFACTURER'S STANDARD UPGRADES FOR USE IN CORROSIVE ENVIRONMENTS.

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING DEPARTMENT, 1001 SOUTH 4TH STREET, FT. PIERCE, FLORIDA 34950, 772-466-1600

MATERIAL UPGRADE NOTES — M-13

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

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER (2)	WATER MAIN — 3 FT. MINIMUM	WATER MAIN — 12 INCHES IS THE MINIMUM, EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM	ALTERNATE 3 FT. MINIMUM — WATER MAIN
VACUUM SANITARY SEWER	WATER MAIN — 10 FT. PREFERRED, 3 FT. MINIMUM	WATER MAIN — 12 INCHES PREFERRED 6 INCHES MINIMUM	ALTERNATE 3 FT. MINIMUM — WATER MAIN
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN, RECLAIMED WATER (4)	WATER MAIN — 10 FT. PREFERRED 6 FT. MINIMUM (3)	WATER MAIN — 12 INCHES IS THE MINIMUM, EXCEPT FOR GRAVITY SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED	ALTERNATE 6 FT. MINIMUM — WATER MAIN
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 FT. MINIMUM		

NOTES

1. WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
2. RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
3. 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
4. RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

SEPARATION OF WATER MAINS

N.T.S.

MINIMUM LENGTH OF PIPE "L" (FEET) TO BE RESTRAINED

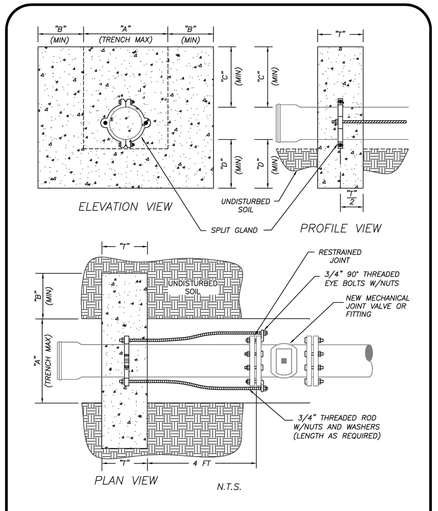
(SOURCES: EBBA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 3.1, AND DIPRA THRUST RESTRAINT FOR DUCTILE IRON PIPE, RELEASE 3.2)

FITTING TYPE		PIPE SIZE 4"	6"	8"	10"	12"	14"	16"	20"	24"
90° HORIZ. BEND		17	24	31	37	43	49	55	66	76
45° HORIZ. BEND		7	10	13	15	18	20	23	28	32
22.5° HORIZ. BEND		3	5	6	7	9	10	11	13	15
11.25° HORIZ. BEND		2	2	3	4	5	5	6	7	8
45° VERT. OFFSET	UPPER BEND	16	22	29	34	41	46	52	64	74
	LOWER BEND	7	10	13	15	18	20	23	28	32
22.5° VERT. OFFSET	UPPER BEND	7	12	15	17	20	22	25	31	36
	LOWER BEND	3	5	6	7	9	10	11	13	15
11.25° VERT. OFFSET	UPPER BEND	4	5	7	8	11	12	14	16	18
	LOWER BEND	2	2	3	4	4	5	7	7	8
PLUG (DEAD END)		38	53	69	83	98	112	129	153	179
VALVE		38	53	69	83	98	112	129	153	179
TEE (BRANCH REST.)	4"X *	19	–	–	–	–	–	–	–	–
	6"X *	10	35	–	–	–	–	–	–	–
	8"X *	1	28	51	–	–	–	–	–	–
	10"X *	1	28	46	64	–	–	–	–	–
	12"X *	1	15	40	60	79	–	–	–	–
	14"X *	1	8	35	56	75	92	–	–	–
	16"X *	1	1	29	51	71	90	106	–	–
	20"X *	1	1	18	42	64	85	101	133	–
	24"X *	1	1	5	32	55	77	95	128	158
REDUCER (LARGER PIPE RESTRAINT)	6"X *	27	–	–	–	–	–	–	–	–
	8"X *	50	29	–	–	–	–	–	–	–
	10"X *	68	51	28	–	–	–	–	–	–
	12"X *	85	71	52	48	–	–	–	–	–
	14"X *	101	89	73	69	29	–	–	–	–
	16"X *	117	106	92	89	54	29	–	–	–
	20"X *	146	138	126	113	96	77	54	–	–
	24"X *	173	166	157	146	132	98	77	54	–

NOTES:

1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:
   SOIL TYPE – SP; TRENCH TYPE – 3; TEST PRESSURE – 150 PSI
   SAFETY FACTOR – 1.5; DEPTH OF BURY – 3'; VERTICAL OFFSET – 3'
2. THE RESTRAINED PIPE LENGTHS APPLY TO DUCTILE IRON AND PVC PIPE.
3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
4. RESTRAINED PIPE LENGTHS FOR VALVES APPLY TO PIPE ON BOTH SIDES OF VALVES.
5. THIS TABLE IS FOR SP SOILS. THE ENGINEER IS TO BE NOTIFIED IF OTHER TYPE SOILS ARE ENCOUNTERED.
6. ALL PIPES SHALL BE RESTRAINED PER THE LENGTHS AS CALLED FOR IN THE ABOVE REFERENCED TABLE. THE COSTS FOR THESE RESTRAINED JOINTS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PIPE.

MECHANICAL JOINT RESTRAINTS



DEAD-MAN RESTRAINT BLOCK — M-14A

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

PIPE SIZE (in)	AVERAGE O.D. (in)	PRESSURE (lb/in²)	CALCULATED THRUST (lbf)	"A" (ft-in)	"B" (ft-in)	"C" (ft-in)	"D" (ft-in)	"T" (ft-in)	CONCRETE (yd³)
6	6.9	100	3739	2'-0"	1'-0"	1'-0"	1'-3"	2'-6"	1.00
8	9.05	100	6433	2'-0"	1'-6"	1'-0"	1'-6"	3'-0"	1.75
10	11.1	100	9677	2'-6"	1'-6"	1'-6"	1'-10"	3'-0"	2.57
12	13.2	100	13685	2'-6"	2'-0"	1'-6"	1'-9"	4'-0"	3.95
16	17.4	100	23779	3'-0"	2'-0"	1'-6"	2'-6"	5'-0"	6.49
18	19.5	100	29865	3'-0"	2'-0"	1'-6"	2'-6"	6'-0"	8.09
20	21.6	100	36644	3'-0"	2'-6"	1'-6"	2'-6"	6'-6"	9.98
24	25.8	100	52279	3'-0"	2'-6"	2'-0"	2'-9"	7'-6"	14.00

NOTES:

1. THE USE OF RESTRAINT BLOCKS SHALL BE LIMITED TO SITUATIONS WHERE EXPOSING SEVERAL JOINTS OF PIPE IS NOT FEASIBLE OR AS DIRECTED BY FPUA ENGINEER.
2. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED SOIL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE ALL LOOSE MATERIAL AND EXTEND RESTRAINT BLOCK TO UNDISTURBED MATERIAL.
3. RESTRAINT BLOCK SHALL BE INSTALLED A MINIMUM OF 4 FEET FROM ANY PIPE JOINT, FITTING OR VALVE, AT NO TIME SHALL A PIPE JOINT, FITTING OR VALVE BE ENCASED IN THE RESTRAINT BLOCK.
4. CONCRETE SHALL HAVE MINIMUM 28 DAYS COMPRESSIVE STRENGTH OF 3000 PSI.

DEAD-MAN RESTRAINT BLOCK — M-14B

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

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1	BID SET	RDC	4/09/2025

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KHA PROJECT 147923001
DATE NOV 2025
SCALE AS SHOWN
DESIGNED BY HMR
DRAWN BY TMC
CHECKED BY DHE

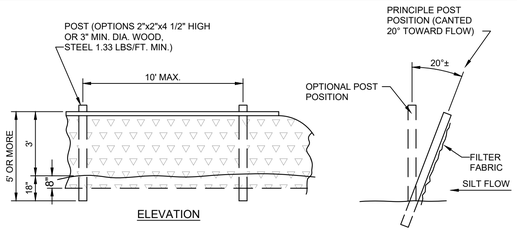
CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR
FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW
FL LICENSE NUMBER
82414

CIVIL DETAILS

SHEET NUMBER
C-3-502



ELEVATION

TYPICAL SILT FENCE
N.T.S.

FILTER FABRIC
(IN CONFORMANCE
WITH SEC. 985 FDOT
SPECIFICATIONS)

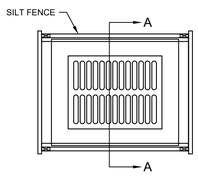
FIGURE 1

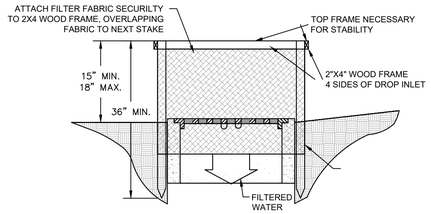
NOTES:
1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL NEARLY LEVEL DRAINAGE ARES. (LESS THAN 5%).

2. USE 2"X4" WOOD OR EQUIVALENT METAL STAKES (3 FT. MIN. LENGTH).

3. INSTALL 2"X4" WOOD FRAME TO INSURE STABILITY.

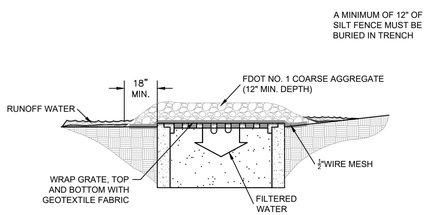
4. SEE EROSION CONTROL PLAN FOR LOCATIONS AND APPLICABILITY.





SECTION A-A

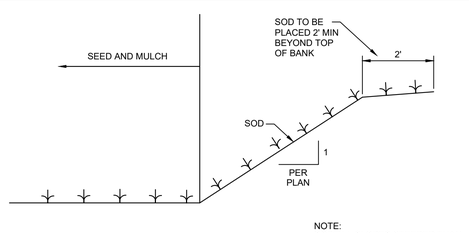
OPTION 1 SILT FENCE BARRIER



OPTION 2 GRAVEL AND WIRE MESH FILTER

DROP INLET SEDIMENT FILTER DETAIL
N.T.S.

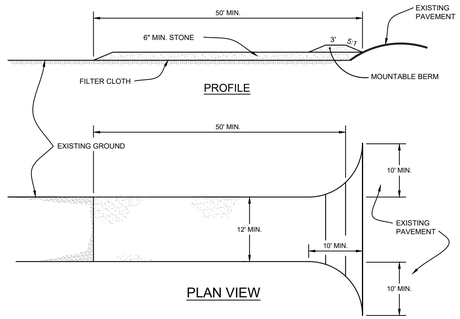
FIGURE 6



NOTE:
SOD ALL SLOPES STEEPER THAN 6:1, SEED PERMITTED ON SLOPES 6:1 OR FLATTER IF APPROVED BY THE ENGINEER.

TYPICAL DRY DRAINAGE RETENTION AREA SECTION
N.T.S.

FIGURE 2



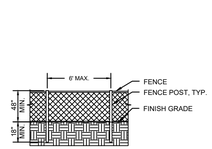
PROFILE

PLAN VIEW

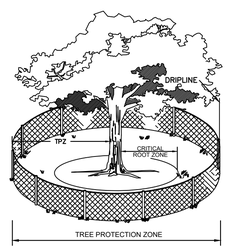
STABILIZED CONSTRUCTION ENTRANCE
1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

FIGURE 8



TREE PROTECTION DETAIL



TREE PROTECTION NOTES:
1. TREE PROTECTION BARRICADES SHALL BE INSTALLED AROUND ALL PROTECTED TREES AND GROUPS OF TREES PRIOR TO ANY CLEARING OR GRADING OPERATIONS, INCLUDING THE REMOVAL OF OTHER TREES.
2. FOR LARGE GROUPS OF TREES, BARRICADES MAY BE PLACED BETWEEN THE PROTECTED TREES AND THE CONSTRUCTION ACTIVITY AREA.
3. BARRICADES SHALL BE MADE OF RIGID MATERIAL CAPABLE OF SURVIVING FOR THE DURATION OF THE CONSTRUCTION.
4. BARRICADES SHALL BE INSPECTED WEEKLY DURING THE DURATION OF CONSTRUCTION AND REPAIRED/REINSTALLED AS REQUIRED.
5. CLEANING OF EQUIPMENT OR MATERIAL OR THE DISPOSAL OF WASTE MATERIALS, INCLUDING BUT NOT LIMITED TO, PAINT, OIL, SOLVENT, ASPHALT, CONCRETE, AND MORTAR WITHIN THE TREE PROTECTION ZONE (TPZ) OF ANY TREE IS NOT ALLOWED.
6. THE MOVEMENT OF EQUIPMENT OR STORAGE OF EQUIPMENT, MATERIALS, DEBRIS, OR FILL WITHIN THE TPZ OF ANY TREE IS NOT ALLOWED.

FIGURE 10

PERMITTING SET

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No.	REVISIONS	BY	DATE
3	PER FPUA OCT 2025 COMMENTS	RMD	10/21/2025
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1	BID SET	RDC	4/09/2025

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CIP 3 - MOORE'S CREEK BOOSTER STATION
PREPARED FOR
FORT PIERCE UTILITIES AUTHORITY

MATTHEW MICHAEL TEBOW
FL LICENSE NUMBER
82414

EROSION CONTROL DETAILS

SHEET NUMBER
C-3-503

Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:C-3-503 EROSION CONTROL DETAILS November 04, 2025 09:04:07am K:\VRB_WaterResources\147923001 - FPUA WW Redirection Phase 1a\CAD\CIP 3 - Moore's Creek Booster\PlanSheets\C-3-005 CIVIL DETAILS.dwg
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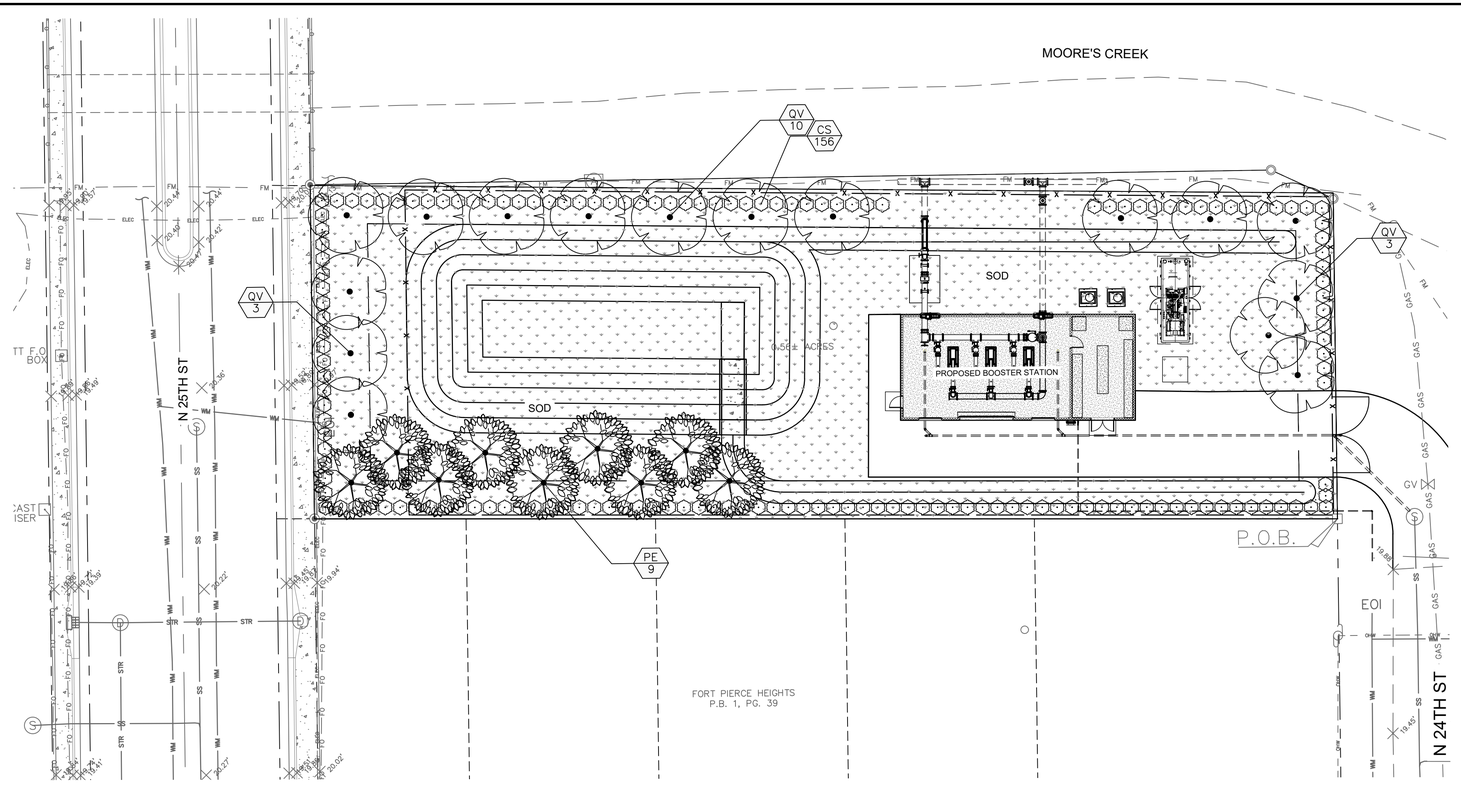

PLANT SCHEDULE

SYMBOL	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONTAINER	CAL	HT	NATIVE	WATER USE
TREES									
	PE	9	SLASH PINE	PINUS ELLIOTTII	F.G.	2.5" CAL MIN.	12' HT MIN	YES	MODERATE
	QV	15	SOUTHERN LIVE OAK	QUERCUS VIRGINIANA	F.G.	2.5" CAL MIN.	12' HT MIN	YES	MODERATE

SYMBOL	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONT	SPACING	SIZE	NATIVE	WATER USE
SHRUBS									
	CS	158	SMALL LEAF CLUSIA	CLUSIA GUTTIFERA	SOD	30" O.C.	36" HT MIN	NO	
GROUND COVERS									
	SO	17,308 SF	ST. AUGUSTINE GRASS	STENOTAPHRUM DIMIDIATUM	SOD	SOD	SOD		

LANDSCAPE REQUIREMENTS

BUFFERING (PER SECTION 123-37)

NORTH BUFFER	**REQUIRED**	**PROVIDED**
270 LINEAR FEET		
TREES	1 TREE / 30 LINEAR FEET OF PROPERTY LINE = TREES REQUIRED	270 LINEAR FEET / 30 FEET = 9 TREES
SHRUBS	CONTINUOUS, UNBROKEN, SOLID, VISUAL SCREEN	PROVIDED
EAST BUFFER	**REQUIRED**	**PROVIDED**
66 LINEAR FEET		
TREES	1 TREE / 30 LINEAR FEET OF PROPERTY LINE = TREES REQUIRED	66 LINEAR FEET / 30 FEET = 3 TREES
SHRUBS	CONTINUOUS, UNBROKEN, SOLID, VISUAL SCREEN	PROVIDED
SOUTH BUFFER	**REQUIRED**	**PROVIDED**
270 LINEAR FEET		
		270 LINEAR FEET / 30 FEET = 9 TREES
		* TREES CLUSTERED ON SOUTH WEST CORNER OF PROPERTY LINE TO ALLOCATE SPACE
TREES	1 TREE / 30 LINEAR FEET OF PROPERTY LINE = TREES REQUIRED	FOR DRAINAGE SWALE REQUIREMENT
SHRUBS	CONTINUOUS, UNBROKEN, SOLID, VISUAL SCREEN	PROVIDED
WEST BUFFER	**REQUIRED**	**PROVIDED**
TREES	1 TREE / 30 LINEAR FEET OF PROPERTY LINE = TREES REQUIRED	88 LINEAR FEET / 30 FEET = 3 TREES
SHRUBS	CONTINUOUS, UNBROKEN, SOLID, VISUAL SCREEN	PROVIDED
	TOTAL TREES:	24
	TOTAL SHRUBS:	158

LEGEND

- ASPHALT
- SS — EXISTING SANITARY SEWER
- PROPERTY BOUNDARY
- GAS — EXISTING GAS LINE
- x — FENCE
- FM — EXISTING FORCE MAIN
- EXISTING WATER MAIN

NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

PERMITTING SET

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No.	REVISIONS	BY	DATE
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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT	147923001
DATE	NOV 2025
SCALE	AS SHOWN
DESIGNED BY	DPOB
DRAWN BY	DPOB
CHECKED BY	KPD

KYLER DURHAM LICENSE No LA6667668 DATE: 11/4/2025 STATE OF FLORIDA PROFESSIONAL LANDSCAPE ARCHITECT

CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

LANDSCAPE PLAN

SHEET NUMBER

L-100

Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:L-100 November 04, 2025 09:04:52am K:\VRB_WaterResources\147923001 - FPUA WW Redirection Phase 1a\CAD\CIP 3 - Moore's Creek Booster\PlanSheets\L-000.dwg
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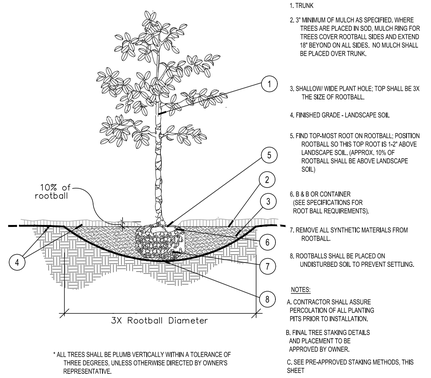
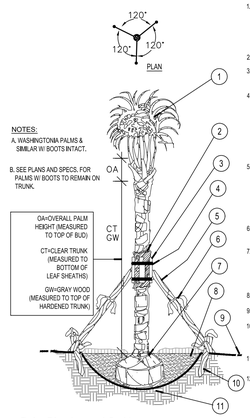


1. TRUNK
2. 3" MINIMUM OF MULCH AS SPECIFIED, WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES COVER ROOTBALL SIDES AND EXTEND 18" BEYOND ON ALL SIDES. NO MULCH SHALL BE PLACED OVER TRUNK.
3. SHALLOW WIDE PLANT HOLE: TOP SHALL BE 3X THE SIZE OF ROOTBALL.
4. FINISHED GRADE - LANDSCAPE SOIL
5. FIND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

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

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

A Tree Planting
SECTION NTS



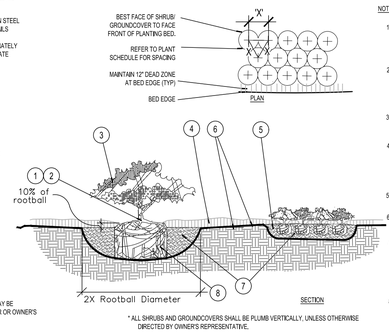
NOTES:
A. WASHINGTONIA PALMS & SIMILAR W/ BOOTS INTACT.
B. SEE PLANS AND SPECS. FOR PALMS W/ BOOTS TO REMAIN ON TRUNK.

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

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

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

B Palm Planting and Staking
SECTION NTS

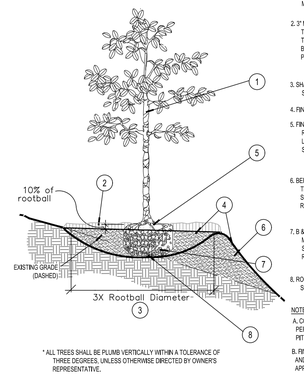


BEST FACE OF SHRUB/ GROUNDCOVER TO FACE FRONT OF PLANTING BED.
REFER TO PLANT SCHEDULE FOR SPACING
MAINTAIN 12" DEAD ZONE AT BED EDGE (TYP)
BED EDGE

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

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

C Shrub / Groundcover Planting
PLAN/SECTION NTS



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

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

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

D Planting on a Slope
SECTION NTS

1. FINISH GRADE
2. HORIZONTAL 2X2 SCREWED TO 2X3 STAKE. ALL WOOD SHALL BE #2 UNTREATED.
3. 3-1/2" DRYWALL SCREW, THREAD SIZE 12, SHARP POINT, FULL THREAD, BLACK PHOSPHATE FINISH
4. VERTICAL STAKES SHALL ABUT SIDE OF ROOTBALL
5. STAKES TO EXTEND INTO NATIVE SOIL BY 1-1/2 X THE ROOTBALL DEPTH MIN.

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

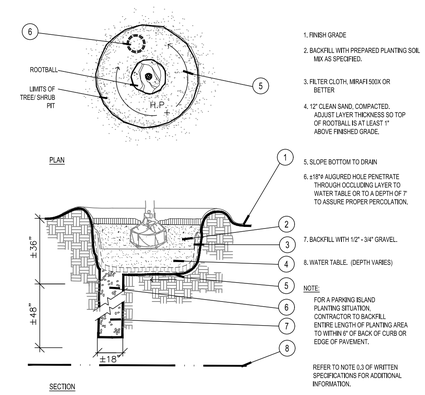
* Refer to details B and D for planting

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

SOD NOTES:
1. TYPICAL SOLID SOD LAID LEVEL WITH TIGHT JOINTS SET ADJACENT TO EDGE OF PAVEMENT SUCH THAT THE TOP OF SOD WHEN FRESHLY MOWED IS FLUSH WITH TOP OF PAVEMENT IN ORDER NOT TO IMPEDE THE FLOW OF RUNOFF INTO LANDSCAPE AREAS AND TO APPEAR NEAT AND WELL MAINTAINED.
2. ALL SOD LAID ADJACENT TO THE SHRUB OR GROUNDCOVER PLANTING AREAS SHALL HAVE WELL DEFINED BEDLINES, AND SHALL BE INSTALLED A DISTANCE BACK FROM THE FACE EDGE OF PLANT MATERIALS TO ALLOW FOR GROWTH OF THE PLANTS. THE TOP OF THE SOD AND THE FINISHED GRADE OF THE 3" MULCH COVER SHALL BE FLUSH AND LEVEL.
3. SOD SET ON PREPARED GRADE WHICH IS LEVEL OR GRADED TO MEET THE REQUIREMENTS OF THE ENGINEERED SITE DRAINAGE PLANS.

TOP SOIL NOTES:
1. PLANTING SOIL SHALL CONSIST OF 70% CLEAN, SHARP, SILICA SAND AND 30% EVERGLADES MUCK, MIXED WITH THE NATIVE, EXCAVATED SOIL IN A 1:1 RATIO (50/50).
2. TOPSOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANT PITS SHALL BE FERTILE, FRIABLE, AND OF A LOAMY CHARACTER; REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEEDS AND OTHER LITTER, FREE OF ROOTS, STUMPS, STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER AND A PH BETWEEN 5.5 AND 6.5 - SUBMIT SAMPLE AND PH TESTING RESULTS FOR APPROVAL.
3. CONTRACTOR TO SUBMIT SAMPLES OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.

F SOD
SECTION NTS

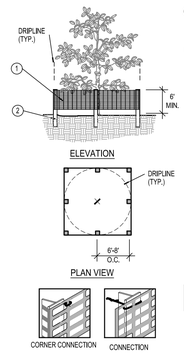


1. FINISH GRADE
2. BACKFILL WITH PREPARED PLANTING SOIL MIX AS SPECIFIED.
3. FILTER CLOTH, MIRAFI 500X OR BETTER
4. 12" CLEAN SAND, COMPACTED, ADJUST LAYER THICKNESS SO TOP OF ROOTBALL IS AT LEAST 1" ABOVE FINISHED GRADE.
5. SLOPE BOTTOM TO DRAIN
6. ±18"ø AUGURED HOLE PENETRATE THROUGH OCCLUDING LAYER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

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

REFER TO NOTE 0.3 OF WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION.

G Poor Drainage Condition
PLAN/SECTION NTS



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

INSTALLATION NOTES:
A. POST SELECTION SHOULD BE BASED ON EXPECTED STRENGTH NEEDS AND THE LENGTH OF TIME FENCE WILL BE IN PLACE. FLEXIBLE FIBERGLASS ROD POSTS ARE RECOMMENDED FOR PARKS, ATHLETIC EVENTS AND CROWD CONTROL INSTALLATIONS. METAL "T" POSTS OR TREATED WOOD POSTS ARE TYPICALLY USED FOR CONSTRUCTION AND OTHER APPLICATIONS.

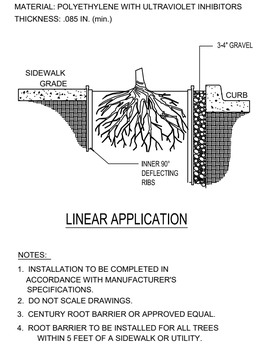
B. POSTS SHOULD BE DRIVEN INTO THE GROUND TO A DEPTH OF 1/4 OF THE HEIGHT OF THE POST. FOR EXAMPLE, A 8' POST SHOULD BE SET AT LEAST 2' INTO THE GROUND.

C. SPACE POSTS EVERY 6' (MIN.) TO 8' (MAX.).

D. SECURE FENCING TO POST WITH NYLON CABLE TIES (AVAILABLE FROM CONWED PLASTICS). WOOD STRIPS MAY BE ALSO BE USED TO PROVIDE ADDITIONAL SUPPORT AND PROTECTION BETWEEN TIES AND POSTS.

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

H Tree/Shrub Protector
Barrier Detail NTS



ROOT BARRIER BY: Century Root Barrier (714)632-7083
(or) DeepRoot (800)458-7668

SIZE: 36" D, OR AS NOTED ON PLAN
MATERIAL: POLYETHYLENE WITH ULTRAVIOLET INHIBITORS
THICKNESS: .085 IN. (min.)

LINEAR APPLICATION

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.
3. CENTURY ROOT BARRIER OR APPROVED EQUAL.
4. ROOT BARRIER TO BE INSTALLED FOR ALL TREES WITHIN 5 FEET OF A SIDEWALK OR UTILITY.

I Root Barrier
Barrier Detail NTS

1. INSTALL CONTINUOUS MULCH BED ADJACENT TO PARKING SPACES AS SHOWN. MULCH SHALL BE MIN. 3" DEEP.

NO POP-UP IRRIGATION HEADS SHALL BE LOCATED WITHIN 24" OF A PARKING SPACE ON ANY SIDE

2. CURB OR PARKING LOT EDGE, BY OTHERS

J Parking Space/Curb Planting
SECTION NTS

NOTES
* CLEAR ZONE: 36" MIN. FROM BUILDING TO CENTER OF NEAREST SHRUB.

K Plantings Adjacent to Buildings
SECTION NTS

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

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

L Planted Parking Lot Islands / Medians
SECTION NTS

1. FIRE HYDRANT
2. NO TREES SHALL BE PLACED WITHIN SHOWN RADIUS OF ALL PROPOSED OR EXISTING FIRE HYDRANTS. CONTRACTOR SHALL ADJUST PLANT MATERIAL SO THAT NO CONFLICTS WITH FIRE HYDRANTS OCCUR ON SITE.
3. PROVIDE A MULCH, 3" DEPTH MIN., SURROUNDING AREA INDICATED.

M Fire Hydrant Clear Zone
PLAN NTS

PERMITTING SET

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

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1	BID SET	RDC	4/09/2025

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KHA PROJECT	147923001
DATE	NOV 2025
SCALE	AS SHOWN
DESIGNED BY	DPOB
DRAWN BY	DPOB
CHECKED BY	KPD

CIP 3 - MOORE'S CREEK BOOSTER STATION
PREPARED FOR
FORT PIERCE UTILITIES AUTHORITY

KYLER DURHAM LICENSE No LA6667668 DATE: 11/4/2025 STATE OF FLORIDA PROFESSIONAL LANDSCAPE ARCHITECT

LANDSCAPE DETAILS

SHEET NUMBER
L-150

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GENERAL LANDSCAPE SPECIFICATIONS AND NOTES

A. SCOPE OF WORK

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

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

B. PROTECTION OF EXISTING STRUCTURES

ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, OTHER SITE CONSTRUCTION ITEMS, AND PLANTING ALREADY COMPLETED OR ESTABLISHED SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.

C. PROTECTION OF EXISTING PLANT MATERIALS OUTSIDE LIMIT OF WORK

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

D. MATERIALS

1. GENERAL

MATERIALS LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL. UPON SUBMITTALS' APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.

MATERIAL	SUBMITTAL
MULCH	PRODUCT DATA
TOPSOIL MIX	AMENDMENT MIX/ PRODUCT DATA/ TEST RESULTS
PLANTS	PHOTOGRAPHS OF ONE (1) OF EACH SPECIES (OR TAGGED IN NURSERY) INDICATE SIZES (HEIGHT/WIDTH) AND QUALITY PER SPEC. CLIENT-REQUESTED TAGGING MAY SUBSTITUTE PHOTOS.
FERTILIZER	PRODUCT DATA
INNOCULANT	PRODUCT DATA
HERBICIDE	PRODUCT DATA

2. PLANT MATERIALS

A. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARDIZED PLANT NAMES, 1942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL PLANTS SHALL BE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS. INSECT EGGS AND LARVAE AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. WHERE ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY WITH APPROVAL FROM OWNER OR OWNER'S REPRESENTATIVE. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE OWNER'S REPRESENTATIVE

B. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.

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

E. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, MIX)

1. SOIL MIXTURE SHALL CONSIST OF 70% COARSE SAND, 30% FLORIDA PEAT AS DESCRIBED BELOW.
2. SOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING SHALL BE FERTILE, FRIABLE, AND REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEED AND OTHER LITTER, FREE OF ROOTS, STUMPS, STONE LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL HAVE A PH BETWEEN 5.5 AND 7.0 - SUBMIT SAMPLE AND PH TESTING RESULTS FOR APPROVAL.
3. SAND SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE ORTONA MINED SAND. CONTRACTOR SHALL SUBMIT RESULTS OF SOIL TEST FOR PEAT AND SAND PROPOSED FOR USE UNDER THIS CONTRACT FOR APPROVAL.
4. CONTRACTOR SHALL SUBMIT SAMPLES OF SOIL MIXTURE FOR LANDSCAPE ARCHITECT REVIEW UNDER FORMAL SUBMITTAL AND SUBSEQUENTLY TO OWNER'S REPRESENTATIVE THEREAFTER FOR APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.
5. FLORIDA MUCK / FLORIDA MUCKY PEAT MAY BE PROVIDED AS A SUBSTITUTE FOR THE 30% FLORIDA PEAT, CONTINGENT UPON PRELIMINARY TEST RESULTS AND AS DETERMINED BY THE LANDSCAPE ARCHITECT DURING THE SUBMITTAL PROCESS. ANY CHANGES IN THE PERCENTAGES OR PARENT MATERIALS REQUIRED TO PROVIDE THE SPECIFIED MIXTURE AS DETERMINED BY THE LANDSCAPE ARCHITECT SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
6. CONTRACTOR SHALL PROVIDE PH TEST RESULTS FOR ALL MIX COMPONENTS AND FINAL MIX.
7. CONTRACTOR SHALL PROVIDE PENETROMETER ON-SITE AT ALL TIMES FOR COMPACTION INSPECTION AT THE DISCRETION OF THE LANDSCAPE ARCHITECT.
8. PENETROMETER CRITERIA / SPECIFICATIONS SHALL RANGE FROM APPROX. 75 PSI TO LESS THAN 300 PSI OR AS DETERMINED BY THE LANDSCAPE ARCHITECT.
9. FINAL MIX SHALL BE TESTED TO HAVE A SATURATED WEIGHT OF NO MORE THAN 85 POUNDS PER CUBIC FOOT WHEN COMPACTED TO 85% STANDARD PROCTOR. FERTILIZER PRODUCT DATA AND RATE SCHEDULE SHALL BE SUBMITTED CONCURRENTLY WITH THE SOIL SUBMITTAL FOR EVALUATION BY THE LANDSCAPE ARCHITECT.
10. SOIL SHALL BE SUPPLIED BY ATLAS PEAT & SOIL INC. 9621 STATE ROAD, BOYNTON BEACH, FLORIDA 33472 PHONE: 561-734-7300.

F. WATER

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

*WATERING/IRRIGATION RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

G. FERTILIZER

CONTRACTOR SHALL PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE. SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY-DERIVED.

*FERTILIZER RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

H. ROCK MULCH

ROCK MULCH MATERIAL SHALL BE TWO (2) TO THREE (3) INCHES DIAMETER CHATTAHOOCHEE ROCK (OR APPROVED EQUAL) AT A MINIMUM DEPTH OF THREE (3) INCHES IN ALL LANDSCAPE SHRUB AND GROUNDCOVER AREAS. THE ROCK MULCH SHALL CONFINE TO THE LANDSCAPE BED LINES ESTABLISHED BY ADJACENT SOD AREAS, HARDSCAPE AREAS, AND CURBS. CLEAR MULCH FROM EACH PLANT'S CROWN (BASE).

I. DIGGING AND HANDLING

1. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT DAMAGE DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO SITE SHALL BE SPRAYED WITH AN ANTITRANSPIRANT PRODUCT ("WILTPRUF" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.
2. BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A ROOT BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN, PLANTS BALLED AND BURLAPPED OR CONTAINER GROWN SHALL NOT BE HANDLED BY STEMS.
3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS, COMPLYING WITH FLORIDA GRADES AND STANDARDS FOR NURSERY PLANTS, CURRENT EDITION. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT DURING TRANSPORTATION AND PRIOR TO PLANTING.
4. PROTECTION OF PALMS (IF APPLICABLE): ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS SPECIFIED AFTER THE MINIMUM OF FRONDS HAVE BEEN REMOVED. ALL PALMS SHALL BE BRACED PER PALM PLANTING DETAIL.
5. EXCAVATION OF TREE PITS SHALL BE PERFORMED USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB- BASES.

J. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION, FLORIDA #1 OR BETTER.
2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.
3. PLANT ROOTS BOUND IN CONTAINERS ARE NOT ACCEPTABLE.
4. SUBSTITUTION OF NON-CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE CONTAINER GROWN WILL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL IS OBTAINED FROM THE OWNER OR OWNER'S REPRESENTATIVE.

K. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED BY THE OWNER OR OWNER'S REPRESENTATIVE. THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

L. NATIVE STOCK

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

M. MATERIALS LIST

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

N. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH. THIS CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.
3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS. REFER TO CIVIL ENGINEER'S PLANS FOR FINAL GRADES.

O. PLANTING PROCEDURES

1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE REMOVED FROM THE SURFACE OF ALL PLANT BEDS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, HE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.
2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS (LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER SYSTEMS, CABLE, AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES. CALL NATIONAL ONE CALL - 811 - TO LOCATE UTILITIES.
3. SUBGRADE EXCAVATION: CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36". CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY THE CONTRACTOR, AND ADEQUATE PERCOLATION CAN NOT BE ACHIEVED, CONTRACTOR SHALL UTILIZE PLANTING DETAIL THAT ADDRESSES POOR DRAINAGE.
4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS HEREIN SPECIFIED AND REQUIRED, INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.
5. GENERAL: COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. UPON ARRIVAL AT THE SITE, PLANTS SHALL BE THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS STORED ON-SITE SHALL NOT REMAIN UNPLANTED FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS, AT ALL TIMES, METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.
6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE PLANTING WITH IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION APPURTENANCES AND PLANTS.
7. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD FOR NURSERY STOCK Z60.1, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACKFILLED WITH THE PREPARED PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER PERCOLATION. IF POOR PERCOLATION EXISTS, UTILIZE "POOR DRAINAGE CONDITION" PLANTING DETAIL. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURES AND UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN. PROPER "JETTING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.
8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.
9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION E OF THESE SPECIFICATIONS.
10. TREES AND SHRUBS SHALL BE SET STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT, PLANTING SOIL MIXTURE SHALL BE BACKFILLED, THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).
11. AMEND PINE AND OAK PLANT PITS WITH ECTOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. ALL OTHER PLANT PITS SHALL BE AMENDED WITH ENDOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. PROVIDE PRODUCT INFORMATION SUBMITTAL PRIOR TO INOCULATION.
12. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES. STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET. ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE. ONLY WITH MULCH. ALL BURLAP, ROPE, WIRES, BASKETS, ETC., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS, BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.
13. PRUNING: TREES SHALL BE PRUNED, AT THE DIRECTION OF THE OWNER OR OWNER'S REPRESENTATIVE, TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT. ALL PRUNING TO BE PERFORMED BY LICENSED ARBORIST, IN ACCORDANCE WITH ANSI A-300.
14. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6", REMOVE AND DISPOSE ALL DEBRIS. MIX TOP 4" TO ACHIEVE SOIL MIXTURE AS SPECIFIED IN SECTION E. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.
15. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE CONTRACTOR AND OWNER DECIDE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING AND AGREE TO INDEMNIFY AND HOLD HARMLESS THE LANDSCAPE ARCHITECT IN THE EVENT UNSUPPORTED TREES PLANTED UNDER THIS CONTRACT FALL AND DAMAGE PERSON OR PROPERTY.
16. MULCHING: PROVIDE A THREE INCH (MINIMUM) LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER, VINE BED, AND TREE PIT PLANTED UNDER THIS CONTRACT.
17. HERBICIDE WEED CONTROL: ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "ROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER. (AS ALLOWED BY JURISDICTIONAL AUTHORITY)

P. LAWN SODDING

1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.
2. LAWN BED PREPARATION: ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS, AND THE GROUND BROUGHT TO AN EVEN GRADE. THE ENTIRE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE.
3. SOIL PREPARATION: PREPARE LOOSE BED FOUR (4) INCHES DEEP. HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.
4. SODDING
   - A. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.
   - B. THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS. ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.
   - C. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS, ADJACENT TO BUILDINGS. A 24 INCH STONE MULCH STRIP SHALL BE PROVIDED - REFER TO DETAILS. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND, AS APPROVED BY THE OWNER'S REPRESENTATIVE, SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN, FERTILIZE INSTALLED SOD AS ALLOWED BY PROPERTY'S JURISDICTIONAL AUTHORITY.
5. DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.
6. LAWN MAINTENANCE:
   - A. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS (LARGER THAN 12"X12") UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING REGRADING IF NECESSARY).
   - B. CONTRACTOR RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SOD/LAWN UNTIL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PRIOR TO AND UPON ACCEPTANCE, CONTRACTOR TO PROVIDE WATERING/IRRIGATION SCHEDULE TO OWNER. OBSERVE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.

Q. CLEANUP

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

R. PLANT MATERIAL MAINTENANCE

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

S. MAINTENANCE (ALTERNATE BID ITEM)

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

T. FINAL INSPECTION AND ACCEPTANCE OF WORK

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

U. WARRANTY

1. THE LIFE AND SATISFACTORY CONDITION OF ALL PLANT MATERIAL INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE.
2. REPLACEMENT: ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL B

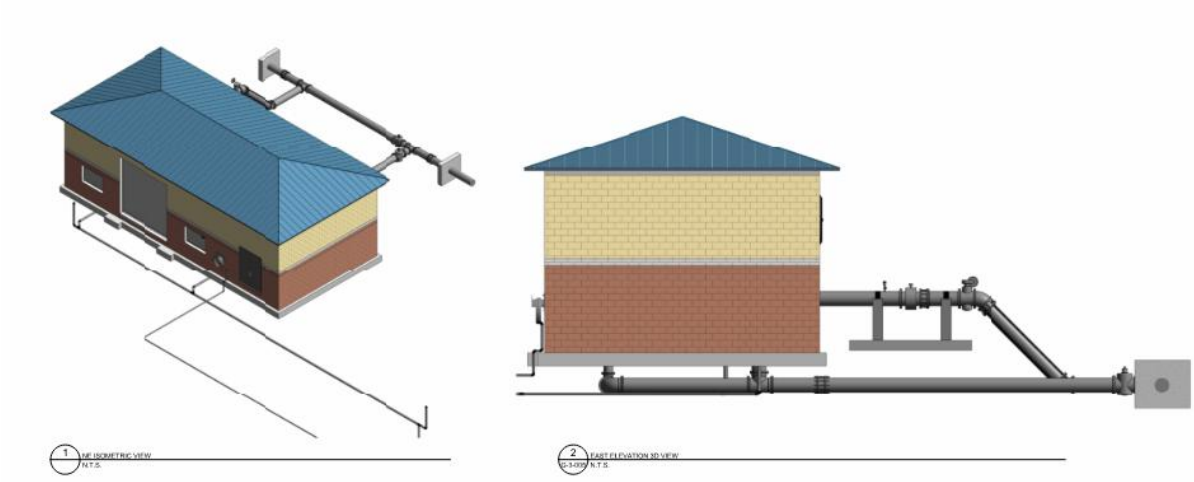
Kimley»Horn

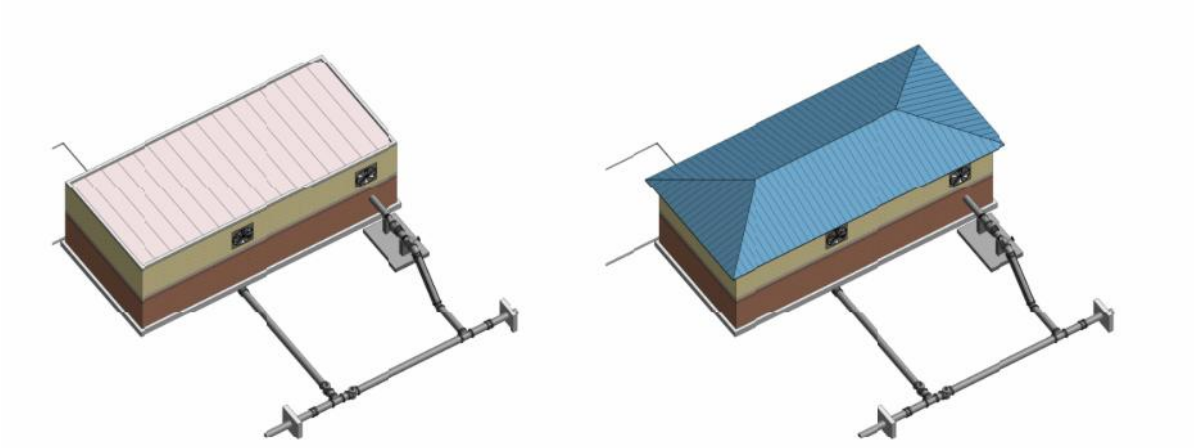
The following CMU block colors will be used for the Moore's Creek Booster Station exterior:

1. S-115 (A-1 block) or approved equal
2. S-203 (A-1 block) or approved equal
3. S-168 (A-1 block) or approved equal

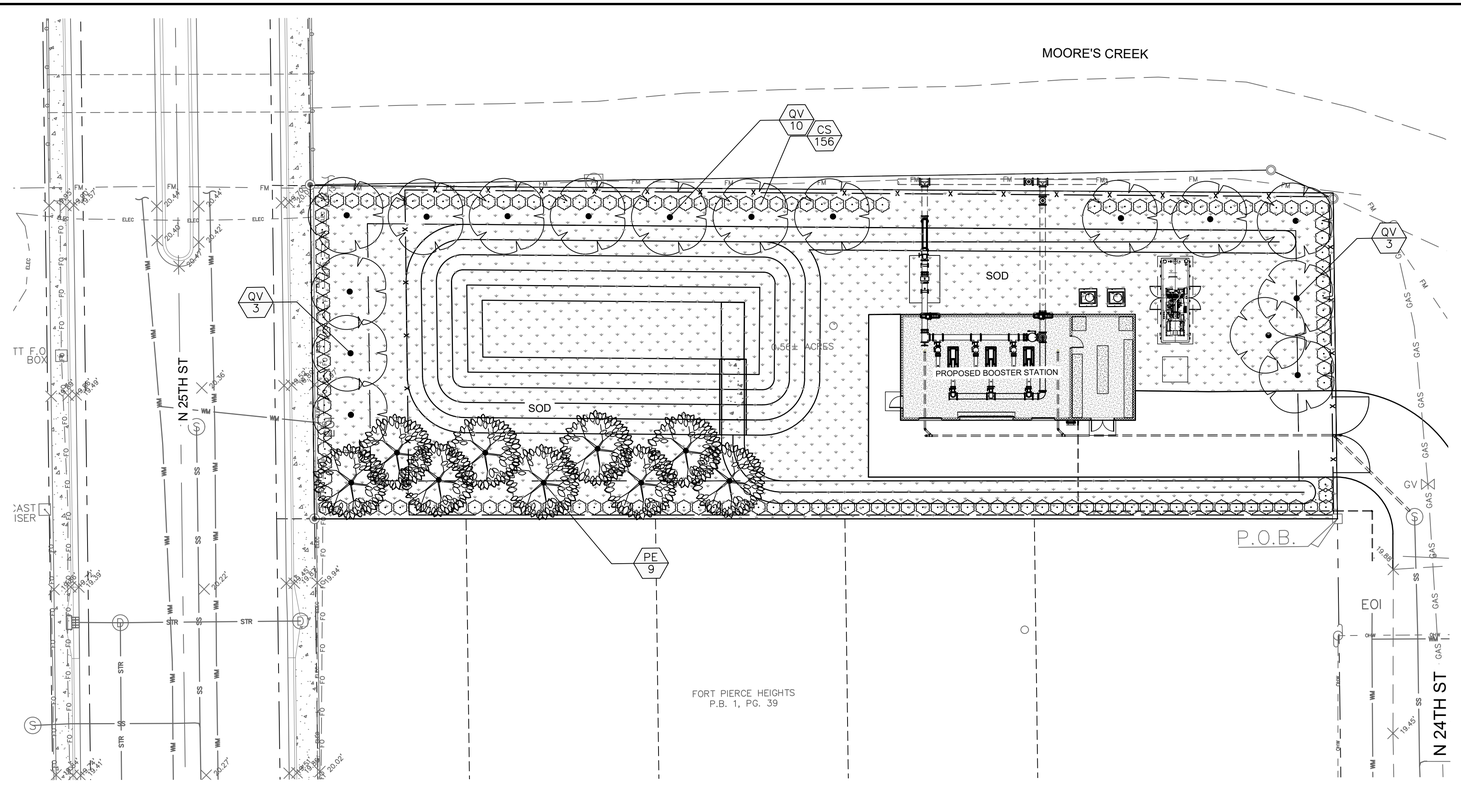
The above block colors can be found at the link below. Please see color rendering elevation and materials attachment for further information.

https://a1block.com/homepage/products/architectural-block/#Textures





CMU BLOCK COLOR SCHEDULE				
EL. RANGE	COLOR	APPEARENCE	TYPE	DESCRIPTION
22' 1" - 30.40'	S-115 (A-1 BLOCK) OR APPROVED EQUAL		SPLIT FACE	THE CMU BLOCKS WITHIN THIS ELEVATION RANGE SPAN FROM THE FINISH FLOOR TO THE BOTTOM OF THE CONTINUOUS BOND BEAM
30.40' - 31.00'	S-115 (A-1 BLOCK) OR APPROVED EQUAL		SPLIT FACE	THE CMU BLOCKS WITHIN THIS ELEVATION RANGE MAKE UP THE CONTINUOUS BOND BEAM, AND ARE TO BE CONSTRUCTED AS SHOWN IN DETAIL 3 ON SHEET S-3-501
31.00' - 31.67'	S-203 (A-1 BLOCK) OR APPROVED EQUAL		SPLIT FACE	THIS IS A SINGLE ROW OF CMU BLOCKS LOCATED DIRECTLY ON TOP OF THE CONTINUOUS BOND BEAM
31.67' - 37.67'	S-168 (A-1 BLOCK) OR APPROVED EQUAL		GROUND	THE CMU BLOCKS WITHIN THIS ELEVATION RANGE SPAN FROM THE TOP OF THE SINGLE ROW OF S-203 BLOCKS TO THE BOTTOM OF THE CONCRETE TIE BEAM



PLANT SCHEDULE

SYMBOL	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONTAINER	CAL	HT	NATIVE	WATER USE
TREES									
	PE	9	SLASH PINE	PINUS ELLIOTTII	F.G.	2.5" CAL MIN.	12' HT MIN	YES	MODERATE
	QV	15	SOUTHERN LIVE OAK	QUERCUS VIRGINIANA	F.G.	2.5" CAL MIN.	12' HT MIN	YES	MODERATE

SYMBOL	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONT	SPACING	SIZE	NATIVE	WATER USE
SHRUBS									
	CS	158	SMALL LEAF CLUSIA	CLUSIA GUTTIFERA	SOD	30" O.C.	36" HT MIN	NO	
GROUND COVERS									
	SO	17,308 SF	ST. AUGUSTINE GRASS	STENOTAPHRUM DIMIDIATUM	SOD	SOD	SOD		

LANDSCAPE REQUIREMENTS

BUFFERING (PER SECTION 123-37)		
NORTH BUFFER	**REQUIRED**	**PROVIDED**
270 LINEAR FEET		
TREES	1 TREE / 30 LINEAR FEET OF PROPERTY LINE = TREES REQUIRED	270 LINEAR FEET / 30 FEET = 9 TREES
SHRUBS	CONTINUOUS, UNBROKEN, SOLID, VISUAL SCREEN	PROVIDED
EAST BUFFER	**REQUIRED**	**PROVIDED**
66 LINEAR FEET		
TREES	1 TREE / 30 LINEAR FEET OF PROPERTY LINE = TREES REQUIRED	66 LINEAR FEET / 30 FEET = 3 TREES
SHRUBS	CONTINUOUS, UNBROKEN, SOLID, VISUAL SCREEN	PROVIDED
SOUTH BUFFER	**REQUIRED**	**PROVIDED**
270 LINEAR FEET		
		270 LINEAR FEET / 30 FEET = 9 TREES
		* TREES CLUSTERED ON SOUTH WEST CORNER OF PROPERTY LINE TO ALLOCATE SPACE
TREES	1 TREE / 30 LINEAR FEET OF PROPERTY LINE = TREES REQUIRED	FOR DRAINAGE SWALE REQUIREMENT
SHRUBS	CONTINUOUS, UNBROKEN, SOLID, VISUAL SCREEN	PROVIDED
WEST BUFFER	**REQUIRED**	**PROVIDED**
TREES	1 TREE / 30 LINEAR FEET OF PROPERTY LINE = TREES REQUIRED	88 LINEAR FEET / 30 FEET = 3 TREES
SHRUBS	CONTINUOUS, UNBROKEN, SOLID, VISUAL SCREEN	PROVIDED
	TOTAL TREES:	24
	TOTAL SHRUBS:	158

LEGEND

- ASPHALT
- SS — EXISTING SANITARY SEWER
- PROPERTY BOUNDARY
- GAS — EXISTING GAS LINE
- x — FENCE
- FM — EXISTING FORCE MAIN
- EXISTING WATER MAIN

NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

DRAFT GMP SET

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Know what's below. Call before you dig.
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No.	REVISIONS	BY	DATE
3	PER FPUA OCT 2025 COMMENTS	RMD	10/21/2025
2	PER FPUA AUG 2025 COMMENTS	MJS	9/09/2025
1	BID SET	RDC	4/09/2025

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445 24TH STREET SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT	147923001
DATE	SEP 2025
SCALE	AS SHOWN
DESIGNED BY	DPOB
DRAWN BY	DPOB
CHECKED BY	KPD

CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

KYLER DURHAM LICENSE No LA6667668 DATE: 10/27/2025 STATE OF FLORIDA PROFESSIONAL LANDSCAPE ARCHITECT

LANDSCAPE PLAN

SHEET NUMBER

L-100

Plotted By:Duclos, Ryan Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:L-100 October 27, 2025 04:46:04pm K:\vrb_waterresources\147923001 - fpua ww redirection phase 1a\CAD\cip 3 - moore's creek booster\plansheets\L-000.dwg
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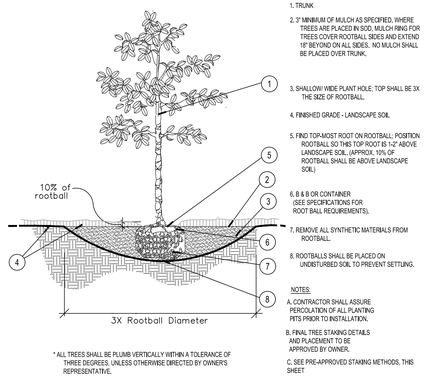
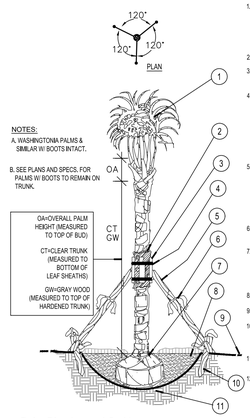


1. TRUNK
2. 3" MINIMUM OF MULCH AS SPECIFIED, WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES COVER ROOTBALL SIDES AND EXTEND 18" BEYOND ON ALL SIDES. NO MULCH SHALL BE PLACED OVER TRUNK.
3. SHALLOW WIDE PLANT HOLE; TOP SHALL BE 3X THE SIZE OF ROOTBALL.
4. FINISHED GRADE - LANDSCAPE SOIL
5. FIND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

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

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

A Tree Planting
SECTION NTS



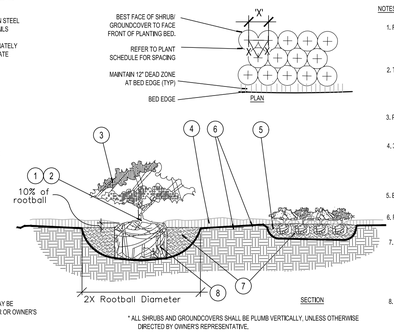
NOTES:
A. WASHINGTONIA PALMS & SIMILAR W/ BOOTS INTACT.
B. SEE PLANS AND SPECS. FOR PALMS W/ BOOTS TO REMAIN ON TRUNK.

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

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

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

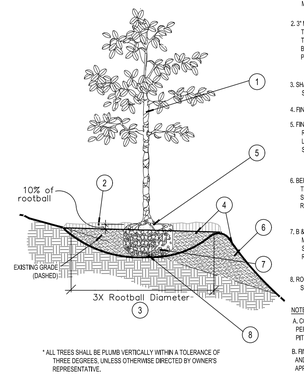
B Palm Planting and Staking
SECTION NTS



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

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

C Shrub / Groundcover Planting
PLAN/SECTION NTS

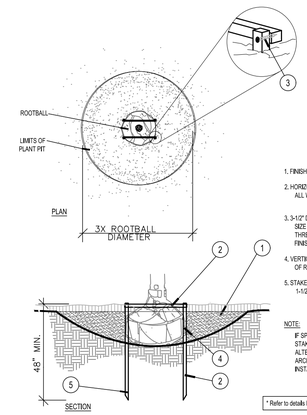


1. TREES, PALMS, AND LARGE SHRUBS (15 GAL OR GREATER) SHALL BE PLANTED IN SIMILAR MANNER
2. 3" MINIMUM OF MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES COVER ROOTBALL SIDES AND EXTEND 18" BEYOND ON ALL SIDES. NO MULCH SHALL BE PLACED OVER TRUNK.
3. SHALLOW WIDE PLANT HOLE; TOP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

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

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

D Planting on a Slope
SECTION NTS

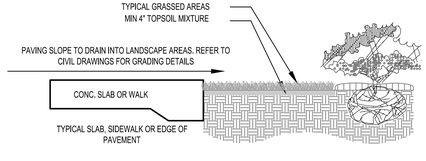


1. FINISH GRADE
2. HORIZONTAL 2X2 SCREWED TO 2X3 STAKE. ALL WOOD SHALL BE #2 UNTREATED.
3. 3-1/2" DRYWALL SCREW, THREAD SIZE 12, SHARP POINT, FULL THREAD, BLACK PHOSPHATE FINISH
4. VERTICAL STAKES SHALL ABUT SIDE OF ROOTBALL
5. STAKES TO EXTEND INTO NATIVE SOIL BY 1-1/2 X THE ROOTBALL DEPTH MIN.

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

* Refer to details B and D for planting

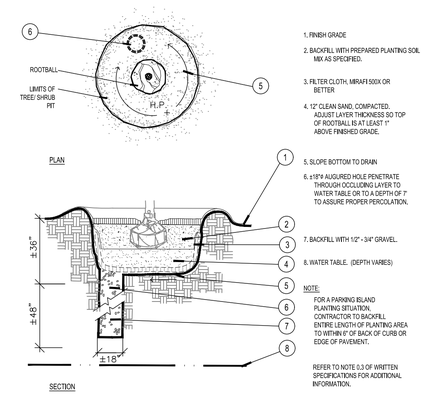
E Staking - up to 65 gal. or B&B to 3-1/2" Cal.
PLAN/SECTION NTS



SOD NOTES:
1. TYPICAL SOLID SOD LAID LEVEL WITH TIGHT JOINTS SET ADJACENT TO EDGE OF PAVEMENT SUCH THAT THE TOP OF SOD WHEN FRESHLY MOWED IS FLUSH WITH TOP OF PAVEMENT IN ORDER NOT TO IMPEDE THE FLOW OF RUNOFF INTO LANDSCAPE AREAS AND TO APPEAR NEAT AND WELL MAINTAINED.
2. ALL SOD LAID ADJACENT TO THE SHRUB OR GROUNDCOVER PLANTING AREAS SHALL HAVE WELL DEFINED BEDLINES, AND SHALL BE INSTALLED A DISTANCE BACK FROM THE FACE EDGE OF PLANT MATERIALS TO ALLOW FOR GROWTH OF THE PLANTS. THE TOP OF THE SOD AND THE FINISHED GRADE OF THE 3" MULCH COVER SHALL BE FLUSH AND LEVEL.
3. SOD SET ON PREPARED GRADE WHICH IS LEVEL OR GRADED TO MEET THE REQUIREMENTS OF THE ENGINEERED SITE DRAINAGE PLANS.

TOP SOIL NOTES:
1. PLANTING SOIL SHALL CONSIST OF 70% CLEAN, SHARP, SILICA SAND AND 30% EVERGLADES MUCK, MIXED WITH THE NATIVE, EXCAVATED SOIL IN A 1:1 RATIO (50/50).
2. TOPSOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANT PITS SHALL BE FERTILE, FRIABLE, AND OF A LOAMY CHARACTER; REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEEDS AND OTHER LITTER, FREE OF ROOTS, STUMPS, STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER AND A PH BETWEEN 5.5 AND 6.5 - SUBMIT SAMPLE AND PH TESTING RESULTS FOR APPROVAL.
3. CONTRACTOR TO SUBMIT SAMPLES OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.

F SOD
SECTION NTS

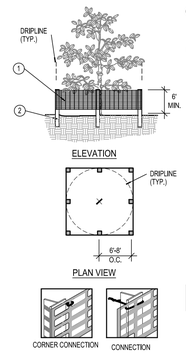


1. FINISH GRADE
2. BACKFILL WITH PREPARED PLANTING SOIL MIX AS SPECIFIED.
3. FILTER CLOTH, MIRAFI 500X OR BETTER
4. 12" CLEAN SAND, COMPACTED, ADJUST LAYER THICKNESS SO TOP OF ROOTBALL IS AT LEAST 1" ABOVE FINISHED GRADE.
5. SLOPE BOTTOM TO DRAIN
6. ±18"ø AUGURED HOLE PENETRATE THROUGH OCCLUDING LAYER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

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

REFER TO NOTE 0.3 OF WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION.

G Poor Drainage Condition
PLAN/SECTION NTS



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

INSTALLATION NOTES:
A. POST SELECTION SHOULD BE BASED ON EXPECTED STRENGTH NEEDS AND THE LENGTH OF TIME FENCE WILL BE IN PLACE. FLEXIBLE FIBERGLASS ROD POSTS ARE RECOMMENDED FOR PARKS, ATHLETIC EVENTS AND CROWD CONTROL INSTALLATIONS. METAL "T" POSTS OR TREATED WOOD POSTS ARE TYPICALLY USED FOR CONSTRUCTION AND OTHER APPLICATIONS.

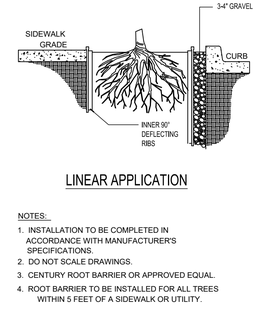
B. POSTS SHOULD BE DRIVEN INTO THE GROUND TO A DEPTH OF 1/4 OF THE HEIGHT OF THE POST. FOR EXAMPLE, A 8' POST SHOULD BE SET AT LEAST 2' INTO THE GROUND.

C. SPACE POSTS EVERY 6' (MIN.) TO 8' (MAX.).

D. SECURE FENCING TO POST WITH NYLON CABLE TIES (AVAILABLE FROM CONWED PLASTICS). WOOD STRIPS MAY BE ALSO BE USED TO PROVIDE ADDITIONAL SUPPORT AND PROTECTION BETWEEN TIES AND POSTS.

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

H Tree/Shrub Protector
Barrier Detail NTS



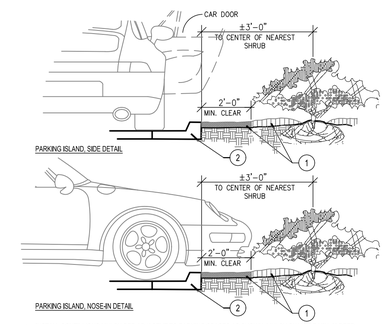
ROOT BARRIER BY: Century Root Barrier (714)632-7083
(or) DeepRoot (800)458-7668

SIZE: 36" D, OR AS NOTED ON PLAN
MATERIAL: POLYETHYLENE WITH ULTRAVIOLET INHIBITORS
THICKNESS: .085 IN. (min.)

LINEAR APPLICATION

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.
3. CENTURY ROOT BARRIER OR APPROVED EQUAL.
4. ROOT BARRIER TO BE INSTALLED FOR ALL TREES WITHIN 5 FEET OF A SIDEWALK OR UTILITY.

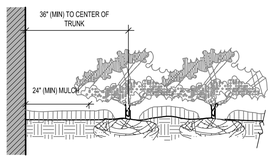
I Root Barrier
Barrier Detail NTS



1. INSTALL CONTINUOUS MULCH BED ADJACENT TO PARKING SPACES AS SHOWN. MULCH SHALL BE MIN. 3" DEEP.

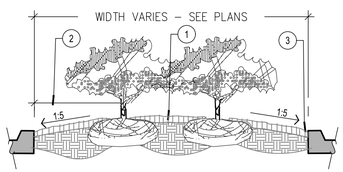
   NO POP-UP IRRIGATION HEADS SHALL BE LOCATED WITHIN 24" OF A PARKING SPACE ON ANY SIDE
2. CURB OR PARKING LOT EDGE, BY OTHERS

J Parking Space/Curb Planting
SECTION NTS



NOTES
* CLEAR ZONE: 36" MIN. FROM BUILDING TO CENTER OF NEAREST SHRUB.

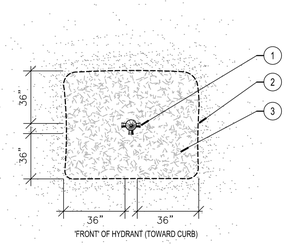
K Plantings Adjacent to Buildings
SECTION NTS



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

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

L Planted Parking Lot Islands / Medians
SECTION NTS



1. FIRE HYDRANT
2. NO TREES SHALL BE PLACED WITHIN SHOWN RADIUS OF ALL PROPOSED OR EXISTING FIRE HYDRANTS. CONTRACTOR SHALL ADJUST PLANT MATERIAL SO THAT NO CONFLICTS WITH FIRE HYDRANTS OCCUR ON SITE.
3. PROVIDE A MULCH, 3" DEPTH MIN., SURROUNDING AREA INDICATED.

M Fire Hydrant Clear Zone
PLAN NTS

DRAFT GMP SET

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

No.	REVISIONS	BY	DATE
3	PER FPUA OCT 2025 COMMENTS	RMD	10/21/2025
2	PER FPUA AUG 2025 COMMENTS	MJS	9/09/2025
1	BID SET	RDC	4/09/2025

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PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT	147923001
DATE	SEP 2025
SCALE	AS SHOWN
DESIGNED BY	DPOB
DRAWN BY	DPOB
CHECKED BY	KPD

CIP 3 - MOORE'S CREEK BOOSTER STATION
PREPARED FOR
FORT PIERCE UTILITIES AUTHORITY

KYLER DURHAM LICENSE No LA6667668 DATE: 10/27/2025 STATE OF FLORIDA PROFESSIONAL LANDSCAPE ARCHITECT

LANDSCAPE DETAILS

SHEET NUMBER
L-150

Plotted By:Duclos, Ryan Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:L-150 October 27, 2025 04:46:04pm K:\vrb_waterresources\147923001 - fpua ww redirection phase 1a\CAD\cip 3 – moore's creek booster\plansheets\L-000.dwg
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GENERAL LANDSCAPE SPECIFICATIONS AND NOTES

A. SCOPE OF WORK

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

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

B. PROTECTION OF EXISTING STRUCTURES

ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, OTHER SITE CONSTRUCTION ITEMS, AND PLANTING ALREADY COMPLETED OR ESTABLISHED SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.

C. PROTECTION OF EXISTING PLANT MATERIALS OUTSIDE LIMIT OF WORK

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

D. MATERIALS

1. GENERAL

MATERIALS LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL. UPON SUBMITTALS' APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.

MATERIAL	SUBMITTAL
MULCH	PRODUCT DATA
TOPSOIL MIX	AMENDMENT MIX/ PRODUCT DATA/ TEST RESULTS
PLANTS	PHOTOGRAPHS OF ONE (1) OF EACH SPECIES (OR TAGGED IN NURSERY) INDICATE SIZES (HEIGHT/WIDTH) AND QUALITY PER SPEC. CLIENT-REQUESTED TAGGING MAY SUBSTITUTE PHOTOS.
FERTILIZER	PRODUCT DATA
INNOCULANT	PRODUCT DATA
HERBICIDE	PRODUCT DATA

2. PLANT MATERIALS

A. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARDIZED PLANT NAMES, 1942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL PLANTS SHALL BE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS, INSECT EGGS AND LARVAE AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. WHERE ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY WITH APPROVAL FROM OWNER OR OWNER'S REPRESENTATIVE. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE OWNER'S REPRESENTATIVE

B. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.

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

E. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, MIX)

1. SOIL MIXTURE SHALL CONSIST OF 70% COARSE SAND, 30% FLORIDA PEAT AS DESCRIBED BELOW.
2. SOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING SHALL BE FERTILE, FRIABLE, AND REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEED AND OTHER LITTER, FREE OF ROOTS, STUMPS, STONE LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL HAVE A PH BETWEEN 5.5 AND 7.0 - SUBMIT SAMPLE AND PH TESTING RESULTS FOR APPROVAL.
3. SAND SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE ORTONA MINED SAND. CONTRACTOR SHALL SUBMIT RESULTS OF SOIL TEST FOR PEAT AND SAND PROPOSED FOR USE UNDER THIS CONTRACT FOR APPROVAL.
4. CONTRACTOR SHALL SUBMIT SAMPLES OF SOIL MIXTURE FOR LANDSCAPE ARCHITECT REVIEW UNDER FORMAL SUBMITTAL AND SUBSEQUENTLY TO OWNER'S REPRESENTATIVE THEREAFTER FOR APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.
5. FLORIDA MUCK / FLORIDA MUCKY PEAT MAY BE PROVIDED AS A SUBSTITUTE FOR THE 30% FLORIDA PEAT, CONTINGENT UPON PRELIMINARY TEST RESULTS AND AS DETERMINED BY THE LANDSCAPE ARCHITECT DURING THE SUBMITTAL PROCESS. ANY CHANGES IN THE PERCENTAGES OR PARENT MATERIALS REQUIRED TO PROVIDE THE SPECIFIED MIXTURE AS DETERMINED BY THE LANDSCAPE ARCHITECT SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
6. CONTRACTOR SHALL PROVIDE PH TEST RESULTS FOR ALL MIX COMPONENTS AND FINAL MIX.
7. CONTRACTOR SHALL PROVIDE PENETROMETER ON-SITE AT ALL TIMES FOR COMPACTION INSPECTION AT THE DISCRETION OF THE LANDSCAPE ARCHITECT.
8. PENETROMETER CRITERIA / SPECIFICATIONS SHALL RANGE FROM APPROX. 75 PSI TO LESS THAN 300 PSI OR AS DETERMINED BY THE LANDSCAPE ARCHITECT.
9. FINAL MIX SHALL BE TESTED TO HAVE A SATURATED WEIGHT OF NO MORE THAN 85 POUNDS PER CUBIC FOOT WHEN COMPACTED TO 85% STANDARD PROCTOR. FERTILIZER PRODUCT DATA AND RATE SCHEDULE SHALL BE SUBMITTED CONCURRENTLY WITH THE SOIL SUBMITTAL FOR EVALUATION BY THE LANDSCAPE ARCHITECT.
10. SOIL SHALL BE SUPPLIED BY ATLAS PEAT & SOIL INC. 9621 STATE ROAD, BOYNTON BEACH, FLORIDA 33472 PHONE: 561-734-7300.

F. WATER

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

*WATERING/IRRIGATION RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

G. FERTILIZER

CONTRACTOR SHALL PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE. SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY-DERIVED.

*FERTILIZER RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

H. ROCK MULCH

ROCK MULCH MATERIAL SHALL BE TWO (2) TO THREE (3) INCHES DIAMETER CHATTAHOOCHEE ROCK (OR APPROVED EQUAL) AT A MINIMUM DEPTH OF THREE (3) INCHES IN ALL LANDSCAPE SHRUB AND GROUNDCOVER AREAS. THE ROCK MULCH SHALL CONFINE TO THE LANDSCAPE BED LINES ESTABLISHED BY ADJACENT SOD AREAS, HARDSCAPE AREAS, AND CURBS. CLEAR MULCH FROM EACH PLANT'S CROWN (BASE).

I. DIGGING AND HANDLING

1. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT DAMAGE DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO SITE SHALL BE SPRAYED WITH AN ANTITRANSPIRANT PRODUCT ("WILTPRUF" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.
2. BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A ROOT BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN, PLANTS BALLED AND BURLAPPED OR CONTAINER GROWN SHALL NOT BE HANDLED BY STEMS.
3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS, COMPLYING WITH FLORIDA GRADES AND STANDARDS FOR NURSERY PLANTS, CURRENT EDITION. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT DURING TRANSPORTATION AND PRIOR TO PLANTING.
4. PROTECTION OF PALMS (IF APPLICABLE): ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS SPECIFIED AFTER THE MINIMUM OF FRONDS HAVE BEEN REMOVED. ALL PALMS SHALL BE BRACED PER PALM PLANTING DETAIL.
5. EXCAVATION OF TREE PITS SHALL BE PERFORMED USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB- BASES.

J. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION, FLORIDA #1 OR BETTER.
2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.
3. PLANT ROOTS BOUND IN CONTAINERS ARE NOT ACCEPTABLE.
4. SUBSTITUTION OF NON-CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE CONTAINER GROWN WILL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL IS OBTAINED FROM THE OWNER OR OWNER'S REPRESENTATIVE.

K. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED BY THE OWNER OR OWNER'S REPRESENTATIVE. THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

L. NATIVE STOCK

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

M. MATERIALS LIST

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

N. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH. THIS CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.
3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS. REFER TO CIVIL ENGINEER'S PLANS FOR FINAL GRADES.

