GIANGRANDE
Engineering & Planning

5025 SW Sensation Street
Palm City, FL 34990
772-888-9076

June 11, 2026

City of Fort Pierce Planning Department
100 North US 1,
Fort Pierce, Florida 34950

RE: **Project#: PZSITE2025-00029 –** Conditional Use w New Construction
Parcel IDs: 2417-331-0010-0006- (3700 Okeechobee Rd.)

Dear Ms. Driver,

Thank you for reviewing the project referenced above. Giangrande Engineering & Planning is pleased to provide this response to the comments emailed June 4, 2026. Supporting documentation addressing each comment is supplied with this submittal. A summary of the comments and responses is provided below:

City of Fort Pierce Planning Department

1. Update front of building rendering to reflect company name, as mentioned.

   Response: The owner has made the decision that they would not like to have any naming or numbering on the building. See the revised renderings with this submittal.

City Engineering:

1. The revised Site Plan and Dumpster Detail show a sidewalk leading to the side of the double dumpster enclosure. The sidewalk dead-ends at the masonry wall of the dumpster with no access. Also, the dumpster detail shows a 8’ extended concrete apron from the dumpster enclosure, which is not represented on the plans. Please revise Site Plan or the dumpster detail to solve this issue.

   Response: Find the revised site plan with this submittal showing a revised dumpster enclosure detail and the 8’ concrete apron.

St. Lucie County Public Works:

1. Identify the right of way dedication on the landscape plan.

   Response: Find the revised landscape plan showing the 5’ right of way dedication.

Thank you for reviewing this project. Please do not hesitate to contact me with questions or comments at (772) 888-9076.

Best regards,

Leo Giangrande, P.E.
Principal

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

April 21, 2026

ST. LUCIE COUNTY FIRE DISTRICT
5160 N.W. Milner Drive,
Port St. Lucie, Florida 34983-3392

RE: **Project#: PZSITE2025-00029 –** Conditional Use w New Construction Parcel IDs: 2417-331-0010-0006- (3700 Okeechobee Rd.)

Dear Captain Almand,

Thank you for reviewing the project referenced above. Giangrande Engineering & Planning is pleased to provide this response to the July 9, 2025, comments. Supporting documentation addressing each comment is supplied with this submittal. A summary of the comments and responses is provided below:

The following Conditions/Revisions are necessary:

1. Please submit a completed application for Development/Site Plan Review (St. Lucie County Fire District Development & Site Plan Review Application). This form is available on-line at https://www.slcfd.com.

Response: Acknowledged.

2. Invoicing contact information will need to be provided in the Applicant/Agent for Owner section on the application. Please be sure to include the assigned project number, business name, address, primary contact name, phone number and email address for the responsible party. Invoices will be generated upon receipt of application and supporting documents. An abbreviated fee schedule is included on the application form. Payment can be made by credit card or check.

Response: Acknowledged.

3. Written acknowledgement of the conditions/comments provided, as well as any required revisions are due at the time of application submittal.

Response: Acknowledged.

4. Fire District review fees are due at the time of submittal. An abbreviated fee schedule is included on the application form.

Response: Acknowledged.

5. Fire District Development/Site Plan Review application, supporting documentation, and the associated review fee, are due prior to site plan approval.

Response: Acknowledged.

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

6. A separate submittal to SLCFD for review and permitting will be required for any Fire Alarm, Fire Sprinkler, Underground Fire Main, or other life safety systems where required by the currently adopted version of the Florida Fire Prevention Code.

Response: Acknowledged.

7. Fire department access roads provided in accordance with 18.2.3 shall be provided at the start of a project and shall be maintained throughout construction. (NFPA 1 16.1.4). Surface. Fire department access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be provided with an all-weather driving surface. (NFPA 1.18.2.3.5.2)

Response: Acknowledged.

8. Electronic security gates must have an access control key switch on the control panel to allow for Fire Department entry in an emergency. Manual security gates that will be locked require a Knox lock. All security gates shall maintain a clear width of 12 feet when open and provide a means to open the gates manually upon loss of power. (SLCFD Resolution 740-23)

Response: Acknowledged.

9. Per the St. Lucie County Fire District Fire Prevention Code Resolution 740-23, at least 13 feet 6 inches nominal vertical clearance shall be provided and maintained over the full width of all means of access (including, but not limited to trees, canopies, etc.)

Response: Acknowledged.

10. The Fire District reserves the right for future comments at the site plan & building construction phase.

Response: Acknowledged.

11. Please provide a truck circulation detail.

Response: Acknowledged, please see updated truck circulation detail.

12. Be advised: Dimensions of largest vehicle are as follows: 38 tons or 77,000 lbs, 47.5 ft. total length, 21.5 ft. wheel base, 10.5 ft. total width, 41.5 degree turning radius. (SLCFD Resolution 740-23)

Response: Acknowledged.

13. Minimum roadway pavement width (two-way traffic) shall be twenty (20) ft. (SLCFD Resolution 740-23)

Response: Acknowledged.

14. Minimum roadway pavement width (one-way traffic) shall be twelve (12) ft. (SLCFD Resolution 740-23)

Response: Acknowledged.

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

15. Fire apparatus access roads connecting to roadways shall be provided with curb cuts extending at least 2 ft (0.61 m) beyond each edge of the fire apparatus access road. (NFPA 1 18.2.3.5.3.3)

Response: Acknowledged.

16. The angle of approach and departure for any means of fire apparatus access road shall not exceed 1 ft drop in 20 ft (0.3 m drop in 6 m) or the design limitations of the fire apparatus of the fire department, and shall be subject to approval by the AHJ.(NFPA 1 18.2.3.5.6.2)

Response: Acknowledged.

17. A fire department access road shall extend to within 50 ft (15 m) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1.18.2.3.2.1)

Response: Acknowledged.

18. Fire hydrants (shall be) are provided for buildings other than detached one-and-two-family dwellings IAW both of the following 1) The maximum distance to a fire hydrant from the closest point in the building shall not exceed 400 feet. 2) The maximum distance between fire hydrants shall not exceed 500 feet. NFPA 1:18.5.3. Please provide fire flow calculations for hydrants.

Response: Acknowledged.

19. An approved water supply capable of supplying the required fire flow for fire protection (shall be) is identified to all premises upon which facilities, buildings, or portions of buildings which are to be constructed or moved into the jurisdiction. The approved water supply shall be in accordance with NFPA 1:18.4.

Response: Acknowledged.

20. Fire department connections shall be located on the street side of buildings and shall be located and arranged so that hose lines can be readily attached to the inlets without interference from any nearby objects, including buildings, fences, landscaping, or other fire department connections. The locations of connections shall be based upon the access requirements of the fire department.

Response: Acknowledged.

21. The distance allowed between the fire department connection and a fire hydrant shall be no more than one hundred fifty (150) feet as a vehicle travels.

Response: Acknowledged.

22. Where underground water mains and hydrants are to be provided, they shall be installed, completed, and in service prior to commencing construction work on any structure. It is not intended to prohibit the construction of non-combustible structure foundation elements such as foundations and footings prior to the completion of underground water mains and hydrants (NFPA 1 16.4.3.1.3).

Response: Acknowledged.

23. The minimum size of water mains for supplying water for firefighting purposes shall be six (6) inches. b. The minimum size of water mains supplying hydrants on a dead end main shall be eight (8) inches. c.

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

The maximum number of hydrants located on a dead end main shall be one (1). d. Grid or Tee systems shall be supplied by a minimum of an eight (8) inch looped main. Exceptions may be granted based on the capacity of the water distribution system but in no case shall the main size be less than six (6) inches. e. The minimum size water main(s) shall be determined by the needed fire flow as established by the Fire Marshal and based on the current Insurance Service Office (ISO) requirements.

Response: Acknowledged.

24. Hydrants shall be located no more than 12ft. from the curb of roadways or from the edge of payment. Clearances of three feet (3 ft.) shall be maintained around the circumference of hydrants. A clear space of not less than five feet (5ft.) shall be provided in front of each hydrant connection having a diameter greater than 2 ½ inches. The center of hose outlet shall be not less than 18 inches above final grade. (SLCFD Fire Prevention Code Resolution 740-23).

Response: Acknowledged.

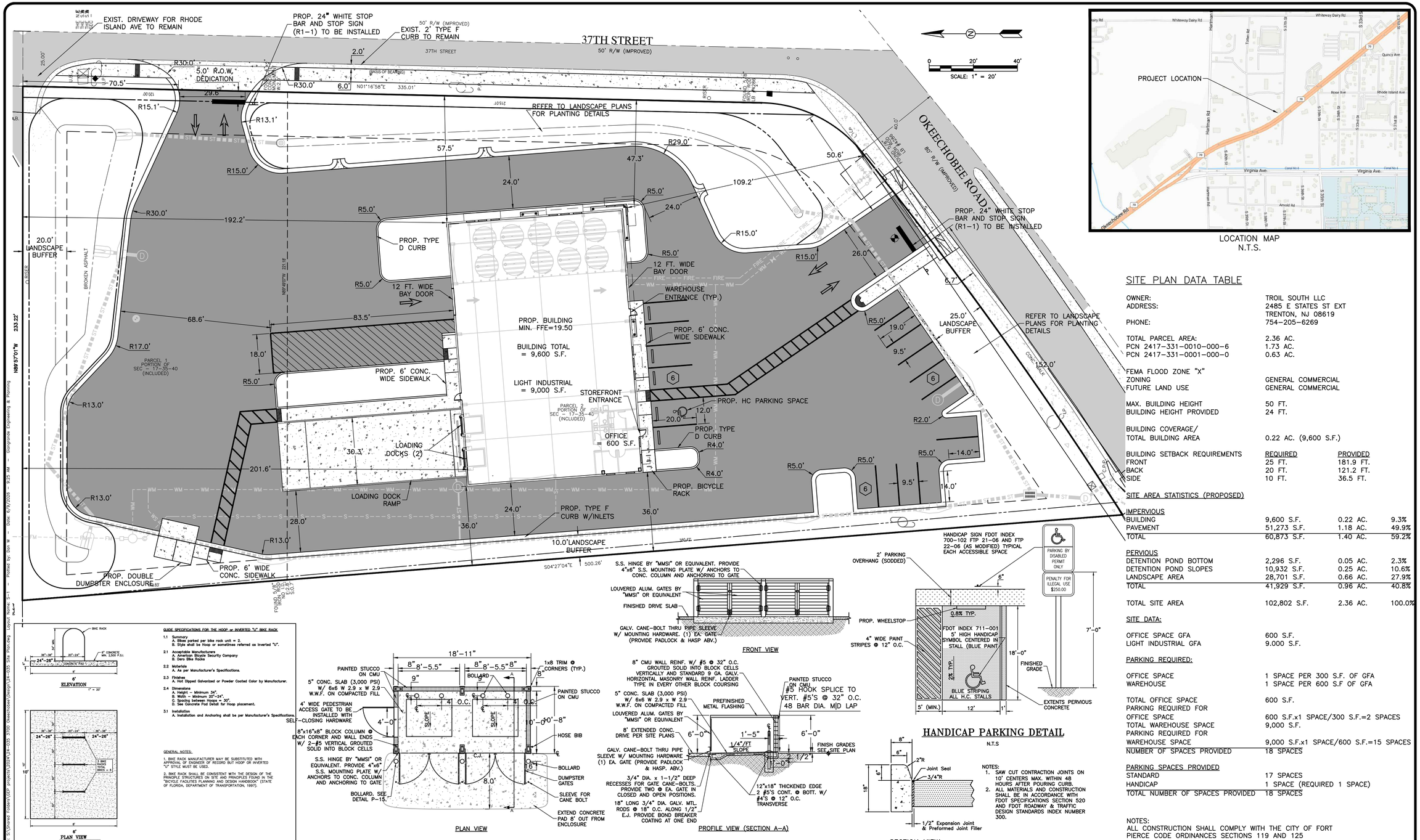
25. Site Plans submitted in accordance with this Fire Prevention Code shall include the size, layout, and offsite connections for the water distribution system and the location of all existing and proposed fire hydrants within one thousand (1,000) feet of the proposed project.

Response: Acknowledged, please see site plan.

Thank you for reviewing this project. Please do not hesitate to contact me with questions or comments at (772) 888-9076.

Best regards,

Leo Giangrande, P.E.
Principal



LOCATION MAP
N.T.S.

SITE PLAN DATA TABLE

OWNER:	TROIL SOUTH LLC		
ADDRESS:	2485 E STATES ST EXT TRENTON, NJ 08619		
PHONE:	754-205-6269		
TOTAL PARCEL AREA:	2.36 AC.		
PCN 2417-331-0010-000-6	1.73 AC.		
PCN 2417-331-0001-000-0	0.63 AC.		
FEMA FLOOD ZONE "X"			
ZONING	GENERAL COMMERCIAL		
FUTURE LAND USE	GENERAL COMMERCIAL		
MAX. BUILDING HEIGHT	50 FT.		
BUILDING HEIGHT PROVIDED	24 FT.		
BUILDING COVERAGE/ TOTAL BUILDING AREA	0.22 AC. (9,600 S.F.)		
BUILDING SETBACK REQUIREMENTS	REQUIRED	PROVIDED	
FRONT	25 FT.	181.9 FT.	
BACK	20 FT.	121.2 FT.	
SIDE	10 FT.	36.5 FT.	
SITE AREA STATISTICS (PROPOSED)			
IMPERVIOUS			
BUILDING	9,600 S.F.	0.22 AC.	9.3%
PAVEMENT	51,273 S.F.	1.18 AC.	49.9%
TOTAL	60,873 S.F.	1.40 AC.	59.2%
PERVIOUS			
DETENTION POND BOTTOM	2,296 S.F.	0.05 AC.	2.3%
DETENTION POND SLOPES	10,932 S.F.	0.25 AC.	10.6%
LANDSCAPE AREA	28,701 S.F.	0.66 AC.	27.9%
TOTAL	41,929 S.F.	0.96 AC.	40.8%
TOTAL SITE AREA	102,802 S.F.	2.36 AC.	100.0%
SITE DATA:			
OFFICE SPACE GFA	600 S.F.		
LIGHT INDUSTRIAL GFA	9.000 S.F.		
PARKING REQUIRED:			
OFFICE SPACE	1 SPACE PER 300 S.F. OF GFA		
WAREHOUSE	1 SPACE PER 600 S.F OF GFA		
TOTAL OFFICE SPACE	600 S.F.		
PARKING REQUIRED FOR OFFICE SPACE	600 S.F.x1 SPACE/300 S.F.=2 SPACES		
TOTAL WAREHOUSE SPACE	9,000 S.F.		
PARKING REQUIRED FOR WAREHOUSE SPACE	9,000 S.F.x1 SPACE/600 S.F.=15 SPACES		
NUMBER OF SPACES PROVIDED	18 SPACES		
PARKING SPACES PROVIDED			
STANDARD	17 SPACES		
HANDICAP	1 SPACE (REQUIRED 1 SPACE)		
TOTAL NUMBER OF SPACES PROVIDED	18 SPACES		

NOTES:
ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF FORT PIERCE CODE ORDINANCES SECTIONS 119 AND 125

BIKE RACK AND CONCRETE PAD DETAILS

DOUBLE DUMPSTER ENCLOSURE
N.T.S

HANDICAP PARKING DETAIL
N.T.S

NOTES:
1. SAW CUT CONTRACTION JOINTS ON 10' CENTERS MAX. WITHIN 48 HOURS AFTER POURING CURB.
2. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS SECTION 520 AND FDOT ROADWAY & TRAFFIC DESIGN STANDARDS INDEX NUMBER 300.

FDOT INDEX TYPE "D" CURB
N.T.S

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

SITE PLAN

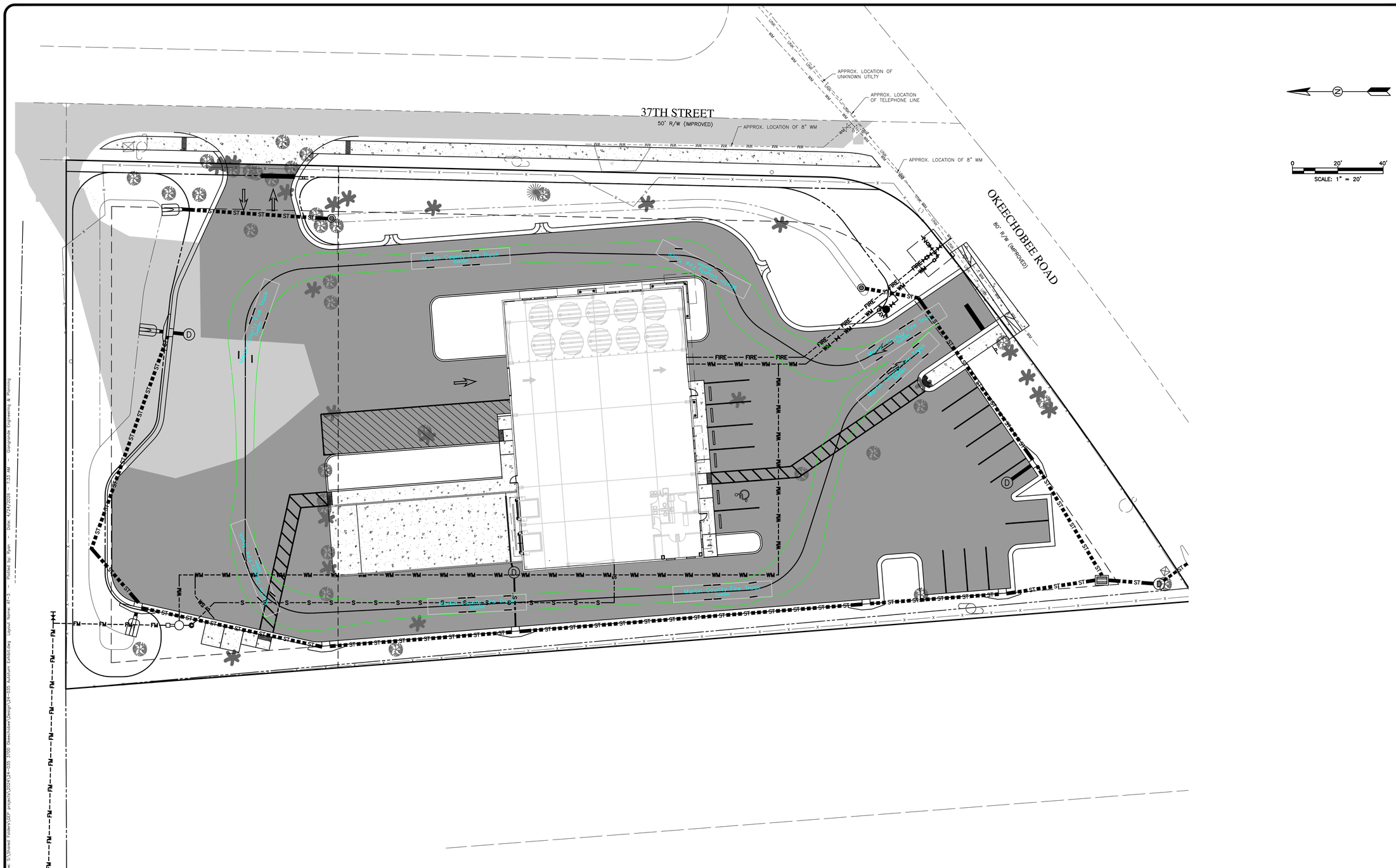
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

S-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Site Plan.dwg Layout Name: S-1 - Plotted By: Don M - Date: 6/9/2026 - 9:25 AM



Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Autoturn Exhibit.dwg Layout Name: AT-3 -- Plotted by: Ryan -- Date: 4/24/2026 - 7:33 AM -- Giangrande Engineering & Planning

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

AUTOTURN EXHIBIT
FIRE TRUCK

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

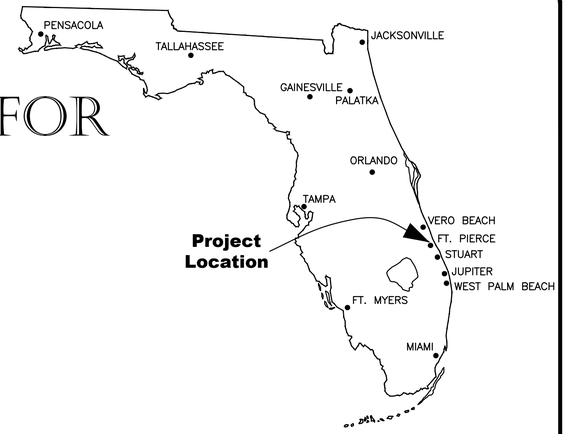
LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

AT-3

CONSTRUCTION PLANS & SPECIFICATIONS FOR 3700 OKEECHOBEE ROAD, FORT PIERCE ST. LUCIE COUNTY, FLORIDA

SECTIONS 17, TOWNSHIP 35S, RANGE 40E



THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS, FY 2025–26.

GOVERNING SPECIFICATIONS:
FDOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, FY 2025–26.

THE FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, FY 2025–26.

THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS (GREENBOOK), 2023.

THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.), 11TH EDITION, DECEMBER 2023.

AND THE CITY OF FORT PIERCE LAND DEVELOPMENT REGULATIONS, LATEST EDITION AND FORT PIERCE UTILITY AUTHORITY (FPUA).

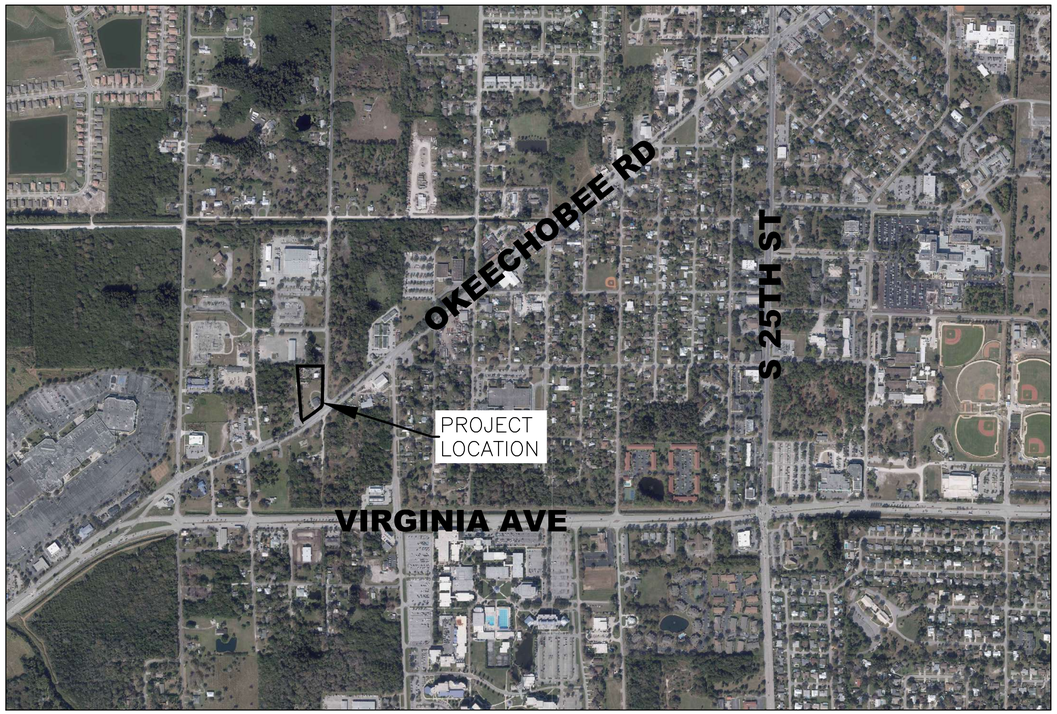
DESIGN TEAM:

CIVIL ENGINEER
GIANGRANDE ENGINEERING & PLANNING
710 SE OCEAN BLVD
STUART, FL 34996
(772) 888–9076

LAND SURVEYOR
COMPASS SURVEYING
6250 N. MILITARY TRAIL
WEST PALM BEACH, FL 33407
(561) 640–4800

LANDSCAPE ARCHITECT
DAN SUGG RLA
SUGG DESIGN STUDIO
POST OFFICE BOX 335
JENSEN BEACH, FL 34958
(772) 485–1776

LIGHTING
GENESIS LIGHTING
14101 NW 8TH ST
SUNRISE, FL 33325
(954) 306–3931



VICINITY MAP
SCALE=1:1000

Sheet List Table	
Sheet Number	Sheet Title
G–1	COVER SHEET
G–2	GENERAL NOTES
EX–1	EXISTING CONDITIONS & DEMO PLAN
S–1	SITE PLAN
ST–1	STRIPING PLAN
P–1	PAVING, GRADING, & DRAINAGE PLAN
W–1	WATER & WASTEWATER PLAN
W–2	WATER & WASTEWATER PLAN
EC–1	EROSION CONTROL PLAN
C–1	CROSS SECTIONS
D–1	DETAILS
D–2	DETAILS
D–3	DETAILS
D–4	DETAILS
D–5	DETAILS
D–6	ADS DETAILS
D–7	ADS DETAILS
D–8	ADS DETAILS
D–9	ADS DETAILS
D–10	ADS DETAILS
D–11	ADS DETAILS
D–12	ADS DETAILS
D–13	ADS DETAILS

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

JUNE 2025

REV 2 - 02/02/26 - REVISED PER SLC DRC & MINOR SITE PLAN COMMENTS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD
STUART, FLORIDA 34994
PH. (772) 888-9076
Cert. No. 30901

LEO D. GIANGRANDE, P.E.
License No: 66387

SHEET G-1

SUPPLEMENTAL CONDITIONS

SCOPE OF WORK: THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, SUPERVISION, TRANSPORTATION AND INCIDENTALS NECESSARY TO CONSTRUCT THE PAVING, DRAINAGE, UTILITIES AND ASSOCIATED IMPROVEMENTS, IN ACCORDANCE WITH THE PROVISIONS OF THESE SUPPLEMENTAL CONDITIONS, SPECIFICATIONS AND THE DRAWINGS, ENTITILED, "CONSTRUCTION PLANS & SPECIFICATIONS FOR "3700 OKEECHOBEE RD", PREPARED BY GIANGRANDE ENGINEERING AND PLANNING, LLC, 710 SE OCEAN BLVD., STUART, FLORIDA 34994, (772) 888-9076. IT IS THE OBJECTIVE OF THESE DOCUMENTS TO ASSURE THE TOTAL COMPLETION OF THE WORK REQUIRED TO PROVIDE PAVING, GRADING, AND DRAINAGE IMPROVEMENTS FOR THE "3700 OKEECHOBEE RD."

PERMITS AND LICENSES: CONSTRUCTION PERMITS FOR CERTAIN ELEMENTS OF THE PROJECT WORK ARE REQUIRED, AND THE DESIGN AND CONSTRUCTION REQUIREMENTS OF THE PROJECT REFLECT CONSTRAINTS AND CONDITIONS IMPOSED BY THESE PERMITS. THESE INCLUDE CONSTRUCTION PERMITS FROM THE SAINT LUCIE COUNTY, AND FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

THE CONTRACTOR SHALL PERFORM HIS WORK AND SHALL CONSTRUCT THE PROJECT IN ACCORDANCE WITH THE REQUIREMENTS OF THESE "DESIGN" PERMITS AND APPROVALS, COPIES OF WHICH ARE AVAILABLE FOR REVIEW AND USE FROM THE ENGINEER, UPON REQUEST. THE CONTRACTOR SHALL SECURE ALL WORK PERMITS, APPROVALS AND LICENSES REQUIRED TO PERFORM THE WORK, AND HE SHALL PERFORM THE WORK IN STRICT ACCORDANCE WITH THOSE PERMITS, APPROVALS AND LICENSES.