O. PLANTING PROCEDURES

1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE REMOVED FROM THE SURFACE OF ALL PLANT BEDS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, HE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.
2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS (LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER SYSTEMS, CABLE, AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES. CALL NATIONAL ONE CALL - 811 - TO LOCATE UTILITIES.
3. SUBGRADE EXCAVATION: CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36". CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY THE CONTRACTOR, AND ADEQUATE PERCOLATION CAN NOT BE ACHIEVED, CONTRACTOR SHALL UTILIZE PLANTING DETAIL THAT ADDRESSES POOR DRAINAGE.
4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS HEREIN SPECIFIED AND REQUIRED. INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.
5. GENERAL: COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. UPON ARRIVAL AT THE SITE, PLANTS SHALL BE THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS STORED ON-SITE SHALL NOT REMAIN UNPLANTED FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS, AT ALL TIMES, METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.
6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE PLANTING WITH IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION APPURTENANCES AND PLANTS.
7. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD FOR NURSERY STOCK Z60.1, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACKFILLED WITH THE PREPARED PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER PERCOLATION. IF POOR PERCOLATION EXISTS, UTILIZE "POOR DRAINAGE CONDITION" PLANTING DETAIL. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURES AND UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN. PROPER "JETTING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.
8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.
9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION E OF THESE SPECIFICATIONS.
10. TREES AND SHRUBS SHALL BE SET STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT, PLANTING SOIL MIXTURE SHALL BE BACKFILLED, THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).
11. AMEND PINE AND OAK PLANT PITS WITH ECTOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. ALL OTHER PLANT PITS SHALL BE AMENDED WITH ENDOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. PROVIDE PRODUCT INFORMATION SUBMITTAL PRIOR TO INOCULATION.
12. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES. STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET. ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE. ONLY WITH MULCH. ALL BURLAP, ROPE, WIRES, BASKETS, ETC., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS, BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.
13. PRUNING: TREES SHALL BE PRUNED, AT THE DIRECTION OF THE OWNER OR OWNER'S REPRESENTATIVE, TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT. ALL PRUNING TO BE PERFORMED BY LICENSED ARBORIST, IN ACCORDANCE WITH ANSI A-300.
14. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6", REMOVE AND DISPOSE ALL DEBRIS. MIX TOP 4" TO ACHIEVE SOIL MIXTURE AS SPECIFIED IN SECTION E. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.
15. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE CONTRACTOR AND OWNER DECIDE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING AND AGREE TO INDEMNIFY AND HOLD HARMLESS THE LANDSCAPE ARCHITECT IN THE EVENT UNSUPPORTED TREES PLANTED UNDER THIS CONTRACT FALL AND DAMAGE PERSON OR PROPERTY.
16. MULCHING: PROVIDE A THREE INCH (MINIMUM) LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER, VINE BED, AND TREE PIT PLANTED UNDER THIS CONTRACT.
17. HERBICIDE WEED CONTROL: ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "ROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER. (AS ALLOWED BY JURISDICTIONAL AUTHORITY)

P. LAWN SODDING

1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.
2. LAWN BED PREPARATION: ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS, AND THE GROUND BROUGHT TO AN EVEN GRADE. THE ENTIRE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH, DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE.
3. SOIL PREPARATION: PREPARE LOOSE BED FOUR (4) INCHES DEEP. HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.
4. SODDING
   A. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.
   B. THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS. ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.
   C. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS, ADJACENT TO BUILDINGS. A 24 INCH STONE MULCH STRIP SHALL BE PROVIDED - REFER TO DETAILS. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND, AS APPROVED BY THE OWNER'S REPRESENTATIVE, SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN, FERTILIZE INSTALLED SOD AS ALLOWED BY PROPERTY'S JURISDICTIONAL AUTHORITY.
5. DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.
6. LAWN MAINTENANCE:
   A. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS (LARGER THAN 12"X12") UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING REGRADING IF NECESSARY).
   B. CONTRACTOR RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SOD/LAWN UNTIL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PRIOR TO AND UPON ACCEPTANCE, CONTRACTOR TO PROVIDE WATERING/IRRIGATION SCHEDULE TO OWNER. OBSERVE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.

Q. CLEANUP

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

R. PLANT MATERIAL MAINTENANCE

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

S. MAINTENANCE (ALTERNATE BID ITEM)

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

T. FINAL INSPECTION AND ACCEPTANCE OF WORK

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

U. WARRANTY

1. THE LIFE AND SATISFACTORY CONDITION OF ALL PLANT MATERIAL INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE.
2. REPLACEMENT: ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED PLANTED

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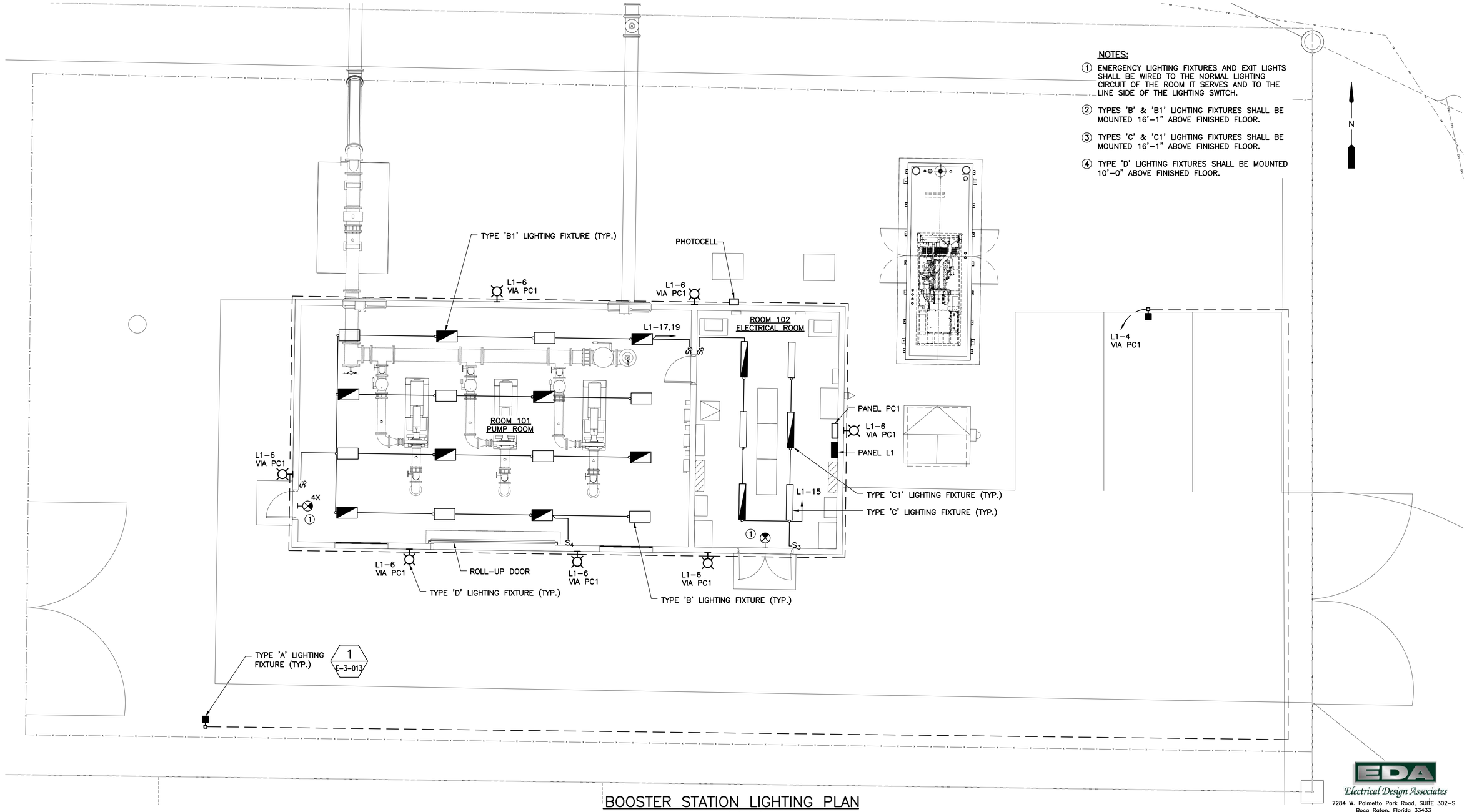
W:\ACTIVE-BOCA\2_Active Projects\Kimley Horn\FPUA\Moore's Creek Booster Sta\02_90 Per Submittal\Dwg\E-10 BPS LTG PLAN.dwg, 22 X 34, 7/2/2025 9:42:03 AM, RMeeks

NOTES:

1. EMERGENCY LIGHTING FIXTURES AND EXIT LIGHTS SHALL BE WIRED TO THE NORMAL LIGHTING CIRCUIT OF THE ROOM IT SERVES AND TO THE LINE SIDE OF THE LIGHTING SWITCH.
2. TYPES 'B' & 'B1' LIGHTING FIXTURES SHALL BE MOUNTED 16'–1" ABOVE FINISHED FLOOR.
3. TYPES 'C' & 'C1' LIGHTING FIXTURES SHALL BE MOUNTED 16'–1" ABOVE FINISHED FLOOR.
4. TYPE 'D' LIGHTING FIXTURES SHALL BE MOUNTED 10'–0" ABOVE FINISHED FLOOR.



BOOSTER STATION LIGHTING PLAN

SCALE: 3/16"=1'–0"

6 4 2 0 5'

EDA
Electrical Design Associates
7284 W. Palmetto Park Road, SUITE 302–S
Boca Raton, Florida 33433
PHONE: (561) 819–5556
FAX: (561) 819–5557
C.O.A. No. 8079
DAMEION DONALDSON, P.E.
Florida P.E. No. 70851

90% SUBMITTAL

No.	REVISIONS	BY	DATE

Kimley»Horn
445 24TH STREET SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT	147923001
DATE	JULY 2025
SCALE	AS SHOWN
DESIGNED BY	DD
DRAWN BY	RRM
CHECKED BY	WRN

CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

LICENSED PROFESSIONAL

DAMEION DONALDSON

FL LICENSE NUMBER 70851

DATE:

BOOSTER STATION LIGHTING PLAN

SHEET NUMBER

E-3-010

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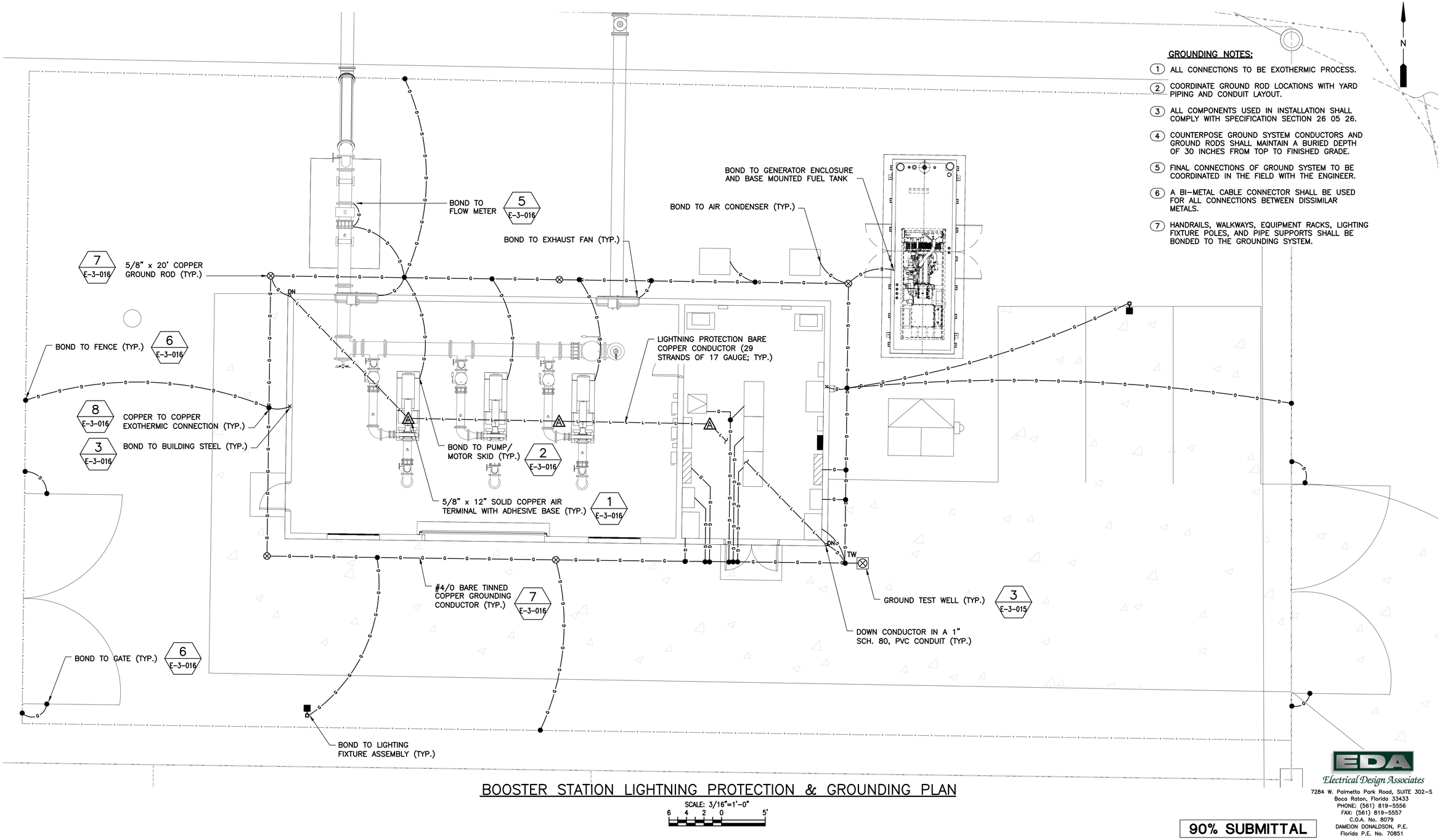

BOOSTER STATION LIGHTNING PROTECTION & GROUNDING PLAN

SCALE: 3/16"=1'-0"
6 4 2 0 5'

90% SUBMITTAL

EDA
Electrical Design Associates
7284 W. Palmetto Park Road, SUITE 302-S
Boca Raton, Florida 33433
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PREPARED FOR
FORT PIERCE UTILITIES AUTHORITY

LICENSED PROFESSIONAL
DAMEION DONALDSON
FL LICENSE NUMBER 70851
DATE:

BOOSTER STATION LIGHTNING PROTECTION & GROUNDING PLAN

SHEET NUMBER
E-3-011

Kimley»Horn

September 30, 2025

MOORE'S CREEK BOOSTER STATION

FORT PIERCE

SECTION 09, TOWNSHIP 35 SOUTH, RANGE 40 EAST

FORT PIERCE, FL

Parcel ID: 2409-232-0007-000-3

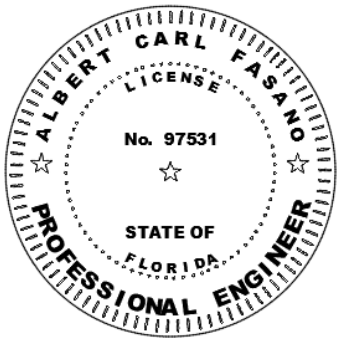
DRAINAGE ANALYSIS FOR SOUTH FLORIDA WATER MANAGEMENT DISTRICT & CITY OF FORT PIERCE

Prepared By:

Kimley-Horn and Associates, Inc.

445 24th Street, Suite 200

Vero Beach, FL 32960



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III. Post-Development Conditions
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VIII. Water Quality Treatment
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X. Nutrient Loading
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- B. Post-Development Drainage Basin Map
- C. Post Stage Storage and Soil Table
- D. NEH 630 Chapter 9
- E. Precipitation Frequency Table
- F. ICPR Pre-Development Routing (10-24HR, 25YR-24&72HR ,100YR-24&72HR)
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- H. ICPR (Slug Load Drawdown Analysis)
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MOORE'S CREEK BOOSTER STATION – FORT PIERCE
DRAINAGE SUMMARY

I. Site Description

This drainage report is intended to provide an analysis of the existing and proposed conditions related to the project site located at North 25th Street in St. Lucie County (PID: 2409-232-0007-000-3). The property parcel totals +/- 0.54 ac located within St. Lucie County, South Florida Water Management District (SFWMD).

Moore's Creek is proposing to develop approximately +/- 0.54 ac of undeveloped area in the existing parcel. The development will consist of a proposed 1.738 SF booster station building including associated utilities, a new 22' access driveway with double swing gates, and storm conveyance swales draining to a dry retention pond. The total proposed onsite drainage area is +/- 0.54 ac.

The site generally lies within Zone AE regulatory floodway and X 'Area of Special Flood Hazard and Minimal Flood Hazard Areas per FEMA Flood Map #12111C0178J | Dated 2/16/2012. The base flood elevation (BFE) defined in the FEMA Flood is 20.5' NAVD. The building's finished flood elevation (FFE) is proposed at 22' NAVD 1.5' above the existing BFE. The existing condition of the property shows no wetlands present on site.

All elevations referenced in this report and on the plans are in NAVD'88.

II. Pre-Development Conditions

The pre-development analysis for the existing conditions was performed using information from the Boundary & topographic Survey conducted by Engineering, Design, & Construction, Inc., dated November 20,2024. The existing site is completely pervious and consists of vegetation. The entire parcel was analyzed and delineated into one basin for drainage analysis comprised of 0.54 acres. Refer to the Pre CN calculation in section a. The delineated basin area can also be seen in the Pre-Drainage Map located in **Appendix A**.

a) The pre-development land use is outlined in table 1:

Table 1: Pre-Development Conditions

Pre-Development Curve Number
TR-55 Methodology - Pre Conditions

	Description:	Area (SF)	Area (AC)	% of Total	Surface	CN	CN x Area(%)
Pre-Basin 1	Pervious						
	Grassland	23,474	0.54	100.00%	Grassland (Group A)	49	49.00
	Pervious Total=	23,474	0.54	100.00%			
	Basin Total =	23,474	0.54	100.00%			**49.00**
		Area (SF)	Area (AC)	% of Total			
	TOTAL PERVIOUS AREA	23,474	0.54	100.00%			
	TOTAL IMPERVIOUS AREA	0	0.00	0.00%			
	TOTAL DRAINAGE AREA	**23,474**	**0.54**	**100.00%**			
	TOTAL CN			**49.00**			

Note: Refer to the Pre-Basin Map in **Appendix** A for the basin delineation.

b) Existing topography and discharge methods pre-development is as follows:

Pre-Basin 1:
Pre-Basin 1 generally sheet flows to the south of the site to the adjacent sites and right of way and ultimately discharges to the Moore's Creek.

III. Post-Development Conditions

The post-development analysis was performed consistent with the parameters established by SFWMD and The City of Ft. Pierce. The post development analysis included one basin, Post-Basin 1. This basins onsite drainage area is a total of 0.54 acres.

Post-Basin 1 consists of the proposed building, access driveway, utility pads, and previous areas that sheet flow to an onsite dry retention pond. The dry retention pond will treat and recover the stormwater runoff. The basin land use breakdown and CN is generally consistent with the existing conditions.

a) The post-development land use is outlined in Table 2:

Table 2: Post-Development Conditions

Post-Development Curve Number
TR-55 Methodology - Post Conditions

	Description: Moores Creek	Area (SF)	Area (AC)	% of Total	Surface	CN	CN x Area(%)
Post Basin 1	Impervious						
	Pavement	2,851	0.07	12.14%	Asphalt Pavement	98	11.90
	Building	1,738	0.04	7.40%	Building	98	7.25
	Dry Pond Bottom	1,036	0.02	4.41%	Surface Water	98	4.33
	Impervious Total =	*5,625*	*0.13*	23.96%			
	Pervious						
	Landscape/Open Space	13,077	0.30	55.71%	Landscape/Sod (Group A)	49	27.30
	Dry Pond Sides	4,772	0.11	20.33%	Landscape/Sod (Group A)	49	9.96
	Pervious Total=	17,849	0.41	76.04%			
	Basin Total =	23,474	0.54	100.00%			**60.74**
	Impervious	Area (SF)	Area (AC)	% of Total			
	TOTAL PERVIOUS AREA	17,849	0.41	76.04%			
	TOTAL IMPERVIOUS AREA	5,625	0.13	23.96%			
	TOTAL DRAINAGE AREA	23,474	0.54	100.00%			
	TOTAL CN			**60.74**			

Note: Please refer to **Appendix B** for Post Basin Maps.

b) The stormwater system for the proposed development is shown in the following description:

Dry Retention Pond (Node: Post-Onsite Storage):
There is one (1) dry retention pond. The minimum bottom for the 0.15-acre dry retention pond is set at 15.00' while the maximum top of banks is 20.00'. All runoff that is collected in Post-Basin 1 sheet flows to conveyance a conveyance swales that discharge to the proposed dry retention pond to provide onsite treatment. The pond bank sides to control elevation are at a 4:1 slope.

IV. Curve Number

The geotechnical report as seen in Appendix L determined the soil to be hydrological soil group A. The CN values are taken from NEH part 630 Chapter 9 Table 9-1 as seen in **Appendix D**. In the post-development condition, the determined curve numbers also considered the existing site features which consists of open space surface in fair condition. The resulting curve number in the pre-development condition for Pre-Basin is 49. The resulted curve number in the post-development condition for Post-Basin 1 is 60.09.

V. Water Table

The geotechnical report was prepared by KSM Engineering and Testing on March 28, 2025, as seen in Appendix L. The geotechnical report concluded that the groundwater conditions were encountered at 10 feet below existing grade. Per the geotechnical report, seasonal high water level (SHWL) is 8-9 feet below existing grade**.** Considering the average existing grade

at the proposed pond location of 21.5' and the average SHWL depth the SHWL was approximated at 13' NAVD.

VI. Discharge and Stage Criteria

SFWMD Criteria:

Per SFWMD Discharge criteria, the post-development peak discharge rate must not exceed the pre-development peak rate of discharge for 25YR-72HR storms for systems. The design storms and discharge conditions for an open basin require discharge rates in the post-condition to be less than or equal to the pre-condition.

City of Fort Pierce Criteria:

Per City of Fort Pierce criteria, storm event of 25YR-72HR return frequency shall be used in computing allowable off-site discharge. The design storms and discharge conditions for an open basin require discharge rates in the post-condition to be less than or equal to the pre-condition.

It is determined that there is less post-development discharge than the pre-development as stormwater improvements are proposed throughout the site. Post-Basin 1 sheet flows to the dry retention pond for treatment.

Table 3: Max Discharge Rate Calculation Summary

Max Discharge Rate Calculation Summary		
	Pre-Development	*Post-Development*
Max Rate	Max Flow Rate (cfs)	Max Flow Rate (cfs)
	Pre Basin Discharge	Post Basin Discharge
25YR-72HR	0.72 cfs	0.00 cfs
Total	0.72 cfs	0.00 cfs

Based on table 3 and analysis, the site contains a lower site discharge in the post condition than the pre-condition. Refer to **Appendix F** and G for the ICPR analysis.

Maximum Stage

The proposed stormwater system is designed to meet the established minimum elevations required for the site as designated by the Florida Department of Transportation. The FDOT mandates that site perimeter berms should be built up such that they have 1' of freeboard above the max stage elevation of the 25YR-72HR storm event. Table 4 explains the storm frequency and duration, purpose, rainfall depth used in routing, peak stage, and the maximum allowed stage for compliance. Based on the results, the dry system meets the required maximum allowed stage with the max stage of the 25YR-72HR storm at 19.47' NAVD with a proposed perimeter berm of 20.47' NAVD.

Table 4: Design Storm Event Tabulation

Design Storm Event Tabulation				
Storm Frequency and Duration	Storm Purpose	Rainfall Depth (inches)	Max Peak Stage (ft) Onsite Storage Node Per ICPR	Proposed Min. Elevation (ft) Onsite Storage Node
10YR-24HR	Minimum Pavement	7.11	18.05	21.3
25YR-72HR	Perimeter Berm	11.2	19.47	20.47
100YR-72HR (Zero Discharge)	SFWMD FFE	14.70	20.54	22.00

Please refer to **Appendix G** for ICPR discharge and max stage calculations.

VII. Floodplain Analysis

The site generally lies within Zone AE regulatory floodway and X 'Area of Special Flood Hazard and Minimal Flood Hazard Areas per FEMA Flood Map #12111C0178J | Dated 2/16/2012.

Due to the location of the site, a floodplain analysis was performed to compare pre vs post development flood compensation under the base flood elevation (BFE). The cross-section E noted on FEMA Firmette FEMA Flood Map #12111C0178J | Dated 2/16/2012 shows a BFE of 20.50'. To demonstrate how the site can compensate for the floodplain storage a surface analysis was performed using AutoCAD software which took the site storage in the pre and post condition grade elevations between 15.00' NAVD (lowest proposed elevation) and 20.50' NAVD (BFE). The analysis shows that the post-development improvements are compensating for the floodplain storage in comparison to the predevelopment conditions. Refer to **Appendix I** for documents and additional calculations. Please see the table below:

Flood Plain Compensatory Storage	
Comparison	Volume Storage (CU YD) Elevation 15' – 20.5'
Existing Volume Compensation	22.92
Proposed Volume Compensation	771.10

The above tables show that the pre-development storage is at 507.44 cu yd while the post-development provides 1366.27 cu yd. Therefore, the post-development provides the adequate amount of compensation for the floodplain. Refer to **Appendix** I for Floodplain Analysis.

VIII. Water Quality Treatment

The dry retention treatment requirements are held to the greater of the two: 0.5 inches of runoff for the total site area or 1.25 inches over the total impervious area. The water quality of Post-Basin 1 is treated in the dry retention ponds and discharges with a top of pond elevation of 20.0' which exceeds the requirements for water quality treatment. See below for calculations:

Overall Site Water Quality Treatment (Post-Basin 1)

Total Contributing Drainage Area =	**0.54 ac**
Total Building Area =	**0.40 ac**
Total Area – Building Area =	**0.50 ac**
Total Pond Area =	**0.15 ac**
Total Pervious Area =	**0.41 ac**
Total Impervious Area (minus pond area and buildings) =	**0.089 ac**

Required Treatment over impervious area = 1.25"x (0.089 ac/ 0.499 ac) x (0.539 ac) (1'/12")
= 0.010 ac-ft

Or

Dry Pre-Treatment Volume Required= 0.5" x 0.539ac x (1ft/12") = **0.022 ac-ft**

Since **0.022 ac-ft** is greater, this number governs the required treatment.

Total Treatment Volume Required = 0.022 ac-ft

Total Retention Treatment Volume Proposed = 0.022 ac-ft at 15.75' NAVD

IX. Recovery

A slug load analysis was conducted to determine the recovery modeling. The groundwater table was maintained at 13.00' NAVD from hours 0 to 72, with a percolation link at the same water table elevation. The conductivity defined in the infiltration report provided by KSM Engineering and Testing on March 28, 2025, as seen in Appendix H were found to be 4.55 fpd and a vertical conductivity of 2.275 fpd was estimated as ½ the horizontal conductivity. However, these values are influenced by a small layer of hardpan at elevation 5. Contractor will be required to excavate to an elevation of 15.00' NAVD '88 under pond bank ensuring the removal of hardpan layer and replace local soil with native import fill sand if needed. Fill material should have a maximum of 10% passing #200 sieve, minimum 50% passing #40

sieve, and a fineness modulus of 1.5 to 1.8. Fill test results should be consistent with construction testing lab test results provided by KSM Engineering and Testing on 9/30/2025. Contractor to provide construction testing lab test report for fill upon placement prior to final acceptance. The import fill native sand should have an unsaturated vertical infiltration rate of 22.5 to 50 feet per day, a horizontal saturated hydraulic conductivity of 22.5 to 30 feet per day, and a porosity in the range of 25 to 30% post-construction permeability test results are required to be submitted to the EOR prior to final acceptance. The replacement fill material is assumed to have a horizontal conductivity of 18.125 fpd and a vertical conductivity of 13.125 fpd these values will be used for calculations. The assumed value has characteristics similar to the existing sandy soils onsite and is the average for the replacement soil specified. The dry pond retains the onsite runoff starting at an elevation of 20.00' NAVD, which serves as the initial stage for the analysis. The findings of the analysis indicated that the detention pond successfully recovered to the bottom elevation of the pond 15.00' at hour 53.75.

X. Nutrient Loading

A nutrient loading analysis was completed in conjunction with the drainage analysis utilizing the BMPTRAINS model. Nutrient Loading has only been provided for the proposed development area (Post-Basin 1). Based off the model, the required treatment efficiency for nitrogen and phosphorous are 92% and 97% for net improvement, respectively. Utilizing treatment of 0.059 ac-ft of the dry detention pond, the proposed nitrogen and phosphorus reduction are 97% and 97%, respectively. See **Appendix J** for the nutrient loading calculations.

XI. Conclusions

The proposed project is consistent with the land use, site grading, and discharge criteria from SFWMD and City of Fort Pierce requirements. The allowable discharge and volume rate for this site, as calculated using ICPR4 data, is not exceeded with the proposed design.

XII. APPENDICES

APPENDIX A

PRE-DEVELOPMENT DRAINAGE BASIN MAP

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NOTES

TOTAL DRAINAGE BASIN AREA = 0.54 AC

LEGEND

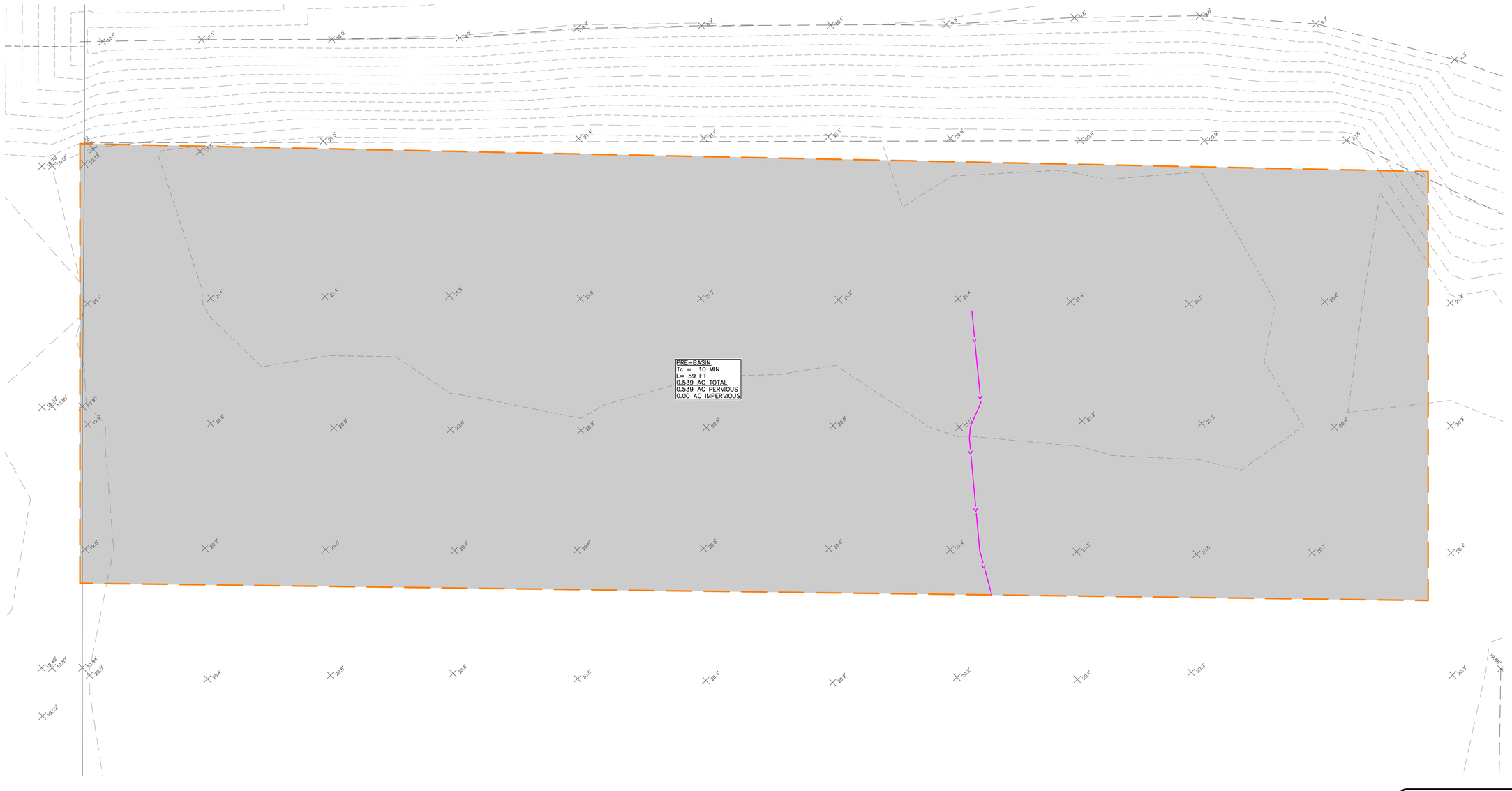
DRAINAGE BASIN BOUNDARY

TIME OF CONCENTRATION

PRE-BASIN 1

NORTH

GRAPHIC SCALE IN FEET
0 5 10 20



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

Always call 811 two full business days before you dig to have underground utilities located and marked.

Sunshine811.com

No.	REVISIONS	DATE	BY

Kimley»Horn
445 24TH STREET, SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ALBERT C. FASANO 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.

ALBERT C. FASANO — LICENSE No. 97531 — STATE OF FLORIDA — PROFESSIONAL ENGINEER — DATE: 9/18/2025

KHA PROJECT

DATE	
SCALE	AS SHOWN
DESIGNED BY	
DRAWN BY	
CHECKED BY	

PRE-DEVELOPMENT DRAINAGE BASIN MAP

CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR
FORT PIERCE UTILITY AUTHORITY

FORT PIERCE FLORIDA

SHEET NUMBER

APPENDIX B

POST-DEVELOPMENT DRAINAGE BASIN MAP

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NOTES

TOTAL DRAINAGE BASIN AREA = 0.54 AC

LEGEND

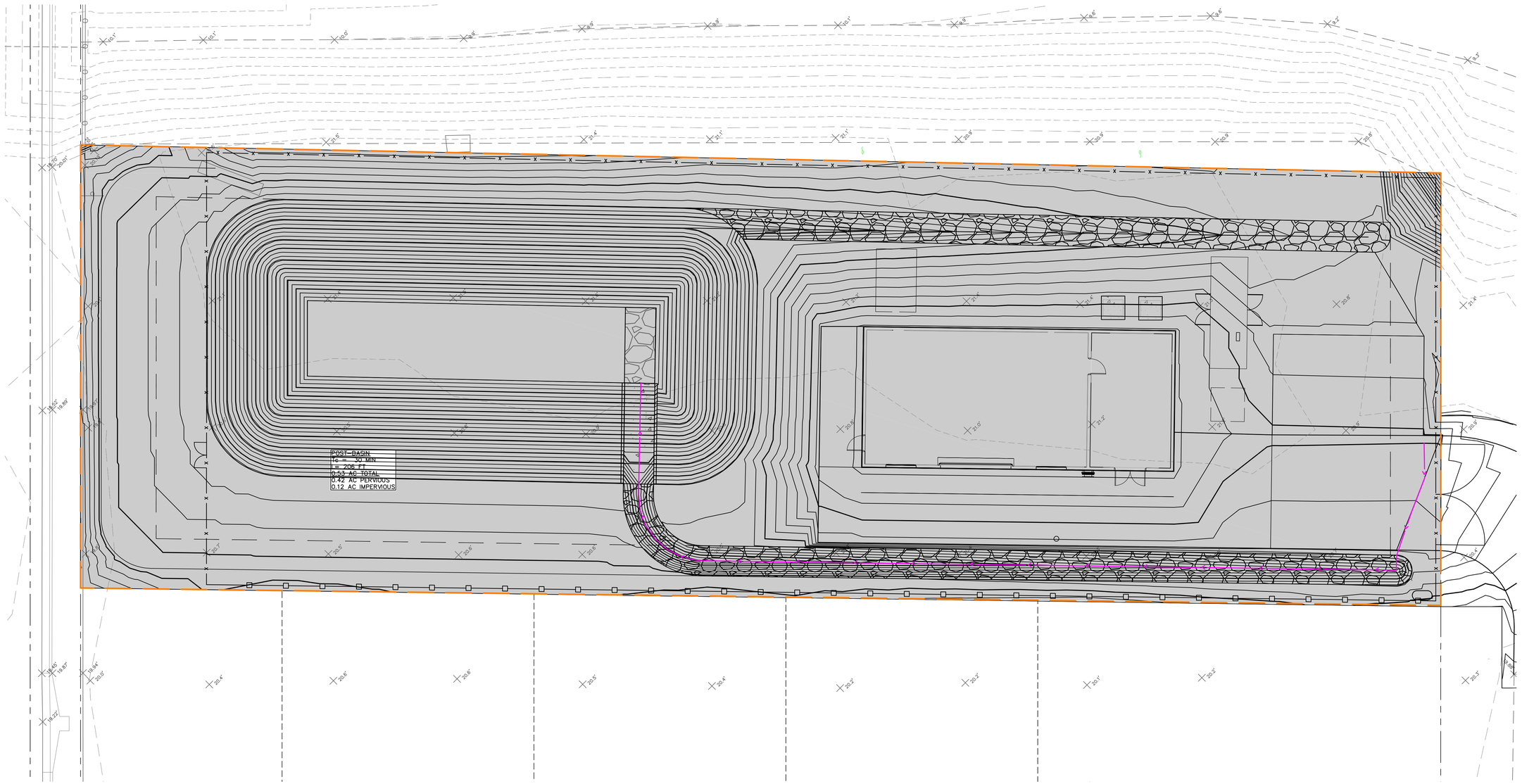
DRAINAGE BASIN BOUNDARY

TIME OF CONCENTRATION

PRE-BASIN 1

NORTH

GRAPHIC SCALE IN FEET
0 5 10 20



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PHONE: 772-794-4100
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ALBERT C. FASANO LICENSE No. 97531 STATE OF FLORIDA PROFESSIONAL ENGINEER
DATE: 9/24/2025

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KHA PROJECT
DATE
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DESIGNED BY
DRAWN BY
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POST-DEVELOPMENT DRAINAGE BASIN MAP

CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR
FORT PIERCE UTILITY AUTHORITY

FORT PIERCE FLORIDA

SHEET NUMBER

APPENDIX C

POST STAGE STORAGE AND SOIL TABLE

Onsite Post Development Site Storage Volume

Project Name: Moores Creek
Project Number: 147923001
Calculated By: Ronnie Moore
Calculated Date: 9/24/2025

* VOLUME WAS OBTAINED USING CAD SOFTWARE

** VOLUME WAS OBTAINED USING VERTICAL AND LINEAR STORAGE

FFE =19.00 NAVD

	**PAVEMENT AREA			**OPEN SPACE			*DRY DETENTION		TOTAL STORAGE VOLUME		
	Acres	0.07		Acres	0.41		Vol, Ac-ft	0.37			
	Min. Elev.	21.30		Min. Elev.	20.00		Min. Elev.	23.00			
	Max. Elev.	22.00		Max. Elev.	22.00		Max. Elev.	27.00			
Stage, ft. NAVD' 88	Area, ac	Volume, ac-ft.	Volume, cf	Area, ac	Volume, ac-ft.	Volume, cf	Volume, ac-ft.	Volume, cf	Volume, cf	Volume, ac-ft.	Stage, ft. NAVD' 88
15.00	0.00	0.00	0	0.00	0.00	0	0.00	0	0	0.00	15.00
15.25	0.00	0.00	0	0.00	0.00	0	0.01	281	281	0.01	15.25
15.50	0.00	0.00	0	0.00	0.00	0	0.01	605	605	0.01	15.50
15.75	0.00	0.00	0	0.00	0.00	0	0.02	976	976	0.02	15.75
16.00	0.00	0.00	0	0.00	0.00	0	0.03	1394	1394	0.03	16.00
16.25	0.00	0.00	0	0.00	0.00	0	0.04	1863	1863	0.04	16.25
16.50	0.00	0.00	0	0.00	0.00	0	0.05	2383	2383	0.05	16.50
16.75	0.00	0.00	0	0.00	0.00	0	0.07	2957	2957	0.07	16.75
17.00	0.00	0.00	0	0.00	0.00	0	0.08	3587	3587	0.08	17.00
17.25	0.00	0.00	0	0.00	0.00	0	0.10	4273	4273	0.10	17.25
17.50	0.00	0.00	0	0.00	0.00	0	0.12	5017	5017	0.12	17.50
17.75	0.00	0.00	0	0.00	0.00	0	0.13	5821	5821	0.13	17.75
18.00	0.00	0.00	0	0.00	0.00	0	0.15	6687	6687	0.15	18.00
18.25	0.00	0.00	0	0.00	0.00	0	0.17	7615	7615	0.17	18.25
18.50	0.00	0.00	0	0.00	0.00	0	0.20	8609	8609	0.20	18.50
18.75	0.00	0.00	0	0.00	0.00	0	0.22	9670	9670	0.22	18.75
19.00	0.00	0.00	0	0.00	0.00	0	0.25	10800	10800	0.24793	19.00
19.25	0.00	0.00	0	0.00	0.00	0	0.28	12001	12001	0.27551	19.25
19.50	0.00	0.00	0	0.00	0.00	0	0.30	13278	13278	0.30	19.50
19.75	0.00	0.00	0	0.00	0.00	0	0.34	14637	14637	0.34	19.75
20.00	0.00	0.00	0	0.00	0.00	0	0.37	16091	16091	0.37	20.00
20.25	0.00	0.00	0	0.05	0.01	558	0.37	16091	16649	0.38	20.25
20.50	0.00	0.00	0	0.10	0.05	2231	0.37	16091	18322	0.42	20.50
20.75	0.00	0.00	0	0.15	0.12	5020	0.37	16091	21111	0.48	20.75
21.00	0.00	0.00	0	0.20	0.20	8925	0.37	16091	25016	0.57	21.00
21.25	0.00	0.00	0	0.26	0.32	13945	0.37	16091	30036	0.69	21.25
21.50	0.02	0.00	81	0.31	0.46	20080	0.37	16091	36253	0.83	21.50
21.75	0.04	0.01	412	0.36	0.63	27332	0.37	16091	43835	1.01	21.75
22.00	0.07	0.02	998	0.41	0.82	35698	0.37	16091	52787	1.21	22.00

APPENDIX D

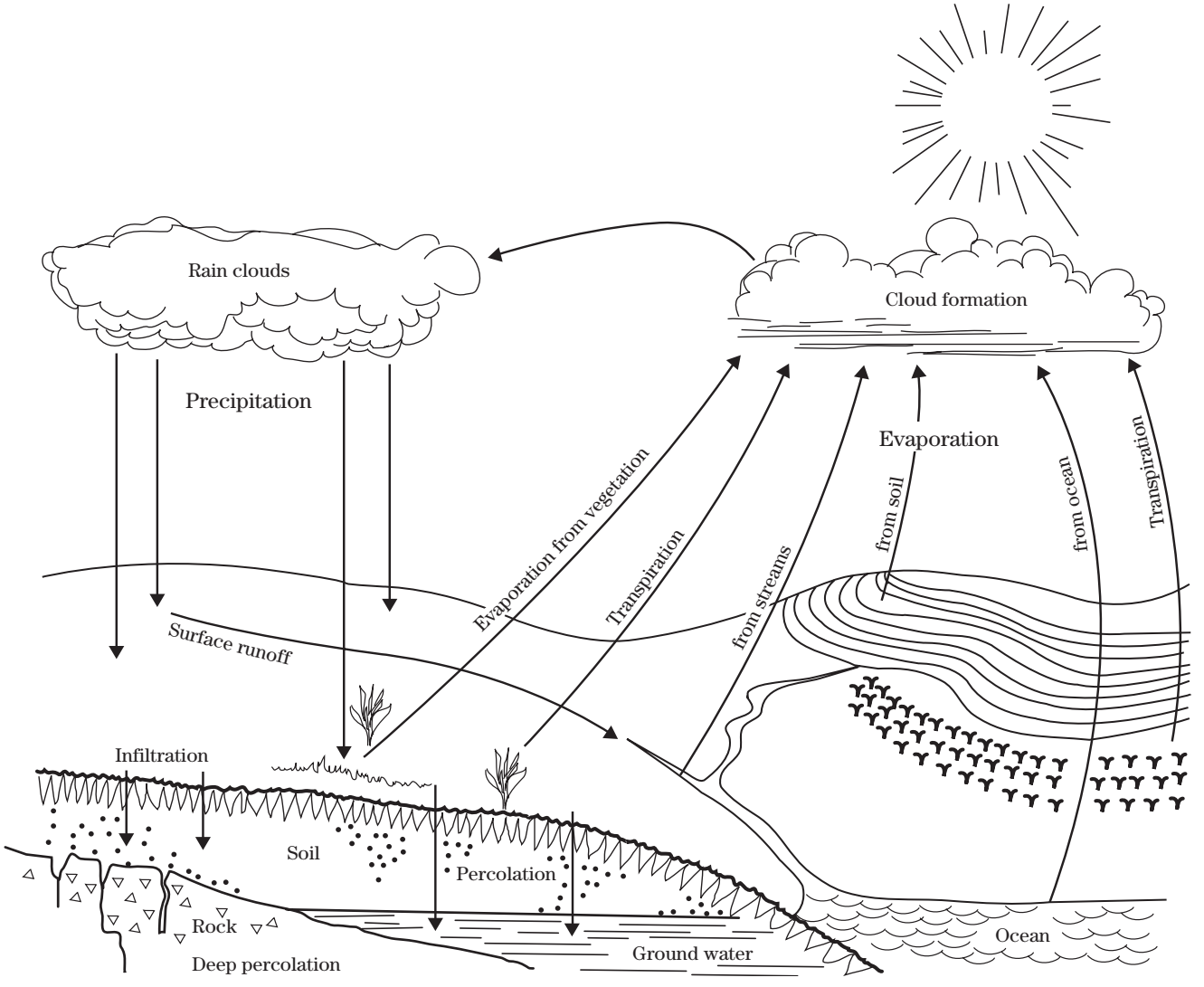
NEH 630 CHAPTER 9

United States
Department of
Agriculture

**Natural
Resources
Conservation
Service**

Part 630 Hydrology
National Engineering Handbook

Chapter 9 Hydrologic Soil-Cover Complexes



Issued July 2004

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Acknowledgments

Chapter 9 was originally prepared by **Victor Mockus**, retired hydraulic engineer, USDA Soil Conservation Service, and was published in 1964. It was reprinted with minor revisions in 1969. This version was prepared by the Natural Resources Conservation Service (NRCS)/Agricultural Research Service (ARS) Curve Number Work Group and **Helen Fox Moody**, hydraulic engineer, NRCS, Beltsville, Maryland. Members of the NRCS/ARS Curve Number Work Group are:

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Chapter 9 Hydrologic Soil-Cover Complexes

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Chapter 9 Hydrologic Soil-Cover Complexes

630.0900 General

A combination of a hydrologic soil group (soil) and a land use and treatment class (cover) is a hydrologic soil-cover complex. This chapter gives tables and graphs of runoff curve numbers (CNs) assigned to such complexes. This CN indicates the runoff potential of a complex during periods when the soil is not frozen. A higher CN indicates a higher runoff potential and specifies which runoff curve of appendix A or figure 10–2 in National Engineering Handbook, part 630 (NEH 630), chapter 10, is to be used in estimating runoff for the complex. Applications and further description of CNs are given in NEH 630, chapters 10 and 12.

630.0901 Determinations of complexes and curve numbers

(a) Agricultural land

Complexes and assigned CNs for combinations of soil groups of NEH 630, chapter 7 and land use and treatment classes of NEH 630, chapter 8 are given in table 9–1. Also given are some complexes that make applications of the table more direct. Impervious and water surfaces, which are not listed, are always assigned a CN of 98.

(1) Assignment of CNs to complexes

Table 9–1 was developed as follows:

- The data literature was searched for watersheds in single complexes (one soil group and one cover); watersheds were found for most of the listed complexes.
- An average CN for each watershed was obtained using rainfall-runoff data for storms producing the annual floods. The watersheds were generally less than 1 square mile in size, the number of watersheds for a complex varied, and the storms were of 1 day or less duration.
- The CNs of watersheds in the same complex were averaged and all CNs for a cover were plotted. A curve for each cover was drawn with greater weight given to CNs based on data from more than one watershed, and each curve was extended as far as necessary to provide CNs for ungaged complexes. All but the last three lines of CN entries in table 9–1 are taken from these curves.
- For the complexes in the last three lines of table 9–1, the proportions of different covers were estimated and the weighted CNs computed from previously derived CNs.

Table 9–1 has not been significantly changed since its construction in 1954 although CNs for crop residue cover treatment has been added. Supplementary tables for special regions have been developed and are shown later in this chapter.

(2) Use of table 9–1

Chapters 7 and 8 of NEH 630 describe how soils and covers of watersheds or other land areas are classified in the field. After the classification is completed, CNs are read from table 9–1 and applied as described in chapter 10. Because the principal use of CNs is for estimating runoff from rainfall, the examples of applications are given in chapter 10.

Table 9–1 Runoff curve numbers for agricultural lands [1/]

Cover description			CN for hydrologic soil group			
cover type	treatment [2/]	hydrologic condition [3/]	A	B	C	D
Fallow	Bare Soil	---	77	86	91	94
	Crop residue cover (CR)	Poor	76	85	90	93
		Good	74	83	88	90
Row crops	Straight row (SR)	Poor	72	81	88	91
		Good	67	78	85	89
	SR + CR	Poor	71	80	87	90
		Good	64	75	82	85
	Contoured (C)	Poor	70	79	84	88
		Good	65	75	82	86
	C + CR	Poor	69	78	83	87
		Good	64	74	81	85
	Contoured & terraced (C & T)	Poor	66	74	80	82
		Good	62	71	78	81
	C & T + CR	Poor	65	73	79	81
		Good	61	70	77	80
Small grain	SR	Poor	65	76	84	88
		Good	63	75	83	87
	SR + CR	Poor	64	75	83	86
		Good	60	72	80	84
	C	Poor	63	74	82	85
		Good	61	73	81	84
	C + CR	Poor	62	73	81	84
		Good	60	72	80	83
	C & T	Poor	61	72	79	82
		Good	59	70	78	81
	C & T + CR	Poor	60	71	78	81
		Good	58	69	77	80
Close-seeded or broadcast legumes or rotation meadow	SR	Poor	66	77	85	89
		Good	58	72	81	85
	C	Poor	64	75	83	85
		Good	55	69	78	83
	C & T	Poor	63	73	80	83
		Good	51	67	76	80

See footnotes at end of table.

Table 9–1 Runoff curve numbers for agricultural lands [1/] — Continued

Cover description			CN for hydrologic soil group			
cover type	treatment [2/]	hydrologic condition [3/]	A	B	C	D
Pasture, grassland, or range-		Poor	68	79	86	89
continuous forage for		Fair	49	69	79	84
grazing [4/]		Good	39	61	74	80
Meadow-continuous grass, protected from grazing and generally mowed for hay		Good	30	58	71	78
Brush-brush-forbs-grass		Poor	48	67	77	83
mixture with brush the		Fair	35	56	70	77
major element [5/]		Good	30 [6/]	48	65	73
Woods-grass combination		Poor	57	73	82	86
(orchard or tree farm) [7/]		Fair	43	65	76	82
		Good	32	58	72	79
Woods [8/]		Poor	45	66	77	83
		Fair	36	60	73	79
		Good	30	55	70	77
Farmstead--buildings, lanes, driveways, and surrounding lots		---	59	74	82	86
Roads (including right-of-way):						
Dirt		---	72	82	87	89
Gravel		---	76	85	89	91

1/ Average runoff condition, and I_a=0.2s.

2/ Crop residue cover applies only if residue is on at least 5 percent of the surface throughout the year.

3/ Hydrologic condition is based on combinations of factors that affect infiltration and runoff, including (a) density and canopy of vegetative areas, (b) amount of year-round cover, (c) amount of grass or close-seeded legumes, (d) percent of residue cover on the land surface (good ≥20%), and (e) degree of surface toughness.
Poor: Factors impair infiltration and tend to increase runoff.
Good: Factors encourage average and better then average infiltration and tend to decrease runoff.
For conservation tillage poor hydrologic condition, 5 to 20 percent of the surface is covered with residue (less than 750 pounds per acre for row crops or 300 pounds per acre for small grain).
For conservation tillage good hydrologic condition, more than 20 percent of the surface is covered with residue (greater than 750 pounds per acre for row crops or 300 pounds per acre for small grain).

4/ 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.

5/ Poor: < 50% ground cover.
Fair: 50 to 75% ground cover.
Good: > 75% ground cover.

6/ If actual curve number is less than 30, use CN = 30 for runoff computation.

7/ CNs shown were computed for areas with 50 percent woods and 50 percent grass (pasture) cover. Other combinations of conditions may be computed from the CNs for woods and pasture.

8/ 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.

(b) National and commercial forest: forest-range

(1) Forest-range in Western United States

In the forest-range regions of the Western United States, soil group, cover type, and cover density are the principal factors used in estimating CNs. Figures 9–1 and 9–2 show the relationships between these factors and CNs for soil-cover complexes used to date. The figures are based on information in table 2–1, part 2, of the USDA Forest Service's Handbook on Methods of Hydrologic Analysis (USDA 1959b). The amount of litter is taken into account when estimating the density of cover.

Present hydrologic conditions are determined from existing surveys or by reconnaissance, and future conditions from the estimate of cover and density changes resulting from proper use and treatment. Table 9–2 lists CNs for arid and semiarid rangelands. It is used like table 9–1.

Figure 9–1 Estimating runoff curve numbers of forest-range complexes in Western United States: herbaceous and oak-aspen complexes

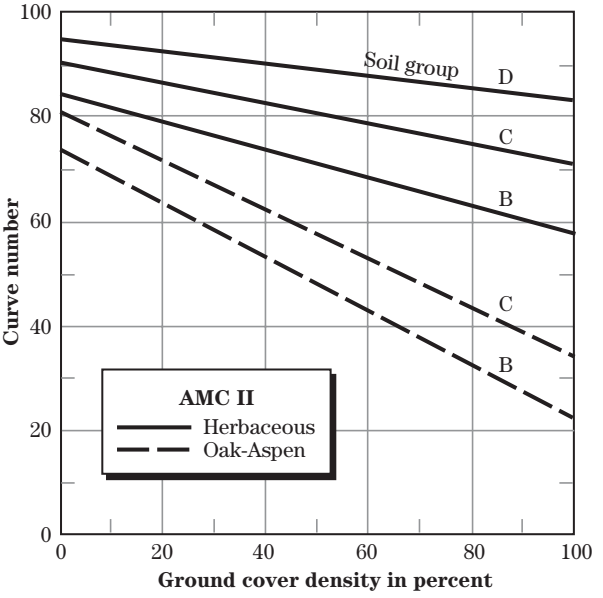


Figure 9–2 Estimating runoff curve numbers of forest-range complexes in Western United States: juniper-grass and sage-grass complexes

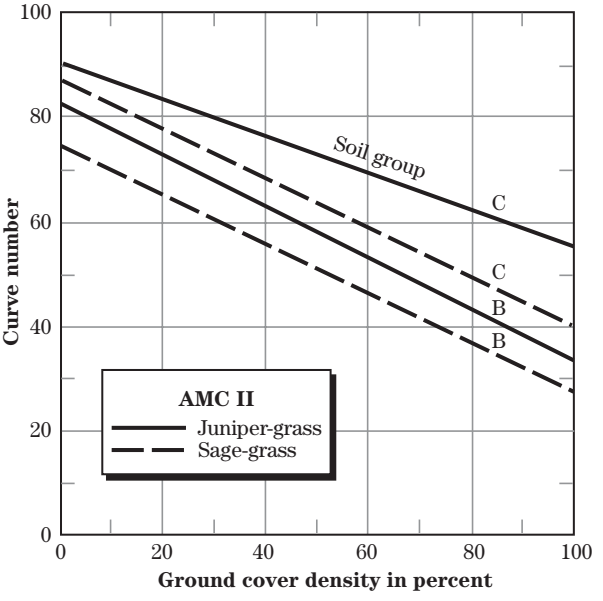


Table 9–2 Runoff curve numbers for arid and semiarid rangelands [1/]

Cover description		Hydrologic soil group			
cover type	hydrologic condition [2/]	A [3/]	B	C	D
Herbaceous—mixture of grass, weeds and low-growing brush, with brush the minor element	Poor		80	87	93
	Fair		71	81	89
	Good		62	74	85
Oak-aspen—mountain brush mixture of oak brush, aspen, mountain mahogany, bitter brush, maple, and other brush	Poor		66	74	79
	Fair		48	57	63
	Good		30	41	48
Pinyon-juniper—pinyon, juniper, or both; grass understory	Poor		75	85	89
	Fair		58	73	80
	Good		41	61	71
Sage-grass—sage with an understory of grass	Poor		67	80	85
	Fair		51	63	70
	Good		35	47	55
Desert shrub—major plants include saltbush, greasewood, creosotebush, blackbrush, bursage, paloverde, mesquite, and cactus	Poor	63	77	85	88
	Fair	55	72	81	86
	Good	49	68	79	84

1/ Average runoff condition, and I_a = 0.2s. For range in humid regions, use table 9–1.

2/ Poor: <30% ground cover (litter, grass, and brush overstory).
Fair: 30 to 70% ground cover.
Good: >70% ground cover.

3/ Curve numbers for group A have been developed only for desert shrub.

(2) Supplementary tables of CNs

Tables 9–3 and 9–4 are supplements to table 9–1 and are used in the same way. Table 9–3 gives CNs for selected covers in Puerto Rico. The CNs were obtained using a relation between storm and annual data and the annual rainfall-runoff data for experimental plots at Mayaguez, Puerto Rico.

Table 9–4 gives CNs for sugarcane complexes in Hawaii. The CNs are tentative estimates now undergoing study.

Table 9–3 Runoff curve numbers for hydrologic soil-cover complexes in Puerto Rico 1/

Cover description — cover type and hydrologic condition	CN for hydrologic soil group A	B	C	D
Fallow	77	86	91	93
Grass (bunchgrass or poor stand of sod)	51	70	80	84
Coffee (no ground cover, no terraces)	48	68	79	83
(with ground cover and terraces)	22	52	68	75
Minor crops (garden or truck crops)	45	66	77	83
Tropical kudzu	19	50	67	74
Sugarcane: (trash burned, straight-row)	43	65	77	82
(trash mulch, straight-row)	45	66	77	83
(in holes, on contour)	24	53	69	76
(in furrows, on contour)	32	58	72	79

1/ Average runoff condition, and $I_a = 0.2S$.

Table 9–4 Runoff curve numbers; tentative estimates for sugarcane hydrologic soil-cover complexes in Hawaii 1/

Cover and treatment 2/	Hydrologic soil group			
	A	B	C	D
Sugarcane:				
Limited cover, straight row	67	78	85	89
Partial cover, straight row	49	69	79	84
Complete cover, straight row	39	61	74	80
Limited cover, contoured	65	75	82	86
Partial cover, contoured	25	59	75	83
Complete cover, contoured	6	35	70	79

1/ Average runoff condition and $I_a = 0.2S$.

2/ Degrees of cover:
Limited cover—Cane newly planted, or ratooned cane with a limited root system; canopy over less than half the field area.
Partial cover—Cane in the transition period between limited and complete cover; canopy over half to nearly the entire field area.
Complete cover—Cane from the stage of growth when full canopy is provided to the stage at harvest.
Straight-row planting is up and down hill or cross-slope on slopes greater than 2 percent.
Contoured planting is the usual contouring or cross-slope planting on slopes less than 2 percent.

(c) Urban and residential land

Several factors, such as the percentage of impervious area and the means of conveying runoff from impervious areas to the drainage system, should be considered in computing CNs for urban areas (Rawls et al., 1981). For example, do the impervious areas connect directly to the drainage system, or do they outlet onto lawns or other pervious areas where infiltration can occur?

The urban and residential CNs given in table 9–5 were developed for typical land use relationships based on specific assumed percentages of impervious area. These CN values were developed on the assumptions that

- pervious urban areas are equivalent to pasture in good hydrologic condition,
- impervious areas have a CN of 98 and are directly connected to the drainage system, and
- the cover types listed have assumed percentages of impervious area as shown in table 9–5.

Sheet flow is flow over plane surfaces that usually occurs in the headwater of streams immediately after the rainfall's impact. Sheet flow has very shallow flow depths of 0.05 to 0.1 foot, with laminar flow characteristics of parallel or nearly parallel flowlines and a maximum flow length of 100 feet.

Shallow concentrated flow occurs downstream from sheet flow and upstream from flow in a defined channel. In shallow concentrated flow, the water flows in nonparallel flow paths, and flow depths range from 0.1 foot to as much as 0.5 foot.

In concentrated flow the water follows definite channels that are a discernable feature on the ground surface. See NEH 630, Chapter 15, Time of Concentration, for more information on these flow types.

(1) Connected impervious areas

An impervious area is considered connected if runoff from it flows directly into the drainage system. It is also considered connected if runoff from it occurs as shallow concentrated flow that runs over a pervious area and then into a drainage system.

If all of the impervious area is directly connected to the drainage system, but the impervious area percentages in table 9–5 or the pervious land use assumptions are not applicable, use equation 9–1 or figure 9–3 to compute a composite CN.

$$CN_c = CN_p + \left(\frac{P_{imp}}{100}\right)\left(98 - CN_p\right) \qquad [9\text{–}1]$$

where:

CN_c = composite runoff curve number
CN_p = pervious runoff curve number
P_{imp} = percent imperviousness.

Figure 9–3 Composite CN with connected impervious area

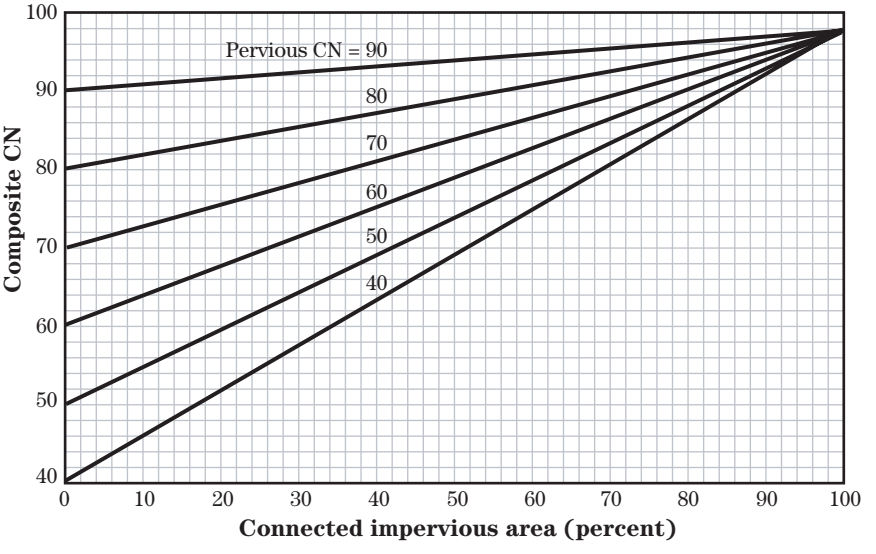


Table 9–5 Runoff curve numbers for urban areas [1/]

Cover description cover type and hydrologic condition	Average percent impervious area [2/]	-- CN for hydrologic soil group -- A	 B	 C	 D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) [3/]					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) [4/]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation)		77	86	91	94

1/ Average runoff condition, and $I_a = 0.2S$.

2/ The average percent impervious area shown was used to develop the composite CNs. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition.

3/ CNs shown are equivalent to those of pasture. Composite CNs may be computed for other combinations of open space type.

4/ Composite CNs for natural desert landscaping should be computed using figures 9–3 or 9–4 based on the impervious area percentage (CN=98) and the pervious area CN. The pervious area CNs are assumed equivalent to desert shrub in poor hydrologic condition.

Example 9–1 Calculation of composite urban residential CN with different percentage of impervious area than that assumed in table 9–5

Given: Table 9–5 gives a CN of 70 for a ½-acre lot in HSG B with an assumed impervious area of 25 percent. The pervious area CN is 61.

Problem: Find the CN to be used if the lot has 20 percent impervious area.

Solution: **Method 1**—Solve equation 9–1 with CN_p, the pervious runoff curve number, equal to 61 and P_{imp}, the percent imperviousness, equal to 20:

$$CN_c = 61 + \left(\frac{20}{100}\right)(98 - 61)$$

$$CN_c = 61 + (.20)(37)$$

$$CN_c = 61 + 7.4$$

$$CN_c = 68.4 \text{ round to } 68$$

The CN difference between 70 in table 9–5 and 68 reflects the difference in percent impervious area.

Method 2—Enter figure 9–3 with the percentage of impervious area equal to 20 and move up to a point a little above the curve representing a pervious curve number of 60 to find the point for a pervious CN of 61. Read the Composite CN of 68 on the left axis.

The CN difference between 70 in table 9–5 and 68 reflects the difference in percent impervious area.

Example 9–2 Calculation of a composite urban residential CN with different CN for the pervious area than that assumed in table 9–5

Given: Table 9–5 gives a CN of 70 for a ½-acre lot in HSG B with an assumed impervious area of 25 percent. The pervious area CN is 61.

Problem: Find the CN to be used if the lot's pervious area has a CN of 69, indicating fair condition instead of good condition.

Solution: **Method 1—**Solve equation 9–1 with CN_p, the pervious runoff curve number, equal to 69 and P_{imp}, the percent imperviousness, equal to 25:

$$CN_c = 69 + \left(\frac{25}{100}\right)(98 - 69)$$

$$CN_c = 69 + (.25)(29)$$

$$CN_c = 69 + 7.25$$

$$CN_c = 76.25 \text{ round to } 76$$

The CN difference between 70 in table 9–5 and 76 reflects the difference in the pervious area CN.

Method 2—Enter figure 9–3 with the percentage of impervious area equal to 25 and move up to a point a little below the curve representing a pervious curve number of 70 to find the point for a pervious CN of 69. Read the Composite CN of 76 on the left axis.

The CN difference between 70 in table 9–5 and 76 reflects the difference in the pervious area CN.

(2) Unconnected impervious areas

If runoff from impervious areas occurs over a pervious area as sheet flow prior to entering the drainage system, the impervious area is unconnected. To determine CN when all or part of the impervious area is not directly connected to the drainage system:

- use equation 9–2 or figure 9–4 if the total impervious area is less than 30 percent of the total area or
- use equation 9–1 or figure 9–3 if the total impervious area is equal to or greater than 30 percent of the total area, because the absorptive capacity of the remaining pervious areas will not significantly affect runoff.

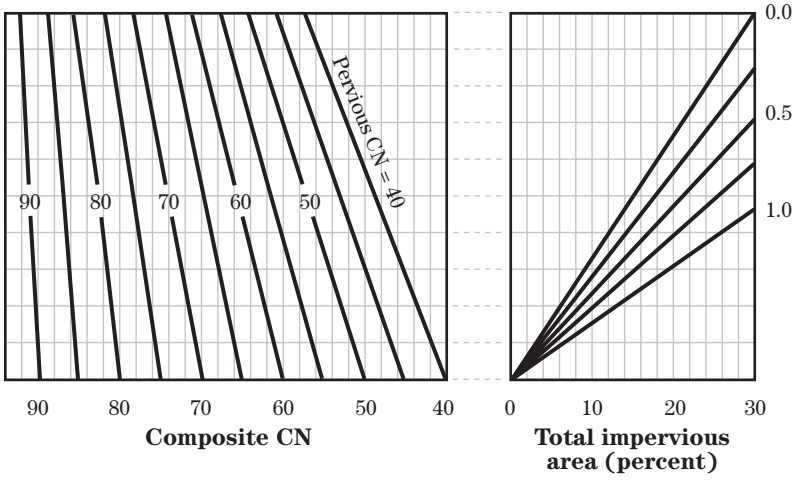
$$CN_c = CN_p + \left(\frac{P_{imp}}{100}\right)\left(98 - CN_p\right)\left(1 - .05R\right) \quad [9\text{–}2]$$

where:

CN_c = composite runoff curve number
CN_p = pervious runoff curve number
P_{imp} = percent imperviousness
R = ratio of unconnected impervious area to total impervious area

When impervious area is less than 30 percent, obtain the composite CN by entering the right half of figure 9–4 with the percentage of total impervious area and the ratio of total unconnected impervious area to total impervious area. Then move left to the appropriate pervious CN and read down to find the composite CN.

Figure 9–4 Composite CN with unconnected impervious areas and total impervious area less than 30%



Example 9–3 Determine the composite CN with unconnected impervious areas and total impervious area less than 30%

Given: A ½-acre lot in HSG B has an assumed impervious area of 20 percent, 75 percent of which is unconnected. The pervious area CN is 61.

Problem: Find the CN to be used for the lot.

Solution: **Method 1—**Solve equation 9–2 with CN_p, the pervious runoff curve number, equal to 61; P_{imp}, the percent impervious area, equal to 20; and R, the ratio of unconnected impervious area to total impervious area, equal to 0.75:

$$CN_c = 61 + \left(\frac{20}{100}\right)(98 - 61)(1 - 0.5(0.75))$$

$$CN_c = 61 + (.20)(37)(1 - 0.375)$$

$$CN_c = 61 + (.20)(37)(0.625)$$

$$CN_c = 61 + 4.62$$

$$CN_c = 65.62 \text{ round to } 66$$

Method 2—Enter the right half of figure 9–4 with the percentage of impervious area equal to 20 and move up to the 0.75 line for the ratio of unconnected impervious area to total impervious area. Then move to the left part of the figure, left to the appropriate pervious CN 61, and read down to find the composite CN 66.

The CN considering all the impervious areas to be connected as in example 9–1 is 68. Example 9–3 shows that if 75 percent of the impervious area is unconnected, the CN is reduced to 66.

630.0902 References

Rawls, W.J., A. Shalaby, and R.H. McCuen. 1981. Evaluation of methods for determining urban runoff curve numbers. Trans. Amer. Soc. Agricul. Eng. 24(6):1562-1566.

United States Department of Agriculture, Forest Service. 1959a. Forest and range hydrology handbook. Washington, DC.

United States Department of Agriculture, Forest Service. 1959b. Section 1 of Handbook on methods of hydrologic analysis, Section 1. Washington, DC.

United States Department of Agriculture, Soil Conservation Service. 1986. Technical Release 55, Urban hydrology for small watersheds. http://www.wcc.nrcs.usda.gov/hydro//hydro-tools-models-tr55.html.