REFERENCE TO OTHER DOCUMENTS: FOR BREVITY, REFERENCE MAY BE MADE TO OTHER SPECIFICATIONS OR DOCUMENTS WHICH WILL BE USED TO SPECIFY OR CONTROL THE MATERIALS PLACED IN THE WORK, THE CONSTRUCTION METHODS TO BE USED, THE TOLERANCES THAT WILL BE ACCEPTABLE, AND CONTRACTUAL OR LEGAL OBLIGATIONS. THE SPECIFICATIONS OR DOCUMENTS SHALL INCLUDE:

1. "STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT." THE LATEST EDITION, PREPARED BY THE ENGINEER'S JOINT CONTRACT DOCUMENTS COMMITTEE AND PUBLISHED BY THE NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS. REFERENCE SHALL BE MADE: "GENERAL CONDITIONS."
2. "FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2023-2024," PUBLISHED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION. REFERENCE SHALL BE MADE: "FDOT SPECIFICATIONS."
3. "STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, 2023-2024" PUBLISHED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION. REFERENCE SHALL BE MADE "FDOT INDEX" OR "FDOT STANDARDS."
4. "AMERICAN SOCIETY FOR TESTING AND MATERIALS SPECIFICATIONS", LATEST EDITION REFERENCE SHALL BE MADE: "ASTM."
5. "ST LUCIE COUNTY MINIMUM CONSTRUCTION STANDARDS", LATEST EDITION. REFERENCE SHALL BE MADE AS "COUNTY CODE" OR "COUNTY STANDARDS" OR "COUNTY SPECIFICATIONS."
6. "FORT PIERCE UTILITY AUTHORITY DESIGN AND CONSTRUCTION STANDARDS FOR WATER AND WASTEWATER SYSTEMS", LATEST EDITION. REFERENCE SHALL BE MADE AS "FPUA CODE" OR "FPUA STANDARDS" OR "FPUA SPECIFICATIONS".

BY REFERENCE, THE DOCUMENTS CITED ABOVE ARE MADE PART OF THESE SUPPLEMENTAL CONDITIONS AND SPECIFICATIONS. THE CONTRACTOR SHALL HAVE COPIES OF EACH IN HIS POSSESSION FOR USE THROUGHOUT THE BIDDING AND CONSTRUCTION OF THIS PROJECT WORK AND/OR BE FAMILIAR WITH THE APPLICABLE SECTIONS OF EACH DOCUMENT AND BE ABLE TO VERITY THAT ALL MATERIALS AND CONSTRUCTION METHODS ARE CONFORMANCE WITH THESE DOCUMENTS AND SPECIFICATIONS.

ADDITIONALLY, THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL OTHER APPLICABLE LOCAL, REGIONAL, STATE AND FEDERAL LAWS, REGULATIONS ANO CODES, ESPECIALLY OSHA STANDARD 29 CFR, SECTION 1926.650 SUBPART P, WHICH IS PART OF THE TRENCH SAFETY ACT AS PART OF LAWS OF FLORIDA, CHAPTER 90-96.

CONTRACT ISSUES

GENERAL CONDITIONS: UNLESS OTHERWISE STATED IN THESE SUPPLEMENTAL CONDITIONS, THE PROVISIONS OF THE "STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT," REFERENCED ABOVE, SHALL BE USED TO GOVERN ALL ISSUES ADDRESSED IN THOSE GENERAL CONDITIONS FOR THIS PROJECT.

OWNER-ENGINEER RELATIONSHIP: ANY AGREEMENT BETWEEN OWNER AND ENGINEER SHALL NOT BE CONSTRUED TO PROVIDE ANY OBLIGATION FROM THE ENGINEER TO ANY THIRD PARTIES INCLUDING, BUT NOT LIMITED TO, ARCHITECTS, OTHER ENGINEERS, ANY CONTRACTORS (GENERAL OR SUB), NOR TO ANY SUCCESSORS TO THE OWNER. THE RIGHTS UNDER ANY AGREEMENT BETWEEN OWNER AND ENGINEER INURE ONLY TO THOSE TWO PARTIES.

ERRORS OR OMISSIONS IN THE DRAWINGS OR SPECIFICATIONS: PRIOR TO INITIATION OF THE WORK, THE CONTRACTOR SHALL CHECK DIMENSIONS, GRADES, ELEVATIONS AND THE SUMMARY OF ESTIMATED QUANTITIES SHOWN ON THE DRAWINGS TO ASSURE HIMSELF THAT THEY ARE CORRECT AND THAT THE WORK CAN BE ACCOMPLISHED AS INTENDED. THE CONTRACTOR SHALL TAKE NO ADVANTAGE OF ANY APPARENT ERROR OR OMISSION WHICH HE MIGHT DISCOVER, BUT SHALL IMMEDIATELY NOTIFY THE ENGINEER OF SUCH DISCOVERY, WHO WILL THEN MAKE SUCH CORRECTIONS AND INTERPRETATIONS AS HE DEEMS NECESSARY FOR REFLECTING THE ACTUAL SPIRIT AND INTENT OF THE DRAWINGS AND SPECIFICATIONS.

BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION WAS PROVIDED BY COMPASS SURVEYING, (561) 640-4800.

HORIZONTAL AND VERTICAL CONTROL: THE CONTRACTOR SHALL CONSTRUCT THE REQUIRED IMPROVEMENTS IN THE LOCATIONS SHOWN ON THE DRAWINGS, AND SHALL USE AS HORIZONTAL CONTROL POINTS THE EXISTING PROPERTY CORNERS AS SHOWN ON THE PLAN SHEET. THE HORIZONTAL CONTROL POINTS WERE PROVIDED BY COMPASS SURVEYING, (561) 640-4800. AS VERTICAL CONTROL, BENCHMARKS SHALL BE PROVIDED AT THE SITE, FOR USE IN ESTABLISHING THE NECESSARY ELEVATIONS AND GRADES AT THE LOCATIONS SHOWN ON THE PLANS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL CONTROL POINTS AND TO RE-ESTABLISH SAID POINTS AS NECESSARY. REMAINING HORIZONTAL AND VERTICAL CONTROL WORK SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS AND DETAILS.

WRITTEN DIMENSIONS ARE PROVIDED FOR CLARITY. WHERE WRITTEN AND SCALED DIMENSIONS CONFLICT, WRITTEN DIMENSIONS SHALL GOVERN.

COORDINATION OF WORK WITH OTHERS: THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OR IMPROVEMENTS OF OTHERS WITH REGARD TO NEW CONSTRUCTION, OR FOR THE NEED OF REMOVAL, RELOCATION OR ALTERATION OF EXISTING IRRIGATION AND DRAINAGE FACILITIES. THIS INCLUDES, BUT IS NOT LIMITED TO, THE OWNER, HIS CONTRACTORS, SUBCONTRACTORS OR AGENTS.

THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PUBLIC AGENCIES PRIOR TO COMMENCING THE WORK WITHIN THEIR JURISDICTION.

SHOP DRAWINGS: ONE DIGITAL COPY OF SIGNED SHOP DRAWINGS AND SIGNED AND SEALED DESIGN DATA SHALL BE SUBMITTED PRIOR TO ORDERING MATERIALS. ALLOW 10 WORK DAYS TURNAROUND FOR SUBMITTALS.

STANDARDS FOR QUALITY AND WORKMANSHIP: ALL MATERIALS, EQUIPMENT AND SUPPLIES FURNISHED BY THE CONTRACTOR FOR PERMANENT INCORPORATION IN THE WORK SHALL BE NEW AND OF THE QUALITY STANDARDS SPECIFIED. WORKMANSHIP SHALL BE FIRST-CLASS AND THE FINISHED PRODUCT EQUAL TO THE BEST ACCEPTED STANDARDS OF THE TRADE FOR THE CATEGORY OF WORK PERFORMED.

TEMPORARY UTILITIES: ALL ARRANGEMENTS AND COSTS FOR TEMPORARY POWER, WATER AND WASTEWATER FACILITIES DURING CONSTRUCTION SHALL BE RESPONSIBILITY OF THE CONTRACTOR.

OBSERVING THE WORK: THE PROGRESS AND QUALITY OF THE WORK WILL BE OBSERVED BY THE OWNER'S ENGINEER OR ENGINEER'S APPOINTED EMPLOYEE. NO OBSERVER IS AUTHORIZED TO CHANGE ANY PROVISIONS OF THE SPECIFICATIONS WITHOUT WRITTEN AUTHORIZATION OF THE OWNER'S ENGINEER, NOR SHALL THE PRESENCE NOR THE ABSENCE OF AN OBSERVER RELIEVE THE CONTRACTOR FROM ANY REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.

THE CONTRACTOR SHALL GIVE THE ENGINEER A MINIMUM OF 48 HOURS NOTICE PRIOR TO REQUIRED INSPECTIONS, AND SHALL SUPPLY ALL EQUIPMENT NECESSARY TO PROPERLY TEST AND INSPECT THE COMPLETED WORK.

IN ADDITION TO THE REQUIREMENTS PREVIOUSLY REFERENCED, THE FOLLOWING MINIMUM CONSTRUCTION CONTROL CHECKPOINTS SHALL BE ADHERED TO, AND THE CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE FOR OBSERVATION:

1. PRIOR TO ANY DEVIATION FROM THE DRAWINGS;
2. PRIOR TO ANY BACKFILLING TRENCHES CONTAINING HYDRAULIC CONDUITS, SO THAT JOINTING MAY BE INSPECTED;
3. PRIOR TO TESTING OF ALL HYDRAULIC CONDUITS.
4. PRIOR TO PLACEMENT OF ROADWAY BASE MATERIAL, CONCRETE OR ASPHALTIC CONCRETE.
5. UPON COMPLETION OF CONSTRUCTION FOR FINAL INSPECTION WITH THE CONTRACTOR OR HIS REPRESENTATIVE.

TESTING: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE INDEPENDENT TESTING LABORATORY DESIGNATED BY THE OWNER, THE TESTING AND RETESTING NECESSARY TO ASSURE THAT THE WORK HAS BEEN PERFORMED IN STRICT COMPLIANCE WITH THE SPECIFICATIONS. COST FOR THE INITIAL TESTING SHALL BE BORNE BY THE OWNER. ANY RETESTS REQUIRED DUE TO FAILURE TO MEET THE MINIMUM REQUIREMENTS SHALL BE PERFORMED AT THE EXPENSE OF THE CONTRACTOR. THE NAME OF OWNER'S TESTING LABORATORY SHALL BE SUPPLIED AT THE PRECONSTRUCTION MEETING.

EXISTING UTILITIES AND STRUCTURES: EXISTING UTILITIES, STRUCTURES AND FACILITIES SHOWN ON THE DRAWINGS WERE LOCATED AS ACCURATELY AS POSSIBLE FROM THE RECORDS EXAMINED. NO GUARANTEE IS MADE THAT ALL EXISTING FACILITIES ARE SHOWN OR THAT THOSE SHOWN ARE ENTIRELY ACCURATE. THE CONTRACTOR SHALL ASSURE HIMSELF OF THE ACTUAL LOCATION OF THE UTILITIES, STRUCTURES OR FACILITIES PRIOR TO PERFORMANCE OF ANY WORK IN THE VICINITY. THE UTILITY COMPANIES OR UTILITY AGENCIES WILL CO-OPERATE WITH THE CONTRACTOR IN LOCATING UNDERGROUND UTILITIES THAT MAY BE SUBJECT TO DAMAGE OR INTERRUPTION OF SERVICES DURING THE CONTRACTOR'S OPERATIONS. PRIOR TO START OF THE WORK, THE CONTRACTOR SHALL REQUEST THAT EACH UTILITY AGENCY ADVISE HIM OF THE LOCATION OF THEIR FACILITIES IN THE VICINITY. THE OWNER WILL ASSUME NO LIABILITY FOR DAMAGES SUSTAINED OR COSTS INCURRED BECAUSE OF THE CONTRACTOR'S OPERATION IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, OR TO THE TEMPORARY BRACING AND SHORING OF SAME. IN THE EVENT THAT IT IS NECESSARY TO SHORE, BRACE OR SWING A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED AND THEIR PERMISSION SECURED AS TO THE METHOD USED FOR ANY SUCH WORK.

THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES AND UNDERGROUND UTILITIES.

THE CONTRACTOR SHALL NOTIFY UTILITY OWNER THROUGH SUNSHINE STATE ONE CALL OF FLORIDA (800-432-4770) AND UTILITY OWNERS LISTED BELOW AT LEAST TWO BUSINESS DAYS (OR 10 DAYS IF ON THE JOB SITE).

RESTORATION OF DAMAGED STRUCTURES OR UTILITIES: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, REBUILD OR RESTORE TO ITS FORMER CONDITION, ANY AND ALL PORTIONS OF EXISTING UTILITIES, STRUCTURES, EQUIPMENT, APPURTENANCES OR FACILITIES. OTHER THAN THOSE TO BE PAID FOR UNDER THIS CONTRACT, WHICH MAY BE DISTURBED OR DAMAGED DUE TO THIS CONSTRUCTION OPERATION, AT NO COST TO THE OWNER.

FINAL CLEANUP: UPON COMPLETION OF THE WORK BUT BEFORE FINAL PAYMENT WILL BE MADE, THE CONTRACTOR SHALL CLEAR AND REMOVE FROM THE PROJECT AREA, ALL FALSE WORK, EQUIPMENT, SURPLUS AND DISCARDED MATERIALS, RUBBISH AND TEMPORARY STRUCTURES WHICH RESULT FROM THE WORK UNDER THIS AGREEMENT, AND SHALL RESTORE IN AN ACCEPTABLE MANNER ALL PROPERTY WHICH HAS BEEN DAMAGED DURING THE EXECUTION OF THE WORK.

TECHNICAL SPECIFICATIONS

MATERIALS, CONSTRUCTION METHODS, TESTING AND TOLERANCES FOR ALL WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS, AND WITH THE SPECIFICATIONS REFERENCED UNDER THE "SUPPLEMENTAL CONDITIONS." IN THE EVENT OF CONFLICT, THE MORE STRINGENT PROVISION SHALL APPLY.

1. MOBILIZATION/DEMOBILIZATION: THE WORK SPECIFIED IN THIS SECTION CONSISTS OF THE PREPARATORY WORK AND OPERATIONS IN MOBILIZING FOR BEGINNING WORK ON THE PROJECT, INCLUDING, BUT NOT LIMITED TO, THOSE OPERATIONS NECESSARY FOR THE MOVEMENT OF PERSONNEL, EQUIPMENT, SUPPLIES, AND INCIDENTALS TO THE PROJECT SITE, AND FOR THE ESTABLISHMENT OF TEMPORARY OFFICES, BUILDINGS, SAFETY EQUIPMENT AND FIRST AID SUPPLIES, SANITARY AND OTHER FACILITIES, AS REQUIRED BY THESE SPECIFICATIONS, THE SPECIAL PROVISIONS, AND STATE AND LOCAL LAWS AND REGULATIONS. ALL COSTS FOR BONDS, PERMITS AND ANY REQUIRED INSURANCE, AND ANY OTHER PRECONSTRUCTION EXPENSE NECESSARY FOR THE START OF THE WORK, AS WELL THE COST OF THE REMOVAL OF THE ABOVE ITEMS, SHALL ALSO BE INCLUDED IN THIS SECTION.

2. CONSTRUCTION SURVEYING: THE CONTRACTOR SHALL CONSTRUCT THE REQUIRED IMPROVEMENTS AT THE LOCATIONS SHOWN ON THE PLANS. AS OUTLINED IN THE "SUPPLEMENTAL CONDITIONS," THE OWNER SHALL PROVIDE BASIC REFERENCE POINTS FOR HORIZONTAL CONTROL AND BENCHMARKS IN THE VICINITY OF THE WORK. ALL OTHER CONSTRUCTION STAKING FOR BOTH HORIZONTAL AND VERTICAL CONTROL NEEDED BY THE CONTRACTOR FOR CONTROL OF HIS WORK SHALL BE PERFORMED BY THE CONTRACTOR.

3. DRAINAGE IMPROVEMENTS; THE CONTRACTOR SHALL PROVIDE ALL THE MATERIALS AND LABOR NECESSARY TO COMPLETE THE PROJECT WORK FOR THE DRAINAGE IMPROVEMENTS AT THE LOCATION, SIZE AND TYPE SHOWN ON THE PLANS FOR THE FOLLOWING ITEMS IN ACCORDANCE WITH FDOT SPECIFICATIONS. INCLUDED IN THE UNIT COSTS FOR EACH ITEM SHALL BE THE COSTS ASSOCIATED WITH THE DESIGN AND CONSTRUCTION, BY THE CONTRACTOR, TO COMPLY WITH THE TRENCH SAFETY ACT, LAWS OF FLORIDA, CHAPTER 90-96.

   BACKFILL AND COMPACTION OF TRENCHING FOR CULVERT INSTALLATION UNDER THIS SECTION SHALL BE IN ACCORDANCE WITH SECTION 125-8.3, FDOT SPECIFICATIONS. DENSITY TESTS SHALL BE PROVIDED AT THE FOLLOWING VERTICAL LOCATIONS:

   - TWO TESTS* AT SPRINGLINE (ONE EACH SIDE OF THE PIPE);
   - ONE TEST* AT ONE-FOOT ABOVE PIPE; AND
   - ONE TEST* AT ONE-FOOT BELOW SUBGRADE OR FINISH GRADE.
   - *DENSITY OF AT LEAST 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T -99, METHOD C.

   THE MINIMUM NUMBER OF HORIZONTAL TEST LOCATIONS IS TWO PER CULVERT INSTALLATION, ONE PER 100 LINEAL FEET OF PIPE AND/OR ONE PER 20 FEET OF PAVEMENT CROSSING WHICHEVER IS GREATER. ADDITIONAL TESTS MAY BE REQUIRED AT MORE FREQUENT INTERVALS IF DEEMED NECESSARY BY THE ENGINEER.

   A. CULVERTS: CONSTRUCTION METHODS FOR DRAINAGE CULVERTS SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS 125 AND 430, FDOT SPECIFICATIONS. PIPE MATERIAL AS SPECIFIED ON THE PLANS.

   B. DRAINAGE STRUCTURES: PRE-CAST CONCRETE CATCH BASINS SHALL MEET THE REQUIREMENTS OF ASTM SPECIFICATIONS C-478 AND FOOT STANDARD SPECIFICATION 425. CONCRETE FOR PRE-CAST BASINS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SHOP DRAWINGS ARE REQUIRED.

6. FENCING AND GATES: THE CONTRACTOR SHALL FURNISH AND CONSTRUCT CHAIN-LINK FENCE AND GATES IN ACCORDANCE WITH FPL CHAIN LINK FENCE SPECIFICATIONS AND DETAILS. MATERIALS AND LOCATION OF FENCE ARE INDICATED ON THE PLANS.

7. EROSION AND POLLUTION CONTROL: THE CONTRACTOR SHALL TAKE SUFFICIENT PRECAUTIONS TO PREVENT WATER POLLUTION WITH AQUATIC WEEDS, FUELS, OILS, BITUMINOUS, CALCIUM CHLORIDE OR OTHER HARMFUL MATERIALS. ALSO, THEY SHALL CONDUCT AND SCHEDULE HIS OPERATIONS SO AS TO AVOID POLLUTION OR SILTATION OF WATER BODIES OR TO INTERFERE WITH INDIGENOUS WILDLIFE. THE INSTALLATION OF TEMPORARY EROSION AND POLLUTION CONTROL FEATURES SHALL BE COORDINATED WITH THE CONSTRUCTION OF THE PERMANENT EROSION CONTROL FEATURES TO THE EXTENT NECESSARY TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS CONTROL OF EROSION AND WATER POLLUTION THROUGHOUT THE LIFE OF THE CONTRACT. ANY EROSION OR SHOALING SHALL BE CORRECTED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE. DUE TO UNANTICIPATED CONDITIONS, THE ENGINEER MAY DIRECT THE USE OF CONTROL FEATURES OR METHODS OTHER THAN THOSE INCLUDED IN THE ORIGINAL CONTRACT. IN SUCH EVENT THIS ADDITIONAL WORK WILL BE PAID FOR AS UNFORESEEABLE WORK.

   1) SEDIMENT BARRIERS SHALL BE PLACED PRIOR TO ANY WORK ON THE SITE. SEDIMENT BARRIERS SHALL BE PLACED AS DEPICTED AS SHOWN ON THE CONSTRUCTION PLANS.
   2) WETLAND AND WETLAND BUFFER AREAS ARE TO REMAIN UNDISTURBED. VEHICLE AND CONSTRUCTION EQUIPMENT TRAFFIC IS PROHIBITED WITHIN THESE AREAS.
   3) DAMAGED TURBIDITY CONTROLS SHALL BE REPAIRED PROMPTLY AND BEFORE ANY SUBSEQUENT RAINFALL.
   4) TURBIDITY CONTROLS SHALL REMAIN IN PLACE AND MAINTAINED AND REMOVED ONLY AFTER UPLAND CONSTRUCTION AREAS HAVE BEEN STABILIZED AS APPROVED BY THE ENGINEER OF RECORD
   5) CONTRACTOR SHALL COMPLY WITH NPDES AND EPA DISCHARGE ELIMINATION PERMIT, IN PARTICULAR SEDIMENT AND EROSION CONTROLS AND STORM WATER MANAGEMENT MEASURES SHALL BE STRICTLY FOLLOWED.
   6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF THE NPDES AND RELATED STORM WATER PLAN FOR THE DURATION OF THE PROJECT. UPON COMPLETION THE CONTRACTOR SHALL REMOVE ALL TEMPORARY STORM WATER MANAGEMENT MEASURES AND SHALL DISPOSE OF THEM AS REQUIRED.
   7) DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR AT LEAST 21 DAYS SHALL BE STABILIZED WITH SEED & MULCH NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY IN THOSE AREAS. THE SEEDING SHALL FOLLOWING TYPICAL CONSTRUCTION PRACTICES TO INSURE A YEAR ROUND STABILIZED AREA.
   8) CONTRACTOR SHALL COMPLY WITH SPILL PREVENTION, CONTROL AND COUNTER MEASURES (SPEC) REQUIREMENTS PURSUANT TO EPA RULES AND REGULATIONS.
   9) ALL CONSTRUCTION WASTE MATERIAL, INCLUDING BUT NOT LIMITED TO THE EXISTING BARB WIRE FENCING AND POSTS, SHALL BE COLLECTED AND STORED IN A SECURED METAL DUMPSTER RENTED / LEASED FROM A LOCAL WASTE MANAGEMENT COMPANY. THE DUMPSTER SHALL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURES FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES SHALL BE POSTED IN THE OFFICE TRAILER / CONSTRUCTION TRAILER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.
   10) ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS AT A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.
   11) TRUCKS / EQUIPMENT IMPORTING OR EXPORTING FILL SHALL COVER THEIR LOADS WITH A TARPAULIN TO AVOID UNNECESSARY GENERATION OF DUST.
   12) ALL HAZARDOUS WATER MATERIAL SHALL BE DISPOSED OF AS PER LOCAL / STATE REGULATIONS OR AS RECOMMENDED BY THE MANUFACTURER. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES AND THE CONTRACTOR IS RESPONSIBLE TO FOLLOW THESE PRACTICES.
   13) DRIVEWAY ACCESS SHALL BE CONSTRUCTED PER FDOT INDEX 106 TO MINIMIZE THE VEHICLES TRACKED SEDIMENTS TRANSPORTED OFFSITE.
   14) THE GENERAL CONTRACTOR'S SITE SUPERINTENDENT SHALL SELECT INDIVIDUALS, TYPICALLY THREE, WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES AND FILLING OUT OF INSPECTION REPORTS. PERSONNEL SELECTED SHALL RECEIVE PROPER TRAINING, AT THE CONTRACTORS EXPENSE, PRIOR TO SITE CONSTRUCTION COMMENCEMENT.
   15) ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE INSPECTED EVERY 7 DAYS OR WITHIN 24 HOURS OF A STORM OF 0.5 INCHES OR MORE IN RAINFALL. ALL CONTROLS MUST BE IN PROPER ORDER AS REQUIRED UNTIL SITE COMPLETION.
   16) SILT FENCE SHALL BE INSPECTED FOR TEARS, DEPTH OF SEDIMENT, AND TO INSURE THE FENCE IS SECURELY FASTENED TO THE POSTS AND ALSO THAT POSTS ARE FIRMLY IN PLACE. SEDIMENT SHALL BE REMOVED IF THE DEPTH OF SEDIMENT IS GREATER THAN ONE-THIRD THE HEIGHT OF THE SILT FENCE.
   17) THE INSPECTOR SHALL RECORD ANY DAMAGES OR DEFICIENCIES IN THE TURBIDITY CONTROLS IN THE REPORT FORM FOR THIS PURPOSE. A COPY OF ALL RECORDING AND REPORTS SHALL BE FORWARDED TO THE ENGINEER FOR REVIEW.

   GENERAL SEQUENCE OF MAJOR EROSION AND POLLUTION CONTROL EVENTS:
   1) INSTALL EROSION CONTROL AT LOCATIONS SHOWN ON THE CONSTRUCTION PLANS.
   2) COMMENCE SITE CONSTRUCTION ACTIVITIES.
   3) AS PROPOSED DRAINAGE IS CONSTRUCTED, INSTALL SILT FENCE AND/OR TURBIDITY CONTROL MEASURES AT EACH.
   4) INSTALL TEMPORARY SEED AND MULCH IN AREAS WHERE CONSTRUCTION TEMPORARILY CEASES FOR AT LEAST 21 DAYS, NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITIES IN THAT AREA.
   5) INSTALL PERMANENT SEED/MULCH OR APPROVED STABILIZATION METHOD AND/OR PLANTING IN AREAS WHERE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITIES.
   6) REMOVE ACCUMULATED SEDIMENT.
   7) REMOVED TEMPORARY POLLUTION PREVENTION MEASURES AFTER ALL CONSTRUCTION ON SITE HAS BEEN COMPLETED AND DISPOSED OF MATERIALS ACCORDING TO APPLICABLE FDEP REGULATIONS AND/OR LOCAL GOVERNMENTAL CODES, ETC.

9. RECORD DRAWINGS: AFTER COMPLETION OF THE CONTRACT WORK, BUT PRIOR TO SUBMITTAL OF THE REQUEST FOR FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE FINAL RECORD DRAWINGS TO THE OWNER OF THE IMPROVEMENTS. THE RECORD DRAWINGS SHALL ALSO BE SUBMITTED DIGITALLY IN AUTOCAD / *.DWG FORMAT. THE RECORD DRAWINGS SHALL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF ST. LUCIE COUNTY, AND FDEP, AND SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

   THE FINAL LOCATION, BY REFERENCE TO AT LEAST TWO COMPLETED VISIBLE IMPROVEMENTS OR OTHER PERMANENT POINTS, OF ALL PAVING AND DRAINAGE ELEMENTS, AND SHALL INCLUDE ELEVATIONS OF PERTINENT POINTS IN THE PAVEMENT AND DRAINAGE IMPROVEMENTS, ALL REVISIONS TO THE ORIGINAL PLANS, VERIFICATION OF ALL DESIGN DIMENSIONS, ELEVATIONS, PIPE SLOPES, PIPE LENGTHS, INLETS AND CONTROL STRUCTURES LOCATION AND ELEVATIONS AND ALL OTHER INFORMATION NECESSARY TO HORIZONTALLY AND VERTICALLY LOCATE AND OPERATE THE IMPROVEMENTS CONSTRUCTED UNDER THIS CONTRACT.

   DRAWINGS SHALL INCLUDE:

   A. INDICATION OF ANY CHANGES OR VERIFICATIONS GET MARKED
   B. INDICATION OF ALL "PROPOSED" OR "CONSTRUCTS"
   C. CHANGES TO LOCATIONS OF PIPE, VALVES, FITTINGS OR MANHOLES, ETC.
   D. DETAIL BOX OF ANY SUBSTANTIAL CHANGES
   E. ALL ELEVATIONS FOR MANHOLES AND LIFT STATIONS
   F. ALL GRADES AND FOOTAGE ON SANITARY RUNS

   THE CONTRACTOR SHALL PROVIDE RECORD DRAWING PRINTS AND ONE COPY OF CERTIFIED FIELD NOTES TO THE OWNER THAT ARE SIGNED AND SEALED BY A FLORIDA REGISTERED LAND SURVEYOR. PAYMENT FOR THE RECORD DRAWINGS SHALL BE ON A LUMP SUM BASIS.