APPENDIX E

PRECEPITATION FREQUENCY TABLE

NOAA Atlas 14, Volume 9, Version 2
Location name: Fort Pierce, Florida, USA*
Latitude: 27.451°, Longitude: -80.3487°
Elevation: 21 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.544** (0.439-0.682)	**0.620** (0.499-0.778)	**0.748** (0.600-0.941)	**0.858** (0.684-1.08)	**1.01** (0.782-1.33)	**1.14** (0.855-1.51)	**1.27** (0.917-1.72)	**1.40** (0.969-1.96)	**1.58** (1.05-2.28)	**1.73** (1.11-2.52)
10-min	**0.797** (0.642-0.999)	**0.908** (0.731-1.14)	**1.10** (0.879-1.38)	**1.26** (1.00-1.59)	**1.48** (1.14-1.94)	**1.67** (1.25-2.21)	**1.86** (1.34-2.52)	**2.05** (1.42-2.87)	**2.32** (1.54-3.34)	**2.53** (1.63-3.69)
15-min	**0.972** (0.783-1.22)	**1.11** (0.892-1.39)	**1.34** (1.07-1.68)	**1.53** (1.22-1.94)	**1.81** (1.40-2.37)	**2.03** (1.53-2.70)	**2.26** (1.64-3.08)	**2.50** (1.73-3.50)	**2.83** (1.88-4.07)	**3.08** (1.99-4.50)
30-min	**1.48** (1.19-1.85)	**1.68** (1.35-2.11)	**2.02** (1.62-2.54)	**2.32** (1.85-2.93)	**2.74** (2.11-3.59)	**3.08** (2.31-4.09)	**3.43** (2.48-4.66)	**3.79** (2.62-5.30)	**4.29** (2.85-6.17)	**4.68** (3.02-6.83)
60-min	**1.93** (1.56-2.42)	**2.21** (1.78-2.77)	**2.67** (2.14-3.36)	**3.05** (2.43-3.86)	**3.59** (2.76-4.67)	**4.00** (3.00-5.29)	**4.42** (3.20-6.00)	**4.85** (3.35-6.76)	**5.42** (3.59-7.78)	**5.86** (3.78-8.55)
2-hr	**2.39** (1.94-2.96)	**2.74** (2.23-3.40)	**3.32** (2.68-4.13)	**3.79** (3.05-4.73)	**4.43** (3.43-5.71)	**4.92** (3.72-6.44)	**5.41** (3.94-7.27)	**5.91** (4.11-8.16)	**6.55** (4.38-9.33)	**7.04** (4.58-10.2)
3-hr	**2.62** (2.14-3.23)	**3.02** (2.47-3.73)	**3.67** (2.99-4.54)	**4.20** (3.40-5.22)	**4.92** (3.82-6.29)	**5.46** (4.15-7.10)	**6.00** (4.39-8.01)	**6.54** (4.57-8.99)	**7.24** (4.86-10.3)	**7.76** (5.07-11.2)
6-hr	**3.02** (2.49-3.68)	**3.50** (2.89-4.27)	**4.30** (3.53-5.26)	**4.97** (4.06-6.11)	**5.92** (4.67-7.55)	**6.68** (5.13-8.64)	**7.44** (5.51-9.90)	**8.23** (5.83-11.3)	**9.30** (6.31-13.1)	**10.1** (6.68-14.5)
12-hr	**3.45** (2.88-4.16)	**4.01** (3.34-4.84)	**5.01** (4.16-6.07)	**5.91** (4.88-7.19)	**7.26** (5.83-9.29)	**8.39** (6.54-10.9)	**9.60** (7.21-12.8)	**10.9** (7.82-14.9)	**12.7** (8.75-18.0)	**14.2** (9.46-20.3)
24-hr	**3.92** (3.30-4.67)	**4.64** (3.90-5.54)	**5.93** (4.97-7.11)	**7.11** (5.93-8.56)	**8.90** (7.22-11.3)	**10.4** (8.20-13.4)	**12.0** (9.11-15.9)	**13.8** (9.97-18.8)	**16.3** (11.3-22.8)	**18.3** (12.3-25.9)
2-day	**4.52** (3.84-5.33)	**5.45** (4.64-6.44)	**7.07** (5.99-8.38)	**8.49** (7.15-10.1)	**10.6** (8.61-13.2)	**12.3** (9.72-15.5)	**14.0** (10.7-18.3)	**15.9** (11.6-21.4)	**18.5** (12.9-25.7)	**20.6** (13.9-29.0)
3-day	**5.08** (4.35-5.96)	**6.04** (5.17-7.09)	**7.69** (6.56-9.06)	**9.14** (7.74-10.8)	**11.2** (9.21-13.9)	**13.0** (10.3-16.3)	**14.7** (11.3-19.1)	**16.6** (12.2-22.3)	**19.3** (13.5-26.6)	**21.3** (14.5-29.9)
4-day	**5.58** (4.80-6.52)	**6.53** (5.61-7.63)	**8.16** (6.98-9.57)	**9.59** (8.16-11.3)	**11.7** (9.62-14.4)	**13.4** (10.7-16.8)	**15.2** (11.7-19.6)	**17.1** (12.5-22.7)	**19.7** (13.9-27.1)	**21.8** (14.9-30.4)
7-day	**6.82** (5.92-7.89)	**7.77** (6.73-9.00)	**9.39** (8.10-10.9)	**10.8** (9.27-12.6)	**12.9** (10.7-15.7)	**14.6** (11.8-18.1)	**16.3** (12.7-20.9)	**18.2** (13.5-24.1)	**20.8** (14.8-28.5)	**22.8** (15.7-31.8)
10-day	**7.85** (6.85-9.04)	**8.85** (7.71-10.2)	**10.6** (9.15-12.2)	**12.0** (10.4-14.0)	**14.2** (11.8-17.2)	**15.9** (12.9-19.7)	**17.7** (13.8-22.6)	**19.6** (14.6-25.9)	**22.3** (15.9-30.3)	**24.3** (16.8-33.7)
20-day	**10.6** (9.36-12.1)	**11.9** (10.5-13.6)	**14.1** (12.3-16.1)	**15.9** (13.9-18.3)	**18.5** (15.6-22.2)	**20.6** (16.9-25.1)	**22.7** (17.9-28.6)	**24.9** (18.7-32.5)	**27.9** (20.1-37.6)	**30.2** (21.1-41.5)
30-day	**12.9** (11.4-14.5)	**14.4** (12.8-16.3)	**17.1** (15.0-19.4)	**19.2** (16.9-22.0)	**22.3** (18.8-26.4)	**24.6** (20.2-29.8)	**27.0** (21.3-33.7)	**29.4** (22.2-38.0)	**32.6** (23.6-43.8)	**35.1** (24.6-48.1)
45-day	**15.7** (14.0-17.6)	**17.6** (15.7-19.8)	**20.8** (18.4-23.4)	**23.4** (20.6-26.5)	**26.9** (22.8-31.6)	**29.5** (24.4-35.4)	**32.2** (25.6-39.8)	**34.8** (26.4-44.7)	**38.2** (27.7-50.9)	**40.7** (28.7-55.6)
60-day	**18.0** (16.2-20.2)	**20.3** (18.2-22.7)	**23.9** (21.3-26.8)	**26.8** (23.8-30.3)	**30.7** (26.1-35.8)	**33.6** (27.8-40.0)	**36.3** (29.0-44.8)	**39.1** (29.7-49.9)	**42.5** (31.0-56.4)	**45.0** (31.9-61.3)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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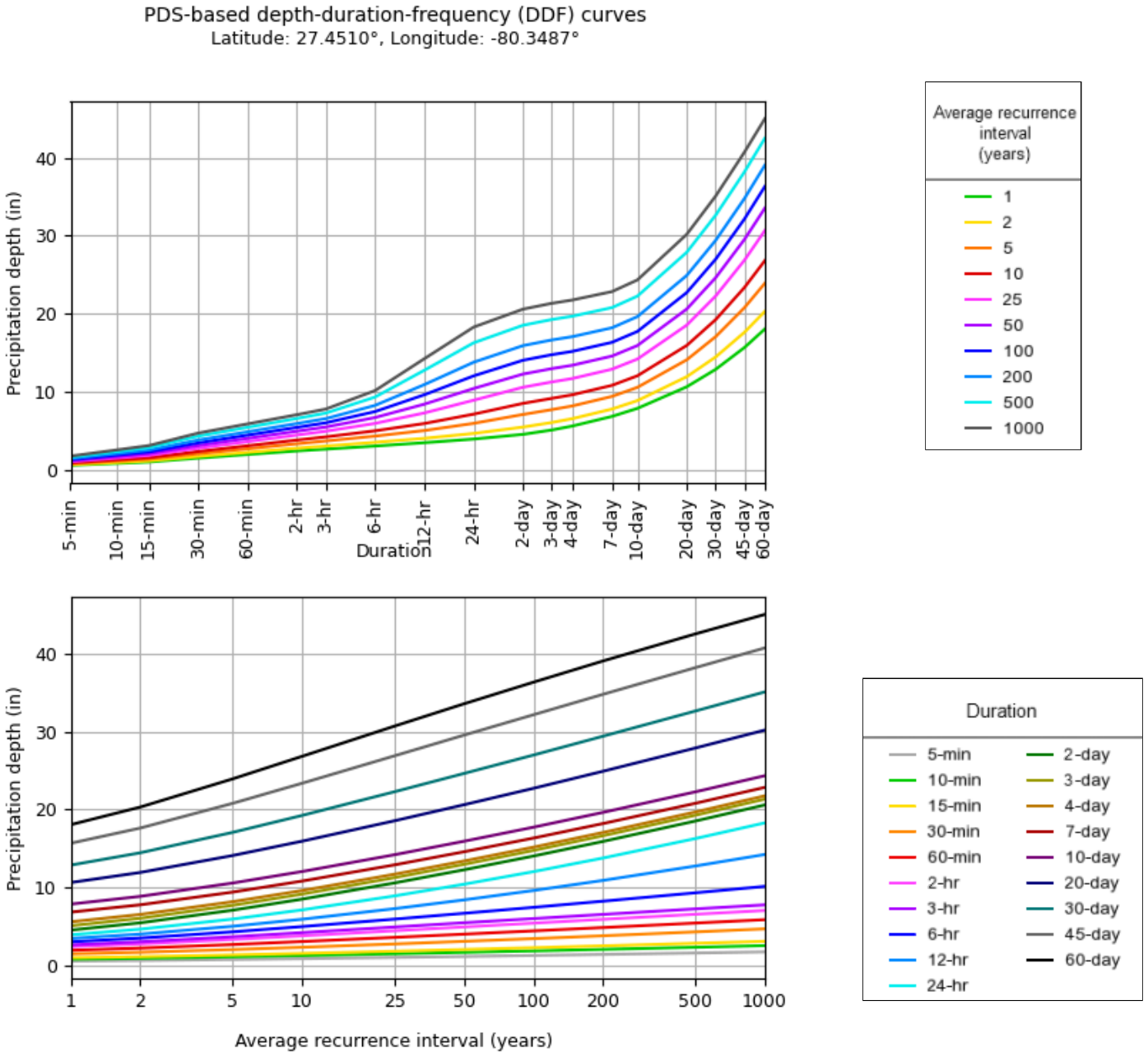
PF graphical



NOAA Atlas 14, Volume 9, Version 2

Created (GMT): Mon Sep 22 13:44:33 2025

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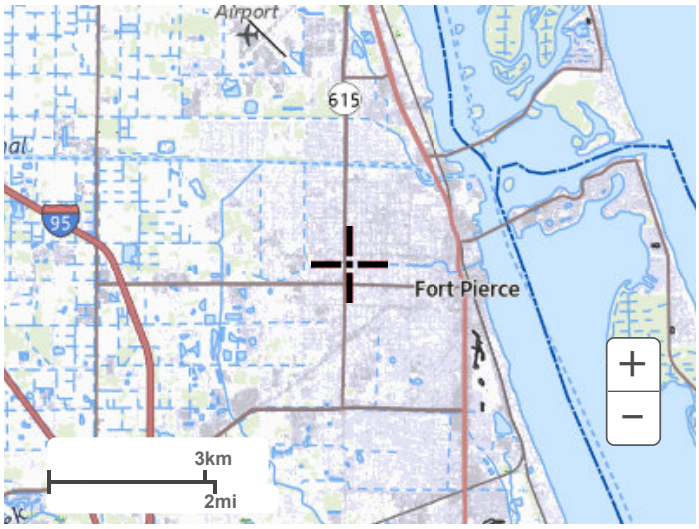
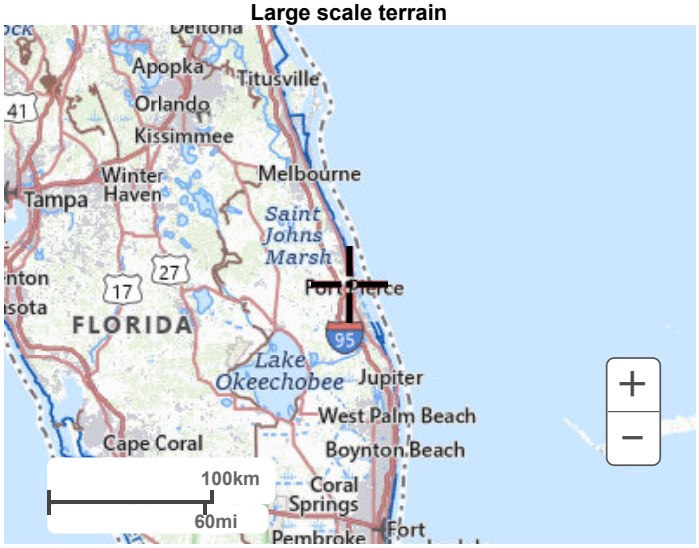
Maps & aerials

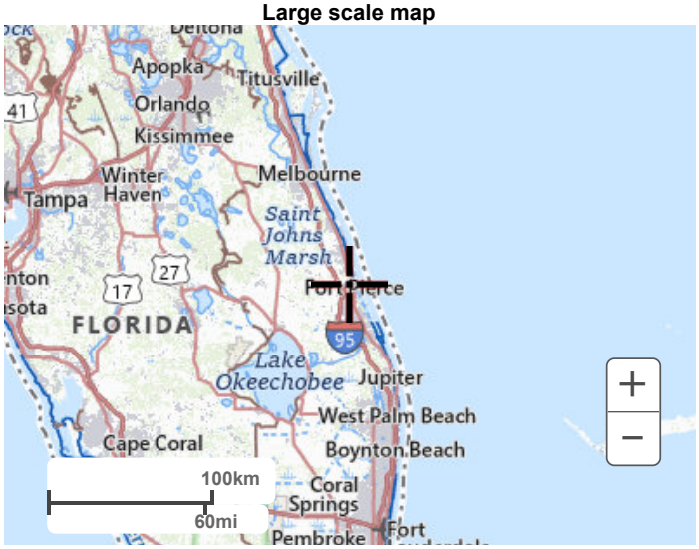
Small scale terrain



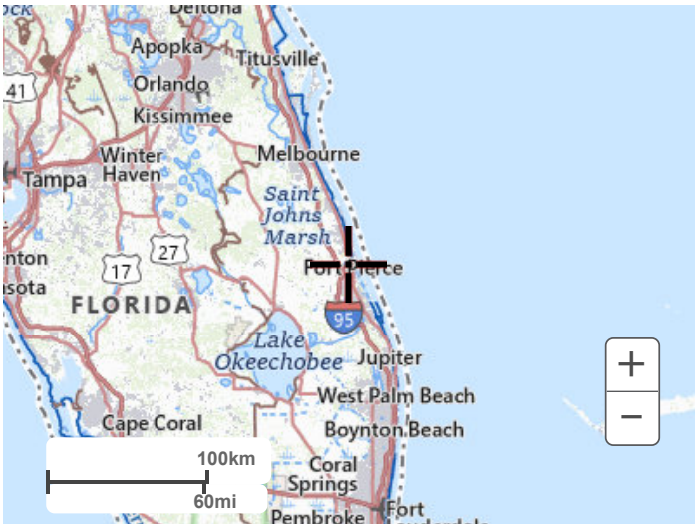
Large scale terrain



Large scale map



Large scale aerial



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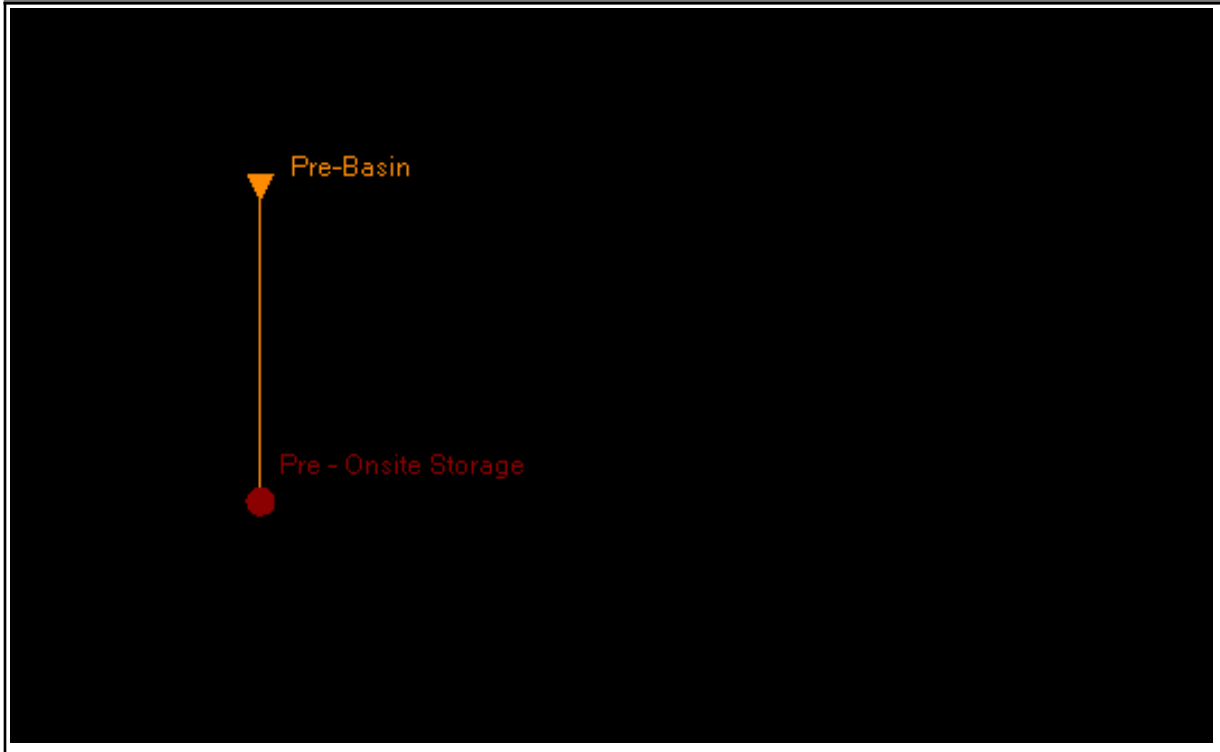
US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

APPENDIX F

ICPR PRE-DEVELOPMENT ROUTING
(10-24HR, 25YR-24&72HR ,100YR-24&72HR)

Background Image: PRE-BACKGROUND



Simulation: 10 YEAR 24 HOUR

Scenario: Pre-Development - Moore's Creek
Run Date/Time: 9/24/2025 1:24:57 PM
Program Version: ICPR4 4.07.04

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	36.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

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:
Reference ET Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	7.11 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: 100 YEAR 24 HOUR

Scenario: Pre-Development - Moore's Creek
Run Date/Time: 9/23/2025 11:31:50 AM
Program Version: ICPR4 4.07.04

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	36.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

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:
Reference ET Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:

Vertical Layers Set:	
Impervious Set:	
Roughness Set:	
Crop Coef Set:	
Fillable Porosity Set:	
Conductivity Set:	
Leakage Set:	

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	12.00 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: 100 YEAR 72 HOUR

Scenario:	Pre-Development - Moore's Creek
Run Date/Time:	9/23/2025 11:32:09 AM
Program Version:	ICPR4 4.07.04

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	108.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

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:
Reference ET Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	14.70 in
Edge Length Option:	Automatic	Storm Duration:	72.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2

Energy Switch (2D): Energy

Energy Switch (1D): Energy

Comment:

Simulation: 25 YEAR 24 HOUR

Scenario: Pre-Development - Moore's Creek
Run Date/Time: 9/23/2025 11:32:38 AM
Program Version: ICPR4 4.07.04

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	36.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

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:
Reference ET Folder:
Unit Hydrograph

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:

Folder:

Green-Ampt Set:
Vertical Layers Set:
Impervious Set:
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	8.90 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: 25 YEAR 72 HOUR

Scenario: Pre-Development - Moore's Creek
Run Date/Time: 9/23/2025 11:33:00 AM
Program Version: ICPR4 4.07.04

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	108.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

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:
Reference ET Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	11.20 in
Edge Length Option:	Automatic	Storm Duration:	72.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft

Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simple Basin: Pre-Basin

Scenario:	Pre-Development - Moore's Creek
Node:	Pre - Onsite Storage
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.5400 ac
Curve Number:	49.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

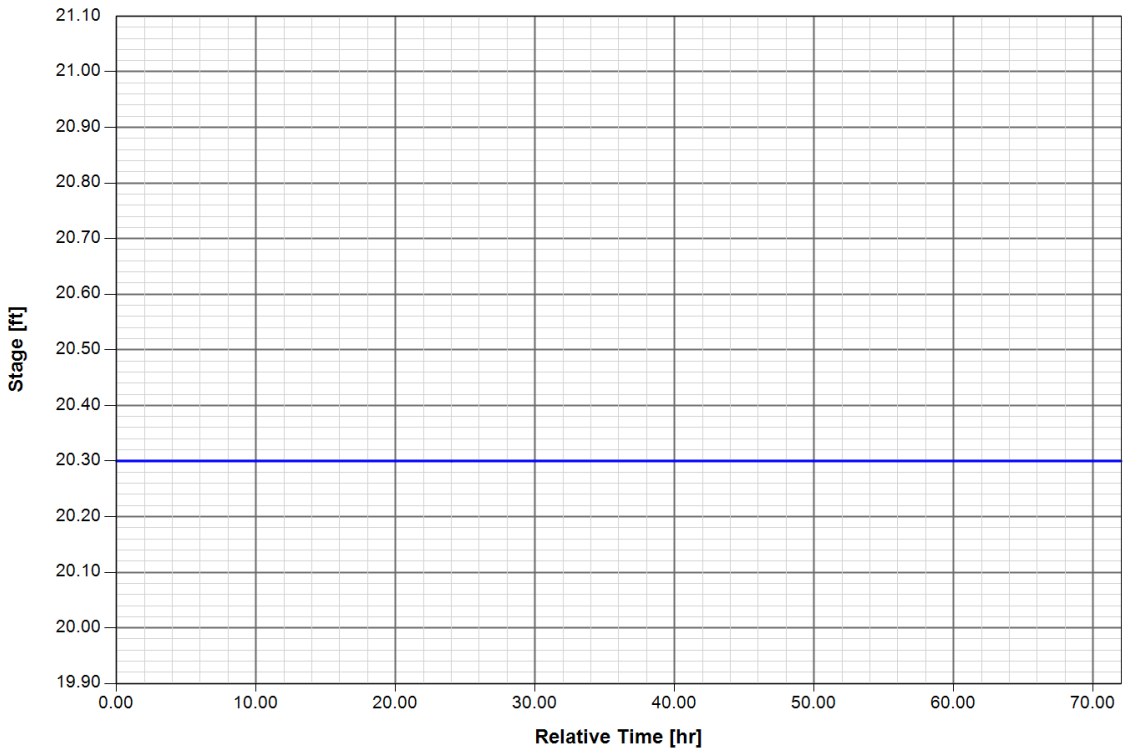
Node: Pre - Onsite Storage

Scenario:	Pre-Development - Moore's Creek
Type:	Time/Stage
Base Flow:	0.00 cfs
Initial Stage:	20.30 ft
Warning Stage:	22.00 ft
Boundary Stage:	

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	20.30
0	0	0	24.0000	20.30
0	0	0	72.0000	20.30

Comment: In the existing conditions runoff from the pre-basin sheet flows to the south and west infiltrating into the soil.

Node: Pre - Onsite Storage | Scenario: Pre-Development - Moore's Creek



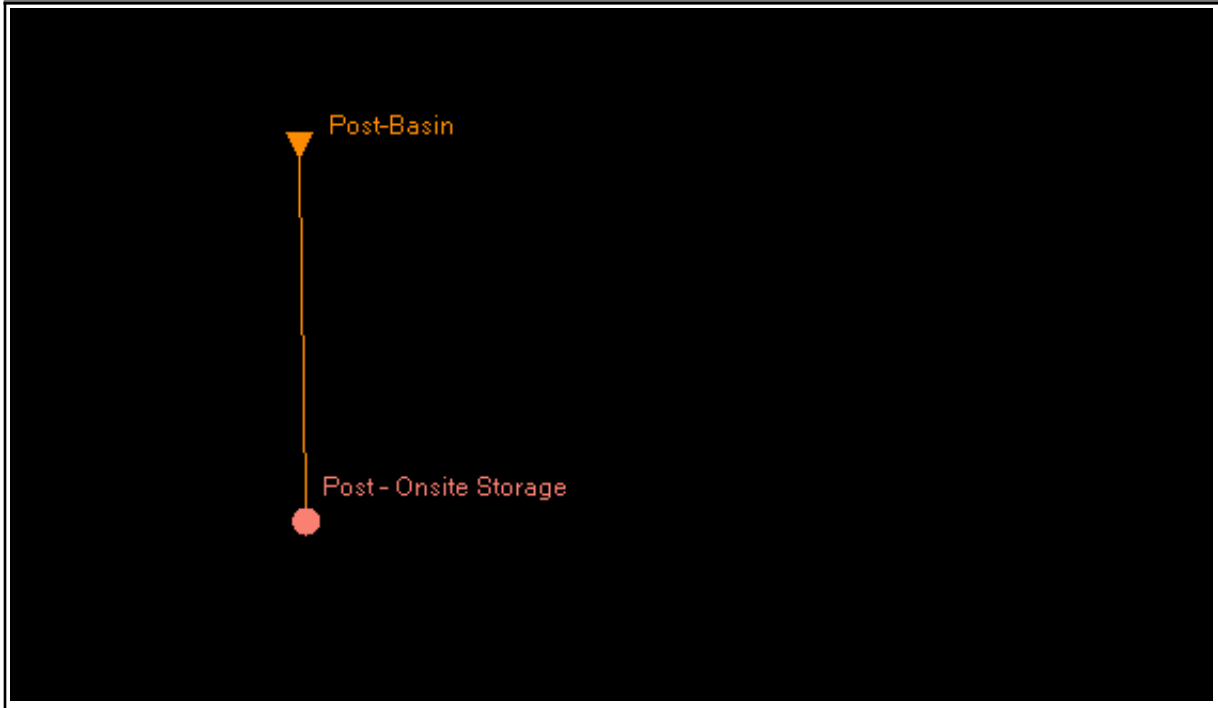
Node Max Conditions [Pre-Development - Moore's Creek]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
Pre - Onsite Storage	10 YEAR 24 HOUR	22.00	20.30	0.0000	0.52	0.00	0
Pre - Onsite Storage	100 YEAR 24 HOUR	22.00	20.30	0.0000	1.79	0.00	0
Pre - Onsite Storage	100 YEAR 72 HOUR	22.00	20.30	0.0000	1.17	0.00	0
Pre - Onsite Storage	25 YEAR 24 HOUR	22.00	20.30	0.0000	0.95	0.00	0
Pre - Onsite Storage	25 YEAR 72 HOUR	22.00	20.30	0.0000	0.72	0.00	0

APPENDIX G

ICPR POST-DEVELOPMENT ROUTING
(10-24HR, 25YR-24&72HR ,100YR-24&72HR)

Background Image: POST-BACKGROUND



Simulation: 10 YEAR 24 HOUR

Scenario: Post-Development - Moore's Creek
Run Date/Time: 9/24/2025 1:24:36 PM
Program Version: ICPR4 4.07.04

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	36.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

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:
Reference ET Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	7.11 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: 100 YEAR 24 HOUR

Scenario: Post-Development - Moore's Creek
Run Date/Time: 9/23/2025 2:47:00 PM
Program Version: ICPR4 4.07.04

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	36.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

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:
Reference ET Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:

Conductivity Set:	
Leakage Set:	

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	12.00 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: 100 YEAR 72 HOUR

Scenario:	Post-Development - Moore's Creek
Run Date/Time:	9/23/2025 2:47:17 PM
Program Version:	ICPR4 4.07.04

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	108.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

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:
Reference ET Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	14.70 in
Edge Length Option:	Automatic	Storm Duration:	72.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: 25 YEAR 24 HOUR

Scenario: Post-Development - Moore's Creek
Run Date/Time: 9/23/2025 2:47:48 PM
Program Version: ICPR4 4.07.04

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	36.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

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:
Reference ET Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:

Conductivity Set:	
Leakage Set:	

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	8.90 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: 25 YEAR 72 HOUR

Scenario:	Post-Development - Moore's Creek
Run Date/Time:	9/23/2025 2:48:14 PM
Program Version:	ICPR4 4.07.04

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	108.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		30.0000	

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Groundwater

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:
Reference ET Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	11.20 in
Edge Length Option:	Automatic	Storm Duration:	72.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simple Basin: Post-Basin

Scenario:	Post-Development - Moore's Creek
Node:	Post - Onsite Storage
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.5400 ac
Curve Number:	60.7
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Node: Post - Onsite Storage

Scenario:	Post-Development - Moore's Creek
Type:	Stage/Volume
Base Flow:	0.00 cfs
Initial Stage:	16.00 ft
Warning Stage:	22.00 ft

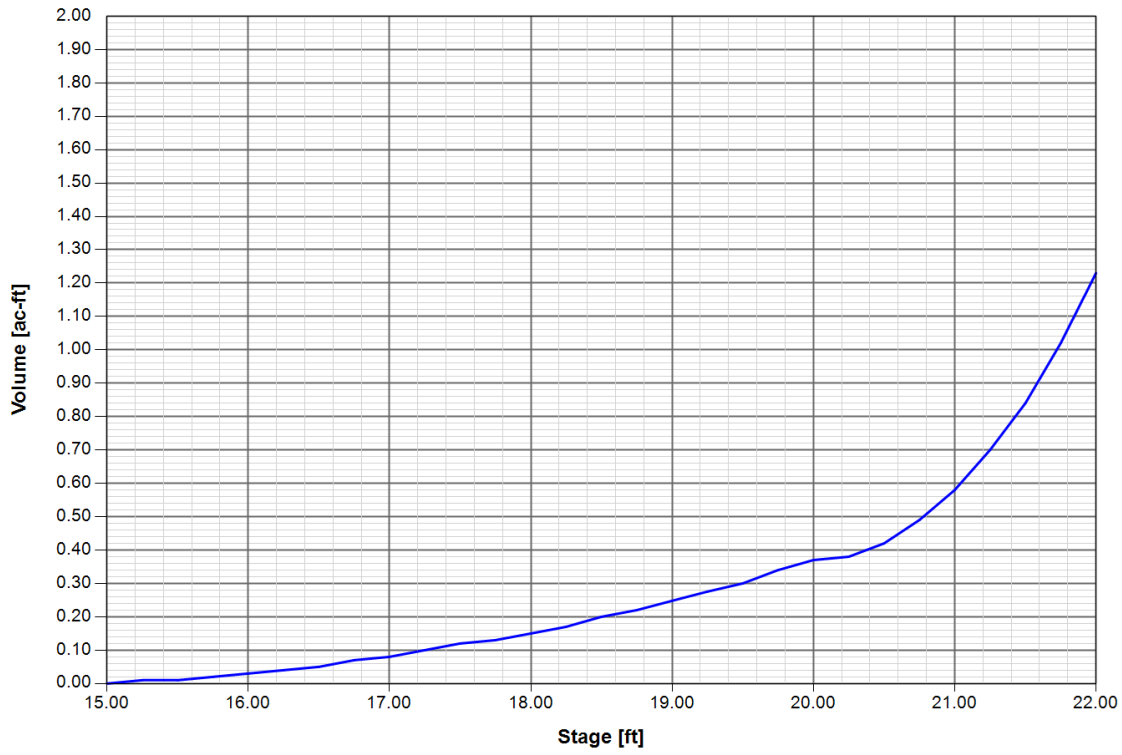
Stage [ft]	Volume [ac-ft]	Volume [ft3]
15.00	0.00	0
15.25	0.01	436
15.50	0.01	436
15.75	0.02	871
16.00	0.03	1307
16.25	0.04	1742
16.50	0.05	2178
16.75	0.07	3049
17.00	0.08	3485
17.25	0.10	4356
17.50	0.12	5227
17.75	0.13	5663
18.00	0.15	6534
18.25	0.17	7405
18.50	0.20	8712
18.75	0.22	9583
19.00	0.25	10800
19.25	0.28	12001
19.50	0.30	13068

Stage [ft]	Volume [ac-ft]	Volume [ft3]
19.75	0.34	14810
20.00	0.37	16117
20.25	0.38	16553
20.50	0.42	18295
20.75	0.49	21344
21.00	0.58	25265
21.25	0.70	30492
21.50	0.84	36590
21.75	1.02	44431
22.00	1.23	53579

Comment: Onsite storage consits of pond and site storagee.

Runoff from the post-basin sheet flows to the dry retention pond for treatment reducing site runoff significantly.

Node: Post - Onsite Storage | Scenario: Post-Development - Moore's Creek



Node Max Conditions [Post-Development - Moore's Creek]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
Post - Onsite Storage	10 YEAR 24 HOUR	22.00	18.05	0.0010	1.02	0.00	3649
Post - Onsite Storage	100 YEAR 24 HOUR	22.00	19.70	0.0010	2.54	0.00	5996
Post - Onsite Storage	100 YEAR 72 HOUR	22.00	20.54	0.0010	1.49	0.00	10281
Post - Onsite Storage	25 YEAR 24 HOUR	22.00	18.68	0.0010	1.55	0.00	4356
Post - Onsite Storage	25 YEAR 72 HOUR	22.00	19.47	0.0010	1.00	0.00	5470

APPENDIX H

ICPR (SLUG LOAD DRAWDOWN ANALYSIS)

Node Name	Relative Time [hrs]	Stage [ft]
Post - Onsite Storage	0.0000	20.00
Post - Onsite Storage	0.2516	19.86
Post - Onsite Storage	0.5006	19.73
Post - Onsite Storage	0.7502	19.59
Post - Onsite Storage	1.0008	19.45
Post - Onsite Storage	1.2505	19.32
Post - Onsite Storage	1.5013	19.18
Post - Onsite Storage	1.7501	19.07
Post - Onsite Storage	2.0019	18.98
Post - Onsite Storage	2.2523	18.89
Post - Onsite Storage	2.5022	18.82
Post - Onsite Storage	2.7501	18.74
Post - Onsite Storage	3.0008	18.67
Post - Onsite Storage	3.2534	18.61
Post - Onsite Storage	3.5031	18.55
Post - Onsite Storage	3.7521	18.49
Post - Onsite Storage	4.0025	18.44
Post - Onsite Storage	4.2503	18.39
Post - Onsite Storage	4.5036	18.34
Post - Onsite Storage	4.7510	18.29
Post - Onsite Storage	5.0054	18.25
Post - Onsite Storage	5.2540	18.20
Post - Onsite Storage	5.5006	18.16
Post - Onsite Storage	5.7514	18.12
Post - Onsite Storage	6.0025	18.08
Post - Onsite Storage	6.2519	18.03
Post - Onsite Storage	6.5036	17.99
Post - Onsite Storage	6.7535	17.94
Post - Onsite Storage	7.0050	17.90
Post - Onsite Storage	7.2516	17.86
Post - Onsite Storage	7.5009	17.81
Post - Onsite Storage	7.7520	17.77
Post - Onsite Storage	8.0025	17.72
Post - Onsite Storage	8.2500	17.68
Post - Onsite Storage	8.5009	17.63
Post - Onsite Storage	8.7531	17.59
Post - Onsite Storage	9.0002	17.55
Post - Onsite Storage	9.2526	17.51
Post - Onsite Storage	9.5034	17.47
Post - Onsite Storage	9.7519	17.44
Post - Onsite Storage	10.0056	17.41
Post - Onsite Storage	10.2500	17.38

Node Name	Relative Time [hrs]	Stage [ft]
Post - Onsite Storage	10.5019	17.35
Post - Onsite Storage	10.7519	17.32
Post - Onsite Storage	11.0019	17.29
Post - Onsite Storage	11.2519	17.27
Post - Onsite Storage	11.5019	17.24
Post - Onsite Storage	11.7519	17.22
Post - Onsite Storage	12.0019	17.19
Post - Onsite Storage	12.2519	17.17
Post - Onsite Storage	12.5019	17.14
Post - Onsite Storage	12.7519	17.11
Post - Onsite Storage	13.0019	17.09
Post - Onsite Storage	13.2519	17.06
Post - Onsite Storage	13.5019	17.04
Post - Onsite Storage	13.7519	17.01
Post - Onsite Storage	14.0019	16.98
Post - Onsite Storage	14.2519	16.96
Post - Onsite Storage	14.5019	16.93
Post - Onsite Storage	14.7519	16.91
Post - Onsite Storage	15.0019	16.88
Post - Onsite Storage	15.2519	16.86
Post - Onsite Storage	15.5019	16.84
Post - Onsite Storage	15.7519	16.81
Post - Onsite Storage	16.0019	16.79
Post - Onsite Storage	16.2519	16.77
Post - Onsite Storage	16.5019	16.75
Post - Onsite Storage	16.7519	16.73
Post - Onsite Storage	17.0019	16.71
Post - Onsite Storage	17.2519	16.69
Post - Onsite Storage	17.5019	16.67
Post - Onsite Storage	17.7519	16.65
Post - Onsite Storage	18.0019	16.63
Post - Onsite Storage	18.2519	16.61
Post - Onsite Storage	18.5019	16.59
Post - Onsite Storage	18.7519	16.57
Post - Onsite Storage	19.0019	16.55
Post - Onsite Storage	19.2519	16.53
Post - Onsite Storage	19.5019	16.51
Post - Onsite Storage	19.7519	16.50
Post - Onsite Storage	20.0019	16.48
Post - Onsite Storage	20.2519	16.46
Post - Onsite Storage	20.5019	16.44
Post - Onsite Storage	20.7519	16.42

Node Name	Relative Time [hrs]	Stage [ft]
Post - Onsite Storage	21.0019	16.41
Post - Onsite Storage	21.2519	16.39
Post - Onsite Storage	21.5019	16.37
Post - Onsite Storage	21.7519	16.35
Post - Onsite Storage	22.0019	16.33
Post - Onsite Storage	22.2519	16.31
Post - Onsite Storage	22.5019	16.29
Post - Onsite Storage	22.7519	16.27
Post - Onsite Storage	23.0019	16.25
Post - Onsite Storage	23.2519	16.23
Post - Onsite Storage	23.5019	16.21
Post - Onsite Storage	23.7519	16.20
Post - Onsite Storage	24.0019	16.18
Post - Onsite Storage	24.2519	16.16
Post - Onsite Storage	24.5019	16.14
Post - Onsite Storage	24.7519	16.12
Post - Onsite Storage	25.0019	16.11
Post - Onsite Storage	25.2519	16.09
Post - Onsite Storage	25.5019	16.07
Post - Onsite Storage	25.7519	16.06
Post - Onsite Storage	26.0019	16.04
Post - Onsite Storage	26.2519	16.02
Post - Onsite Storage	26.5019	16.01
Post - Onsite Storage	26.7519	15.99
Post - Onsite Storage	27.0019	15.98
Post - Onsite Storage	27.2519	15.96
Post - Onsite Storage	27.5019	15.95
Post - Onsite Storage	27.7519	15.93
Post - Onsite Storage	28.0019	15.92
Post - Onsite Storage	28.2519	15.91
Post - Onsite Storage	28.5019	15.89
Post - Onsite Storage	28.7519	15.88
Post - Onsite Storage	29.0019	15.87
Post - Onsite Storage	29.2519	15.85
Post - Onsite Storage	29.5019	15.84
Post - Onsite Storage	29.7519	15.83
Post - Onsite Storage	30.0019	15.81
Post - Onsite Storage	30.2519	15.80
Post - Onsite Storage	30.5019	15.79
Post - Onsite Storage	30.7519	15.78
Post - Onsite Storage	31.0019	15.76
Post - Onsite Storage	31.2519	15.75

Node Name	Relative Time [hrs]	Stage [ft]
Post - Onsite Storage	31.5019	15.74
Post - Onsite Storage	31.7519	15.73
Post - Onsite Storage	32.0019	15.71
Post - Onsite Storage	32.2519	15.70
Post - Onsite Storage	32.5019	15.69
Post - Onsite Storage	32.7519	15.68
Post - Onsite Storage	33.0019	15.67
Post - Onsite Storage	33.2519	15.65
Post - Onsite Storage	33.5019	15.64
Post - Onsite Storage	33.7519	15.63
Post - Onsite Storage	34.0019	15.61
Post - Onsite Storage	34.2519	15.60
Post - Onsite Storage	34.5019	15.59
Post - Onsite Storage	34.7519	15.57
Post - Onsite Storage	35.0019	15.56
Post - Onsite Storage	35.2519	15.55
Post - Onsite Storage	35.5019	15.53
Post - Onsite Storage	35.7519	15.52
Post - Onsite Storage	36.0019	15.51
Post - Onsite Storage	36.2519	15.49
Post - Onsite Storage	36.5019	15.48
Post - Onsite Storage	36.7519	15.46
Post - Onsite Storage	37.0019	15.45
Post - Onsite Storage	37.2519	15.44
Post - Onsite Storage	37.5019	15.43
Post - Onsite Storage	37.7519	15.41
Post - Onsite Storage	38.0019	15.40
Post - Onsite Storage	38.2519	15.39
Post - Onsite Storage	38.5019	15.38
Post - Onsite Storage	38.7519	15.37
Post - Onsite Storage	39.0019	15.36
Post - Onsite Storage	39.2519	15.35
Post - Onsite Storage	39.5019	15.33
Post - Onsite Storage	39.7519	15.32
Post - Onsite Storage	40.0019	15.31
Post - Onsite Storage	40.2519	15.30
Post - Onsite Storage	40.5019	15.29
Post - Onsite Storage	40.7519	15.28
Post - Onsite Storage	41.0019	15.27
Post - Onsite Storage	41.2519	15.26
Post - Onsite Storage	41.5019	15.25
Post - Onsite Storage	41.7519	15.25

Node Name	Relative Time [hrs]	Stage [ft]
Post - Onsite Storage	42.0019	15.24
Post - Onsite Storage	42.2519	15.23
Post - Onsite Storage	42.5019	15.22
Post - Onsite Storage	42.7519	15.21
Post - Onsite Storage	43.0019	15.21
Post - Onsite Storage	43.2519	15.20
Post - Onsite Storage	43.5019	15.19
Post - Onsite Storage	43.7519	15.19
Post - Onsite Storage	44.0019	15.18
Post - Onsite Storage	44.2519	15.17
Post - Onsite Storage	44.5019	15.17
Post - Onsite Storage	44.7519	15.16
Post - Onsite Storage	45.0019	15.16
Post - Onsite Storage	45.2519	15.15
Post - Onsite Storage	45.5019	15.14
Post - Onsite Storage	45.7519	15.14
Post - Onsite Storage	46.0019	15.13
Post - Onsite Storage	46.2519	15.13
Post - Onsite Storage	46.5019	15.12
Post - Onsite Storage	46.7519	15.12
Post - Onsite Storage	47.0019	15.11
Post - Onsite Storage	47.2519	15.11
Post - Onsite Storage	47.5019	15.10
Post - Onsite Storage	47.7519	15.10
Post - Onsite Storage	48.0019	15.09
Post - Onsite Storage	48.2519	15.09
Post - Onsite Storage	48.5019	15.08
Post - Onsite Storage	48.7519	15.08
Post - Onsite Storage	49.0019	15.07
Post - Onsite Storage	49.2519	15.07
Post - Onsite Storage	49.5019	15.07
Post - Onsite Storage	49.7519	15.06
Post - Onsite Storage	50.0019	15.06
Post - Onsite Storage	50.2519	15.05
Post - Onsite Storage	50.5019	15.05
Post - Onsite Storage	50.7519	15.05
Post - Onsite Storage	51.0019	15.04
Post - Onsite Storage	51.2519	15.04
Post - Onsite Storage	51.5019	15.03
Post - Onsite Storage	51.7519	15.03
Post - Onsite Storage	52.0019	15.03
Post - Onsite Storage	52.2519	15.02

Node Name	Relative Time [hrs]	Stage [ft]
Post - Onsite Storage	52.5019	15.02
Post - Onsite Storage	52.7519	15.01
Post - Onsite Storage	53.0019	15.01
Post - Onsite Storage	53.2519	15.01
Post - Onsite Storage	53.5019	15.00
Post - Onsite Storage	53.7519	15.00
Post - Onsite Storage	54.0019	15.00
Post - Onsite Storage	54.2519	15.00
Post - Onsite Storage	54.5019	15.00
Post - Onsite Storage	54.7519	15.00
Post - Onsite Storage	55.0019	15.00
Post - Onsite Storage	55.2519	15.00
Post - Onsite Storage	55.5019	15.00
Post - Onsite Storage	55.7519	15.00
Post - Onsite Storage	56.0019	15.00
Post - Onsite Storage	56.2519	15.00
Post - Onsite Storage	56.5019	15.00
Post - Onsite Storage	56.7519	15.00
Post - Onsite Storage	57.0019	15.00
Post - Onsite Storage	57.2519	15.00
Post - Onsite Storage	57.5019	15.00
Post - Onsite Storage	57.7519	15.00
Post - Onsite Storage	58.0019	15.00
Post - Onsite Storage	58.2519	15.00
Post - Onsite Storage	58.5019	15.00
Post - Onsite Storage	58.7519	15.00
Post - Onsite Storage	59.0019	15.00
Post - Onsite Storage	59.2519	15.00
Post - Onsite Storage	59.5019	15.00
Post - Onsite Storage	59.7519	15.00
Post - Onsite Storage	60.0019	15.00
Post - Onsite Storage	60.2519	15.00
Post - Onsite Storage	60.5019	15.00
Post - Onsite Storage	60.7519	15.00
Post - Onsite Storage	61.0019	15.00
Post - Onsite Storage	61.2519	15.00
Post - Onsite Storage	61.5019	15.00
Post - Onsite Storage	61.7519	15.00
Post - Onsite Storage	62.0019	15.00
Post - Onsite Storage	62.2519	15.00
Post - Onsite Storage	62.5019	15.00
Post - Onsite Storage	62.7519	15.00

Node Name	Relative Time [hrs]	Stage [ft]
Post - Onsite Storage	63.0019	15.00
Post - Onsite Storage	63.2519	15.00
Post - Onsite Storage	63.5019	15.00
Post - Onsite Storage	63.7519	15.00
Post - Onsite Storage	64.0019	15.00
Post - Onsite Storage	64.2519	15.00
Post - Onsite Storage	64.5019	15.00
Post - Onsite Storage	64.7519	15.00
Post - Onsite Storage	65.0019	15.00
Post - Onsite Storage	65.2519	15.00
Post - Onsite Storage	65.5019	15.00
Post - Onsite Storage	65.7519	15.00
Post - Onsite Storage	66.0019	15.00
Post - Onsite Storage	66.2519	15.00
Post - Onsite Storage	66.5019	15.00
Post - Onsite Storage	66.7519	15.00
Post - Onsite Storage	67.0019	15.00
Post - Onsite Storage	67.2519	15.00
Post - Onsite Storage	67.5019	15.00
Post - Onsite Storage	67.7519	15.00
Post - Onsite Storage	68.0019	15.00
Post - Onsite Storage	68.2519	15.00
Post - Onsite Storage	68.5019	15.00
Post - Onsite Storage	68.7519	15.00
Post - Onsite Storage	69.0019	15.00
Post - Onsite Storage	69.2519	15.00
Post - Onsite Storage	69.5019	15.00
Post - Onsite Storage	69.7519	15.00
Post - Onsite Storage	70.0019	15.00
Post - Onsite Storage	70.2519	15.00
Post - Onsite Storage	70.5019	15.00
Post - Onsite Storage	70.7519	15.00
Post - Onsite Storage	71.0019	15.00
Post - Onsite Storage	71.2519	15.00
Post - Onsite Storage	71.5019	15.00
Post - Onsite Storage	71.7519	15.00

APPENDIX I

FLOOD PLAIN STORAGE CALCULATIONS
FEMA FIRMETTE MAP

Moore's Creek Proposed Floodplain Analysis
9/29/2025

Elevation	Cumulative Volume (CU FT)	Cumulative Volume (CU YD)	Cumulative Volume (AC FT)
15	0.000	0.000	0.000
15.1	107.100	3.967	0.002
15.2	221.042	8.187	0.005
15.3	341.952	12.665	0.008
15.4	469.959	17.406	0.011
15.5	605.196	22.415	0.014
15.6	747.792	27.696	0.017
15.7	897.878	33.255	0.021
15.8	1055.586	39.096	0.024
15.9	1221.045	45.224	0.028
16	1394.388	51.644	0.032
16.1	1575.740	58.361	0.036
16.2	1765.214	65.378	0.041
16.3	1962.921	72.701	0.045
16.4	2168.969	80.332	0.050
16.5	2383.469	88.277	0.055
16.6	2606.530	96.538	0.060
16.7	2838.261	105.121	0.065
16.8	3078.771	114.029	0.071
16.9	3328.171	123.266	0.076
17	3586.570	132.836	0.082
17.1	3854.065	142.743	0.088
17.2	4130.750	152.991	0.095
17.3	4416.721	163.582	0.101
17.4	4712.075	174.521	0.108
17.5	5016.906	185.811	0.115
17.6	5331.311	197.456	0.122
17.7	5655.386	209.459	0.130
17.8	5989.227	221.823	0.137
17.9	6332.929	234.553	0.145
18	6686.589	247.651	0.154
18.1	7050.330	261.123	0.162
18.2	7424.275	274.973	0.170
18.3	7808.517	289.204	0.179
18.4	8203.227	303.823	0.188
18.5	8608.723	318.842	0.198
18.6	9025.065	334.262	0.207
18.7	9452.293	350.085	0.217
18.8	9890.446	366.313	0.227
18.9	10339.563	382.947	0.237
19	10799.684	399.988	0.248

Moore's Creek Proposed Floodplain Analysis
9/29/2025

19.1	11271.527	417.464	0.259
19.2	11755.571	435.392	0.270
19.3	12252.147	453.783	0.281
19.4	12762.296	472.678	0.293
19.5	13287.613	492.134	0.305
19.6	13829.859	512.217	0.317
19.7	14390.849	532.994	0.330
19.8	14972.600	554.541	0.344
19.9	15578.381	576.977	0.358
20	16211.566	600.428	0.372
20.1	16908.513	626.241	0.388
20.2	17708.175	655.858	0.407
20.3	18618.271	689.566	0.427
20.4	19646.104	727.633	0.451
20.5	20819.749	771.102	0.478

Moore's Creek Existing Floodplain Analysis
9/29/2025

Elevation	Cumulative Volume (CU FT)	Cumulative Volume (CU YD)	Cumulative Volume (AC FT)
15	0	0	0
15.1	0	0	0
15.2	0	0	0
15.3	0	0	0
15.4	0	0	0
15.5	0	0	0
15.6	0	0	0
15.7	0	0	0
15.8	0	0	0
15.9	0	0	0
16	0	0	0
16.1	0	0	0
16.2	0	0	0
16.3	0	0	0
16.4	0	0	0
16.5	0	0	0
16.6	0	0	0
16.7	0.004	0.000	0.000
16.8	0.021	0.001	0.000
16.9	0.065	0.002	0.000
17	0.147	0.005	0.000
17.1	0.279	0.010	0.000
17.2	0.472	0.017	0.000
17.3	0.739	0.027	0.000
17.4	1.092	0.040	0.000
17.5	1.542	0.057	0.000
17.6	2.101	0.078	0.000
17.7	2.780	0.103	0.000
17.8	3.593	0.133	0.000
17.9	4.551	0.169	0.000
18	5.665	0.210	0.000
18.1	6.947	0.257	0.000
18.2	8.410	0.311	0.000
18.3	10.064	0.373	0.000
18.4	11.923	0.442	0.000
18.5	13.998	0.518	0.000
18.6	16.300	0.604	0.000
18.7	18.842	0.698	0.000
18.8	21.635	0.801	0.001
18.9	24.691	0.914	0.001
19	28.023	1.038	0.001

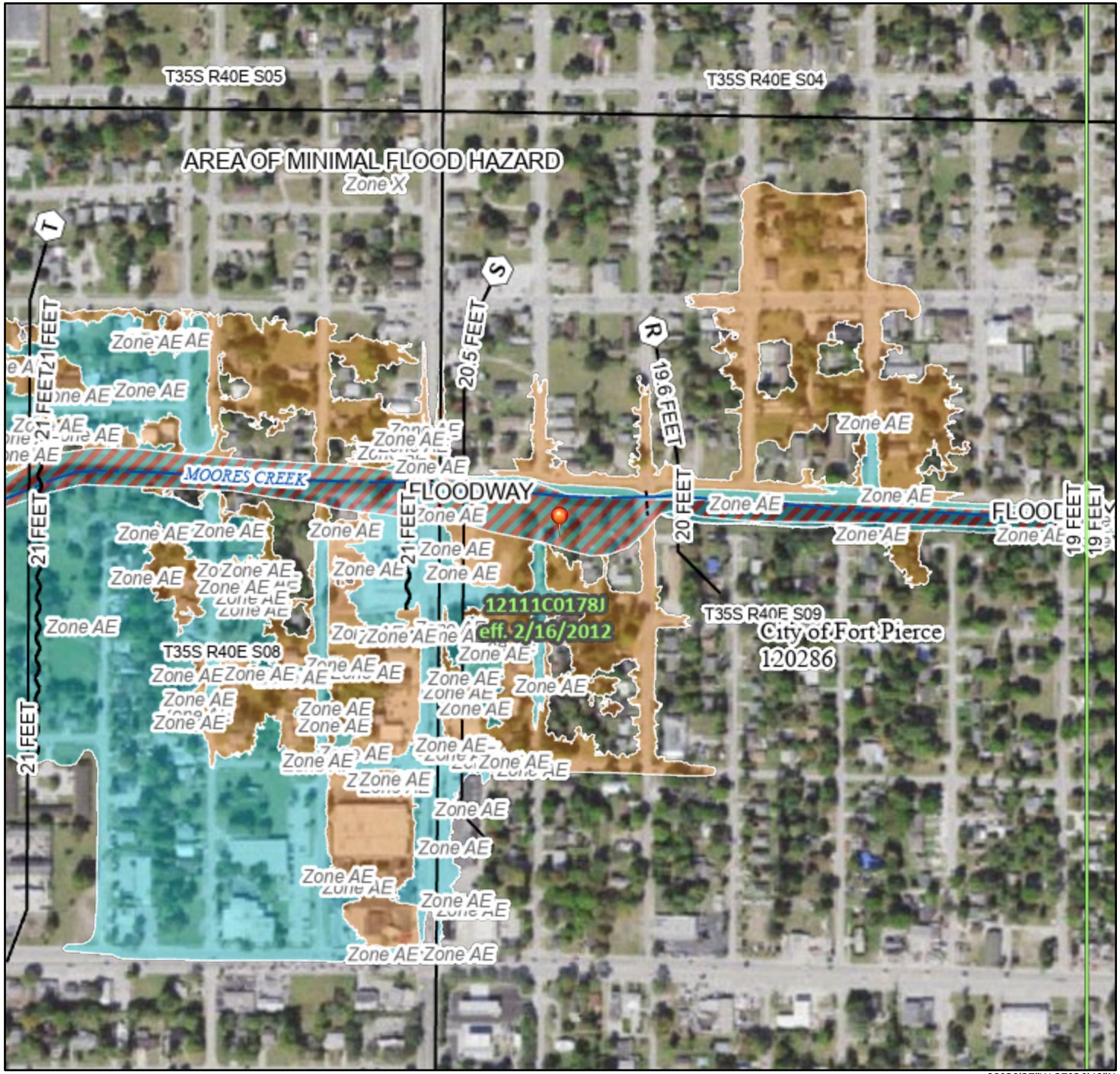
Moore's Creek Existing Floodplain Analysis
9/29/2025

19.1	31.641	1.172	0.001
19.2	35.565	1.317	0.001
19.3	39.814	1.475	0.001
19.4	44.412	1.645	0.001
19.5	49.378	1.829	0.001
19.6	54.735	2.027	0.001
19.7	60.505	2.241	0.001
19.8	66.849	2.476	0.002
19.9	78.720	2.916	0.002
20	100.756	3.732	0.002
20.1	138.487	5.129	0.003
20.2	199.604	7.393	0.005
20.3	285.643	10.579	0.007
20.4	417.318	15.456	0.010
20.5	618.920	22.923	0.015

National Flood Hazard Layer FIRMette

FEMA

80°21'14"W 27°27'20"N



80°20'37"W 27°26'48"N

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

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 9/24/2025 at 5:38 PM 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 J

BMP TRAINS MASS LOADING METHODOLOGY
NUTRIENT LOADING ANALYSIS

Summary Treatment Report Version: 4.3.5

Project: Moore's Creek

Analysis Type: Net Improvement

Date:9/23/2025

BMP Types:

Catchment 1 - (Basin 1)

Retention

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	.06 kg/yr	
Total N post load	.71 kg/yr	
Target N load reduction	92 %	
Target N discharge load	.06 kg/yr	
Percent N load reduction	97 %	
Provided N discharge load	.02 kg/yr	.05 lb/yr
Provided N load removed	.69 kg/yr	1.51 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	.005 kg/yr

Total P post load	.154 kg/yr	
Target P load reduction	97 %	
Target P discharge load	.005 kg/yr	
Percent P load reduction	97 %	
Provided P discharge load	.005 kg/yr	.01 lb/yr
Provided P load removed	.149 kg/yr	.328 lb/yr

MASS LOADING METHODOLOGY:

What is mass loading?

Mass loading is the product of concentration and runoff volume. The typical measurement units used are kilograms per year or pounds per year. The typical units for concentration are milligrams per liter. Runoff volume is yearly average and expressed usually in acre-feet or million gallons. Mass Loading is calculated as an average annual loading, thus average annual runoff and average annual concentrations are used.

How is mass loading calculated?

Average annual loading is calculated as the product of the average Event Mean Concentration (EMC) and the average annual runoff. The EMC will vary with the land use. The average annual runoff varies with the average annual rainfall and the land use characteristics. The land use characteristics are defined by the directly connected impervious area (DCIA) and the rainfall excess from the non-directly connected impervious area. The non-directly connected impervious area (NDCIA) is defined by the composite curve number (CCN) for that area. The curve number (CN) for each NDCIA is weighted by the annual runoff to calculate the CCN.

The annual runoff calculations are based on long term simulations (greater than 25 years) using the DCIA and the CCN for the NDCIAs. These have been reported for 5 meteorological areas (defined by common rainfall inter event dry periods) as shown in support data files on this worksheet. One-hundred Sixty (160) rainfall stations (111 in the state) were used to generate annual runoff for stated land use conditions. Tables for the percentage of runoff for combinations of the CN for NDCIA and DCIA were developed and reported by Harper and Baker (2007), Evaluation of Current Stormwater Design Criteria within the State of Florida, Final Report submitted to the Florida Department of Environmental Protection (FDEP) for Agreement SO108. Another source of information is found in a draft rule developed by a FDEP task force and published in 2010. Both of these publications are reproduced here as Harper Methodology and Draft Rule.

How is average annual runoff calculated?

The annual runoff is the fraction of rainfall resulting from all storm events during the simulation years divided by the number of years. This is expressed in units of inches over the catchment. In more familiar units of measurement, inches is multiplied by the catchment area (acres) and divided by 12 inches per foot to express the average annual runoff in units of acre-feet.

The average annual runoff coefficients (fraction of rainfall) are viewed using the support data found on the “watershed characteristics page, adjacent to the Annual C printout data. When the CN and the DCIA are not in 5 unit increments, a linear interpolation method is used to calculate the value. The average annual runoff is calculated from each rational C table by a “look up” method. An example of average annual runoff fractions for a meteorological region is:

Rational C Values for Florida Zone 1

	Percent Directly Connected Impervious Area																				
NDCIA	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
30	0.006	0.048	0.090	0.132	0.175	0.217	0.259	0.301	0.343	0.386	0.428	0.470	0.512	0.554	0.596	0.639	0.681	0.723	0.765	0.807	0.849
35	0.009	0.051	0.093	0.135	0.177	0.219	0.261	0.303	0.345	0.387	0.429	0.471	0.513	0.555	0.597	0.639	0.681	0.723	0.765	0.807	0.849
40	0.014	0.056	0.098	0.139	0.181	0.223	0.265	0.307	0.348	0.390	0.432	0.474	0.515	0.557	0.599	0.641	0.682	0.724	0.766	0.808	0.849
45	0.020	0.062	0.103	0.145	0.186	0.228	0.269	0.311	0.352	0.394	0.435	0.476	0.518	0.559	0.601	0.642	0.684	0.725	0.767	0.808	0.849
50	0.029	0.070	0.111	0.152	0.193	0.234	0.275	0.316	0.357	0.398	0.439	0.480	0.521	0.562	0.603	0.644	0.685	0.726	0.767	0.808	0.849
55	0.039	0.079	0.120	0.161	0.201	0.242	0.282	0.323	0.363	0.404	0.444	0.485	0.525	0.566	0.606	0.647	0.687	0.728	0.768	0.809	0.849
60	0.052	0.092	0.132	0.172	0.212	0.252	0.291	0.331	0.371	0.411	0.451	0.491	0.531	0.570	0.610	0.650	0.690	0.730	0.770	0.810	0.849
65	0.069	0.108	0.147	0.186	0.225	0.264	0.303	0.342	0.381	0.420	0.459	0.498	0.537	0.576	0.615	0.654	0.693	0.732	0.771	0.810	0.849
70	0.092	0.130	0.167	0.205	0.243	0.281	0.319	0.357	0.395	0.433	0.471	0.508	0.546	0.584	0.622	0.660	0.698	0.736	0.774	0.812	0.849
75	0.121	0.158	0.194	0.230	0.267	0.303	0.340	0.376	0.412	0.449	0.485	0.522	0.558	0.595	0.631	0.667	0.704	0.740	0.777	0.813	0.849
80	0.162	0.196	0.230	0.265	0.299	0.334	0.368	0.402	0.437	0.471	0.506	0.540	0.574	0.609	0.643	0.678	0.712	0.746	0.781	0.815	0.849
85	0.220	0.252	0.283	0.315	0.346	0.378	0.409	0.441	0.472	0.503	0.535	0.566	0.598	0.629	0.661	0.692	0.724	0.755	0.787	0.818	0.849
90	0.312	0.339	0.366	0.393	0.419	0.446	0.473	0.500	0.527	0.554	0.581	0.608	0.634	0.661	0.688	0.715	0.742	0.769	0.796	0.823	0.849
95	0.478	0.496	0.515	0.533	0.552	0.571	0.589	0.608	0.626	0.645	0.664	0.682	0.701	0.719	0.738	0.757	0.775	0.794	0.812	0.831	0.849
98	0.656	0.666	0.676	0.685	0.695	0.705	0.714	0.724	0.734	0.743	0.753	0.763	0.772	0.782	0.792	0.801	0.811	0.821	0.830	0.840	0.849

What are Event Mean Concentration (EMC) data?

EMCs are available for each land use and they are found in support information and are listed once a land use is picked. Also a user defined value is permitted. An example of the EMCs are:

LAND USE CATEGORY	Event Mean Concentration (mg/l)	
	TOTAL Nitrogen	TOTAL Phosphorus
AG - CITRUS	2.240	0.183
AG - GENERAL	2.8	0.487
AVERAGE OF MFR+UNDEVELOPED	2.320	0.520
AVERAGE OF SFR + UNDEVELOPED	2.07	0.327
DRY PRAIRIE*	2.025	0.184
HIGH INTENSITY COMMERCIAL	2.4	0.345
HIGHWAY	1.52	0.2
HYDRIC HAMMOCK*	1.288	0.107
INDUSTRIAL	1.2	0.26

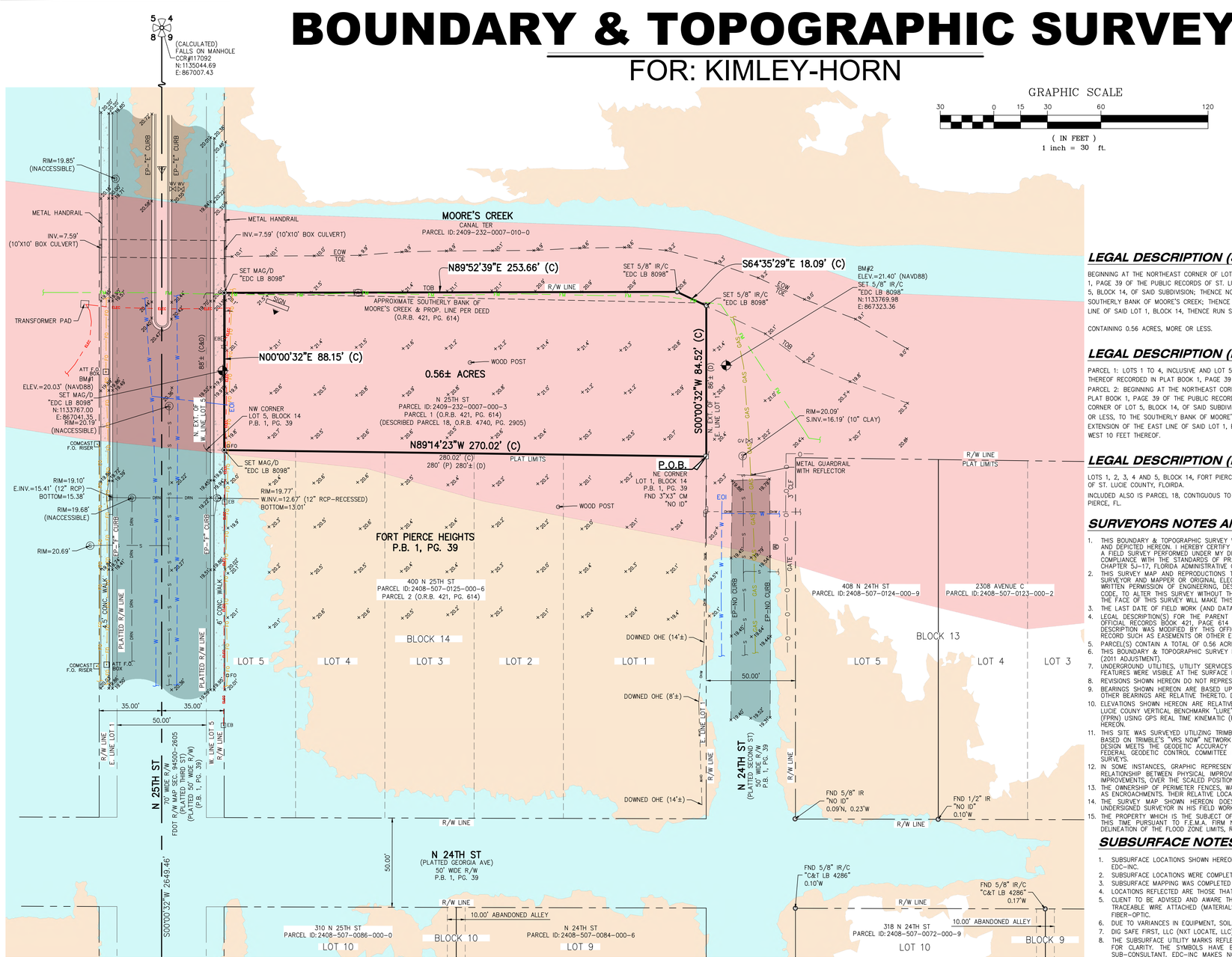
LOW DENSITY RESIDENTIAL	1.645	0.270
LOW INTENSITY COMMERCIAL	1.130	0.188
MESIC FLATWOODS*	1.090	0.043
MINING	1.180	0.150
MULTI FAMILY RES	2.320	0.520
PASTURE	3.510	0.686
ROW CROPS	2.650	0.593
RUDERAL UPLAND PINE*	1.694	0.162
SCRUBBY FLATWOODS*	1.155	0.027
SFR OR MFR DEPENDING ON UNITS	2.070	0.327
SINGLE FAMILY RES	2.070	0.327
UNDEVELOPED	1.288	0.107
UNDEVELOPED User Defined (overwrite defaults)	User input	User input
WATER	0	0
WET FLATWOODS*	1.213	0.021
WET PRAIRIE*	1.095	0.015
WETLAND*	1.15	0.055
XERIC HAMMOCK*	1.288	0.107
XERIC SCRUB*	1.288	0.107

APPENDIX K

ALTA/NSPS SURVEY

BOUNDARY & TOPOGRAPHIC SURVEY

FOR: KIMLEY-HORN

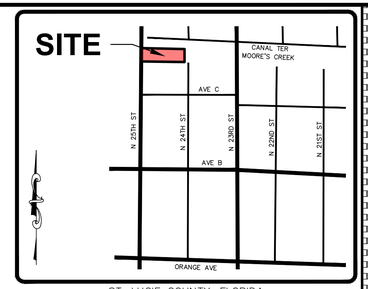


GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

NORTH



ST. LUCIE COUNTY, FLORIDA

VICINITY MAP

NO SCALE

LEGAL DESCRIPTION (SUBJECT PROPERTY):

BEGINNING AT THE NORTHEAST CORNER OF LOT 1, BLOCK 14, FORT PIERCE HEIGHTS, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 1, PAGE 39 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA, RUN WEST 280 FEET MORE OR LESS, TO THE NORTHWEST CORNER OF LOT 5, BLOCK 14, OF SAID SUBDIVISION; THENCE NORTH ON THE EXTENSION OF THE WEST LINE OF SAID LOT 5 FOR 88 FEET, MORE OR LESS, TO THE SOUTHERLY BANK OF MOORE'S CREEK; THENCE EAST ALONG SAID SOUTHERLY BANK TO A POINT ON A LINE BEING THE EXTENSION OF THE EAST LINE OF SAID LOT 1, BLOCK 14, THENCE RUN SOUTH 86 FEET, MORE OR LESS, THE POINT OF BEGINNING, LESS THE WEST 10 FEET THEREOF.

CONTAINING 0.56 ACRES, MORE OR LESS.

LEGAL DESCRIPTION (PARENT PROPERTY-O.R.B. 421, PG. 614):

PARCEL 1: LOTS 1 TO 4, INCLUSIVE AND LOT 5 LESS THE WEST 10 FEET FOR STREET. BLOCK 14, FOR PIERCE HEIGHTS, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 1, PAGE 39 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.

PARCEL 2: BEGINNING AT THE NORTHEAST CORNER OF LOT 1, BLOCK 14, FORT PIERCE HEIGHTS, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 1, PAGE 39 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA, RUN WEST 280 FEET MORE OR LESS, TO THE NORTHWEST CORNER OF LOT 5, BLOCK 14, OF SAID SUBDIVISION; THENCE NORTH ON THE EXTENSION OF THE WEST LINE OF SAID LOT 5 FOR 88 FEET, MORE OR LESS, TO THE SOUTHERLY BANK OF MOORE'S CREEK; THENCE EAST ALONG SAID SOUTHERLY BANK TO A POINT ON A LINE BEING THE EXTENSION OF THE EAST LINE OF SAID LOT 1, BLOCK 14, THENCE RUN SOUTH 86 FEET, MORE OR LESS, THE POINT OF BEGINNING, LESS THE WEST 10 FEET THEREOF.

LEGAL DESCRIPTION (PARENT PROPERTY-O.R.B. 4740, PG. 2905):

LOTS 1, 2, 3, 4 AND 5, BLOCK 14, FORT PIERCE HEIGHTS, AS PER PLAT THEREOF ON FILE IN PLAT BOOK 1, PAGE 39 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.

INCLUDED ALSO IS PARCEL 18, CONTIGUOUS TO THE NORTH BETWEEN NORTH 25TH AND 24TH STREETS. NORTH 25TH STREET AT AVENUE C. FT. PIERCE, FL.

SURVEYORS NOTES AND REPORT:

1. THIS BOUNDARY & TOPOGRAPHIC SURVEY WAS PERFORMED FOR THE PURPOSE OF MAPPING EXISTING FEATURES AND CONDITIONS, AS SHOWN AND DEPICTED HEREON. I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS IS A TRUE AND ACCURATE DEPICTION OF A FIELD SURVEY PERFORMED UNDER MY DIRECTION AND COMPLETED ON NOVEMBER 20, 2024. I FURTHER CERTIFY THAT SAID DRAWING IS IN COMPLIANCE WITH THE STANDARDS OF PRACTICE AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE PURSUANT TO SECTION 472.027, FLORIDA STATUTES.
2. THIS SURVEY MAP AND REPRODUCTIONS THEREOF ARE NOT VALID WITHOUT THE ORIGINAL SIGNATURE AND SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER OR ORIGINAL ELECTRONIC SIGNATURE. THIS SURVEY CANNOT BE TRANSFERRED OR ASSIGNED WITHOUT THE SPECIFIC WRITTEN PERMISSION OF ENGINEERING, DESIGN AND CONSTRUCTION, INC.. IT IS A VIOLATION OF CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, TO ALTER THIS SURVEY WITHOUT THE EXPRESS PRIOR WRITTEN CONSENT OF THE SURVEYOR. ADDITIONS AND/OR DELETIONS MADE TO THE FACE OF THIS SURVEY WILL MAKE THIS SURVEY INVALID.
3. THE LAST DATE OF FIELD WORK (AND DATA ACQUISITION) WAS NOVEMBER 18, 2024.
4. LEGAL DESCRIPTION(S) FOR THE PARENT PROPERTY HEREON SHOWN IN REFERENCE TO OFFICIAL RECORDS BOOK 4740, PAGE 2905 AND OFFICIAL RECORDS BOOK 421, PAGE 614 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA AND THE SUBJECT PROPERTY LEGAL DESCRIPTION WAS PROVIDED BY THIS OFFICE. A TITLE SEARCH FOR THIS PROPERTY HAS NOT BEEN ABSTRACTED TO SHOW MATTERS OF RECORD SUCH AS EASEMENTS OR OTHER ENCUMBRANCES OR RESTRICTIONS.
5. PARCEL(S) CONTAIN A TOTAL OF 0.56 ACRES, MORE OR LESS.
6. THIS BOUNDARY & TOPOGRAPHIC SURVEY HAS BEEN REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM–EAST ZONE, NAD 83 (2011 ADJUSTMENT).
7. UNDERGROUND UTILITIES, UTILITY SERVICES, FOUNDATIONS, AND IMPROVEMENTS WERE NOT LOCATED AS A PART OF THIS SURVEY, UNLESS FEATURES WERE VISIBLE AT THE SURFACE LEVEL.
8. REVISIONS SHOWN HEREON DO NOT REPRESENT A "FIELD SURVEY UPDATE" UNLESS OTHERWISE NOTED.
9. BEARINGS SHOWN HEREON ARE BASED UPON GRID NORTH AND REFERENCE TO THE LINE LABELED HEREON AS (BEARING BASIS) AND ALL OTHER BEARINGS ARE RELATIVE THERETO. DISTANCES ARE IN U.S. SURVEY FEET AND DECIMAL PARTS THEREOF.
10. ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND ARE BASED ON THE ST. LUCIE COUNY VERTICAL BENCHMARK "LURE" HAVNG AN ELEVATION OF 20.39' (NAVD88) AND THE FLORIDA PERMANENT REFERENCE NETWORKS (FPRN) USING GPS REAL TIME KINEMATIC (RTK) OBSERVATION WITH AND ACCURACY OF ±0.06'–0.10'. SITE BENCHMARKS UTILIZED ARE SHOWN HEREON.
11. THIS SITE WAS SURVEYED UTILIZING TRIMBLE/SPECTRA HARDWARE TOGETHER WITH SPECTRA SURVEY PRO REALTIME PROCESSING AND WAS BASED ON TRIMBLE'S "VRS NOW" NETWORK AND/OR THE FLORIDA PERMANENT REFERENCE NETWORK (FPRN). THE PROCEDURES AND NETWORK DESIGN MEETS THE GEODETIC ACCURACY STANDARDS AND SPECIFICATIONS FOR USING GPS RELATED POSITIONING AS SET FORTH BY THE FEDERAL GEODETIC CONTROL COMMITTEE IN THE MOST CURRENT PUBLICATION FOR 3RD ORDER CLASS ONE FOR HORIZONTAL CONTROL SURVEYS.
12. IN SOME INSTANCES, GRAPHIC REPRESENTATIONS AND SYMBOLS SHOWN HAVE BEEN EXAGGERATED TO MORE CLEARLY ILLUSTRATE THE RELATIONSHIP BETWEEN PHYSICAL IMPROVEMENTS AND/OR LOT LINES. THE DIMENSIONS SHOWN SHALL CONTROL THE LOCATION, OF THE IMPROVEMENTS, OVER THE SCALED POSITIONS.
13. THE OWNERSHIP OF PERIMETER FENCES, WALLS, HEDGES, AND LANDSCAPING, IF ANY, SHOWN HEREON ARE NOT KNOWN AND ARE NOT LISTED AS ENCROACHMENTS. THEIR RELATIVE LOCATION IS SHOWN IN RELATION TO THE BOUNDARY LINES SHOWN.
14. THE SURVEY MAP SHOWN HEREON DOES NOT NECESSARILY CONTAIN ALL OF THE INFORMATION OBTAINED OR DEVELOPED BY THE UNDERSIGNED SURVEYOR IN HIS FIELD WORK, OFFICE WORK OR RESEARCH.
15. THE PROPERTY WHICH IS THE SUBJECT OF THIS SURVEY APPEARS TO BE SITUATE IN AN AREA OF REGULATORY FLOODWAY (ZONE AE) AT THIS TIME PURSUANT TO F.E.M.A. FIRM NUMBER 12111C0178J, HAVING AN EFFECTIVE DATE OF FEBRUARY 16, 2012. FOR APPROXIMATE DELINEATION OF THE FLOOD ZONE LIMITS, REFER TO AFOREMENTIONED FIRM PANELS.

SUBSURFACE NOTES AND REPORT:

1. SUBSURFACE LOCATIONS SHOWN HEREON WERE MARKED BY DIG SAFE FIRST, LLC (NXT LOCATE, LLC) AND FIELD LOCATED BY EDC–INC.
2. SUBSURFACE LOCATIONS WERE COMPLETED ON NOVEMBER 7, 2024.
3. SUBSURFACE MAPPING WAS COMPLETED ON NOVEMBER 13, 2024.
4. LOCATIONS REFLECTED ARE THOSE THAT WERE ACCESSIBLE AT TIME OF WORK.
5. CLIENT TO BE ADVISED AND AWARE THAT LIMITATIONS EXIST IN LOCATING NON–METALLIC MATERIALS AND UTILITIES WITHOUT TRACEABLE WIRE ATTACHED (MATERIALS SUCH AS, BUT NOT LIMITED TO, PLASTICS, POLYVINYL CHLORIDE, FIBERGLASS AND FIBER–OPTIC.
6. DUE TO VARIANCES IN EQUIPMENT, SOIL AND SITE CONDITIONS, NO DEPTHS WERE PROVIDED.
7. DIG SAFE FIRST, LLC (NXT LOCATE, LLC) IS SOLELY RESPONSIBLE FOR THE ACCURACY OF THE UTILITY MARKINGS.
8. THE SUBSURFACE UTILITY MARKS REFLECTED IN THE LEGEND AND ON THIS SURVEY MAY HAVE BEEN ENLARGED OR REDUCED FOR CLARITY. THE SYMBOLS HAVE BEEN PLOTTED AT THE CENTER OF THE FIELD LOCATION, AS DESIGNATED BY A SUB–CONSULTANT. EDC–INC MAKES NO WARRANTIES OR GUARANTEES REGARDING THE SUBSURFACE ACCURACY. SEE THE NOTES SECTION OF THIS SURVEY FOR MORE INFORMATION.

FLOOD ZONE LEGEND:

- ZONE X
- ZONE X (1% ANNUAL FLOOD CHANCE)
- ZONE AE
- ZONE AE (REGULATORY FLOODWAY)

SYMBOL & ABBREVIATION LEGEND:

- (A) AIR RELEASE VALVE
- BENCHMARK (BM) OR GROUND CONTROL POINT (GCP)
- (C) CALCULATED
- CCR CERTIFIED CORNER RECORD
- CLF CHAIN LINK FENCE
- CONC CONCRETE
- CM CONCRETE MONUMENT
- CURB INLET
- (D) DEED
- (D) DRAINAGE MANHOLE
- EP EDGE OF PAVEMENT
- EOW EDGE OF WATER
- EB ELECTRIC BOX
- EL./ELEV. ELEVATION
- EOI END OF INFORMATION
- EXT. EXTENSION
- F.O. FIBER OPTIC
- FO FIBER OPTIC RISER
- FLOOD LIGHT
- FDOT FLORIDA DEPARTMENT OF TRANSPORTATION
- FND FOUND
- GAS MARKER
- GV GAS VALVE
- GUY WIRE ANCHOR
- ID IDENTIFICATION
- INV INVERT
- IR IRON ROD
- IR/C IRON ROD AND CAP
- LB LICENSED BUSINESS
- MAG/D MAG NAIL & DISK
- (M) MAILBOX
- METAL LIGHT POST
- NAVD88 NORTH AMERICAN VERTICAL DATUM OF 1988
- O.R.B. OFFICIAL RECORDS BOOK
- OHW OVER HEAD WIRES
- PG PAGE
- P.B. PLAT BOOK
- (P) PLAT DATA
- P.O.B. POINT OF BEGINNING
- PROP. PROPERTY
- RCP REINFORCED CONCRETE PIPE
- R/W RIGHT–OF–WAY
- (S) SANITARY MANHOLE
- SEC SECTION
- SIGN
- TOE TOE OF SLOPE
- TOB TOP OF BANK/BERM
- X 0.0 TOPOGRAPHIC DATA (SOFT SURFACE)
- X 0.00 TOPOGRAPHIC DATA (HARD SURFACE)
- WV WATER VALVE (WV)
- WOOD POWER POLE

- GAS — SUBSURFACE GAS LINE
- S — SUBSURFACE SANITARY LINE
- FM — SUBSURFACE SANITARY FORCE MAIN
- DRN — SUBSURFACE STORM – DRAINAGE
- FO — SUBSURFACE FIBER OPTIC
- ELEC — SUBSURFACE ELECTRICAL LINE
- W — SUBSURFACE WATER/FIRE LINE

MICHAEL T. OWEN PROFESSIONAL SURVEYOR AND MAPPER
FLORIDA REGISTRATION #5556

SIGNATURE DATE:

ENGINEERS ✪ SURVEYORS
ENVIRONMENTAL
10250 VILLAGE PARKWAY
UNIT 201
PORT ST. LUCIE, FL 34987
772-462-2455
www.edc-inc.com
F.B.P.E. CERTIFICATE OF AUTHORIZATION 9935
L.B. CERTIFICATE OF AUTHORIZATION 8098

DRAWN BY	R.B.
CHECKED BY	MTO
FIELD CREW	GH
FILENAME	24-216D - BOOSTER STATION BT.DWG
SCALE	AS SHOWN
DATE	November 20, 2024

REVISION COMMENTS — DATE

BOUNDARY & TOPOGRAPHIC SURVEY
FOR: KIMLEY-HORN
LAND LYING IN
SEC. 09, TWNSHP. 35 SOUTH, RGE. 40 EAST
ST. LUCIE COUNTY, FLORIDA

10250 VILLAGE PARKWAY
UNIT 201
PORT ST. LUCIE, FL 34987
772-462-2455

24-216D

1 OF 1

Z:\EDC-20\24\24-216 - Kimley - FPUA Phase Ia - 4 CIP Sites\SURVEY\Dwg - PDF\DWG\24-216D, BOOSTER STATION BT.DWG, 11/20/2024 2:13 PM
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APPENDIX L

GEOTECHNICAL REPORT

March 28, 2025
KSM Project No. 2409351-b&p
Revised September 30, 2025

Kimley-Horn and Associates, Inc.
445 24th Street, Suite 200
Vero Beach, Florida 32960

Attention: Ms. Jill Grimaldi, BCES

Subject: Subsurface Investigation and Geotechnical Engineering Evaluation
FPUA Task 5.3 – CIP 3 – Moore's Creek Booster Station
Fort Pierce, St. Lucie County, Florida

Ms. Grimaldi:

As requested, **KSM Engineering & Testing (KSM)** has performed a subsurface investigation and geotechnical engineering evaluation at the above referenced site. Presentation of the data gathered during the investigation, together with our geotechnical related opinions, are included in this report.