DEWATERING:
CONSTRUCTION DEWATERING MAY REQUIRE A PERMIT FROM SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD). IF DEWATERING IS TO TAKE PLACE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A DEWATERING PERMIT FOR HIS WORK.

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 General Notes.dwg Layout Name: G-2 - Plotted by: Don M - Date: 6/9/2026 - 9:24 AM - Giangrande Engineering & Planning

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: AS NOTED
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

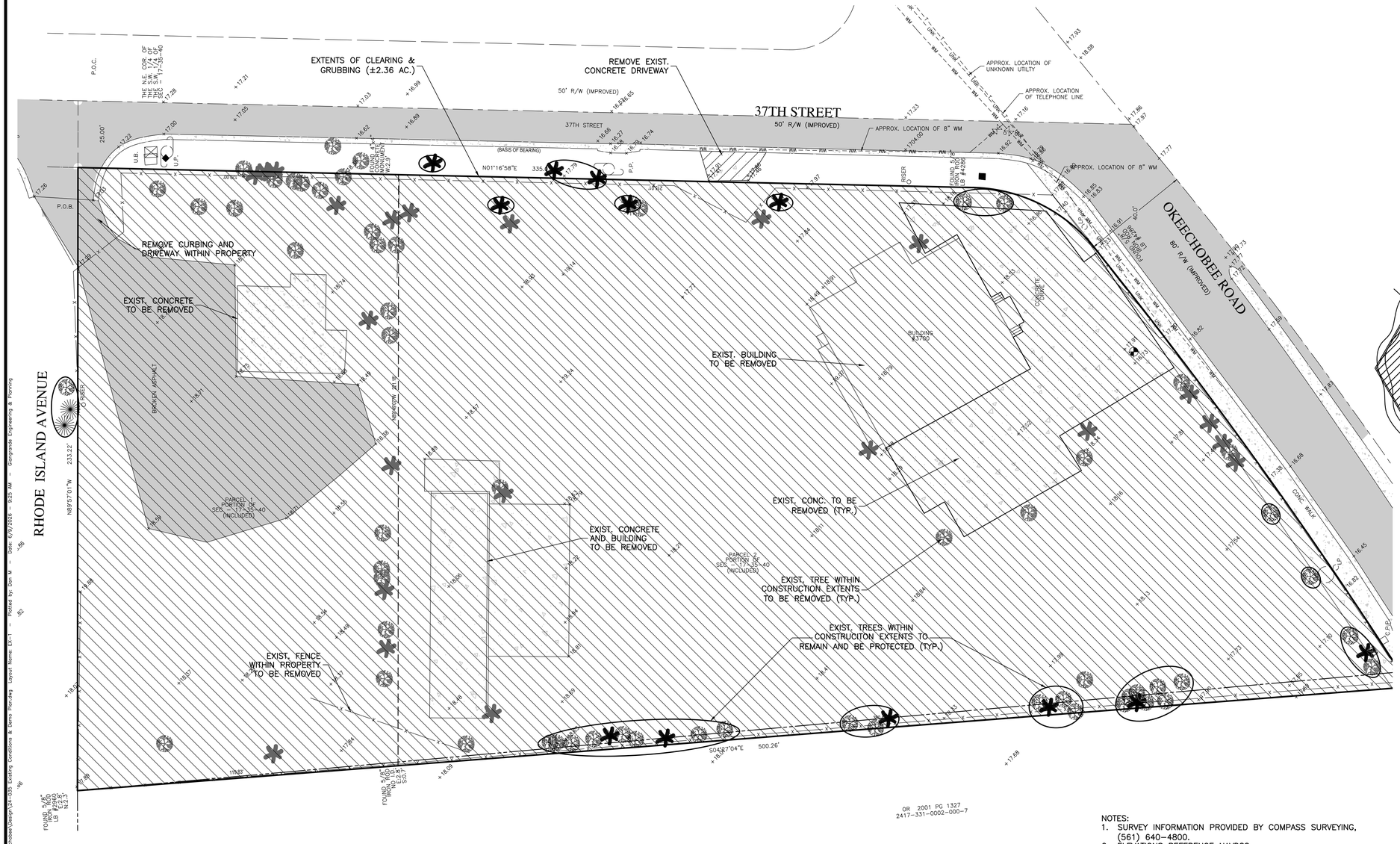
GENERAL NOTES

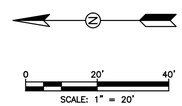
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

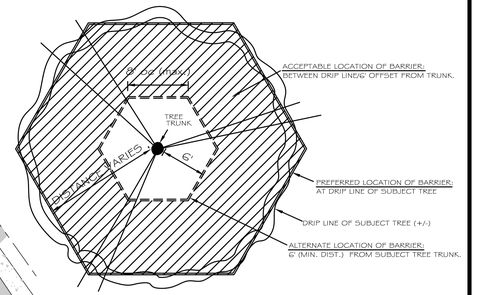
PROJECT #: 24-035

G-2

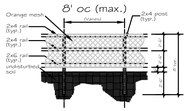




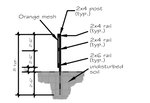
TREE PROTECTION DETAIL



BARRICADE PLAN
N.T.S.



BARRICADE ELEVATION
N.T.S.



BARRICADE SECTION
N.T.S.

BARRICADE NOTES:
1. TREE PROTECTION BARRICADE TO BE ERECTED PRIOR TO COMMENCEMENT OF ANY WORK.
2. NO CONSTRUCTION WITHIN BARRICADE WITHOUT OWNER APPROVAL
3. EXCAVATION (IF APPROVED BY OWNER) WITHIN TREE PROTECTION AREAS IS LIMITED TO HAND TOOLS (NO MACHINERY)

LEGEND

- EXIST. CLEARING & GRUBBING
- EXIST. CONCRETE
- EXIST. WATER LINE
- EXIST. TELEPHONE
- EXIST. FENCE
- EXIST. BOUNDARY
- EXIST. R.O.W.
- EXIST. CENTERLINE
- EXIST. PINE TREE
- EXIST. OAK TREE

NOTES:
1. SURVEY INFORMATION PROVIDED BY COMPASS SURVEYING, (561) 640-4800.
2. ELEVATIONS REFERENCE NAVD88.
3. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND NOTIFY ENGINEER AND/OR OWNER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF SITE PREPARATION DEBRIS ON A REGULAR BASIS TO PREVENT LARGE STOCKPILES FROM FORMING AT THE SITE.
5. SHOULD UNSUITABLE MATERIAL BE ENCOUNTERED DURING SITE PREPARATION, CONTRACTOR SHALL INFORM THE ENGINEER AND/OR OWNER PRIOR TO REMOVING MATERIAL.
6. ALL ORGANIC AND NON-FREE DRAINING SOILS SHALL BE REMOVED FROM THE BOTTOM OF THE PROPOSED RETENTION AREA.
7. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE PREPARATION ACTIVITIES.
8. ALL AREAS DISTURBED IN THE RIGHT OF WAY SHALL BE RETURNED TO ORIGINAL CONDITION OR BETTER.
9. CLEARED AREAS SHALL BE SODDED OR OTHER APPROVED STABILIZATION METHOD INSTALLED WITHIN 30 DAYS OF VEGETATION REMOVAL.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

EXISTING CONDITIONS & DEMO PLAN

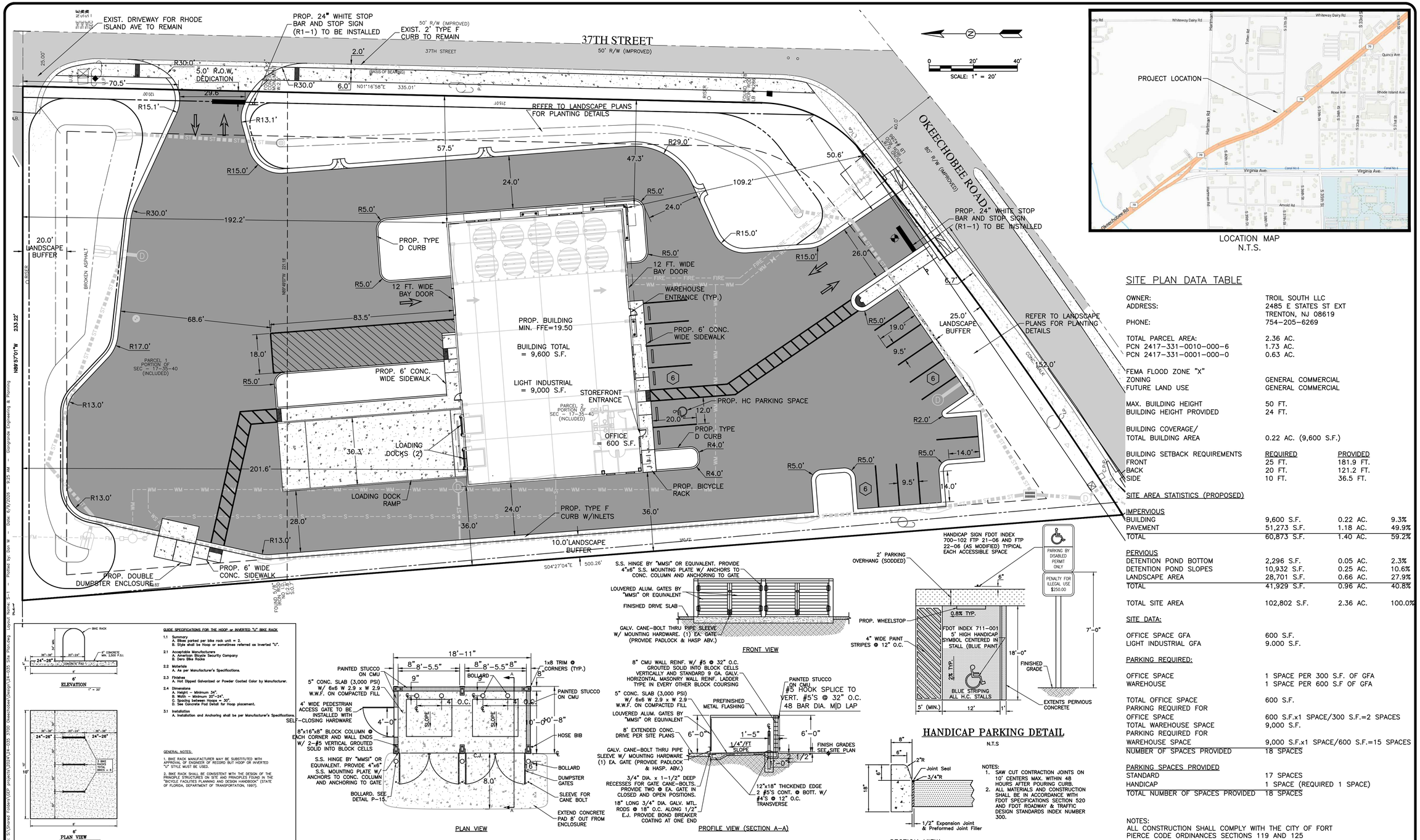
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

EX-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Existing Conditions & Demo Plan.dwg Layout Name: EX-1 - Plotted by: Don M - Date: 9/3/2026 - 9:25 AM - Giangrande Engineering & Planning



LOCATION MAP
N.T.S.

SITE PLAN DATA TABLE

OWNER:	TROIL SOUTH LLC		
ADDRESS:	2485 E STATES ST EXT TRENTON, NJ 08619		
PHONE:	754-205-6269		
TOTAL PARCEL AREA:	2.36 AC.		
PCN 2417-331-0010-000-6	1.73 AC.		
PCN 2417-331-0001-000-0	0.63 AC.		
FEMA FLOOD ZONE "X"			
ZONING	GENERAL COMMERCIAL		
FUTURE LAND USE	GENERAL COMMERCIAL		
MAX. BUILDING HEIGHT	50 FT.		
BUILDING HEIGHT PROVIDED	24 FT.		
BUILDING COVERAGE/ TOTAL BUILDING AREA	0.22 AC. (9,600 S.F.)		
BUILDING SETBACK REQUIREMENTS	REQUIRED	PROVIDED	
FRONT	25 FT.	181.9 FT.	
BACK	20 FT.	121.2 FT.	
SIDE	10 FT.	36.5 FT.	
SITE AREA STATISTICS (PROPOSED)			
IMPERVIOUS			
BUILDING	9,600 S.F.	0.22 AC.	9.3%
PAVEMENT	51,273 S.F.	1.18 AC.	49.9%
TOTAL	60,873 S.F.	1.40 AC.	59.2%
PERVIOUS			
DETENTION POND BOTTOM	2,296 S.F.	0.05 AC.	2.3%
DETENTION POND SLOPES	10,932 S.F.	0.25 AC.	10.6%
LANDSCAPE AREA	28,701 S.F.	0.66 AC.	27.9%
TOTAL	41,929 S.F.	0.96 AC.	40.8%
TOTAL SITE AREA	102,802 S.F.	2.36 AC.	100.0%
SITE DATA:			
OFFICE SPACE GFA	600 S.F.		
LIGHT INDUSTRIAL GFA	9.000 S.F.		
PARKING REQUIRED:			
OFFICE SPACE	1 SPACE PER 300 S.F. OF GFA		
WAREHOUSE	1 SPACE PER 600 S.F OF GFA		
TOTAL OFFICE SPACE	600 S.F.		
PARKING REQUIRED FOR OFFICE SPACE	600 S.F.x1 SPACE/300 S.F.=2 SPACES		
TOTAL WAREHOUSE SPACE	9,000 S.F.		
PARKING REQUIRED FOR WAREHOUSE SPACE	9,000 S.F.x1 SPACE/600 S.F.=15 SPACES		
NUMBER OF SPACES PROVIDED	18 SPACES		
PARKING SPACES PROVIDED			
STANDARD	17 SPACES		
HANDICAP	1 SPACE (REQUIRED 1 SPACE)		
TOTAL NUMBER OF SPACES PROVIDED	18 SPACES		

NOTES:
ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF FORT PIERCE CODE ORDINANCES SECTIONS 119 AND 125

BIKE RACK AND CONCRETE PAD DETAILS

DOUBLE DUMPSTER ENCLOSURE
N.T.S

HANDICAP PARKING DETAIL
N.T.S

NOTES:
1. SAW CUT CONTRACTION JOINTS ON 10' CENTERS MAX. WITHIN 48 HOURS AFTER POURING CURB.
2. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS SECTION 520 AND FDOT ROADWAY & TRAFFIC DESIGN STANDARDS INDEX NUMBER 300.

FDOT INDEX TYPE "D" CURB
N.T.S

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

SITE PLAN

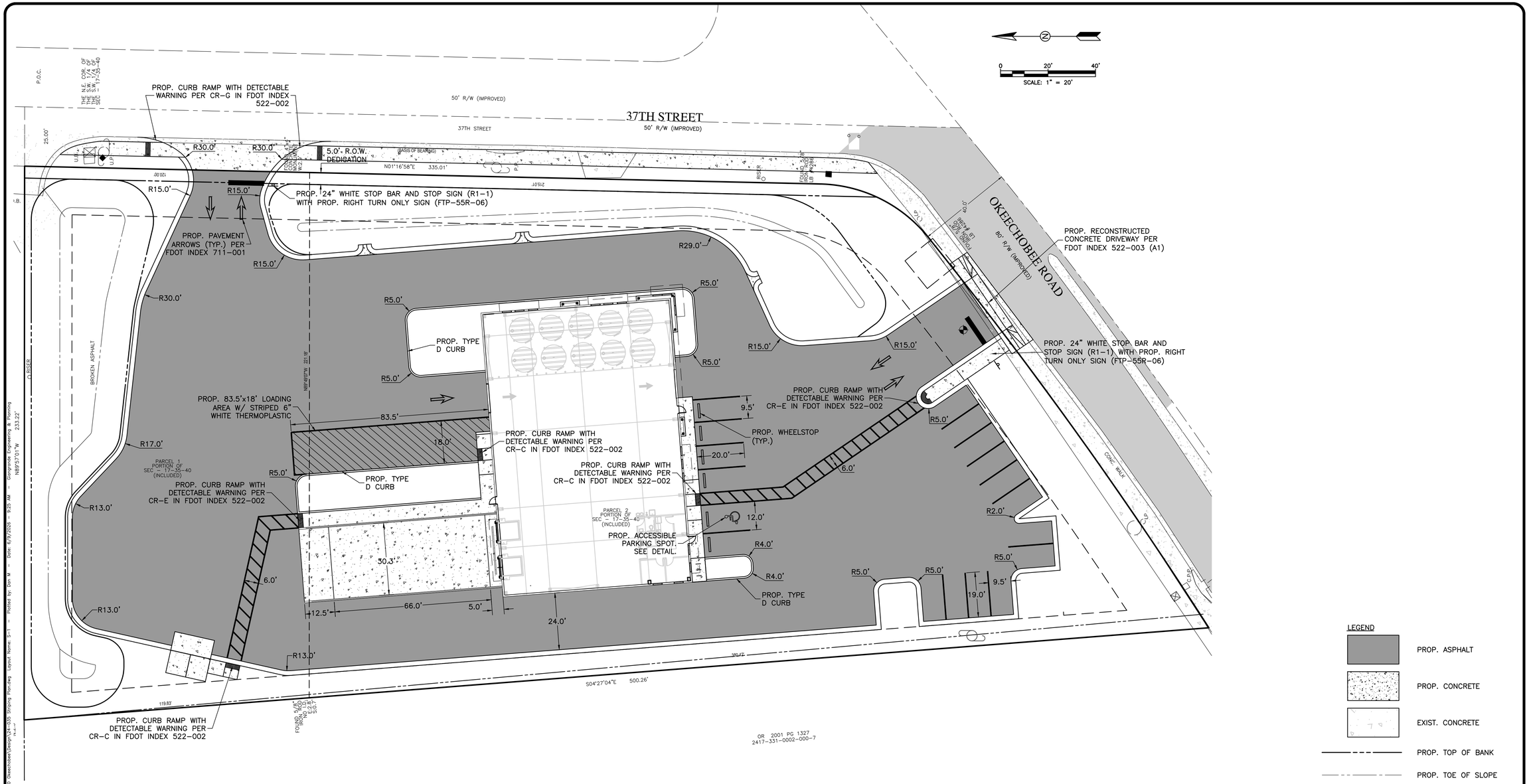
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

S-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Site Plan.dwg Layout Name: S-1 - Plotted By: Don M - Date: 6/9/2026 - 9:25 AM



LEGEND

- PROP. ASPHALT
- PROP. CONCRETE
- EXIST. CONCRETE
- PROP. TOP OF BANK
- PROP. TOE OF SLOPE
- PROP. EDGE OF PAVEMENT
- PROP. BOUNDARY
- PROP. EASEMENT
- EXIST. CENTERLINE

NOTE:
ALL STRIPING WITHIN THE RIGHT OF WAY SHALL BE THERMOPLASTIC

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

STRIPING PLAN

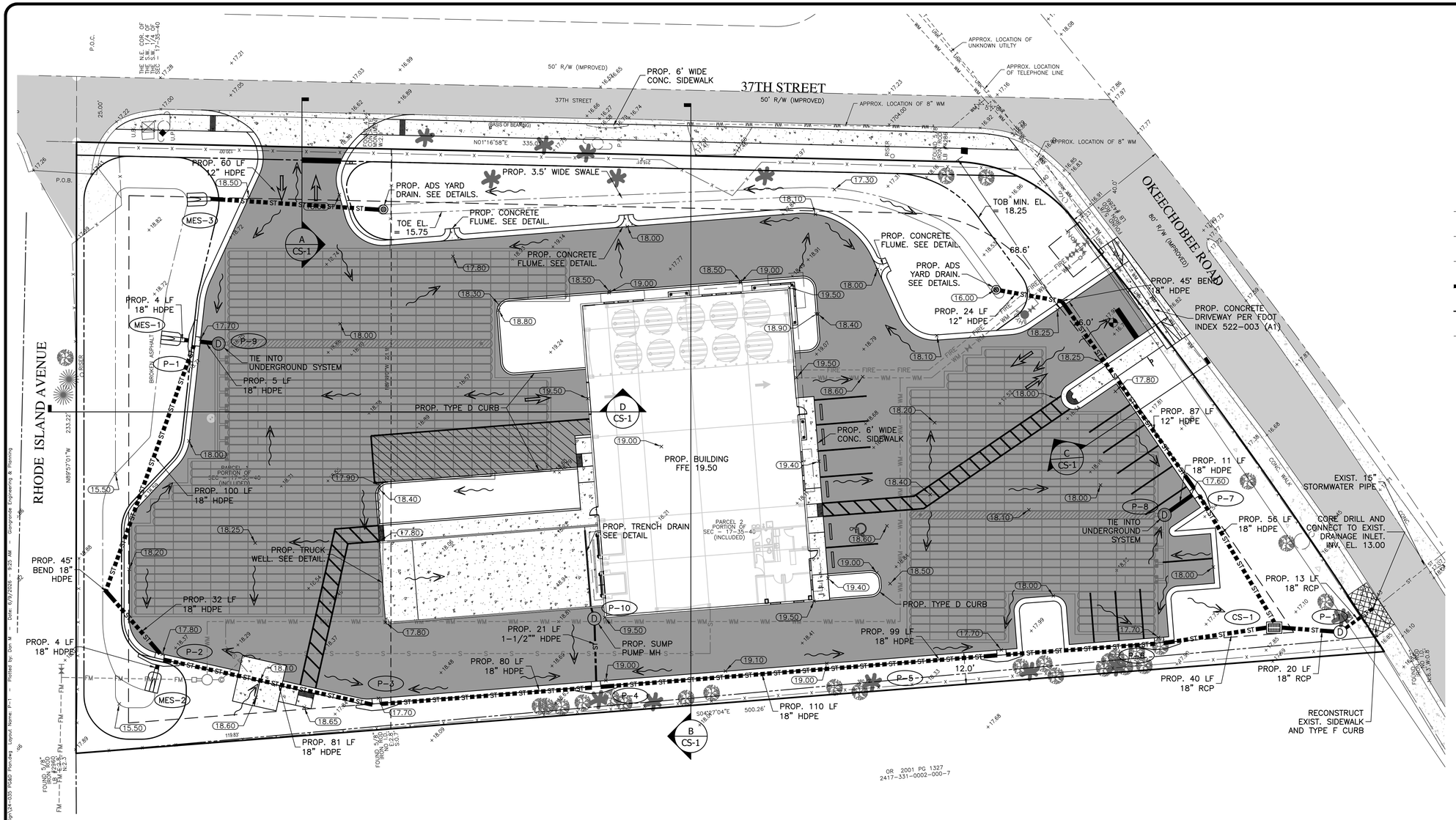
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

ST-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Striping Plan.dwg Layout Name: S-1 -- Plotted by: Dan M -- Date: 6/9/2026 - 9:25 AM -- Giangrande Engineering & Planning



LEGEND

- EX. EDGE OF PAVEMENT
- EX. EDGE OF CONCRETE
- EX. OVERHEAD ELECTRIC
- PROP. STORMWATER PIPE
- PROP. TOP OF BANK
- PROP. TOE OF SLOPE
- PROP. PAVEMENT
- PROP. SIDEWALK
- EX. GUY WIRE
- EX. POWER POLE
- PROP. DRAINAGE MANHOLE
- PROP. INLET
- DRAINAGE FLOW ARROW
- EX. ELEVATION
- PROP. SPOT GRADE

NOTES:
1. ELEVATIONS REFERENCE NAVD88.
2. FILL MATERIAL SHALL BE INORGANIC (CLASSIFIED AS SP/GW) CONTAINING NOT MORE THAN 5 PERCENT (BY WEIGHT) FIBROUS ORGANIC MATERIALS. FILL MATERIAL HAVING SILT/CLAY–SIZE FINES CONTENTS GREATER THAN 5 PERCENT SHALL NOT BE USED, INCLUDING CYCLONE SAND MATERIAL. THE FILL SHALL BE PLACED IN MAXIMUM 12–INCH THICK LIFTS. EACH LIFT SHALL BE COMPACTED TO A MINIMUM DENSITY OF 98 PERCENT OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T–180).
3. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF SITE PREPARATION DEBRIS ON A REGULAR BASIS TO PREVENT LARGE STOCKPILES FROM FORMING AT THE SITE.
5. SHOULD UNSUITABLE MATERIAL BE ENCOUNTERED DURING SITE PREPARATION, THE CONTRACTOR SHALL INFORM THE ENGINEER PRIOR TO REMOVING MATERIAL.
6. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE PREPARATION ACTIVITIES,
7. ALL AREAS DISTURBED IN THE RIGHT OF WAY SHALL BE RETURNED TO ORIGINAL CONDITION OR BETTER.
8. CONTRACTOR TO ENSURE MINIMUM OF 12" NON–ORGANIC FREE DRAINING MATERIAL WITHIN THE BOTTOM OF THE DRY RETENTION POND. THIS CAN BE ACCOMPLISHED VIA SOIL REPLACEMENT, SOIL MIXING, OR OTHER APPROVED METHOD.