Scope of Work and Professional Service Agreement:

The scope of work and the agreement to perform a geotechnical exploration is contingent upon KSM's March 21, 2024, proposal to Kimley-Horn and Associates, Inc. The executed individual project order (IPO) was signed by Ms. Jill Grimaldi on August 29, 2024, and was returned to KSM thereafter.

Following the return of the executed IPO, the client requested on March 3, 2025, that we conduct our field exploration services for Task 5.3.

Site Location and Description:

The subject site for this phase of the project is located on the south side of Moore's Creek, at the northeast corner of the intersection of North 25th Street and Avenue C in Fort Pierce, St. Lucie County, Florida. At the time of drilling, the site was found to be fairly flat with light surface ground cover and a few trees along the eastern edge of the site.

Project Description:

The following information is based on our conversations with the client, our assumptions with respect to the site and the project, and on our review of the Paving, Grading and Drainage Plan (Sheet C-3-101), prepared and provided to us by Kimley-Horn and Associates, Inc., dated September 24, 2025. If this document has been superseded, or if any changes have been made to this sheet, please contact KSM to submit the current plans, so we can make any adjustments and revise this report, if necessary. Brief summaries of the developmental features shown on the Paving, Grading and Drainage Plan are described below.

Structure – It is our understanding that a 1,700± square foot concrete block booster station building is planned to be constructed on the site. KSM assumes that the anticipated loading conditions will be up to 2.5 kips per linear foot along load bearing walls, and maximum column loads, if applicable, will be less than 50 kips per column.

Stormwater Retention – It is also our understanding that a dry retention stormwater area is proposed to be excavated on the site.

Grading – The provided documents did not include any proposed site grades; therefore, for purposes of this evaluation, we have assumed that up to 2 feet of fill will be required to raise the building areas to final elevation(s).

If actual structural loads, fill heights or construction plans differ from our assumptions, we should be notified immediately to allow for re-evaluation of the recommendations in this report.

Scope of Services Performed:

1. Reviewed the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey to determine the predominant surficial soil type within the subject area.

2. Performed soil borings at accessible locations in the general vicinity of the proposed construction areas.

3. Performed a Usual Open-Hole Test to estimate the hydraulic conductivity of the shallow soils in the general vicinity of the requested location within the proposed stormwater area.

4. Measured the depth to the groundwater level encountered, collected soil samples during the performance of the borings, and maintained a field log for each boring.

5. Reviewed the field logs and visually classified the soil samples in our soils laboratory, and performed laboratory tests on select soil samples.

6. Evaluated the subsurface soil conditions encountered, and prepared this report to present our findings and summarize our conclusions and recommendations.

Review of USDA Soil Survey:

Based on our review of the USDA Web Soil Survey for St. Lucie County, the predominant surficial soil types within the subject site include the following:

50: Waveland and Immokalee fine sands – The typical profile of this soil reportedly consists of layers of sand, fine sand, and loamy sand that extend to a depth of about 40 inches below grade, underlain by layers of loamy orstein (hardpan) sand from approximate depths ranging from 31 to 50 inches below grade, underlain by layers of sand to a depth of approximately 80 inches below grade. In its natural state, the seasonal high groundwater level is approximately 6 to 18 inches below grade.

52: Waveland-Urban land complex – The typical profile of this soil reportedly consists of layers of sand, and loamy sand that extend to a depth of about 40 inches below grade, underlain by layers of loamy orstein (hardpan) sand from approximate depths ranging from 31 to 50 inches below grade, underlain by layers of sand to a depth of approximately 80 inches below grade. In its natural state, the seasonal high groundwater level is approximately 6 to 18 inches below grade.

In general, our soil borings encountered soil conditions similar to those described in the USDA Soil Survey. The general location of the subject area is shown on a reproduction of an aerial photograph which was obtained from the USDA Web Soil Survey, and is presented as the attached USDA Soils Survey Map.

Subsurface Investigation:

Field Exploration Program – Our site exploration program during this phase of the project consisted of preforming the following borings and test:

- Two (2) Standard Penetration Test (SPT) borings, which were terminated at an approximate depth of 15 feet below the existing ground surface in the general vicinity of the requested locations within the proposed booster station building.
- One (1) SPT boring, denoted as PB-1, which was terminated at an approximate depth of 15 feet below the existing ground surface in the general vicinity of the requested location within the proposed stormwater area. In addition, one (1) Usual Open-Hole Test, denoted as P-1, was performed at an approximate depth of 5 feet adjacent to SPT boring PB-1.

The groundwater level at each of the boring locations was measured on the date drilled. The boreholes were then backfilled with accumulated soil cuttings.

The approximate locations of the borings are schematically illustrated on a reproduction of the provided Overall Site Plan (Sheet C-3-002), and is presented as the attached Boring Location Plan. These locations were determined in the field by estimating distances from existing site features and other points of reference and should be considered accurate only to the degree implied by the method of measurement used. If more accurate boring locations are required, we recommend that the locations be surveyed by a licensed surveyor.

Soil Boring Sampling and Testing Methods – The Standard Penetration Test (SPT) is a widely accepted method of in-situ testing of foundation soils. In brief, a standard split barrel sampler is driven into the ground by successive blows of a hammer freely dropping on the drill rod. The number of hammer blows needed to advance the sampler for each 6-inch increment is recorded. The total number of hammer blows required to advance the sampler during the second and third 6-inch increments constitutes the N-value (blows per foot) at that depth. After driving the sampler, it is extracted from the borehole and is opened to allow visual description of the retained soil sample in the field, which is also documented on the field soil boring logs for the depth sampled.

The SPT N-value has been empirically correlated with various soil properties, allowing for an estimate of the behavior of soils under a load. The table below relates N-values to a qualitive description of soil density for cohesionless soils.

SPT N-Value Descriptions for Cohesionless Soils	
Relative Density	**N-Value (Automatic Hammer)**
Very Loose	0 – 3
Loose	3 – 8
Medium Dense	8 – 24
Dense	24 – 40
Very Dense	40+

Laboratory Testing Program:

Upon completion of our field exploration activities, the field soil boring logs and recovered soil samples were transported to our soils laboratory from the project site for further review. Each soil sample was then observed under the supervision of a geotechnical engineer to determine its engineering classification. The visual classification of the samples was performed in general accordance with the Unified Soil Classification System, USCS (ASTM D 2487), and all our laboratory tests were performed in general accordance with the applicable ASTM standards. The soil classifications and other pertinent data obtained from our field explorations and laboratory observations are reported on the attached soil boring profiles.

Observed Subsurface Conditions:

General Soil Profile – The results of the field exploration and laboratory programs are graphically summarized on the attached soil boring profiles. The stratification of the boring profiles represents our interpretation of the field boring logs and the results of laboratory examinations of the recovered samples. The stratification lines represent the approximate boundary between soil types; the actual transitions may be more gradual than implied.

As shown on the soil boring profiles, the SPT borings typically encountered loose to medium dense, gray fine sand (Unified Soil Classification SP) in the upper 2 feet. These soils were underlain by medium dense fine sand (SP) to the SPT boring termination depths of 15 feet. We note that a 1- to 4-foot-thick stratum of weakly-cemented (hardpan-type) soils was encountered in all the borings between approximate depths of 4 to 8 feet.

Measured Groundwater Level – The groundwater level was measured in the boreholes on the day drilled, after stabilization of the downhole water level. As shown on the attached soil boring profiles, groundwater was encountered at an approximate depth of 10 feet on the date indicated. We estimate the normal seasonal high groundwater levels will be about 1 to 2 feet above the groundwater levels measured at the time of our field exploration, and will likely be heavily influenced by the water level maintained in the adjacent Moore's Creek.

Fluctuations in groundwater levels should be anticipated throughout the year due to a variety of factors, including the water level maintained in the adjacent Moore's Creek, as well as due to seasonal variations in the amount of rainfall, runoff, and other factors not evident at the time the borings were performed. In addition, groundwater may "perch" atop the shallow hardpan-type soils during or immediately following periods of heavy or prolonged rainfall. Therefore, groundwater levels during construction or at other times in the future may be higher or lower than the levels indicated on the soil boring profiles.

Engineering Evaluation and Conclusions:

Based on the information obtained from our site investigation, our evaluation of the subsurface conditions, and judgment based on our experiences with similar projects, we are pleased to offer the following evaluations:

Foundation System Evaluation – It is our professional opinion that the proposed booster station building can be supported on conventional shallow foundations, provided the site is prepared, the soils are compacted, and the foundations are designed in accordance with recommendations presented below.

Stormwater Areas – Based on the results of our exploration and laboratory tests, the fine sand (SP) soils encountered are considered to be relatively permeable. The hardpan-type soils encountered are significantly less permeable and should be considered aquitards with lower permeabilities for stormwater pond analysis.

The following sections present our recommendations for overall site preparation and foundation support which we feel are best suited for the proposed construction and existing soil conditions. KSM should be retained to provide observation and testing services during the construction phases of this project.

Site Preparation:

Site Subgrade Preparation – We recommend that the building site subgrade is prepared for construction of the foundations and slab-on-grade floors by improving the density of the soils that will support the structure. The following earthwork procedures are recommended.

1. **Clearing and Grubbing** – The proposed construction areas, plus a minimum margin of five feet beyond the proposed limits of construction, should be prepared by removing all construction debris, abandoned underground utilities, and organic materials including roots and surface vegetation. The roots of trees should be removed in their entirety. Stump grinding as a means of removing the root systems is not recommended. The actual depth(s) of clearing and grubbing must be determined by visual observation and judgment during the earthwork operations.

   All existing pipes or any collapsible or leak prone utilities shall be removed or completely filled with grout or concrete, as they might serve as conduits for subsurface erosion. Over-excavated areas resulting from the removal of underground structures and unsuitable materials should be backfilled in accordance with this report.

2. **Building Pad Subgrade Compaction** – The exposed surface created in the step above should be graded level, moisture conditioned, then proof-rolled and compacted. Sufficient passes of the roller should be made to produce an in-place dry density that equals or exceeds 95 percent of the Modified Proctor (ASTM D-1557) maximum dry density to a minimum depth of 2 feet below the exposed surface. Testing should be done to confirm that the specified level of compaction has been achieved. Any areas that continue to deflect or yield during proof-rolling operations should be delineated and reviewed by the Geotechnical Engineer or their representative. In addition, any excessively wet or dry material should either be removed, remediated, or moisture conditioned and recompacted.

3. **Grading** – Upon completion of the subgrade compaction operations, the exposed surface should be filled to produce the desired grades. Structural fill containing less than 10 percent material that passes through the U.S. Standard No. 200 Sieve that is free of debris and organic material should be placed in level lifts not more than 12-inches in loose thickness, moisture conditioned, and compacted to attain an in-place dry density that equals or exceeds 95 percent of the Modified Proctor (ASTM D-1557) maximum dry density.

   Each lift of compacted fill should be tested, evaluated, and reworked, as necessary, until approved by a KSM Geotechnical Engineer, or their representative, prior to placement of additional lifts.

4. **Footing Excavations and Subgrade Compaction** – At the footing locations, excavate the compacted subgrade soils to the proposed design elevations. The exposed footing subgrade soils should then be compacted to attain an in-place dry density that equals or exceeds 95 percent of the Modified Proctor (ASTM D 1557) maximum dry density to a minimum depth of 1 foot below the bottom of the footing. Testing should be done to confirm that the specified level of compaction has been achieved.

5. **Utilities, Foundations, and Slab on Grade** – Upon completion of the previous steps, the foundation forms and steel reinforcement can be installed, and the foundation concrete should be cast, as necessary. Any backfill that is placed adjacent to the foundations and in utility trench excavations within the building pad should be compacted to attain or exceed 95 percent of the Modified Proctor (ASTM D 1557) maximum dry density. Testing should be done to confirm that the specified level of compaction has been achieved.

Compaction Testing – It is our recommendation that compaction tests in the footing excavations and utility trenches are conducted prior to placement of any backfill, steel, or concrete. The in-place density tests should be conducted at every column footing and at a frequency of one test for every 100 linear feet in the footing and utility trench excavations. The subgrade and each lift (12-inch maximum loose thickness) of fill should be tested for compaction at a frequency of no less than one test per 2,500 square feet of building area, per lift, with a minimum of 4 tests in each area prepared. The placement and frequency of testing can be modified at the discretion of the Geotechnical Engineer of Record. The in-place density testing of the compacted soil should be measured using an ASTM approved method.

The earthwork efforts should be monitored under the direction of a KSM Geotechnical Engineer or their representative.

Temporary Dewatering – Given the recorded depths to the groundwater levels encountered, together with the expected scope of earthwork operations, temporary dewatering is not anticipated to be a necessary part of the earthwork operations. In the event that the construction of the new structure requires that compaction operations are performed within 2 feet of the prevailing groundwater levels, temporary dewatering may become necessary. The actual method of dewatering should be determined by the contractor. We recommend drawing down the groundwater to a level that is not less than 2 feet below the exposed bottom of excavations to avoid compaction related issues.

Excavation Stability and Protection of Structures – It is recommended that the contractor design and execute excavations to be in compliance with OSHA standards. If required, lateral excavation support and/or underpinning the foundations of structures should be performed to protect the structures from damage. Provisions for maintaining workman safety within excavations is the sole responsibility of the contractor.

Shallow Foundations:

The adoption of the recommended design parameters provided in the table below is predicated on the execution of the site preparation recommendations given above, and on KSM's experience with similarly loaded structures, as stated in the "Project Description" section of this report. If the size of the designed foundations, based on the parameters provided, exceed the recommended maximum dimensions, the structural engineer should notify KSM so that we can review the design foundation and loading conditions, and provide additional site preparation recommendations, foundation recommendations, and settlement calculations, as needed.

Shallow Foundation Design Parameters			
Description	**Isolated Footing**	**Continuous Footing**	**Monolithic Slab with Thickened Edge**
Estimated Allowable Bearing Pressure	2,500 psf	2,500 psf	2,500 psf
Minimum Embedment Below Finished Grade	16 inches	16 inches	12 inches
Minimum Width	24 inches	16 inches	12 inches
Maximum Width	60 inches	30 inches	30 inches
Approximate Total Settlement	< 1 inch	< 1 inch	< 1 inch
Approximate Differential Settlement	< ½ of an inch between similarly loaded columns	< ½ of an inch over 40 feet	< ½ of an inch over 40 feet

Based on the expected response of the discovered subsurface conditions to applied foundation loads, KSM expects that the majority of the settlement will occur as the weight of the structure's components are applied to the foundations during construction.

Floor Slabs:

A conventional slab-on-grade floor can be used in the "at grade" portion of the structure. We recommend the disturbed subgrade below the floor slab is re-compacted to meet or exceed 95 percent of the Modified Proctor (ASTM D 1557) maximum dry density prior to placement of the steel and concrete. We recommend that control joints are installed in the slabs at frequent intervals to reduce the potential for the development of shrinkage cracks at unintended locations in the finished floor surfaces.

The installation of a moisture barrier is recommended between the floor slabs and the soils, to prevent moisture migration from the underlying soils, which could lead to dampness of the slabs and the potential poor performance of floor finishes (i.e., carpet, tile, etc.).

Stormwater and Aquifer Parameters:

Based on the results of our exploration and laboratory tests, the fine sand (SP) soils encountered are considered to be relatively permeable. The hardpan-type soils encountered are significantly less permeable and should be considered aquitards with lower permeabilities for stormwater pond analysis.

Factor of Safety – We note that a factor of safety has not been applied to the stormwater and aquifer parameters presented below. An appropriate factor of safety should be applied to these parameters for use in the stormwater design.

Field Test Results – A Usual Open-Hole Test was performed in the general vicinity of the requested location within the proposed stormwater area. This test was performed in general conformance with the South Florida Water Management District procedures for the 'Usual Open-Hole Test' method. The results of this test are presented in the table below.

Field Test Results – Estimated Soil Parameters			
Test Location (See Location Plan)	**Approximate Test Depth (ft)**	**Hydraulic Conductivity (CFS/SF-Ft Head)**	**Hydraulic Permeability, k_h (ft/day)**
P-1	5	4.4×10^{-4}	9.1

Laboratory Test Results – Selected samples obtained from the upper 5 feet at the location of SPT boring PB-1 were tested in our laboratory in general accordance with ASTM D-2434. The results of these tests are presented in the table below.

Laboratory Test Results – Estimated Soil Permeability Parameters			
Test Location (See Location Plan)	**Stratum Depth Range (ft)**	**Measured Horizontal Flow Rate (in/hr)**	**Estimated Vertical Flow Rate (in/hr)**
PB – 1	0 – 1.5	9.8	6.5
PB – 1	1.5 – 4	18.1	12.1
PB – 1	4 – 5	1.9	1.3

Vertical Flow Rates - We consider the measured permeability rate to be indicative of a saturated horizontal permeability. Our experience and published references have indicated that unsaturated vertical permeability, as used in some locally available groundwater models, is typically between 1/2 to 2/3 of the saturated horizontal value.

Flow Restrictive / Confining Layer – Based on the results of our soil borings and laboratory tests, our evaluation of the subsurface conditions, and judgment based on our experiences with similar projects, we estimate that the 1- to 4-foot-thick stratum of weakly-cemented (hardpan-type) soils that was encountered in all the borings between approximate depths of 4 to 8 feet exhibits restrictive flow rates relative to the overlying strata of fine sand soils.

We note that the vertical drainage of the proposed stormwater area should improve if the flow restrictive stratum of hardpan-type soils is excavated and replaced with more permeable fine sand soils with less than 10 percent passing the U.S. No. 200 Standard Sieve. Additionally, for stormwater design purposes, the complete excavation of the flow restrictive stratum of hardpan-type soils would extend the design depth of the confining layer to the termination depth of our borings.

The fine sands that overlie the hardpan-type soils (overburden soils) should be excavated and stockpiled. The hardpan-type soils can then be excavated from beneath the bottom of the proposed stormwater area. We note that the hardpan-type soils can be difficult to excavate, often requiring special equipment.

Once the bottom of the excavation is inspected and approved, overburden soils containing less than 10 percent passing the U.S. No. 200 Standard Sieve may be returned to the excavation to produce the desired bottom elevation for the proposed stormwater area. Care must be exercised to avoid mixing the overburden soils with any unsuitable soils (i.e., organic topsoil, hardpan-type soils, soils containing construction debris, etc.).

Hydrologic Soil Group (HSG) Classification and Estimated Fillable Porosity – The HSG classification was estimated based on our interpretation of the estimated stormwater and aquifer parameters at the time of our exploration, and on guidance provided by the USDA National Engineering Handbook. The table below presents our estimated fillable porosity values of the soils above the estimated seasonal high groundwater level.

HSG and Estimated Fillable Porosity		
Location	**HSG**	**Fillable Porosity**
P – 1	A	30%

Closure:

Based upon our subsurface investigation at the above-mentioned project location, the reliance of the recommendations presented within this signed and sealed report is predicated on KSM representative's involvement in reviewing design plans and performing/monitoring construction testing services. Any design professional utilizing the information within this report are responsible for confirming the accuracy of the project information and assumptions stated in our report and that the soil parameters presented are adequate for the design of the proposed project. If additional parameters are required, KSM is to be notified so that our recommendations can be amended as required.

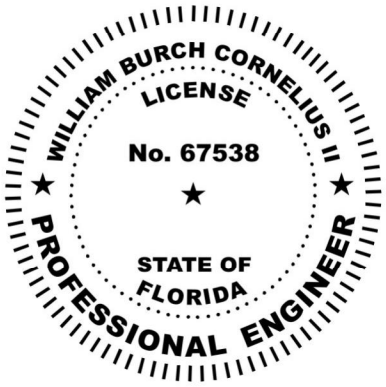
This report has been prepared in accordance with generally accepted soil and engineering practices for the exclusive use of Kimley-Horn and Associates, Inc., and is based on our evaluation of our geotechnical investigation and our stated understanding and assumptions of the proposed project. The procedural standards noted in this report are in reference to methodology in general. In some cases, variations to methods were applied because of local practice or professional judgement. No other warranties, either expressed or implied, are made. This report does not reflect any variations which may occur between or away from the borings. If variations appear evident during the course of construction, it will be necessary for KSM to re-evaluate the recommendations of this project.

This report does not include any evaluations of environmental conditions, wetland delineation, karst activity, water quality or municipal requirements of the site and subsurface.

KSM Engineering and Testing should be retained to perform and/or monitor Construction Testing services. If Client elects to not have KSM provide Construction Testing services, the Client shall indemnify and hold KSM and its consultants harmless from and against damages, losses, and judgments arising from claims by Client or any third parties.

We are pleased to be of assistance to you on this phase of your project. Please contact us when we may be of further service to you, or should you have any questions.

Respectfully,
KSM Engineering and Testing



This item has been digitally signed and sealed by Will B. Cornelius II, P.E. on the date adjacent to the seal using a Digital Signature.

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

Digitally signed by William B Cornelius
Date: 2025.09.30 11:05:18 -04'00'

Will B. Cornelius II, P.E.
Principal Engineer
Florida Registration No. 67538

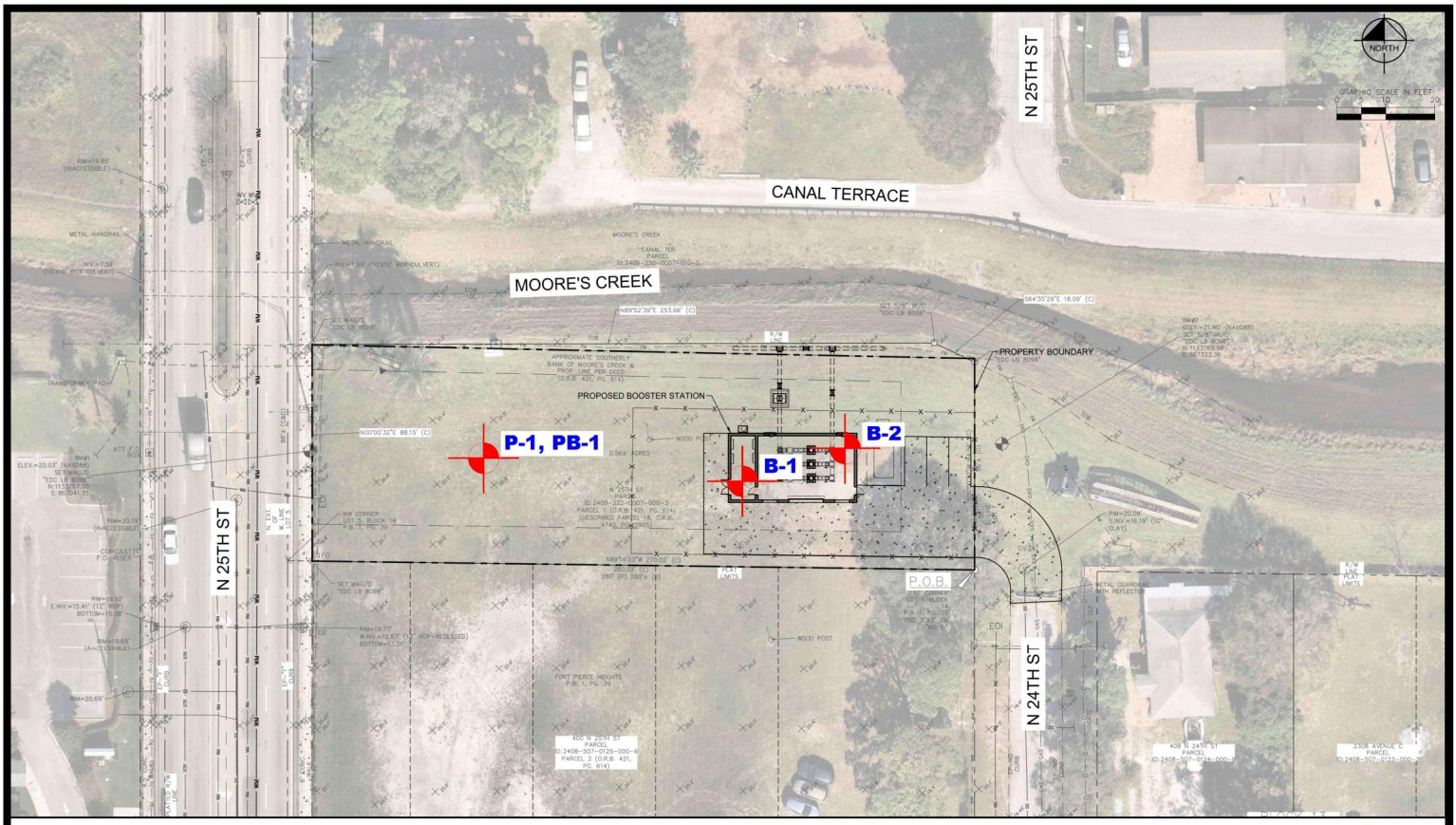
Attachments: USDA Soil Survey Map
Boring Location Plan
Soil Boring Profiles

Email to:
Ms. Jill Grimaldi, Kimley-Horn and Associates, Inc. – Jill.Grimaldi@kimley-horn.com
Mr. Albert Fasano, P.E., Kimley-Horn and Associates, Inc. – AJ.Fasano@kimley-horn.com
Ms. Elena Lorenzo, Kimley-Horn and Associates, Inc. – Elena.Lorenzo@kimley-horn.com

USDA SOILS SURVEY

50—Waveland and Immokalee fine sands
52—Waveland-Urban land complex

PROJECT: FPUA Task 5.3 - CIP 3, Fort Pierce, Florida		
SHEET 1 OF 1 PERMIT #: N/A PROJECT #: 2409351-soils	KSM ENGINEERING AND TESTING	DRAWN BY: C.V. DATE: 20250319 SCALE: NOT TO SCALE



APPROXIMATE LOCATION OF SOIL TESTING

PROJECT: FPUA Task 5.3 - CIP 3, Fort Pierce, Florida

SHEET 1 OF 1 PERMIT #: N/A PROJECT #: 2409351-b&p	KSM ENGINEERING AND TESTING	DRAWN BY: C.V. DATE: 20250319 SCALE: NOT TO SCALE

BORING NUMBER B-1

CLIENT Kimley-Horn and Associates, Inc.
PROJECT NAME FPUA Task 5.3 - CIP 3
PROJECT NUMBER 2409351-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 3/12/25 **COMPLETED** 3/12/25
GROUND ELEVATION
DRILLING CONTRACTOR
GROUND WATER LEVELS:
DRILLING METHOD SPT Automatic Hammer
▽ **AT TIME OF DRILLING** 10.0 ft
LOGGED BY NV/CH
NOTES See Attached Location Plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	BLOW COUNTS (N VALUE)	SCP VALUE	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)	PERMEABILITY RATE (IN/HR)	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC INDEX
0		Gray Sand (SP)	2-4-4 (8)								
		Light Gray Sand (SP)	6-6-6 (12)								
5		Dark Brown Sand with Hardpan (SP)	7-11-10 (21)								
		Light Brown Sand (SP)	6-5-6 (11)								
			6-5-5 (10)								
10	▽										
			5-6-6 (12)								
15		Bottom of borehole at 15.0 feet.									

COPY NEW LOGS 2024 -1 - DATA TEMPLATE FOR TESTING.GDT - 3/19/25 11:43 - K:\KSM FILES\24 DOCS (KSM-SERVER)\2409351\SOIL INVESTIGATION\TASK 5.3 CIP 3\2409351-B&P.GPJ

BORING NUMBER B-2

CLIENT Kimley-Horn and Associates, Inc.
PROJECT NAME FPUA Task 5.3 - CIP 3
PROJECT NUMBER 2409351-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 3/12/25 **COMPLETED** 3/12/25
GROUND ELEVATION
DRILLING CONTRACTOR
GROUND WATER LEVELS:
DRILLING METHOD SPT Automatic Hammer
▽ **AT TIME OF DRILLING** 10.0 ft
LOGGED BY NV/CH
NOTES See Attached Location Plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	BLOW COUNTS (N VALUE)	SCP VALUE	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)	PERMEABILITY RATE (IN/HR)	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC INDEX
0		Gray Sand (SP)	2-3-3 (6)								
		Light Gray Sand (SP)	5-5-7 (12)								
5		Dark Brown Sand with Hardpan (SP)	5-5-5 (10)								
			4-4-4 (8)								
		Light Brown Sand (SP)	5-4-5 (9)								
10		▽									
			5-5-6 (11)								
15		Bottom of borehole at 15.0 feet.									

COPY NEW LOGS 2024 -1 - DATA TEMPLATE FOR TESTING.GDT - 3/19/25 11:43 - K:\KSM FILES\24 DOCS (KSM-SERVER)\2409351\SOIL INVESTIGATION\TASK 5.3 CIP 3\2409351-B&P.GPJ

BORING NUMBER PB-1

CLIENT Kimley-Horn and Associates, Inc.
PROJECT NAME FPUA Task 5.3 - CIP 3
PROJECT NUMBER 2409351-b&p
PROJECT LOCATION Fort Pierce, Florida
DATE STARTED 3/12/25 **COMPLETED** 3/12/25
GROUND ELEVATION
DRILLING CONTRACTOR
GROUND WATER LEVELS:
DRILLING METHOD SPT Automatic Hammer
▽ **AT TIME OF DRILLING** 10.0 ft
LOGGED BY NV/CH
NOTES See Attached Location Plan

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	BLOW COUNTS (N VALUE)	SCP VALUE	MOISTURE CONTENT (%)	FINES CONTENT (%)	ORGANIC CONTENT (%)	PERMEABILITY RATE (IN/HR)	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC INDEX
0		Gray Sand (SP)	3-3-4 (7)								
		Light Gray Sand (SP)	4-4-5 (9)								
5		Dark Brown Sand with Traces of Hardpan (SP)	4-4-5 (9)								
		Light Brown Sand (SP)	5-5-5 (10)								
			6-6-5 (11)								
10		▽									
			5-6-8 (14)								
			5-6-6 (12)								
15		Bottom of borehole at 15.0 feet.									

COPY NEW LOGS 2024 -1 - DATA TEMPLATE FOR TESTING.GDT - 3/19/25 11:43 - K:\KSM FILES\24 DOCS (KSM-SERVER)\2409351\SOIL INVESTIGATION\TASK 5.3 CIP 3\2409351-B&P.GPJ

Kimley»Horn

FPUA CIP 3 – Moore's Creek Booster Station

CIP 3 includes a new booster station for the Fort Pierce Utilities Authority (FPUA), a concrete block masonry building containing three (3) screw centrifugal pumps, 150-HP each, to be operated in two (2) Duty and one (1) Standby configuration. The site is approximately 0.54 acres, and the building is approximately 1,650 square feet. The booster station will re-direct domestic wastewater flows from the existing Master Lift Station A and discharge flows to the new Mainland Water Reclamation Facility (MWRF), currently under construction. The existing 16-inch nominal PVC force main located adjacent to the property will be interconnected to the suction side of the new booster pump station and will be configured to discharge back into the existing 16-inch force main.

The building will be constructed with a stem wall and footer using split face concrete masonry block units with a hollow core concrete plank ceiling and completed with a metal standing seam roof. The building will contain two rooms separated with a common wall and traversable with an interior door to access the pump room and electrical room. The electrical room will be climate controlled via two HVAC units to protect electrical gear and have an exterior double door to access the room from outside. The electrical room houses the necessary electrical gear and is configured so power can be redistributed across two lineups in case of electrical equipment failure. A generator, with a belly fuel tank, can provide emergency power to both electrical lineups. This design provides for EPA Class 1 Reliability.

The pump room will be ventilated with louvers and ventilation fans and house the three pumps on individual floating concrete pedestals. The influent piping will enter the building from below grade and the discharge header piping with be above grade. The discharge piping exits the building on the north side via an above grade magnetic flowmeter assembly and then into the existing force main piping. The pumping room will be accessible via a large roll-up door to provide maintenance access.

The booster station will be constructed with a valving configuration to allow bypassing of the station, bypassing of the pumps, and bypassing of individual pumps to allow flexibility in the operation of the booster station and for maintenance purposes. The piping is equipped with air release valves and venting on the pump volutes which evacuate to floor drains in the building that convey to an existing manhole located on North 24th Street.

The site will contain a 6-ft chain-link fence to provide site security with double gate access on the east side of the property from N 24th Street. A 10-ft landscape buffer on the North, East, and South sides and a 15-ft landscape buffer on the west side of the site will be provided with perimeters screening plantings. The site has an asphalt entrance and driveway that will be graded to shed rainwater southerly to a conveyance swale to capture runoff into a dry retention pond located on the west side of the property.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

Brendon Blum, P.E.
772.794.4100 (office) or brendon.blum@kimley-horn.com

Traffic report is not required/applicable at this time.

Concurrency review submittal is not required/applicable at this time.

MEMORANDUM

To:	Paul Thomas Building Official City of Fort Pierce
From:	Matt Brosman, P.E. Kimley-Horn and Associates, Inc.
Date:	October 30, 2025
Subject:	No Rise Determination

The Fort Pierce Utilities Authority (FPUA) has retained the services of Kimley-Horn and Associates, Inc. (Kimley-Horn) to perform a no rise determination for the project site located at the northeast corner of North 25th Street and Avenue C adjacent to Moores Creek in the City of Fort Pierce, FL (City). **Figure 1** below shows the project site.

Figure 1: Project Site

No Rise Determination

The following sections describe the analysis and assumptions incorporated into this determination.

Existing Watershed and FEMA Conditions

The project site lies within the Indian River-St. Lucie Inlet watershed along the south bank of Moores Creek. FEMA Special Flood Hazard Areas (SFHAs) at the project site are shown on Flood Insurance Rate Map (FIRM) Panel No. 12111C0178J, effective February 16th, 2012.

The current effective FIRM at the project site shows the entirety of the project site within Zone AE, which represents an SFHA subject to inundation in by the 1% Annual Chance Exceedance (ACE) storm event, with Base Flood Elevations (BFEs) established. The BFE at the project site is 20.5 feet NAVD88. The Zone AE SFHA at the project site is designated as a Regulatory Floodway (Floodway) associated with Moores Creek. The Floodway is the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the 1% ACE flood without cumulatively increasing the water surface elevation more than one foot.

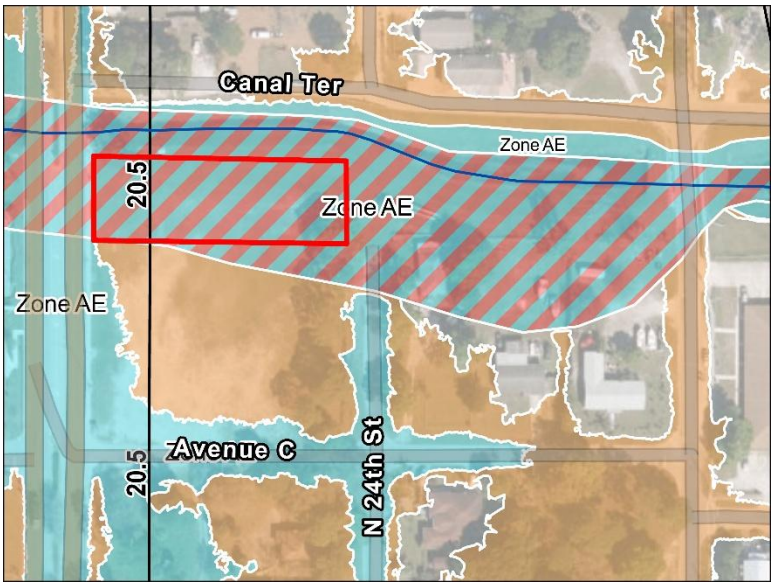


Figure 2: Existing SFHA

Development within the Floodway requires a no-rise certification signed by a Florida Professional Engineer.

Topographic Data Review

Kimley-Horn reviewed the 2018 - 2020 USGS Lidar DEM: Florida Peninsular dataset as well as site survey collected by EDC, Inc. on November 20th, 2024. Review of this topographic data identified a top of berm (TOB) elevation greater than the effective BFE of 20.5 feet NAVD88 along the northern boundary of the project site. In addition, most of the project site parcel is above the regulatory BFE of

20.5 feet NAVD88 in existing conditions. Survey data collected by EDC, Inc. is provided as part of **Appendix B**. **Figure 3** shows the 20.5 foot NAVD88 contour at the project site.

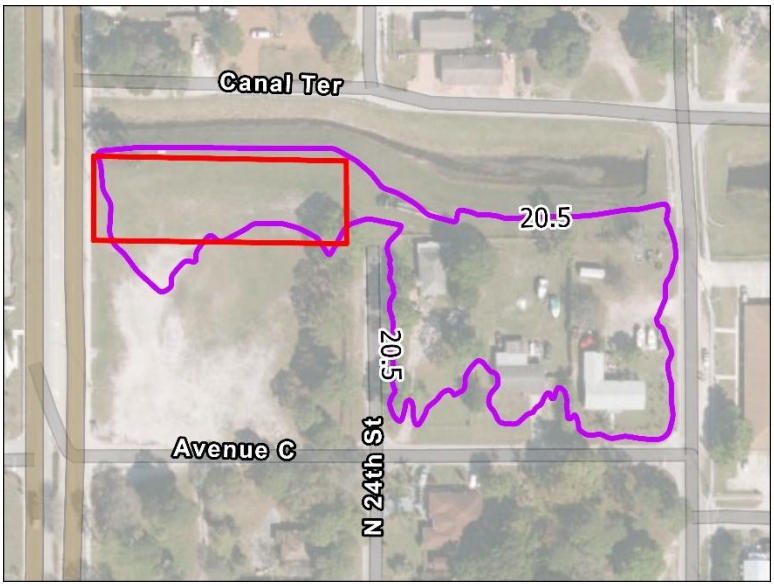


Figure 3: 20.5 foot NAVD88 Contour

Revised Floodplain Extent

Based on topographic data at the project site, the current effective Floodway is mapped outside of the area inundated by the 100-year storm event BFE. Existing elevations at the project site, identified as part of the *Topographic Data Review*, are higher than the BFE within Moores Creek. In accordance with FEMA flood mapping guidelines, the existing Floodway should be bound at the 20.5 foot NAVD88 contour along the northern boundary of the project site.

The revised Floodway resulting from mapping the Floodway based on existing conditions topography does not overlap the project site. Existing and Revised SFHA maps are provided as part of **Appendix A**. **Figure 4** shows the revised Floodway boundary in relation to the project site.

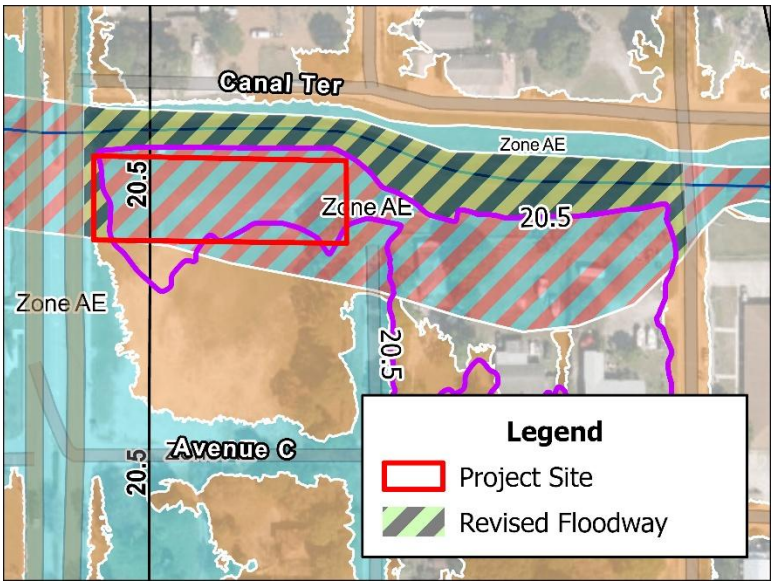


Figure 4: Revised Floodway

Conclusion

Based on topographic data at the project site, the current effective Floodway was conceptually revised by Kimley-Horn at the project site. The revised Floodway is bound to the 20.5 foot NAVD88 contour north of the project site. Proposed improvements at the project site are not proposed within the revised Floodway boundary, resulting in a no rise condition. Therefore, proposed improvements at the project site are determined by this review to result in a “no-rise” condition as a result of the development of the project.

No Rise Certification

Fort Pierce Code Sec. 109-27(c)(1) states that development proposed in a regulatory floodway must demonstrate that the proposed development will not cause any increase in BFEs. The analysis shall be signed and sealed by a Florida licensed engineer.

This document is to certify that I am an engineer licensed in the State of Florida. It is to further certify that the attached technical data supports the fact that the proposed FPUA project will not impact the 100-year flood elevations, floodway elevations, and floodway widths on Moores Creek as published section in the Flood Insurance Study for the City of Fort Pierce, dated February 16th, 2012 and will not impact the 100-year flood elevations, floodway elevations, and floodway widths at unpublished cross-sections in the vicinity of the proposed development.

Name

Matt Brosman, PE

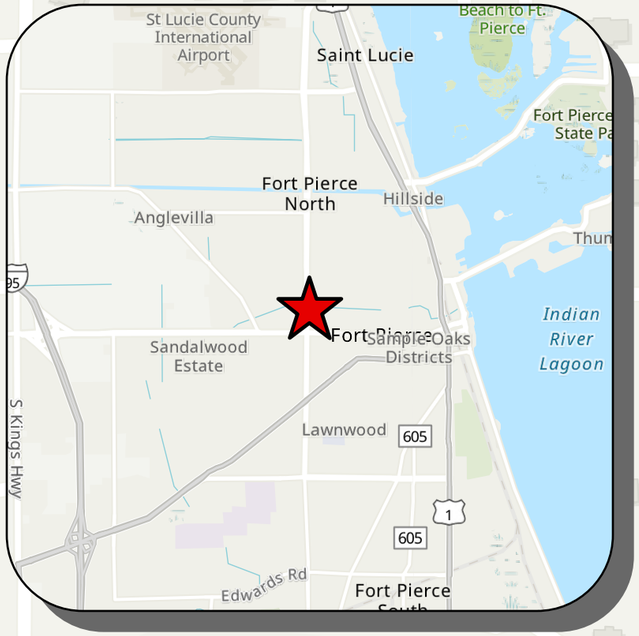
Title

Associate

This item has been digitally signed and sealed by Matt Brosman, PE on the date adjacent to the seal.

Signature must be verified on any electronic copies.

APPENDIX A – FIGURES



0 100 200 400 Feet

N

Avenue D
N 26th St
N 25th St
N 24th St
N 23rd St
N 22nd St
N 20th St
Canal Ter
Moores Creek
Avenue C
Avenue B
N 29th St
N 28th St
N 27th St
N 21st St

Legend

Project Site

Kimley»Horn
8201 Peters Road
Suite 2200
Plantation, FL 33324
(954) 535-5100 Phone

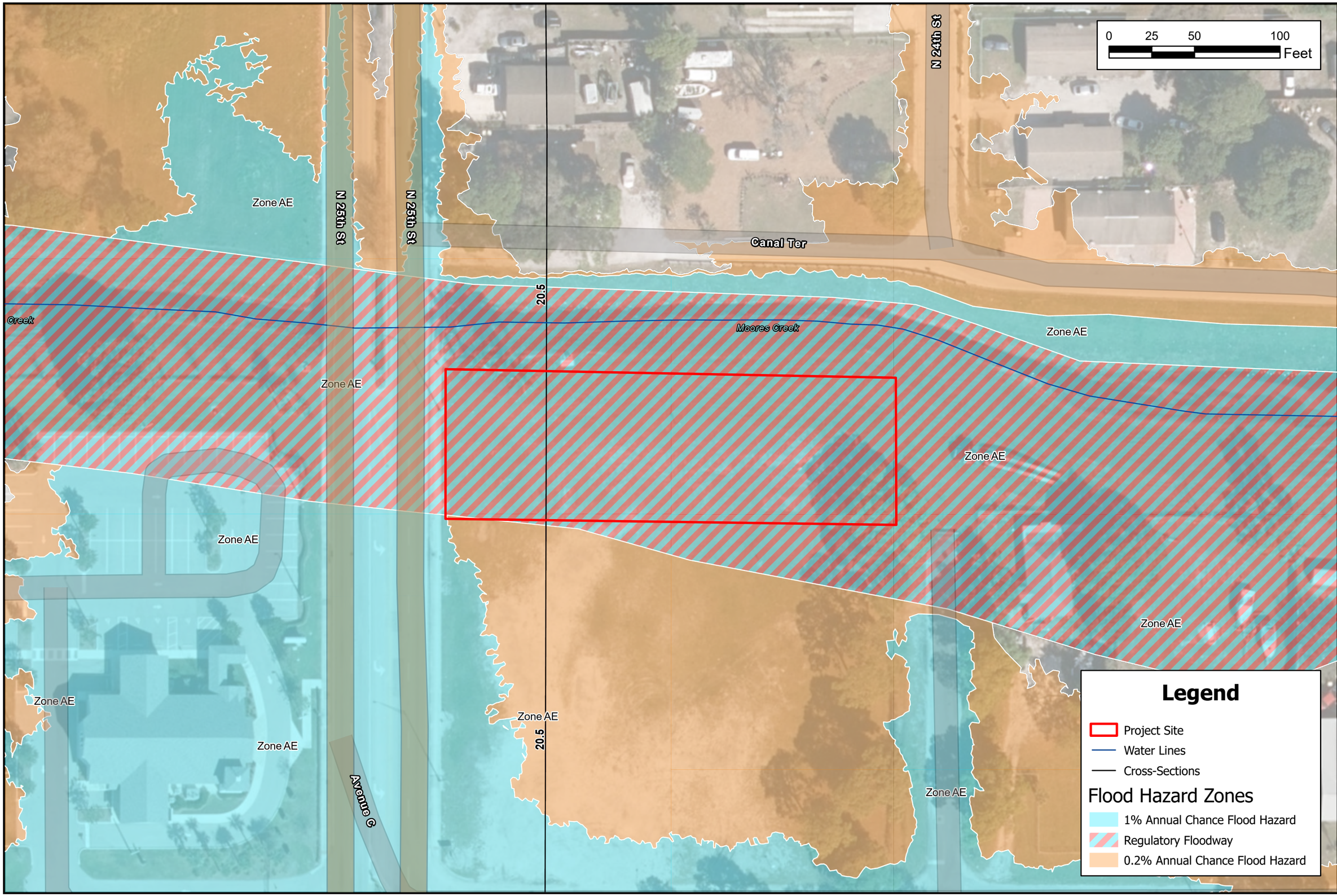
Fort Pierce, FL

FPUA MOORES CREEK

LOCATION MAP

DATE:	OCTOBER 2025
DESIGN:	AFS
DRAWN:	AFS
CHECKED:	MB
KH NO.:	147923001

SHEET 1



Kimley»Horn
8201 Peters Road
Suite 2200
Plantation, FL 33324
(954) 535-5100 Phone

N

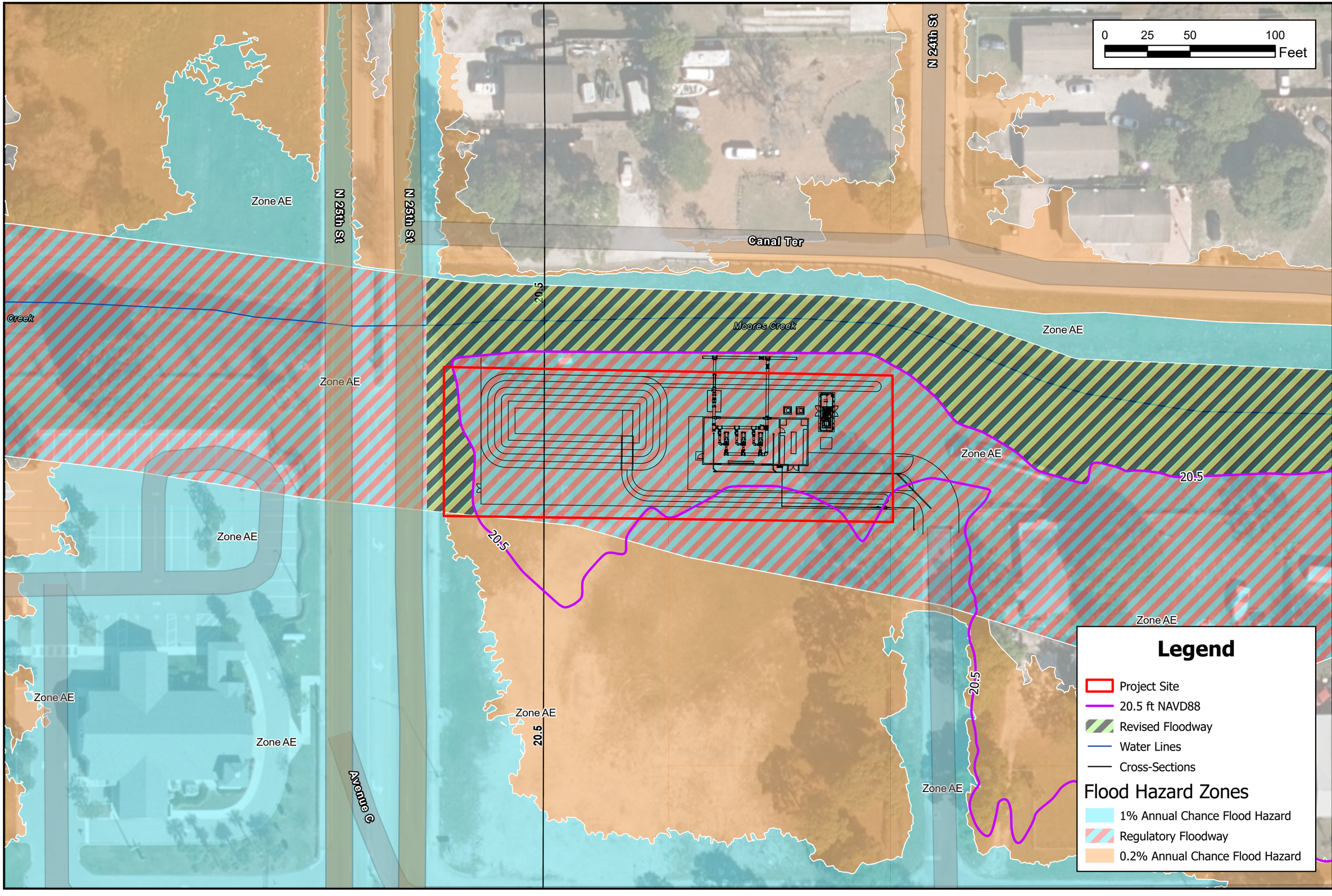
Fort Pierce, FL

FPUA MOORES CREEK

EXISTING SFHA MAP

DATE:	OCTOBER 2025
DESIGN:	AFS
DRAWN:	AFS
CHECKED:	MB
KH NO.:	147923001

SHEET
2



Kimley»Horn
8201 Peters Road
Suite 2200
Plantation, FL 33324
(954) 535-5100 Phone

N

Fort Pierce, FL

FPUA MOORES CREEK

REVISED SFHA MAP

DATE:	OCTOBER 2025
DESIGN:	AFS
DRAWN:	AFS
CHECKED:	MB
KH NO.:	147923001

SHEET
3

APPENDIX B – SURVEY DATA

PROVIDED SEPARATELY

Michelle Franklin, CFA -- Saint Lucie County Property Appraiser -- All rights reserved -- 5/15/2025, 1:49 PM

Property Identification

Site Address: N 25TH ST
Sec/Town/Range: 09/35S/40E
Parcel ID: 2409-232-0007-000-3
Jurisdiction: Fort Pierce

Use Type: 1000
Account #: 20932
Map ID: 24/09N
Zoning: General Co

Ownership

City of Ft Pierce
Ft Pierce Utilities Authority

206 S 6th ST
Fort Pierce, FL 34950-4222

Legal Description

9 35 40 BEG AT NE COR LOT 1 BLK 14 FT PIERCE HEIGHTS S/D, RUN W 280 FT M/L TO NW COR LOT 5 BLK 14 OF SD S/D, TH N ON EXT W LI OF SD LOT 5 88 FT M/L TO SLY BANK OF MOORE`S CREEK, TH E ALG SD SLY BANK TO PT ON LI EXT N OF E LI, TH RUN S 86 FT M/L TO POB-LESS W 10 FT (18)

Current Values

Just/Market Value:	$47,000
Assessed Value:	$25,850
Exemptions:	$0
Taxable Value:	$25,850

Property taxes are subject to change upon change of ownership.

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

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

Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	0.54
Land Size (SF):	23,490

Building Design Wind Speed

Occupancy Category	I	II	III
Speed	140	150	160

Sources/links:

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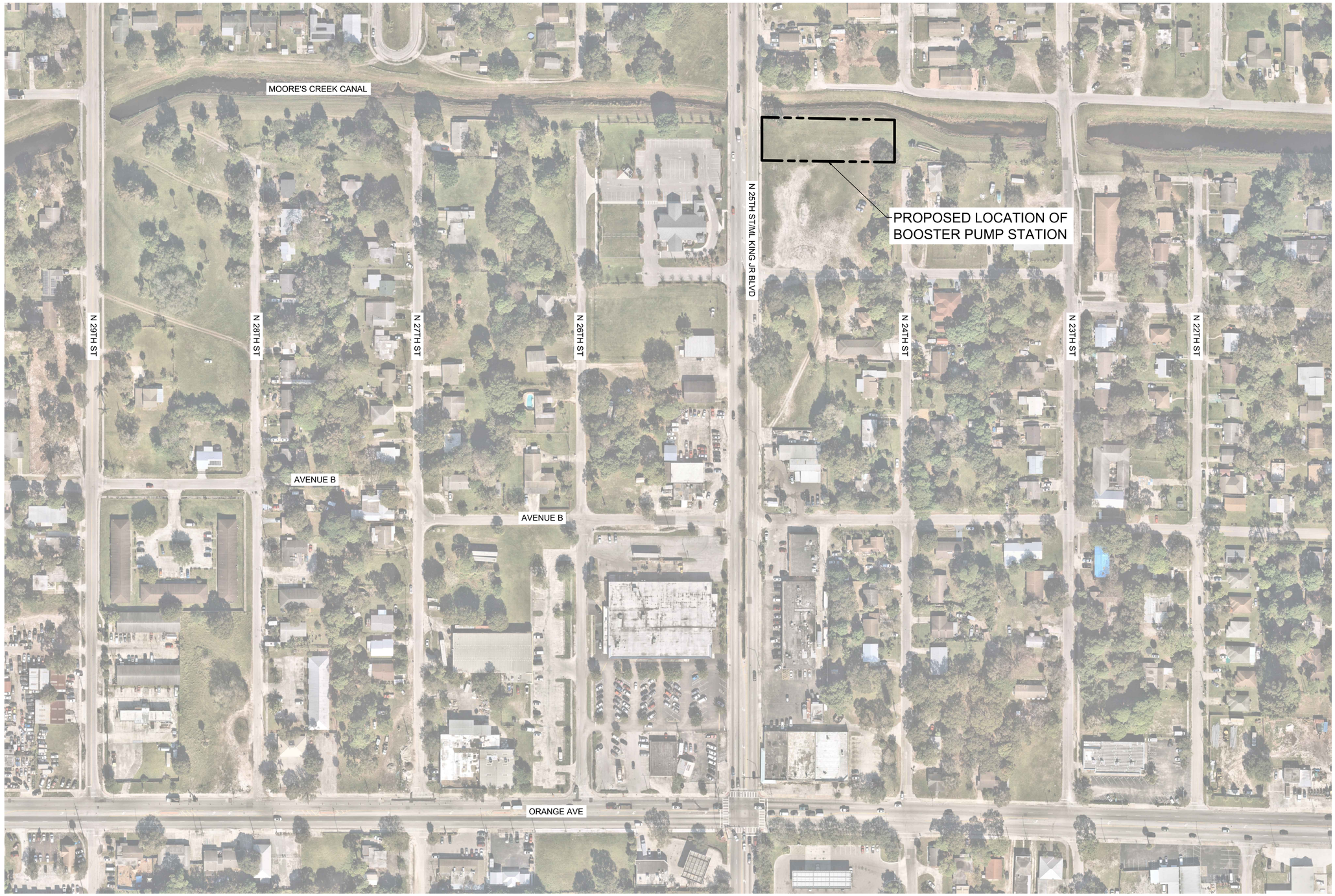

No.	REVISIONS	BY	DATE
△			

Kimley»Horn

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445 24TH STREET SUITE 200, VERO BEACH, FL 32960
PHONE: 772-794-4100
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT	147923001
DATE	APRIL 2025
SCALE	AS SHOWN
DESIGNED BY	HMR
DRAWN BY	TMC
CHECKED BY	DHE

CIP 3 - MOORE'S CREEK BOOSTER STATION

PREPARED FOR

FORT PIERCE UTILITIES AUTHORITY

LICENSED PROFESSIONAL

MATTHEW MICHAEL TEBOW

FL LICENSE NUMBER 82414

DATE:

KEY MAP

SHEET NUMBER

G-3-004

Plotted By:Powell, Harper Sheet Set:CIP 3 MOORE'S CREEK BPS Layout:G-3-004 KEY MAP May 15, 2025 04:47:39pm C:\Users\Harper.powell\Documents\site location map cip 3.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Figure 1. Site Aerial

Figure 2. Vicinity Aerial

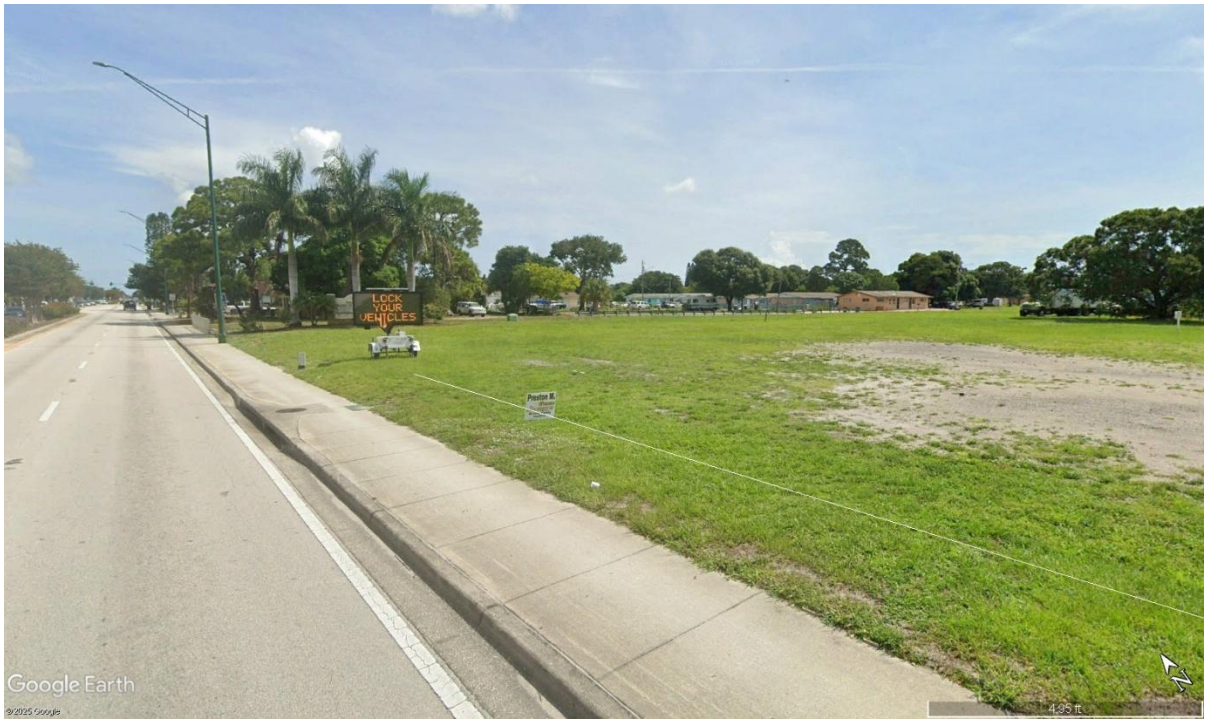


Figure 3. Existing Conditions - Street View from N 25th St

Figure 4. Existing Conditions - Street View from N 24th St

Figure 5. Existing Conditions - Street View from Canal Terrace

Figure 1. Neighborhood Aerial

Figure 2. Fresh Wind Fresh Fire Church of God - Existing Street View

Figure 3. Wonderful's Wheels Inc. - Existing Street View

Technical Review Committee - 10:00 AM **1. g.**

Meeting Date: 12/18/2025

REQUESTED ACTION

PZSITE2025-00043
Major Site Plan Amendment
John Carroll High School
407 S. 33rd Street

SUMMARY

A major site plan amendment application has been submitted by McCarty and Associates Land Planning on behalf of Bishop of Diocese Palm Beach to amend the John Carroll High School and add a new three-story, 45,159 sq. ft. building. The site is locted at 407 S. 33rd St. and has approximately 17.49 acres. The future land use is Medium Density (RM) and has a zoning of Medium Density Residential (R-4).

Please review the attached file and provide comments at least two days before the scheduled TRC meeting date by either emailing them to kdriver@cityoffortpierce.com and planning@cityoffortpierce.com or direct upload onto Tyler. Please be sure to notify me via email if comments are directly uploaded. Should you require additional information, you may contact me at 773-467-3739.

LOCATION

Address: 407 S 33rd Street
Parcel ID: 2408-313-0001-000-6
Legal Description: 8 35 40 S 1/2 OF NE 1/4 OF SW 1/4-LESS N 150 FT OF S 180 FT OF W 274.6 FT OF E 1060.2 FT AND LESS DELAWARE AV R/W AS IN MAP BK 1-113 AND LESS AS IN OR 96-526 AND LESS E 30 FT (17.49 AC) (OR 460-2621, 2623, 2624 AND 703-2220)

RESPONSIBLE STAFF

Kerry C. Driver - Senior Planner

RECOMMENDATION

N/A

Attachments

TRC Packet

Form Review

Form Started By: Kerry Driver Started On: 12/01/2025 01:20 PM
Final Approval Date: 12/02/2025

McCarty & Associates
Land Planning and Design LLC
www.McCartyLandPlanning.com
309 SE Osceola Ave, Suite 104
Stuart Fl 34994
772-341-9322

JOHN CARROLL HIGH SCHOOL REDEVELOPMENT PROJECT NARRATIVE & JUSTIFICATION STATEMENT

Design Review Site Plan, Major Site Plan Amendment – Commercial & Conditional Use
City of Fort Pierce, Florida

1. Summary

This narrative supports three concurrent applications submitted to the City of Fort Pierce for the redevelopment of a portion of the existing John Carroll High School campus: Design Review Site Plan, Major Site Plan Amendment – Commercial, and Conditional Use Permit. The project proposes a new three-story, 45,159 GSF academic and administrative building replacing outdated classrooms and portables. The redevelopment modernizes facilities, enhances safety, and improves campus functionality.

2. Project Background & Existing Conditions

Property Address: 3402 Delaware Avenue, Fort Pierce, FL

Total Site Area: 8.75 acres

Zoning: R-4 Medium Density Residential

Use: Private high school (50+ years)

3. Pre-Application Meeting Summary (August 13, 2025)

Topics included zoning confirmation, required applications, concurrency evaluation, utility coordination with FPUA, compatibility expectations, buffering requirements, and hearing procedures. Staff expressed support for redevelopment.

4. Proposed Redevelopment Program

A new three-story building totaling 45,159 GSF:

• 1st Floor – 16,089 SF: classrooms, chapel, learning commons, breakout rooms

• 2nd Floor – 18,100 SF: classrooms, mechanical, administrative support

• 3rd Floor – 10,970 SF: science labs, offices, conference rooms, resource rooms

• Terrace – 954 SF

Building footprint: 16,735 SF.

5. Site Plan & Civil Engineering Summary

Includes reconfigured parking, improved circulation, ADA walkways, new dry retention stormwater system and drainage improvements, updated potable water, wastewater, and fire protection infrastructure (FPUA).

6. Traffic & Transportation Analysis

Based on ITE 12th Ed. LUC 534 Private High School:

• Daily Trips: 1,085

• AM Peak: 200

• PM Peak: 330

Redevelopment does not increase student enrollment; traffic impacts remain consistent.

7. Concurrency Analysis Summary

Water, wastewater, solid waste, stormwater, and transportation capacities remain adequate. Stormwater system meets LOS and SFWMD criteria.

8. Zoning Compliance & Conditional Use Justification

Educational institutions are allowed via Conditional Use in R-4. The project is compatible with surrounding development, maintains operational continuity, and enhances neighborhood character.

9. Environmental, Stormwater & Flood Compliance

Stormwater system provides water quality treatment, attenuation for major storm events, and a 90% reduction in nitrogen and phosphorus. No wetlands or protected species impacts.

10. Landscaping, Open Space & Buffers

Open spaces, pedestrian pathways, shaded areas, and residential buffers are maintained and enhanced.

11. Public Benefits & Community Impact

Includes modern educational facilities, improved safety, upgraded ADA compliance, enhanced infrastructure, positive neighborhood compatibility, and long-term community value.

12. Demolition & Construction Phasing

Removes outdated buildings and portables. School remains operational with sequenced construction and maintained life-safety access.

13. Conclusion

The redevelopment complies with City of Fort Pierce requirements, meets concurrency and compatibility standards, modernizes essential educational facilities, and provides substantial public benefits. Approval of all three applications is respectfully requested.

McCarty & Associates

Land Planning and Design LLC
www.McCartyLandPlanning.com
772/341-9322

Agent Authorization

To Whom It May Concern:

This letter authorizes McCarty & Associates Land Planning and Design LLC, to act as agent and represent our interests for the purpose of obtaining permits and approvals from state and local government agencies for the project known as: **John Carroll High School, which is identified by Parcel ID#s: 2408-313-0001-000-6 & 2408-313-0002-000-3**

John Carroll High School

By: Charles E. Notabartolo

Its: **Director**

Printed Name: **Very Rev. Charles E. Notabartolo, V.G.** Date: 11/13/2025

STATE OF: FLORIDA
COUNTY OF: PALM BEACH

I HEREBY CERTIFY that for foregoing instrument was acknowledged before me this **13th** day of **November**, 2025, by **Very Rev. Charles E. Notabartolo, V.G.** of **John Carroll High School** on behalf of the company who ( ) has produced _____ as identification or (✓) is personally known to me.

{NOTARY SEAL}
DESTINY R. GIBBONS
Commission # HH 617777
Expires March 31, 2029

Notary Public
D R Gibbons
Name Printed: Destiny R. Gibbons
My commission expires: March 31, 2029

NOTES:

1. SUBJECT TO ANY APPLICABLE EASEMENTS, RIGHTS-OF-WAY, OR OTHER RESTRICTIONS OF RECORD.

2. A TITLE SEARCH OF THE PUBLIC RECORDS HAS NOT BEEN MADE BY THIS OFFICE.

3. BEARINGS SHOWN HEREON ARE BASED ON GRID NORTH AND REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENTS). THE BEARING BASE FOR THIS SURVEY IS THE WEST LINE OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 8, TOWNSHIP 35 SOUTH, RANGE 40 EAST, SAINT LUCIE COUNTY, FLORIDA. SAID LINE BEARS S 00°13'56" E AND ALL OTHER BEARINGS ARE RELATIVE THERETO.

4. THE COORDINATES SHOWN HEREON ARE REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983, 2011 ADJUSTMENT (NAD 83/2011). ALL HORIZONTAL ACCURACY IS 0.05 FOOT PLUS OR MINUS.

5. ELEVATIONS ARE IN FEET AND RELATED TO SAINT LUCIE COUNTY VERTICAL CONTROL BENCHMARK "MOBIL", HAVING A PUBLISHED ELEVATION OF 17.51 FEET NAVD88 (NORTH AMERICAN VERTICAL DATUM,). ALL OTHER ELEVATIONS ARE RELATIVE THERETO.

6. ELEVATIONS WERE ESTABLISHED BY GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) REAL TIME KINEMATICS (RTK) USING FLORIDA DEPARTMENT OF TRANSPORTATION - FLORIDA PERMANENT REFERENCE NETWORK (FDOT - FPRN) WITH REDUNDANCY OF MEASUREMENTS PERFORMED. ALL VERTICAL ACCURACY IS 0.10 FOOT PLUS OR MINUS.

7. LEGAL DESCRIPTION WRITTEN BY SURVEYOR.

8. PROPERTY LIES IN F.I.R.M. ZONE "X", AS PER MAP NUMBER 12111C0178J, DATED 02/16/2012. FLOOD ZONES ARE APPROXIMATE AS SCALED FROM FLOOD INSURANCE RATE MAPS.

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

10. UTILITIES SHOWN HEREON ARE VISIBLE ABOVE GROUND FEATURES. ADDITIONAL SUBSURFACE UTILITIES AND OR FEATURES MAY EXIST.

11. THERE ARE NO ABOVE GROUND ENCROACHMENTS UNLESS OTHERWISE SHOWN.

12. THERE MAY BE ADDITIONAL RESTRICTIONS THAT ARE NOT SHOWN ON THIS SURVEY, THAT MAY BE FOUND IN THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.

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

14. BOUNDARY DIMENSIONS SHOWN HEREON ARE CALCULATED AND FIELD MEASURED UNLESS OTHERWISE NOTED.

15. THE EXPECTED USE OF THE SURVEY AND MAP IS COMMERCIAL.

16. ALL DISTANCES AND ELEVATIONS SHOWN ARE IN ACCORDANCE WITH US SURVEY FEET.

17. ALL DIRECTIONAL MEASUREMENTS SHOWN ARE IN THE FORMAT OF DEGREES, MINUTES AND SECONDS.

18. THIS SURVEY DELINEATES THE LOCATION OF THE LEGAL DESCRIPTION ON THE GROUND BUT DOES NOT DETERMINE OWNERSHIP OF PROPERTY RIGHTS. LEGAL DESCRIPTION NOT TO BE USED FOR CONVEYANCE.

19. IN SOME INSTANCES, GRAPHIC REPRESENTATIONS AND SYMBOLS SHOWN HAVE BEEN EXAGGERATED TO MORE CLEARLY ILLUSTRATE THE RELATIONSHIP BETWEEN IMPROVEMENTS AND/OR LOT LINES. DIMENSION SHOWN SHALL CONTROL THE LOCATION OF IMPROVEMENTS OVER THE SCALED POSITIONS.

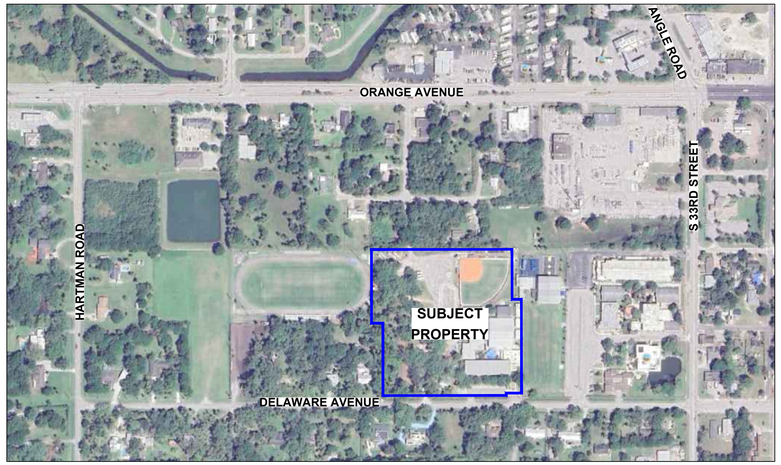
LAST DATE OF FIELD DATA ACQUISITION (BOUNDARY & TOPOGRAPHIC SURVEY): 09/26/25.
FILE NUMBER: 22-1034, DATA COLLECTOR NUMBER: DAD233400484.

CERTIFIED TO: DIOCESE OF PALM BEACH.

BOUNDARY & TOPOGRAPHIC SURVEY

PREPARED FOR

DIOCESE OF PALM BEACH



VICINITY MAP
NOT TO SCALE

INDEX OF SHEETS:

SHEET 1	COVER SHEET
SHEET 2	SOUTHWEST QUARTER SECTION BREAKDOWN & BOUNDARY
SHEET 3	EXISTING CONDITIONS

METES AND BOUNDS LEGAL DESCRIPTION BY SURVEYOR:

A PARCEL OF LAND LYING IN THE SOUTHWEST QUARTER OF SECTION 8, TOWNSHIP 35 SOUTH, RANGE 40 EAST, SAINT LUCIE COUNTY, FLORIDA, SAID PARCEL IS DESCRIBED AT FOLLOWS:

COMMENCING AT THE WEST QUARTER CORNER OF SAID SECTION 8;

THENCE SOUTH 00°13'56" EAST, ALONG THE WEST LINE OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8, A DISTANCE OF 1325.73 FEET, TO THE WEST QUARTER QUARTER CORNER OF SAID SECTION 8;

THENCE NORTH 89°48'29" EAST, ALONG THE SOUTH LINE OF NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8, A DISTANCE OF 1315.21 FEET, TO THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8;

THENCE NORTH 00°08'56" WEST, ALONG THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8, A DISTANCE OF 35.00 FEET, TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF DELAWARE AVENUE AS SHOWN ON ROAD PLAT BOOK 21, PAGE 17-17A, SAINT LUCIE COUNTY, FLORIDA, SAID POINT ALSO BEING THE **POINT OF BEGINNING**;

THENCE CONTINUE NORTH 00°08'56" WEST, ALONG SAID WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8, A DISTANCE OF 311.00 FEET;

THENCE SOUTH 89°48'29" WEST, TO A LINE LYING WEST OF AND PARALLEL WITH THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8, A DISTANCE OF 53.55 FEET;

THENCE NORTH 00°08'56" WEST, ALONG SAID PARALLEL LINE, A DISTANCE OF 316.43 FEET, TO THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8;

THENCE NORTH 89°49'41" EAST, ALONG SAID NORTH LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8, A DISTANCE OF 53.55 FEET, TO THE NORTHWEST CORNER OF SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8;

THENCE CONTINUE NORTH 89°49'41" EAST, ALONG SAID NORTH LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8, A DISTANCE OF 555.00 FEET;

THENCE SOUTH 00°08'56" EAST, A DISTANCE OF 214.22 FEET;

THENCE NORTH 89°48'29" EAST, A DISTANCE OF 40.00 FEET;

THENCE SOUTH 00°08'56" EAST, A DISTANCE OF 403.00 FEET, TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF DELAWARE AVENUE AS DESCRIBED IN OFFICIAL RECORDS BOOK 96, PAGE 526, SAINT LUCIE COUNTY PUBLIC RECORDS;

THENCE SOUTH 89°48'29" WEST, ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, SAID LINE BEING 45.00 FEET NORTH OF AND PARALLEL WITH THE SOUTH LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8, A DISTANCE OF 65.33 FEET;

THENCE SOUTH 00°03'56" EAST, A DISTANCE OF 10.00 FEET, TO A POINT ON SAID RIGHT-OF-WAY LINE OF DELAWARE AVENUE AS SHOWN ON ROAD PLAT BOOK 21, PAGE 17-17A, SAINT LUCIE COUNTY, FLORIDA;

THENCE SOUTH 89°48'29" WEST, ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, SAID LINE BEING 35.00 FEET NORTH OF AND PARALLEL WITH SAID SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8, A DISTANCE OF 529.66 FEET TO THE **POINT OF BEGINNING**.

THE ABOVE-DESCRIBED PARCEL CONTAINS 380,975 SQUARE FEET OR 8.75 ACRES, MORE OR LESS.

SURVEYOR CERTIFICATION:
I HEREBY CERTIFY THAT THE SURVEY OF THE PROPERTY SHOWN AND DESCRIBED HEREON WAS COMPLETED UNDER MY DIRECTION AND SAID SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY MEETS THE MINIMUM TECHNICAL STANDARDS FOR SURVEYORS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027 FLORIDA STATE STATUTES.

FRANCIS N. GUETTLER License Number 7473 STATE OF FLORIDA Professional Surveyor and Mapper

FRANCIS N. GUETTLER
PROFESSIONAL SURVEYOR AND MAPPER
STATE OF FLORIDA (PSM)#7473

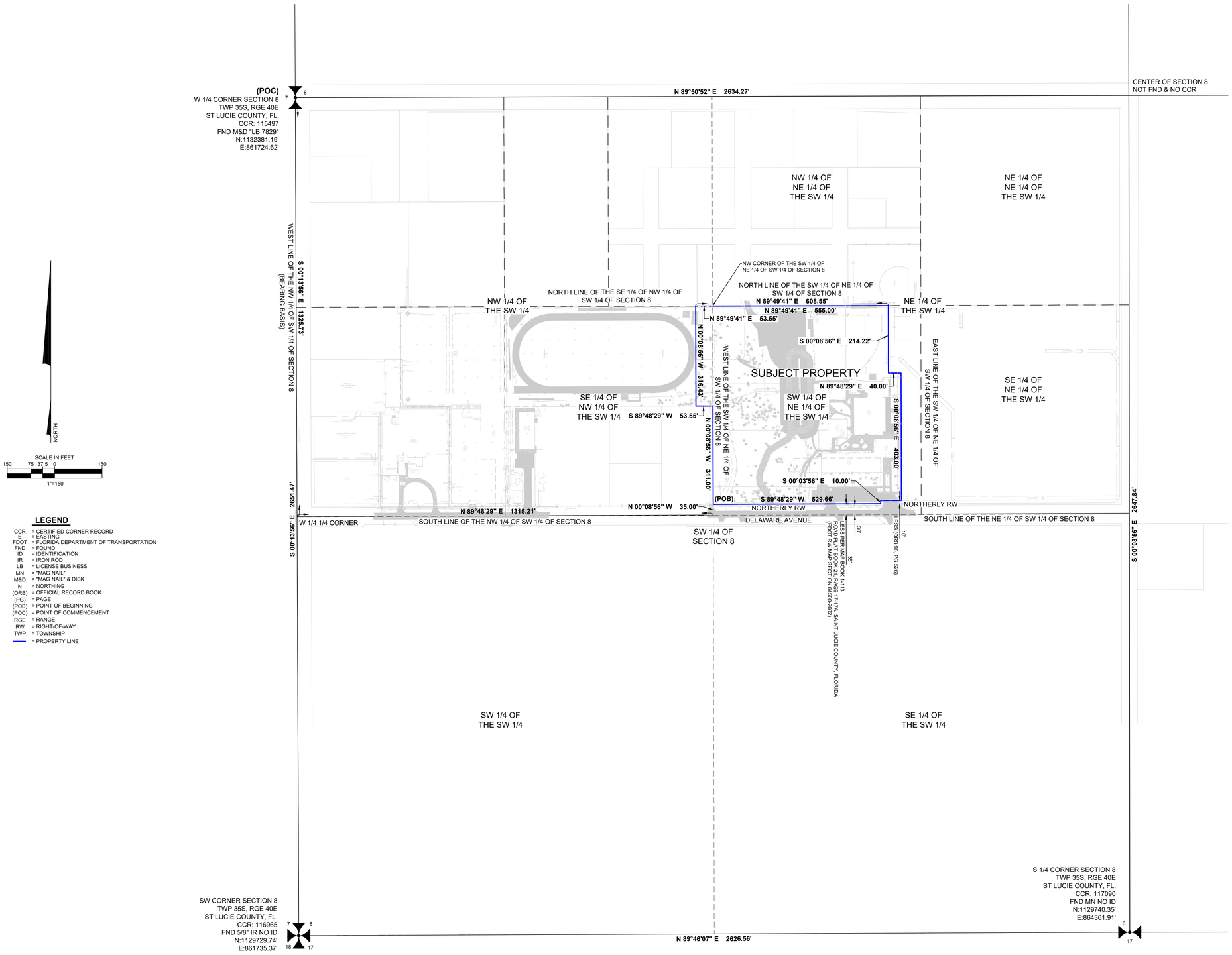
VELCON
ENGINEERING & SURVEYING, LLC.
1449 NW COMMERCE CENTRE DR
PORT ST. LUCIE, FL 34986
PHONE: (772) 879-0477
CERTIFICATE OF AUTHORIZATION
NO. LB 8206

BY	DATE	REVISIONS:

BOUNDARY AND TOPOGRAPHIC SURVEY
PREPARED FOR
DIOCESE OF PALM BEACH

DRAWN BY: GJS
APPROVED BY: F. GUETTLER
SCALE: NONE
DATE: 09-17-25
FIELD BOOK/PAGES: SURVEY MAP
JOB NUMBER: **22-1034**
SHEET: **1 OF 3**

J:\2022\22-1034 Diocese of PB - St Anastasia School\SURVEY\22-SCHOOL AREA B&T FOR ENG\22-1034 B&T SCHOOL SURVEY.dwg, 11/13/2025 4:07:44 PM, AutoCAD PDF (General Documentation).pc3



LEGEND

CCR	= CERTIFIED CORNER RECORD
E	= EASTING
FDOT	= FLORIDA DEPARTMENT OF TRANSPORTATION
FND	= FOUND
ID	= IDENTIFICATION
IR	= IRON ROD
LB	= LICENSE BUSINESS
MN	= "MAG NAIL"
M&D	= "MAG NAIL" & DISK
N	= NORTHING
(ORB)	= OFFICIAL RECORD BOOK
(PG)	= PAGE
(POB)	= POINT OF BEGINNING
(POC)	= POINT OF COMMENCEMENT
RGE	= RANGE
RW	= RIGHT-OF-WAY
TWP	= TOWNSHIP
——	= PROPERTY LINE

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NO. LB 8206

REVISIONS: | DATE | BY

BOUNDARY & TOPOGRAPHIC SURVEY
SOUTHWEST QUARTER BREAKDOWN SHEET
PREPARED FOR
DIOCESE OF PALM BEACH

DRAWN BY: GJS
APPROVED BY: F. GUETTLER
SCALE: 1" = 150'
DATE: 09-17-25
FIELD BOOK/PAGES: SURVEY MAP
JOB NUMBER: 22-1034
SHEET: 2 OF 3

I:\2022\22-1034 Diocese of PB - St Anastasia School\SURVEY\ST JOHOOL AREA B&T FOR ENG\22-1034 B&T SCHOOL SURVEY.dwg, 11/13/2025 4:07:44 PM, AutoCAD PDF (General Documentation).pc3

LEGEND

ALU	= ALUMINUM
ANC	= ANCHOR
ASP	= ASPHALT
CE	= COVERED ENTRY
CL	= CENTERLINE
CLF	= CHAIN LINK FENCE
CMP	= CORRUGATED METAL PIPE
CO	= CLEAN OUT
CONC	= CONCRETE
COR	= CORNER
CS	= CONCRETE SLAB
DC	= "D" CURB
DIP	= DUCTILE IRON PIPE
ELC	= ELECTRIC BOX
EM	= ELECTRIC METER
EP	= EDGE OF PAVEMENT
ESB	= ELECTRIC SERVICE BOX
(FDOT)	= FLORIDA DEPARTMENT OF TRANSPORTATION
FFE	= FINISHED FLOOR ELEVATION
FPL	= FLORIDA POWER & LIGHT
ICV	= IRRIGATION CONTROL VALVE
INT	= INTERSECTION
INV	= INVERT
LB	= LICENSE BUSINESS
OH	= OVERHEAD ELECTRIC
(ORB)	= OFFICIAL RECORD BOOK
(PG)	= PAGE
PID	= PROPERTY IDENTIFICATION
PVC	= POLYVINYL CHLORIDE
R&C	= IRON ROD & CAP
RCP	= REINFORCED CONCRETE PIPE
RPZ	= REDUCED PRESSURE ZONE
RW	= RIGHT-OF-WAY
TOB	= TOP OF BANK
TOE	= TOE OF SLOPE
TRANS	= TRANSFORMER
WD	= WOOD
WV	= WATER VALVE
YD	= YARD DRAIN
	= PROPERTY LINE
●	= SET 5/8" R&C "LB 8206" (UNLESS OTHERWISE NOTED)
☼	= LIGHT POLE
▭	= CONCRETE POWER POLE
◑	= WOOD POWER POLE
⊡	= MITERED END SECTION
▬	= CATCH BASIN
	= PALM TREE
	= MAGNOLIA TREE
	= OAK TREE
16.93	= SPOT ELEVATION

LESS PER MAP BOOK 1-113
ROAD PLAT BOOK 21, PAGE 17-17A, SAINT LUCIE COUNTY, FLORIDA
(FDOT RW MAP SECTION 64500-2602)

(NOT PART OF THIS SURVEY)
PID: 2408-324-0005-000-8
(ORB 0734, PG 0512)
(OCCUPIED)

PID: 2408-324-0001-000-0
(ORB 0460, PG 2622)
(OCCUPIED)

(NOT PART OF THIS SURVEY)
PID: 2408-312-0010-000-9
(ORB 3030, PG 0584)
(VACANT)

(NOT PART OF THIS SURVEY)
S 36TH STREET
(50' RW)

(NOT PART OF THIS SURVEY)
PID: 2408-312-0011-000-6
(ORB 5331, PG 1911)
(OCCUPIED)

(NOT PART OF THIS SURVEY)
S 35TH STREET
(50' RW)

(NOT PART OF THIS SURVEY)
PID: 2408-312-0015-000-4
(ORB 0460, PG 2620)
(OCCUPIED)

(NOT PART OF THIS SURVEY)
PID: 2408-313-0001-000-6
(ORB 0460, PG 2621)
(OCCUPIED)

PID: 2408-313-0002-000-3
(ORB 0460, PG 2625)
(OCCUPIED)

DELAWARE AVENUE (20' ASPHALT)

N 00°08'56" W 316.43'
S 89°48'29" W 53.55'
N 00°08'56" W 311.00'
N 89°49'41" E 608.55'
S 00°03'56" E 10.00'
S 89°48'29" W 65.33'
S 00°08'56" E 403.00'
S 00°08'56" E 214.22'
N 89°48'29" E 40.00'

NORTH

SCALE IN FEET
30 15 7.5 0 30
1"= 30'

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REVISIONS:	DATE	BY:

BOUNDARY & TOPOGRAPHIC SURVEY
BOUNDARY SURVEY
PREPARED FOR
DIOCESE OF PALM BEACH

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J:\2022\22-1034 Diocese of PB - St Anastasia School\SURVEY\02 SCHOOL AREA B&T FOR ENG\22-1034 B&T SCHOOL SURVEY.dwg, 11/13/2025 4:07:44 PM, AutoCAD PDF (General Documentation).pc3

Location Map

Legal Description

METES AND BOUNDS LEGAL DESCRIPTION BY SURVEYOR:

A PARCEL OF LAND LYING IN THE SOUTHWEST QUARTER OF SECTION 8, TOWNSHIP 35 SOUTH, RANGE 40 EAST, SAINT LUCIE COUNTY, FLORIDA, SAID PARCEL IS DESCRIBED AT FOLLOWS:

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THENCE NORTH 00°08'56" WEST, ALONG SAID PARALLEL LINE, A DISTANCE OF 316.43 FEET, TO THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8;

THENCE NORTH 89°49'41" EAST, ALONG SAID NORTH LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8, A DISTANCE OF 53.55 FEET, TO THE NORTHWEST CORNER OF SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8;

THENCE CONTINUE NORTH 89°49'41" EAST, ALONG SAID NORTH LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8, A DISTANCE OF 555.00 FEET;

THENCE SOUTH 00°08'56" EAST, A DISTANCE OF 214.22 FEET;

THENCE NORTH 89°48'29" EAST, A DISTANCE OF 40.00 FEET;

THENCE SOUTH 00°08'56" EAST, A DISTANCE OF 403.00 FEET, TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF DELAWARE AVENUE AS DESCRIBED IN OFFICIAL RECORDS BOOK 96, PAGE 526, SAINT LUCIE COUNTY PUBLIC RECORDS;

THENCE SOUTH 89°48'29" WEST, ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, SAID LINE BEING 45.00 FEET NORTH OF AND PARALLEL WITH THE SOUTH LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8, A DISTANCE OF 65.33 FEET;

THENCE SOUTH 00°03'56" EAST, A DISTANCE OF 10.00 FEET, TO A POINT ON SAID RIGHT-OF-WAY LINE OF DELAWARE AVENUE AS SHOWN ON ROAD PLAT BOOK 21, PAGE 17-17A, SAINT LUCIE COUNTY, FLORIDA;

THENCE SOUTH 89°48'29" WEST, ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, SAID LINE BEING 35.00 FEET NORTH OF AND PARALLEL WITH SAID SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 8, A DISTANCE OF 529.66 FEET TO THE **POINT OF BEGINNING**.

THE ABOVE-DESCRIBED PARCEL CONTAINS 380,975 SQUARE FEET OR 8.75 ACRES, MORE OR LESS.

Site Data

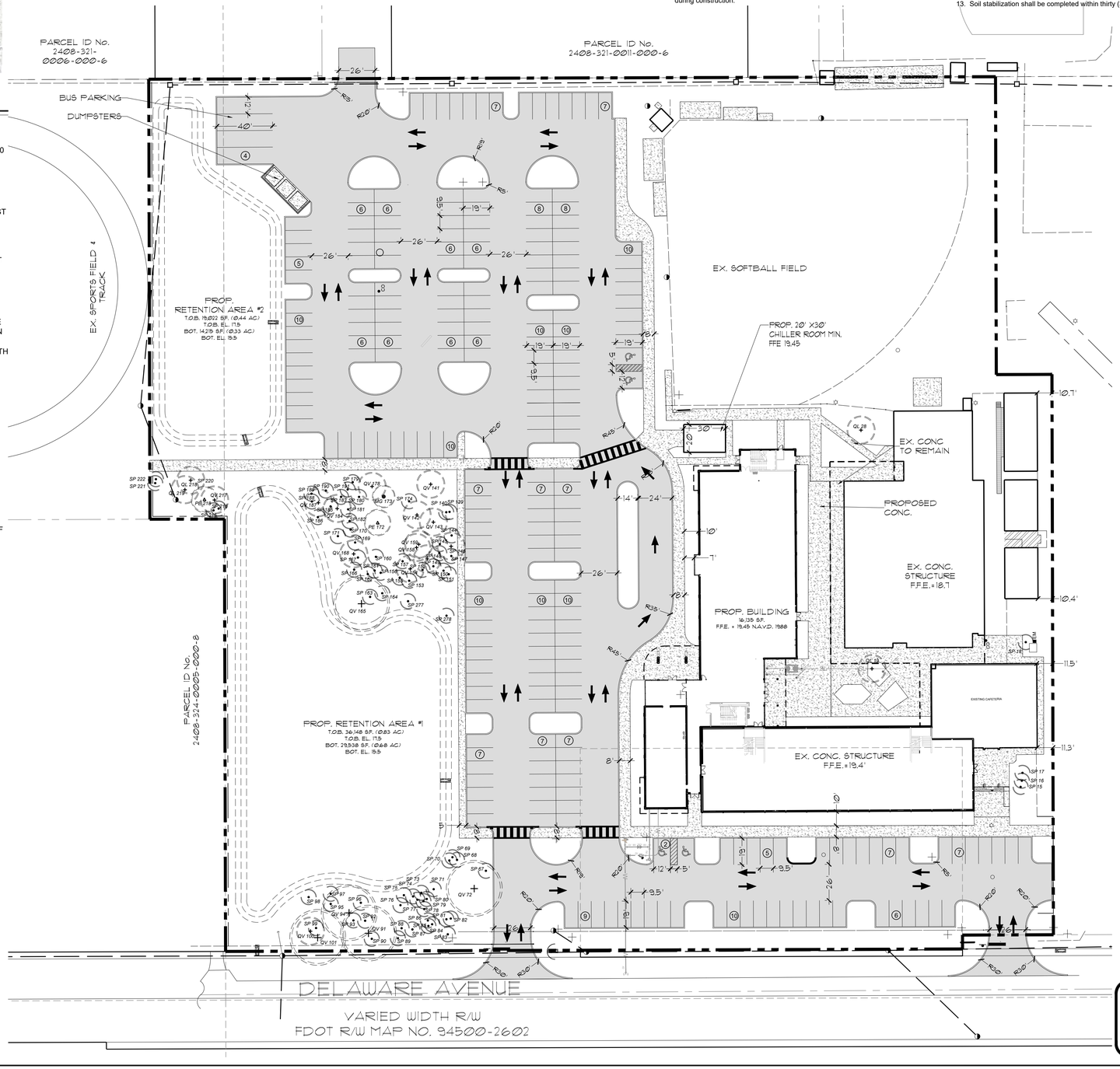
PCN			2408-324-0002-000-7
ZONING			R-4
FUTURE LAND USE			RM
	SF	**AC**	**%**
TOTAL SITE AREA	**380,975**	**8.746**	**100.0%**
IMPERVIOUS AREA	**199,289**	**4.575**	**52.31%**
EX. BUILDINGS	34,166	0.784	8.97%
EX. PAVEMENT / WALKS	14,372	0.330	3.77%
PROPOSED BUILDINGS	16,735	0.384	4.39%
PROPOSED PAVEMENT / WALKS	134,016	3.077	35.18%
PERVIOUS AREA / OPEN SPACE	**181,686**	**4.171**	**47.69%**
PROPOSED RETENTION	55,170	1.267	14.48%
OTHER PERVIOUS	126,516	2.904	33.2%
PARKING		**PROVIDED**	
AUTOMOBILE SPACES		251	
BUS SPACES		4	
ADA ACCESSIBLE SPACES		4	
	TOTAL	255	

Ex. Tree Legend

- EXISTING OAK TREE TO REMAIN
- EXISTING MAGNOLIA TREE TO REMAIN
- EXISTING PINE TREE TO REMAIN
- EXISTING PALM TO REMAIN

General Notes

1. All signs shall meet City of Fort Pierce Developement Regulations.
2. All invasive exotic vegetation to be removed prior to the issuance of a Certificate of Occupancy.
3. There is to be an irrigation system installed to ensure continued growth of all planting areas.
4. The applicant will notify the City for a field inspection by staff to determine if barricades have been properly placed prior to any land clearing.
5. Barricades must be constructed in the following manner:
   - Rope: 1/4" diameter min, nylon or poly, yellow or orange
     - Rope must be a minimum of four (4) feet off the ground.
     - Rope may not be attached to vegetation
     - Surveyor ribbon is not acceptable
   - Poles: 2x2 or 2x4, iron rebar, PVC pipe or other materials with prior approval of Environmental Planner.
     - Lathe strips are not acceptable.
   - Silt Fence: shall be installed along all perimeters of development area, maintained during construction.
6. All Barricades must be maintained intact for the duration of construction.
7. Individual trees or groups of vegetation that are to be saved for landscape credit requirements are to be barricaded according to the guidelines.
8. During constructions activities, existing native vegetation shall be retained to act as buffers between adjacent land uses, and to minimize nuisance dust and noise. Barricades shall be used on site to preserve the vegetation to be retained for this purpose.
9. Any proposed lighting will be directed away from any residential units or adjacent roadways.
10. No clearing, including the installation of erosion control devices, is authorized until the Permit for the Installation of Erosion Control Devices and Preserve Area Barricade has been issued.
11. No additional land clearing shall commence until a satisfactory inspection of the required control structures and barricades has been obtained.
12. All contruction barricades and silt fences will remain in place and be monitored for compliance by the permit holder during the permitted development activities.
13. Soil stabilization shall be completed within thirty (30) days of vegetation removal.



NORTH

Scale: 1" = 40'

0' 20' 40' 80'

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STUART • FT. PIERCE
772.341.9322
www.McCartyLandPlanning.com
Mike@McCartyLandPlanning.com

JCHS
Fort Pierce, Florida
Site Plan

REGISTERED LANDSCAPE ARCHITECT DANIEL J. MCRAE, SURVEYOR LA 6667190 STATE OF FLORIDA

Drawn By	DMS
Checked By	MM
Scale	1"=40'
Drawing Date	11/13/2025

S1

Location Map

Site Data

PCN			2408-324-0002-000-7
ZONING			R-4
FUTURE LAND USE			RM
	SF	**AC**	**%**
TOTAL SITE AREA	**380,975**	**8.746**	**100.0%**
IMPERVIOUS AREA	**199,289**	**4.575**	**52.31%**
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OTHER PERVIOUS	126,516	2.904	33.2%
PARKING		**PROVIDED**	
AUTOMOBILE SPACES		251	
BUS SPACES		4	
ADA ACCESSIBLE SPACES		4	
	TOTAL	255	

Landscape Data

NORTH PROPERTY LINE — 4,050 SF

REQ.	PROV.
14	14 PLANTED TREES

1 TREE / 300 SF OF LANDSCAPE STRIP AREA & 36" HEDGE

WEST PROPERTY LINE — 3,640 SF

REQ.	PROV.
12	12 PLANTED TREES

1 TREE / 300 SF OF LANDSCAPE STRIP AREA & 36" HEDGE

SOUTH PROPERTY LINE — 5,380 SF

REQ.	PROV.
18	18 TOTAL TREES: 13 PLANTED TREES, 2 EXISTING TREES, 9 SABAL PALMS (CREDITED 3:1)

1 TREE / 300 SF OF LANDSCAPE STRIP AREA & 36" HEDGE

VUA LANDSCAPING

	REQ.	PROV.
LANDSCAPE AREA (1 SF PER 15 SF OF TOTAL VUA AREA 113,052 SF)	7,537	7600+
TREES (1 TREE / 100 SF OF REQUIRED LANDSCAPE AREA)	75	77 PLANTED TREES

NATIVE TREE DATA

	REQ.	PROV.
NATIVE TREE PERCENTAGE OF REQUIRED TREES	50%	100%

Plant List

Key	Qty	Scientific Name	Common Name	Size	Spacing
TREES					
IAE*^	37	Ilex attenuata 'Eagleston'	Eagleston Holly	12'x 5', 2.5" CAL. min.	AS
LFT^	8	Lagerstroemia fauriei 'Tuskegee'	Tuskegee Crape Myrtle	6' OA, full	AS
MG*^	3	Magnolia grandiflora	Southern Magnolia	12'x 5', 2.5" CAL. min.	AS
MLG*^	20	Magnolia grandiflora 'Little Gem'	Little Gem Magnolia	8' OA, full	AS
QV*^	32	Quercus virginiana	Live Oak	12'x 5', 2.5" CAL. min.	AS
QVS*^	8	Quercus virginiana	Live Oak Specimen	18'x 8', 5" CAL. min.	AS
SP*^	74	Sabal palmetto	Sabal Palm	10', 14', 18' CT, stagger heights	AS
ACCENTS, SHRUBS & GROUNDCOVERS					
AE*^	33	Ardisia escalonioides	Marlberry	7g, 36"x 36"	AS
HP*^	141	Hamelia patens 'Calusa'	Native Firebush	7g, 36"x 36"	36" OC
IV*^	1021	Ilex vomitoria 'Schillings'	Dwarf Yaupon Holly	3g, 12"x 14"	24" OC
MF*^	404	Myrcianthes fragrans	Simpson Stopper	36"x 20", full	36" OC
MUH*^	163	Muhlenbergia capillaris	Pink Muhly Grass	3g, 24"x 24"	36" OC
PL*^	151	Psychotria ligustrifolia	Bahama Wild Coffee	7g, 30"x 24"	36" OC
TF*^	107	Tripsacum floridana	Dwarf Fakahatchee Grass	3g, 30"x 24"	36" OC
ZP*^	187	Zamia pumila	Coontie	7g, 20"x 26"	36" OC

*DENOTES FLORIDA NATIVE PLANT MATERIAL
*DENOTES MODERATELY DROUGHT TOLERANT SPECIES
ALL PLANT MATERIAL SHALL BE MINIMUM FLORIDA #1 GRADE PER THE FLORIDA GRADES & STANDARDS FOR NURSERY PLANTS 2022 EDITION

Misc.

SOD - Paspalum notatum - Bahia Sod - solid sod, laid tight
PINE STRAW MULCH

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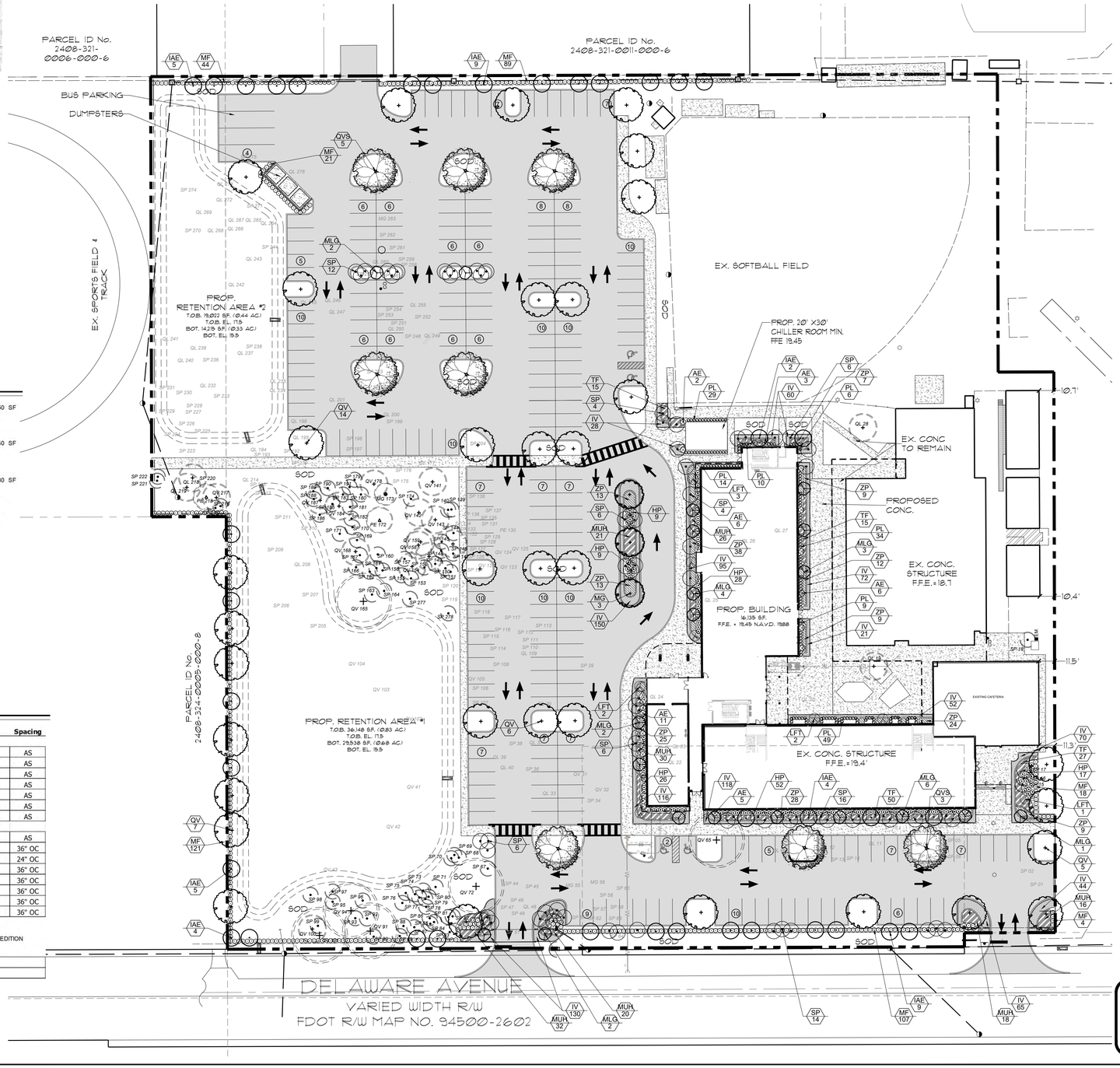
Ex. Tree Legend

- EXISTING OAK TREE TO REMAIN
- EXISTING MAGNOLIA TREE TO REMAIN
- EXISTING PINE TREE TO REMAIN
- EXISTING PALM TO REMAIN
- EXISTING TREE / PALM TO BE REMOVED



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JCHS
Fort Pierce, Florida
Landscape Plan

REGISTERED LANDSCAPE ARCHITECT DANIEL MCRAE BUCHANAN LA 6667190 STATE OF FLORIDA

Drawn By DMS
Checked By MM
Scale 1"=40'
Drawing Date 11/13/2025

L1

Plant Specifications

SPECIES AND SIZE shall conform to those indicated on the drawings. Nomenclature shall conform to STANDARDIZED PLANT NAMES, current edition. All nursery stock shall be in accordance with Grades and Standards for Nursery Plants Parts I & II, latest edition published by the Florida Department of Agriculture and Consumer Services. All plants not otherwise specified as being Florida Fancy or Specimen, shall be Florida Grade Number 1 or better as determined by the Florida Division of Plant Industry. Specimen means an exceptionally heavy, symmetrical, tightly knit plant, so trained or favored in its development that first appearance is unquestionable and outstandingly superior in form, number of branches, compactness and symmetry.

GENERAL REQUIREMENTS

All plants shall be freshly dug, sound, healthy, vigorous, well branched, and free of disease and insect eggs and larvae, and shall have adequate root systems. Trees for planting rows shall be uniform in size and shape. All materials shall be subject to approval by the Landscape Architect. Where any requirements are omitted from the plant list, the plants furnished shall be normal for the variety. Plants shall be pruned prior to delivery only upon the approval of the Landscape Architect.

CONTAINER GROWN STOCK

All container grown material shall be healthy, vigorous, well rooted plants, and established in the container in which they are sold. The plants shall have tops which are good quality and in a healthy growing condition. An established container grown plant shall be grown in that container sufficiently long enough for the new fibrous roots to have developed so that the root mass will retain its shape and hold together when removed from the container. Plant root bound in containers are unacceptable.

MEASUREMENTS

Trees: Height shall be measured from ground to the average height of canopy. Spread shall be measured to the end of branching equally around the crown from the center of the trunk. Measurements are not to include any terminal growth. Single trunk trees shall be free of "V" crotches that could be points of weak limb structure or disease infestation.

Shrubs: Heights shall be measured from the ground to the average points where mature plant growth stops. Spread shall be measured to the end of branching equally around the shrub mass. Measurements are not to include any terminal growth.

Palms: Clear Trunk (C.T.), shall be measured from the ground at the time of installation to the point where the mature aged trunk joins the immature or green portion of the trunk or the head.

Overall height (O.H.), shall be measured from the ground at the time of installation to a point three quarters the length of the unopened bud. Palms with marred or burned trunks will not be accepted.

SOIL

Planting soil for use in preparing backfill for plant pits shall be added at a rate of seventy-five (75%) percent to twenty-five (25%) percent existing soil. This soil mix shall be used in all plant pits except Sabal palms which shall be backfilled with clean sand. Planting soil shall be a fertile, friable natural topsoil or loamy character. It shall contain forty (40) to fifty (50) percent decomposed organic matter and shall be free from heavy clay, stones, lime, plants, roots or other foreign materials or noxious grasses (such as Bermuda or nut grass) and noxious weeds. It shall not contain toxic substances which may be harmful to plant growth.

COMMERCIAL FERTILIZER

Two fertilizer shall be used in all types of plantings, except palms. Granular fertilizer shall be uniform in composition, dry and free flowing. This fertilizer shall be delivered to the site in the original unopened bags, each bearing the Manufacturer's statement of analysis, and shall meet the following requirements: sixteen (16%) percent nitrogen, seven (7%) percent phosphorus, twelve (12%) percent potassium, plus iron. Tablet fertilizer ("Agriform" or equal) in 21 gram size shall meet the following requirements: twenty (20%) percent nitrogen, ten (10%) percent phosphorous, five (5%) percent potassium.

The two fertilizers will be applied at the following rates:

PLANT SIZE	16-7-12	"AGRIFORM" TABLET (21 Grams)
1 gal.	1/4 lb.	1
3 gal.	1/3 lb.	2
7-15 gal.	1/2 lb.	4
1"-6" caliper	2 lbs./1" caliper	2/1" caliper
6" and larger	3 lbs./1" caliper	2/1" caliper

"Florida East Coast Palm Special" will be applied to all palms at installation at a rate of 1/2 lb. per inch of trunk caliper unless otherwise specified.

MULCH

Mulch material shall be three (3) inches of shredded melaleuca mulch (sterilized and free of seeds) or approved equal, moistened at the time of application to prevent wind displacement.

SUBSTITUTIONS

No substitutions of plant material types or size will be allowed without written consent of the Landscape Architect. B&B material will not be accepted as substitute for container grown material unless previously approved. Alternate substitutions shall be indicated in bid.

Notes

- Prior to the installation of any plant material all existing and imported soils shall be tested and amended to meet the soil specifications and specific plant needs as shown on this plan.

- All plant material, unless specified as being Florida Fancy or Specimen, shall be Florida Grade Number 1 or better as determined by the Florida Division of Plant Industry.

- All plant materials and sod shall have an automatic irrigation system providing 100% coverage.

- Maintain positive drainage away from structures.

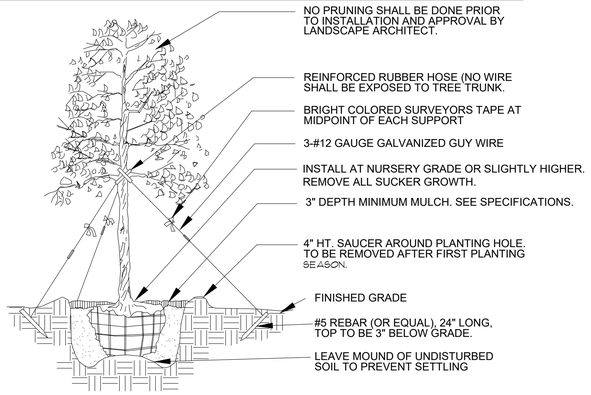
- All plant material shall be planted, fertilized and mulched as per the Plant Details and Plant Specifications noted on this plan.

- Landscape Contractor shall research plans and contact appropriate agencies to determine location of utilities and obstructions prior to commencing work. Any utilities or unanticipated obstructions shall be reported immediately to the Landscape Architect.

- Landscape Contractor will be responsible for obtaining all necessary permits, licenses, inspections, and insurance as required by the State and local agencies.

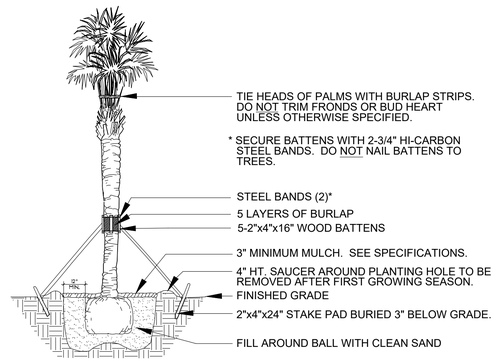
- Invasive species, including Brazilian Pepper, Australian Pine, Melaleuca, Snake Plant, Scaevola and Earleaf Acacia shall be eradicated in the development area and removed from the site.

Planting Details



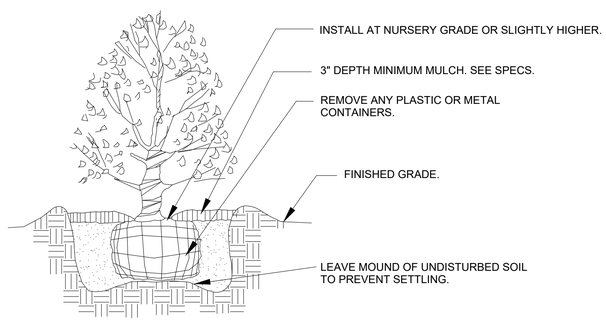
Tree Planting

* SEE SPECIFICATIONS FOR BACKFILL MIXTURE AND FERTILIZATION
* BRACING - SPECIAL SITE CONDITIONS MAY REQUIRE MODIFICATION TO BRACING TECHINQUE. LANDSCAPE CONTRACTOR WILL ADEQUATELY BRACE (OR WIRE) ALL TREES TO PREVENT EXCESSIVE MOVEMENT & MAINTAIN A VERTICAL POSITION.



Palm Planting

APPLIES TO: SABAL PALMS, WASHINGTON PALMS, CANARY ISLAND DATE PALMS, SENEGAL DATE PALMS
* SEE SPECIFICATIONS FOR BACKFILL MIXTURE AND FERTILIZATION



Shrub Planting

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Plant List

Key	Qty	Scientific Name	Common Name	Size	Spacing
TREES					
IAE*^	37	Ilex attenuata 'Eagleston'	Eagleston Holly	12'x 5', 2.5" CAL. min.	AS
LFT^	8	Lagerstroemia faurei 'Tuskegee'	Tuskegee Crape Myrtle	6' OA, full	AS
MG*^	3	Magnolia grandiflora	Southern Magnolia	12'x 5', 2.5" CAL. min.	AS
MLG*^	20	Magnolia grandiflora 'Little Gem'	Little Gem Magnolia	8' OA, full	AS
QV*^	32	Quercus virginiana	Live Oak	12'x 5', 2.5" CAL. min.	AS
QVS*^	8	Quercus virginiana	Live Oak Specimen	18'x 8', 5" CAL. min.	AS
SP*^	74	Sabal palmetto	Sabal Palm	10', 14', 18' CT, stagger heights	AS
ACCENTS, SHRUBS & GROUNDCOVERS					
AE*^	33	Ardisia escalonioides	Marlberry	7g, 36"x 36"	AS
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MUH*^	163	Muhlenbergia capillaris	Pink Muhly Grass	3g, 24"x 24"	36" OC
PL*^	151	Psychotria ligustrifolia	Bahama Wild Coffee	7g, 30"x 24"	36" OC
TF*^	107	Tripsacum floridana	Dwarf Fakahatchee Grass	3g, 30"x 24"	36" OC
ZP*^	187	Zamia pumila	Coontie	7g, 20"x 26"	36" OC

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PINE STRAW MULCH

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L2

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Ex. Tree Chart

NO.	SYM.	SPECIES	SPECIFICATION	STATUS	MITIGATION REQ. (INCHES) & (PALMS)	TREE CREDIT	PALM CREDIT
1	SP	Sabal palmetto	10'+ CT	REMOVE		1	
2	SP	Sabal palmetto	10'+ CT	REMOVE		1	
3	QL	Quercus laurifolia	25" DBH	REMOVE	25		
4	QL	Quercus laurifolia	16" DBH	REMOVE	16		
5	SP	Sabal palmetto	10'+ CT	REMOVE		1	
6	SP	Sabal palmetto	10'+ CT	REMOVE		1	
7	SP	Sabal palmetto	10'+ CT	REMOVE		1	
8	SP	Sabal palmetto	10'+ CT	REMOVE		1	
9	QL	Quercus laurifolia	19" DBH	REMOVE	19		
10	SP	Sabal palmetto	10'+ CT	REMOVE		1	
11	QL	Quercus laurifolia	19" DBH	REMOVE	19		
12	QL	Quercus laurifolia	13" DBH	REMOVE			
13	SP	Sabal palmetto	10'+ CT	REMOVE		1	
14	SP	Sabal palmetto	10'+ CT	RELOCATE			1
15	SP	Sabal palmetto	10'+ CT	REMAIN			1
16	SP	Sabal palmetto	10'+ CT	REMAIN			1
17	SP	Sabal palmetto	10'+ CT	REMAIN			1
18	SP	Sabal palmetto	10'+ CT	REMAIN			1
19	QL	Quercus laurifolia	10" DBH	REMAIN		10	
20	QL	Quercus laurifolia	11" DBH	REMOVE			
21	SP	Sabal palmetto	10'+ CT	REMOVE		1	
22	*QL	Quercus laurifolia	7" DBH	REMOVE			
23	*QL	Quercus laurifolia	42" DBH	REMOVE			
24	*QL	Quercus laurifolia	13" DBH	REMOVE			
25	QL	Quercus laurifolia	19" DBH	REMOVE	19		
26	*QL	Quercus laurifolia	12" DBH	REMOVE			
27	*QL	Quercus laurifolia	27" DBH	REMOVE			
28	*QL	Quercus laurifolia	17" DBH	REMAIN		17	
29	SP	Sabal palmetto	10'+ CT	REMOVE		1	
30	*QL	Quercus laurifolia	27" DBH	REMOVE			
31	*QV	Quercus virginiana	36" DBH	REMOVE			
32	*QV	Quercus virginiana	74" DBH	REMOVE			
33	*QL	Quercus laurifolia	17" DBH	REMOVE			
34	SP	Sabal palmetto	10'+ CT	REMOVE		1	
35	QV	Quercus virginiana	44" DBH	REMOVE	44		
36	SP	Sabal palmetto	10'+ CT	REMOVE		1	
37	*QL	Quercus laurifolia	34" DBH	REMOVE	34		
38	SP	Sabal palmetto	10'+ CT	REMOVE		1	
39	*QL	Quercus laurifolia	30" DBH	REMOVE			
40	*QL	Quercus laurifolia	24" DBH	REMOVE			
41	*QV	Quercus virginiana	26" DBH	REMOVE			
42	*QV	Quercus virginiana	32" DBH	REMOVE			
43	*QV	Quercus virginiana	20" DBH	REMOVE			
44	SP	Sabal palmetto	10'+ CT	REMOVE		1	
45	SP	Sabal palmetto	10'+ CT	REMOVE		1	
46	SP	Sabal palmetto	10'+ CT	REMOVE		1	
47	SP	Sabal palmetto	10'+ CT	REMOVE		1	
48	QL	Quercus laurifolia	7" DBH	REMOVE			
49	SP	Sabal palmetto	10'+ CT	REMOVE		1	
50	SP	Sabal palmetto	10'+ CT	REMOVE		1	
51	SP	Sabal palmetto	10'+ CT	REMOVE		1	
52	QL	Quercus laurifolia	11" DBH	REMOVE			
53	SP	Sabal palmetto	10'+ CT	REMOVE		1	
54	SP	Sabal palmetto	10'+ CT	REMOVE		1	
55	*MG	Magnolia grandiflolia	6" DBH	REMOVE			
56	*MG	Magnolia grandiflolia	6" DBH	REMOVE			
57	SP	Sabal palmetto	10'+ CT	REMOVE		1	
58	SP	Sabal palmetto	10'+ CT	REMOVE		1	
59	SP	Sabal palmetto	10'+ CT	REMOVE		1	
60	SP	Sabal palmetto	10'+ CT	REMOVE		1	
61	SP	Sabal palmetto	10'+ CT	REMOVE		1	
62	SP	Sabal palmetto	10'+ CT	REMOVE		1	
63	SP	Sabal palmetto	10'+ CT	REMOVE		1	
64	SP	Sabal palmetto	10'+ CT	REMOVE		1	
65	QV	Quercus virginiana	31" DBH	REMAIN			31
66	QL	Quercus laurifolia	16" DBH	REMOVE	16		
67	SP	Sabal palmetto	10'+ CT	REMAIN			1
68	SP	Sabal palmetto	10'+ CT	REMAIN			1
69	SP	Sabal palmetto	10'+ CT	REMAIN			1
70	SP	Sabal palmetto	10'+ CT	REMAIN			1
71	SP	Sabal palmetto	10'+ CT	REMAIN			1
72	QV	Quercus virginiana	30" DBH	REMAIN			30
73	SP	Sabal palmetto	10'+ CT	REMAIN			1
74	SP	Sabal palmetto	10'+ CT	REMAIN			1
75	SP	Sabal palmetto	10'+ CT	REMAIN			1
76	SP	Sabal palmetto	10'+ CT	REMAIN			1
77	SP	Sabal palmetto	10'+ CT	REMAIN			1
78	SP	Sabal palmetto	10'+ CT	REMAIN			1
79	SP	Sabal palmetto	10'+ CT	REMAIN			1
80	SP	Sabal palmetto	10'+ CT	REMAIN			1
81	SP	Sabal palmetto	10'+ CT	REMAIN			1
82	SP	Sabal palmetto	10'+ CT	REMAIN			1
83	SP	Sabal palmetto	10'+ CT	REMAIN			1
84	SP	Sabal palmetto	10'+ CT	REMAIN			1
85	SP	Sabal palmetto	10'+ CT	REMAIN			1
86	SP	Sabal palmetto	10'+ CT	REMAIN			1
87	SP	Sabal palmetto	10'+ CT	REMAIN			1
88	SP	Sabal palmetto	10'+ CT	REMAIN			1
89	SP	Sabal palmetto	10'+ CT	REMAIN			1
90	SP	Sabal palmetto	10'+ CT	REMAIN			1
91	QV	Quercus virginiana	12" DBH	REMAIN			12
92	SP	Sabal palmetto	10'+ CT	REMAIN			1
93	SP	Sabal palmetto	10'+ CT	REMAIN			1
94	QV	Quercus virginiana	29" DBH	REMAIN			29
95	SP	Sabal palmetto	10'+ CT	REMAIN			1
96	SP	Sabal palmetto	10'+ CT	REMAIN			1
97	SP	Sabal palmetto	10'+ CT	REMAIN			1
98	SP	Sabal palmetto	10'+ CT	REMAIN			1
99	SP	Sabal palmetto	10'+ CT	REMAIN			1
100	QV	Quercus virginiana	5" DBH	REMAIN			5
101	QV	Quercus virginiana	28" DBH	REMAIN			28
102	*QV	Quercus virginiana	47" DBH	REMOVE			
103	*QV	Quercus virginiana	34" DBH	REMOVE			
104	*QV	Quercus virginiana	30" DBH	REMOVE			
105	*QV	Quercus virginiana	29" DBH	REMOVE			
106	SP	Sabal palmetto	10'+ CT	REMOVE		1	
107	SP	Sabal palmetto	10'+ CT	REMOVE		1	
108	SP	Sabal palmetto	10'+ CT	REMOVE		1	
109	*QL	Quercus laurifolia	13" DBH	REMOVE			
110	SP	Sabal palmetto	10'+ CT	REMOVE		1	
111	SP	Sabal palmetto	10'+ CT	REMOVE		1	
112	SP	Sabal palmetto	10'+ CT	REMOVE		1	
113	SP	Sabal palmetto	10'+ CT	REMOVE		1	
114	SP	Sabal palmetto	10'+ CT	REMOVE		1	
115	SP	Sabal palmetto	10'+ CT	REMOVE		1	
116	SP	Sabal palmetto	10'+ CT	REMOVE		1	
117	SP	Sabal palmetto	10'+ CT	REMOVE		1	
118	SP	Sabal palmetto	10'+ CT	REMOVE		1	
119	SP	Sabal palmetto	10'+ CT	REMOVE		1	
120	SP	Sabal palmetto	10'+ CT	REMOVE		1	
121	SP	Sabal palmetto	10'+ CT	REMOVE		1	
122	*QV	Quercus virginiana	14" DBH	REMOVE			
123	*QV	Quercus virginiana	41" DBH	REMOVE			
124	*QV	Quercus virginiana	24" DBH	REMOVE			
125	*QV	Quercus virginiana	13" DBH	REMOVE			
126	SP	Sabal palmetto	10'+ CT	REMOVE		1	
127	SP	Sabal palmetto	10'+ CT	REMOVE		1	
128	SP	Sabal palmetto	10'+ CT	REMOVE		1	
129	SP	Sabal palmetto	10'+ CT	REMOVE		1	
130	PE	Pinus elliottii	21" DBH	REMOVE	21		
131	SP	Sabal palmetto	10'+ CT	REMOVE		1	
132	SP	Sabal palmetto	10'+ CT	REMOVE		1	
133	SP	Sabal palmetto	10'+ CT	REMOVE		1	
134	SP	Sabal palmetto	10'+ CT	REMOVE		1	
135	SP	Sabal palmetto	10'+ CT	REMOVE		1	
136	SP	Sabal palmetto	10'+ CT	REMOVE		1	
137	SP	Sabal palmetto	10'+ CT	REMOVE		1	
138	SP	Sabal palmetto	10'+ CT	REMOVE		1	
139	SP	Sabal palmetto	10'+ CT	REMAIN			1
140	SP	Sabal palmetto	10'+ CT	REMAIN			1
141	QV	Quercus virginiana	14" DBH	REMAIN		14	
142	QV	Quercus virginiana	4.5" DBH	REMAIN		4.5	
143	QV	Quercus virginiana	7" DBH	REMAIN		7	
144	SP	Sabal palmetto	10'+ CT	REMAIN			1
145	SP	Sabal palmetto	10'+ CT	REMAIN			1
146	SP	Sabal palmetto	10'+ CT	REMAIN			1
147	SP	Sabal palmetto	10'+ CT	REMAIN			1
148	SP	Sabal palmetto	10'+ CT	REMAIN			1
149	SP	Sabal palmetto	10'+ CT	REMAIN			1
150	SP	Sabal palmetto	10'+ CT	REMAIN			1
151	SP	Sabal palmetto	10'+ CT	REMAIN			1
152	SP	Sabal palmetto	10'+ CT	REMAIN			1
153	SP	Sabal palmetto	10'+ CT	REMAIN			1
154	QV	Quercus virginiana	5" DBH	REMAIN		5	
155	SP	Sabal palmetto	10'+ CT	REMAIN			1
156	SP	Sabal palmetto	10'+ CT	REMAIN			1
157	SP	Sabal palmetto	10'+ CT	REMAIN			1
158	QV	Quercus virginiana	6" DBH	REMAIN		6	
159	QV	Quercus virginiana	5" DBH	REMAIN		5	
160	SP	Sabal palmetto	10'+ CT	REMAIN			1
161	SP	Sabal palmetto	10'+ CT	REMAIN			1
162	SP	Sabal palmetto	10'+ CT	REMAIN			1
163	SP	Sabal palmetto	10'+ CT	REMAIN			1
164	SP	Sabal palmetto	10'+ CT	REMAIN			1
165	QV	Quercus virginiana	33" DBH	REMAIN		33	
166	SP	Sabal palmetto	10'+ CT	REMAIN			1
167	SP	Sabal palmetto	10'+ CT	REMAIN			1
168	QV	Quercus virginiana	9" DBH	REMAIN		9	
169	SP	Sabal palmetto	10'+ CT	REMAIN			1
170	SP	Sabal palmetto	10'+ CT	REMAIN			1
171	SP	Sabal palmetto	10'+ CT	REMAIN			1
172	PE	Pinus elliottii	4.5" DBH	REMAIN		4.5	
173	MG	Magnolia grandiflolia	13.5 DBH	REMAIN		13.5	
174	SP	Sabal palmetto	10'+ CT	REMAIN			1
175	SP	Sabal palmetto	10'+ CT	REMOVE	1		
176	SP	Sabal palmetto	10'+ CT	REMOVE	1		
177	*QV	Quercus virginiana	20.5" DBH	REMOVE			
178	QV	Quercus virginiana	7.5" DBH	REMAIN		7.5	
179	SP	Sabal palmetto	10'+ CT	REMAIN			1
180	SP	Sabal palmetto	10'+ CT	REMAIN			1
181	SP	Sabal palmetto	10'+ CT	REMAIN			1
182	SP	Sabal palmetto	10'+ CT	REMAIN			1
183	SP	Sabal palmetto	10'+ CT	REMAIN			1
184	QV	Quercus virginiana	5.5" DBH	REMAIN		5.5	
185	SP	Sabal palmetto	10'+ CT	REMAIN			1
186	SP	Sabal palmetto	10'+ CT	REMAIN			1
187	QV	Quercus virginiana	13.5" DBH	REMAIN		13.5	
188	SP	Sabal palmetto	10'+ CT	REMAIN			1
189	SP	Sabal palmetto	10'+ CT	REMAIN			1
190	SP	Sabal palmetto	10'+ CT	REMAIN			1
191	SP	Sabal palmetto	10'+ CT	REMAIN			1
192	SP	Sabal palmetto	10'+ CT	REMOVE	1		
193	SP	Sabal palmetto	10'+ CT	REMOVE	1		
194	*QL	Quercus laurifolia	11.5" DBH	REMOVE			
195	*QL	Quercus laurifolia	17.5" DBH	REMOVE			
196	SP	Sabal palmetto	10'+ CT	REMOVE	1		
197	SP	Sabal palmetto	10'+ CT	REMOVE	1		
198	*QL	Quercus laurifolia	25.5" DBH	REMOVE			
199	SP	Sabal palmetto	10'+ CT	REMOVE	1		
200	*QL	Quercus laurifolia	21" DBH	REMOVE			
201	*QL	Quercus laurifolia	21" DBH	REMOVE			
202	SP	Sabal palmetto	10'+ CT	REMOVE	1		
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206	SP	Sabal palmetto	10'+ CT	REMOVE	1		
207	SP	Sabal palmetto	10'+ CT	REMOVE	1		
208	*QL	Quercus laurifolia	6.5" DBH	REMOVE			
209	SP	Sabal palmetto	10'+ CT	REMOVE	1		
210	SP	Sabal palmetto	10'+ CT	REMOVE	1		
211	SP	Sabal palmetto	10'+ CT	REMOVE	1		
212	SP	Sabal palmetto	10'+ CT	REMOVE	1		
213	SP	Sabal palmetto	10'+ CT	REMOVE	1		
214	*QL	Quercus laurifolia	13.5" DBH	REMOVE			
215	SP	Sabal palmetto	10'+ CT	REMAIN			1
216	SP	Sabal palmetto	10'+ CT	REMAIN			1
217	QV	Quercus virginiana	8" DBH	REMAIN		8	
218	QL	Quercus laurifolia	6.5" DBH	REMAIN		6.5	
219	QL	Quercus laurifolia	9.5" DBH	REMAIN		9.5	
220	SP	Sabal palmetto	10'+ CT	REMAIN			1
221	SP	Sabal palmetto	10'+ CT	REMAIN			1
222	SP	Sabal palmetto	10'+ CT	REMAIN			1
223	SP	Sabal palmetto	10'+ CT	REMOVE	1		
224	SP	Sabal palmetto	10'+ CT	REMOVE	1		
225	SP	Sabal palmetto	10'+ CT	REMOVE	1		
226	SP	Sabal palmetto	10'+ CT	REMOVE	1		
227	SP	Sabal palmetto	10'+ CT	REMOVE	1		
228	SP	Sabal palmetto	10'+ CT	REMOVE	1		
229	SP	Sabal palmetto	10'+ CT	REMOVE	1		
230	SP	Sabal palmetto	10'+ CT	REMOVE	1		
231	SP	Sabal palmetto	10'+ CT	REMOVE	1		
232	*QL	Quercus laurifolia	35" DBH	REMOVE			
233	SP	Sabal palmetto	10'+ CT	REMOVE	1		
234	*QL	Quercus laurifolia	21" DBH	REMOVE			
235	*QL	Quercus laurifolia	21" DBH	REMOVE			
236	SP	Sabal palmetto	10'+ CT	REMOVE	1		
237	*QL	Quercus laurifolia	26" DBH	REMOVE			
238	SP	Sabal palmetto	10'+ CT	REMOVE	1		
239	*QL	Quercus laurifolia	9" DBH	REMOVE			
240	*QL	Quercus laurifolia	6" DBH	REMOVE			
241	*QL	Quercus laurifolia	11.5" DBH	REMOVE			
242	*QL	Quercus laurifolia	26.5" DBH	REMOVE			
243	*QL	Quercus laurifolia	4" DBH	REMOVE			
244	SP	Sabal palmetto	10'+ CT	REMOVE	1		
245	*QL	Quercus laurifolia	32" DBH	REMOVE			
246	*QL	Quercus laurifolia	17" DBH	REMOVE			
247	*QL	Quercus laurifolia	24" DBH	REMOVE			
248	SP	Sabal palmetto	10'+ CT	REMOVE	1		
249	*QL	Quercus laurifolia	11" DBH	REMOVE			
250	*QL	Quercus laurifolia	21" DBH	REMOVE			
251	SP	Sabal palmetto	10'+ CT	REMOVE	1		
252	SP	Sabal palmetto	10'+ CT	REMOVE	1		
253	SP	Sabal palmetto	10'+ CT	REMOVE	1		
254	SP	Sabal palmetto	10'+ CT	REMOVE	1		
255	*QL	Quercus laurifolia	27" DBH	REMOVE			
256	SP	Sabal palmetto	10'+ CT	REMOVE	1		
257	SP	Sabal palmetto	10'+ CT	REMOVE	1		
258	SP	Sabal palmetto	10'+ CT	REMOVE	1		
259	SP	Sabal palmetto	10'+ CT	REMOVE	1		
260	*QL	Quercus laurifolia	28.5" DBH	REMOVE			
261	SP	Sabal palmetto	10'+ CT	REMOVE	1		
262	SP	Sabal palmetto	10'+ CT	REMOVE	1		
263	*MG	Magnolia grandiflolia	11" DBH	REMOVE			
264	*QL	Quercus laurifolia	23" DBH	REMOVE			
265	*QL	Quercus laurifolia	22" DBH	REMOVE			
266	*QL	Quercus laurifolia	17" DBH	REMOVE			
267	*QL	Quercus laurifolia	5" DBH	REMOVE			
268	*QL	Quercus laurifolia	28.5" DBH	REMOVE			
269	*QL	Quercus laurifolia	7" DBH	REMOVE			
270	SP	Sabal palmetto	10'+ CT	REMOVE	1		
271	SP	Sabal palmetto	10'+ CT	REMOVE	1		
272	*QL	Quercus laurifolia	30" DBH	REMOVE			
273	*QL	Quercus laurifolia	31" DBH	REMOVE			
274	SP	Sabal palmetto	10'+ CT	REMOVE	1		
275	SP	Sabal palmetto	10'+ CT	REMOVE	1		
276	*QL	Quercus laurifolia	26" DBH	REMOVE			
277	SP	Sabal palmetto	10'+ CT	REMAIN			1
278	SP	Sabal palmetto	10'+ CT	REMAIN			1
279	SP	Sabal palmetto	10'+ CT	REMOVE	1		

*NOTE EXISTING TREES IN DECLINE/ DISEASED/ DAMAGED; NOT COUNTED TOWARDS MITIGATION.

Ex. Tree Legend

- EXISTING OAK TREE TO REMAIN
- EXISTING MAGNOLIA TREE TO REMAIN
- EXISTING PINE TREE TO REMAIN
- EXISTING PALM TO REMAIN
- EXISTING TREE / PALM TO BE REMOVED

Tree Mitigation Data

TREES REMOVED REQUIRING MITIGATION (INCHES)	213
TREES PRESERVED ONSITE (INCHES) CREDITED PER 1:1 RATIO	314
SABAL PALMS REMOVED REQUIRING MITIGATION	104
SABAL PALMS PRESERVED ONSITE CREDITED PER 1:1 RATIO	79
SABAL PALMS PROPOSED ONSITE CREDITED PER 1:1 RATIO	74

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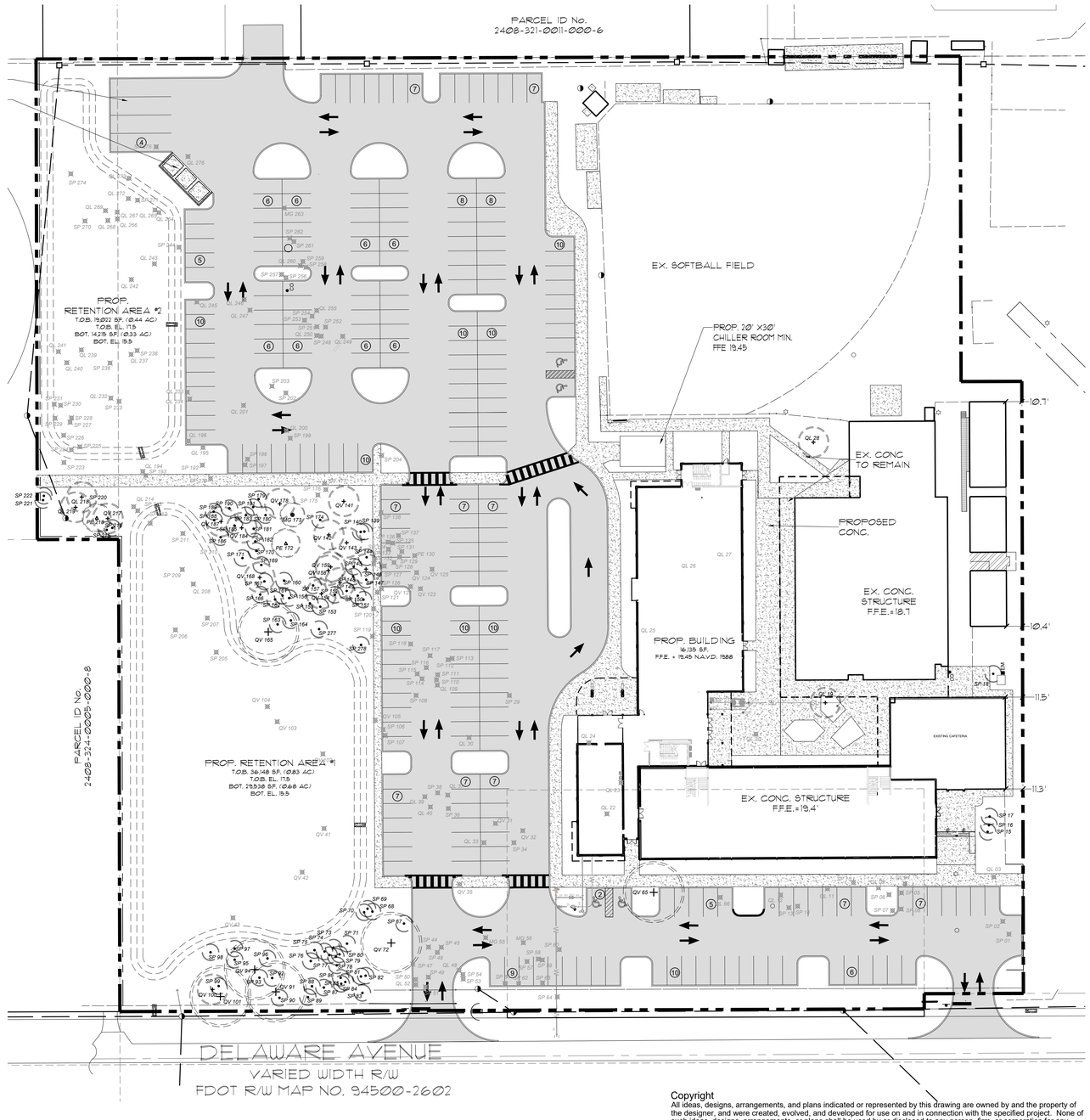

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Mike@McCartyLandPlanning.com

JCHS
Fort Pierce, Florida
Tree Management Plan

REGISTERED LANDSCAPE ARCHITECT DANIEL MCRAE, PLA LA 6667190 STATE OF FLORIDA

Drawn By DMS
Checked By MM
Scale 1"=40'
Drawing Date 11/13/2025

L3

John Carroll High School – New Classroom Building

REG Architects

Architectural Style / Design Justification Statement

Five Main Design Concepts

1. *Continuation of historic rhythm*
2. *Strong base for protection*
3. *Shelter under continuous roof*
4. *Transparency in social and learning spaces*
5. *Elevated chapel as anchor*

The proposed addition to John Carroll High School respects the existing 1960s mid-modern structure while expanding classrooms, administrative offices, and the chapel. The design is guided by five main concepts: continuation of rhythm, a strong base, shelter under one roof, transparency, and an elevated chapel anchor.

First, the new building continues the 15-foot structural bays of the original, ensuring consistent spatial organization. Chattahoochee tile at the ground level visually ties to the existing façade, breaking long walls into approachable segments, while vertical metal fins and wood soffits emphasize rhythm and shadow.

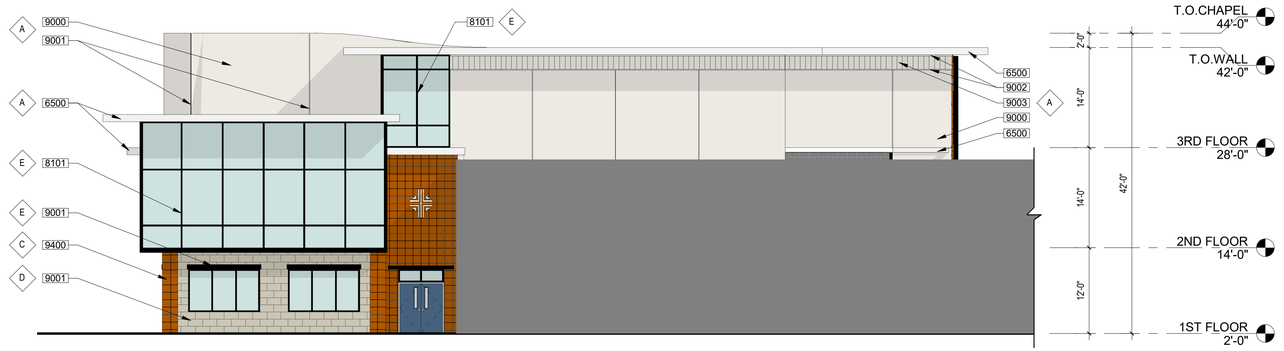
Second, a strong base conveys protection. Tile cladding with a stone-like appearance mirrors the original structure, while lighter stucco upper levels balance solidity with openness.

Third, a continuous roofline provides unifying shelter. Deep overhangs block harsh summer sunlight, and natural wood soffits connect interior spaces with the outdoors. All spaces sit beneath this protective canopy except the chapel, which rises above to connect symbolically with the sky.

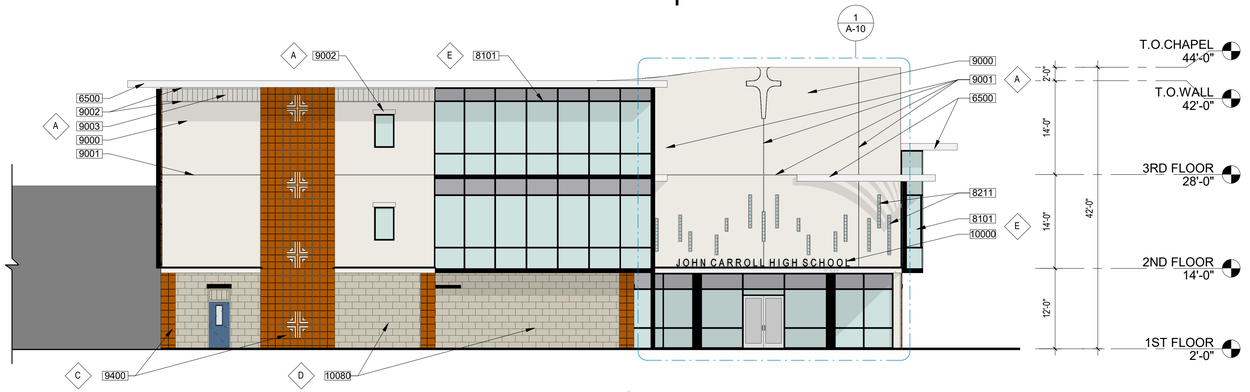
Fourth, social and learning spaces use glazing for transparency, blurring interior and exterior boundaries. Elevated study areas encourage visual interaction across the campus, especially toward the courtyard.

Finally, the chapel acts as the project's anchor. Elevated and curved, it disrupts the grid to create a softer spiritual space. Its visibility across the campus reinforces its significance, guiding circulation and marking entry beneath it as a protected threshold.

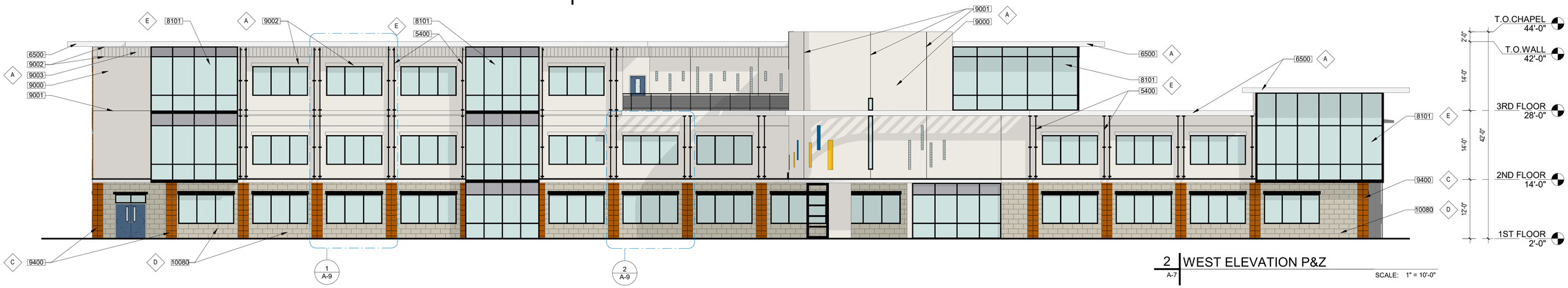
Overall, the design respects and preserves the richness of the existing building, incorporating clean lines, simple shapes, and a warm color palette with earthy tones and bold accents consistent with mid-century modern architecture. It furthermore creates a unified, light filled environment that enhances learning, community, and worship.