DRAINAGE STRUCTURE TABLE

STRUCTURE NO.	GRATE EL.	INVERTS	BOTTOM	DESCRIPTION
P–1	17.70	13.45	11.45	TYPE 6 CURB INLET
P–2	17.80	13.45	11.45	TYPE 6 CURB INLET
P–3	17.70	13.45	11.45	TYPE 6 CURB INLET
P–4	19.00	13.45	11.45	TYPE 6 CURB INLET
P–5	17.70	13.45	11.45	TYPE 6 CURB INLET
P–6	17.70	13.45	11.45	TYPE 6 CURB INLET
P–7	17.60	13.45	11.45	TYPE 6 CURB INLET
P–8	17.70	13.95	11.95	STORM MANHOLE
P–9	17.80	13.10	14.10	STORM MANHOLE
P–10	19.45	16.44	14.44	STORM MANHOLE
P–11	17.20	13.40	11.40	STORM MANHOLE
MES–1		15.50		MITERED END SECTION
MES–2		15.50		MITERED END SECTION
MES–3		15.50		MITERED END SECTION
CS–1	18.50	13.50	11.50	TYPE E CONTROL STRUCTURE – SEE DETAIL

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

PAVING, GRADING, & DRAINAGE PLAN

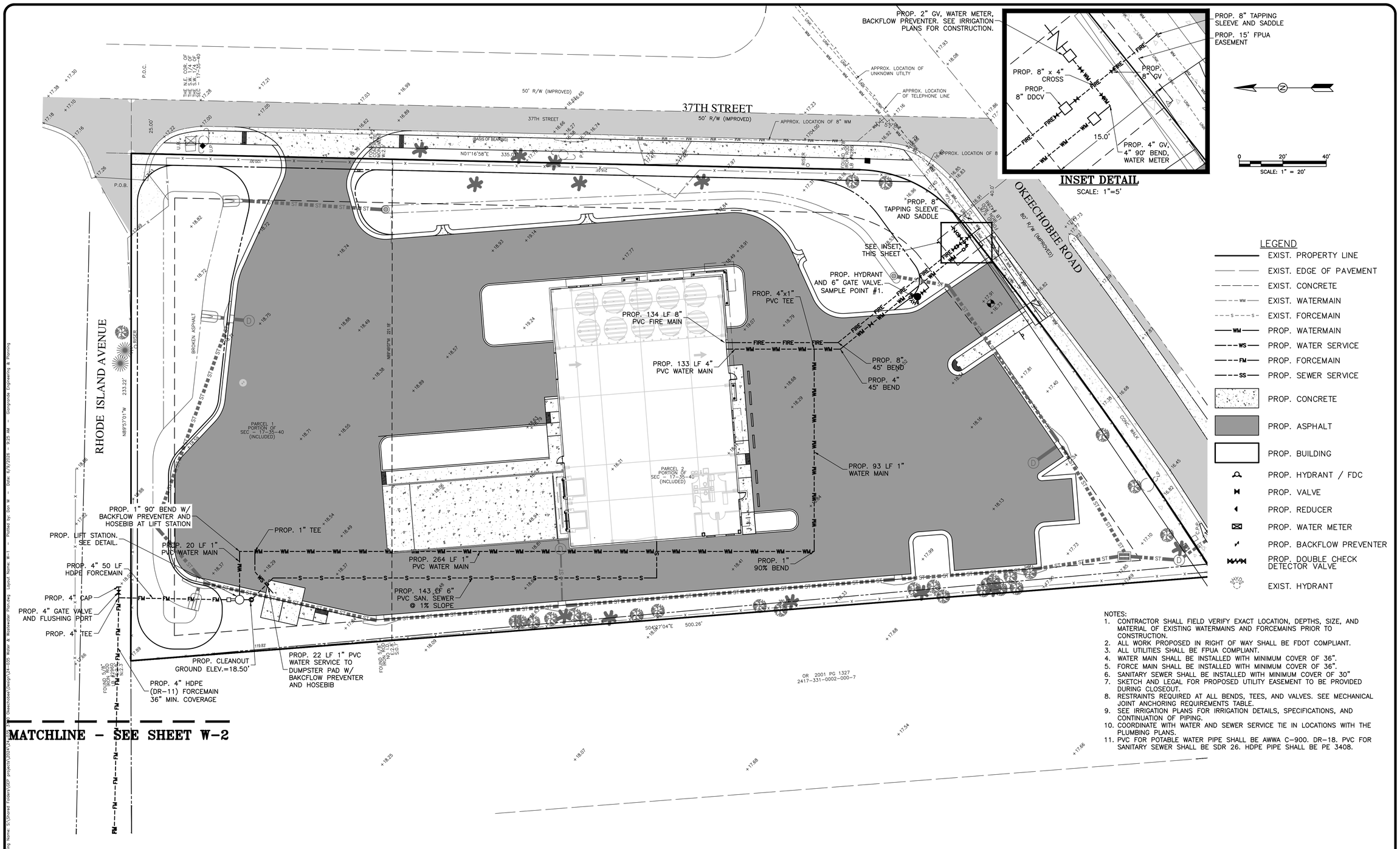
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24–035

P-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 PG&D Plan.dwg Layout Name: P-1 - Plotted by: Don M - Date: 6/9/2026 - 9:25 AM - Giangrande Engineering & Planning



LEGEND

- EXIST. PROPERTY LINE
- EXIST. EDGE OF PAVEMENT
- EXIST. CONCRETE
- EXIST. WATERMAIN
- EXIST. FORCEMAIN
- PROP. WATERMAIN
- PROP. WATER SERVICE
- PROP. FORCEMAIN
- PROP. SEWER SERVICE
- PROP. CONCRETE
- PROP. ASPHALT
- PROP. BUILDING
- PROP. HYDRANT / FDC
- PROP. VALVE
- PROP. REDUCER
- PROP. WATER METER
- PROP. BACKFLOW PREVENTER
- PROP. DOUBLE CHECK DETECTOR VALVE
- EXIST. HYDRANT

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION, DEPTHS, SIZE, AND MATERIAL OF EXISTING WATERMAINS AND FORCEMAINS PRIOR TO CONSTRUCTION.
2. ALL WORK PROPOSED IN RIGHT OF WAY SHALL BE FDOT COMPLIANT.
3. ALL UTILITIES SHALL BE FPUA COMPLIANT.
4. WATER MAIN SHALL BE INSTALLED WITH MINIMUM COVER OF 36".
5. FORCE MAIN SHALL BE INSTALLED WITH MINIMUM COVER OF 36".
6. SANITARY SEWER SHALL BE INSTALLED WITH MINIMUM COVER OF 30"
7. SKETCH AND LEGAL FOR PROPOSED UTILITY EASEMENT TO BE PROVIDED DURING CLOSEOUT.
8. RESTRAINTS REQUIRED AT ALL BENDS, TEES, AND VALVES. SEE MECHANICAL JOINT ANCHORING REQUIREMENTS TABLE.
9. SEE IRRIGATION PLANS FOR IRRIGATION DETAILS, SPECIFICATIONS, AND CONTINUATION OF PIPING.
10. COORDINATE WITH WATER AND SEWER SERVICE TIE IN LOCATIONS WITH THE PLUMBING PLANS.
11. PVC FOR POTABLE WATER PIPE SHALL BE AWWA C-900. DR-18. PVC FOR SANITARY SEWER SHALL BE SDR 26. HDPE PIPE SHALL BE PE 3408.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

WATER & WASTEWATER PLAN

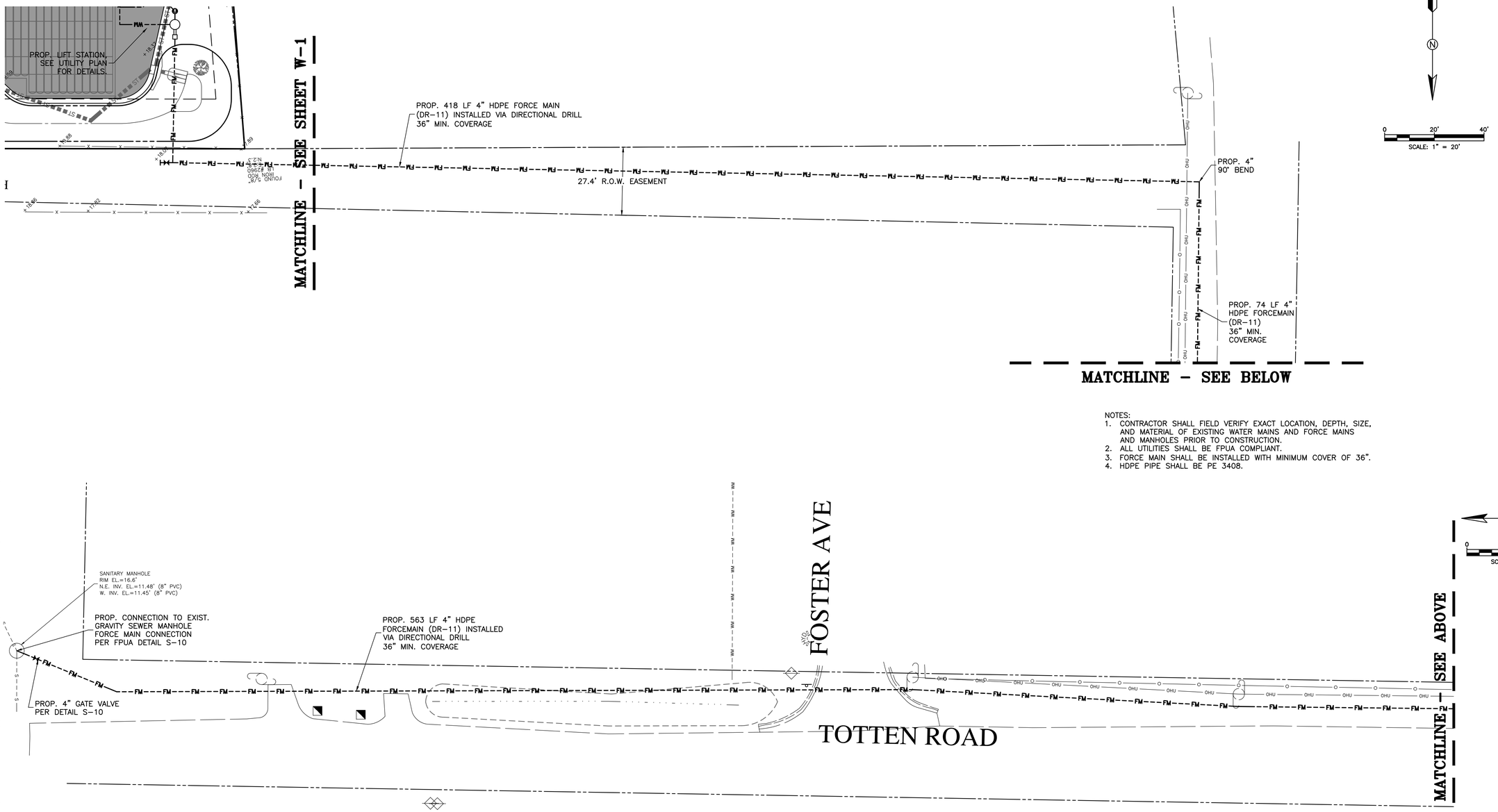
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

W-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 Okeechobee\Design\24-035 Water & Wastewater Plan.dwg Layout Name: W-1 Plotted by: Don M Date: 6/9/2026 - 9:25 AM - Giangrande Engineering & Planning



NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION, DEPTH, SIZE, AND MATERIAL OF EXISTING WATER MAINS AND FORCE MAINS AND MANHOLES PRIOR TO CONSTRUCTION.
2. ALL UTILITIES SHALL BE FPUA COMPLIANT.
3. FORCE MAIN SHALL BE INSTALLED WITH MINIMUM COVER OF 36".
4. HDPE PIPE SHALL BE PE 3408.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

WATER & WASTEWATER PLAN

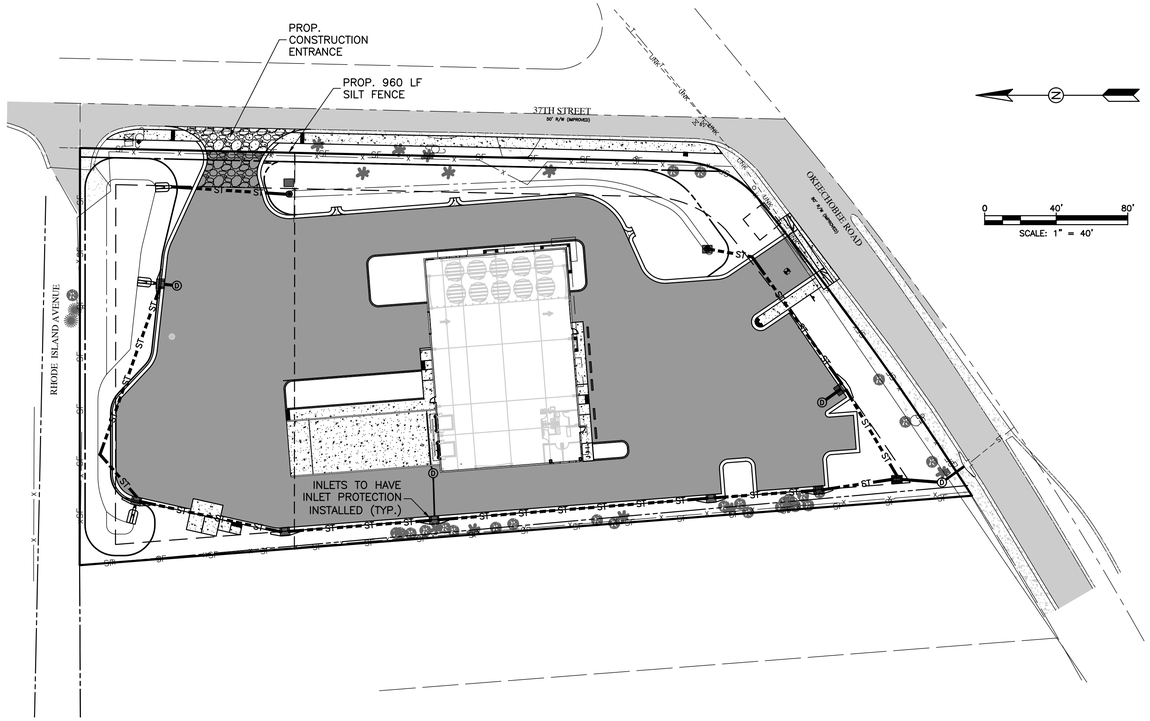
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

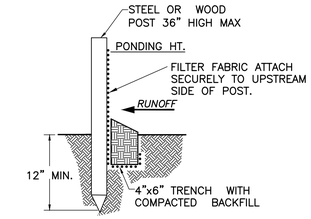
W-2

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Water & Wastewater Plan.dwg Layout Name: W-2 - Plotted by: Don M - Date: 6/9/2026 - 9:25 AM

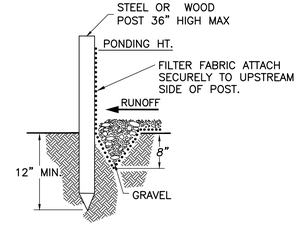


EROSION CONTROL NOTES:

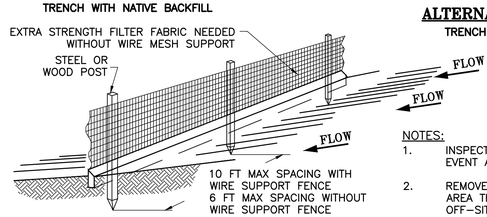
1. THIS PROJECT IS SUBJECT TO ALL RELATED ENVIRONMENTAL REQUIREMENTS WHICH INCLUDE A "CONTROL OF EROSION AND SEDIMENTATION PLAN". THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING NECESSARY AND ADEQUATE MEASURES FOR PROPER CONTROL OF EROSION DUE TO SEDIMENTATION RUNOFF FROM THE SITE PRIOR TO CONSTRUCTION OPERATIONS IN A PARTICULAR AREA. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO START OF CONSTRUCTION. FIELD ADJUSTMENTS WITH RESPECT TO LOCATIONS AND DIMENSIONS MAY BE DIRECTED BY THE ENGINEER AS REQUIRED.
2. EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RAIN EVENT FOR DAMAGE AND GENERAL EFFECTIVENESS. ANY DAMAGED OR INEFFECTIVE CONTROLS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR.
3. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED, IF DEEMED NECESSARY, BY THE ON-SITE INSPECTOR.
4. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. TEMPORARY AND PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE LEFT IN PLACE AND MAINTAINED UNTIL THE AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION.
6. ALL CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ON TO ANY PUBLIC RIGHT-OF-WAY. THIS SHALL REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS REQUIRE. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHT-OF-WAY OR INTO STORM DRAINS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
7. TURBIDITY SCREENS OR EQUIVALENT SHALL BE PROPERLY EMPLOYED AND MAINTAINED AS NECESSARY DURING CONSTRUCTION ACTIVITIES SO THAT TURBIDITY LEVELS DO NOT EXCEED 29 NTU'S ABOVE NATURAL BACKGROUND 50 FEET DOWNSTREAM OF POINT OF DISCHARGE. IF TURBIDITY LEVELS EXCEED THESE LIMITS, PROJECT ACTIVITIES SHALL IMMEDIATELY CEASE, AND WORK SHALL NOT RESUME UNTIL TURBIDITY LEVELS DROP TO WITHIN THESE LIMITS.
8. CONTRACTOR SHALL SOD GRASS AREAS DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO OWNER.
9. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES).
10. SEDIMENT BARRIERS SHALL BE PLACED PRIOR TO ANY WORK ON THE SITE. SEDIMENT BARRIERS SHALL PLACED AS DEPICTED AS SHOWN ON THESE CONSTRUCTION PLANS.
11. DAMAGED TURBIDITY CONTROLS SHALL BE REPAIRED PROMPTLY AND BEFORE ANY SUBSEQUENT RAINFALL.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF THE NPDES AND RELATED STORM WATER PLAN FOR THE DURATION OF THE PROJECT. UPON COMPLETION THE CONTRACTOR SHALL REMOVED ALL TEMPORARY STORM WATER MANAGEMENT MEASURES AND SHALL DISPOSE OF THEM AS REQUIRED.
13. CONTRACTOR SHALL COMPLY WITH SPILL PREVENTION, CONTROL AND COUNTER MEASURES (SPCC) REQUIREMENTS PURSUANT TO EPA RULES AND REGULATIONS.
14. ALL CONSTRUCTION WASTE MATERIAL SHALL BE COLLECTED AND STORED IN A SECURED METAL DUMPSTER RENTED / LEASED FROM A LOCAL WASTE MANAGEMENT COMPANY. THE DUMPSTER SHALL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURES FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES SHALL BE POSTED IN THE OFFICE TRAILER / CONSTRUCTION TRAILER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.
15. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS AT A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.
16. TRUCKS / EQUIPMENT IMPORTING OR EXPORTING FILL SHALL COVER THEIR LOADS WITH A TARPAULIN TO AVOID UNNECESSARY GENERATION OF DUST.
17. ALL HAZARDOUS WATER MATERIAL SHALL BE DISPOSED OF AS PER LOCAL / STATE REGULATIONS OR AS RECOMMENDED BY THE MANUFACTURER. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES AND THE CONTRACTOR IS RESPONSIBLE TO FOLLOW THESE PRACTICES.
18. THE GENERAL CONTRACTOR'S SITE SUPERINTENDENT SHALL SELECT INDIVIDUALS, TYPICALLY THREE, WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES AND FILLING OUT OF INSPECTION REPORTS. PERSONNEL SELECTED SHALL BE RECEIVE PROPER TRAINING, AT THE CONTRACTORS EXPENSE, PRIOR TO SITE CONSTRUCTION COMMENCEMENT.
19. ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE INSPECTED EVERY 7 DAYS OR WITHIN 24 HOURS OF A STORM OF 0.5 INCHES OR MORE IN RAINFALL. ALL CONTROLS MUST BE IN PROPER ORDER AS REQUIRED UNTIL SITE COMPLETION.
20. SILT FENCE SHALL BE INSPECTED FOR TEARS, DEPTH OF SEDIMENT, AND TO INSURE THE FENCE IS SECURELY FASTENED TO THE POSTS AND ALSO THAT POSTS ARE FIRMLY IN PLACE. SEDIMENT SHALL BE REMOVED IF THE DEPTH OF SEDIMENT IS GREATER THAN ONE-THIRD THE HEIGHT OF THE SILT FENCE.
21. THE INSPECTOR SHALL RECORD ANY DAMAGES OR DEFICIENCIES IN THE TURBIDITY CONTROLS IN THE REPORT FORM FOR THIS PURPOSE. A COPY OF ALL RECORDING AND REPORTS SHALL BE FORWARDED TO THE ENGINEER FOR REVIEW.
22. THE REQUIREMENTS LISTED ABOVE AND DETAILS PRESENTED ON THIS SHEET SHALL BE CONSIDERED MINIMUM REQUIREMENTS AND THE CONTRACTOR SHALL USE WHATEVER METHODS THE CONTRACTOR DEEMS NECESSARY TO PREVENT EROSION AND SILTATION AS MAY BE REQUIRED FOR THE PROJECT.
23. PROPERTY CORNERS SHALL BE LOCATED BY A LICENSED LAND SURVEYOR AND CLEARLY MARKED IN THE FIELD PRIOR TO THE ENGINEERING DEPARTMENT'S PRE-CONSTRUCTION MEETING FOR SITE DEVELOPMENT.
24. AUTHORIZATION TO INSTALL EROSION CONTROL DEVICES AND PRESERVE BARRICADES WILL BE GRANTED AT THE PRE-CONSTRUCTION MEETING. THE AUTHORIZATION SHALL BE POSTED ON THE SITE, IN THE PERMIT BOX, ITS LOCATION SHOWN ELSEWHERE ON THIS PAGE.
25. NO ADDITIONAL LAND CLEARING SHALL COMMENCE UNTIL A SATISFACTORY INSPECTION OF THE REQUIRED EROSION CONTROL BARRICADES HAS BEEN OBTAINED.
26. ALL CONSTRUCTION BARRICADES AND SILT FENCES WILL REMAIN IN PLACE AND BE MONITORED FOR COMPLIANCE BY PERMIT HOLDER DURING THE PERMITTED DEVELOPMENT ACTIVITIES.
27. PRIOR TO SCHEDULING A FINAL ENVIRONMENTAL INSPECTION FOR THE INFRASTRUCTURE, ALL BARRICADES AND EROSION CONTROL DEVICES SHALL BE REMOVED AND DISPOSED BY THE CONTRACTOR.
28. LOCATIONS OF ANY MATERIALS TO BE TEMPORARILY STOCKPILED TO INCLUDE LAND CLEARING DEBRIS OR EXCAVATED MATERIALS SHALL BE PER THE ENGINEER.
29. THE CONTRACTOR SHALL PROVIDE A PLAN TO MINIMIZE DUST AND AIR POLLUTION DURING LAND CLEARING.
30. ALL AREAS DISTURBED IN THE RIGHT OF WAY SHALL BE RETURNED TO ORIGINAL CONDITION OR BETTER.
31. CLEARED AREAS SHALL BE SODDED OR OTHER APPROVED STABILIZATION METHOD INSTALLED WITHIN 30 DAYS OF VEGETATION REMOVAL.
32. CONTRACTOR MUST USE SITE STABILIZATION METHODS, SUCH AS, BUT NOT LIMITED TO, SEEDING WETTING, AND MULCHING WHICH MINIMIZE AIRBORNE DUST AND PARTICULATE EMISSIONS GENERATED BY CONSTRUCTION ACTIVITY. SUCH METHODS SHALL BE COMPLETED PROGRESSIVELY AND ACTIVELY MAINTAINED AS VEGETATION REMOVAL OCCURS WITHIN A GIVEN AREA OF A SITE. AT THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL INFORM THE COUNTY WHICH VEGETATION REMOVAL METHODS WILL BE CONDUCTED AND THE PLAN TO MINIMIZE AIRBORNE DUST AND PARTICULATE EMISSIONS.



STANDARD DETAIL
TRENCH WITH NATIVE BACKFILL

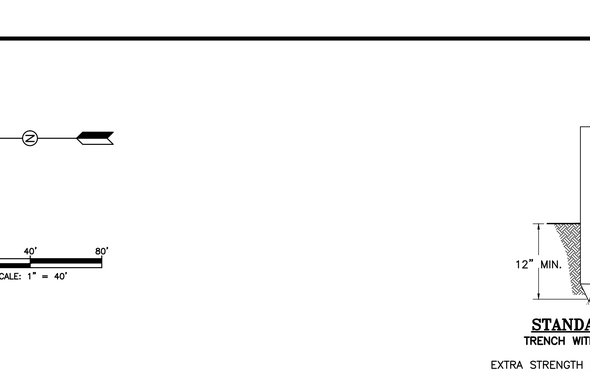


ALTERNATE DETAIL
TRENCH WITH GRAVEL



SILT FENCE DETAIL
N.T.S.

NOTES:
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOUR TO MAXIMIZE PONDING EFFICIENCY.
4. OVERLAP ALL JOINTS AT LEAST 6 FEET.

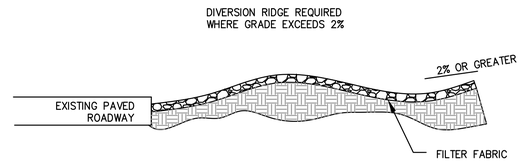


DROP INLETS

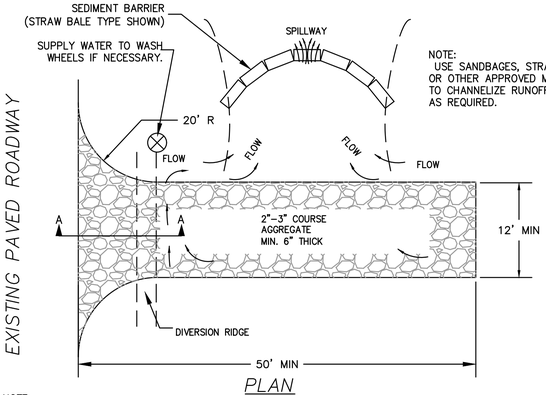
CURB INLETS

NOTES:
1. STONE FILL BAGS SHALL BE WOVEN POLYPROPYLENE BAGS WITH APPROXIMATE DIMENSIONS OF 18-1/2 INCHES BY 28 INCHES.
2. THE BAGS SHALL BE FILLED 1/2 TO 2/3 FULL WITH FDOT NO. 57 STONE. TIE THE ENDS OF FILLED BAGS USING EITHER DRAW STRINGS OR WIRE TIES.
3. INTERWEAVE THE LOOSE ENDS OF THE BAGS SO THAT THE GAPS BETWEEN BAGS ARE FILLED AND THE ENDS OF THE BAGS ARE SEALED.
4. COMPLETELY SURROUND THE INLET WITH A MINIMUM OF TWO (2) ROWS OF BAGS TO A MINIMUM OF 12 INCHES IN HEIGHT.

GRAVEL FILTER BAGS INLET PROTECTION DETAIL



SECTION A-A



NOTE:
USE SANDBAGES, STRAW BALES OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED.