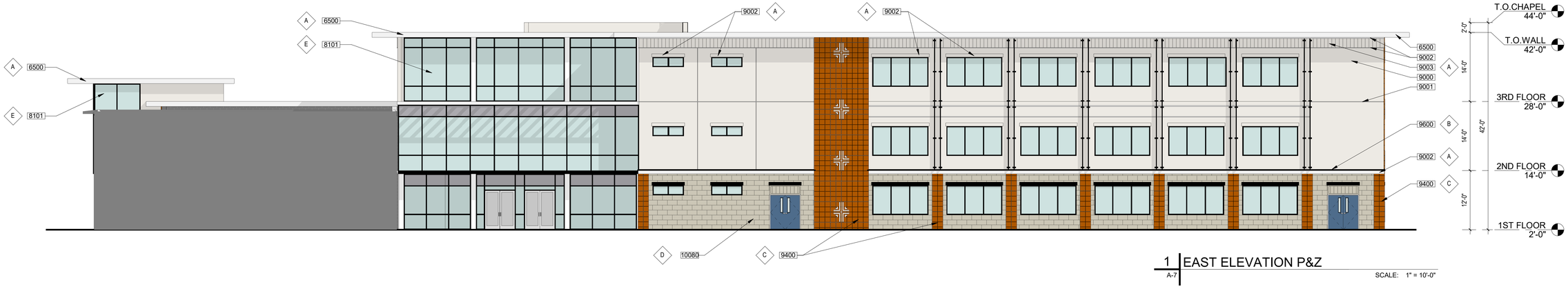
4 SOUTH ELEVATION P&Z
A-7
SCALE: 1" = 10'-0"



3 NORTH ELEVATION P&Z
A-7
SCALE: 3/32" = 1'-0"



2 WEST ELEVATION P&Z
A-7
SCALE: 1" = 10'-0"



1 EAST ELEVATION P&Z
A-7
SCALE: 1" = 10'-0"

KEYNOTES - ELEVATIONS

TAG	DESCRIPTION
5400	ALUMINUM VERTICAL FINS
6500	WOOD FASCIA
8101	ALUMINUM CURTAIN WALL SYSTEM - IMPACT RATED
8211	COLOR GLASS BLOCK IMPACT RATED
9000	STUCCO FINISH
9001	STUCCO REVEAL
9002	STUCCO TRIM/BAND
9003	STUCCO RECESS
9400	PRECAST CONCRETE TILE (MATCH EXISTING)
9600	HIGH DENSITY FOAM TRIM/BAND
10000	ALUMINUM SIGN LETTERS
10080	DECORATIVE EXTERIOR TILE

EXTERIOR COLOR LEGEND

TAG	DESCRIPTION	COLOR
A	FIELD COLOR #1	SNOWBOUND, SW 7004
B	FIELD COLOR #2	BLACK
C	WALL TILE #2	CHATTAHOOCHEE (MATCH EXISTING)
D	WALL TILE #1	BEIGE
E	METAL	BLACK

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Rick Gonzalez, AIA
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FL License AR0014172
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West Palm Beach, FL 33401
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www.regarchitects.com

JOHN CARROLL HIGH SCHOOL
NEW CLASSROOM BUILDING

3402 DELAWARE AVE
FORT PIERCE, FL, 34947

NO.	DATE	DESCRIPTION

DATE	11/13/2025
MODELED	JE/JG/CC
CHECKED	CM/REG
PROJECT #	25008

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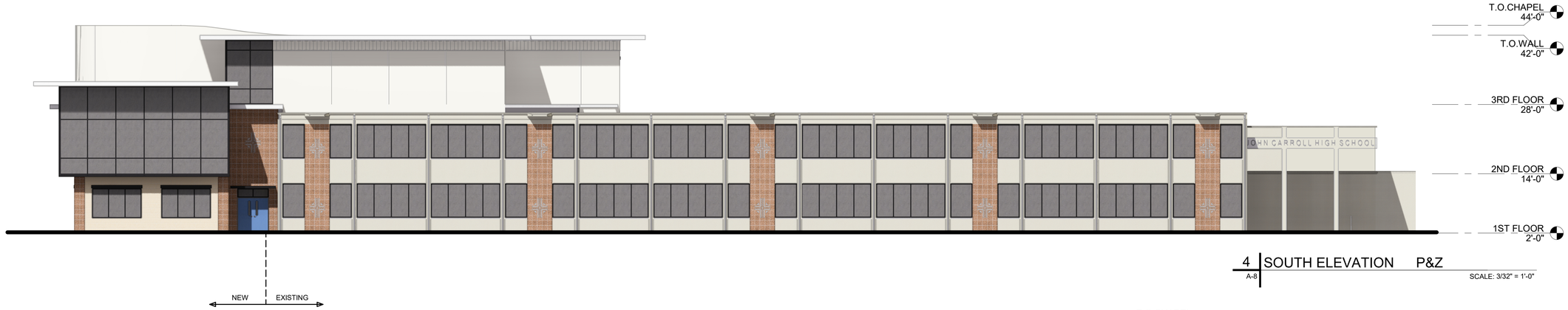
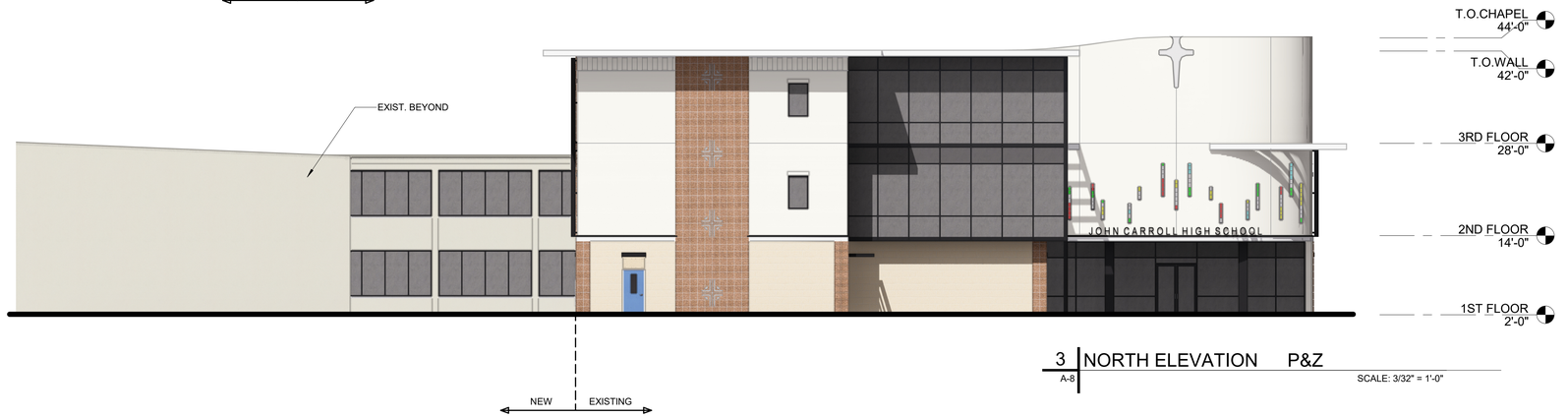
BUILDING ELEVATIONS

PROGRESS SET - P&Z

A-7



4 SOUTH ELEVATION P&Z
A-8
SCALE: 3/32" = 1'-0"



3 NORTH ELEVATION P&Z
A-8
SCALE: 3/32" = 1'-0"

2 WEST ELEVATION P&Z
A-8
SCALE: 3/32" = 1'-0"

1 EAST ELEVATION P&Z
A-8
SCALE: 3/32" = 1'-0"

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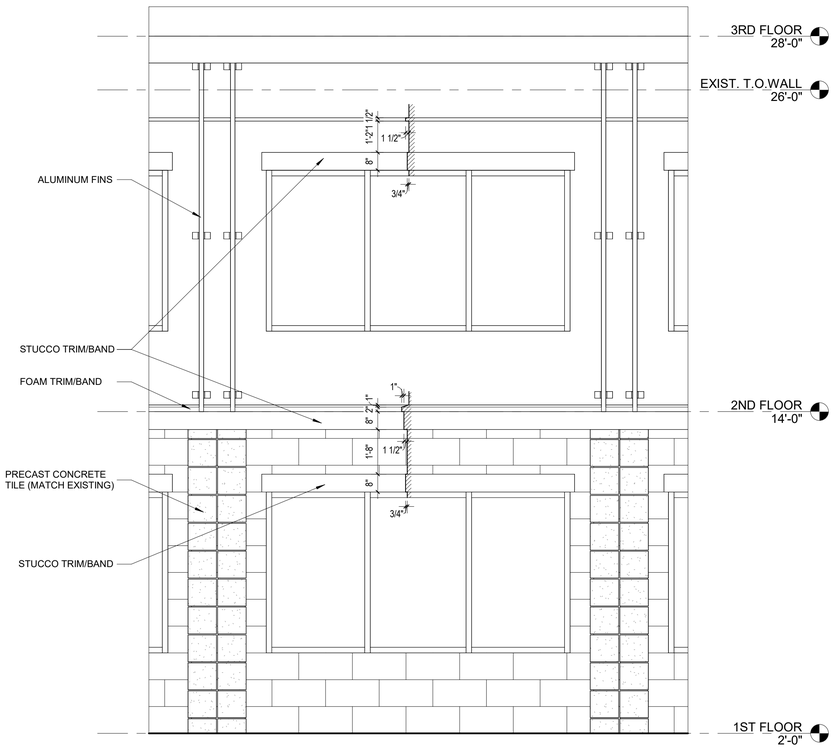
BUILDING ELEVATIONS

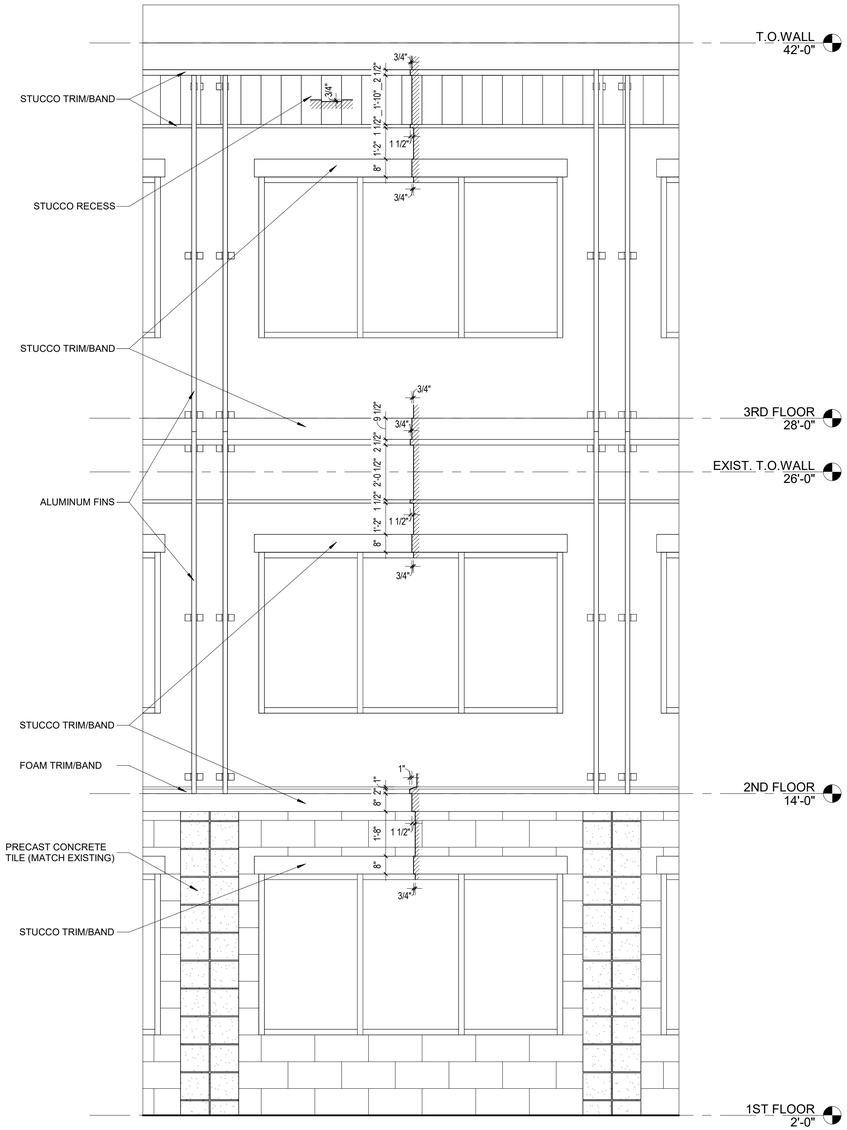
PROGRESS SET - P&Z

A-8



2 | A-9 WEST ELEVATION - TYP. DETAIL B P&Z

SCALE: 3/8" = 1'-0"



1 | A-9 WEST ELEVATION - TYP. DETAIL A P&Z

SCALE: 3/8" = 1'-0"

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JOHN CARROLL HIGH SCHOOL
NEW CLASSROOM BUILDING

3402 DELAWARE AVE
FORT PIERCE, FL, 34947

NO.	DATE	DESCRIPTION

DATE	11/13/2025
MODELED	JE/JG/CC
CHECKED	CM/REG
PROJECT #	25008

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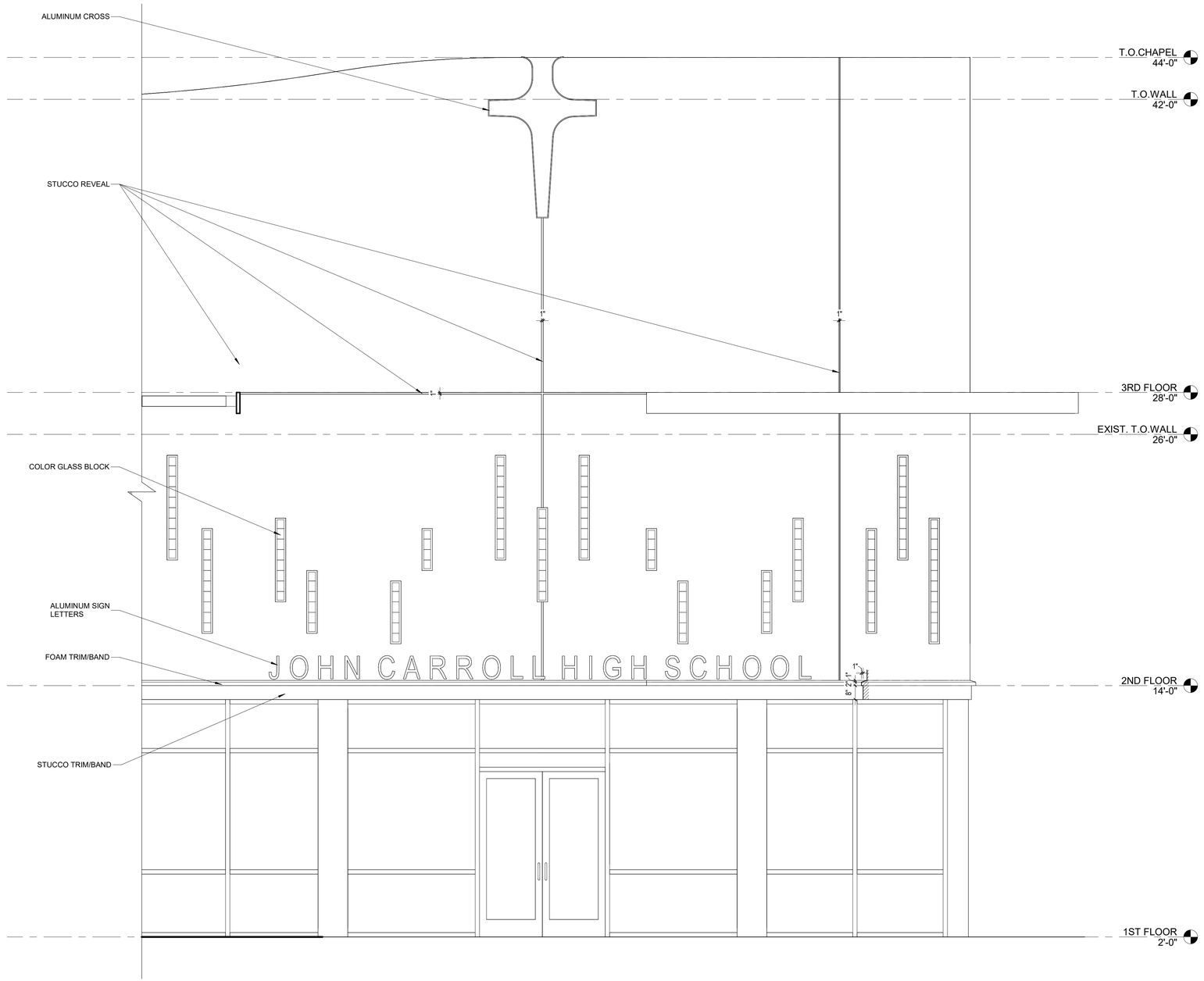
ELEVATION DETAILS

PROGRESS SET - P&Z

A-9



1 A-10 NORTH ELEVATION - DETAIL P&Z

SCALE: 3/8" = 1'-0"

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ELEVATION DETAILS

PROGRESS SET - P&Z

A-10

FRONT RENDERING

CORNER RENDERING

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CONCEPTUAL RENDERING

PROGRESS SET - P&Z

A-13

ENTRANCE RENDERING

BACK RENDERING

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CONCEPTUAL RENDERING

PROGRESS SET - P&Z

A-14

FRONT CORNER RENDERING

NORTH RENDERING

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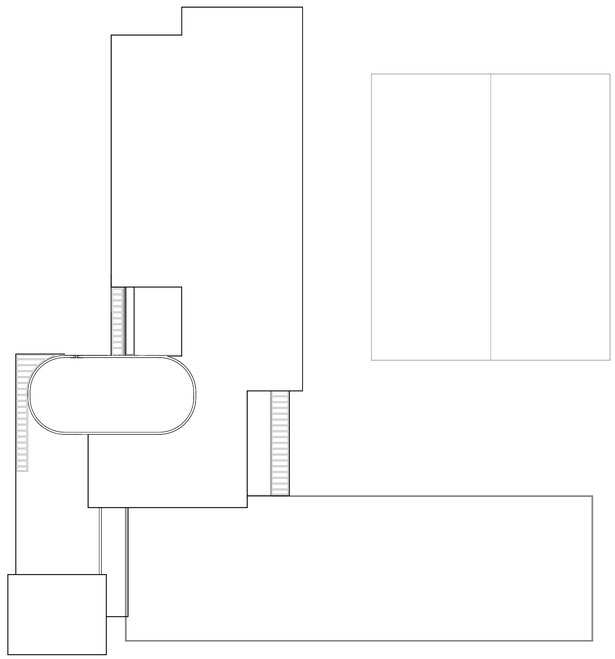
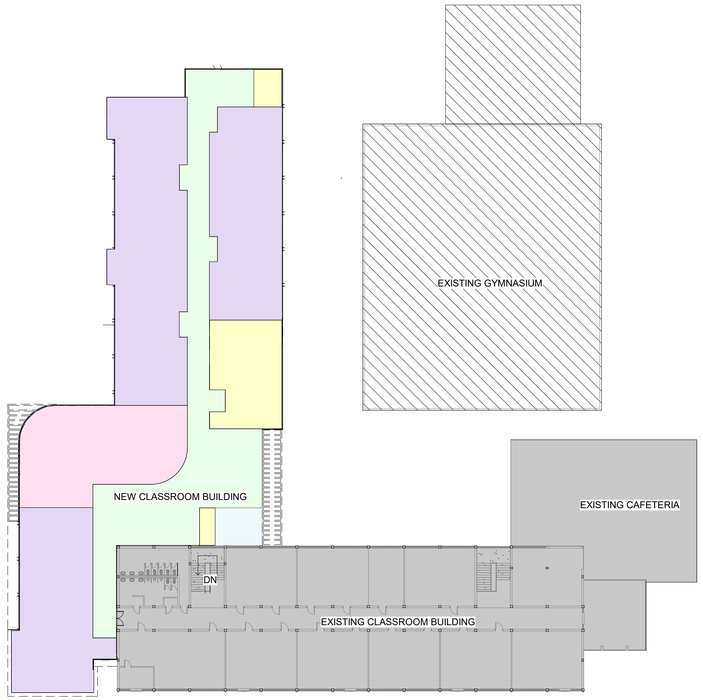
CONCEPTUAL RENDERING

PROGRESS SET - P&Z

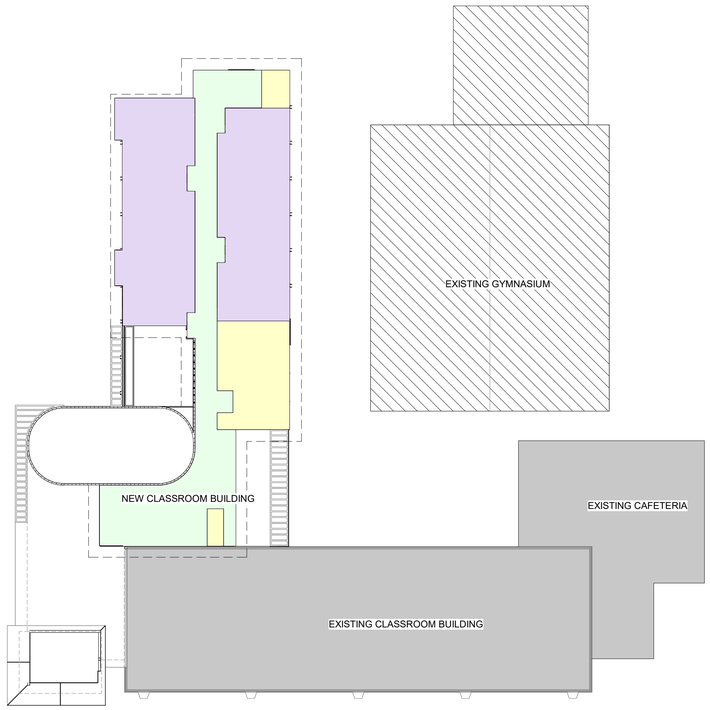
A-15



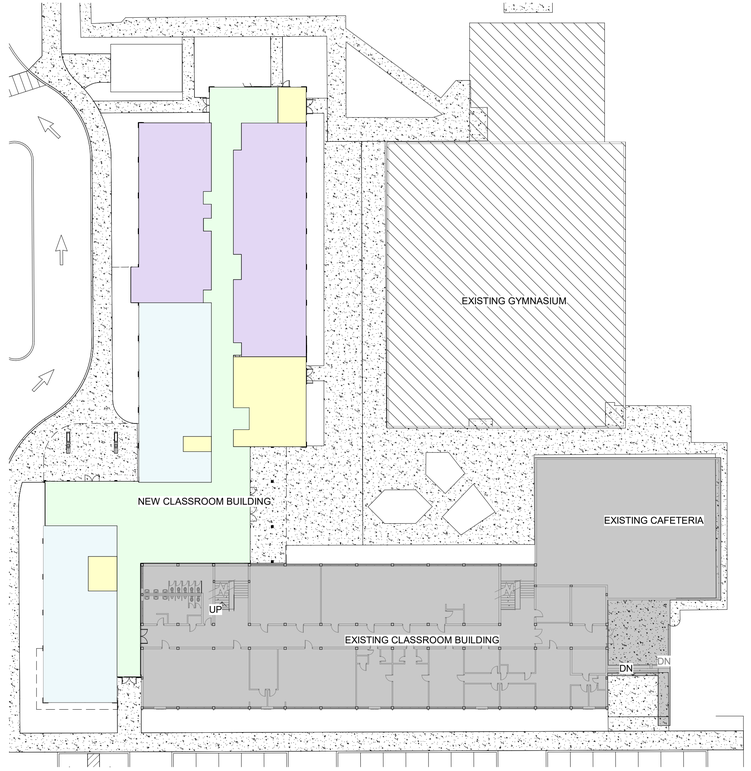
4 | A-2 ROOF PLAN OVERALL P&Z
SCALE: 1" = 30'-0"
NORTH



2 | A-2 SECOND FLOOR PLAN OVERALL
SCALE: 1" = 30'-0"
NORTH



3 | A-2 THIRD FLOOR PLAN OVERALL P&Z
SCALE: 1" = 30'-0"
NORTH



1 | A-2 FIRST FLOOR PLAN OVERALL
SCALE: 1" = 30'-0"
NORTH

COLOR LEGEND		
	CIRCULATION	13,257 SF
	CHAPEL	2,531 SF
	ADMINISTRATIVE	4,646 SF
	UTILITIES / STORAGE	4,971 SF
	CLASSROOM	20,017 SF
	EXISTING CLASSROOM BUILDING	
	EXISTING GYMNASIUM	

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USE DESIGNATION PLANS

AREA BREAKDOWN

BUILDING AREA

1ST FLOOR	16,089 GSF
2ND FLOOR	18,100 GSF
3RD FLOOR	10,970 GSF
TOTAL	**45,159 GSF**

(3RD FL TERRACE 954 SF)

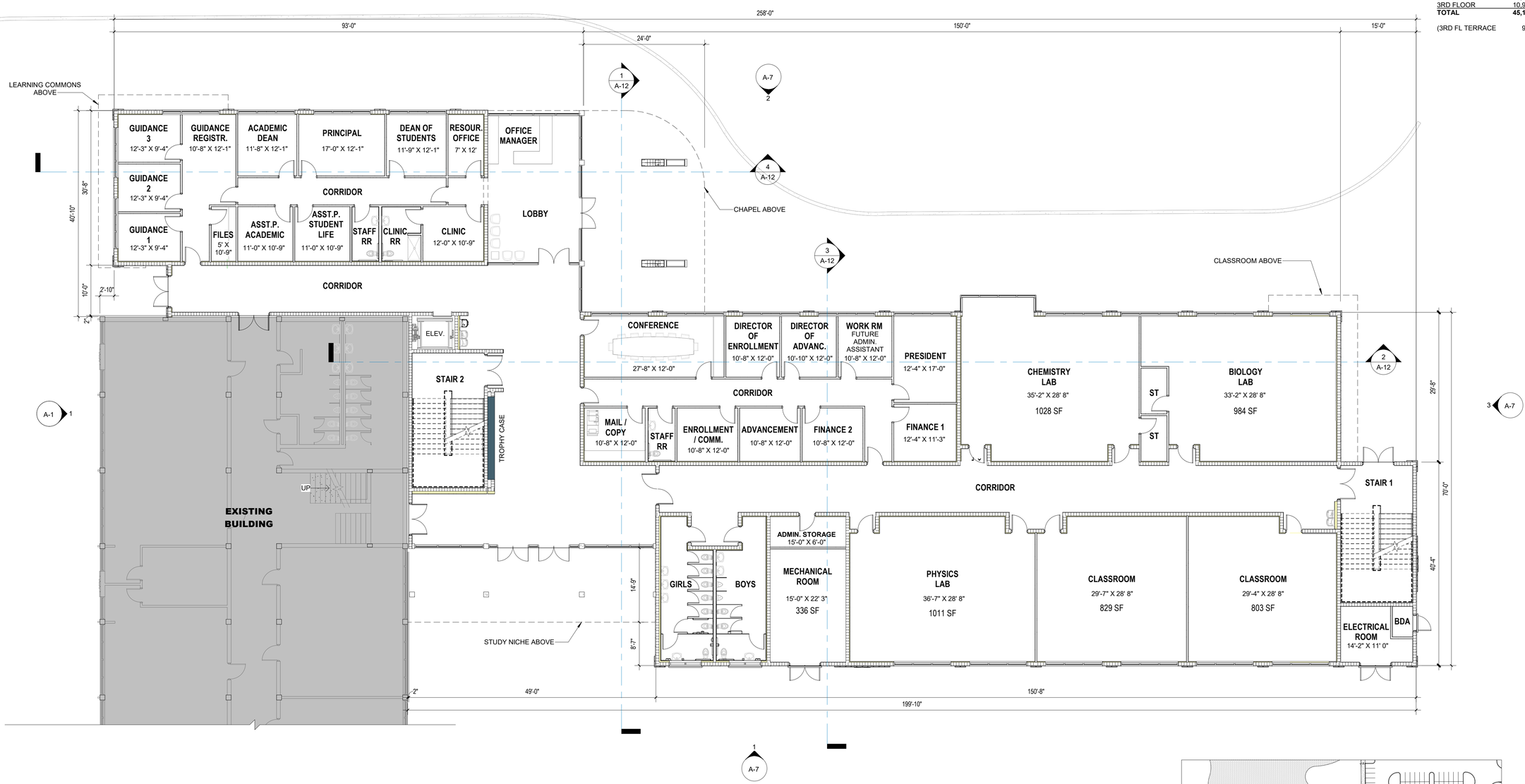
PROGRESS SET - P&Z

A-2

AREA BREAKDOWN

BUILDING AREA

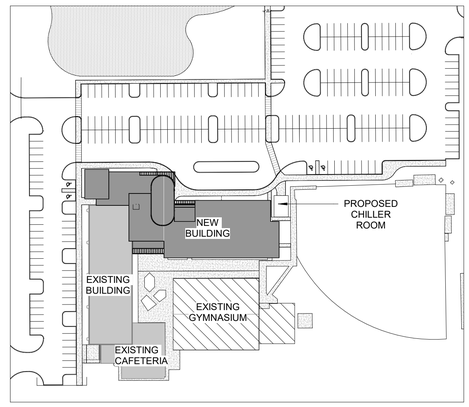
1ST FLOOR	16,089 GSF
2ND FLOOR	18,100 GSF
3RD FLOOR	10,970 GSF
TOTAL	**45,159 GSF**
(3RD FL TERRACE	956 SF)



1 | A-3 FIRST FLOOR PLAN

SCALE: 1" = 10'-0"

NORTH



2 | A-3 KEY PLAN

SCALE: 1" = 100'-0"

NORTH

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FIRST FLOOR PLAN

PROGRESS SET - P&Z

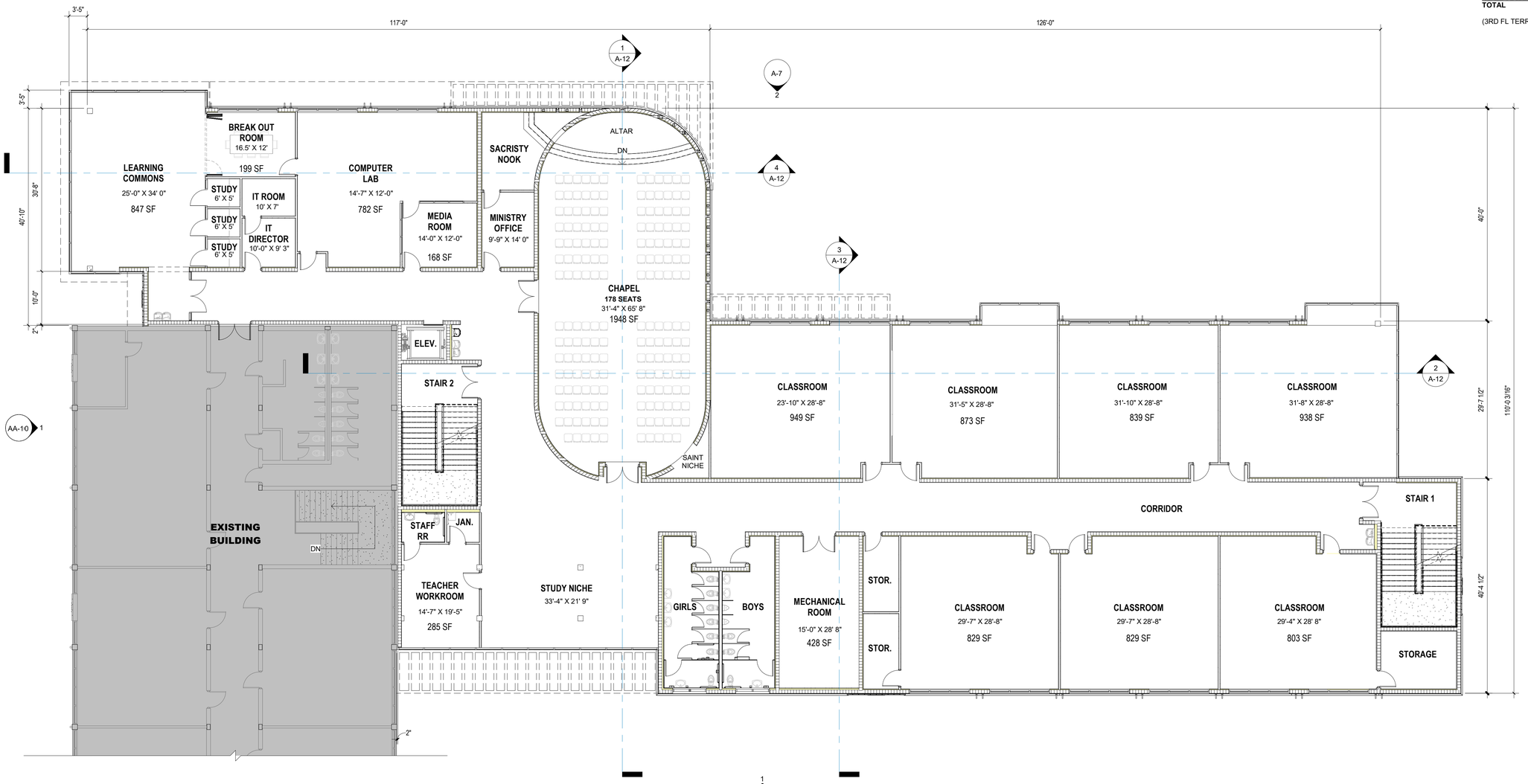
A-3

AREA BREAKDOWN

BUILDING AREA

1ST FLOOR	16,089 GSF
2ND FLOOR	18,100 GSF
3RD FLOOR	10,970 GSF
TOTAL	**45,159 GSF**

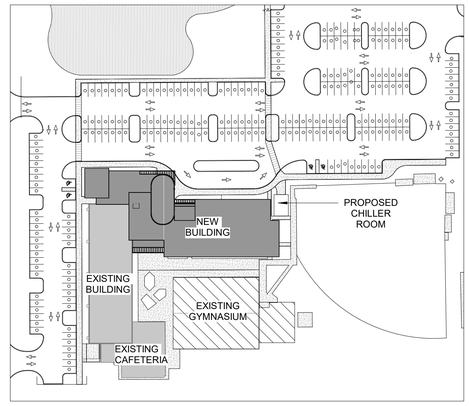
(3RD FL TERRACE 956 SF)



1 A-4 SECOND FLOOR PLAN P&Z

SCALE: 1" = 10'-0"

NORTH



2 A-4 KEY PLAN

SCALE: 1" = 100'-0"

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SECOND FLOOR PLAN

PROGRESS SET - P&Z

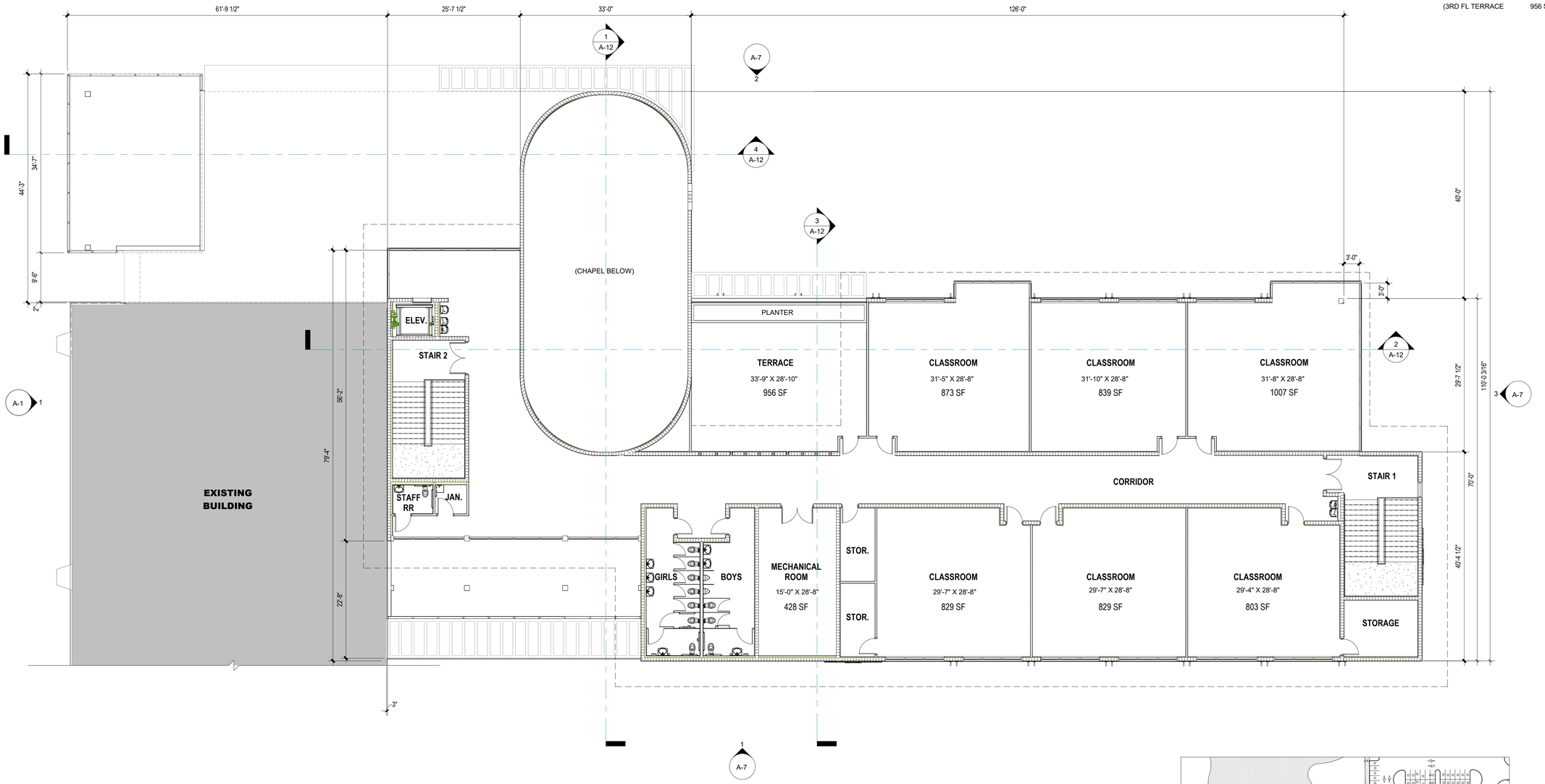
A-4

AREA BREAKDOWN

BUILDING AREA

1ST FLOOR	16,089 GSF
2ND FLOOR	18,100 GSF
3RD FLOOR	10,970 GSF
TOTAL	**45,159 GSF**

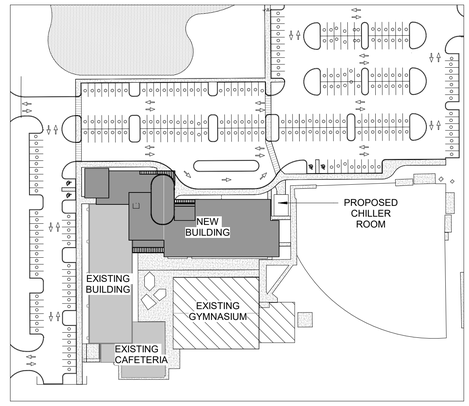
(3RD FL TERRACE 956 SF)



1 A-5 THIRD FLOOR PLAN P&Z

SCALE: 1" = 10'-0"

NORTH



2 A-5 KEY PLAN

SCALE: 1" = 100'-0"

NORTH

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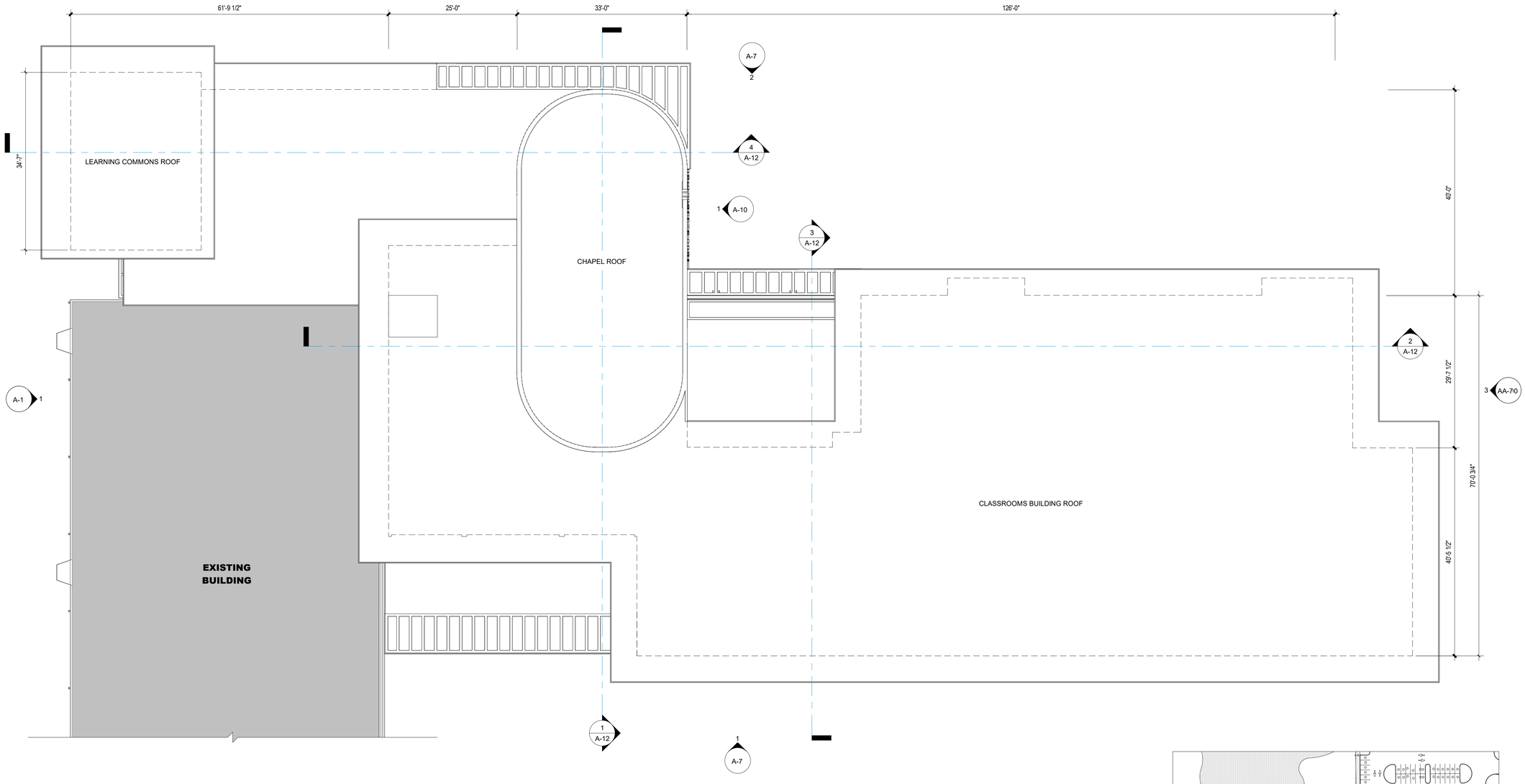
THIRD FLOOR PLAN

PROGRESS SET - P&Z

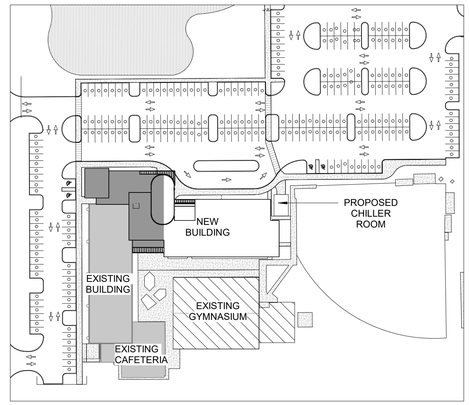
A-5



1 | A-6 ROOF PLAN P&Z

SCALE: 1" = 10'-0"

NORTH



2 | A-6 KEY PLAN

SCALE: 1" = 100'-0"

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ROOF PLAN

PROGRESS SET - P&Z

A-6

JOHN CARROLL CATHOLIC HIGH SCHOOL FINISHES BOARD REG PROJECT #25008 10/02/2025

NICHE COLOR
SW 6965 - HYPER BLUE

NICHE COLOR
SW 6903 - CHEERFUL

NUBIO - THICKSET 90
SEVES GLASS BLOCKS
SIZE - 6” x 8”

INSPIRATION FOR CHAPEL LIGHTING
CHAPELLE NOTRE-DAME DU HAUT DE RONCHAMP

FIELD COLOR
SW 7004 - SNOWBOUND

INSPIRATION FOR CEILING AND OVERHANG
THERMOWOOD

PORCELAIN WALL TILE
AT70 - ECLIPSE
ASTRONOMY

TRIM COLOR
SW 6001 - GRAYISH

EXTERIOR DOORS
BLUE COLOR TO MATCH EXISTING DOORS

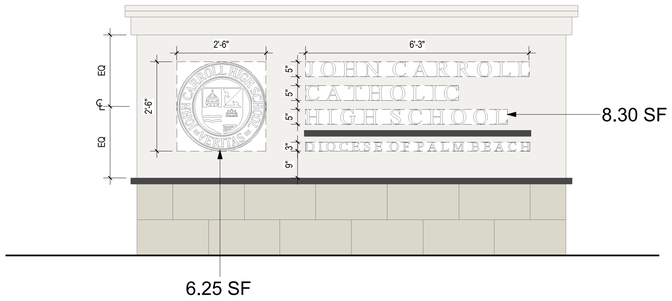
PRECAST CONCRETE TILE
MATCH TO EXISTING

TYPICAL ELEVATION DETAIL

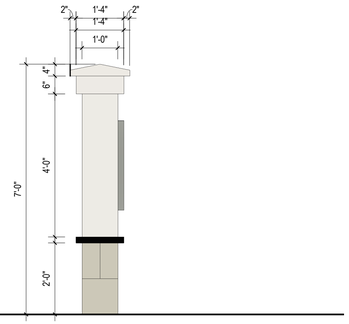
INSPIRATION FOR METAL FINS

VERTICAL FINS, TRELLIS, CANOPIES, CURTAIN WALLS, WINDOWS
KB3C19695 - MATTE BLACK
2-COAT KYNAR 2604
AGS INC.

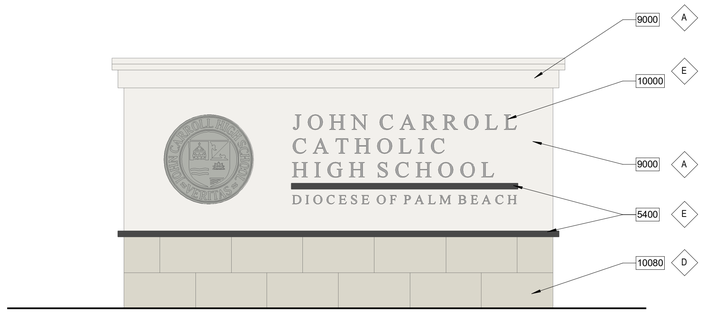
5 MONUMENT SIGN FRONT RENDERING
A-11 SCALE: 1/2" = 1'-0"



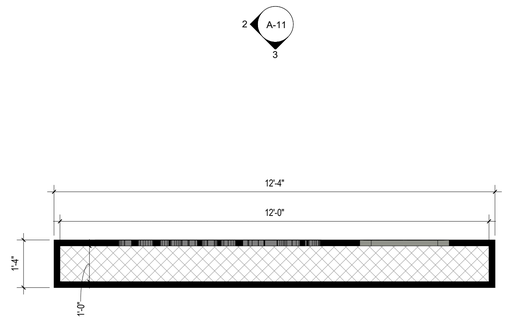
4 MONUMENT SIGN AREA DIAGRAM
A-11 SCALE: 1/2" = 1'-0"



2 MONUMENT SIGN SIDE ELEVATION
A-11 SCALE: 1/2" = 1'-0"



3 MONUMENT SIGN FRONT ELEVATION
A-11 SCALE: 1/2" = 1'-0"



1 MONUMENT SIGN PLAN
A-11 SCALE: 1/2" = 1'-0"

KEYNOTES - ELEVATIONS

TAG	DESCRIPTION
5400	ALUMINUM VERTICAL FINS
6500	WOOD FASCIA
8101	ALUMINUM CURTAIN WALL SYSTEM - IMPACT RATED
8211	COLOR GLASS BLOCK IMPACT RATED
9000	STUCCO FINISH
9001	STUCCO REVEAL
9002	STUCCO TRIM/BAND
9003	STUCCO RECESS
9400	PRECAST CONCRETE TILE (MATCH EXISTING)
9600	HIGH DENSITY FOAM TRIM/BAND
10000	ALUMINUM SIGN LETTERS
10080	DECORATIVE EXTERIOR TILE

EXTERIOR COLOR LEGEND

TAG	DESCRIPTION	COLOR
A	FIELD COLOR #1	SNOWBOUND, SW 7004
B	FIELD COLOR #2	BLACK
C	WALL TILE #2	CHATTAHOOCHEE (MATCH EXISTING)
D	WALL TILE #1	BEIGE
E	METAL	BLACK

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SIGNAGE DETAILS

PROGRESS SET - P&Z

A-11

Mirada Medium (MRM)

Outdoor LED Area Light

IP66 IK08

OVERVIEW	
Lumen Package	7,000 - 55,000
Wattage Range	48 - 438
Efficacy Range (LPW)	115 - 162
Weight lbs(kg)	30 (13.6)
Control Options	IMSBT, ALB, ALS, 7-Pin, PCI

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction

- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Cast aluminum wiring access door located underneath.
- Designed to mount to square or round poles.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: 37 lbs in carton.

Optical System

- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated sealed optical chamber in 1 component.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in IES Types 2, 3, 4, 5W, FT, FTA, AM, and LC/RC.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93-95%.
- Zero uplight.
- Available in 5000K, 4000K, and 3000K color temperatures per ANSI C78.377. Also Available in Phosphor Converted Amber with Peak intensity at 610nm.
- Minimum CRI of 70.
- Integral louver (IL) and integral half louver (IH) options available for enhanced backlight control.

Electrical

- High-performance programmable driver features over-voltage, under-voltage, short-circuit and over temperature protection. Custom lumen and wattage packages available.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz or optional High Voltage (347-480 Vac).
- L80 Calculated Life: >100k Hours (See Lumen Maintenance chart)
- Total harmonic distortion: <20%
- Operating temperature: -40°C to +50°C (-40°F to +122°F). 42L and 48L lumen packages rated to +40°C. 55L lumen package rate to +35°C.
- Power factor: >.90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls

- Optional integral passive infrared Bluetooth™ motion. Fixtures operate independently and can be commissioned via iOS or Android configuration app
- LSI's AirLink™ wireless control system options reduce energy and maintenance costs while optimizing light quality 24/7. (see controls section for more details).

Installation

- Designed to mount to square or round poles.
- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment.
- Included terminal block accepts up to 12 ga. wire.
- Utilizes LSI's traditional 3" drill pattern B3 for easy fastening of LSI products.

Warranty

- LSI LED Fixtures carry a 5-year warranty.

Listings

- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- Dark Sky compliant; with 3000K color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- RoHS compliant
- Suitable for wet Locations.
- IP66 rated Luminaire per IEC 60598.
- 3G rated for ANSI C136.31 high vibration applications are qualified.
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- Patented Silicone Optics (US Patent NO. 10,816,165 B2)
- IK08 rated luminiare per IEC 66262 mechanical impact code

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Mirada Medium (MRM)

Outdoor LED Area Light

IP66 IK08

OVERVIEW	
Lumen Package	7,000 - 55,000
Wattage Range	48 - 438
Efficacy Range (LPW)	115 - 162
Weight lbs(kg)	30 (13.6)
Control Options	IMSBT, ALB, ALS, 7-Pin, PCI

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction

- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Cast aluminum wiring access door located underneath.
- Designed to mount to square or round poles.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: 37 lbs in carton.

Optical System

- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated sealed optical chamber in 1 component.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in IES Types 2, 3, 4, 5W, FT, FTA, AM, and LC/RC.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93-95%.
- Zero uplight.
- Available in 5000K, 4000K, and 3000K color temperatures per ANSI C78.377. Also Available in Phosphor Converted Amber with Peak intensity at 610nm.
- Minimum CRI of 70.
- Integral louver (IL) and integral half louver (IH) options available for enhanced backlight control.

Electrical

- High-performance programmable driver features over-voltage, under-voltage, short-circuit and over temperature protection. Custom lumen and wattage packages available.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz or optional High Voltage (347-480 Vac).
- L80 Calculated Life: >100k Hours (See Lumen Maintenance chart)
- Total harmonic distortion: <20%
- Operating temperature: -40°C to +50°C (-40°F to +122°F). 42L and 48L lumen packages rated to +40°C. 55L lumen package rate to +35°C.
- Power factor: >.90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls

- Optional integral passive infrared Bluetooth™ motion. Fixtures operate independently and can be commissioned via iOS or Android configuration app
- LSI's AirLink™ wireless control system options reduce energy and maintenance costs while optimizing light quality 24/7. (see controls section for more details).

Installation

- Designed to mount to square or round poles.
- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment.
- Included terminal block accepts up to 12 ga. wire.
- Utilizes LSI's traditional 3" drill pattern B3 for easy fastening of LSI products.

Warranty

- LSI LED Fixtures carry a 5-year warranty.

Listings

- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- Dark Sky compliant; with 3000K color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- RoHS compliant
- Suitable for wet Locations.
- IP66 rated Luminaire per IEC 60598.
- 3G rated for ANSI C136.31 high vibration applications are qualified.
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- Patented Silicone Optics (US Patent NO. 10,816,165 B2)
- IK08 rated luminiare per IEC 66262 mechanical impact code

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Mirada Medium Outdoor LED Area Light

Type : _____

Have questions? Call us at (800) 436-7800

ORDERING GUIDE

Back to Quick Links

TYPICAL ORDER EXAMPLE: MRM LED 36L SIL FTA UNV DIM 50 70CRI ALSCS04 BRZ IL

Prefix	Light Source	Lumen Package	Lens	Distribution	Orientation[2]	Voltage	Driver
MRM - Mirada Medium Area Light	**LED**	**7L** - 7,000 lms, 48W **9L** - 9,000 lms, 62W **12L** - 12,000 lms, 85W **18L** - 18,000 lms, 135W **24L** - 24,000 lms, 176W **30L** - 30,000 lms, 232W **36L** - 36,000 lms, 288W **42L** - 42,000 lms, 314W **48L** - 48,000 lms, 401W **55L** - 55,000 lms, 438W Custom Lumen Packages[1]	**SIL** - Silicone	**2** - Type 2 **3** - Type 3 **4** - Type 4 **5W** - Type 5 Wide **FT** - Forward Throw **FTA** - Forward Throw Automotive **AM** - Automotive Merchandise **LC** - Left Corner **RC** - Right Corner	**(blank)** - standard **L**- Optics rotated left 90° **R** - Optics rotated right 90°	**UNV** - Universal Voltage (120-277V) **HV** - High Voltage (347-480V)	**DIM** - 0-10V Dimming (0-10%)

Color Temp	Color Rendering	Finish		Options
50 - 5,000 CCT **40** - 4,000 CCT **30** - 3,000 CCT **AMB** - Phosphor Converted Amber[8]	**70CRI** - 70 CRI	**BLK** - Black **BRZ** - Dark Bronze **GMG** - Gun Metal Gray **GPT** - Graphite	**MSV** - Metallic Silver **PLP** - Platinum Plus **SVG** - Satin Verde Green **WHT** - White	**(Blank)** - None **IH** - Integral Half Louver (Moderate Spill Light Cutoff)[2] **IL** - Integral Louver (Sharp Spill Light Cutoff)[2]

Controls (Choose One)

(Blank) - None

Wireless Controls System
ALSC - AirLink Synapse Control System[9]
ALSCS02 - AirLink Synapse Control System with 12-20' Motion Sensor[9]
ALSCS04 - AirLink Synapse Control System with 20-40' Motion Sensor[9]
ALBMR1LR - AirLink Blue Long Range Wireless Motion & Photo Sensor Controller (8-24' mounting height)[3,9]
ALBMR2LR - AirLink Blue Long Range Wireless Motion & Photo Sensor Controller (25-40' mounting height)[3,9]

Stand-Alone Controls
EXT - 0-10v Dimming leads extended to housing exterior
CR7P - 7 Pin Control Receptacle ANSI C136.41[4]
IMSBT1L - Integral Bluetooth™ Motion and Photocell Sensor (8-24' MH)[3,9]
IMSBT2L - Integral Bluetooth™ Motion and Photocell Sensor (25-40' MH)[3,9]

Button Type Photocells
PCI120 - 120V
PCI208-277 - 208 -277V
PCI347 - 347V

Need more information?
Click here for our glossary

Have additional questions?
Call us at (800) 436-7800

ACCESSORY ORDERING INFORMATION[5]

CONTROLS ACCESSORIES

Description	Order Number
PC120 Photocell for use with CR7P option (120V)[6]	**122514**
PC208-277 Photocell for use with CR7P option (208V, 240V, 277V)[6]	**122515**
Twist Lock Photocell (347V) for use with CR7P[6]	**122516**
Twist Lock Photocell (480V) for use with CR7P[6]	**1225180**
AirLink 5 Pin Twist Lock Controller (120-277V Only)[6]	**661409**
AirLink 7 Pin Twist Lock Controller (120-277V Only)[6]	**661410**
AirLink 7 Pin Twist Lock Controller (347-480V) [6]	**679948**
Shorting Cap for use with CR7P[6]	**149328**

FUSING OPTIONS[7]

Single Fusing (120V)	See Fusing Accessory Guide
Single Fusing (277V)	
Double Fusing (208V, 240V)	
Double Fusing (480V)	
Double Fusing (347V)	

EXTERNAL SHIELDING OPTIONS

3" External Shield	See Shielding Guide
6" External Shield	

1. Custom lumen and wattage packages available, consult factory. Values are within industry standard tolerances but not DLC listed.
2. Not available with 5W distribution. IL not available with LC/RC distributions.
3. Motion sensors are field configurable via an app that can be downloaded from your smartphone's native app store. See controls section for more details.
4. Control device or shorting cap must be ordered separately. See Accessory Ordering Information.
5. Accessories are shipped separately and field installed.
6. Factory installed CR7P option required. See Options.
7. Fusing must be located in hand hole of pole. See Fusing Accessory Guide for compatibility.
8. Only available in 9L, 12L, 18L and 24L Lumen Packages. Consult factory for lead time and availability.
9. Not available with 55L Lumen Package when 347-480V is specified.

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Mirada Medium Outdoor LED Area Light

Type : _____

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ACCESSORIES

MOUNTING ACCESSORIES

Side Arm

Universal Mounting Bracket
Mounts to ≥ 3" square or round (tapered/straight) poles with (2) mounting hole spaces between 3.5" to 5"

Part Number: BKA UMB CLR

Quick Mount Plate
True one person installation to existing/new contruction poles with hole spaces beteen 2.4 to 4.6"

Part Number: BKS PQM B3B5 XX CLR

15° Tilt Quick Mount Plate
True one person installation to existing/new contruction poles with hole spaces beteen 2.4 to 4.6"

Part Number: BKS PQ15 B3B5 XX CLR

Tenon / Slipfitter

Adjustable Slipfitter
Mounts onto a 2" (51mm) IP, 2.375" (60mm) O.D. tenon and provides 180° of tilt (max 45° above horizontal)

Part Number: BKA ASF CLR

Square Tenon Top
Mounts onto a 2" (51mm) IP, 2.375" (60mm) O.D. tenon and allows for mounting up to 4 luminaires

Part Number: BKA XNM *

Square Internal Slipfitter
Mounts inside 4" or 5" square pole and allows for mounting up to 4 lumianires

Part Number: BKA X_ISF * CLR

Wall Mount/ Wood Pole

Wall Mount Bracket
Mounts onto vertical wall surface (hardware/anchors not included)

Part Number: BKS XBO WM CLR

Wood Pole Bracket
Mounts onto wooden poles (6" minimum OD, hardware/anchors not inlcuded)

Part Number: BKS XBO WP CLR

SHIELDING, POLES & MISC. ACCESSORIES

Shielding

Integral Louver
Field Install Integral Louver provides maximum backlight control by shiedling each individual row of LEDS

Part Number: 690981

Integral Half Louver
Field Install Integral Half Louver provides great backlight control without impacting front side distribution.

Part Number: 743415

External Shield
External shield blocks view of light source from anyside of luminaire, additional shielding configurations available

Part Number: 783607BLK (3") / 776538BLK (6")

Poles

Square Poles
14 - 39' steel and aluminum poles in 4", 5" and 6" sizes for retrofit and new construction

Part Number: 4SQ/5SQ/6SQ

Round Poles
10 - 30' steel and aluminum poles in 4" and 5" sizes for retrofit and new construction

Part Number: 4RP/5RP

Tapered Poles
20' - 39' steel and aluminum poles for retrofit and new construction

Part Number: RTP

Misc.

Bird Spikes
10' linear bird spike (3' recommended per luminaire) silcone adhesive (covers approximately 25' linear fee of bird spike) and application tool

Spike Part Number: 751631
Adhesive Part Number: 751632
Caulk Gun Part Number: 751636

Replace CLR with paint finish description

Replace X with: 3

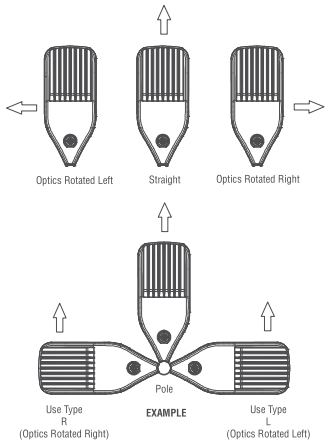
Replace XX with SQ for square pole or RD for round pole (≥3" OD)

Replace * with S (Single), D180 (Double @180°), D90 (Double @90°), T90 (Triple), Q90 (Quad)

Replace _ with 4 (4" square pole) or 5 (5" square pole)

OPTICS ROTATION

Top View



ACCESSORIES/OPTIONS

Integral Louver (IL) and House-Side Shield (IH)

Integral louver (IL) and half louver (IH) accessory shields available for improved backlight control without sacrificing street side performance. LSI's Integral Louver (IL) and Integral House-Side Shield (IH) options deliver backlight control that significantly reduces spill light behind the poles for applications with pole locations close to adjacent properties. The design maximizes forward reflected light while reducing glare, maintaining the optical distribution selected, and most importantly eliminating light trespass. Both options rotate

Luminaire Shown with Integral Louver (IL)

Luminaire Shown with IMSBTL Option

7 Pin Photoelectric Control

7-pin ANSI C136.41-2013 control receptacle option available for twist lock photocontrols or wireless control modules. Control accessories sold separately. Dimming leads from the receptacle will be connected to the driver dimming leads (Consult factory for alternate wiring).

Luminaire Shown with CR7P

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PERFORMANCE

Back to Quick Links

DELIVERED LUMENS*

Lumen Package	Distribution	CRI	3000K CCT			4000K CCT			5000K CCT			Wattage
			Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	
9L	2	70	9853	159	B2-U0-G2	9853	159	B2-U0-G2	9853	159	B2-U0-G2	62
	3		9926	160	B2-U0-G2	9926	160	B2-U0-G2	9926	160	B2-U0-G2	
	4		9178	148	B2-U0-G3	9713	157	B2-U0-G3	9498	153	B2-U0-G3	
	5W		9504	153	B3-U0-G2	9504	153	B3-U0-G2	9504	153	B3-U0-G2	
	FT		9856	159	B2-U0-G3	9856	159	B2-U0-G3	9856	159	B2-U0-G3	
	FTA		9900	160	B2-U0-G2	9900	160	B2-U0-G2	9900	160	B2-U0-G2	
	AM		10019	162	B2-U0-G1	10019	162	B2-U0-G1	10019	162	B2-U0-G1	
	LC/RC		9008	145	B2-U0-G3	9533	154	B2-U0-G3	9321	150	B2-U0-G3	
12L	2	70	13135	155	B3-U0-G2	13135	155	B3-U0-G2	13135	155	B3-U0-G2	85
	3		13232	156	B2-U0-G2	13232	156	B2-U0-G2	13232	156	B2-U0-G2	
	4		12223	144	B2-U0-G3	12935	152	B2-U0-G4	12648	149	B2-U0-G4	
	5W		12669	149	B4-U0-G2	12669	149	B4-U0-G2	12669	149	B4-U0-G2	
	FT		13138	155	B2-U0-G3	13138	155	B2-U0-G3	13138	155	B2-U0-G3	
	FTA		13196	155	B2-U0-G2	13196	155	B2-U0-G2	13196	155	B2-U0-G2	
	AM		13355	157	B2-U0-G2	13355	157	B2-U0-G2	13355	157	B2-U0-G2	
	LC/RC		11996	141	B2-U0-G3	12695	149	B2-U0-G3	12414	146	B2-U0-G3	
18L	2	70	19318	143	B3-U0-G3	19318	143	B3-U0-G3	19318	143	B3-U0-G3	135
	3		19461	144	B3-U0-G3	19461	144	B3-U0-G3	19461	144	B3-U0-G3	
	4		18013	133	B2-U0-G4	19063	141	B3-U0-G5	18640	138	B3-U0-G5	
	5W		18633	138	B4-U0-G2	18633	138	B4-U0-G2	18633	138	B4-U0-G2	
	FT		19324	143	B3-U0-G3	19324	143	B3-U0-G3	19324	143	B3-U0-G3	
	FTA		19408	144	B3-U0-G3	19408	144	B3-U0-G3	19408	144	B3-U0-G3	
	AM		19641	145	B3-U0-G2	19641	145	B3-U0-G2	19641	145	B3-U0-G2	
	LC/RC		17679	131	B2-U0-G3	18710	139	B2-U0-G3	18295	136	B2-U0-G3	
24L	2	70	24142	147	B4-U0-G3	25957	147	B4-U0-G3	25957	147	B4-U0-G3	176
	3		25001	149	B3-U0-G3	26149	149	B3-U0-G3	26149	149	B3-U0-G3	
	4		24396	152	B3-U0-G5	25600	160	B3-U0-G5	25457	159	B3-U0-G5	
	5W		24327	142	B5-U0-G3	25037	142	B5-U0-G3	25037	142	B5-U0-G3	
	FT		24994	148	B3-U0-G3	25964	148	B3-U0-G3	25964	148	B3-U0-G3	
	FTA		24171	148	B3-U0-G3	26077	148	B4-U0-G3	26077	148	B4-U0-G3	
	AM		24939	150	B3-U0-G2	26393	150	B3-U0-G2	26393	150	B3-U0-G2	
	LC/RC		25884	162	B3-U0-G4	25884	162	B3-U0-G4	25310	158	B3-U0-G4	
30L	2	70	30171	140	B4-U0-G3	32417	140	B4-U0-G3	32417	140	B4-U0-G3	232
	3		31243	141	B3-U0-G4	32656	141	B3-U0-G4	32656	141	B3-U0-G4	
	4		30631	144	B3-U0-G5	32141	151	B3-U0-G5	31961	150	B3-U0-G5	
	5W		30402	135	B5-U0-G3	31267	135	B5-U0-G3	31267	135	B5-U0-G3	
	FT		31233	140	B4-U0-G4	32424	140	B4-U0-G4	32424	140	B4-U0-G4	
	FTA		30207	140	B4-U0-G4	32566	140	B4-U0-G4	32566	140	B4-U0-G4	
	AM		3116	142	B4-U0-G3	32960	142	B4-U0-G3	32960	142	B4-U0-G3	
	LC/RC		32498	153	B3-U0-G5	32498	153	B3-U0-G5	31777	149	B3-U0-G5	

*LEDs are frequently updated therefore values are nominal.

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PERFORMANCE (CONT.)

DELIVERED LUMENS*

Lumen Package	Distribution	CRI	3000K CCT			4000K CCT			5000K CCT			Wattage
			Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	
36L	2	70	35357	133	B4-U0-G3	38275	133	B4-U0-G3	38275	133	B4-U0-G3	288
	3		36614	134	B4-U0-G4	38557	134	B4-U0-G4	38557	134	B4-U0-G4	
	4		35402	139	B3-U0-G5	37148	146	B4-U0-G5	36940	145	B4-U0-G5	
	5W		35627	128	B5-U0-G4	36917	128	B5-U0-G4	36917	128	B5-U0-G4	
	FT		36602	133	B4-U0-G4	38283	133	B4-U0-G4	38283	133	B4-U0-G4	
	FTA		35399	134	B4-U0-G4	38450	134	B4-U0-G4	38450	134	B4-U0-G4	
	AM		36524	135	B4-U0-G3	38916	135	B4-U0-G3	38916	135	B4-U0-G3	
	LC/RC		37561	147	B3-U0-G5	37561	147	B3-U0-G5	36727	144	B3-U0-G5	
42L	2	70	41035	131	B5-U0-G4	42602	136	B5-U0-G4	42542	135	B5-U0-G4	314
	3		42493	135	B4-U0-G5	44115	140	B4-U0-G5	44053	140	B4-U0-G5	
	4		41453	132	B4-U0-G5	43497	138	B4-U0-G5	43254	138	B4-U0-G5	
	5W		41349	132	B5-U0-G4	42927	134	B5-U0-G4	42866	137	B5-U0-G4	
	FT		42481	135	B4-U0-G4	44103	140	B4-U0-G4	44040	140	B4-U0-G4	
	FTA		41083	131	B4-U0-G4	42652	136	B5-U0-G4	42591	136	B5-U0-G4	
	AM		42389	135	B4-U0-G3	44007	140	B4-U0-G3	43944	140	B4-U0-G3	
	LC/RC		43980	140	B3-U0-G5	43980	140	B3-U0-G5	43004	137	B3-U0-G5	
48L	2	70	45133	123	B5-U0-G4	46856	128	B5-U0-G4	46789	128	B5-U0-G4	401
	3		46737	128	B4-U0-G5	48521	133	B4-U0-G5	48452	132	B4-U0-G5	
	4		46006	126	B4-U0-G5	48275	132	B4-U0-G5	48005	131	B4-U0-G5	
	5W		45478	124	B5-U0-G4	47214	129	B5-U0-G4	47147	129	B5-U0-G4	
	FT		46723	128	B4-U0-G5	48507	133	B4-U0-G5	48438	132	B4-U0-G5	
	FTA		45187	123	B5-U0-G4	46912	128	B5-U0-G4	46845	128	B5-U0-G4	
	AM		4662	127	B4-U0-G3	48402	132	B4-U0-G3	48333	132	B4-U0-G3	
	LC/RC		48811	133	B4-U0-G5	48811	133	B4-U0-G5	47728	130	B4-U0-G5	
55L	2	70	50179	115	B5-U0-G4	52095	119	B5-U0-G4	52021	119	B5-U0-G4	438
	3		51963	119	B4-U0-G5	53947	123	B4-U0-G5	53870	123	B4-U0-G5	
	4		51635	119	B4-U0-G5	54181	125	B4-U0-G5	53878	124	B4-U0-G5	
	5W		50563	115	B5-U0-G4	52493	120	B5-U0-G4	52418	120	B5-U0-G4	
	FT		50539	115	B4-U0-G5	52468	120	B4-U0-G5	52394	120	B4-U0-G5	
	FTA		50239	115	B5-U0-G4	52157	119	B5-U0-G4	52082	119	B5-U0-G4	
	AM		52223	119	B4-U0-G3	54216	124	B4-U0-G3	54139	124	B4-U0-G3	
	LC/RC		54113	124	B4-U0-G5	54113	124	B4-U0-G5	52912	121	B4-U0-G5	

*LEDs are frequently updated therefore values are nominal.

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PERFORMANCE (CONT.)

ELECTRICAL DATA (AMPS)*						
Lumens	**120V**	**208V**	**240V**	**277V**	**347V**	**480V**
9L	0.52	0.30	0.26	0.22	0.18	0.13
12L	0.71	0.41	0.35	0.31	0.24	0.18
18L	1.13	0.65	0.56	0.49	0.39	0.28
24L	1.33	0.77	0.67	0.58	0.46	0.33
30L	1.78	1.02	0.89	0.77	0.61	0.44
36L	2.12	1.22	1.06	0.92	0.73	0.53
42L	2.62	1.51	1.31	1.13	0.90	0.65
48L	3.05	1.76	1.53	1.32	1.05	0.76
55L	3.65	2.11	1.83	1.58	1.26	0.91

RECOMMENDED LUMEN MAINTENANCE[1] (0-25°C)					
Ambient	**Intial[2]**	**25h[2]**	**50hr[2]**	**75hr[2]**	**100hr[2]**
9L - 18L	100%	97%	93%	90%	86%
24L - 48L	100%	95%	89%	84%	79%
55L	100%	91%	82%	74%	67%

RECOMMENDED LUMEN MAINTENANCE[1] (40°C)					
Ambient	**Intial[2]**	**25h[2]**	**50hr[2]**	**75hr[2]**	**100hr[2]**
9L - 18L	100%	97%	92%	88%	84%
24L - 48L	100%	94%	87%	80%	74%

RECOMMENDED LUMEN MAINTENANCE[1] (50°C)					
Ambient	**Intial[2]**	**25h[2]**	**50hr[2]**	**75hr[2]**	**100hr[2]**
9L - 18L C	100%	96%	91%	87%	83%

*Electrical data at 25°C (77°F). Actual wattage may differ by +/-10%

1. Lumen maintenance values at 25C are calculated per TM-21 based on LM-80 data and in-situ testing.
2. In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times the IESNA LM-80-08 total test duration for the device under testing.
3. In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times the IESNA LM-80-08 total test duration for the device under testing.

DELIVERED LUMENS*					
Lumen Package	**Distribution**	**Phosphor Converted Amber (Peak 610mm)**			**Wattage**
		Delivered Lumens	**Efficacy**	**BUG Rating**	
9L	2	5848	80	B2-U0-G2	74
	3	6018	82	B1-U0-G2	
	5W	5471	74	B3-U0-G1	
	FT	5801	79	B1-U0-G2	
	FTA	5924	81	B1-U0-G1	
	AM	5995	81	B1-U0-G1	
12L	2	7530	74	B2-U0-G2	102
	3	7749	76	B1-U0-G2	
	5W	7045	69	B3-U0-G2	
	FT	7470	73	B2-U0-G2	
	FTA	7628	75	B2-U0-G2	
	AM	7720	76	B1-U0-G1	
18L	2	9311	69	B2-U0-G2	135
	3	9582	71	B2-U0-G2	
	5W	8712	65	B3-U0-G2	
	FT	9237	68	B2-U0-G2	
	FTA	9433	70	B2-U0-G2	
	AM	9546	71	B2-U0-G1	
24L	2	10955	63	B2-U0-G2	175
	3	11273	64	B2-U0-G2	
	5W	10249	59	B3-U0-G2	
	FT	10867	62	B2-U0-G2	
	FTA	11097	63	B2-U0-G2	
	AM	11230	64	B2-U0-G1	

ELECTRICAL DATA - PHOSPHOR CONVERTED AMBER (AMPS)*						
Lumens	**120V**	**208V**	**240V**	**277V**	**347V**	**480V**
9L	0.62	0.36	0.31	0.27	0.21	0.15
12L	0.85	0.50	0.43	0.38	0.30	0.22
18L	1.13	0.65	0.56	0.49	0.39	0.28
24L	1.47	0.85	0.73	0.64	0.51	0.37

*LEDs are frequently updated therefore values are nominal.

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PHOTOMETRICS

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Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. As specified by IESNA LM-79-08 the entire luminaire is tested as the source resulting in a luminaire efficiency of 100%.

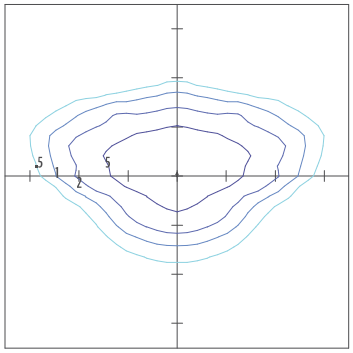
See the individual product page on https://www.lsicorp.com/ for detailed photometric data.

MRM-LED-30L-SIL-2-40-70CRI

Luminaire Data	
Type 2 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,416
Watts	232
Efficacy	140
IES Type	Type II - Short
BUG Rating	B4-U0-G3

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	4796	15%
Medium (30-60°)	19811	61%
High (60-80°)	7474	23%
Very High (80-90°)	335	1%
Uplight (90-180°)	0	0%
Total Flux	32416	100%

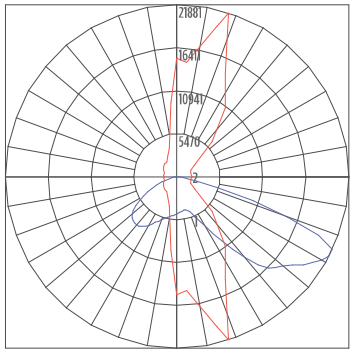
ISO Footcandle



25' Mounting Height / 25' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

Polar Curve



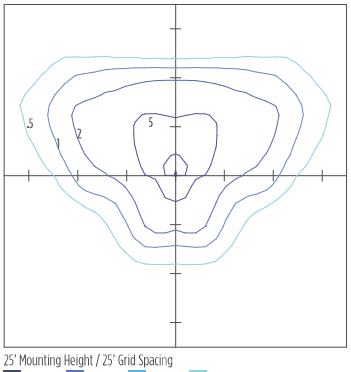
Vertical Plane Horizontal Cone

MRM-LED-30L-SIL-3-40-70CRI

Luminaire Data	
Type 3 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,656
Watts	232
Efficacy	141
IES Type	Type III - Short
BUG Rating	B3-U0-G4

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	3385	10%
Medium (30-60°)	16250	50%
High (60-80°)	12430	38%
Very High (80-90°)	591	2%
Uplight (90-180°)	0	0%
Total Flux	32656	100%

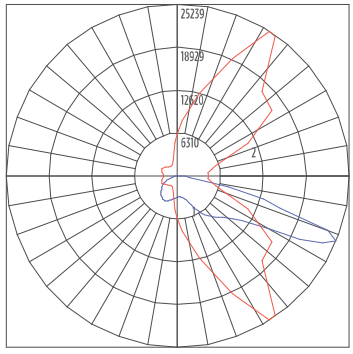
ISO Footcandle



25' Mounting Height / 25' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

Polar Curve



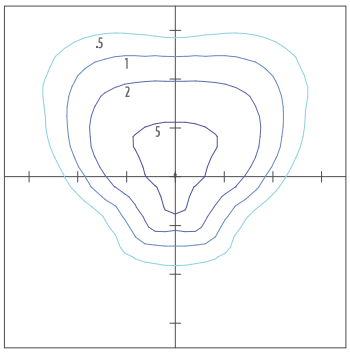
Vertical Plane Horizontal Cone

MRM-LED-30L-SIL-FT-40-70CRI

Luminaire Data	
Type FT Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,424
Watts	232
Efficacy	140
IES Type	Type IV - Short
BUG Rating	B3-U0-G4

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	3952	12%
Medium (30-60°)	15505	48%
High (60-80°)	12279	38%
Very High (80-90°)	688	2%
Uplight (90-180°)	0	0%
Total Flux	32424	100%

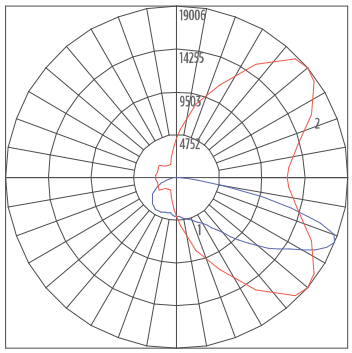
ISO Footcandle



25' Mounting Height / 25' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

Polar Curve



Vertical Plane Horizontal Cone

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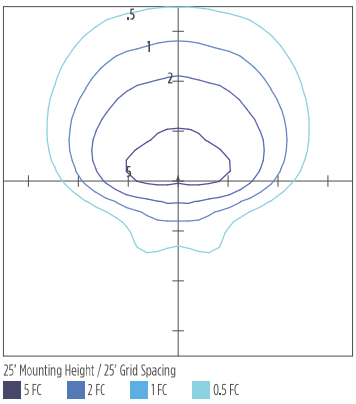
PHOTOMETRICS (CONT)

MRM-LED-30L-SIL-4-40-70CRI

Luminaire Data	
Type 4 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,141
Watts	213
Efficacy	151
IES Type	Type IV - Very Short
BUG Rating	B3-U0-G5

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	3119	10%
Medium (30-60°)	13569	42%
High (60-80°)	13649	42%
Very High (80-90°)	1804	6%
Uplight (90-180°)	0	0%
Total Flux	32141	100%

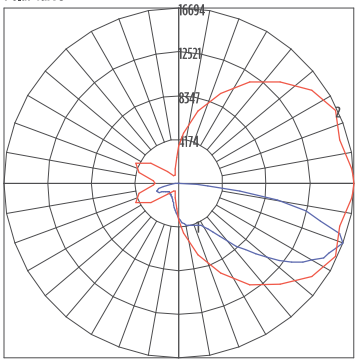
ISO Footcandle



25' Mounting Height / 25' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

Polar Curve



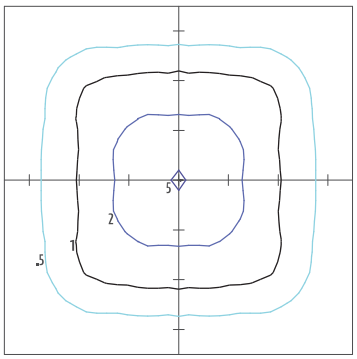
Vertical Plane Horizontal Cone

MRM-LED-30L-SIL-5W-40-70CRI

Luminaire Data	
Type 5W Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	31,267
Watts	232
Efficacy	135
IES Type	Type VS - Short
BUG Rating	B5-U0-G3

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	3138	10%
Medium (30-60°)	13193	42%
High (60-80°)	14641	47%
Very High (80-90°)	296	1%
Uplight (90-180°)	0	0%
Total Flux	31267	100%

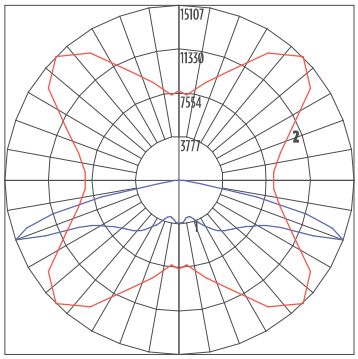
ISO Footcandle



25' Mounting Height / 25' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

Polar Curve



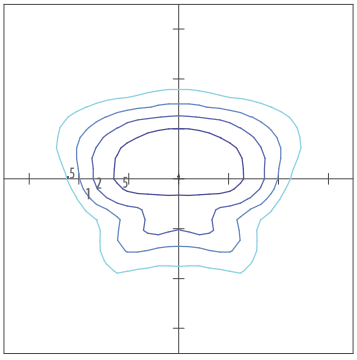
Vertical Plane Horizontal Cone

MRM-LED-30L-SIL-FTA-40-70CRI

Luminaire Data	
Type FTA Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,566
Watts	232
Efficacy	140
IES Type	Type VS - Short
BUG Rating	B4-U0-G3

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	6986	21%
Medium (30-60°)	19172	59%
High (60-80°)	5875	18%
Very High (80-90°)	534	2%
Uplight (90-180°)	0	0%
Total Flux	32566	100%

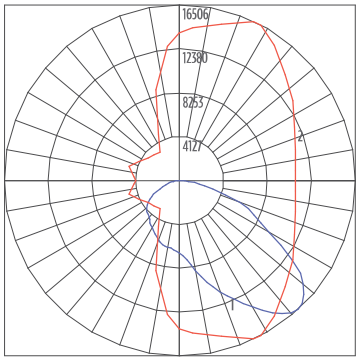
ISO Footcandle



25' Mounting Height / 25' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

Polar Curve



Vertical Plane Horizontal Cone

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PHOTOMETRICS (CONT)

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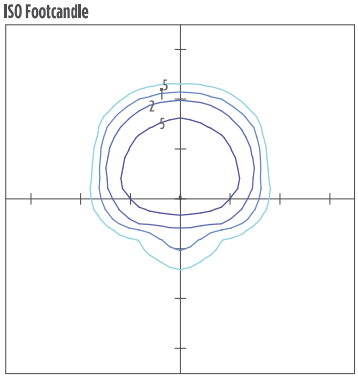
MRM-LED-30L-SIL-AM-40-70CRI

Luminaire Data	
Type AM Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,960
Watts	232
Efficacy	142
IES Type	Type III - Very Short
BUG Rating	B3-U0-G3

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	6363	19%
Medium (30-60°)	22026	67%
High (60-80°)	4192	13%
Very High (80-90°)	379	1%
Uplight (90-180°)	0	0%
Total Flux	32960	100%

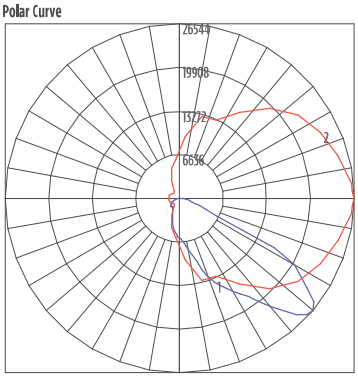
ISO Footcandle



25' Mounting Height / 25' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

Polar Curve



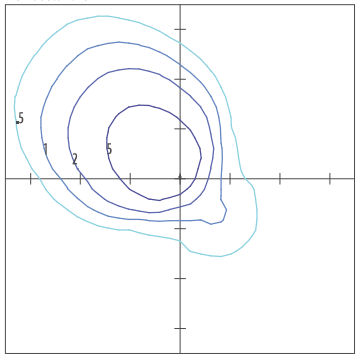
Vertical Plane Horizontal Cone

MRM-LED-30L-SIL-LC-40-70CRI

Luminaire Data	
Left Corner Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,498
Watts	213
Efficacy	153
IES Type	N/A
BUG Rating	B3-U0-G5

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	5083	16%
Medium (30-60°)	14808	46%
High (60-80°)	11603	36%
Very High (80-90°)	1005	3%
Uplight (90-180°)	0	0%
Total Flux	32498	100%

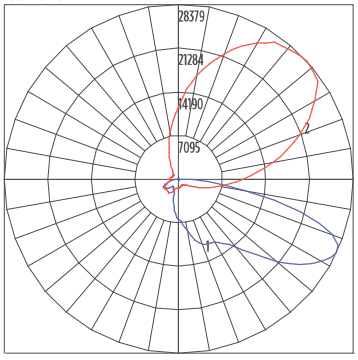
ISO Footcandle



25' Mounting Height / 25' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

Polar Curve



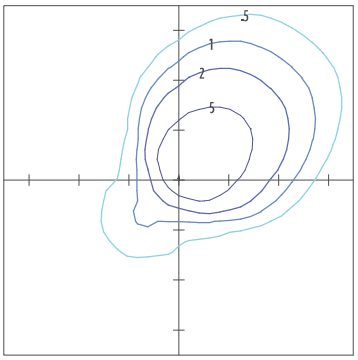
Vertical Plane Horizontal Cone

MRM-LED-30L-SIL-RC-40-70CRI

Luminaire Data	
Right Corner Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,498
Watts	213
Efficacy	153
IES Type	N/A
BUG Rating	B3-U0-G5

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	5083	16%
Medium (30-60°)	14808	46%
High (60-80°)	11603	36%
Very High (80-90°)	1005	3%
Uplight (90-180°)	0	0%
Total Flux	32498	100%

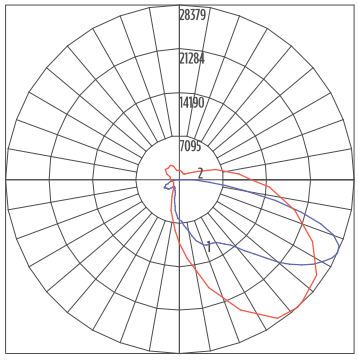
ISO Footcandle



25' Mounting Height / 25' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

Polar Curve



Vertical Plane Horizontal Cone

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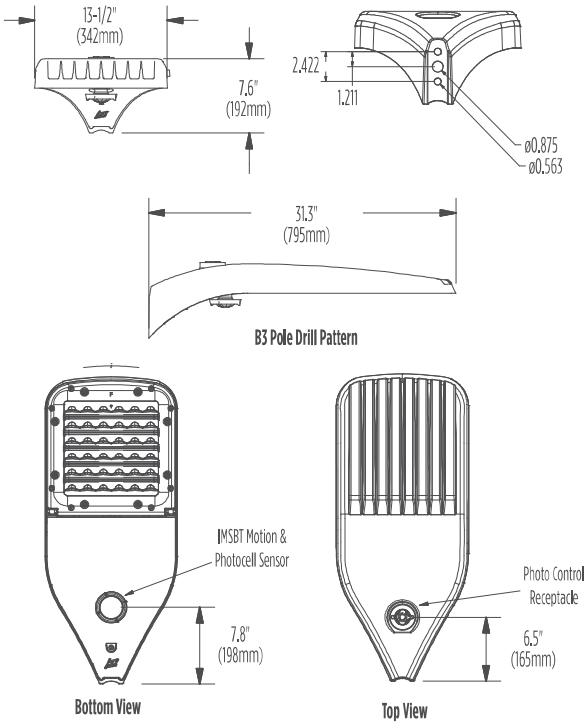
Mirada Medium Outdoor LED Area Light

Type : _____

Have questions? Call us at (800) 436-7800

PRODUCT DIMENSIONS



Luminaire EPA Chart					
Tilt Degree		**0°**	**15°**	**30°**	**45°**
	Single	0.5	1.0	1.5	1.9
	D180°	1.0	2.0	2.6	3.4
	D90°	0.8	2.0	2.6	3.4
	T90°	1.0	2.2	2.8	3.4
	TN120°	1.0	2.5	3.6	4.4
	Q90°	1.0	2.2	2.8	3.4

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CONTROLS

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Integral Bluetooth™ Motion and Photocell Sensor (IMSBTxL)

Slim low profile sensor provides multi-level control based on motion and/or daylight. Sensor controls 0-10 VDC LED drivers and is IP66 rated for cold and wet locations (-40°F to 167°F). Two unique PIR lenses are available and used based on fixture mounting height. All control parameters are adjustable via an iOS or Android App capable of storing and transmitting sensor profiles.

Click here to learn more details about IMSBT

LEVITON App Apple Android

AirLink Blue (ALBMRxLR, ALBCSx)

Wireless Bluetooth Mesh Outdoor Lighting Control System that provides energy savings, code compliance and enhanced safety/security for parking lots and parking garages. Three key components; Bluetooth wireless radio/sensor controller, Time Keeper and an iOS App. Capable of grouping multiple fixtures and sensors as well as scheduling time-based events by zone. Radio/Sensor Controller is factory integrated into Area/Site, Wall Mounted, Parking Garage and Canopy luminaires.

Click here to learn more details about AirLink Blue

AirLink Blue App Apple

Sensor Sequence of Operations

Standard Programming	On Event	Off Event	On Light Level	Dim Light Level	Daylight Harvesting	Delay To Off	Sensitivity
OMSBTxL/IMSBTxL	Motion	No Motion	100%	N/A	On; Auto Calibration	20 minutes	High
OMS	Motion	No Motion	N/A	N/A	N/A	30 seconds	Auto

Operation	Description
On Event	Trigger that activates lights to turn on; either automatic via motion detected or manually activated via push of button.
Off Event	Trigger that activates lights to turn off; either automatic via no motion detected or manually activated via push of button.
On Light Level	The light level that the fixtures will turn on to when ON EVENT occurs.
Dim Light Level	The light level that the fixtures will dim down to when no motion is detected.
Delay to Dim	The amount of time after which no motion is detected that the fixtures will be triggered to dim down. This sequence is optional, and sensor can be programmed to only trigger the fixture to turn off by entering 100% in this field.
Delay to Off	The amount of time after which no motion is detected that the fixtures will be triggered to turn off. If delay to dim is part of the programmed functionality, this is the amount of time after which no motion is detected after the fixture have already dimmed down.
Sensitivity	The sensitivity can be set to high, medium, low, or auto where applicable. High will detect smaller, simple motions. Low will only detect larger more complex motions. Auto temperature calibration adjusts the PIR sensitivity as ambient temperature rises to increase detection of heat movement through the field of view.

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Mirada Medium Wall Sconce (XWM)

Outdoor Wall Sconce

IP65 IK08

OVERVIEW	
Lumen Package	3,000 - 21,000
Wattage Range	23 - 175
Efficacy Range (LPW)	125 - 158
Weight lbs(kg)	27 (12.2)
Control Options	IMSBT, ALB, ALS, PCI

QUICK LINKS

FEATURES & SPECIFICATIONS

Construction

- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Hinged die-cast aluminum wiring access door located underneath.
- Galvanized-steel universal wall mount bracket comes standard with hinging mechanism to easily access the junction box wire connections without removing the luminaire.
- Optional pole-mounting bracket (XPMA) permits mounting to standard poles.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Max shipping weight: 30lbs in carton

Optical System

- State-of-the-Art one piece silicone optic provides industry leading optical control while also acting as an integrated gasket reducing system complexity and improving fixture reliability.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in Types 2, 3, 4, and FT distributions.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93-95%.
- Zero uplight.
- Available in 5000K, 4000K and 3000K color temperatures per ANSI C78.377. Also Available in Phosphor Converted Amber with Peak intensity at 610nm.
- Minimum CRI of 70.

Electrical

- High-performance programmable driver features over-voltage, under-voltage, short-circuit and over temperature protection. Custom lumen and wattage packages available.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz or optional High Voltage (347-480 Vac).
- L80 Calculated Life: >100k Hours
- Total harmonic distortion (THD): <20%
- 3L to 12L operating temperature: -40°C to +50°C (-40°F to +122°F)
- 15L operating temperature: -40°C to +45°C (-40°F to +113°F).
- 18L operating temperature: -40°C to +40°C (-40°F to +104°F).
- 21L operating temperature: -40°C to +35°C (-40°F to + 95°F).
- Power factor (PF): >.90
- Input power stays constant over life.
- Optional 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed via hinged door.
- Optional integral emergency battery pack provides 90-minutes of constant power to the LED system, ensuring code compliance. A test switch/indicator button is installed on the housing for ease of maintenance. The fixture delivers 1500 lumens during emergency mode.

Controls

- Integral passive infrared Bluetooth™ motion sensor options. Fixtures operate independently and can be commissioned via an iOS or Android configuration app. Updates and modifications to the control strategy are easily implemented via an intuitive app.
- The ALBMRxLR utilizing an external antenna for long range communications allows for Bluetooth Mesh wireless up to 100' from node to node. Ensures reliable wireless communications for applications where only wall-mount fixture product is being utilized.

Installation

- Universal wall mounting plate easily mounts directly to 4" octagonal or square junction box.
- 2 fasteners secure the hinged door underneath the housing and provide quick & easy access to the electrical compartment for installing/servicing.
- Optional terminal block accepts up to 12 ga wire.

Warranty

- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.
- 1 Year warranty on Battery Back-up option.

Listings

- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- IDA compliant; with 3000K or lower color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet Locations.
- IP65 rated luminaire per IEC 60598.
- 3G rated for ANSI C136.31 high vibration applications when pole mounted (using optional XPMA bracket) or wall mounted.
- IK08 rated luminiare per IEC 66262 mechanical impact code
- DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

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Mirada Medium Wall Sconce (XWM) Outdoor Wall Sconce

Type : _____

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ORDERING GUIDE

Back to Quick Links

TYPICAL ORDER EXAMPLE: XWM 2 LED 03L 30 UE BRZ ALSC

Family	Distribution	Light Source	Lumen Package	Color Temperature
XWM - Mirada Medium Wall Sconce	**2** - Type 2 **3** - Type 3 **4** - Type 4 **FT** - Type 4 Forward Throw	**LED**	**3L** - 3,000 **4L** - 4,000 **6L** - 6,000 **8L** - 8,000 **12L** - 12,000 **15L** - 15,000 **18L** - 18,000 **21L** - 21,000 **Custom Lumen Packages**[1]	**30** - 3000K **40** - 4000K **50** - 5000K **AMB** - Phosphor Converted Amber[2]

Voltage	Finish	Controls	Options
UE - Universal Voltage (120-277V) **HV** - High Voltage (347-480V)	**BLK** - Black **BRZ** - Dark Bronze **GMG** - Gun Metal Gray **GPT** - Graphite **MSV** - Metallic Silver **PLP** - Platinum Plus **SVG** - Satin Verde Green **WHT** - White	**Blank** - None **Wireless Controls** **ALSC** - Airlink Synapse Control System **ALSCS01** - AirLink Synapse Control System with 8-12' Motion Sensor **ALSCS02** - AirLink Synapse Control System with 12-20' Motion Sensor **ALBMR1LR** - AirLink Blue Wireless Motion & Photo Sensor Controller (8 - 15') mounting height)[3] **ALBMR2LR** - AirLink Blue Wireless Motion & Photo Sensor Controller (16 - 40' mounting height)[3] **Standalone Controls** **DIM** - 0-10v Dimming leads extended to housing exterior **IMSBT1L** -Integral Bluetooth™ Motion and Photocell Sensor (8-24' MH)[3,4] **IMSBT2L** - Integral Bluetooth™ Motion and Photocell Sensor (25-40' MH)[3,4] **Button Type Photocells** **PCI120** - 120V **PCI208-277** - 208 -277V **PCI347** - 347V	**Blank** - None **BB** - Battery Back-up (0°C)[5] **CWBB** - Cold Weather Battery Backup (-20°C)[5] **XPMA** - Pole Mounting Bracket **SP1** - 10kV Surge Protection **TB** - Terminal Block

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FUSING ACCESSORY ORDERING INFORMATION[6]

Part Number	Description
FK120[7]	FK120 - Single Fusing
FK277[7]	FK277 - Single Fusing
FK347[7]	FK347 - Single Fusing
DFK208[7]	DFK - Double Fusing
DFK240[7]	DFK - Double Fusing (240V)
DFK480[7]	DFK - Double Fusing (480V)

MOUNTING ACCESSORY ORDERING INFORMATION[6]

Part Number[8]	Description
809374CLR	XWM Wet Location Surface Conduit/Wiring Box
751632	10' Linear Bird Spike Kit (2' Recommended per Luminaire)

1 Custom lumen and wattage packages available consult factory. Values are within industry standard tolerances but not DLC listed.
2 Only available in 6L Lumen Package. Consult factory for lead time and availability.
3 IMSBT and ALBMRxLR control options are not available in 3L or 4L lumen packages when high voltage (HV) is specified.
4 IMSBTxL is field configurable via the Leviton app that can be downloaded from your smartphone's app store.
5 Not available in HV.
6 Accessories are shipped separately and field installed.
7 Fusing must be located in a hand hole for pole or in the junction box.
8 "CLR" to be replaced by paint finish selection. See Finish options for paint color selections.

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PERFORMANCE

Delivered Lumens[1]

Lumen Package	Distribution	CRI	3000K			4000K			5000K			Wattage
			Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	
3L	2	70	3,178	138	B1-U0-G1	3,368	146	B1-U0-G1	9,853	159	B1-U0-G1	23
	3		3,224	140	B1-U0-G1	3,416	148	B1-U0-G1	3,361	145	B1-U0-G1	
	4		3,210	140	B1-U0-G2	3,364	146	B1-U0-G2	3,294	143	B1-U0-G2	
	FT		3,160	137	B1-U0-G1	3,349	145	B1-U0-G1	3,294	143	B1-U0-G1	
4L	2	70	4,230	139	B1-U0-G1	4,483	147	B1-U0-G1	4,410	145	B1-U0-G1	30
	3		4,291	141	B1-U0-G1	4,547	150	B1-U0-G1	4,473	147	B1-U0-G1	
	4		4,234	141	B1-U0-G2	4,437	148	B1-U0-G2	4,344	145	B1-U0-G2	
	FT		4,206	138	B1-U0-G1	4,458	147	B1-U0-G1	4,385	144	B1-U0-G1	
6L	2	70	6,326	134	B2-U0-G1	6,704	142	B2-U0-G2	6,595	140	B2-U0-G2	47
	3		6,417	136	B1-U0-G2	6,800	144	B2-U0-G2	6,689	142	B2-U0-G2	
	4		6,336	135	B1-U0-G3	6,640	141	B1-U0-G3	6,500	138	B1-U0-G3	
	FT		6,290	134	B2-U0-G2	6,666	142	B2-U0-G2	6,557	139	B2-U0-G2	
8L	2	70	8,166	128	B2-U0-G2	8,654	135	B2-U0-G2	8,513	133	B2-U0-G2	64
	3		8,283	129	B2-U0-G2	8,778	137	B2-U0-G2	8,635	134	B2-U0-G2	
	4		8,362	131	B1-U0-G3	8,763	137	B2-U0-G3	8,579	134	B1-U0-G3	
	FT		8,120	126	B2-U0-G2	8,605	134	B2-U0-G2	8,465	132	B2-U0-G2	
12L	2	70	11,492	149	B2-U0-G2	12,033	156	B3-U0-G2	11,927	155	B3-U0-G2	77
	3		11,757	153	B2-U0-G2	12,311	160	B2-U0-G2	12,203	158	B2-U0-G2	
	4		11,486	149	B2-U0-G3	12,058	157	B2-U0-G3	11,716	152	B2-U0-G3	
	FT		11,721	152	B2-U0-G2	12,274	159	B2-U0-G3	12,166	158	B2-U0-G3	
15L	2	70	14,221	145	B3-U0-G2	14,891	152	B3-U0-G2	14,760	151	B3-U0-G2	98
	3		14,549	148	B2-U0-G2	15,235	155	B2-U0-G2	15,101	154	B2-U0-G2	
	4		14,099	144	B2-U0-G3	14,801	151	B2-U0-G3	14,382	147	B2-U0-G3	
	FT		14,505	148	B2-U0-G3	15,189	155	B2-U0-G3	15,055	154	B2-U0-G3	
18L	2	70	16,894	138	B3-U0-G3	17,690	145	B3-U0-G3	17,534	144	B3-U0-G3	122
	3		17,285	142	B3-U0-G3	18,099	148	B3-U0-G3	17,940	147	B3-U0-G3	
	4		16,951	139	B2-U0-G3	17,795	146	B3-U0-G3	17,291	142	B3-U0-G3	
	FT		17,231	141	B3-U0-G3	18,044	148	B3-U0-G3	17,885	147	B3-U0-G3	
21L	2	70	19,961	133	B3-U0-G3	20,902	139	B3-U0-G3	20,718	138	B3-U0-G3	150
	3		20,422	136	B3-U0-G3	21,385	143	B3-U0-G3	21,197	141	B3-U0-G3	
	4		19,768	132	B3-U0-G4	20,753	138	B3-U0-G5	20,165	134	B3-U0-G4	
	FT		20,360	136	B3-U0-G3	21,320	142	B3-U0-G3	21,132	141	B3-U0-G3	

Electrical Data (Amps) – 3000K/4000K/5000K[2]

Lumen Package	120V	208V	240V	277V	347V	480V
3L	0.19	0.11	0.10	0.08	0.07	0.05
4L	0.25	0.14	0.13	0.11	0.09	0.06
6L	0.39	0.23	0.20	0.17	0.14	0.10
9L	0.53	0.31	0.27	0.23	0.18	0.13
12L	0.64	0.37	0.32	0.28	0.22	0.16
15L	0.82	0.47	0.41	0.35	0.28	0.20
18L	1.02	0.59	0.51	0.44	0.35	0.25
21L	1.25	0.72	0.63	0.54	0.43	0.31

Delivered Lumens (Phosphor Converted Amber)

Lumen Package	Distribution	Amber			Wattage
		Delivered Lumens	Efficacy	BUG Rating	
6L	2	3,325	76	B1-U0-G1	44
	3	3,385	78	B1-U0-G1	
	4	3,310	75	B1-U0-G1	
	FT	3,343	77	B1-U0-G1	

Recommended Lumen Maintenance – XWM[3]

Ambient Temperature C°	Initial[4]	25K hrs.[4]	50K hrs.[4]	75K hrs.[5]	100K hrs.[5]
35	99%	97%	95%	93%	91%
50	100%	98%	95%	93%	90%

1 LEDs are frequently updated therefore values are nominal
2 Electrical data at 25C (77F). Actual wattage may differ by +/-10%.
3 Lumen maintenance values at 25°C are calculated per TM-21 based on LM-80 data and in-situ luminaire testing.
4 In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip).
5 In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times NA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip).

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PHOTOMETRICS

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. As specified by IESNA LM-79-08 the entire luminaire is tested as the source resulting in a luminaire efficiency of 100%.

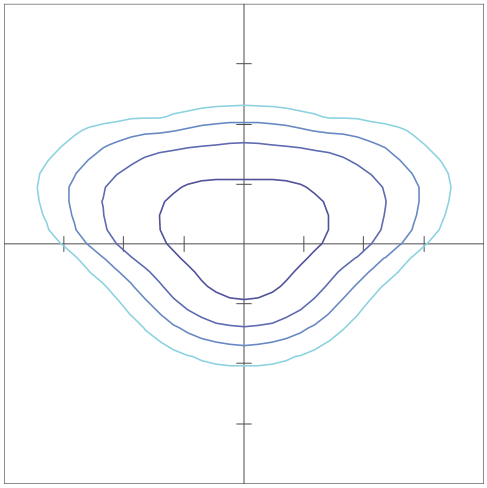
See the individual product page on https://www.lsicorp.com/ for detailed photometric data.

XWM-2-LED-12L-40

Luminaire Data	
Type 2 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	12,033
Watts	77
Efficacy	156
IES Type	Type II - Short
BUG Rating	B3-U0-G2

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	1,961	16%
Medium (30-60°)	6,874	57%
High (60-80°)	3,014	25%
Very High (80-90°)	184	2%
Uplight (90-180°)	0	0%
Total Flux	12,033	100%

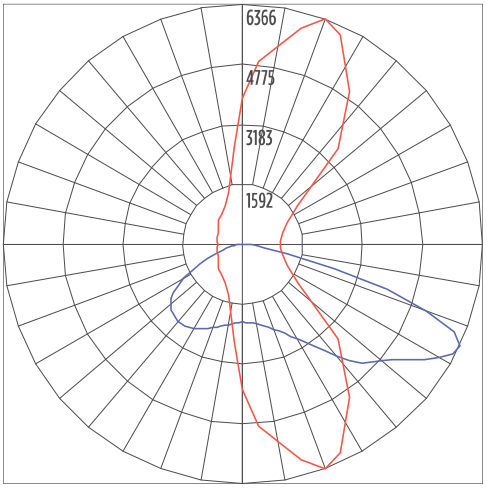
ISO Footcandle



15' Mounting Height / 15' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

Polar Curve



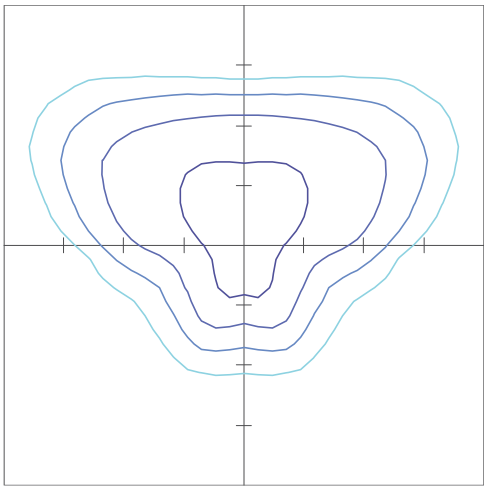
Vertical Plane Horizontal Cone

XWM-3-LED-12L-40

Luminaire Data	
Type 3 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	12,311
Watts	77
Efficacy	160
IES Type	Type III - Short
BUG Rating	B2-U0-G2

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	1,340	11%
Medium (30-60°)	6,164	50%
High (60-80°)	4,549	37%
Very High (80-90°)	258	2%
Uplight (90-180°)	0	0%
Total Flux	12,311	100%

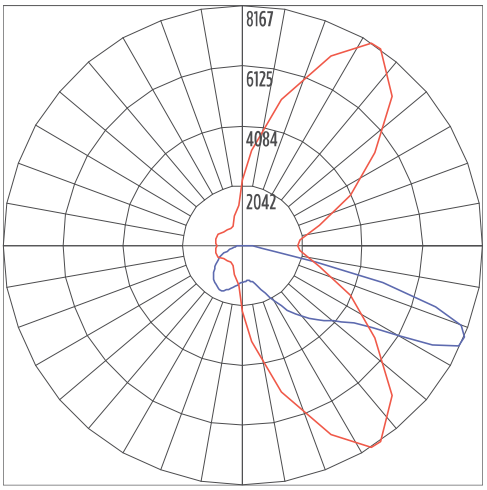
ISO Footcandle



15' Mounting Height / 15' Grid Spacing

10 FC 5 FC 2 FC 1 FC

Polar Curve



Vertical Plane Horizontal Cone

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PHOTOMETRICS

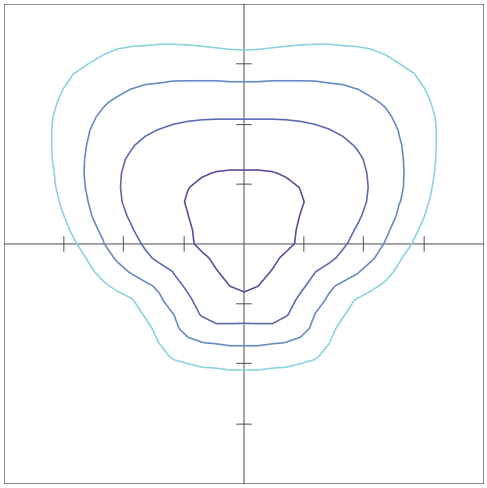
Back to Quick Links

XWM-FT-LED-12L-40

Luminaire Data	
Type FT Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	12,274
Watts	77
Efficacy	159
IES Type	Type IV - Short
BUG Rating	B2-U0-G3

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	1,578	13%
Medium (30-60°)	5,798	47%
High (60-80°)	4,576	37%
Very High (80-90°)	322	3%
Uplight (90-180°)	0	0%
Total Flux	12,274	100%

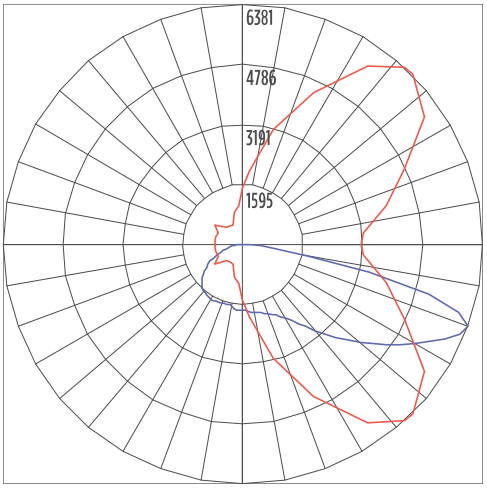
ISO Footcandle



15' Mounting Height / 15' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

Polar Curve



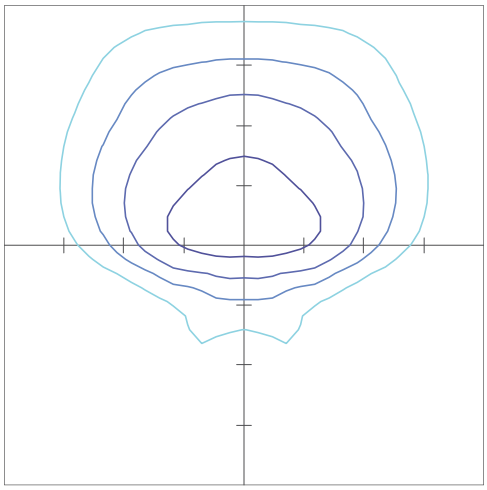
Vertical Plane Horizontal Cone

XWM-4-LED-12L-40

Luminaire Data	
Type 4 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	12,058
Watts	77
Efficacy	157
IES Type	Type IV - Very Short
BUG Rating	B2-U0-G3

Zonal Lumen Summary		
Zone	**Lumens**	**% Luminaire**
Low (0-30°)	1,345	11%
Medium (30-60°)	5,394	45%
High (60-80°)	4,855	40%
Very High (80-90°)	464	4%
Uplight (90-180°)	0	0%
Total Flux	12,058	100%

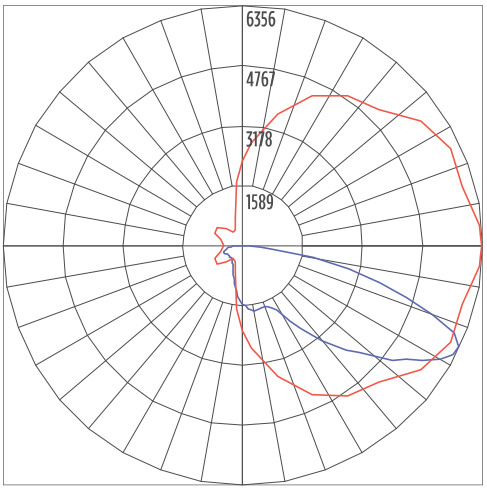
ISO Footcandle



15' Mounting Height / 15' Grid Spacing

5 FC 2 FC 1 FC 0.5 FC

Polar Curve



Vertical Plane Horizontal Cone

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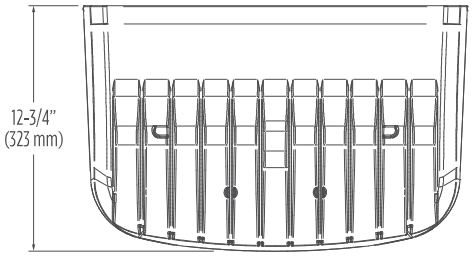
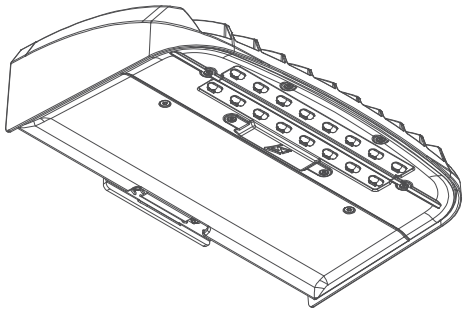
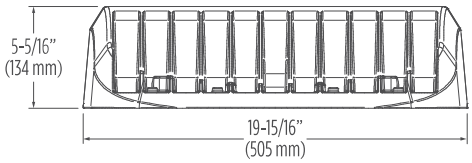
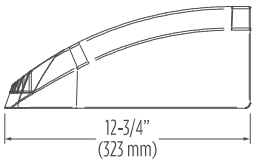
PRODUCT DIMENSIONS

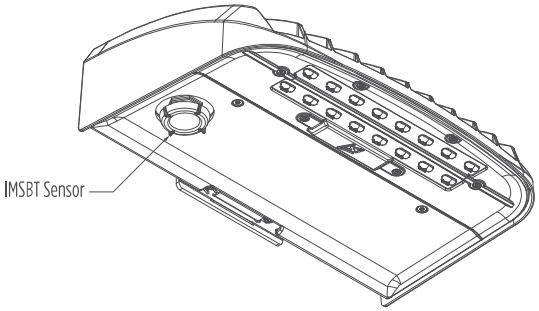




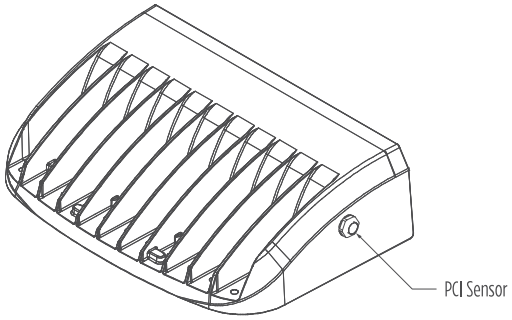




Mirada Medium Wall Sconce with Integral Bluetooth™ Motion and Photocell Sensor
(XWM IMSBTxL)

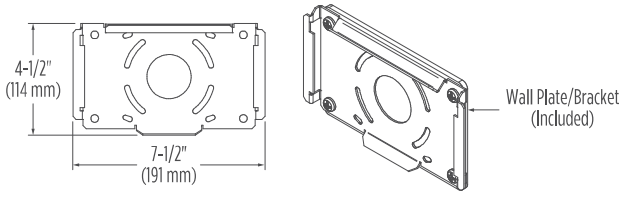


Mirada Medium Wall Sconce with Button Type Photocell
(XWM PCI)

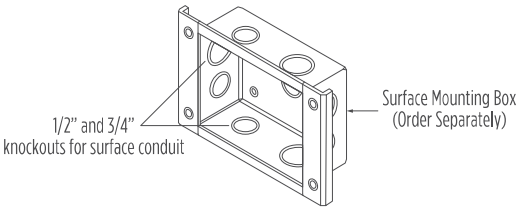


Mounting Options

Mounting Over Junction Box
(Standard/Included)



XWM Wet Location Surface Conduit/Wiring Box
(809374CLR)



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CONTROLS

Integral Bluetooth™ Motion and Photocell Sensor (IMSBTxL)

Slim low profile sensor provides multi-level control based on motion and/or daylight. Sensor controls 0-10 VDC LED drivers and is IP66 rated for cold and wet locations (-40°F to 167°F). Two unique PIR lenses are available and used based on fixture mounting height. All control parameters are adjustable via an iOS or Android App capable of storing and transmitting sensor profiles.

Click here to learn more details about IMSBT

LEVITON App Apple Android

AirLink Wireless Lighting Controller (ALSC, ALSCS)

The AirLink integrated controller is a California Title 24 compliant lighting controller that provides real-time light monitoring and control with utility-grade power monitoring. It includes a 24V sensor input and power supply to connect a sensor into the outdoor AirLink wireless lighting system. The wireless integrated controller is compatible with this fixture.

Click here to learn more details about AirLink

AirLink Blue (ALBMRxLR)

Wireless Bluetooth Mesh Outdoor Lighting Control System that provides energy savings, code compliance and enhanced safety/security for parking lots and parking garages. Three key components; Bluetooth wireless radio/sensor controller, Time Keeper and an iOS App. Capable of grouping multiple fixtures and sensors as well as scheduling time-based events by zone. Radio/Sensor Controller is factory integrated into Area/Site, Wall Mounted, Parking Garage and Canopy luminaires.

Click here to learn more details about AirLink Blue

AirLink Blue App Apple

Sensor Sequence of Operations

Standard Programming	On Event	Off Event	On Light Level	Dim Light Level	Daylight Harvesting	Delay To Off	Sensitivity
IMSBTxL	Motion	No Motion	100%	N/A	On; Auto Calibration	20 minutes	High

Operation	Description
On Event	Trigger that activates lights to turn on; either automatic via motion detected or manually activated via push of button.
Off Event	Trigger that activates lights to turn off; either automatic via no motion detected or manually activated via push of button.
On Light Level	The light level that the fixtures will turn on to when ON EVENT occurs.
Dim Light Level	The light level that the fixtures will dim down to when no motion is detected.
Delay to Dim	The amount of time after which no motion is detected that the fixtures will be triggered to dim down. This sequence is optional, and sensor can be programmed to only trigger the fixture to turn off by entering 100% in this field.
Delay to Off	The amount of time after which no motion is detected that the fixtures will be triggered to turn off. If delay to dim is part of the programmed functionality, this is the amount of time after which no motion is detected after the fixture have already dimmed down.
Sensitivity	The sensitivity can be set to high, medium, low, or auto where applicable. High will detect smaller, simple motions. Low will only detect larger more complex motions. Auto temperature calibration adjusts the PIR sensitivity as ambient temperature rises to increase detection of heat movement through the field of view.

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Velcon Engineering & Surveying, LLC
1449 NW Commerce Center Dr., Port St. Lucie, FL, 34986
Ph: 772 / 879-0477

November 11th, 2025

City of Fort Pierce - Planning Department
100 N US Highway 1
Fort Pierce, FL 34950

Re: John Carroll High School- Major Site Plan Amendment
Drainage & Utility Statement

John Carroll High School, located in Saint Lucie County, is a private Catholic school dedicated to providing academic excellence in a faith-based environment for students in grades 9–12. To support the continued growth and enhance campus facilities, we are proposing a Major Site Plan Amendment. This amendment includes the construction of a new academic building designed to expand classroom and program space. Additionally, the project will feature an all-new parking lot to improve traffic flow, accessibility, and safety for students, staff, and visitors.

Drainage

To support the proposed use, a new on-site stormwater management system will be designed and constructed to meet all City of Fort Pierce and South Florida Water Management District (SFWMD) criteria for water quality treatment and volume attenuation. Stormwater runoff from impervious and stabilized areas will be collected and directed via swales and inlets to a dry retention basin located on the property. Site grading will promote positive drainage toward the basins, ensuring protection of adjacent properties and rights-of-way from offsite discharge. The retention system will provide all required water quality treatment and attenuation prior to a controlled release into the Delaware Ave. drainage right-of-way which leads to the North Fork of the Saint Lucie River.

Potable Water & Fire Protection

Along the frontage of the site on Delaware Ave. Public right-of-way there is an existing six-inch water main, this water line is owned and operated by Fort Pierce Utilities Authority. We propose extending this water main into our site to serve fire protection and potable water to the new buildings. The applicant is already a customer with FPUA and will be able to update their utility reservations at the time of utility permitting.

Wastewater

There is an existing private sanitary manhole onsite available for connection. This private sewer system is ultimately conveyed to Fort Piece Utilities Authority. The applicant is already a customer with FPUA and will be able to update their utility reservations at the time of utility permitting.

Solid Waste

A new dumpster enclosure is proposed on site and will be serviced by the City of Fort Pierce Solid Waste Division. Any additional fees or reservations will be addressed at the time permitting.

Velcon Engineering & Surveying, LLC
1449 NW Commerce Center Dr., Port St. Lucie, FL, 34986
Ph: 772 / 879-0477

Should you have any questions, or require additional information on the above, please do not hesitate to contact me at (772) 879-0477.

Sincerely,

Darren Guettler, P.E.
FL License No. 74637

This item has been digitally signed and sealed by Darren C. Guettler on the date adjacent to the seal. Signature must be verified on any electronic copies.

WATER USE ESTIMATE FOR:

John Carroll High School

Schools from Table 1 per FPUA standards

Units	Use		Unit Factor		Estimated GPD	
500	10 gpd per student + 4 gpd for cafeteria	=	14	Flow =	7000.00	
50	15 gpd per employee	=	15	Flow =	750.00	

TOTAL GPD = 7,750.00

31.00 ERC's * 250 gpd / 1 ERC = 7,750 gpd

Total Project ERCs =	**31.00**	**ERCs**
or =	**7,750**	**gpd**

Average Daily Flow:

Operating Hours = 8 So, 7,750 gpd / (8 hrs * 60 min) = 16.15 gpm ADF

Maximum Daily Flow:

16.1 gpm * 4.0 peaking factor ** = 64.58 gpm MDF* (OK)

Job #: 23-1030
Calcd: JM
Ckd: DG
Date: 11/12/25

Velcon Engineering & Surveying, LLC
1449 NW Commerce Centre dr., Port St. Lucie, FL, 34986
Ph: 772/879-0477
BPR & FBPE License No. 32222

Stormwater Management Report

for

John Carroll High School

Fort Pierce, Florida

November, 2025

Prepared By:

Velcon Engineering & Surveying LLC
1449 NW Commerce Centre Drive, Port St. Lucie, FL, 34986
Ph: 772 / 879-0477
http://velconfl.com

Certificate of Authorization No. 32222
Engineer's Project No. 23-1002

Darren C. Guettler, P.E.
Florida Lic. No 74637

Date: 11-11-2025

1. Purpose

The purpose of this report is to provide the City of Fort Pierce & SFWMD with calculations and documentation which demonstrate that the proposed surface water management system complies with state and local criteria.

2. Background

The 8.746 acre site is located on the north side of the Delaware Ave. and west of 33rd Ave. The site is currently occupied with multiple buidlings and modular classrooms. The purpose of the project is to provide a remodel for the existing John Carroll High School with new buildings and a new parking lot. The project is bordered to the north and west by an existing sports fields and some residential property. South of the proposed site is Delaware Ave. with more residential properties across the street. To the east is the Saint Anastasia Church and shcool which parterned with John Carroll. The existing site grading slopes towards the permitter and conveys stormwater out to the Delaware Ave. right-of-way.

3. Proposed System

The proposed project entails the construction of a paved parking area, along with a stormwater management system consisting of a dry retention area to serve the site.

The stormwater management system will provide water quality pretreatment and attenuation for the 10-year, 24-hour 10-year, 72-hour and 25-year, 72-hour storm events, with a controlled discharge to Delaware Ave. road side swale. Attenuation is also provided for the 100-year, 72-hour storm event with no discharge.

The existing conveyance ditch onsite at a TOE elevation of 14.5' NAVD stays dry year round, this equates to an apparent water table elevation of 14.5' NAVD. Following a conservative approach, we estimated the wet season water table elevation at 14.5' NAVD.

Drainage Calculations

Site Data

Area	SF	AC	%
Project Area	380,975	8.75	
Undeveloped Area Not Included	0	0.00	
Drainage Area	380,975	8.75	100.00
Impervious Areas:			
Prop. Bldg.	16,735	0.38	4.39
Ex. Bldg.	34,166	0.78	8.97
Prop. Pavement & Walks	134,016	3.08	35.18
Ex. Pavement to Remain	14,372	0.33	3.77
Total Impervious	199,289	4.58	52.31
Pervious Areas:			
Dry Retention Area	55,170	1.27	14.48
Other Pervious	126,516	2.90	33.21
Total Pervious	181,686	4.17	47.69

Soil Storage

Wet Season
Water Table Elevation = 14.5 NAVD
Avg. Grade Elevation = 18.5 NAVD
Depth to Wet Season W.T. = **4.0 FT**

Soil Storage - Reference SFWMD Permit Manual Vol IV						
Depth to	**Coastal (1)**		**Flatwoods (2)**		**Depression (3)**	
W.T. (ft)	**Storage (in)**	**CN**	**Storage (in)**	**CN**	**Storage (in)**	**CN**
1.0	0.6	94	0.6	94	0.6	94
1.5	1.6	87	1.6	87	1.4	88
2.0	2.5	80	2.5	80	2.1	83
2.5	4.6	70	4.0	72	3.3	76
3.0	6.6	60	5.4	65	4.4	69
3.5	8.8	54	7.2	59	5.6	65
4.0	10.9	48	**9.0**	53	6.8	60

Soil Storage = 9.0 inches
Soil Moisture Storage, S = (0.75)(% Pervious)(Soil Storage)

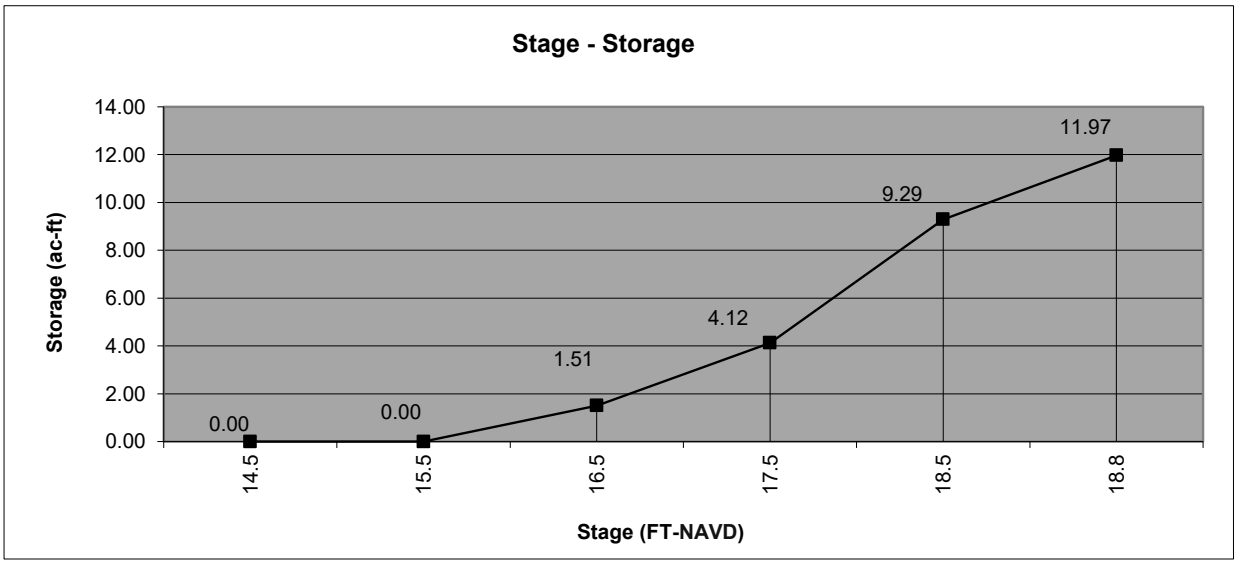
S =	2.24 inches

Stage - Storage

Elevation (FT - NAVD)	Dry Detention Area (SF)	Dry Detention Vol. (ac-ft)	Other Areas Pavement[1] (ac-ft)	Other Areas Pervious[2] (ac-ft)	Other Areas Exfiltration (ac-ft)	Total Volume (ac-ft)	Cumm. Volume (ac-ft)
14.5	0	0.00	0.00	0.00	0.00	0.00	0.00
15.5	43,754	0.00	0.00	0.00	0.00	0.00	0.00
16.5	49,361	1.07	0.00	0.44	0.00	1.51	1.51
17.5	55,170	1.20	0.10	1.32	0.00	2.62	4.12
18.5	55,170	1.27	1.70	2.20	0.00	5.17	9.29
18.8	55,170	0.38	1.02	1.27	0.00	2.67	11.97

[1]Pavement Area Varies Linearly from EL. 17.20 to EL. 18.80 NAVD
Impervious Areas = 3.41 ac

[2]Pervious Area Varies Linearly from EL. 15.50 to EL. 18.80 NAVD
Pervious Areas = 2.90 ac



Water Quality Calculations

1.0 Inch Over the Project Area

1.0 inch	*	1ft / 12in	*	8.75 Drainage Area (AC)	=	0.73 Treated Volume	ac-ft	

OR

2.5 Inches Times the Percent Impervious

(Site Area)	8.75 Project Area (AC)	- (	0.00 Lakes (AC)*	+	0.00 Wetlands (AC)*	+	1.17 Roofs	)	=	7.58 Site Area		
(Impervious Area)			7.58 Site Area (AC)	-	4.17 Pervious Area (AC)	=	3.41 Impervious Area	ac				
(% Impervious)	Impervious Area / Site Area (AC)	*	100	%		=	45.0%					
(2.5 in. * % Imp.)			2.50	inches *	45.0% Percent Impervious	=	1.12 Inches To Be Treated	inches				
(Treated Volume)	1.12 Treated Inches	*	1ft / 12 inches	*	8.75 Site Area (AC)	=	0.82 Treated Volume	ac-ft				

Required Wet Detention = 0.82 ac-ft

Required Dry Detention = 0.61 ac-ft

Required DRY Retention = 0.41 ac-ft

Required DRY Retention Per BMPTrains Nutrient Loading = 1.02 ac-ft ⇦

PLEASE SEE ATTACHED BMPTRAINS REPORT

Water Quality is Achieved at:	**Elev. 16.18 NAVD**	(dry retention area)

(See Stage-Storage Section)

Water Quality is Provided at:	**Elev. 16.50 NAVD**	**1.51 ac-ft**

Post-Development Discharge

(See Output From ICPR Software)

Event	Rainfall (inches)	Max Stage (FT-NAVD)		Q_{max} (CFS) Pre Vs. Post	
		ICPR Model	Plan Grade		
10yr-1 day (Parking)	6.00	16.99	< 17.20 min. pavt.	24.84	> 1.55
10yr-3 day (NSLRWCD)	8.50	17.35	< 17.5 min. berm	28.66	> 3.72
25yr-3 day (Berm)	9.50	17.45	< 17.5 min. berm	32.24	> 4.34
100yr-3 day (FFE)	12.23	18.24	< 18.80 FFE min. FFE	Zero Discharge	

Conclusion

As demonstrated in this drainage report, all the proposed improvements meet the development criteria for the City of Fort Pierce and SFWMD stormwater management and flood protection. All required water quality pretreatment will be provided in the proposed dry detention system, all minimum elevations are met for the proposed site improvements, and the discharge rate meets the minimum requirements for discharge rates established by SFWMD.

"ONSITE" DRAINAGE BASIN CHARACTERISTICS

SITE DATA (CURVE NUMBER) POST-CONDITION BASIN

GROUND COVER (CONDITION)	SOIL GROUP	AREA (ACRES)	%	CN	AREA × CN
DRAINAGE AREA		8.75			
BUILDINGS	B/D	1.04	11.9%	98	102
PAVEMENT	B/D	2.02	23.1%	98	198
PERVIOUS	B/D	5.69	65.1%	79	450
	TOTAL	8.75	100.0%		86

SITE DATA (AREAS BREAKDOWN)

ONSITE AREA	8.75 AC-ft	
BASIN TOTAL	8.75 AC-ft	
TOTAL IMPERVIOUS	3.05 AC-ft	
TOTAL IMPERVIOUS AREA	3.05 AC-ft	
BUILDINGS =	1.04 AC-ft	
PAVEMENT =	2.02 AC-ft	
TOTAL PERVIOUS AREA	5.69 AC-ft	
GREEN SPACE =	5.69 AC-ft	
DIRECTLY CONNECTED IMPERVIOUS AREA =	3.05 AC-ft	34.91% % DCIA
IMPERVIOUS AREA LESS WET SWM AREAS =	3.05 AC-ft	

"ONSITE" DRAINAGE BASIN CHARACTERISTICS

SITE DATA (CURVE NUMBER) POST-CONDITION BASIN

GROUND COVER (CONDITION)	SOIL GROUP	AREA (ACRES)	%	CN	AREA × CN
DRAINAGE AREA		8.75			
DRY RETENTION	B/D	1.27	14.5%	69	87
BUILDINGS	B/D	1.17	13.4%	98	115
PAVEMENT	B/D	3.41	38.9%	98	334
PERVIOUS	B/D	2.90	33.2%	69	200
	TOTAL	8.75	100.0%		84

SITE DATA (AREAS BREAKDOWN)

ONSITE AREA	8.75 AC-ft	
BASIN TOTAL	8.75 AC-ft	
TOTAL IMPERVIOUS	4.58 AC-ft	
TOTAL IMPERVIOUS AREA	4.58 AC-ft	
BUILDINGS =	1.17 AC-ft	
PAVEMENT =	3.41 AC-ft	
TOTAL PERVIOUS AREA	2.90 AC-ft	
GREEN SPACE =	2.90 AC-ft	
DIRECTLY CONNECTED IMPERVIOUS AREA =	4.58 AC-ft	52.31% % DCIA
IMPERVIOUS AREA LESS WET SWM AREAS =	4.58 AC-ft	

Appendix A - BMPTrains Nutrient Loading

Complete Report Ver 5.3.2

Project: John Carroll High School
Date: 11/12/2025 4:41:05 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Onsite
Rainfall Zone	Florida Zone 2
Annual Mean Rainfall	56.00

Pre-Condition Landuse Information

Landuse	Low-Intensity Commercial: TN=1.13 TP=0.188
Area (acres)	8.75
Rational Coefficient (0-1)	0.35
Non DCIA Curve Number	79.00
DCIA Percent (0-100)	34.90
Nitrogen EMC (mg/l)	1.130
Phosphorus EMC (mg/l)	0.188
Runoff Volume (ac-ft/yr)	14.304
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	19.929
Phosphorus Loading (kg/yr)	3.316

Post-Condition Landuse Information

Landuse	Low-Intensity Commercial: TN=1.13 TP=0.188
Area (acres)	8.75
Rational Coefficient (0-1)	0.45
Non DCIA Curve Number	69.00
DCIA Percent (0-100)	52.31
Wet Pond Area (ac)	0.00
Nitrogen EMC (mg/l)	1.130

Phosphorus EMC (mg/l)	0.188
Runoff Volume (ac-ft/yr)	18.341
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	25.554
Phosphorus Loading (kg/yr)	4.251

Catchment Number: 1 Name: Onsite

Project: John Carroll High School
Date: 11/12/2025

Retention Design

Retention Depth (in)	1.400
Retention Volume (ac-ft)	1.021

Watershed Characteristics

Catchment Area (acres)	8.75
Contributing Area (acres)	8.750
Non-DCIA Curve Number	69.00
DCIA Percent	52.31
Rainfall Zone	Florida Zone 2
Rainfall (in)	56.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	60
Provided TN Treatment Efficiency (%)	90
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	90

Media Mix Information

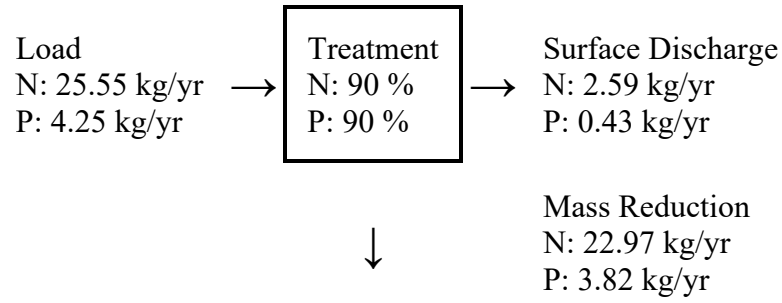
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

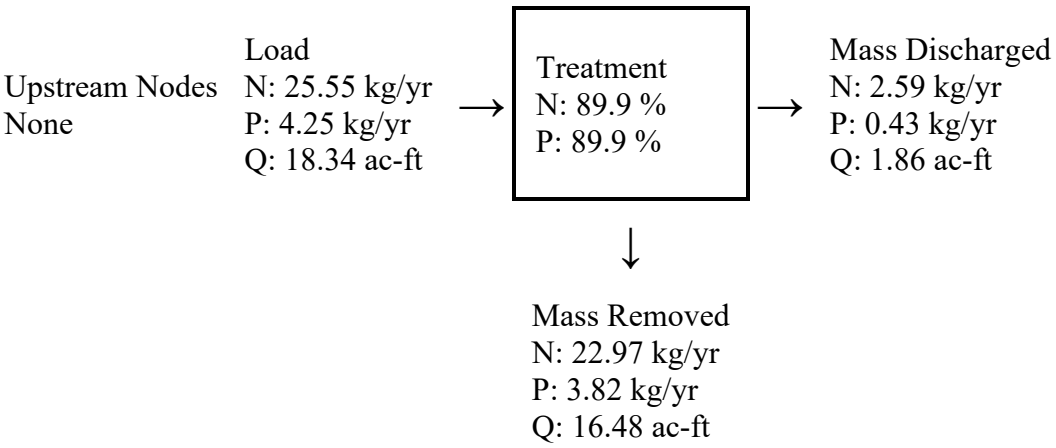
Treatment Rate (MG/yr)	0.000

TN Mass Load (kg/yr)	22.968
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	3.821
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Load Diagram for Retention (As Used In Routing)



Summary Treatment Report Version: 5.3.2

Date:11/12/2025

Project: John Carroll High School

Routing Summary
Catchment 1 Routed to Outlet

Analysis Type: Specified
Removal Efficiency
BMP Types:
Catchment 1 - (Onsite)
Retention
Based on % removal values to
the nearest percent
Total nitrogen target removal met? **Yes**
Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	19.93 kg/yr	
Total N post load	25.55 kg/yr	
Target N load reduction	60 %	
Target N discharge load	10.22 kg/yr	
Percent N load reduction	90 %	
Provided N discharge load	2.59 kg/yr	5.7 lb/yr
Provided N load removed	22.97 kg/yr	50.64 lb/yr

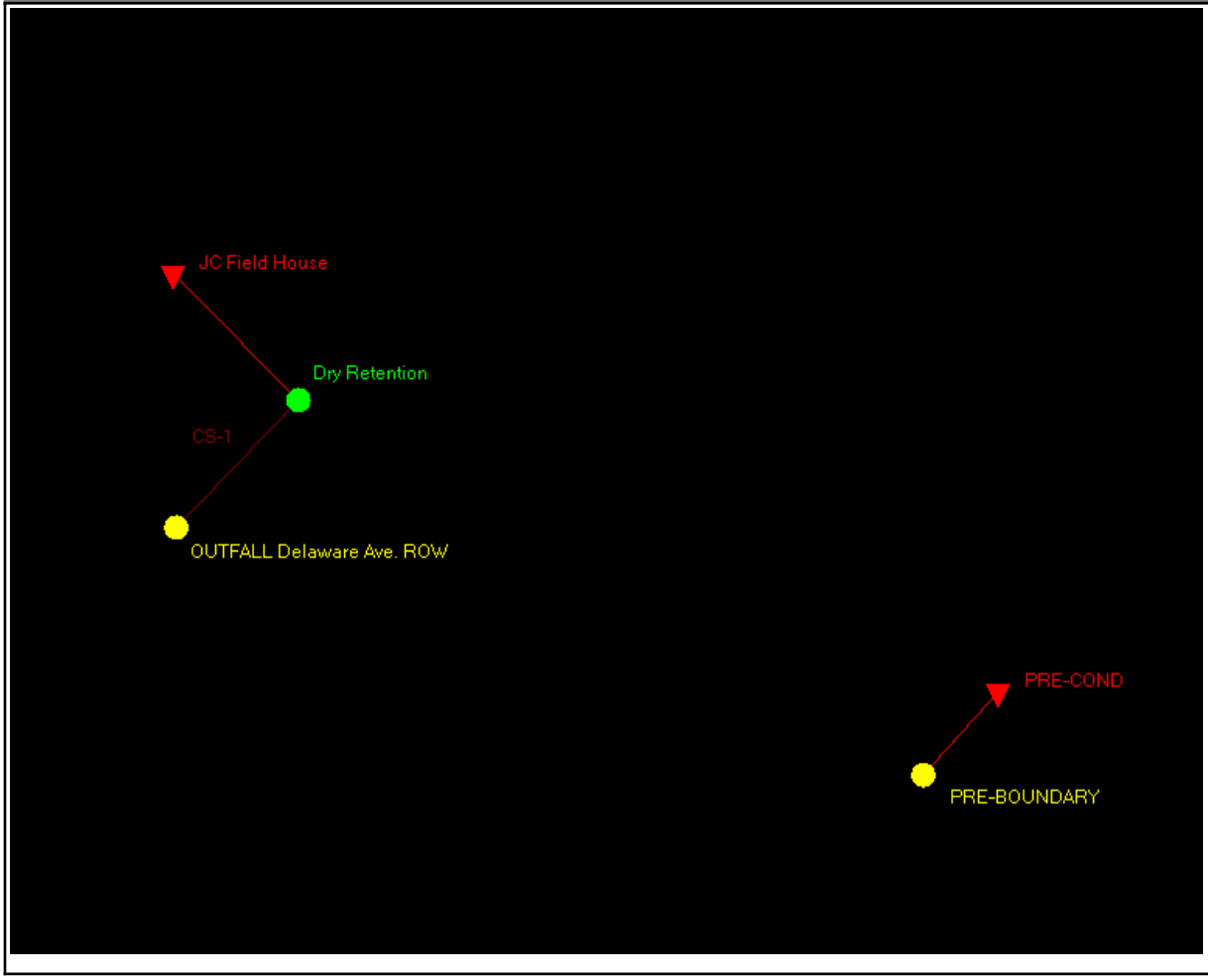
Phosphorus

Surface Water Discharge

Total P pre load	3.316 kg/yr	
Total P post load	4.251 kg/yr	
Target P load reduction	90 %	
Target P discharge load	.425 kg/yr	
Percent P load reduction	90 %	
Provided P discharge load	.43 kg/yr	.95 lb/yr
Provided P load removed	3.821 kg/yr	8.426 lb/yr

Appendix B - ICPR Flood Routing Model

Background Image: Capture



Simple Basin: PRE-COND

Scenario:	w/ Discharge
Node:	PRE-BOUNDARY
Hydrograph Method:	Santa Barbara Urban Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	20.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Area:	8.7460 ac
Curve Number:	86.0
% Impervious:	34.90
% DCIA:	34.90
% Direct:	0.00
Rainfall Name:	

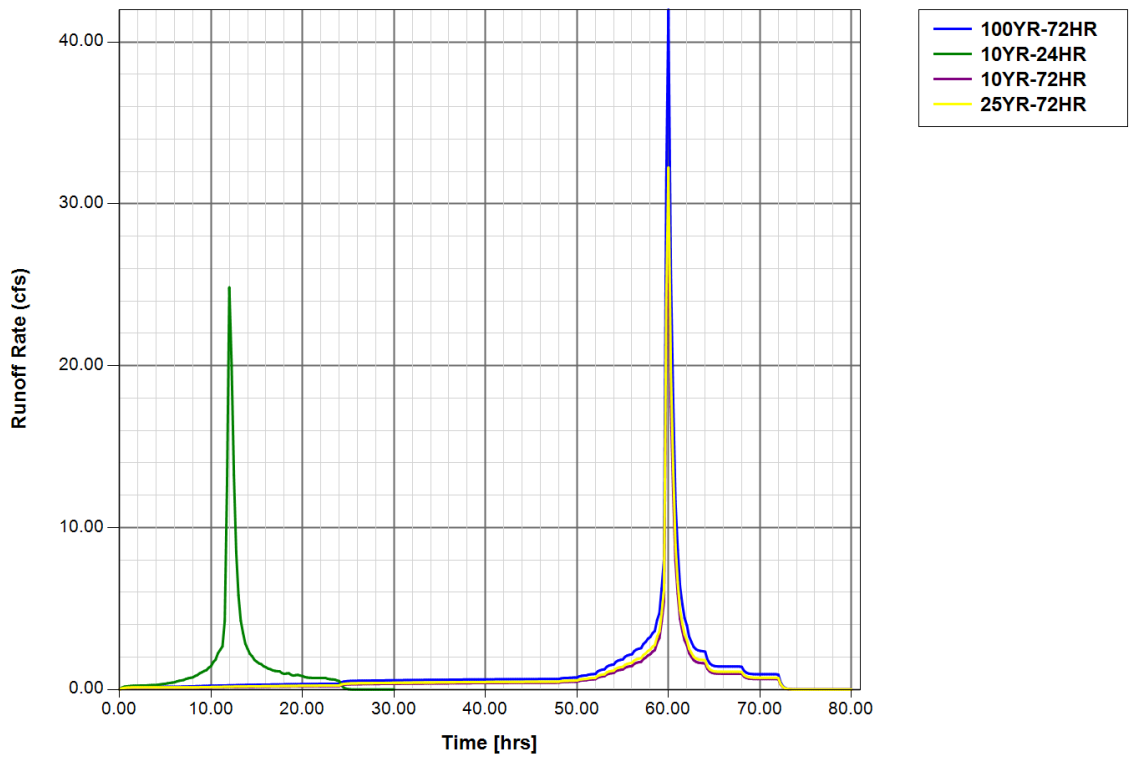
Comment:

pre dev discharge rate

Simple Basin Runoff Summary [w/ Discharge]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
PRE-COND	100YR-72HR	41.99	60.0000	12.23	11.09	8.7460	90.7	34.90	34.90
PRE-COND	10YR-24HR	24.84	12.0167	6.00	4.96	8.7460	91.1	34.90	34.90
PRE-COND	10YR-72HR	28.66	60.0000	8.50	7.40	8.7460	90.9	34.90	34.90
PRE-COND	25YR-72HR	32.24	60.0000	9.50	8.39	8.7460	90.8	34.90	34.90

Simple Basin Runoff Rate: PRE-COND [w/ Discharge]



Node: Dry Retention

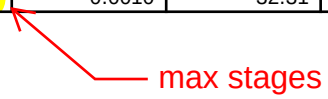
Scenario: w/ Discharge
Type: Stage/Volume
Base Flow: 0.00 cfs
Initial Stage: 15.50 ft
Warning Stage: 18.80 ft

Stage [ft]	Volume [ac-ft]	Volume [ft3]
15.50	0.00	0
16.50	1.51	65776
17.50	4.12	179467
18.50	9.29	404672
18.80	11.97	521413

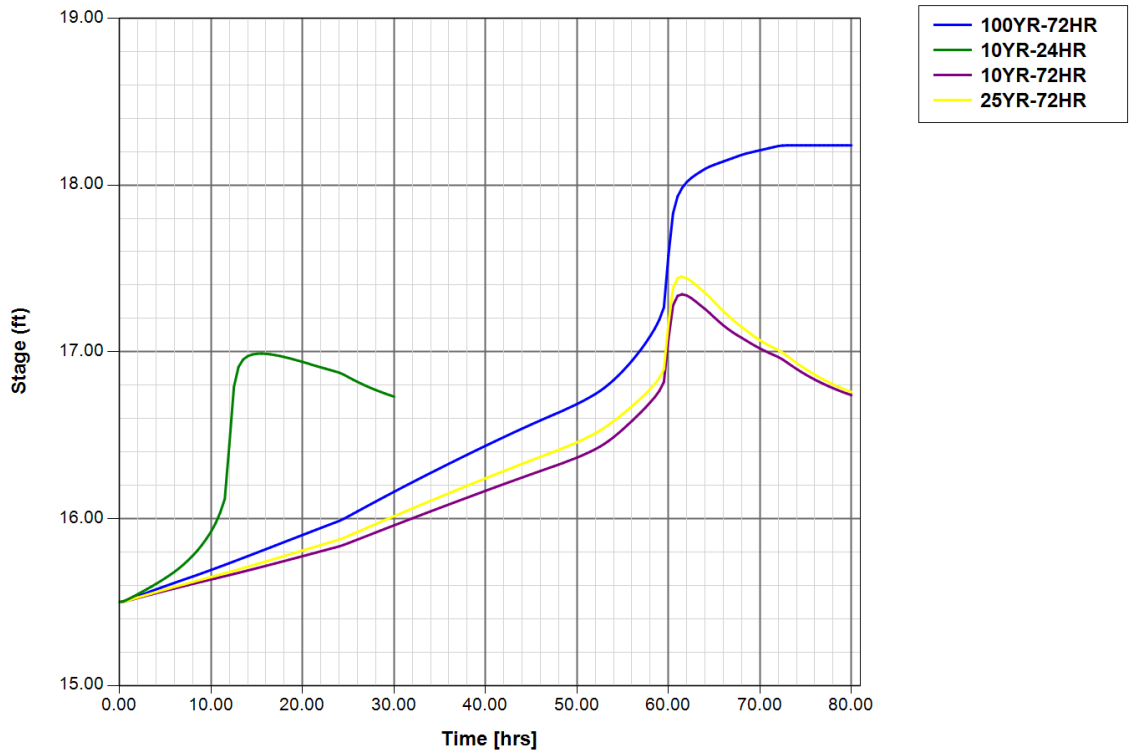
Comment:

Node Max Conditions [w/ Discharge]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
Dry Retention	100YR-72HR	18.80	18.24	0.0010	42.04	0.00	271059
Dry Retention	10YR-24HR	18.80	16.99	0.0010	25.13	1.55	128779
Dry Retention	10YR-72HR	18.80	17.35	0.0010	28.73	3.72	157102
Dry Retention	25YR-72HR	18.80	17.45	0.0010	32.31	4.34	165508

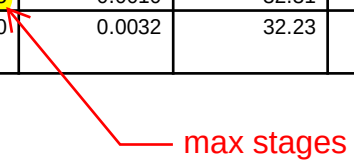


Stage [Node: Dry Retention]



Node Max Conditions [w/ Discharge]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
Dry Retention	100YR-72HR	18.80	18.24	0.0010	42.04	0.00	271059
PRE-BOUNDARY	100YR-72HR	17.90	13.80	0.0032	41.98	0.00	0
Dry Retention	10YR-24HR	18.80	16.99	0.0010	25.13	1.55	128779
PRE-BOUNDARY	10YR-24HR	17.90	5.75	0.0032	24.84	0.00	0
Dry Retention	10YR-72HR	18.80	17.35	0.0010	28.73	3.72	157102
PRE-BOUNDARY	10YR-72HR	17.90	13.80	0.0032	28.65	0.00	0
Dry Retention	25YR-72HR	18.80	17.45	0.0010	32.31	4.34	165508
PRE-BOUNDARY	25YR-72HR	17.90	13.80	0.0032	32.23	0.00	0



Drop Structure Link: CS-1		Upstream Pipe		Downstream Pipe	
Scenario:	w/ Discharge	Invert:	15.70 ft	Invert:	15.70 ft
From Node:	Dry Retention	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	OUTFALL Delaware Ave. ROW	Geometry: Circular		Geometry: Circular	
		Max Depth:	1.00 ft	Max Depth:	1.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	None	Default:	0.00 ft	Default:	0.00 ft
Solution:	Combine	Op Table:		Op Table:	
Increments:	10	Ref Node:		Ref Node:	
Pipe Count:	1	Manning's N:	0.0130	Manning's N:	0.0130
Damping:	0.0000 ft	Top Clip			
Length:	16.00 ft	Default:	0.00 ft	Default:	0.00 ft
FHWA Code:	1	Op Table:		Op Table:	
Entr Loss Coef:	0.00	Ref Node:		Ref Node:	
Exit Loss Coef:	1.00	Manning's N:	0.0130	Manning's N:	0.0130
Bend Loss Coef:	0.00				
Bend Location:	0.00 dec				
Energy Switch:	Energy				

Pipe Comment:

Weir Component		Bottom Clip	
Weir:	1	Default:	0.00 ft
Weir Count:	1	Op Table:	
Weir Flow Direction:	Both	Ref Node:	
Damping:	0.0000 ft	Top Clip	
Weir Type:	Sharp Crested Vertical	Default:	0.00 ft
Geometry Type:	Rectangular	Op Table:	
Invert:	16.50 ft	Ref Node:	
Control Elevation:	13.00 ft	Discharge Coefficients	
Max Depth:	999.00 ft	Weir Default:	3.200
Max Width:	1.50 ft	Weir Table:	
Fillet:	0.00 ft	Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

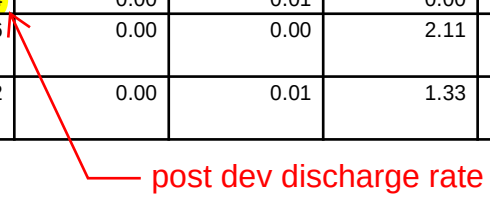
Weir Component		Bottom Clip	
Weir:	2	Default:	0.00 ft
Weir Count:	2	Op Table:	
Weir Flow Direction:	Both	Ref Node:	
Damping:	0.0000 ft	Top Clip	
Weir Type:	Sharp Crested Vertical	Default:	0.00 ft
Geometry Type:	Rectangular	Op Table:	
Invert:	17.00 ft	Ref Node:	
Control Elevation:	13.00 ft	Discharge Coefficients	
Max Depth:	999.00 ft	Weir Default:	3.200
Max Width:	2.50 ft	Weir Table:	
Fillet:	0.00 ft	Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

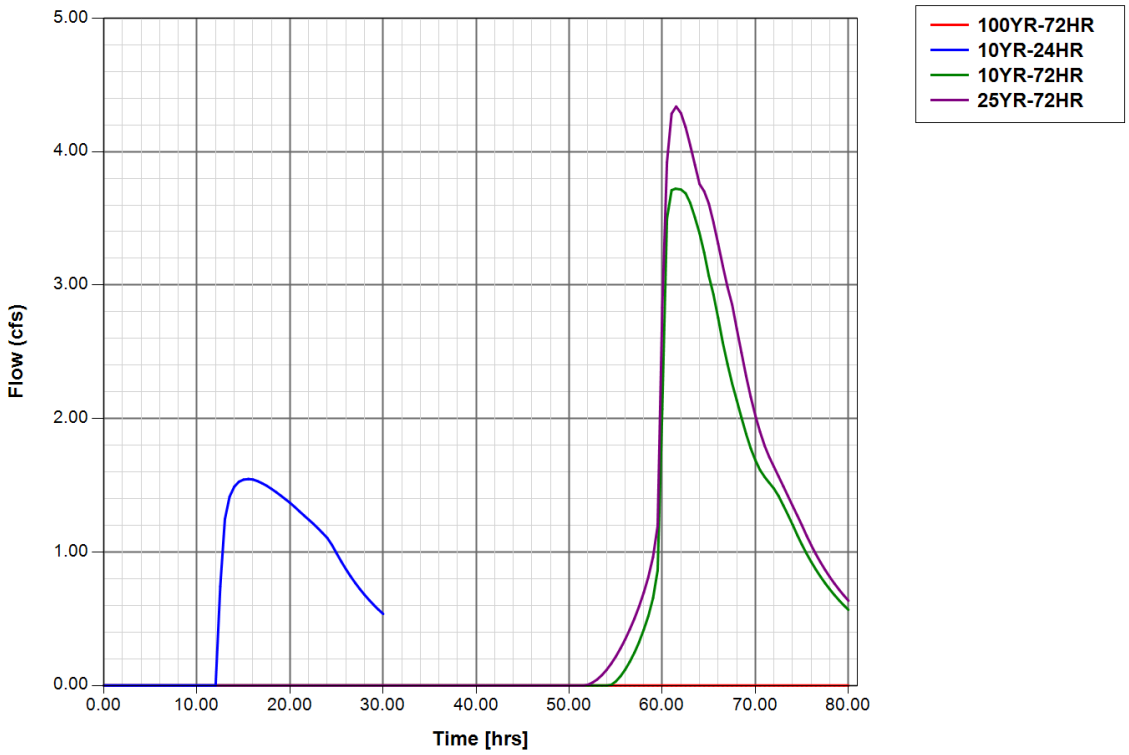
Drop Structure Comment:

Link Min/Max Conditions [w/ Discharge]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
CS-1 - Pipe	100YR-72HR	0.00	0.00	0.00	0.00	0.00	0.00
CS-1 - Weir: 2	100YR-72HR	0.00	0.00	0.00	0.00	0.00	0.00
CS-1 - Weir: 3	100YR-72HR	0.00	0.00	0.00	0.00	0.00	0.00
CS-1 - Pipe	10YR-24HR	1.55	0.00	0.01	0.00	0.00	0.00
CS-1 - Weir: 2	10YR-24HR	1.55	0.00	0.00	2.11	2.11	2.11
CS-1 - Weir: 3	10YR-24HR	0.00	0.00	0.00	0.00	0.00	0.00
CS-1 - Pipe	10YR-72HR	3.72	0.00	0.01	0.00	0.00	0.00
CS-1 - Weir: 2	10YR-72HR	1.76	0.00	0.00	2.11	2.11	2.11
CS-1 - Weir: 3	10YR-72HR	2.14	0.00	0.01	1.33	1.33	1.33
CS-1 - Pipe	25YR-72HR	4.34	0.00	0.01	0.00	0.00	0.00
CS-1 - Weir: 2	25YR-72HR	1.76	0.00	0.00	2.11	2.11	2.11
CS-1 - Weir: 3	25YR-72HR	2.72	0.00	0.01	1.33	1.33	1.33



Link Flow: CS-1 [w/ Discharge]



Appendix C - FEMA Flood Map

National Flood Hazard Layer FIRMette

FEMA

80°22'9"W 27°26'56"N

80°21'32"W 27°26'24"N

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

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 4/26/2024 at 3:17 PM 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 D - USDA Soil Survey

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for St. Lucie County, Florida

April 26, 2024

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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Soil Map

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

Map Scale: 1:650 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 5 10 20 30

Feet
0 30 60 120 180

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 17, Sep 6, 2023

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

Date(s) aerial images were photographed: Jan 18, 2022—Jan 30, 2022

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
16	Hilolo loamy sand, 0 to 2 percent slopes	1.8	100.0%
Totals for Area of Interest		**1.8**	**100.0%**

Map Unit Descriptions

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

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

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

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

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

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

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

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

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

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

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

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

St. Lucie County, Florida

16—Hilolo loamy sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2zlft
Elevation: 0 to 100 feet
Mean annual precipitation: 42 to 63 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Hilolo and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hilolo

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous sandy and loamy marine deposits

Typical profile

A - 0 to 6 inches: loamy sand
Btkg1 - 6 to 12 inches: fine sandy loam
Btkg2 - 12 to 28 inches: sandy clay loam
Btkg3 - 28 to 53 inches: fine sandy loam
Cg - 53 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 3 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Ecological site: F155XY140FL - Loamy and Clayey Hardwood Hammocks
Forage suitability group: Loamy and clayey soils on flats of hydric or mesic lowlands (G156BC341FL)

Other vegetative classification: Loamy and clayey soils on flats of hydric or mesic lowlands (G156BC341FL)
Hydric soil rating: Yes

Minor Components

Pineda
Percent of map unit: 4 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Brynwood
Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Pople
Percent of map unit: 4 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear, concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Cabbage Palm Flatwoods (R155XY005FL)
Hydric soil rating: Yes

Winder
Percent of map unit: 4 percent
Landform: Depressions on marine terraces, drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave, convex, linear
Across-slope shape: Concave, linear
Ecological site: F155XY140FL - Loamy and Clayey Hardwood Hammocks
Other vegetative classification: Loamy and clayey soils on flats of hydric or mesic lowlands (G156BC341FL), Wetland Hardwood Hammock (R156BY012FL)
Hydric soil rating: Yes

Riviera
Percent of map unit: 4 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip

Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

McCarty & Associates
Land Planning and Design LLC
www.McCartyLandPlanning.com
309 SE Osceola Ave, Suite 104
Stuart Fl 34994
772-341-9322

JOHN CARROLL HIGH SCHOOL REDEVELOPMENT PROJECT NARRATIVE & JUSTIFICATION STATEMENT

Design Review Site Plan, Major Site Plan Amendment – Commercial & Conditional Use
City of Fort Pierce, Florida

1. Summary

This narrative supports three concurrent applications submitted to the City of Fort Pierce for the redevelopment of a portion of the existing John Carroll High School campus: Design Review Site Plan, Major Site Plan Amendment – Commercial, and Conditional Use Permit. The project proposes a new three-story, 45,159 GSF academic and administrative building replacing outdated classrooms and portables. The redevelopment modernizes facilities, enhances safety, and improves campus functionality.

2. Project Background & Existing Conditions

Property Address: 3402 Delaware Avenue, Fort Pierce, FL

Total Site Area: 8.75 acres

Zoning: R-4 Medium Density Residential

Use: Private high school (50+ years)

3. Pre-Application Meeting Summary (August 13, 2025)

Topics included zoning confirmation, required applications, concurrency evaluation, utility coordination with FPUA, compatibility expectations, buffering requirements, and hearing procedures. Staff expressed support for redevelopment.