PLAN

NOTE:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING. REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: AS NOTED
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

EROSION CONTROL PLAN

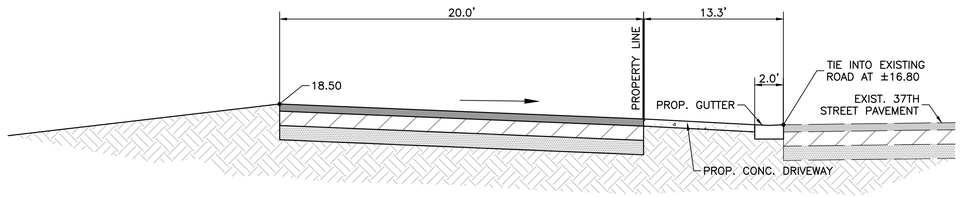
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep-llc.com
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

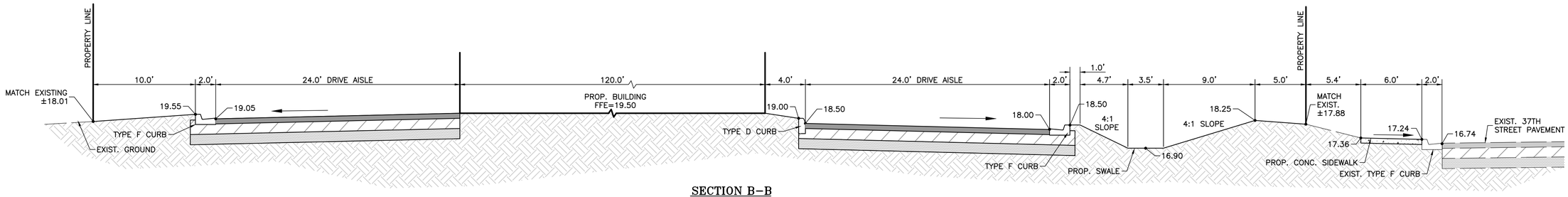
EC-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 SWPP Plan.dwg Layout Name: EC-1 - Plotted by: Don M - 6/9/2026 - 9:26 AM - Giangrande Engineering & Planning



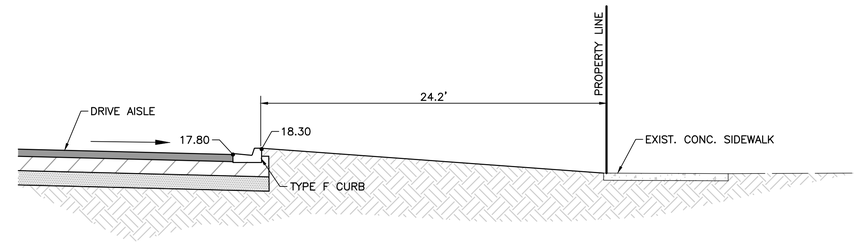
SECTION A–A

SCALE: 1"=5'



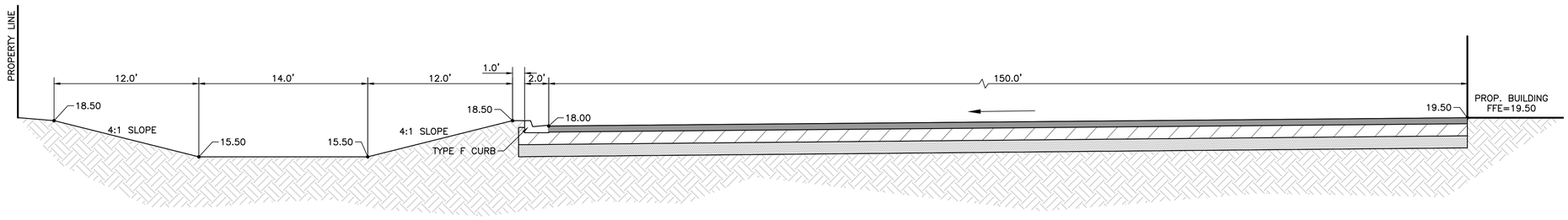
SECTION B–B

SCALE: 1"=5'



SECTION C–C

SCALE: 1"=5'



SECTION D–D

SCALE: 1"=5'

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

CROSS SECTIONS

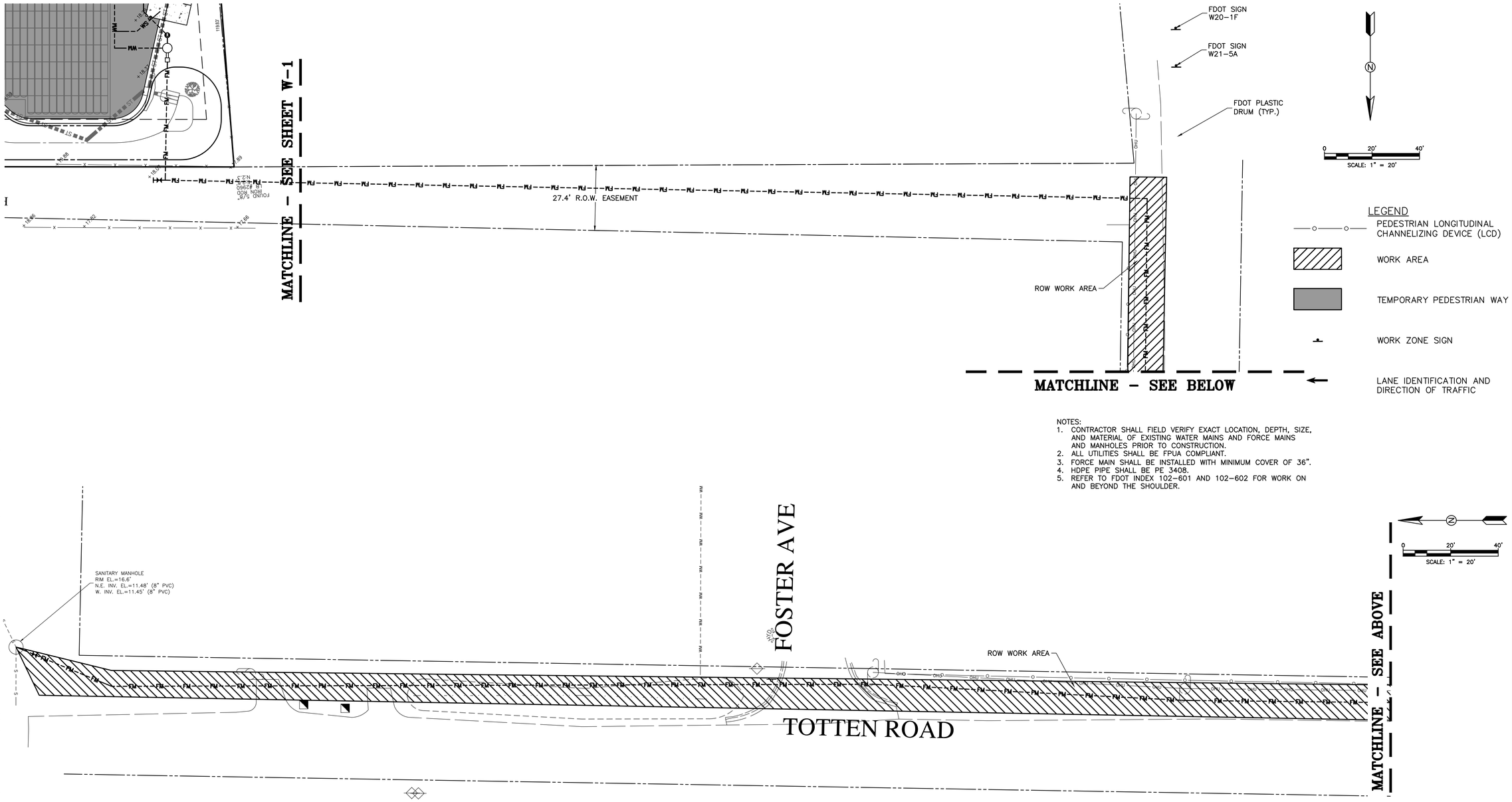
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24–035

C-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Cross Sections.dwg Layout Name: C-1 – Plotted by: Don M – Date: 6/9/2026 – 9:26 AM – Giangrande Engineering & Planning



NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION, DEPTH, SIZE, AND MATERIAL OF EXISTING WATER MAINS AND FORCE MAINS AND MANHOLES PRIOR TO CONSTRUCTION.
2. ALL UTILITIES SHALL BE FPUA COMPLIANT.
3. FORCE MAIN SHALL BE INSTALLED WITH MINIMUM COVER OF 36".
4. HDPE PIPE SHALL BE PE 3408.
5. REFER TO FDOT INDEX 102-601 AND 102-602 FOR WORK ON AND BEYOND THE SHOULDER.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

MAINTENANCE OF TRAFFIC PLAN

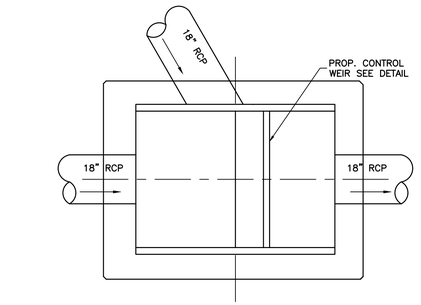
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

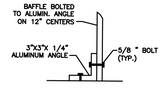
PROJECT #: 24-035

MOT-1

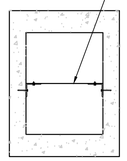
Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 MOT Plan.dwg Layout Name: MOT-1 - Plotted by: Dan M - Date: 6/9/2026 - 9:27 AM - Giangrande Engineering & Planning



PLAN

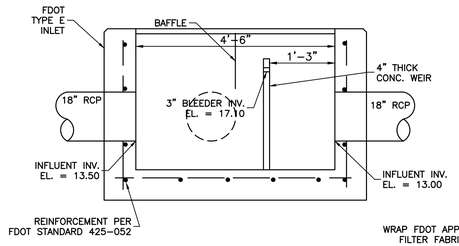


ANGLE DETAIL

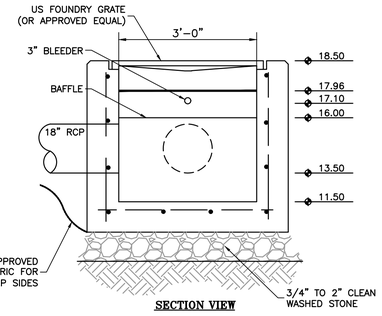


NOTE:
1. SEAL ALL JOINTS WITH RAM-NEK SEALANT.

BAFFLE DETAIL



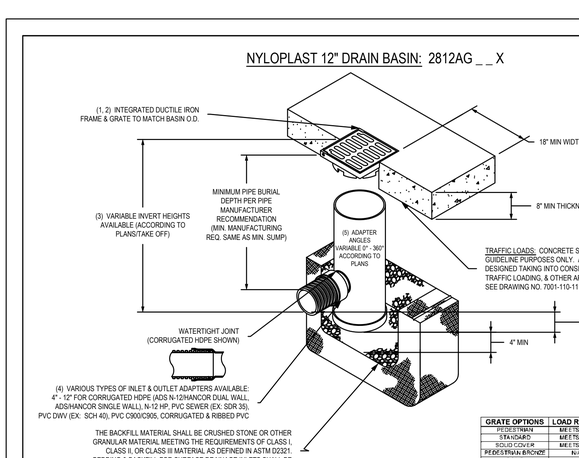
SECTION VIEW

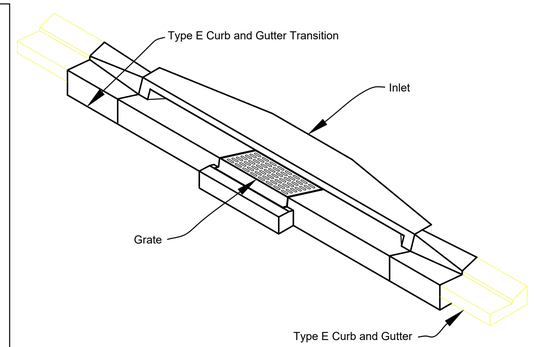


SECTION VIEW

CONTROL STRUCTURE W/ CONTROL WEIR DETAIL

N.T.S



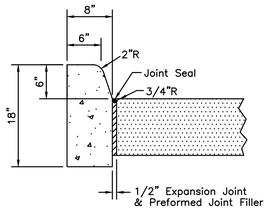


INLET TYPE 6
(Type E Curb and Gutter Shown)

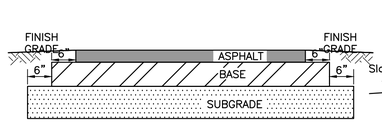
FDOT INDEX INLET TYPE 6

(TYPE E CURB AND GUTTER SHOWN)

N.T.S



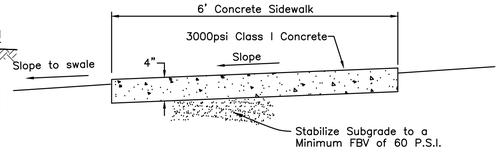
SECTION VIEW



ASPHALT CONCRETE
PAVEMENT: 1 1/2" FDOT TYPE SP-12.5 (1ST LIFT)
1" FDOT TYPE SP-9.5 (2ND LIFT)
BASE: 10" COMPACTED LIMEROCK OR COQUINA BASE (LBR-100) SAME DENSITY AS SUBGRADE
SUBGRADE: 12" THICK COMPACTED SUBGRADE (LBR-40) DENSITY SHALL BE 98% OF MAXIMUM AS DETERMINED BY AASHTO T-180 METHOD

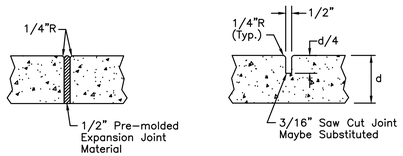
TYPICAL PAVEMENT SECTION

N.T.S



SIDEWALK DETAIL

N.T.S

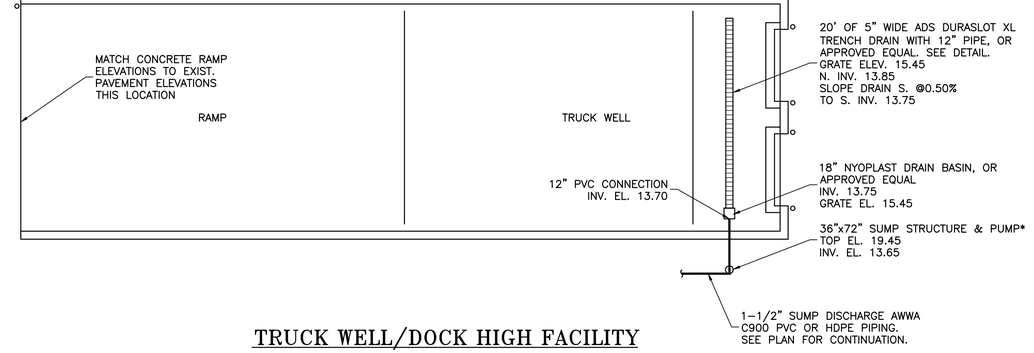


EXPANSION JOINTS

CONTRACTION JOINTS

NOTES:

1. Saw cut contraction joints on 10' centers max. within 48 hours after pouring curb.
2. All materials and construction shall be in accordance with FDOT Specifications Section 520 and FDOT Roadway & Traffic Design Standards index number 300.



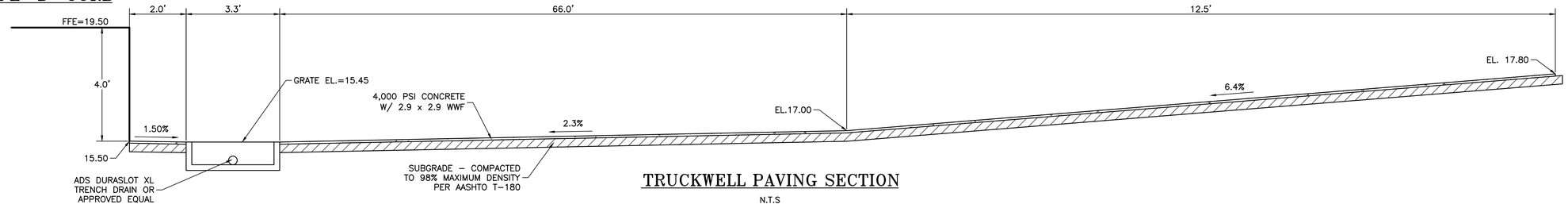
* LIBERTY SUMP PUMP MODEL LEH102M2-2 1 HP, 230 V, 1 PHASE, 200 GPM, 53' TDH, 36"x72" FIBERGLASS BASIN, 36" BLANK COVER, GUIDE RAIL.

TRUCK WELL/DOCK HIGH FACILITY

N.T.S

FDOT INDEX TYPE "D" CURB

N.T.S



TRUCKWELL PAVING SECTION

N.T.S

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901
LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

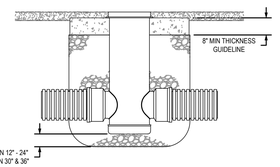
D-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-1 Plotted by: Don M Date: 6/9/2026 - 9:35 AM Giangrande Engineering & Planning

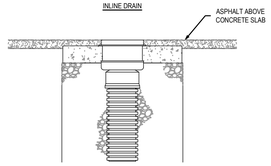
Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-2 -- Plotted by: Dan M -- Date: 6/9/2026 - 9:30 AM -- Giangrande Engineering & Planning

ASPHALT INSTALLATION

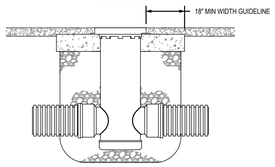
DRAIN BASIN



INLINE DRAIN



ROAD & HIGHWAY



STRUCTURE SIZE	H-20 GRATE OPTIONS				
12"	N/A	STANDARD	SOLID	2X2 R&H	N/A
15"	N/A	STANDARD	SOLID	2X2 R&H	N/A
18"	N/A	STANDARD	SOLID	2X2 R&H	2X3 R&H
24"	N/A	STANDARD	SOLID	2X2 R&H	2X3 R&H
30"	PEDESTRIAN	STANDARD	SOLID	2X2 R&H	2X3 R&H
36"	PEDESTRIAN	STANDARD	SOLID	2X2 R&H	2X3 R&H

1 - THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

2 - TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS.

3 - 36" DRAIN BASIN REQUIRES 36"X30" REDUCING CONE. REDUCING CONE REQUIRES MINIMUM 2.25FT FROM GRADE TO TOP OF PIPE.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2021 NYLOPLAST

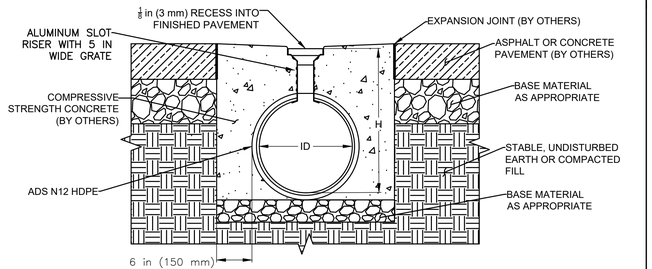
DRAWN BY	EBC	MATERIAL	
DATE	4-6-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	06-12-18		
DWG SIZE	A	SCALE 1:30	SHEET 1 OF 1

ADS Nyloplast

3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: DRAIN BASIN, INLINE DRAIN, & ROAD & HIGHWAY (H-20 TRAFFIC LOAD) ASPHALT INSTALLATION DETAIL

DWG NO. 7001-110-188 REV F



Nominal Diameter, ID, in. (mm)	Depth of Invert, H, in. (mm)	
	Minimum	Maximum
6 (150)	12.50 (318)	30.00 (762)
8 (200)	14.50 (368)	32.00 (813)
10 (250)	16.50 (419)	34.00 (864)
12 (300)	19.00 (483)	48.00 (1219)
15 (375)	22.00 (559)	51.00 (1295)
18 (450)	25.00 (635)	54.00 (1372)
24 (600)	31.25 (794)	60.00 (1524)
30 (750)	38.25 (972)	66.00 (1676)
36 (900)	44.25 (1024)	72.00 (1829)

NOTES:
1. BACKFILL DESIGN SHOULD BE USED FOR HS-20 LOADING APPLICATIONS.
2. SITE ENGINEER TO PROVIDE SITE SPECIFIC DETAILS, SUCH AS CONCRETE STRENGTH.
3. REFER TO ADS TECH NOTE 2.11 FOR ADDITIONAL DESIGN INFORMATION.
4. SLOT RECESS IS NOT INCLUDED IN DEPTH OF INVERT TABLES.

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

©2025 ADS, INC.

REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
	Updated Layers & Logo	KJS	01/08/25	--

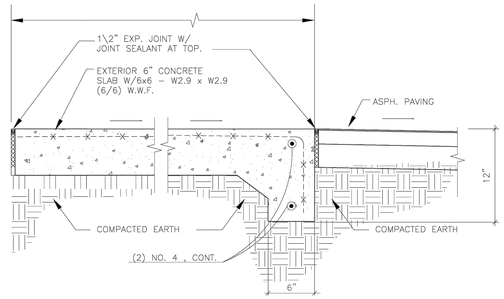
Barnelet XL Heavy Traffic Installation

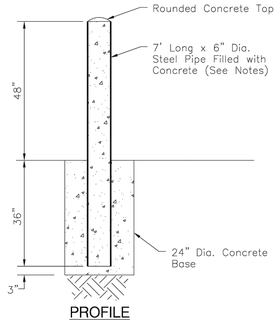
DRAWING NUMBER:

ADS Advanced Drainage Systems, Inc.

4640 TRUEMAN BLVD
HILLIARD, OHIO 43026

04-18-2023
SCALE: --
NTS
1 OF 1

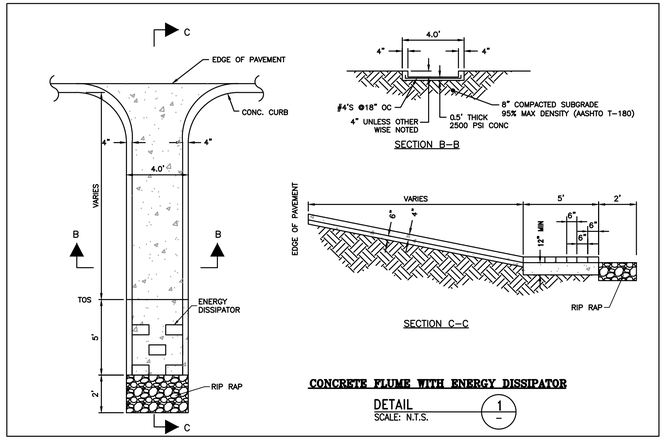




PROFILE

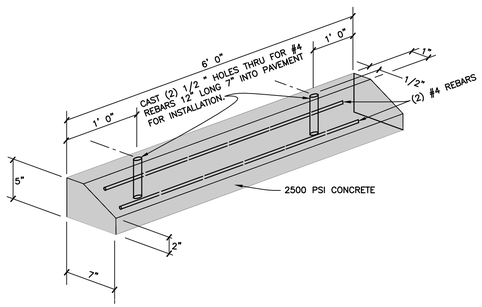
NOTES:

1. The minimum wall thickness of the pipe shall be 0.188".
2. All posts shall have 2 coats of primer and 2 coats of Yellow top coat, unless otherwise noted.
3. The primer coat shall meet the requirements of FDOT 971-5.
4. All concrete shall be FDOT class 1.



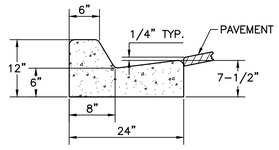
CONCRETE FLUME WITH ENERGY DISSIPATOR

DETAIL 1 – SCALE: N.T.S.



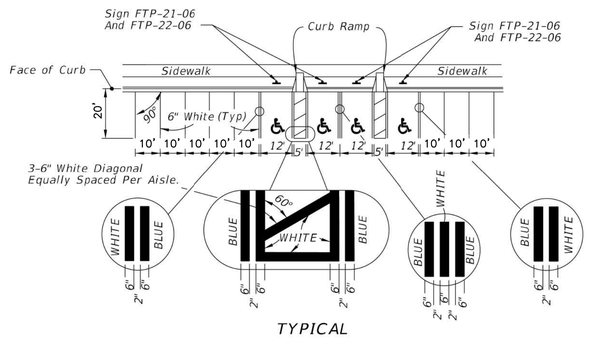
WHEEL STOP DETAIL

N.T.S



TYPE 'F' CURB DETAIL

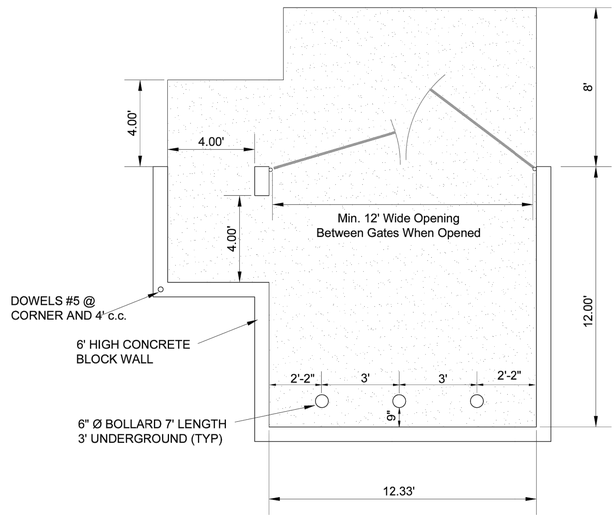
N.T.S



TYPICAL

HANDICAP PARKING DETAIL

N.T.S



DUMPSTER WITH SIDE OPENING

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-2

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES

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

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

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES
CONTINUED

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

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

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

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

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

FORT PIERCE UTILITIES AUTHORITY WASTEWATER CONSTRUCTION NOTES

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

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

STANDARD SEPARATION STATEMENT FOR WATER / SEWER CONFLICTS

1. SANITARY SEWER, FORCE MAINS, AND STORM SEWERS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. SANITARY SEWERS, FORCE MAINS AND STORM SEWERS CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 6 INCHES, PREFERABLY 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE WHEN ABOVE, AND AT LEAST 12 INCHES OF SEPARATION WHEN THE WATER MAIN IS BELOW.

WHERE SANITARY SEWER, FORCE MAINS, STORM SEWERS MUST CROSS A WATER MAIN WITH LESS THAN 6 INCHES VERTICAL SEPARATION, BOTH THE SEWER AND WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) CENTERED ON THE CROSSING. (DIP IS NOT REQUIRED FOR STORM SEWERS.) SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED.

ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPES CENTERED ON THE CROSSING). AT SUCH CROSSINGS PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN 6 INCHES VERTICAL CLEARANCE, THE NEW PIPE SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWERS) AND NEW PIPES SHALL BE ARRANGED TO MEET THE CROSSING REQUIREMENTS ABOVE.

2. A MINIMUM 3-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF STORM SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

A MINIMUM 3-FOOT, AND PREFERABLE 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN VACUUM TYPE SANITARY SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

A MINIMUM 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN "ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

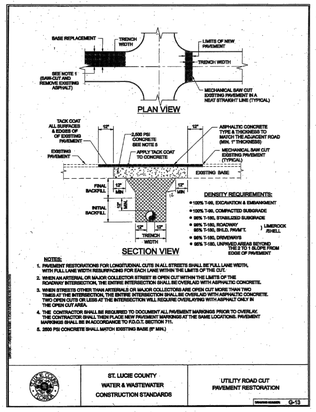
A MINIMUM 6-FOOT, AND PREFERABLE 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN GRAVITY OR PRESSURE TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO 3 FOOT WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10-FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON A UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 6 INCHES ABOVE THE TOP OF THE SEWER.

WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 6 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWER) WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).

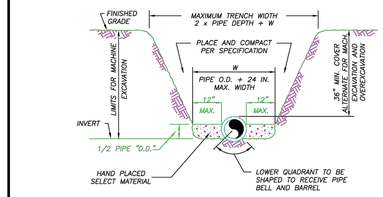
3. ALL DIP SHALL BE PRESSURE CLASS 250 MIN.. ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN ENGINEER.

FPUA COMMUNITY PROUD	STANDARD SEPARATION STATEMENT FOR WATER/SEWER CONFLICT			G-3 WATER/SEWER CONFLICT
02-06	DATE:	REVISION:	BY:	APPD:
DESIGNED: JJM		COMPUTER FILE # DETAIL NOTES 200602.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: JJM		SCALE: N.T.S.		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC		DATE: 2010		SHEET 1 OF 1



1. PAVEMENT RESTORATIONS FOR LONGITUDINAL CUTS IN ALL STREETS SHALL BE FULL LANE WIDTH, WITH FULL LANE WIDTH RESURFACING FOR EACH LANE WITHIN THE LIMITS OF THE CUT.
2. WHEN AN ARTERIAL OR MAJOR COLLECTOR STREET IS OPEN CUT WITHIN THE LIMITS OF THE ROADWAY INTERSECTION, THE ENTIRE INTERSECTION SHALL BE OVERLAID WITH ASPHALTIC CONCRETE.
3. WHEN STREETS OTHER THAN ARTERIALS OR MAJOR COLLECTORS ARE OPEN CUT MORE THAN TWO TIMES AT THE INTERSECTION, THE ENTIRE INTERSECTION SHALL BE OVERLAID WITH ASPHALTIC CONCRETE. THE DETERMINATION AS TO USE OF THE INTERSECTION WILL REQUIRE OVERLAYING WITH ASPHALT ONLY IN THE OPEN CUT AREA.
4. THE CONTRACTOR SHALL BE REQUIRED TO DOCUMENT ALL PAVEMENT MARKINGS PRIOR TO OVERLAY. THE CONTRACTOR SHALL THEN PLACE NEW PAVEMENT MARKINGS AT THE SAME LOCATIONS. PAVEMENT MARKINGS SHALL BE IN ACCORDANCE TO FDOT, SECTION 711.
5. 2500 PSI CONCRETE SHALL MATCH EXISTING BASE (IF MIN.)

FPUA COMMUNITY PROUD	PAVEMENT RESTORATION (COUNTY)			R-2
02-06	DATE:	REVISION:	BY:	APPD:
DESIGNED: JJM		COMPUTER FILE # MISC. DETAILS 200602.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: JJM		SCALE: N.T.S.		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC		DATE: 2010		SHEET 1 OF 1

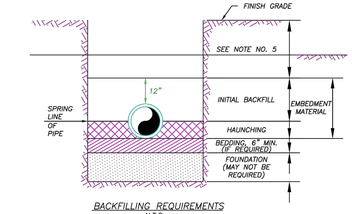


NOTES:

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

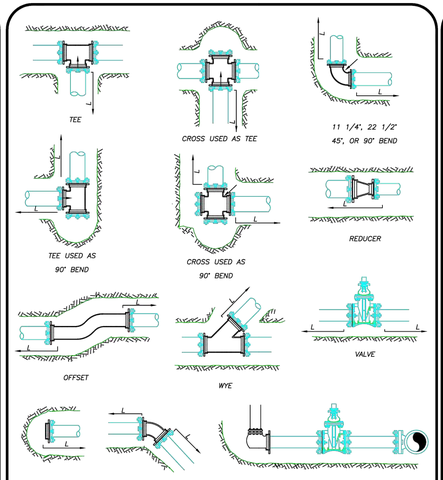


BACKFILLING REQUIREMENTS
N.T.S.

NOTES:

1) IN CERTAIN SOIL CONDITIONS A FOUNDATION MAY BE REQUIRED.
2) BEDDING IS REQUIRED PRIMARILY TO BRING THE TRENCH BOTTOM UP TO GRADE. BEDDING MATERIALS SHALL PROVIDE A UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE.
3) HAUNCHING MATERIAL SHALL BE HAND PLACED TO THE SPRINGLINE OF THE PIPE. MATERIAL SHALL BE CONSOLIDATED UNDER THE PIPE AND HAND TAMPED TO PROVIDE ADEQUATE SIDE SUPPORT.
4) INITIAL BACKFILL MATERIAL SHALL BE HAND PLACED TO 12" ABOVE THE TOP OF PIPE. THE SOIL SHALL BE COMPACTED TO 100% MAX. DENSITY.(AASHTO T-99)
5) BACKFILL SHALL BE COMPACTED TO 100% OF MAX. DENSITY AS PER AASHTO T-99, TO A POINT 30" BELOW PROPOSED PROFILE GRADE OR EXISTING GRADE. THE FINAL 30" OF BACKFILL SHALL BE COMPACTED TO 98% OF MAX. DENSITY AS PER AASHTO T-180.
6) DENSITY TEST SHALL BE PERFORMED AT AREAS DETERMINED BY THE UTILITIES ENGINEER OR PERMIT AGENCY HAVING JURISDICTION, AT THE CONTRACTORS EXPENSE.
7) CONTRACTOR TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL TRENCH SAFETY REGULATIONS.

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



MECHANICAL JOINT ANCHORING REQUIREMENTS
N.T.S.

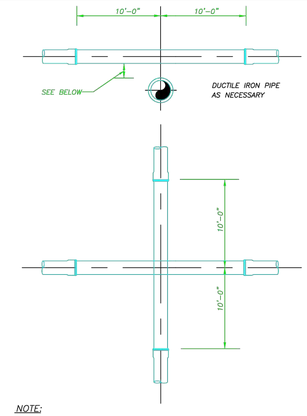
FPUA COMMUNITY PROUD	MECHANICAL JOINT ANCHORING REQUIREMENTS			M-3
03-09	CONCRETE SLAB		SLL	JLC
DESIGNED:	DATE:	REVISION:	BY:	APPD:
DRAWN BY: JLC		COMPUTER FILE # MISC. DETAILS 200602.DWG		WATER/WASTEWATER ENGINEERING
APPROVED: SLL		SCALE:		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC		DATE: 2015		SHEET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

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

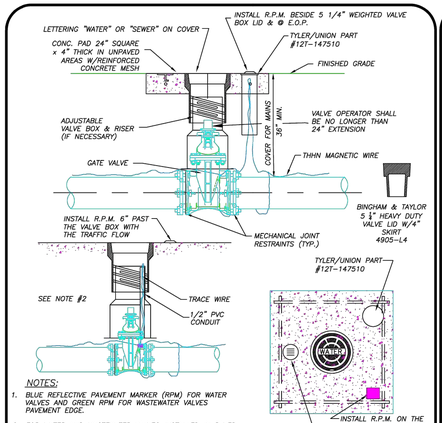
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-3

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-3 – Plotted by: Dan M – Date: 9/9/2026 - 9:31 AM – Grangrande Engineering & Planning

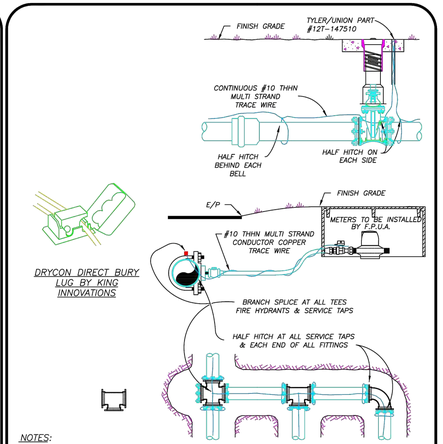


NOTES:

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

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

TYPICAL GATE VALVE & VALVE BOX DETAIL	M-6
03-09 CONCRETE SLAB — SLL — JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE # MISC DETAILS 2006102.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2015	SHEET 1 OF 1

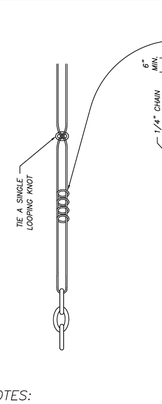


NOTES:

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

TRACE WIRE
(N.T.S.)

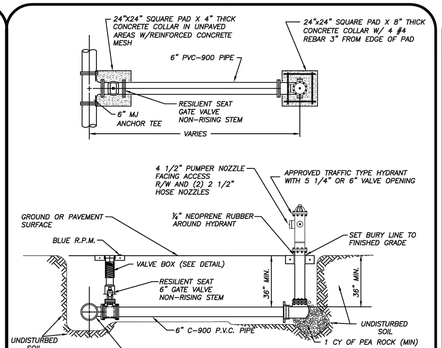
TRACE WIRE DETAIL	M-11
03-09 CONCRETE SLAB — SLL — JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE # MISC DETAILS 2006102.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:	
APPROVED: JLC — DATE: 2015	SHEET 1 OF 1



NOTES:

1. WHERE DIRECTIONAL DRILLING LENGTHS EXCEED 750 LINEAR FEET AND/OR HDPE PIPE DIAMETER EXCEED 12 INCHES, A SECOND LENGTH OF TRACE WIRE SHALL BE INSTALLED.
2. TRACE WIRE SHALL CONFORM TO THE FOLLOWING SPECIFICATION:
   MANUFACTURER – COPPERHEAD INDUSTRIES, LLC
   PART NUMBER – 12458–EHS–500 / 12458–EHS–1000 / 12458–EHS–2500
   PART NUMBER DESCRIPTION – 12 (AWG), 45 (JACKET MIL), B (JACKET COLOR: B=BLUE, G=GREEN, ETC.) – EHS (EXTRA HIGH STRENGTH–HARD DRAWN / 1150# BREAKING LOAD STRENGTH) – 500 (WIRE LENGTH IN FEET)

DIRECTIONAL BORE WIRE ATTACHMENT	M-16
03-09 CONCRETE SLAB — SLL — JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE # MISC DETAILS 2006102.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:	
APPROVED: JLC — DATE: 2015	SHEET 1 OF 1

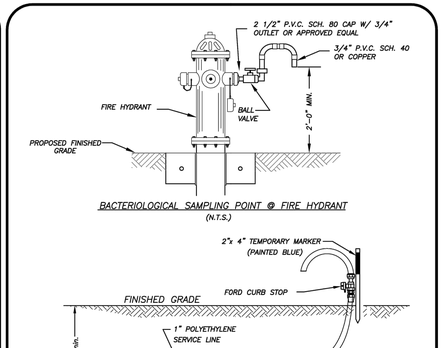


NOTES:

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

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

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

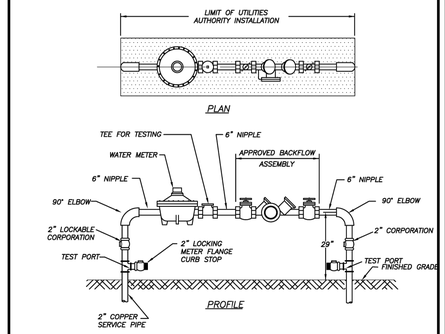


BACTERIOLOGICAL SAMPLING POINT @ FIRE HYDRANT
(N.T.S.)

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

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

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

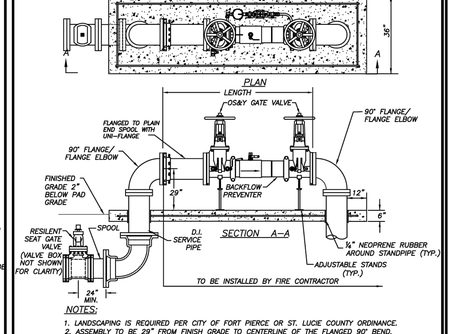


NOTES:

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.)

WATER METER/BACKFLOW PREVENTER ASSEMBLY–DOMESTIC SERVICES (METER SIZE 2" OR LESS)	W-8
03-09 DESIGN — SLL — JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE # WATER DETAILS 2006102.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2010	SHEET 1 OF 1



NOTES:

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

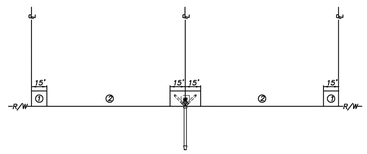
SIZE	SERVICE	LENGTH
4	DOUBLE DETECTOR	53 INCHES
6	DOUBLE DETECTOR	62 INCHES
8	DOUBLE DETECTOR	69 INCHES
10	DOUBLE DETECTOR	76 INCHES

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

BACKFLOW PREVENTER ASSEMBLY 4"–10" FIRE SERVICE	W-10
03-09 CONCRETE PAD — SLL — JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE # WATER DETAILS 2006102.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2010	SHEET 1 OF 1

GENERAL POLICY

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

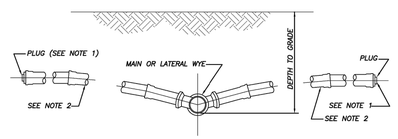


NOTES:

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

WASTEWATER SERVICE PLACEMENT
(N.T.S.)

WASTEWATER SERVICE PLACEMENT POLICY	S-1
02-06 02-15 — SLL	WATER/WASTEWATER ENGINEERING
DESIGNED: JLM — COMPUTER FILE # SEWER DETAIL 2006102.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2010	SHEET 1 OF 1

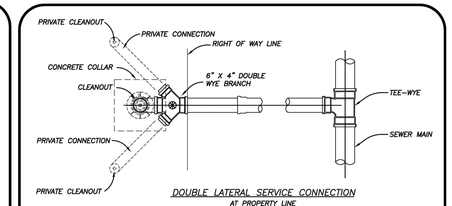


NOTES:

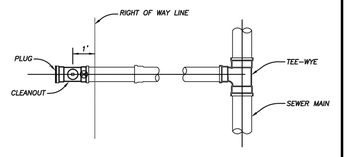
1) BALL TYPE WASTEWATER LOCATOR BY 3M CORP. OR APPROVED EQUAL.
2) MINIMUM SLOPE OF 1/8" PER FOOT, USE GREATER SLOPE WHERE POSSIBLE.
3) SERVICE LATERAL SHALL TERMINATE WITH A CLEANOUT.
4) INSTALL CLEANOUT AT THE PROPERTY LINE. REFER TO DETAIL S–1 FOR SPECIFIC PROPERTY LAYOUT.

SERVICE CONNECTION
(N.T.S.)

SERVICE CONNECTION WASTEWATER	S-2
02-06 — SLL — JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE # SEWER DETAIL 2006102.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2015	SHEET 1 OF 1



DOUBLE LATERAL SERVICE CONNECTION
AT PROPERTY LINE



SINGLE SERVICE LATERAL CONNECTION

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

SERVICE CONNECTION
(N.T.S.)

SERVICE CONNECTION WASTEWATER	S-3
02-06 — SLL — JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE # SEWER DETAIL 2006102.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2010	SHEET 1 OF 1

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

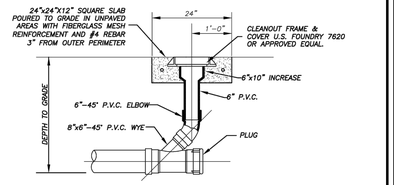
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

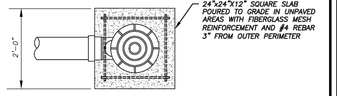
PROJECT #: 24-035

D-4

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg — Layout Name: D-4 — Plotted by: Dan M — Date: 6/9/2026 - 9:31 AM — Grangrande Engineering & Planning



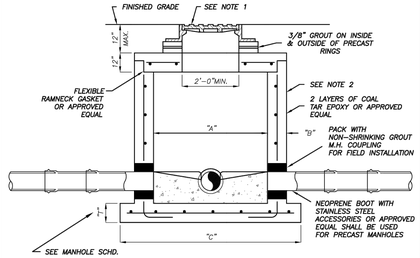
SECTION



PLAN

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

FPUA COMMUNITY PROUD	TERMINAL CLEANOUT DETAIL WASTEWATER		S-4B
FT. PIERCE UTILITIES AUTHORITY WATER/WASTEWATER ENGINEERING 600 SOUTH 21ST STREET FT. PIERCE, FLORIDA 34947 772-466-1600	10-06 DATE:	REVISION:	BBC BY: APPD:
	DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2009003.DWG	WATER/WASTEWATER ENGINEERING
	DRAWN BY: BL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
	APPROVED: JLC	DATE: 2010	SHEET 2 OF 3



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

TYPICAL MANHOLE DIMENSIONS

NOTES:

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

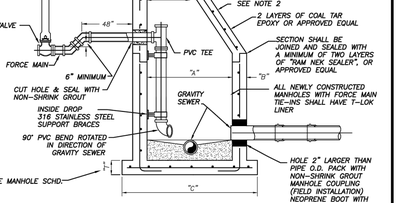
2) ALL CONCRETE MANHOLES TO BE 4000 P.S.I. TO MEET OR EXCEED ASTM C478 ALL CEMENT TO BE TYPE II ACID RESISTANT. REINFORCING AREA OF 0.02 SQ. IN/FT FOR WALL SECTION MIN. TO MEET OR EXCEED ASTM A 185.

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

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

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

FPUA COMMUNITY PROUD	PRECAST MANHOLE DEPTH OF LESS THAN 5'- 0"		S-6
FT. PIERCE UTILITIES AUTHORITY WATER/WASTEWATER ENGINEERING 600 SOUTH 21ST STREET FT. PIERCE, FLORIDA 34947 772-466-1600	02-08 DATE:	REVISION:	BY: APPD:
	DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2009003.DWG	WATER/WASTEWATER ENGINEERING
	DRAWN BY: BL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
	APPROVED: JLC	DATE: 2010	SHEET 1 OF 1



PIPE DIA.	"A"	"B"	"C"	BOT. SLAB "T"
8"-24"	5'-0"	"B"	70"	8"
30"-36"	6'-0"	"B"	84"	10"
42"-48"	7'-0"	"B"	96"	12"

TYPICAL MANHOLE DIMENSIONS

NOTES:

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

2) ALL CONCRETE MANHOLES TO BE 4000 P.S.I. TO MEET OR EXCEED ASTM C478 ALL CEMENT TO BE TYPE II ACID RESISTANT. REINFORCING AREA OF 0.20IN/FT FOR WALL SECTION MIN. TO MEET OR EXEED ASTM A 185.

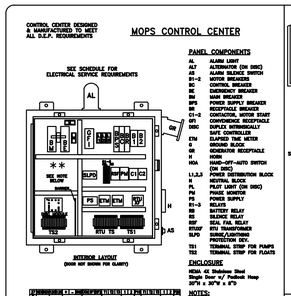
3) A MAXIMUM OF 2 LAYERS OF PRECAST CONCRETE RINGS, IF REQUIRED.

4) FORCE MAIN TIE-IN SHALL BE TO MANHOLES WITH A MINIMUN DEPTH OF 4'-0".

5) NEW MANHOLES SHALL BE T-LOCK LINED, EXISTING MANHOLES SHALL BE SEWPERCOATED.

FORCE MAIN TIE-IN @ PRECAST MANHOLE
(N.T.S.)

FPUA COMMUNITY PROUD	FORCE MAIN TIE-IN AT PRECAST MANHOLE		S-10
FT. PIERCE UTILITIES AUTHORITY WATER/WASTEWATER ENGINEERING 600 SOUTH 21ST STREET FT. PIERCE, FLORIDA 34947 772-466-1600	03-09 DATE:	VALVE AND DEFLECTION REVISION:	TBL BY: JLC APPD:
	DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2009002.DWG	WATER/WASTEWATER ENGINEERING
	DRAWN BY: BL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
	APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

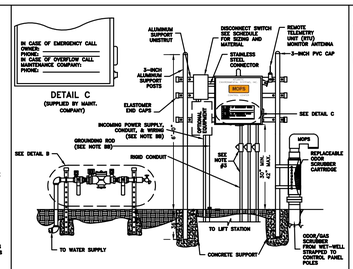


ITEMS	CLOCK POSITION
DISCHARGE LINES	3:00
PRIMARY INVERT	9:00
SECONDARY INVERT	9:00
LOCATION OF CONTROL PANEL	9:00

SCHEMATIC BASED ON THE STATION'S DISCHARGE BEING LOCATED AT THE #3 CLOCK POSITION. SEE SCHEDULE FOR LOCATION OF INVERTS AND CONTROL PANEL, LOCATIONS SUBJECT TO CHANGE.

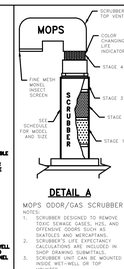
MATERIALS			
ITEM	QTY.	DESCRIPTION	
1	1	3/4" BRP, BACKFLOW PREVENTER	
2	1	3/4" x 3" S.S. NIPPLE	
3	1	3/4" x 3" S.S. NIPPLE	
4	1	3/4" x 3/4" S.S. COUPLING	
5	1	3/4" BRONZE HOSE BIB	
6	1	3/4" VACUUM BREAKER	

DETAIL B
R.P.Z. BACKFLOW PREVENTER ASSEMBLY DETAIL
U.S.C. AND A.S.S.E. APPROVED N.T.S.



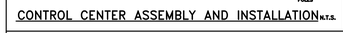
DETAIL C
(SUPPLIED BY MAINT. COMPANY)

CONTROL CENTER ASSEMBLY AND INSTALLATION N.T.S.



DETAIL A
MOPS ODOR/GAS SCRUBBER

NOTES:
1. SCRUBBER DESIGNED TO REMOVE TOXIC SEWAGE GASES, H2S, AND OFFENSIVE ODORS SUCH AS MERCAPTANS AND AMMONIA.
2. SCRUBBER'S LIFE EXPECTANCY CALCULATIONS ARE INCLUDED IN SHOP DRAWING SUBMITTALS.
3. SCRUBBER UNIT CAN BE MOUNTED INSIDE WET-WELL OR TOP MOUNTED.
4. MODEL 'S' SHOWN.



PUMP STATION

VALVE BOX ASSEMBLY

TOP VIEW N.T.S.

SECTION VIEW N.T.S.

MOPS

PRIVATE SERIES

MANUFACTURED ODORLESS PUMP STATION
ATLANTIC ENVIRONMENTAL SYSTEMS, INC.
LAKE WORTH, FL 33461
PH: (561) 547-8080 FAX: (561) 547-3999

THIS DRAWING AND THE DESIGNS CONTAINED UPON IS PROPRIETARY TO ATLANTIC ENVIRONMENTAL SYSTEMS, INC. AND SHALL NOT BE REPRODUCED, COPIED, OR USED IN WHOLE OR IN PART, NOR SHALL IT BE SOLD, GIVEN, OR THE PURPOSE FOR WHICH IT IS INTENDED, FOR ANY OTHER WITHOUT THE EXPRESSED WRITTEN PERMISSION OF ATLANTIC ENVIRONMENTAL SYSTEMS, INC. IN THE EVENT OF SUCH REPRODUCTION, IN WHOLE OR IN PART, WHICH WITHOUT LIMITING THE ATLANTIC ENVIRONMENTAL RIGHT AND ADDRESS IN THE REPRODUCTION.

MOPS PUMP STATION SCHEDULE

MOPS SERIES		ITEM	DESCRIPTION	
INITIAL DESIGN FLOW (G.P.M.)	24		100 YEAR FLOOD ELEVATION	18.58'
INITIAL DESIGN HEAD (T.D.H.)	42'		25 YEAR FLOOD ELEVATION	17.97'
SECONDARY DESIGN FLOW (G.P.M.)	39	A	GRADE ELEVATION	18.80'
SECONDARY DESIGN HEAD (T.D.H.)	11'	B	TOP ELEVATION OF WET WELL	18.80'
RATED PERFORMANCE SPEED	3450 RPM	C	BOTTOM ELEVATION OF WET WELL	10.80'
RATED MOTOR HORSEPOWER	2	D	ALL PUMPS OFF ELEVATION	12.30'
SUBMERSIBLE PUMP TYPE (P-1,P-2)	GRINDER	E	LEAD PUMP ON ELEVATION	13.50'
PUMP MODEL NUMBER	MOPS	F	LAG PUMP ON ELEVATION	14.00'
SERVICE ENTRANCE VOLTAGE	230	G	HIGH ALARM ELEVATION	14.50'
SERVICE ENTRANCE PHASE	3	H	INSIDE DIAMETER OF WET-WELL	48"
CONTROL CENTER FULL LOAD AMPS	19	I	OUTSIDE DIAMETER OF ANTI-FLOATATION RING	84"
NEMA 3R PAINTED STEEL	30	J	MINIMUM CUBIC FEET OF CONCRETE BALLAST (CU YDS)	000/(0)
DISCONNECT SWITCH, RATED AMPS				
WET WELL SCOURER SYSTEM	N/A	K	INVERT PIPE DIAMETER	4"
REMOTE STATION MONITOR (TELEMETRY)	W/SA	L	FORCE MAIN DIAMETER	2" / 4"
ON-SITE GENERATOR SYSTEM	N/A	M	PRIMARY INVERT ELEVATION	15.00'
		N	SECONDARY INVERT ELEVATION	N/A

MOPS EQUIPMENT IDENTIFICATION	QTY.	MODEL DESIGNATION
MOPS PUMP STATION	1	B22-4896-C-2.0
MOPS VALVE BOX ASSEMBLY (VBA)	1	VBA-22
MOPS ODOR/GAS SCRUBBER (OGS)	1	OGS-B
MOPS R.P.Z. ASSEMBLY	1	75
MOPS CONTROL CENTER	1	PSC-222-2.0
MOPS DISCONNECT SWITCH	1	FDS-30-3-2-PS
MOPS CONTROL CENTER MOUNTING ASSEMBLY	1	CCMA-32AL
MOPS WET WELL SCOURER SYSTEM	0	N/A
MOPS REMOTE STATION MONITOR	1	PROVIDED WITH SERVICE AGREEMENT
1st YEAR SERVICE/MAINTENANCE CONTRACT	1	LEVEL 1 WITH REMOTE MONITOR
MOPS ON-SITE GENERATOR SYSTEM	0	N/A
MOPS FIELD SERVICE WORK	1	CONTROL INSTALLATION & START-UP

MOPS PUMP STATION COMPLIANCE NOTES:

THIS PUMP STATION DESIGN COMPLIES WITH THE FOLLOWING REQUIRED STANDARDS:
- STATE OF FLORIDA ENVIRONMENTAL PROTECTION STANDARDS
- FLORIDA ADMINISTRATIVE CODE (F.A.C.): 62-640.400- COLLECTION AND TRANSMISSION SYSTEMS
- NATIONAL ELECTRIC CODE (NEC) CLASS 1, DIVISION 1, GROUP D-- HAZARDOUS LOCATIONS
- UNDERWRITER'S LABORATORIES (U.L.) 508A--MOTOR CONTROL CENTERS AND U.L. 698A--INTRINSICALLY SAFE CONTROL CENTERS
- RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES (2014 EDITION).

1. PUMPS ARE RATED BY FACTORY MUTUAL FOR CLASS 1, DIVISION 1, GROUP D ATMOSPHERES AS REQUIRED BY NEC.
2. THE CONTROL CENTER INCORPORATES INTRINSICALLY SAFE RELAYS AND IS LISTED TO UL 698A INTRINSICALLY SAFE FOR CLASS 1, DIVISION 1 ATMOSPHERES.
3. THE CONDUIT PROVIDED, ALONG WITH CONDUIT GAS-SEAL-OFFS, ARE RATED FOR CLASS 1, DIVISION 1 LOCATIONS.
4. THE WASTEWATER PUMPS AND THE CONTROL CENTER INCORPORATE A MECHANICAL SEAL FAILURE DETECTION AND NOTIFICATION SYSTEM.
5. THE CONTROL CENTER INCLUDES EITHER A REMOTE TELEMETRY UNIT (RTU) OR A SELF-CHARGING, BACK-UP ALARM SYSTEM TO OPERATE ON POWER FAILURE.
6. THE PUMP STATION INCORPORATES AN ODORLESS DESIGN WITH A SCRUBBER SYSTEM TO CONTROL TOXIC GASES AND ODORS FOR COMPLIANCE TO F.A.C. 62-604.400.
7. THE BOTTOM OF THE TOP RIM ELEVATION OF PUMP STATION MUST BE LOCATED AT A HIGHER ELEVATION THAN THE 25 YEAR FLOOD ELEVATION. THE LISTED 25 YEAR FLOOD ELEVATION PROVIDED BY SITE CIVIL ENGINEER.
8. THE BOTTOM ELEVATION OF THE MOPS CONTROL CENTER MUST BE LOCATED AT A HIGHER ELEVATION THAN THE 100 YEAR FLOOD ELEVATION. THE LISTED 100 YEAR FLOOD ELEVATION PROVIDED BY THE SITE CIVIL ENGINEER.

MOPS ENGINEERING NOTES:

AA. THE HORSEPOWER SHOWN ON THE SCHEDULE IS A MINIMUM HORSEPOWER REQUIREMENT BASED ON THE STATION'S DESIGN CRITERIA AND THE REQUIRE TORQUE. (LOWER RATED HORSEPOWER EQUIPMENT WILL NOT BE ACCEPTABLE.)
BB. THESE ITEMS ARE NOT SUPPLIED BY A.E.S. WITH THE MOPS STATION.
CC. INVERT ELEVATIONS BASED ON INSIDE BOTTOM OF PIPE.
DD. THE MOPS CONTROL ASSEMBLY CONSISTS OF THE FOLLOWING: CONTROL CENTER DISCONNECT SWITCH, MOUNTING ASSEMBLY, ELECTRICAL CONDUITS, AND SEAL-OFF. THESE ITEMS MUST BE SUPPLIED AND INSTALLED BY THE MOPS PUMP STATION MANUFACTURER TO VALIDATE MOPS WARRANTY PROGRAM.
EE. FOR STATIONS IN MIAMI-DADE COUNTY, THE MOPS PUMP STATION IS SUPPLIED WITH A REMOTE TELEMETRY MONITORING UNIT AND A.E.S. MAINTENANCE SERVICE. THE R.T.U. ALLOWS FOR MONITORING OF LAG ALARM, HIGH ALARM, AND POWER FAILURE PER CHAPTER 24.42.215). THE R.T.U. IS EQUIPPED WITH A BATTERY BACK UP AND IS INSTALLED ABOVE THE 100 YEAR FLOOD ELEVATION.

THE MOPS WASTEWATER PUMP STATION DESIGN AND EQUIPMENT SHOWN ON THIS DRAWING HAS BEEN REVIEWED, PERMITTED, AND CERTIFIED AS COMPLYING WITH ALL THE STATE OF FLORIDA D.E.P. AND LOCAL REQUIREMENTS. ANY SUBSTITUTION FROM THIS DESIGN MAY REQUIRE NEW PERMITS, APPLICATION FEES, AND ENGINEERING SERVICES FOR RE-CERTIFICATION AND DESIGN REVIEW.

P.E. CERTIFICATION:

Bonnie McLeod, P.E., Lic # 70797 V.P. of Engineering
Atlantic Environmental Systems, Inc., Certificate # 26398
2224 4th Ave. North, Lake Worth, Florida 33461
Ph: 561-547-8080 Fax: 561-547-3999

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-5

DATE	BY	REVISION
1-1-1	1-1-1	1-1-1

3700 Okeechobee Rd
Giangrande Engineering & Planning
710 SE Ocean Blvd, Stuart FL, 34994

Project
Proposed Plan
2460
Job Project No.
01/30/26
Date

Page No.
LS-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-5 Plotted by: Dan M Date: 6/9/2026 - 9:31 AM - Giangrande Engineering & Planning

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	ABRAHAM JAIMES 786-960-1633 ABRAHAM.JAIMES@ADSPIPE.COM
ADS SALES REP	TIM TEAHAN 561-248-5480 TIM.TEAHAN@ADSPIPE.COM
PROJECT NO.	S482153
PROJECT SITE COORDINATOR:	JAMES FARTHING 407-663-4242 JAMES.FARTHING@ADSPIPE.COM

Advanced Drainage Systems, Inc.