4. Proposed Redevelopment Program

A new three-story building totaling 45,159 GSF:

• 1st Floor – 16,089 SF: classrooms, chapel, learning commons, breakout rooms

• 2nd Floor – 18,100 SF: classrooms, mechanical, administrative support

• 3rd Floor – 10,970 SF: science labs, offices, conference rooms, resource rooms

• Terrace – 954 SF

Building footprint: 16,735 SF.

5. Site Plan & Civil Engineering Summary

Includes reconfigured parking, improved circulation, ADA walkways, new dry retention stormwater system and drainage improvements, updated potable water, wastewater, and fire protection infrastructure (FPUA).

6. Traffic & Transportation Analysis

Based on ITE 12th Ed. LUC 534 Private High School:

• Daily Trips: 1,085

• AM Peak: 200

• PM Peak: 330

Redevelopment does not increase student enrollment; traffic impacts remain consistent.

7. Concurrency Analysis Summary

Water, wastewater, solid waste, stormwater, and transportation capacities remain adequate. Stormwater system meets LOS and SFWMD criteria.

8. Zoning Compliance & Conditional Use Justification

Educational institutions are allowed via Conditional Use in R-4. The project is compatible with surrounding development, maintains operational continuity, and enhances neighborhood character.

9. Environmental, Stormwater & Flood Compliance

Stormwater system provides water quality treatment, attenuation for major storm events, and a 90% reduction in nitrogen and phosphorus. No wetlands or protected species impacts.

10. Landscaping, Open Space & Buffers

Open spaces, pedestrian pathways, shaded areas, and residential buffers are maintained and enhanced.

11. Public Benefits & Community Impact

Includes modern educational facilities, improved safety, upgraded ADA compliance, enhanced infrastructure, positive neighborhood compatibility, and long-term community value.

12. Demolition & Construction Phasing

Removes outdated buildings and portables. School remains operational with sequenced construction and maintained life-safety access.

13. Conclusion

The redevelopment complies with City of Fort Pierce requirements, meets concurrency and compatibility standards, modernizes essential educational facilities, and provides substantial public benefits. Approval of all three applications is respectfully requested.

ENVIRONMENTAL IMPACT REPORT

An environmental report is not required for this submittal, as the proposed amendments do not involve any new ground disturbance, construction activities, or modifications to environmentally sensitive areas. The existing site conditions remain unchanged under this request.

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT
Florida

CONCURRENCY
CAPACITY ANALYSIS

I. Site Data:

	Existing Use	Future Land Use	Zoning
North			
South			
East			
West			

	Future Land Use	Zoning Classification	Maximum Intensity Residential: Dwelling Units per Acre Other: Square Footage	Total Acreage	Flood Zone
Current					
****Proposed**					N/A

II. Public Facilities Information:

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

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

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	

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		
****Proposed Zoning/FLU**		
***Change in Demand**	Trips	Trips
Impact to Capacity		

IV. Project Description

PHASING
Is this project (phase) part of a larger project? [ ] Yes [ ] No
If yes, enumerate each phase, the number of units or square footage in each phase and beginning/completion date.
Total Project: Residential Units: Single Family: 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**

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

B. 1. Does this application involve demolition or re-use of any structure(s)? [ ] Yes [ ] No
If yes, what is the size of the structure(s) to be demolished or re-used? _____
2. What is the current use of the structure to be demolished or re-used? _____
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

Velcon Engineering & Surveying, LLC
590 NW Peacock Blvd., Suite 8, Port St. Lucie, FL, 34986
Ph: 772 / 879-0477

Re: John Carroll High School
3402 Delaware Ave, Fort Pierce, FL 34947
Traffic Statement

John Carroll High School, located in Saint Lucie County, is a private Catholic school dedicated to providing academic excellence in a faith-based environment for students in grades 9–12. To support the continued growth and enhance campus facilities, we are proposing a Major Site Plan Amendment. This amendment includes the construction of a new academic building designed to expand classroom and program space. Additionally, the project will feature an all-new parking lot to improve traffic flow, accessibility, and safety for students, staff, and visitors.

TRAFFIC STATEMENT:

THE INSTITUTE OF TRANSPORTATION ENGINEERS TRIP GENERATION, 12th EDITION CATEGORY: Private High School (534)

(AVERAGE RATES UTILIZED)	AVERAGE RATE	# OF STUDENTS	TRIPS
WEEKDAY DAILY TRIPS:	2.17 x per student	500	1,085
P.M. PEAK HOUR TRIPS:	0.66 x per student	500	330
A.M. PEAK HOUR TRIPS:	0.40 x per student	126	200

Parcel 4A

SPECIAL WARRANTY DEED 700261 RANCO FORM 03

5

This Special Warranty Deed *Made the* 14th *day of* December *A. D. 19* 84 *by*
THOMAS J. GRADY, as Bishop of the Diocese of Orlando, his successors in office and assigns, a corporation sole
hereinafter called the grantor, to
THOMAS V. DAILY, as Bishop of the Diocese of Palm Beach, his successors in office and assigns, a corporation sole
whose postoffice address is 9999 North Military Trail, Palm Beach Gardens, FL 33410

hereinafter called the grantee:

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

Witnesseth: *That the grantor, for and in consideration of the sum of* $ 10.00—— *and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the grantee, all that certain land situate in* St. Lucie *County, Florida viz:*

South 1/2 of NE 1/4 of SW 1/4, less North 150 feet of South 180 feet of W 274.6 feet of E 1060.2 feet and Less Delaware Avenue Right-of-Way as shown in Map Book 1, page 113, located in Section 8, Township 35 South, Range 40 East, and LESS property as described in O. R. Book 96, page 526, Public Records of St.Lucie County, Florida and LESS East 30 feet.

Subject to taxes for 1984 and subsequent years, if not exempt, easements and restrictions of record.

STATE OF FLORIDA DOCUMENTARY STAMP TAX DEPT OF REVENUE APR-8 85 00.45

'85 APR -8 A10:18

FILED AND RECORDED ROGER P. ... ST. LUCIE ...

700261

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

To Have and to Hold, *the same in fee simple forever.*

And *the grantor hereby covenants with said grantee that the grantor is lawfully seized of said land in fee simple; that the grantor has good right and lawful authority to sell and convey said land, and hereby warrants the title to said land and will defend the same against the lawful claims of all persons claiming by, through or under the said grantor.*

In Witness Whereof, *the said grantor has hereunto set* his *hand and seal the day and year first above written*

Signed, sealed and delivered in our presence:

Sharon J. Malthus

Rose Wells

Thomas J. Grady (L.S.)
Thomas J. Grady, as Bishop of the Diocese of Orlando, his successors (L.S.)
in office and assigns, a corporation sole

STATE OF FLORIDA,
COUNTY OF ORANGE

I HEREBY CERTIFY that on this day, before me, an officer duly authorized in the State aforesaid and in the County aforesaid, to take acknowledgments, personally appeared THOMAS J. GRADY, as Bishop of the Diocese of Orlando, his successors in office and assigns, a corporation sole to me known to be the person described in and who executed the foregoing instrument and he acknowledged before me that he executed the same.

WITNESS my hand and official seal in the County and State last aforesaid this 14th day of December A. D. 19 84.

Sharon J. Malthus
Notary Public, State of Florida
My Commission Expires:
85

This Instrument prepared by: THIS INSTRUMENT WAS PREPARED BY ROBERT J. PEGUS, JR. of Smathers, Thompson, Marks, Prescott & Divine, P.A.

Address P. O. Box 2737 Orlando, FL 32802

Notary Public, State of Florida at Large
My Commission Expires May 7, 1985
Bonded by American Fire & Casualty Co.

OR BOOK 460 PAGE 2621

Michelle Franklin, CFA -- Saint Lucie County Property Appraiser -- All rights reserved -- 6/19/2025, 8:17 PM

Property Identification

Site Address: 407 S 33RD ST
Sec/Town/Range: 08/35S/40E
Parcel ID: 2408-313-0001-000-6
Jurisdiction: Fort Pierce

Use Type: 7200
Account #: 20079
Map ID: 24/08S
Zoning: Medium Den

Ownership

Bishop Of Diocese Palm Beach

PO Box 109650
Palm Beach Gardens, FL 33410-9650

Legal Description

8 35 40 S 1/2 OF NE 1/4 OF SW 1/4-LESS N 150 FT OF S 180 FT OF W 274.6 FT OF E 1060.2 FT AND LESS DELAWARE AV R/W AS IN MAP BK 1-113 AND LESS AS IN OR 96-526 AND LESS E 30 FT (17.49 AC) (OR 460-2621, 2623, 2624 AND 703-2220)

Current Values

Just/Market Value:	$4,902,300
Assessed Value:	$4,902,300
Exemptions:	$4,902,300
Taxable Value:	$0

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):	95,883
Gross Sketched Area (SF):	110,916
Land Size (acres):	17.49
Land Size (SF):	761,864.4

Building Design Wind Speed

Occupancy Category	I	II	III
Speed	140	150	160

Sources/links:

Sale History

Date	Book/Page	Sale Code	Deed	Grantor	Price
Dec 1, 1984	0460 / 2621	XX01	CV		$0

Building Information (1 of 8)

Finished Area: 38,028 SF

Gross Sketched Area: 39,111 SF

Exterior Data

View:
Building Type: SCHL
Grade: Y_D
Story Height: 2 Story

Roof Cover: Mod Bitimun
Year Built: 1978
Effective Year: 1979
No. Units: 1

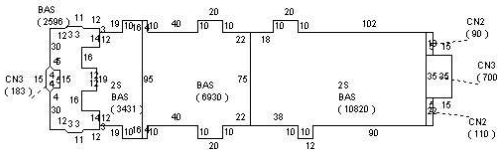
Roof Structure: Steel Truss
Frame:
Primary Wall: CB Stucco
Secondary Wall:

Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0
A/C %: 100%

Electric: AVERAGE
Heat Type: FrcdHotAir
Heat Fuel: ELEC
Heated %: 100%

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: Carpet
Sprinkled %: 100%



Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
2S	ONE FULL STORY OVER BASE (TOTAL 2 FLOORS)	14251	14251	782
BAS	BASE AREA	23777	23777	1492
CN2	CANOPY	200	0	100
CN3	CANOPY	883	0	166

Building Information (2 of 8)

Finished Area: 5,158 SF

Gross Sketched Area: 5,236 SF

Exterior Data

View:
Building Type: SCHL
Grade: Y_D
Story Height: 1 Story

Roof Cover: Fibrglss Shg
Year Built: 1976
Effective Year: 1976
No. Units: 1

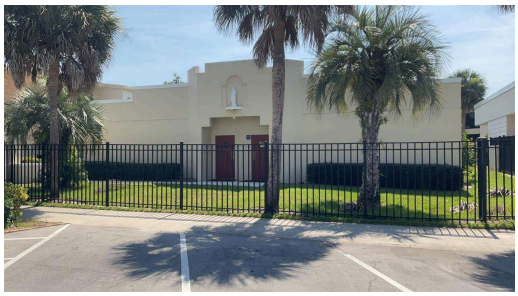
Roof Structure: Gable
Frame:
Primary Wall: CB Stucco
Secondary Wall:

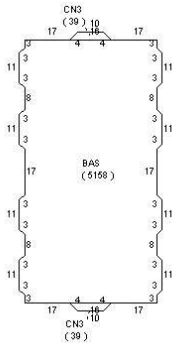
Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0
A/C %: 100%

Electric: AVERAGE
Heat Type: FrcdHotAir
Heat Fuel: ELEC
Heated %: 100%

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: Vinyl Tiles
Sprinkled %: 100%





Sketch Area Legend

Sub Area Description Area Fin. Area Perimeter

BAS	BASE AREA	5158	5158	311
CN3	CANOPY	78	0	68

Building Information (3 of 8)

Finished Area: 5,158 SF

Gross Sketched Area: 5,236 SF

Exterior Data

View:
Building Type: SCHL
Grade: Y_D
Story Height: 1 Story

Roof Cover: Fibrglss Shg
Year Built: 1976
Effective Year: 1976
No. Units: 1

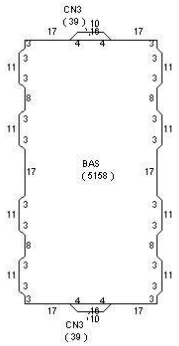
Roof Structure: Gable
Frame:
Primary Wall: CB Stucco
Secondary Wall:

Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0
A/C %: 100%

Electric: AVERAGE
Heat Type: FrcdHotAir
Heat Fuel: ELEC
Heated %: 100%

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: Vinyl Tiles
Sprinkled %: 100%



Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
BAS	BASE AREA	5158	5158	311
CN3	CANOPY	78	0	68

Building Information (4 of 8)

Finished Area: 22,916 SF

Gross Sketched Area: 23,719 SF

Exterior Data

View:
Building Type: SCHL
Grade: Y_D
Story Height: 2 Story

Roof Cover: Mod Bitimun
Year Built: 1977
Effective Year: 1979
No. Units: 1

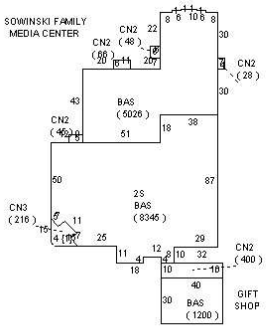
Roof Structure: BarJst/Rigid
Frame:
Primary Wall: CB Stucco
Secondary Wall:

Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0
A/C %: 100%

Electric: AVERAGE
Heat Type: FrcdHotAir
Heat Fuel: ELEC
Heated %: 100%

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: Vinyl Tiles
Sprinkled %: 100%



Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
2S	ONE FULL STORY OVER BASE (TOTAL 2 FLOORS)	8345	8345	421
BAS	BASE AREA	14571	14571	913
CN2	CANOPY	587	0	212
CN3	CANOPY	216	0	70

Building Information (5 of 8)

Finished Area: 7,239 SF

Gross Sketched Area: 8,183 SF

Exterior Data

View:
Building Type: CH5
Grade: Y_D
Story Height: 1 Story

Roof Cover: Mod Bitimun
Year Built: 1991
Effective Year: 1991
No. Units: 1

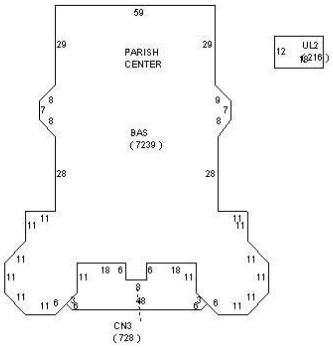
Roof Structure: BarJst/Rigid
Frame:
Primary Wall: CB Stucco
Secondary Wall:

Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0
A/C %: 100%

Electric: AVERAGE
Heat Type: FrcdHotAir
Heat Fuel: ELEC
Heated %: 100%

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: Tile-Ceramic
Sprinkled %: 100%



Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
BAS	BASE AREA	7239	7239	455
CN3	CANOPY	728	0	143
UL2	DET UTILITY	216	0	60

Building Information (6 of 8)

Finished Area: 9,139 SF

Gross Sketched Area: 9,578 SF

Exterior Data

View:
Building Type: CH4
Grade: Y_D
Story Height: 1 Story

Roof Cover: Mod Bitimun
Year Built: 1998
Effective Year: 1998
No. Units: 1

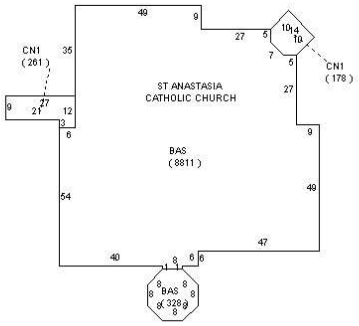
Roof Structure: BarJst/Rigid
Frame:
Primary Wall: CB Stucco
Secondary Wall:

Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0
A/C %: 100%

Electric: AVERAGE
Heat Type: FrcdHotAir
Heat Fuel: ELEC
Heated %: 100%

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: Carpet
Sprinkled %: 100%



Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
BAS	BASE AREA	9139	9139	469
CN1	CANOPY	439	0	129

Building Information (7 of 8)

Finished Area: 5,445 SF

Gross Sketched Area: 7,078 SF

Exterior Data

View:
Building Type: LROF
Grade: Y_D
Story Height: 1 Story

Roof Cover: Dim Shingle
Year Built: 2004
Effective Year: 2004
No. Units: 1

Roof Structure: Wood Truss
Frame:
Primary Wall: CB Stucco
Secondary Wall:

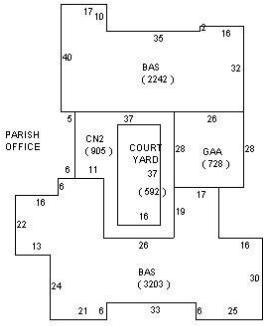
Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0

Electric: AVERAGE
Heat Type: FrcdHotAir
Heat Fuel: ELEC

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: Tile-Ceramic

A/C %: 100% Heated %: 100% Sprinkled %: 100%



Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
BAS	BASE AREA	5445	5445	558
CN2	CANOPY	905	0	168
GAA	Garage Attached Average	728	0	108

Building Information (8 of 8)

Finished Area: 2,800 SF

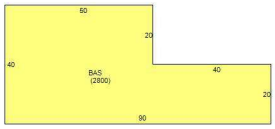
Gross Sketched Area: 12,775 SF

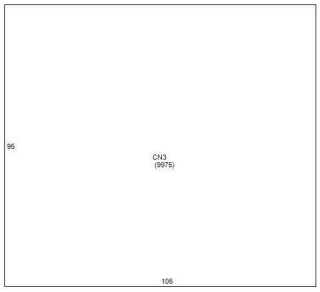
Exterior Data

View: Roof Cover: Metal Roof Structure: Steel Truss
Building Type: INDW Year Built: 2001 Frame:
Grade: Y_D Effective Year: 2001 Primary Wall: Corr Metal
Story Height: 1 Story No. Units: 1 Secondary Wall:

Interior Data

Bedrooms: 0 Electric: AVERAGE Primary Int Wall:
Full Baths: 0 Heat Type: Avg Hgt/Floor: 0
Half Baths: 0 Heat Fuel: Primary Floors: CONC GRD
A/C %: % Heated %: % Sprinkled %: %





Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
BAS	BASE AREA	2800	2800	260

CN3	CANOPY	9975	0	400

Special Features and Yard Items

Type	Qty	Units	Year Blt
CEMENT CURB	1	1346	1979
SINGLE LIGHT	1	6	1979
CHAINLINK 6'	1	2200	2000
6FT CB Wall	1	28	2000
ASP2 LOW	1	96833	2000
CHAINLINK 4'	1	100	2015
Alum Fen 6'	1	240	2015
Alum Fen 6'	1	120	2017
CONCRETE LOW	1	10200	2017

Current Year Values

Current Values Breakdown

Building and SFYI:	$4,330,900
Land:	$571,400
Just/Market:	$4,902,300
Ag Credit:	$0
Save Our Homes or 10% Cap:	$0
Assessed:	$4,902,300
Exemption(s):	$4,902,300
Taxable:	$0

Current Year Exemption Value Breakdown

Tax Year	Grant Year	Code	Description	Amount
2024		3600	Church	$4,902,300

Current Year Special Assessment Breakdown

Start Year	AssessCode	Units	Description	Amount
2013	0054	17.49	North St. Lucie Water Management District	$437.25

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
2024	$4,902,300	$4,902,300	$4,902,300	$0
2023	$4,975,400	$4,975,400	$4,975,400	$0
2022	$5,552,400	$5,182,430	$5,182,430	$0
2021	$4,711,300	$4,711,300	$4,711,300	$0

Permits

Number	Issue Date	Description	Amount	Fee
BP12-1353	Jul 20, 2012	Roof	$18,000	$262
F00-000103	Mar 30, 2000	Commercial New Construction	$300,000	$0
F00-000103A	Mar 30, 2000	Heat and Air Conditioning	$0	$0
F00-103	Mar 30, 2000	Roof	$300,000	$0
8800001231	Nov 18, 1988	Commercial New Construction	$526,524	$526,524
8900000574	Jun 22, 1989	Commercial New Construction	$108,749	$108,749
RF8901011R	Sep 1, 1989	Roof	$2,000	$2,000
RF8901012R	Sep 1, 1989	Roof	$2,000	$2,000
RF89001358	Oct 23, 1990	Shed	$2,500	$2,500
F910000191	Feb 20, 1991	Roof	$2,400	$2,400
F91000746	Jun 5, 1991	Roof	$2,000	$2,000
F91000818	Jun 17, 1991	Roof	$1,600	$1,600

F91000827	Jun 28, 1991	Commercial New Construction	$30,000	$30,000
F910001028	Aug 12, 1991	Heat and Air Conditioning	$10,000	$10,000
F910001174	Sep 16, 1991	Roof	$3,000	$3,000
F92-000745	Jul 30, 1992	Additions to existing construction	$8,000	$8,000
RF92-1007	Aug 17, 1992	Roof	$1,700	$1,700
F93-000196	Mar 1, 1993	Additions to existing construction	$5,000	$5,000
F93-00196B	Mar 16, 1993	Roof	$2,000	$2,000
F93-00196A	Mar 31, 1993	Heat and Air Conditioning	$600	$600
F94-000796	Jun 30, 1994	Alterations/Remodeling	$1,000	$1,000
F94-000891	Jul 21, 1994	Roof	$4,800	$4,800
F95-000660	Jun 14, 1995	Roof	$14,000	$14,000
F97-001400	Mar 4, 1997	Additions to existing construction	$200,000	$200,000
F97-01400A	Jun 17, 1997	Additions to existing construction	$20,000	$20,000
R97-000140	Jul 10, 1997	Roof	$6,100	$6,100
R98/000143	Mar 5, 1998	Additions to existing construction	$175,000	$175,000
R98/00143A	May 4, 1998	Heat and Air Conditioning	$0	$0
R98/001059	Sep 18, 1998	Additions to existing construction	$2,000	$2,000
R99-000965	Aug 5, 1999	Alterations/Remodeling	$10,000	$0
CM2003-17	Jun 9, 2003	Garage	$20,000	$408
CM200321	Jul 30, 2003	Additions to existing construction	$134,716	$1,682
MC200440	Feb 10, 2004	Air Conditioning Only	$2,333	$75
0800001060	Jul 30, 2008	Additions to existing construction	$21,700	$292
BP10-0983	Jun 3, 2010	Alterations/Remodeling	$10,000	$100
BP11-0018	Jan 25, 2011	Concrete	$500	$80
BP12-1466	Aug 16, 2012	Alterations/Remodeling	$10,940	$116
BP12-1884	Dec 17, 2012	Roof	$39,607	$422
BP13-2260	Jun 26, 2013	Roof	$9,000	$169
BP13-2221	Jul 8, 2013	Fence	$29,242	$304
BP13-2223	Jul 24, 2013	Alterations/Remodeling	$15,000	$157
BP13-2521	Jul 26, 2013	Electric	$12,500	$206
BP13-3317	Nov 18, 2013	Electric	$1,800	$155
BP15-1249	Jun 9, 2015	Alterations/Remodeling	$48,343	$503
BP15-1251	Jun 2, 2015	Electric	$13,747	$138
BP15-2089	Aug 7, 2015	Air Conditioning Only	$4,260	$170
BP16-1958	Jul 26, 2016	Awning/Shutters	$20,000	$0
BP16-2504	Oct 3, 2016	Demolition	$2,200	$0
BP17-1803	Jun 28, 2017	Concrete	$15,840	$0
BP18-4061	Nov 30, 2018	Air Conditioning Only	$78,000	$0
BP18-4335	Jan 14, 2019	Roof	$60,000	$0
BP19-0060	Jan 9, 2019	Electric	$2,400	$0
BP19-0907	May 2, 2019	Roof	$60,000	$0
BP19-1821	Jun 19, 2019	Plumbing	$250,000	$0
BP19-1929	Jun 7, 2019	Electric	$600	$0
BP19-1821	Jun 19, 2019	Electric	$250,000	$0
BP20-1506	Jul 10, 2020		$399,872	$0
BP19-1822	Dec 22, 2020		$250,000	$0
BP22-0284	Mar 2, 2022		$105,565	$0
BP22-2227	Jun 15, 2022	Roof	$216,000	$0
23-4083	Jan 8, 2024	Trailer	$16,000	$0
23-4756	Mar 4, 2024	Repairs	$1,430,000	$0
24-1493	Apr 29, 2024	Air Conditioning Only	$5,993	$0
24-1166	Apr 4, 2024	Plumbing	$1,350	$0
CBLDG-2025-00308	Apr 11, 2025	Re Roof Permit	$48,000	$0

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

All information is believed to be correct at this time, but is subject to change and is provided without any warranty.
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Michelle Franklin, CFA -- Saint Lucie County Property Appraiser -- All rights reserved -- 6/19/2025, 8:17 PM

Property Identification

Site Address: 407 S 33RD ST
Sec/Town/Range: 08/35S/40E
Parcel ID: 2408-313-0001-000-6
Jurisdiction: Fort Pierce

Use Type: 7200
Account #: 20079
Map ID: 24/08S
Zoning: Medium Den

Ownership

Bishop Of Diocese Palm Beach

PO Box 109650
Palm Beach Gardens, FL 33410-9650

Legal Description

8 35 40 S 1/2 OF NE 1/4 OF SW 1/4-LESS N 150 FT OF S 180 FT OF W 274.6 FT OF E 1060.2 FT AND LESS DELAWARE AV R/W AS IN MAP BK 1-113 AND LESS AS IN OR 96-526 AND LESS E 30 FT (17.49 AC) (OR 460-2621, 2623, 2624 AND 703-2220)

Current Values

Just/Market Value:	$4,902,300
Assessed Value:	$4,902,300
Exemptions:	$4,902,300
Taxable Value:	$0

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):	95,883
Gross Sketched Area (SF):	110,916
Land Size (acres):	17.49
Land Size (SF):	761,864.4

Building Design Wind Speed

Occupancy Category	I	II	III
Speed	140	150	160

Sources/links:

Sale History

Date	Book/Page	Sale Code	Deed	Grantor	Price
Dec 1, 1984	0460 / 2621	XX01	CV		$0

Building Information (1 of 8)

Finished Area: 38,028 SF

Gross Sketched Area: 39,111 SF

Exterior Data

View:
Building Type: SCHL
Grade: Y_D
Story Height: 2 Story

Roof Cover: Mod Bitimun
Year Built: 1978
Effective Year: 1979
No. Units: 1

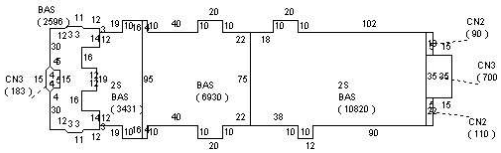
Roof Structure: Steel Truss
Frame:
Primary Wall: CB Stucco
Secondary Wall:

Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0
A/C %: 100%

Electric: AVERAGE
Heat Type: FrcdHotAir
Heat Fuel: ELEC
Heated %: 100%

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: Carpet
Sprinkled %: 100%



Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
2S	ONE FULL STORY OVER BASE (TOTAL 2 FLOORS)	14251	14251	782
BAS	BASE AREA	23777	23777	1492
CN2	CANOPY	200	0	100
CN3	CANOPY	883	0	166

Building Information (2 of 8)

Finished Area: 5,158 SF

Gross Sketched Area: 5,236 SF

Exterior Data

View:
Building Type: SCHL
Grade: Y_D
Story Height: 1 Story

Roof Cover: Fibrglss Shg
Year Built: 1976
Effective Year: 1976
No. Units: 1

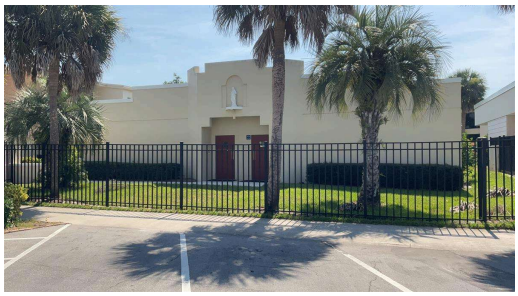
Roof Structure: Gable
Frame:
Primary Wall: CB Stucco
Secondary Wall:

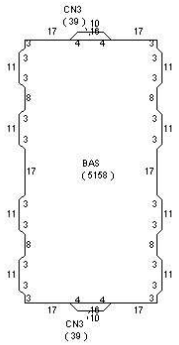
Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0
A/C %: 100%

Electric: AVERAGE
Heat Type: FrcdHotAir
Heat Fuel: ELEC
Heated %: 100%

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: Vinyl Tiles
Sprinkled %: 100%





Sketch Area Legend

Sub Area Description Area Fin. Area Perimeter

BAS	BASE AREA	5158	5158	311
CN3	CANOPY	78	0	68

Building Information (3 of 8)

Finished Area: 5,158 SF

Gross Sketched Area: 5,236 SF

Exterior Data

View:
Building Type: SCHL
Grade: Y_D
Story Height: 1 Story

Roof Cover: Fibrglss Shg
Year Built: 1976
Effective Year: 1976
No. Units: 1

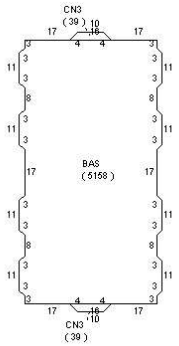
Roof Structure: Gable
Frame:
Primary Wall: CB Stucco
Secondary Wall:

Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0
A/C %: 100%

Electric: AVERAGE
Heat Type: FrcdHotAir
Heat Fuel: ELEC
Heated %: 100%

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: Vinyl Tiles
Sprinkled %: 100%



Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
BAS	BASE AREA	5158	5158	311
CN3	CANOPY	78	0	68

Building Information (4 of 8)

Finished Area: 22,916 SF

Gross Sketched Area: 23,719 SF

Exterior Data

View:
Building Type: SCHL
Grade: Y_D
Story Height: 2 Story

Roof Cover: Mod Bitimun
Year Built: 1977
Effective Year: 1979
No. Units: 1

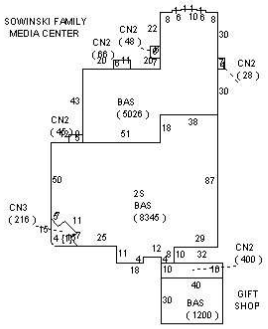
Roof Structure: BarJst/Rigid
Frame:
Primary Wall: CB Stucco
Secondary Wall:

Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0
A/C %: 100%

Electric: AVERAGE
Heat Type: FrcdHotAir
Heat Fuel: ELEC
Heated %: 100%

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: Vinyl Tiles
Sprinkled %: 100%



Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
2S	ONE FULL STORY OVER BASE (TOTAL 2 FLOORS)	8345	8345	421
BAS	BASE AREA	14571	14571	913
CN2	CANOPY	587	0	212
CN3	CANOPY	216	0	70

Building Information (5 of 8)

Finished Area: 7,239 SF

Gross Sketched Area: 8,183 SF

Exterior Data

View:
Building Type: CH5
Grade: Y_D
Story Height: 1 Story

Roof Cover: Mod Bitimun
Year Built: 1991
Effective Year: 1991
No. Units: 1

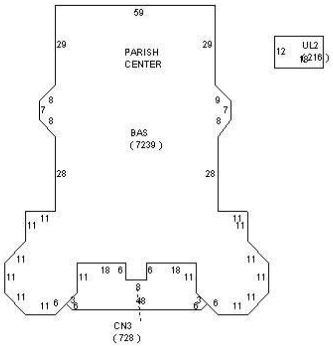
Roof Structure: BarJst/Rigid
Frame:
Primary Wall: CB Stucco
Secondary Wall:

Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0
A/C %: 100%

Electric: AVERAGE
Heat Type: FrcdHotAir
Heat Fuel: ELEC
Heated %: 100%

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: Tile-Ceramic
Sprinkled %: 100%



Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
BAS	BASE AREA	7239	7239	455
CN3	CANOPY	728	0	143
UL2	DET UTILITY	216	0	60

Building Information (6 of 8)

Finished Area: 9,139 SF

Gross Sketched Area: 9,578 SF

Exterior Data

View:
Building Type: CH4
Grade: Y_D
Story Height: 1 Story

Roof Cover: Mod Bitimun
Year Built: 1998
Effective Year: 1998
No. Units: 1

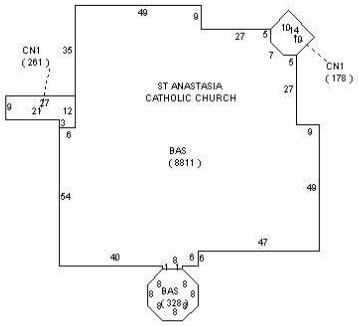
Roof Structure: BarJst/Rigid
Frame:
Primary Wall: CB Stucco
Secondary Wall:

Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0
A/C %: 100%

Electric: AVERAGE
Heat Type: FrcdHotAir
Heat Fuel: ELEC
Heated %: 100%

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: Carpet
Sprinkled %: 100%



Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
BAS	BASE AREA	9139	9139	469
CN1	CANOPY	439	0	129

Building Information (7 of 8)

Finished Area: 5,445 SF

Gross Sketched Area: 7,078 SF

Exterior Data

View:
Building Type: LROF
Grade: Y_D
Story Height: 1 Story

Roof Cover: Dim Shingle
Year Built: 2004
Effective Year: 2004
No. Units: 1

Roof Structure: Wood Truss
Frame:
Primary Wall: CB Stucco
Secondary Wall:

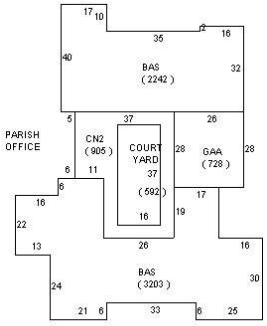
Interior Data

Bedrooms: 0
Full Baths: 0
Half Baths: 0

Electric: AVERAGE
Heat Type: FrcdHotAir
Heat Fuel: ELEC

Primary Int Wall:
Avg Hgt/Floor: 0
Primary Floors: Tile-Ceramic

A/C %: 100% Heated %: 100% Sprinkled %: 100%



Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
BAS	BASE AREA	5445	5445	558
CN2	CANOPY	905	0	168
GAA	Garage Attached Average	728	0	108

Building Information (8 of 8)

Finished Area: 2,800 SF

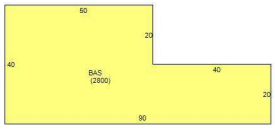
Gross Sketched Area: 12,775 SF

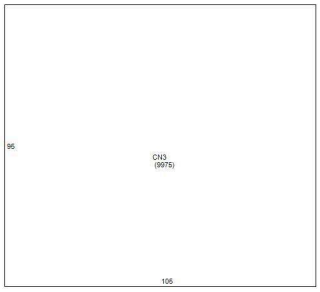
Exterior Data

View: Roof Cover: Metal Roof Structure: Steel Truss
Building Type: INDW Year Built: 2001 Frame:
Grade: Y_D Effective Year: 2001 Primary Wall: Corr Metal
Story Height: 1 Story No. Units: 1 Secondary Wall:

Interior Data

Bedrooms: 0 Electric: AVERAGE Primary Int Wall:
Full Baths: 0 Heat Type: Avg Hgt/Floor: 0
Half Baths: 0 Heat Fuel: Primary Floors: CONC GRD
A/C %: % Heated %: % Sprinkled %: %





Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter
BAS	BASE AREA	2800	2800	260

CN3	CANOPY	9975	0	400

Special Features and Yard Items

Type	Qty	Units	Year Blt
CEMENT CURB	1	1346	1979
SINGLE LIGHT	1	6	1979
CHAINLINK 6'	1	2200	2000
6FT CB Wall	1	28	2000
ASP2 LOW	1	96833	2000
CHAINLINK 4'	1	100	2015
Alum Fen 6'	1	240	2015
Alum Fen 6'	1	120	2017
CONCRETE LOW	1	10200	2017

Current Year Values

Current Values Breakdown

Building and SFYI:	$4,330,900
Land:	$571,400
Just/Market:	$4,902,300
Ag Credit:	$0
Save Our Homes or 10% Cap:	$0
Assessed:	$4,902,300
Exemption(s):	$4,902,300
Taxable:	$0

Current Year Exemption Value Breakdown

Tax Year	Grant Year	Code	Description	Amount
2024		3600	Church	$4,902,300

Current Year Special Assessment Breakdown

Start Year	AssessCode	Units	Description	Amount
2013	0054	17.49	North St. Lucie Water Management District	$437.25

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
2024	$4,902,300	$4,902,300	$4,902,300	$0
2023	$4,975,400	$4,975,400	$4,975,400	$0
2022	$5,552,400	$5,182,430	$5,182,430	$0
2021	$4,711,300	$4,711,300	$4,711,300	$0

Permits

Number	Issue Date	Description	Amount	Fee
BP12-1353	Jul 20, 2012	Roof	$18,000	$262
F00-000103	Mar 30, 2000	Commercial New Construction	$300,000	$0
F00-000103A	Mar 30, 2000	Heat and Air Conditioning	$0	$0
F00-103	Mar 30, 2000	Roof	$300,000	$0
8800001231	Nov 18, 1988	Commercial New Construction	$526,524	$526,524
8900000574	Jun 22, 1989	Commercial New Construction	$108,749	$108,749
RF8901011R	Sep 1, 1989	Roof	$2,000	$2,000
RF8901012R	Sep 1, 1989	Roof	$2,000	$2,000
RF89001358	Oct 23, 1990	Shed	$2,500	$2,500
F910000191	Feb 20, 1991	Roof	$2,400	$2,400
F91000746	Jun 5, 1991	Roof	$2,000	$2,000
F91000818	Jun 17, 1991	Roof	$1,600	$1,600

F91000827	Jun 28, 1991	Commercial New Construction	$30,000	$30,000
F910001028	Aug 12, 1991	Heat and Air Conditioning	$10,000	$10,000
F910001174	Sep 16, 1991	Roof	$3,000	$3,000
F92-000745	Jul 30, 1992	Additions to existing construction	$8,000	$8,000
RF92-1007	Aug 17, 1992	Roof	$1,700	$1,700
F93-000196	Mar 1, 1993	Additions to existing construction	$5,000	$5,000
F93-00196B	Mar 16, 1993	Roof	$2,000	$2,000
F93-00196A	Mar 31, 1993	Heat and Air Conditioning	$600	$600
F94-000796	Jun 30, 1994	Alterations/Remodeling	$1,000	$1,000
F94-000891	Jul 21, 1994	Roof	$4,800	$4,800
F95-000660	Jun 14, 1995	Roof	$14,000	$14,000
F97-001400	Mar 4, 1997	Additions to existing construction	$200,000	$200,000
F97-01400A	Jun 17, 1997	Additions to existing construction	$20,000	$20,000
R97-000140	Jul 10, 1997	Roof	$6,100	$6,100
R98/000143	Mar 5, 1998	Additions to existing construction	$175,000	$175,000
R98/00143A	May 4, 1998	Heat and Air Conditioning	$0	$0
R98/001059	Sep 18, 1998	Additions to existing construction	$2,000	$2,000
R99-000965	Aug 5, 1999	Alterations/Remodeling	$10,000	$0
CM2003-17	Jun 9, 2003	Garage	$20,000	$408
CM200321	Jul 30, 2003	Additions to existing construction	$134,716	$1,682
MC200440	Feb 10, 2004	Air Conditioning Only	$2,333	$75
0800001060	Jul 30, 2008	Additions to existing construction	$21,700	$292
BP10-0983	Jun 3, 2010	Alterations/Remodeling	$10,000	$100
BP11-0018	Jan 25, 2011	Concrete	$500	$80
BP12-1466	Aug 16, 2012	Alterations/Remodeling	$10,940	$116
BP12-1884	Dec 17, 2012	Roof	$39,607	$422
BP13-2260	Jun 26, 2013	Roof	$9,000	$169
BP13-2221	Jul 8, 2013	Fence	$29,242	$304
BP13-2223	Jul 24, 2013	Alterations/Remodeling	$15,000	$157
BP13-2521	Jul 26, 2013	Electric	$12,500	$206
BP13-3317	Nov 18, 2013	Electric	$1,800	$155
BP15-1249	Jun 9, 2015	Alterations/Remodeling	$48,343	$503
BP15-1251	Jun 2, 2015	Electric	$13,747	$138
BP15-2089	Aug 7, 2015	Air Conditioning Only	$4,260	$170
BP16-1958	Jul 26, 2016	Awning/Shutters	$20,000	$0
BP16-2504	Oct 3, 2016	Demolition	$2,200	$0
BP17-1803	Jun 28, 2017	Concrete	$15,840	$0
BP18-4061	Nov 30, 2018	Air Conditioning Only	$78,000	$0
BP18-4335	Jan 14, 2019	Roof	$60,000	$0
BP19-0060	Jan 9, 2019	Electric	$2,400	$0
BP19-0907	May 2, 2019	Roof	$60,000	$0
BP19-1821	Jun 19, 2019	Plumbing	$250,000	$0
BP19-1929	Jun 7, 2019	Electric	$600	$0
BP19-1821	Jun 19, 2019	Electric	$250,000	$0
BP20-1506	Jul 10, 2020		$399,872	$0
BP19-1822	Dec 22, 2020		$250,000	$0
BP22-0284	Mar 2, 2022		$105,565	$0
BP22-2227	Jun 15, 2022	Roof	$216,000	$0
23-4083	Jan 8, 2024	Trailer	$16,000	$0
23-4756	Mar 4, 2024	Repairs	$1,430,000	$0
24-1493	Apr 29, 2024	Air Conditioning Only	$5,993	$0
24-1166	Apr 4, 2024	Plumbing	$1,350	$0
CBLDG-2025-00308	Apr 11, 2025	Re Roof Permit	$48,000	$0

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

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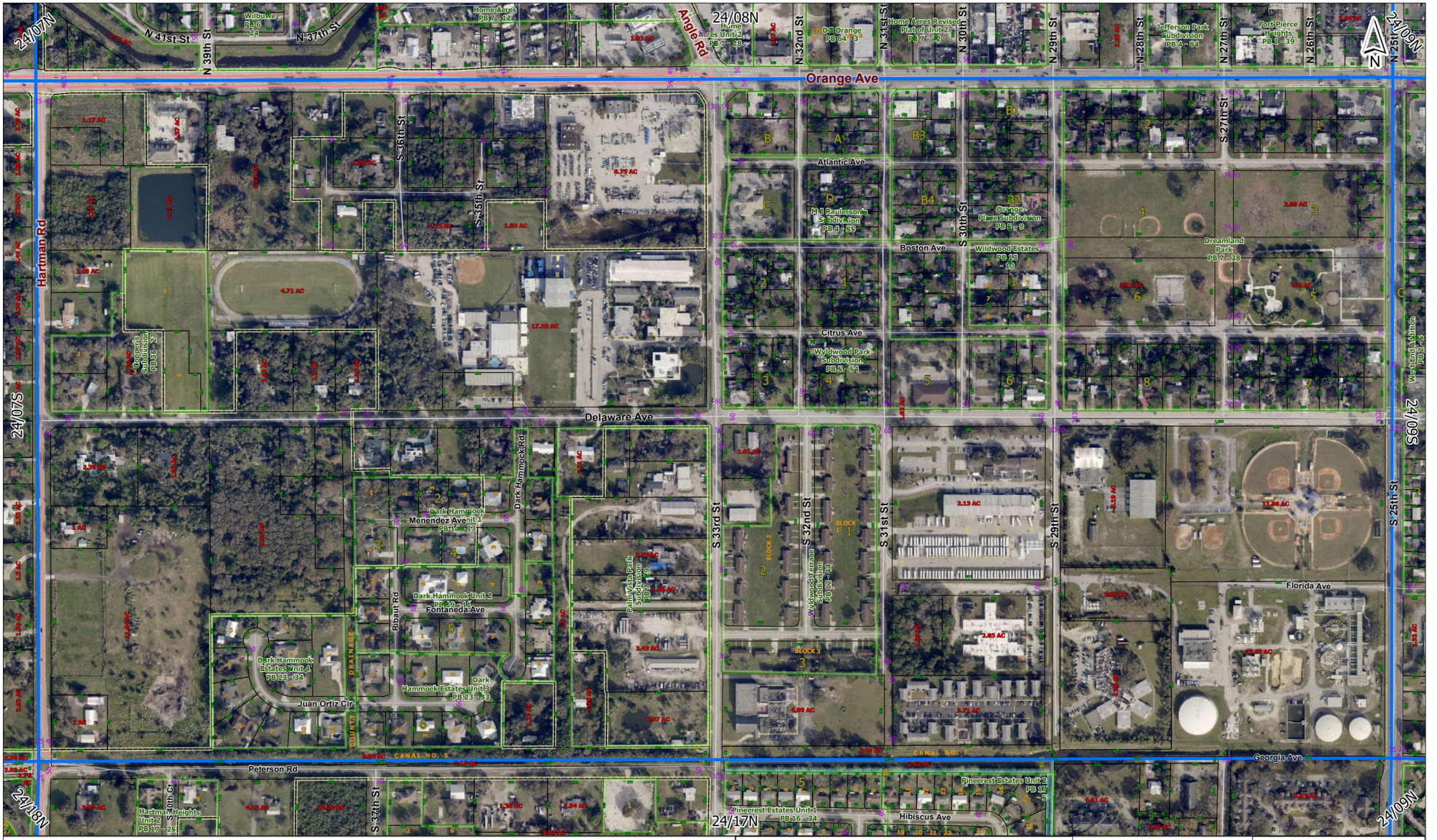


SAINT LUCIE COUNTY PROPERTY APPRAISER

Map Exported: 6/7/2025

PREPARED FOR

Michelle Franklin, CFA

SAINT LUCIE COUNTY PROPERTY APPRAISER

Lot # / Block / 107 / Lot Line

Municipality: City Of Fort Pierce

County Boundary: Saint Lucie County

Subdivision: Port Saint Lucie Section 27 PB 14 - 5

Condo: Prima Vista Commons

0 100 200 400 600 US Feet

ASSESSMENT MAP

THIS MAP HAS BEEN PREPARED FOR THE SAINT LUCIE COUNTY PROPERTY APPRAISER'S PURPOSES ONLY AND DOES NOT NECESSARILY REFLECT AN ACTUAL SURVEY. THE SAINT LUCIE COUNTY PROPERTY APPRAISER DOES NOT ASSUME RESPONSIBILITY FOR ERRORS OR OMISSIONS CONTAINED HEREON.

SECTION: 08

TOWNSHIP: 35

RANGE: 40

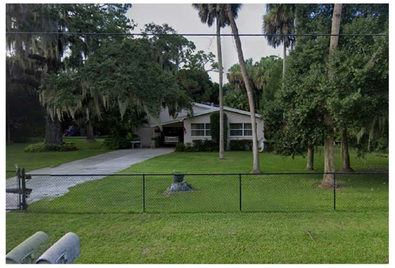
SHEET NUMBER

24/08S

TURNING WEST ON DELAWARE AVE WITH SUBJECT PROPERTY ON NORTH SIDE

TRAVELING EAST ON DELAWARE AVE

3730 DELAWARE AVE



3750 DELAWARE AVE

3820 DELAWARE AVE

3915 DELAWARE AVE

3912 DELAWARE AVE

4000 DELAWARE AVE

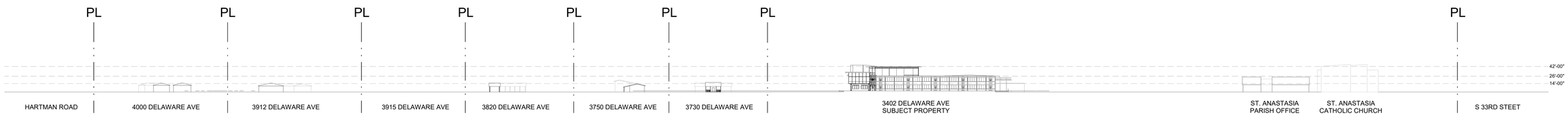
ST. ANASTASIA
PARISH OFFICE

ST. ANASTASIA
CATHOLIC CHURCH

AERIAL - NEIGHBORHOOD STREETSCAPE

2 A-1

SCALE: 1" = 300'-0"



SOUTH ELEVATION P&Z - STREETSCAPE

1 A-1

SCALE: 1" = 80'-0"

REG ARCHITECTS
since 1988

Rick Gonzalez, AIA
President
FL License AR0014172
120 South Olive Ave. Ste. 210,
West Palm Beach, FL 33401
P (561) 659-2383
www.regarchitects.com

JOHN CARROLL HIGH SCHOOL NEW CLASSROOM BUILDING

3402 DELAWARE AVE
FORT PIERCE, FL, 34947

NO.	DATE	DESCRIPTION

DATE	11/13/2025
MODELED	JE/JG/CC
CHECKED	CM/REG
PROJECT #	25008

© REG 2025

OWNERSHIP AND USE OF THESE DOCUMENTS & SPECIFICATIONS AS INSTRUMENTS OF SERVICE ARE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT WHETHER THE PROJECT THEY ARE MADE FOR IS EXECUTED OR NOT. THEY SHALL NOT BE USED BY THE OWNER OR OTHERS ON OTHER PROJECTS OR FOR ADDITIONS TO THIS PROJECT BY OTHERS, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO THE ARCHITECT.

NEIGHBORHOOD ANALYSIS

PROGRESS SET - P&Z

A-1

TURNING WEST ON DELAWARE AVE WITH SUBJECT PROPERTY ON NORTH SIDE

TRAVELING EAST ON DELAWARE AVE

3730 DELAWARE AVE

3750 DELAWARE AVE

3820 DELAWARE AVE

3915 DELAWARE AVE

3912 DELAWARE AVE

4000 DELAWARE AVE

ST. ANASTASIA
PARISH OFFICE

ST. ANASTASIA
CATHOLIC CHURCH

AERIAL - NEIGHBORHOOD STREETSCAPE

2 A-1

SCALE: 1" = 300'-0"

SOUTH ELEVATION P&Z - STREETSCAPE

1 A-1

SCALE: 1" = 80'-0"

REG ARCHITECTS
since 1988

Rick Gonzalez, AIA
President
FL License AR0014172
120 South Olive Ave. Ste. 210,
West Palm Beach, FL 33401
P (561) 659-2383
www.regarchitects.com

JOHN CARROLL HIGH SCHOOL NEW CLASSROOM BUILDING

3402 DELAWARE AVE
FORT PIERCE, FL, 34947

NO.	DATE	DESCRIPTION

DATE	11/13/2025
MODELED	JE/JG/CC
CHECKED	CM/REG
PROJECT #	25008

© REG 2025

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NEIGHBORHOOD ANALYSIS

PROGRESS SET - P&Z

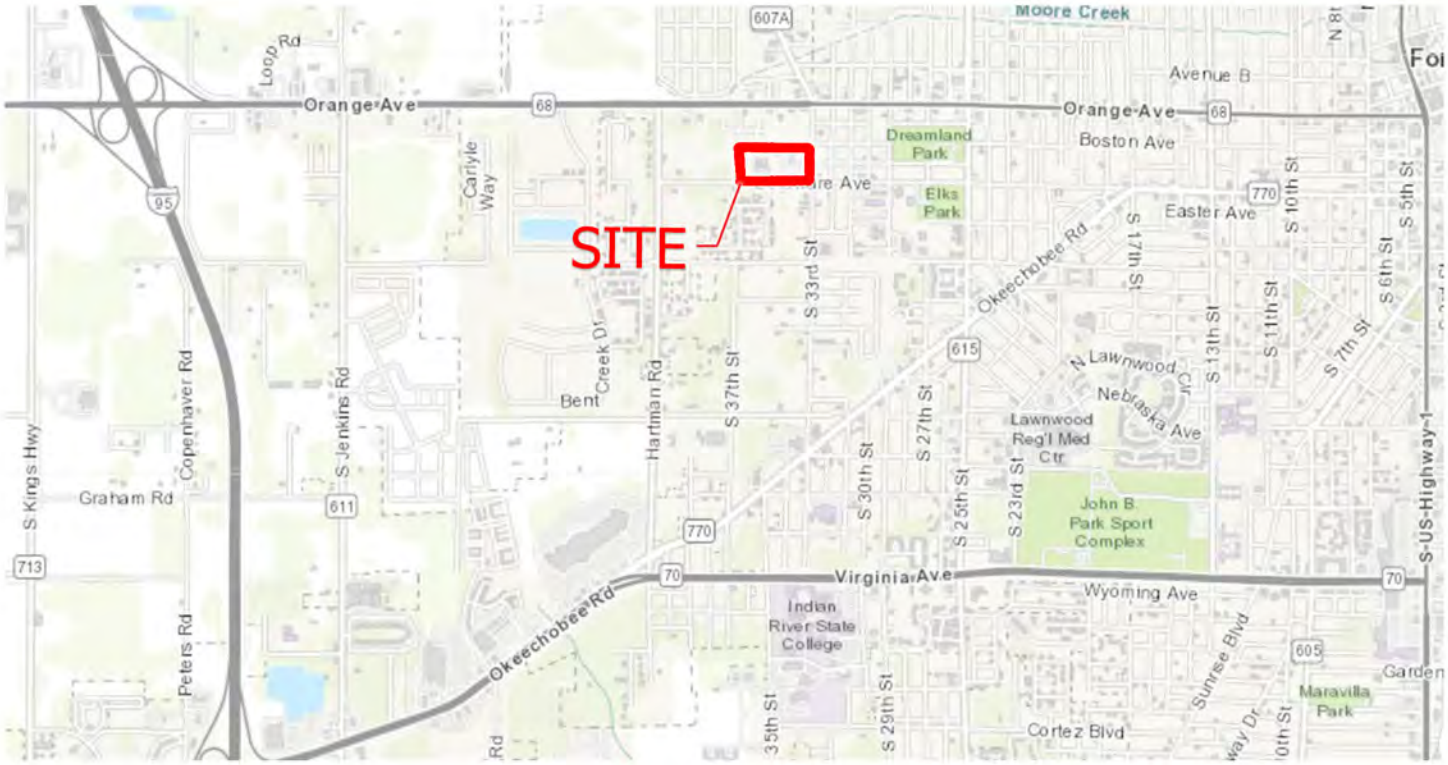
A-1

JCHS - St. Anastasia

2408-313-0001-000-6
407 S 33rd Street
Fort Pierce, Florida

McCarty & Associates
LAND PLANNING
AND DESIGN
STUART • FT. PIERCE
772.341.9322
www.McCartyLandPlanning.com
Mike@McCartyLandPlanning.com

Location Map



6/25/2025

JCHS - St. Anastasia

2408-313-0001-000-6
407 S 33rd Street
Fort Pierce, Florida

McCarty & Associates
LAND PLANNING
AND DESIGN
STUART • FT. PIERCE
772.341.9322
www.McCartyLandPlanning.com
Mike@McCartyLandPlanning.com

Aerial Photograph

TOTAL SITE

DEVELOPMENT AREA DETAIL

6/25/2025

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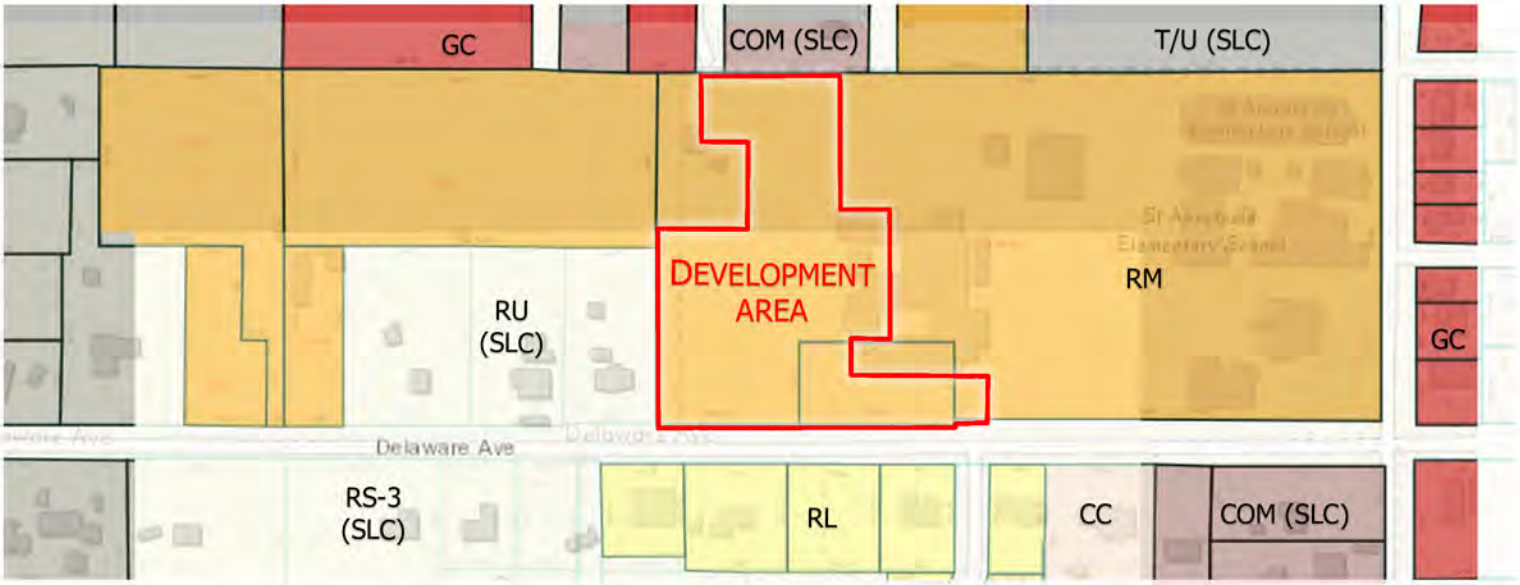
Future Land Use Map



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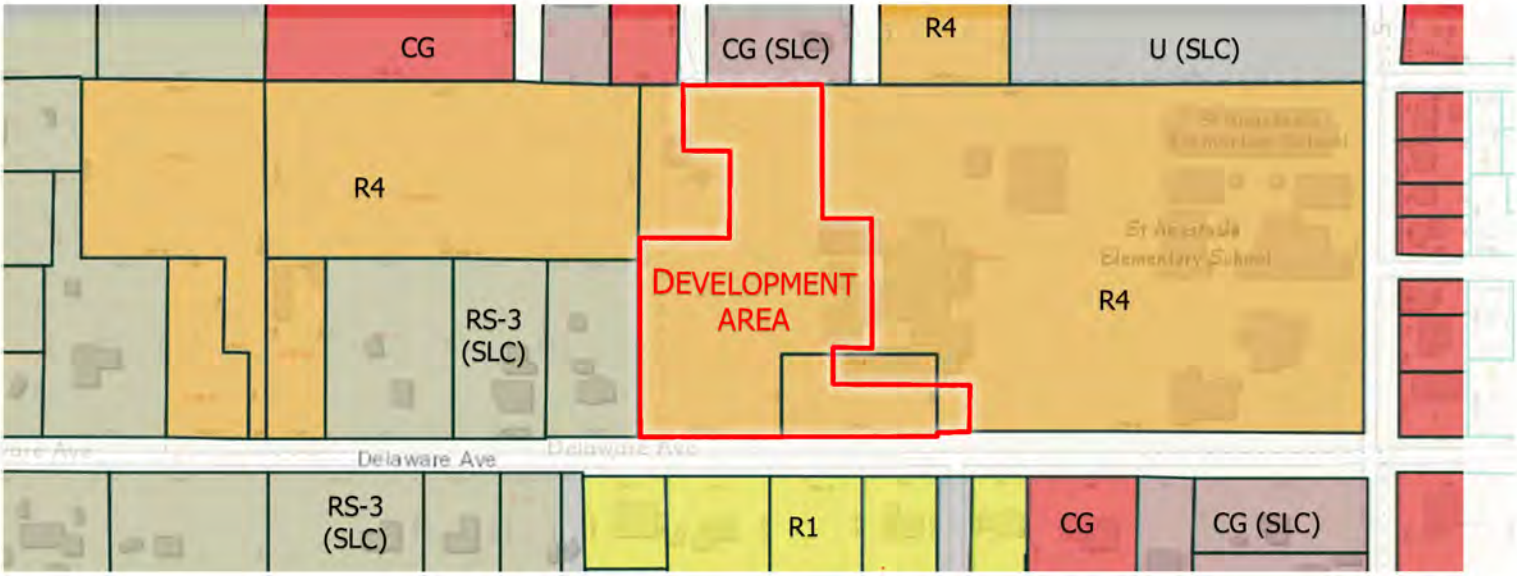
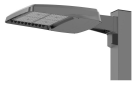
Zoning Map



6/25/2025

Luminaire Schedule (Issue: November 14th, 2025) Project No. **JCHS - Fort Pierce, FL**

Contact McCay Green with Commercial Lighting Industries, 772-485-0561-, McCay@Commercial-Lighting.net for pricing

Fixture Type	Reference Image	Description	Dimming Interface	Product Registration ID	Lamps, CCT, Lumen, Optics, CRI	Input Voltage	Fixture Wattage	Mounting, Finishes, Remarks & Other Notes
DECORATIVE FIXTURE TYPES								
S4F		LED Site Head Luminaire Type IV Wide Distribution	0-10V	VP-1-160L-100-4K7-4W-UNV-A-DBT	Integrated LED Module, 4000K, 12,488 lm, Type IV Wide Distribution, 70CRI	UNI-VAC	92	Single head mounted at 30'-0" AFG on a Square Steel Straight Pole. Dark Bronze Textured Matte finish.
S4FA		LED Adjustable Site Head Luminaire Type IV Forward Wide	0-10V	VP-1-160L-100-4K7-4W-UNV-A-DBT / SHD-1-HSS-90-B-DBT	Integrated LED Module, 4000K, 12,488 lm, Type IV Wide Distribution, 70CRI	UNI-VAC	92	Single head mounted at 30'-0" AFG on a Square Steel Straight Pole. Dark Bronze Textured Matte finish with House Side Shield.
		SUBSTITUTIONS ARE NOT ALLOWED AND VALUE ENGINEERING WILL NOT BE CONSIDERED WITHOUT EXPRESSED WRITTEN APPROVAL FROM THE ARCHITECT OR OWNER. NO EXCEPTIONS.						
CNTRL	Controls Package - TBD							

Notes, Exceptions, Clarifications

PURCHASING: All Lighting is supplied by ___. Consult with the above listed Mfgs for pricing at pre-established customer pricing. The complete package is approved and available at established discounted pricing from Commercial Lighting Industries, 81161 Indio Blvd, Indio, CA 92201, 800-755-0155 / 760-831-9815. Contact Farren Halcovich , Farren@Commercial-Lighting.net, for purchase order placement, and coordinating delivery of the package.

LTG SPEC VERIFICATION: Purchaser assumes responsibility for, and must verify with CLI the following prior to purchasing: Voltage, specific mounting details (including recessed downlight hanger bars if non-standard from the Mfg) , NYC or Chicago codes, IC Rating, wind/gust pole factors, integral luminaire wiring gauge, custom reflector reflectances, Kelvin temperature, distribution, emergency use and dimming method. The above catalog #s may not be completely solidified at time of drawing issuance for construction.

PHOTOMETRIC COMPLIANCE: A complete Photometric drawing for this project as currently drawn and specified, has been submitted to approving authorities a applicable. Any substitutions or changes nullify the report and compliance and are strictly forbid without writtent approval from the owner, architect or lighting designer - **NO SUBSTITUTIONS ARE ALLOWED**.

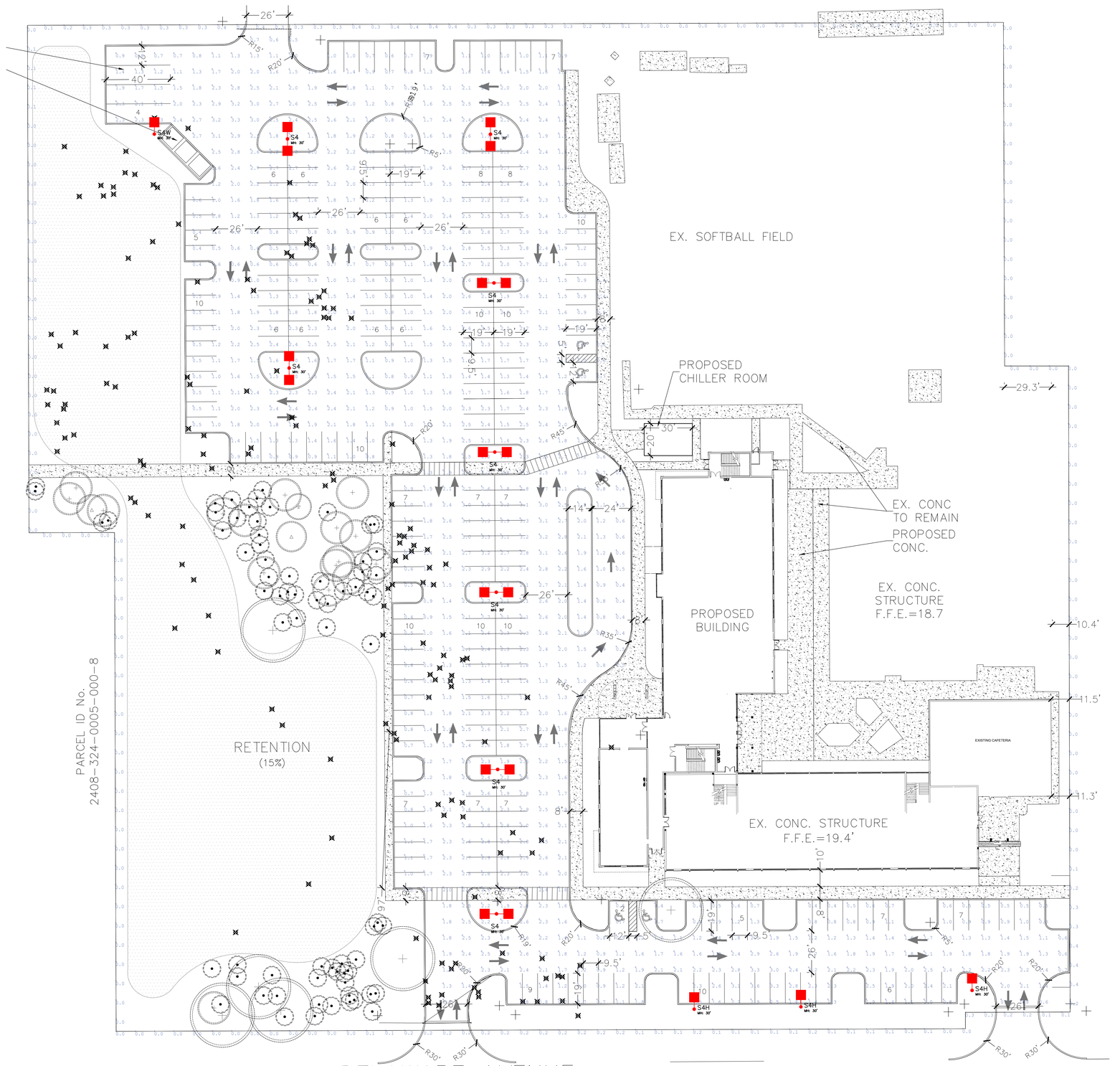
ENERGY COMPLIANCE: The purchasing party is responsible for solidifying the lighting package in compliance with the State Energy Code, both with respect to Lighting Power Density (LPD) and the use of mandated controls (dimmers, photocells, occupancy sensors, etc.). Consult with Istvan Derzsi, Sr. Lighting Designer of Commercial Lighting Industries 323-905-2220 to ensure compliance prior to ordering.

CONTROLS: The control system being implemented has been designed per meetings with the owner and architect, determining the complete requirements of the control system, and engineered to the exact specifications of the luminaires in this schedule, and in compliance with the State Energy Code. Any changes to the above would affect the Controls engineering and thus would require re-submission to all parties: Owner, Architect, Lighting Designer, Controls Manufacturer and the State Energy Compliance Department.

DIMMING: The method of dimming each fixture type (generally either Non-Dim, ELV/MLV, 0-10v or DALI/Ecosystem) may not have been known at the time the of preliminary specifications submission. Some luminaires may be available with different dimming than is indicated - see the catalog cuts. When requesting a quotation, and ordering, the purchaser must verify the dimming method desired (to match the wiring and type of dimming that will get installed) of each type and request the quotation accordingly. Once product is on site, the dimming installed will have to be compatible with the luminaires. Note: the default dimming specifications are: For CA, US - all 0-10V wherever possible if using central Control System - same. Otherwise, any luminaire that is not 0-10V or combo ELV/120V, is specified as ELV because it cannot be assumed that LV wiring will be run.

WIRING: 120V Leading Edge dimmers (old technology for mostly incandescent fixtures) aka Triac/120V dimming, and 120V Trailing Edge dimmers aka ELV dimming (utilizing standard 3 wire White/Black/Green) are not interchangeable with 0-10V dimming which has two additional low voltage wires (Grey/Violet) for analog control signal, using one volt increments from 0 to 10, thus dimming the LED fixtures down to 10% or even 1%. Each fixture much be ordered with the appropriate 120V or the 0-10V driver depending on which will dim it, they are NOT interchangeable. Do Not assume a fixture with 0-10V is "standard" and will thus dim correctly if only 120V dimming is available.

VOLTAGE: Voltage to be verified. See Volt column: DV means Dual-Volt - fixtures come compatible for either 120 or 277V. MV means Multi-Volt - fixtures come compatible for either 120/208/240/277/347 volts. TBD means the fixture comes in 120 or 277 but not both and thus the voltage for these fixtures must be verified prior to ordering.

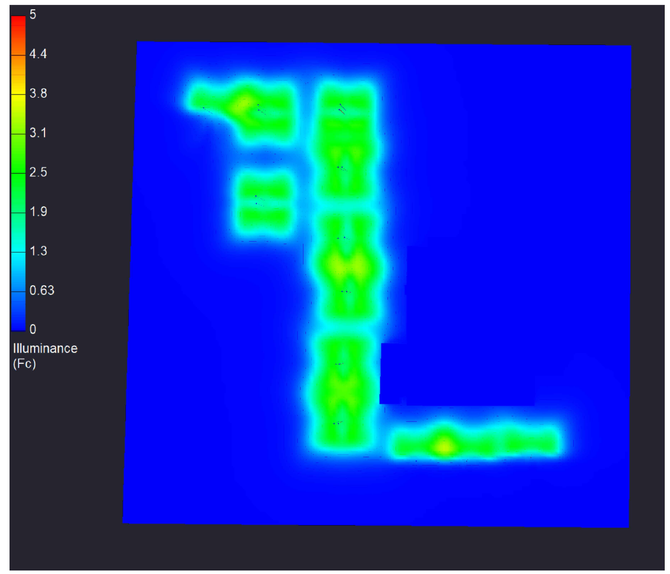


1 **SITE - PHOTOMETRIC DRAWING**

1/32" = 1'-0"

Luminaire Schedule						
Qty	Label	Arrangement	Tag	Luminaire Lumens	Luminaire Watts	Total Watts
17	VP-1-160L-100-4K7-4W	Single	S4	12416	92	1564
3	VP-1-160L-100-4K7-4W-HSS-90-B	Single	S4H	11408	92	276

Calculation Summary								
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Site - Parking	Illuminance	Fc	1.70	3.6	0.4	4.25	9.00
Trespassing	Illuminance	Fc	0.08	0.4	0.0	N.A.	N.A.



2 **PSEUDO COLORS ANALYSIS**

Commercial Lighting Industries
81161 Indio Boulevard, Indio, CA 92201
Tel: 800-755-0155 | Fax: 760-262-3940

No.	Issue	Date
0.		11.14.2025

JCHS
FORT PIERCE, FL

ALL PLANS AND SPECIFICATIONS ARE THE PROPERTY OF COMMERCIAL LIGHTING IND. DO NOT SCALE DRAWINGS. ALL MEASUREMENTS MUST BE CHECKED ON SITE BY THE CONTRACTORS AND ANY DISCREPANCIES BROUGHT TO THE ATTENTION OF THE DESIGNER OR ARCHITECT.

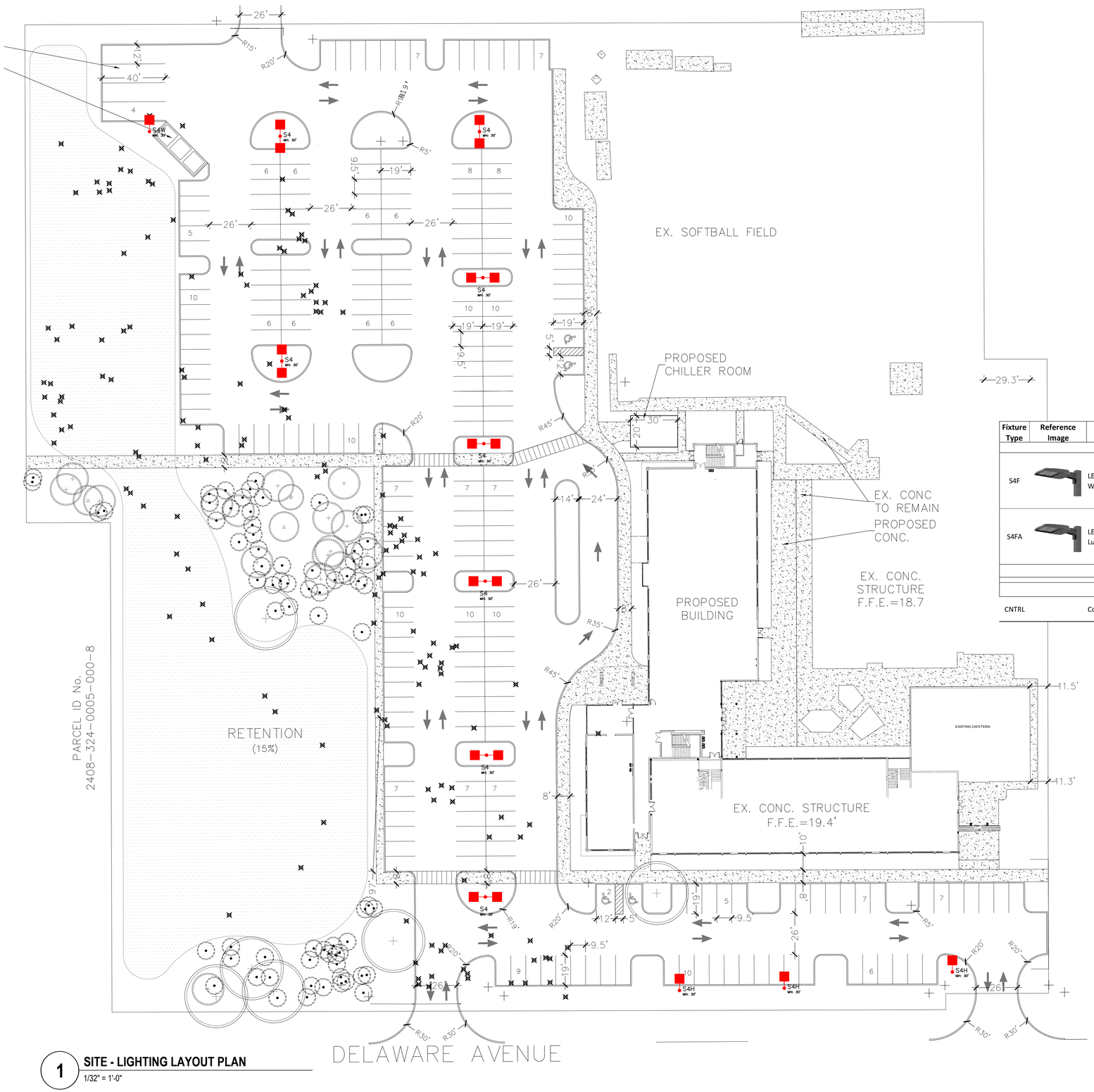
Title

SITE
PHOTOMETRIC
DRAWING

Scale: AS SHOWN
Date: 11.14.2025
Drawn By: S.L.
Checked By: I.D.
Job No.

Sheet No.

LDE–1.2



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S4FA		LED Adjustable Site Head Luminaire Type IV Forward Wide	0-10V	VP-1-160L-100-4K7-4W-UNV-A-DBT / SHD-1-HSS-90-B-DBT	Integrated LED Module, 4000K, 12,488 lm, Type IV Wide Distribution, 70CRI	UNI-VAC	92	Single head mounted at 30'-0" AFG on a Square Steel Straight Pole. Dark Bronze Textured Matte finish with House Side Shield.
			SUBSTITUTIONS ARE NOT ALLOWED AND VALUE ENGINEERING WILL NOT BE CONSIDERED WITHOUT EXPRESSED WRITTEN APPROVAL FROM THE ARCHITECT OR OWNER. NO EXCEPTIONS.					
CNTRL	Controls Package - TBD							

1 SITE - LIGHTING LAYOUT PLAN
1/32" = 1'-0"

Commercial Lighting Industries
81161 Indio Boulevard, Indio, CA 92201
Tel: 800-755-0155 | Fax: 760-262-3940

No.	Issue	Date
0.		11.14.2025

JCHS
FORT PIERCE, FL

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Title
SITE
LIGHTING PLAN

Scale	Date
AS SHOWN	11.14.2025
Drawn By	Checked By
S.L.	I.D.
Job No.	
Sheet No.	
LDE-1.1	