ADS SiteAssist™
FOR STORMTECH
INSTALLATION INSTRUCTIONS
VISIT OUR APP

3700 OKEECHOBEE ROAD

FORT PIERCE, FL, USA

SC-310 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-310.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

1. STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 3" (80 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT ADS WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

©2026 ADS, INC.

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-6 -- Plotted by: Don M -- Date: 6/9/2026 - 9:31 AM -- Giangrande Engineering & Planning

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-6

PROPOSED LAYOUT: NORTH BED

664	STORMTECH SC-310 CHAMBERS
90	STORMTECH SC-310 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
20,366	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
15,520	SYSTEM AREA (ft²)
657	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS: NORTH BED

24.33	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
18.16	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
17.66	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
17.66	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
17.66	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
16.83	TOP OF STONE
16.33	TOP OF SC-310 CHAMBER
15.29	8" TOP MANIFOLD INVERT
15.08	12" ISOLATOR ROW PLUS CONNECTION INVERT
15.00	BOTTOM OF SC-310 CHAMBER
14.50	BOTTOM OF STONE

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED EZ END CAP	A	12" BOTTOM PREFABRICATED EZ END CAP, PART#: SC310ECEZ / TYP OF ALL 12" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS		
PRE-CORED END CAP	B	8" TOP PRE-CORED END CAP, PART#: SC310EPE08TPC / TYP OF ALL 8" TOP CONNECTIONS		
MANIFOLD	C	8" x 8" TOP MANIFOLD, MOLDED FITTINGS	3.50"	
CONCRETE STRUCTURE	D	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		2.3 CFS IN
INSPECTION PORT	E	4" SEE DETAIL		



ISOLATOR ROW PLUS
(SEE DETAIL)

PLACE MINIMUM 12.50' OF ADSPLUS625 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THE SITE DESIGN ENGINEER MUST CONSIDER THE EFFECTS OF POSSIBLE SATURATED SOILS ON NEARBY SYSTEMS, INCLUDING BUT NOT LIMITED TO, RETAINING WALLS, SLOPE CONSTRUCTION/STABILITY, OR BUILDINGS/STRUCTURES. NO FOUNDATION LOADS SHALL BE TRANSMITTED TO THE CHAMBERS.

3700 OKEECHOBEE ROAD
FORT PIERCE, FL, USA
DATE: 02/26/2026 | DRAWN: DC | CHECKED: HAK
PROJECT #: S482153

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

WWW.ADSPIPE.COM

50' 25' 0

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET
2 OF 8

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

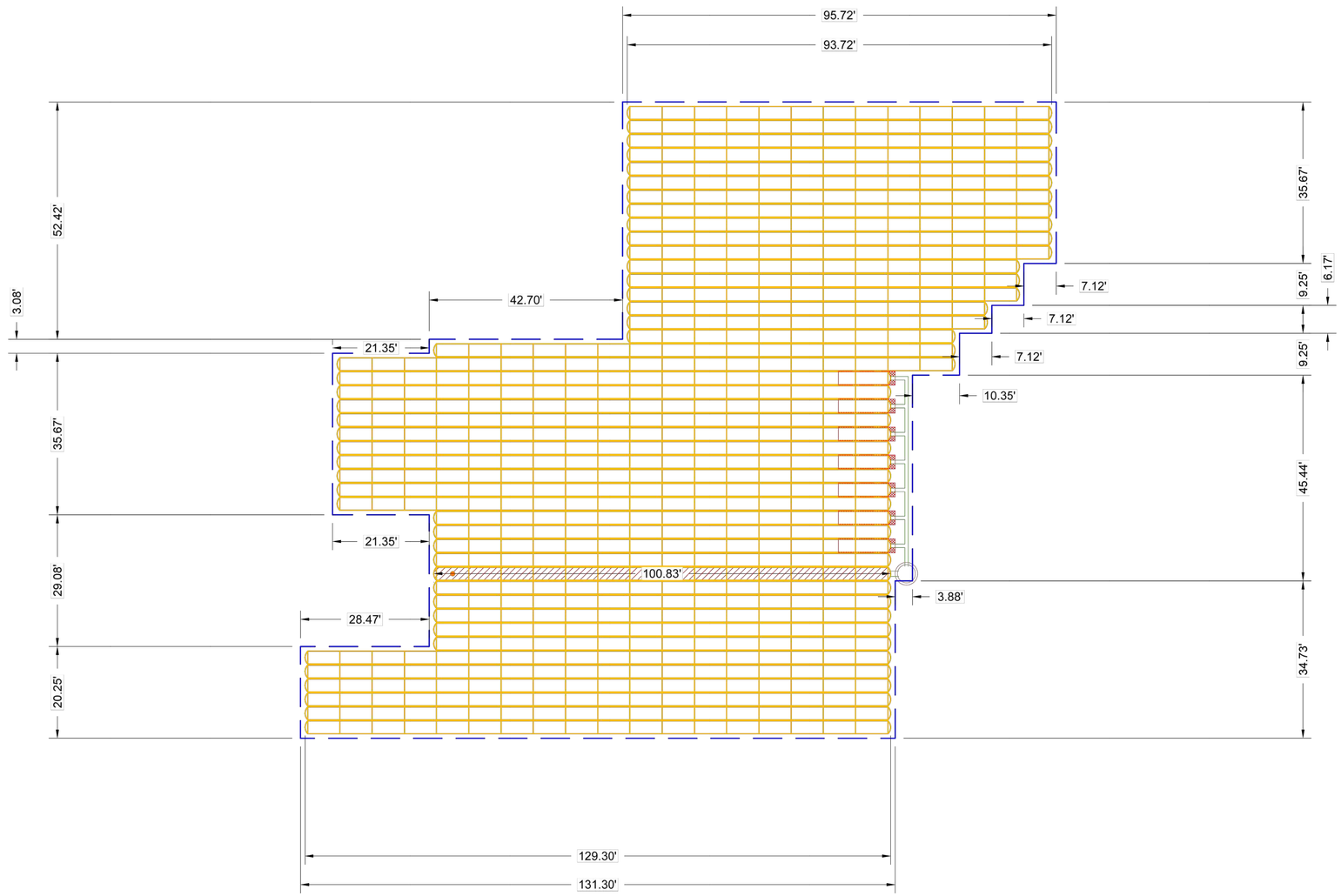
ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035
D-7

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-7 -- Plotted by: Dan M -- Date: 6/9/2026 -- 9:31 AM -- Giangrande Engineering & Planning



3700 OKEECHOBEE ROAD

FORT PIERCE, FL, USA

DATE: 02/26/2026 | DRAWN: DC | PROJECT #: S482153 | CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

ADS WWW.ADSPIPE.COM

0 25' 50'

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET 3 OF 8

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-8

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-8 - Plotted by: Don M - Date: 6/9/2026 - 9:31 AM - Gianginde Engineering & Planning

PROPOSED LAYOUT: SOUTH BED

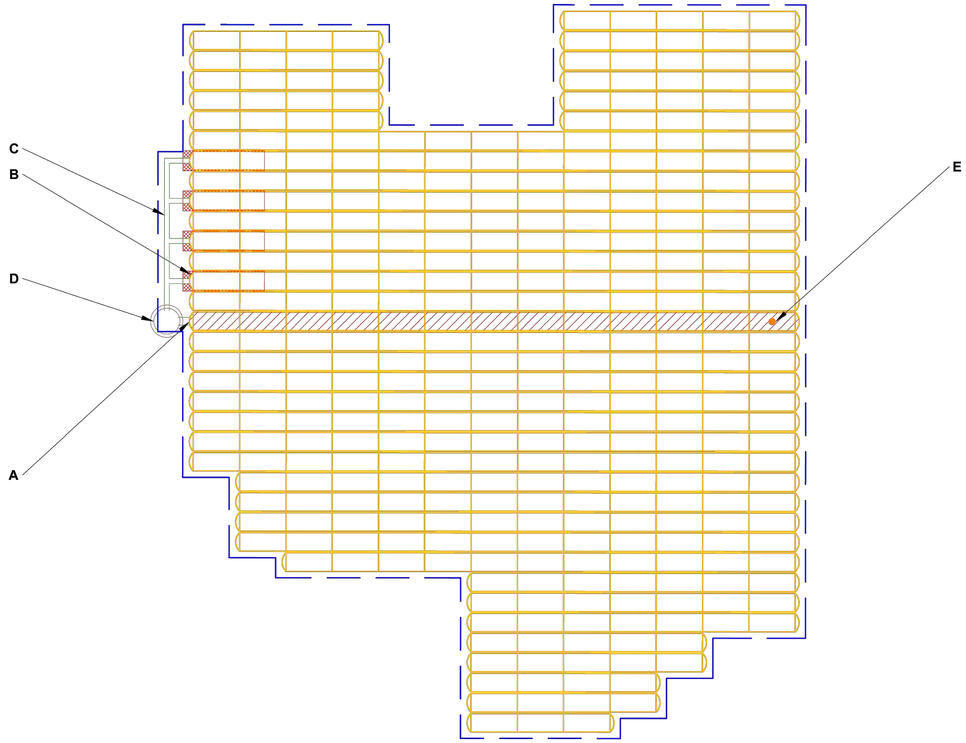
372	STORMTECH SC-310 CHAMBERS
82	STORMTECH SC-310 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
11,187	**INSTALLED SYSTEM VOLUME (CF) ABOVE ELEVATION 14.50 (PERIMETER STONE INCLUDED)**
8,842	SYSTEM AREA (ft²)
456	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS: SOUTH BED

24.23	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
18.06	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
17.56	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
17.56	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
17.56	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
16.73	TOP OF STONE
16.23	TOP OF SC-310 CHAMBER
15.19	8" TOP MANIFOLD INVERT
14.98	12" ISOLATOR ROW PLUS CONNECTION INVERT
14.90	BOTTOM OF SC-310 CHAMBER
14.40	BOTTOM OF STONE

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED EZ END CAP	A	12" BOTTOM PREFABRICATED EZ END CAP, PART#: SC310ECEZ / TYP OF ALL 12" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS		
PRE-CORED END CAP	B	8" TOP PRE-CORED END CAP, PART#: SC310EPE08TPC / TYP OF ALL 8" TOP CONNECTIONS		
MANIFOLD	C	8" x 8" TOP MANIFOLD, MOLDED FITTINGS	3.50"	
CONCRETE STRUCTURE	D	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		2.3 CFS IN
INSPECTION PORT	E	4" SEE DETAIL		



ISOLATOR ROW PLUS
(SEE DETAIL)

PLACE MINIMUM 12.50' OF ADSPLUS625 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.

3700 OKEECHOBEE ROAD
FORT PIERCE, FL, USA
DATE: 02/26/2026 | DRAWN: DC | PROJECT #: S482153 | CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

ADS WWW.ADSPIPE.COM

0 20 40

SHEET 4 OF 8

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

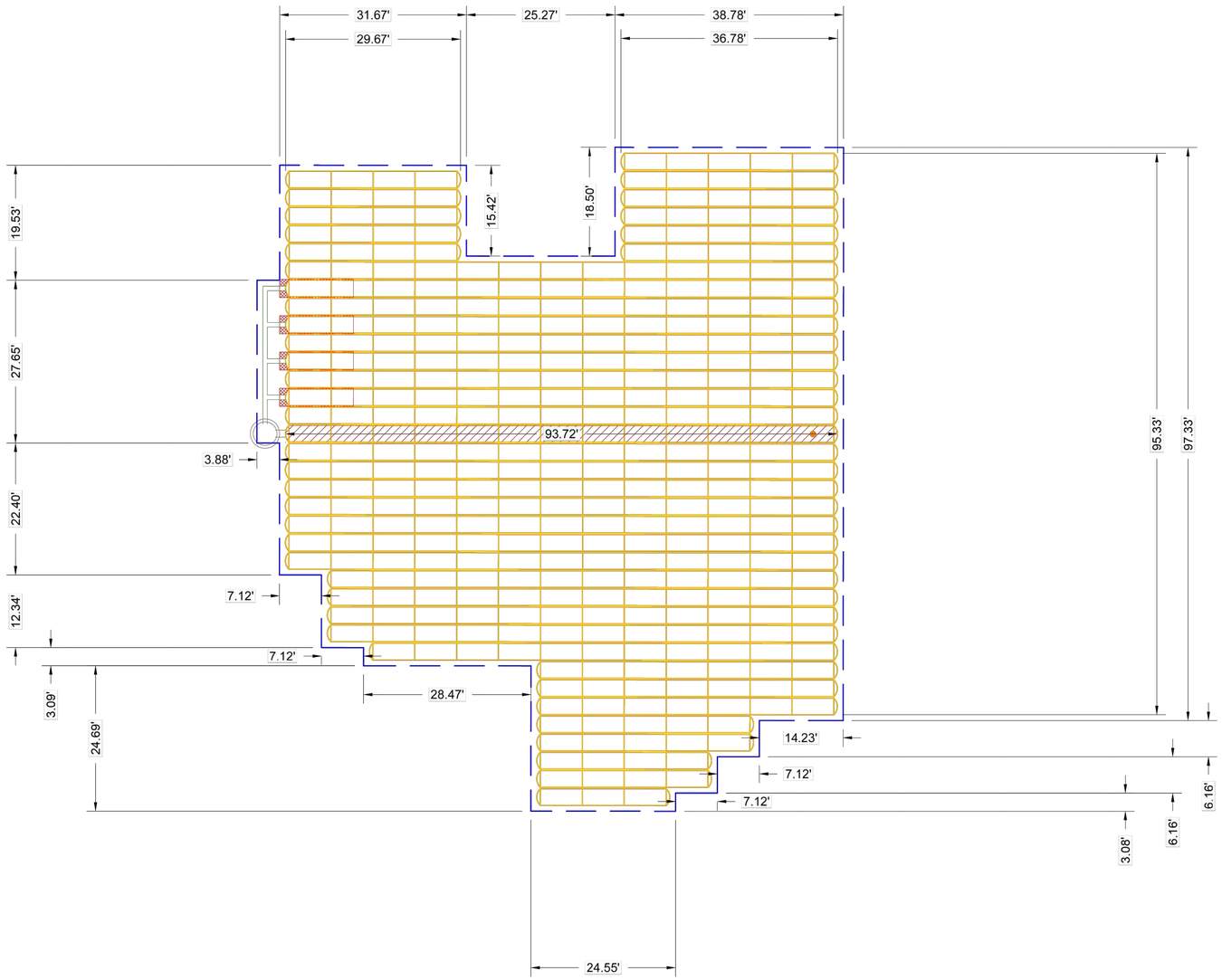
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-9

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-9 -- Plotted by: Dan M -- Date: 6/9/2026 - 9:31 AM -- Giangrande Engineering & Planning



3700 OKEECHOBEE ROAD
FORT PIERCE, FL, USA
DATE: 02/26/2026 DRAWN: DC
PROJECT #: S482153 CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

WWW.ADSPIPE.COM

0 20 40

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET
5 OF 8

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

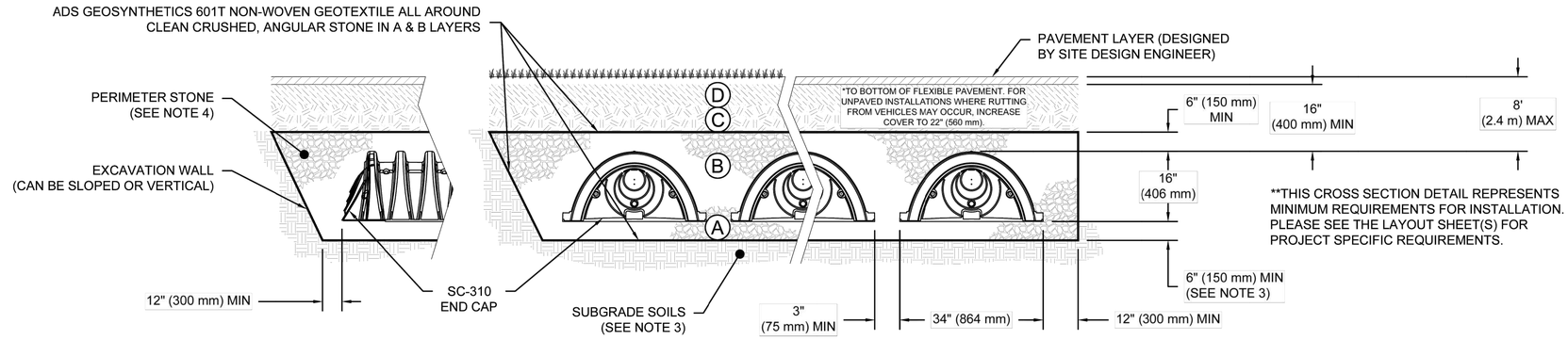
PROJECT #: 24-035
D-10

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-10 — Plotted by: Dan M — Date: 6/9/2026 - 9:31 AM — Giangrande Engineering & Planning

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	3.25	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 16" (400 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2" (50 mm).
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

3700 OKEECHOBEE ROAD
#
FORT PIERCE, FL

DATE: 07/29/2025 | DRAWN: DH | CHECKED: HAK | PROJECT #: S482153

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

WWW.ADSPIPE.COM

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD (EOR) OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET 6 OF 8

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

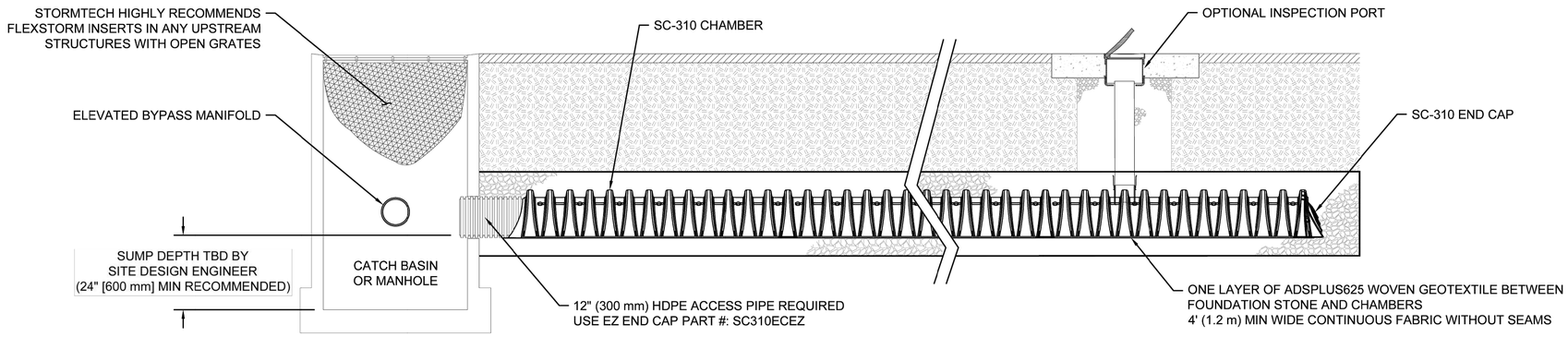
ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035
D-11

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-11 Plotted by: Dan M Date: 6/9/2026 - 9:31 AM Giangrande Engineering & Planning



SC-310 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

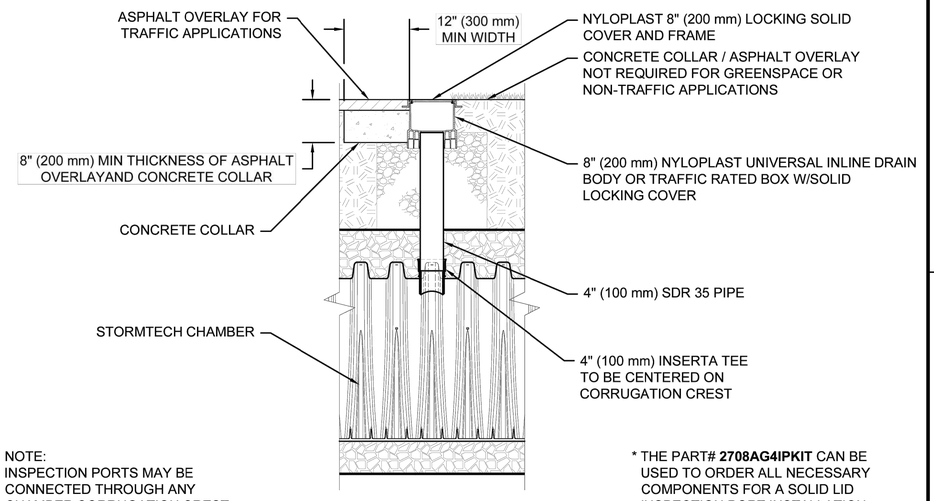
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

* THE PART# **2708AG4IPKIT** CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

4" (100 mm) PVC INSPECTION PORT DETAIL
(SC SERIES CHAMBER)
NTS

3700 OKEECHOBEE ROAD
#
FORT PIERCE, FL

DATE: 07/29/2025 | DRAWN: DH | PROJECT #: S482153 | CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

WWW.ADSPIPE.COM

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD (EOR) FOR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc Cert. No. 30901

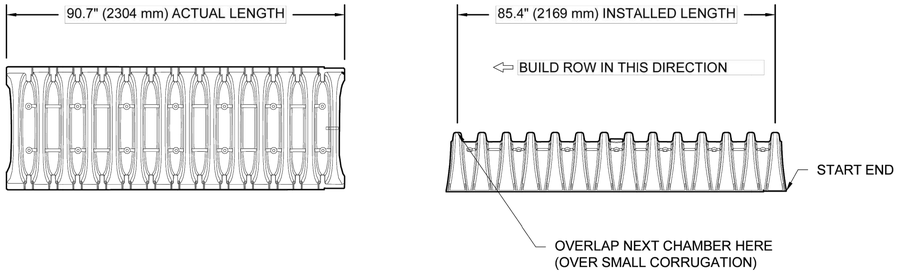
LEO GIANGRANDE, P.E.
License No: 66387

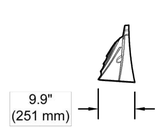
PROJECT #: 24-035
D-12

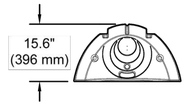
Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-12 - Plotted by: Dan M - Date: 6/9/2026 - 9:32 AM - Giangrande Engineering & Planning

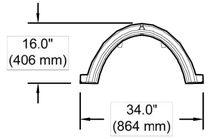
SC-310 TECHNICAL SPECIFICATION

NTS







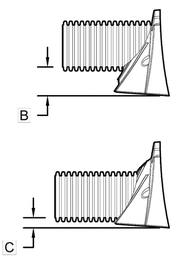


NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	29.34 CUBIC FEET	(0.83 m³)
WEIGHT	35.0 lbs.	(16.8 kg)

*ASSUMES 6" (150 mm) ABOVE AND BELOW CHAMBER; 3" (75 mm) BETWEEN CHAMBERS

PART #	STUB	B	C
SC310EPE06TPC	6" (150 mm)	5.8" (147 mm)	---
SC310EPE06BPC		---	0.5" (13 mm)
SC310EPE08TPC	8" (200 mm)	3.5" (89 mm)	---
SC310EPE08BPC		---	0.6" (15 mm)
SC310EPE10TPC	10" (250 mm)	1.4" (36 mm)	---
SC310EPE10BPC		---	0.7" (18 mm)
SC310ECEZ*	12" (300 mm)	---	0.9" (23 mm)



ALL STUBS, EXCEPT FOR THE SC310ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC310ECEZ THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL; PRE-CORED END CAPS END WITH "PC"

3700 OKEECHOBEE ROAD
#
FORT PIERCE, FL

DATE: 07/29/2025 DRAWN: DH
PROJECT #: S482153 CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

WWW.ADSPIPE.COM

ADS

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECTS ENGINEER OF RECORD (EOR) FOR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

8 SHEET OF 8

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-13

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-13 -- Plotted by: Dan M -- Date: 6/9/2026 -- 9:32 AM -- Gangrande Engineering & Planning


ARCHITECTS DESIGN
COLLABORATIVE, LLC


ARCHITECTS DESIGN
COLLABORATIVE, LLC


ARCHITECTS DESIGN
COLLABORATIVE, LLC


ARCHITECTS DESIGN
COLLABORATIVE, LLC

REQUIRED TREE DATA

PERIMETER LANDSCAPE BUFFER 1322.43 L. FT.–60' ACCESS WAY= 1221 L. FT.
DIVIDED BY 30 L. FT. – 40.7 TREES = 41 PERIMETER TREES REQUIRED

PERIMETER TREES

PROPOSED		EXISTING		TOTAL	
RED MAPLE	12	RED MAPLE	0	RED MAPLE	12
DAHOON HOLLY	7	DAHOON HOLLY	0	DAHOON HOLLY	14
SABAL PALMS	15	SABAL PALMS	16	SABAL PALMS 15 + 16 =	31
LIVE OAKS	11	LIVE OAKS	25	LIVE OAKS 25 + 11 =	36
				TOTAL PERIMETER TREES PROVIDED	93

TREE MITIGATION – TOTAL OF DATA

SABAL PALMS TO BE REMOVED 15
SABAL PALMS TO BE PRESERVED 19
SABAL PALMS PROPOSED TO BE PLANTED 15

NATIVE TREES

TOTAL INCHES TO BE REMOVED 343"
TATAL INCHES TO BE PRESERVED 365"
TOTAL INCHES PROPOSED TO BE PLANTED 80"

THE DETAILED LIST OF MITIGATION DATA IS ATTACHED.

NOTE: SEE DEMOLITION PLAN FOR TREES THAT ARE SCHEDULED TO BE REMOVED.

PLANT MATERIAL LIST

TREES & PALMS (* indicates native tree)

	Code Name	Quantity	Scientific Name	Common Name	Planting Size
*	AR	13	ACER RUBRUM	'FLORIDA FLAME' RED MAPLE	12' X 5', 4' CT 2 1/2"DBH
*	IC	6	ILEX CASSINE	DAHOON HOLLY	12' X 5', 4' CT 2 1/2"DBH
*	SP	13	SABAL PALMETTO	CABBAGE PALM	10'–15' OF CLEAR TRUMK
*	QV	12	QUERCUS VIRGINIANA	LIVE OAK	12' X 6', 4' CT 2 1/2"DBH

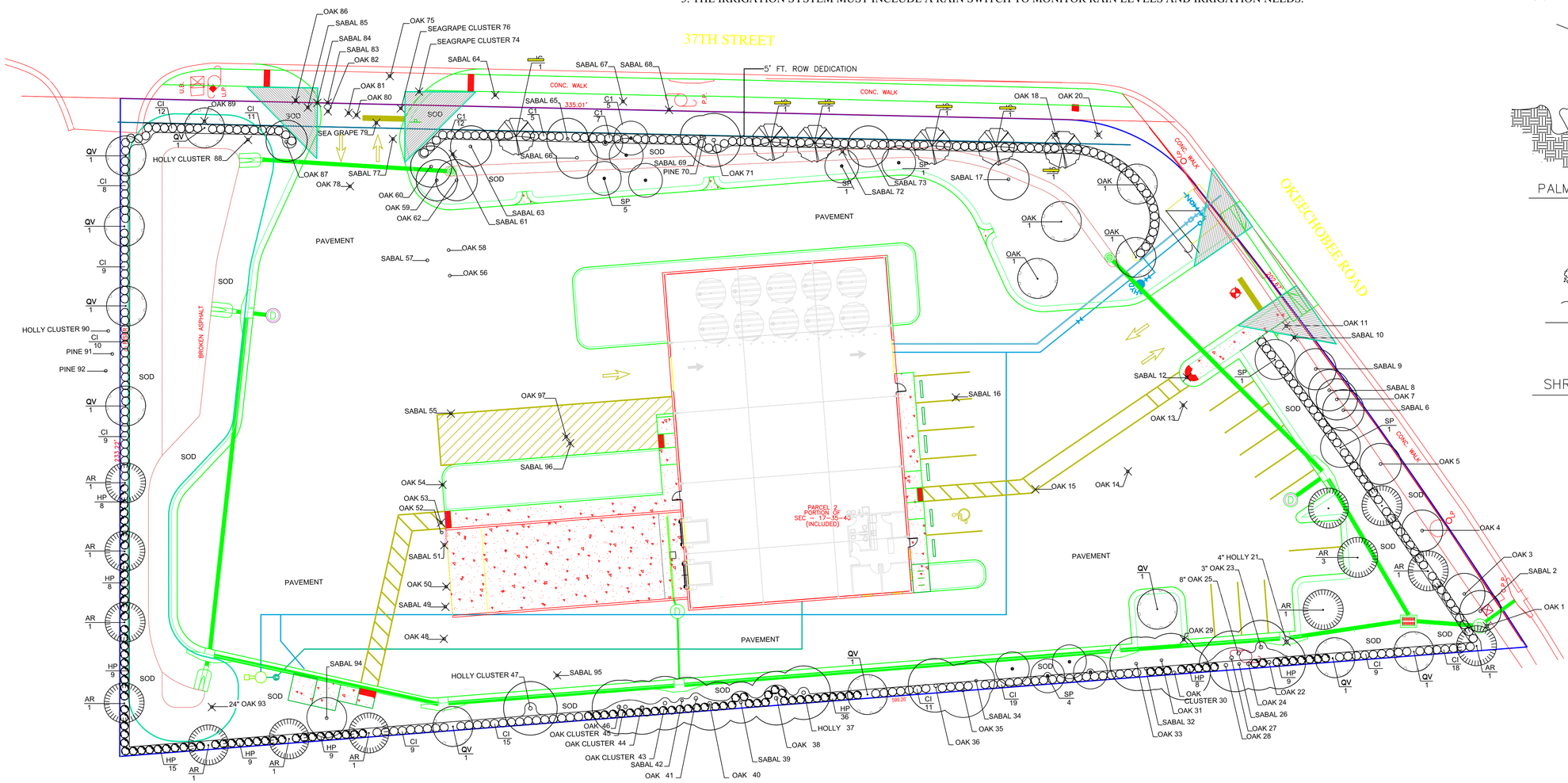
SHRUBS & GROUNDCOVERS (* indicates native shrub or ground cover)

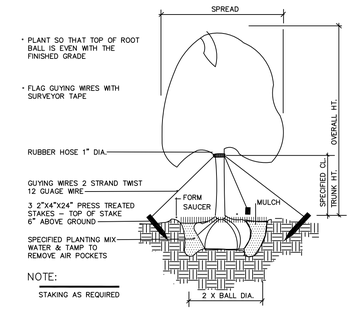
	Code Name	Quantity	Scientific Name	Common Name	Planting Size
*	CI	271	CHRYSOBALANUS ICACO	COCCOPLUM	30" X 30" #3, 3' OC
*	HP	111	HAMELIA PATENS	FIREBUSH	30" X 28" #3, 3' OC

OTHER MATERIALS

MULCH	12	CU. YDS. ENVIRO MULCH (EST.)
SOD	27,000	SQ. FT. BAHIA SOD (EST.)

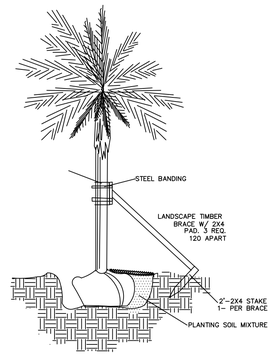
NOTE:
1. LANDSCAPED AREAS SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM OF SUFFICIENT CAPACITY TO MAINTAIN THE LANDSCAPING IN A HEALTHY GROWING CONDITION. THE IRRIGATION SYSTEM SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN SUCH A MANNER AS NOT TO BE A PROBLEM OR NUISANCE TO ADJACENT PROPERTIES AND T0 THE GENERAL PUBLIC.
2. DESIGN PLANS FOR THE IRRIGATION SYSTEN MUST BE SUBMITTED WITH THE REQUIRED LANDSCAPE PLAN FOR THE REVIEW AND APPROVAL BY THE DEVELOPMENT DEPARTMENT.
3. THE IRRIGATION SYSTEM MUST INCLUDE A RAIN SWITCH TO MONITOR RAIN LEVELS AND IRRIGATION NEEDS.





TREE PLANTING – GUY WIRES

SCALE: NOT TO SCALE



PALM PLANTING

SCALE: NOT TO SCALE

SHRUB PLANTING

SCALE: NOT TO SCALE

DATE: 6/16/25
REV. 9/24/25
REV. 10/20/25
REV. 3/28/26
REV. 4/16/26

DANIEL J. SUGG
LANDSCAPE ARCHITECT / SITE PLANNER
POST OFFICE BOX 335, JENSEN BEACH, FL 34958
PHONE: (772) 485–1776 danlandarch@gmail.com
MARTIN COUNTY BUSINESS LICENSE # 2013–101–0738

LANDSCAPE PLAN

3700 OKEECHOBEE ROAD
FORT PIERCE, FLORIDA

SCALE: 1" = 20'

SHEET
L – 1
OF ONE

Docusign Envelope ID: 5B30660B-9877-4037-88BF-439DA168B4F8

SAINT LUCIE COUNTY FIRE DISTRICT
DEVELOPMENT & SITE PLAN REVIEW APPLICATION
5160 N.W. Milner Drive
Port Saint Lucie, FL 34983
Telephone: 772-621.3322
Fax: 772-621-3604
Web Address: www.slcfd.com

Type of Request

- ☐ Site Plan
- ☒ Site Plan with Construction "Detail" Plans
- ☐ Amendment
- ☐ Re-submittal
- ☐ Preliminary Subdivision Plat with Construction "Detail" Plans
- ☐ Final Subdivision Plat with Construction "Detail" Plans
- ☐ Development of Regional Impact
- ☐ Planned Unit Development
- ☐ Other

Project Information

Project Name	New Tank Farm @ 3700 Okeechobee Rd				
Location	3700 Okeechobee Road				
City	Fort Pierce	**Zip**	34947	**Number of Dwelling Units**	
Type of Development/Intended Use	Industrial			**Gross Square Feet of Structure/s**	9600
Gross Acreage/Square Feet of Site	2.36 ac	**Water Purveyor**	FPUA		

Owner/Developer Information

Name	Troil South LLC				
Address	2485 E State Street Ext			**City**	Trenton
State	New Jersey	**Zip**	08619	**Telephone**	754-205-6269	**Fax**	
E-Mail	brian.murphy@traprockind.com				

Applicant/Agent for Owner

Name	John Hockey	**Firm**	Caliber Contracting		
Address	2600 S Kanner Hwy APT X12			**City**	Stuart
State	Florida	**Zip**	34994	**Telephone**	772-285-5212	**Fax**	
E-Mail	john@calibecontractinginc.com				

Docusign Envelope ID: 5B30660B-9877-4037-88BF-439DA168B4F8

Project Architect/Engineer

Name	Leo D. Giangrande, PE	**Firm**	Giangrande Engineering and Planning
Address	710 SE Ocean Blvd	**City**	Stuart
State	Florida	**Zip**	34994
Telephone	772-888-9076	**Fax**	
E-Mail	leo@gep-llc.com		

Saint Lucie County Fire District Development & Site Plan Review Fees

Make fees payable to: Saint Lucie County Fire District

Minor

$108.75 (<5,000 sq. ft. or <5 units)
$217.50 (5,000-10,000 sq. ft. or 5-15 units)
$362.50 (10,000-25,000 sq. ft. or 16-25 units)

Major

$507.50 (>25,000 sq. ft. or >25 units)

Planned Unit Development (PUD)

$1087.50

Development of Regional Impact (DRI)

$1450.00

Applicable Codes

The currently adopted edition of the Florida Fire Prevention Code.
The St. Lucie County Fire District Fire Prevention Code and Fee Schedule.

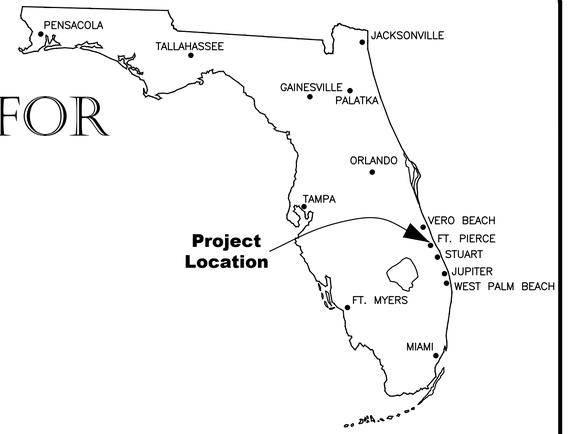
Client Agreement

I hereby authorize the above listed agent to represent me.
I fully understand that the review fees charged by the Saint Lucie County Fire District are separate from all City or County fees and must be paid upon submittal of documents.

Owner's Signature	Signed by: Brian Murphy 09884908CBA04F8...	**Printed Name**	Brian Murphy	Date	9/5/2025
		Title	General Manager		

CONSTRUCTION PLANS & SPECIFICATIONS FOR 3700 OKEECHOBEE ROAD, FORT PIERCE ST. LUCIE COUNTY, FLORIDA

SECTIONS 17, TOWNSHIP 35S, RANGE 40E



THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS, FY 2025–26.

GOVERNING SPECIFICATIONS:
FDOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, FY 2025–26.

THE FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, FY 2025–26.

THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS (GREENBOOK), 2023.

THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.), 11TH EDITION, DECEMBER 2023.

AND THE CITY OF FORT PIERCE LAND DEVELOPMENT REGULATIONS, LATEST EDITION AND FORT PIERCE UTILITY AUTHORITY (FPUA).

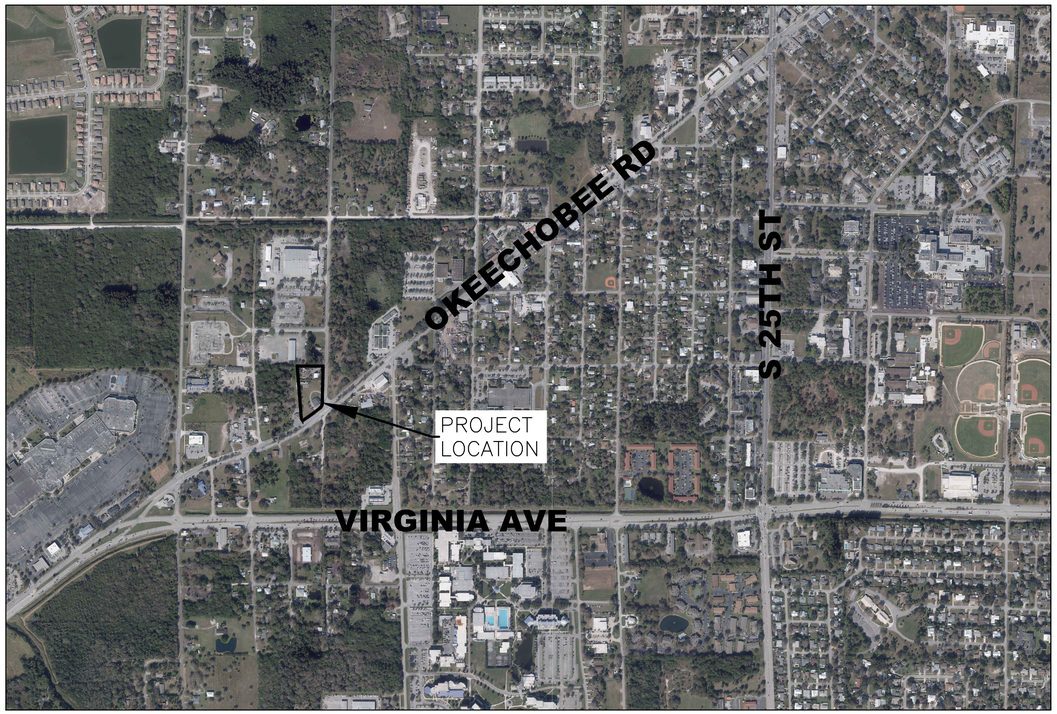
DESIGN TEAM:

CIVIL ENGINEER
GIANGRANDE ENGINEERING & PLANNING
710 SE OCEAN BLVD
STUART, FL 34996
(772) 888–9076

LAND SURVEYOR
COMPASS SURVEYING
6250 N. MILITARY TRAIL
WEST PALM BEACH, FL 33407
(561) 640–4800

LANDSCAPE ARCHITECT
DAN SUGG RLA
SUGG DESIGN STUDIO
POST OFFICE BOX 335
JENSEN BEACH, FL 34958
(772) 485–1776

LIGHTING
GENESIS LIGHTING
14101 NW 8TH ST
SUNRISE, FL 33325
(954) 306–3931



VICINITY MAP
SCALE=1:1000

Sheet List Table	
Sheet Number	Sheet Title
G–1	COVER SHEET
G–2	GENERAL NOTES
EX–1	EXISTING CONDITIONS & DEMO PLAN
S–1	SITE PLAN
ST–1	STRIPING PLAN
P–1	PAVING, GRADING, & DRAINAGE PLAN
W–1	WATER & WASTEWATER PLAN
W–2	WATER & WASTEWATER PLAN
EC–1	EROSION CONTROL PLAN
C–1	CROSS SECTIONS
D–1	DETAILS
D–2	DETAILS
D–3	DETAILS
D–4	DETAILS
D–5	DETAILS
D–6	ADS DETAILS
D–7	ADS DETAILS
D–8	ADS DETAILS
D–9	ADS DETAILS
D–10	ADS DETAILS
D–11	ADS DETAILS
D–12	ADS DETAILS
D–13	ADS DETAILS

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

JUNE 2025

REV 2 - 02/02/26 - REVISED PER SLC DRC & MINOR SITE PLAN COMMENTS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD
STUART, FLORIDA 34994
PH. (772) 888-9076
Cert. No. 30901

LEO D. GIANGRANDE, P.E.
License No: 66387

SHEET G-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 General Notes.dwg Layout Name: G-2 -- Plotted by: Ryan -- Date: 4/14/2026 - 3:37 PM

SUPPLEMENTAL CONDITIONS

SCOPE OF WORK: THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, SUPERVISION, TRANSPORTATION AND INCIDENTALS NECESSARY TO CONSTRUCT THE PAVING, DRAINAGE, UTILITIES AND ASSOCIATED IMPROVEMENTS, IN ACCORDANCE WITH THE PROVISIONS OF THESE SUPPLEMENTAL CONDITIONS, SPECIFICATIONS AND THE DRAWINGS, ENTITILED, "CONSTRUCTION PLANS & SPECIFICATIONS FOR "3700 OKEECHOBEE RD", PREPARED BY GIANGRANDE ENGINEERING AND PLANNING, LLC, 710 SE OCEAN BLVD., STUART, FLORIDA 34994, (772) 888-9076. IT IS THE OBJECTIVE OF THESE DOCUMENTS TO ASSURE THE TOTAL COMPLETION OF THE WORK REQUIRED TO PROVIDE PAVING, GRADING, AND DRAINAGE IMPROVEMENTS FOR THE "3700 OKEECHOBEE RD."

PERMITS AND LICENSES: CONSTRUCTION PERMITS FOR CERTAIN ELEMENTS OF THE PROJECT WORK ARE REQUIRED, AND THE DESIGN AND CONSTRUCTION REQUIREMENTS OF THE PROJECT REFLECT CONSTRAINTS AND CONDITIONS IMPOSED BY THESE PERMITS. THESE INCLUDE CONSTRUCTION PERMITS FROM THE SAINT LUCIE COUNTY, AND FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

THE CONTRACTOR SHALL PERFORM HIS WORK AND SHALL CONSTRUCT THE PROJECT IN ACCORDANCE WITH THE REQUIREMENTS OF THESE "DESIGN" PERMITS AND APPROVALS, COPIES OF WHICH ARE AVAILABLE FOR REVIEW AND USE FROM THE ENGINEER, UPON REQUEST. THE CONTRACTOR SHALL SECURE ALL WORK PERMITS, APPROVALS AND LICENSES REQUIRED TO PERFORM THE WORK, AND HE SHALL PERFORM THE WORK IN STRICT ACCORDANCE WITH THOSE PERMITS, APPROVALS AND LICENSES.

REFERENCE TO OTHER DOCUMENTS: FOR BREVITY, REFERENCE MAY BE MADE TO OTHER SPECIFICATIONS OR DOCUMENTS WHICH WILL BE USED TO SPECIFY OR CONTROL THE MATERIALS PLACED IN THE WORK, THE CONSTRUCTION METHODS TO BE USED, THE TOLERANCES THAT WILL BE ACCEPTABLE, AND CONTRACTUAL OR LEGAL OBLIGATIONS. THE SPECIFICATIONS OR DOCUMENTS SHALL INCLUDE:

1. "STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT." THE LATEST EDITION, PREPARED BY THE ENGINEER'S JOINT CONTRACT DOCUMENTS COMMITTEE AND PUBLISHED BY THE NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS. REFERENCE SHALL BE MADE: "GENERAL CONDITIONS."
2. "FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2023-2024," PUBLISHED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION. REFERENCE SHALL BE MADE: "FDOT SPECIFICATIONS."
3. "STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, 2023-2024" PUBLISHED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION. REFERENCE SHALL BE MADE "FDOT INDEX" OR "FDOT STANDARDS."
4. "AMERICAN SOCIETY FOR TESTING AND MATERIALS SPECIFICATIONS", LATEST EDITION REFERENCE SHALL BE MADE: "ASTM."
5. "ST LUCIE COUNTY MINIMUM CONSTRUCTION STANDARDS", LATEST EDITION. REFERENCE SHALL BE MADE AS "COUNTY CODE" OR "COUNTY STANDARDS" OR "COUNTY SPECIFICATIONS."
6. "FORT PIERCE UTILITY AUTHORITY DESIGN AND CONSTRUCTION STANDARDS FOR WATER AND WASTEWATER SYSTEMS", LATEST EDITION. REFERENCE SHALL BE MADE AS "FPUA CODE" OR "FPUA STANDARDS" OR "FPUA SPECIFICATIONS".

BY REFERENCE, THE DOCUMENTS CITED ABOVE ARE MADE PART OF THESE SUPPLEMENTAL CONDITIONS AND SPECIFICATIONS. THE CONTRACTOR SHALL HAVE COPIES OF EACH IN HIS POSSESSION FOR USE THROUGHOUT THE BIDDING AND CONSTRUCTION OF THIS PROJECT WORK AND/OR BE FAMILIAR WITH THE APPLICABLE SECTIONS OF EACH DOCUMENT AND BE ABLE TO VERITY THAT ALL MATERIALS AND CONSTRUCTION METHODS ARE CONFORMANCE WITH THESE DOCUMENTS AND SPECIFICATIONS.

ADDITIONALLY, THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL OTHER APPLICABLE LOCAL, REGIONAL, STATE AND FEDERAL LAWS, REGULATIONS ANO CODES, ESPECIALLY OSHA STANDARD 29 CFR, SECTION 1926.650 SUBPART P, WHICH IS PART OF THE TRENCH SAFETY ACT AS PART OF LAWS OF FLORIDA, CHAPTER 90-96.

CONTRACT ISSUES

GENERAL CONDITIONS: UNLESS OTHERWISE STATED IN THESE SUPPLEMENTAL CONDITIONS, THE PROVISIONS OF THE "STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT," REFERENCED ABOVE, SHALL BE USED TO GOVERN ALL ISSUES ADDRESSED IN THOSE GENERAL CONDITIONS FOR THIS PROJECT.

OWNER-ENGINEER RELATIONSHIP: ANY AGREEMENT BETWEEN OWNER AND ENGINEER SHALL NOT BE CONSTRUED TO PROVIDE ANY OBLIGATION FROM THE ENGINEER TO ANY THIRD PARTIES INCLUDING, BUT NOT LIMITED TO, ARCHITECTS, OTHER ENGINEERS, ANY CONTRACTORS (GENERAL OR SUB), NOR TO ANY SUCCESSORS TO THE OWNER. THE RIGHTS UNDER ANY AGREEMENT BETWEEN OWNER AND ENGINEER INURE ONLY TO THOSE TWO PARTIES.

ERRORS OR OMISSIONS IN THE DRAWINGS OR SPECIFICATIONS: PRIOR TO INITIATION OF THE WORK, THE CONTRACTOR SHALL CHECK DIMENSIONS, GRADES, ELEVATIONS AND THE SUMMARY OF ESTIMATED QUANTITIES SHOWN ON THE DRAWINGS TO ASSURE HIMSELF THAT THEY ARE CORRECT AND THAT THE WORK CAN BE ACCOMPLISHED AS INTENDED. THE CONTRACTOR SHALL TAKE NO ADVANTAGE OF ANY APPARENT ERROR OR OMISSION WHICH HE MIGHT DISCOVER, BUT SHALL IMMEDIATELY NOTIFY THE ENGINEER OF SUCH DISCOVERY, WHO WILL THEN MAKE SUCH CORRECTIONS AND INTERPRETATIONS AS HE DEEMS NECESSARY FOR REFLECTING THE ACTUAL SPIRIT AND INTENT OF THE DRAWINGS AND SPECIFICATIONS.

BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION WAS PROVIDED BY COMPASS SURVEYING, (561) 640-4800.

HORIZONTAL AND VERTICAL CONTROL: THE CONTRACTOR SHALL CONSTRUCT THE REQUIRED IMPROVEMENTS IN THE LOCATIONS SHOWN ON THE DRAWINGS, AND SHALL USE AS HORIZONTAL CONTROL POINTS THE EXISTING PROPERTY CORNERS AS SHOWN ON THE PLAN SHEET. THE HORIZONTAL CONTROL POINTS WERE PROVIDED BY COMPASS SURVEYING, (561) 640-4800. AS VERTICAL CONTROL, BENCHMARKS SHALL BE PROVIDED AT THE SITE, FOR USE IN ESTABLISHING THE NECESSARY ELEVATIONS AND GRADES AT THE LOCATIONS SHOWN ON THE PLANS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL CONTROL POINTS AND TO RE-ESTABLISH SAID POINTS AS NECESSARY. REMAINING HORIZONTAL AND VERTICAL CONTROL WORK SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS AND DETAILS.

WRITTEN DIMENSIONS ARE PROVIDED FOR CLARITY. WHERE WRITTEN AND SCALED DIMENSIONS CONFLICT, WRITTEN DIMENSIONS SHALL GOVERN.

COORDINATION OF WORK WITH OTHERS: THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OR IMPROVEMENTS OF OTHERS WITH REGARD TO NEW CONSTRUCTION, OR FOR THE NEED OF REMOVAL, RELOCATION OR ALTERATION OF EXISTING IRRIGATION AND DRAINAGE FACILITIES. THIS INCLUDES, BUT IS NOT LIMITED TO, THE OWNER, HIS CONTRACTORS, SUBCONTRACTORS OR AGENTS.

THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PUBLIC AGENCIES PRIOR TO COMMENCING THE WORK WITHIN THEIR JURISDICTION.

SHOP DRAWINGS: ONE DIGITAL COPY OF SIGNED SHOP DRAWINGS AND SIGNED AND SEALED DESIGN DATA SHALL BE SUBMITTED PRIOR TO ORDERING MATERIALS. ALLOW 10 WORK DAYS TURNAROUND FOR SUBMITTALS.

STANDARDS FOR QUALITY AND WORKMANSHIP: ALL MATERIALS, EQUIPMENT AND SUPPLIES FURNISHED BY THE CONTRACTOR FOR PERMANENT INCORPORATION IN THE WORK SHALL BE NEW AND OF THE QUALITY STANDARDS SPECIFIED. WORKMANSHIP SHALL BE FIRST-CLASS AND THE FINISHED PRODUCT EQUAL TO THE BEST ACCEPTED STANDARDS OF THE TRADE FOR THE CATEGORY OF WORK PERFORMED.

TEMPORARY UTILITIES: ALL ARRANGEMENTS AND COSTS FOR TEMPORARY POWER, WATER AND WASTEWATER FACILITIES DURING CONSTRUCTION SHALL BE RESPONSIBILITY OF THE CONTRACTOR.

OBSERVING THE WORK: THE PROGRESS AND QUALITY OF THE WORK WILL BE OBSERVED BY THE OWNER'S ENGINEER OR ENGINEER'S APPOINTED EMPLOYEE. NO OBSERVER IS AUTHORIZED TO CHANGE ANY PROVISIONS OF THE SPECIFICATIONS WITHOUT WRITTEN AUTHORIZATION OF THE OWNER'S ENGINEER, NOR SHALL THE PRESENCE NOR THE ABSENCE OF AN OBSERVER RELIEVE THE CONTRACTOR FROM ANY REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.

THE CONTRACTOR SHALL GIVE THE ENGINEER A MINIMUM OF 48 HOURS NOTICE PRIOR TO REQUIRED INSPECTIONS, AND SHALL SUPPLY ALL EQUIPMENT NECESSARY TO PROPERLY TEST AND INSPECT THE COMPLETED WORK.

IN ADDITION TO THE REQUIREMENTS PREVIOUSLY REFERENCED, THE FOLLOWING MINIMUM CONSTRUCTION CONTROL CHECKPOINTS SHALL BE ADHERED TO, AND THE CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE FOR OBSERVATION:

1. PRIOR TO ANY DEVIATION FROM THE DRAWINGS;
2. PRIOR TO ANY BACKFILLING TRENCHES CONTAINING HYDRAULIC CONDUITS, SO THAT JOINTING MAY BE INSPECTED;
3. PRIOR TO TESTING OF ALL HYDRAULIC CONDUITS.
4. PRIOR TO PLACEMENT OF ROADWAY BASE MATERIAL, CONCRETE OR ASPHALTIC CONCRETE.
5. UPON COMPLETION OF CONSTRUCTION FOR FINAL INSPECTION WITH THE CONTRACTOR OR HIS REPRESENTATIVE.

TESTING: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE INDEPENDENT TESTING LABORATORY DESIGNATED BY THE OWNER, THE TESTING AND RETESTING NECESSARY TO ASSURE THAT THE WORK HAS BEEN PERFORMED IN STRICT COMPLIANCE WITH THE SPECIFICATIONS. COST FOR THE INITIAL TESTING SHALL BE BORNE BY THE OWNER. ANY RETESTS REQUIRED DUE TO FAILURE TO MEET THE MINIMUM REQUIREMENTS SHALL BE PERFORMED AT THE EXPENSE OF THE CONTRACTOR. THE NAME OF OWNER'S TESTING LABORATORY SHALL BE SUPPLIED AT THE PRECONSTRUCTION MEETING.

EXISTING UTILITIES AND STRUCTURES: EXISTING UTILITIES, STRUCTURES AND FACILITIES SHOWN ON THE DRAWINGS WERE LOCATED AS ACCURATELY AS POSSIBLE FROM THE RECORDS EXAMINED. NO GUARANTEE IS MADE THAT ALL EXISTING FACILITIES ARE SHOWN OR THAT THOSE SHOWN ARE ENTIRELY ACCURATE. THE CONTRACTOR SHALL ASSURE HIMSELF OF THE ACTUAL LOCATION OF THE UTILITIES, STRUCTURES OR FACILITIES PRIOR TO PERFORMANCE OF ANY WORK IN THE VICINITY. THE UTILITY COMPANIES OR UTILITY AGENCIES WILL CO-OPERATE WITH THE CONTRACTOR IN LOCATING UNDERGROUND UTILITIES THAT MAY BE SUBJECT TO DAMAGE OR INTERRUPTION OF SERVICES DURING THE CONTRACTOR'S OPERATIONS. PRIOR TO START OF THE WORK, THE CONTRACTOR SHALL REQUEST THAT EACH UTILITY AGENCY ADVISE HIM OF THE LOCATION OF THEIR FACILITIES IN THE VICINITY. THE OWNER WILL ASSUME NO LIABILITY FOR DAMAGES SUSTAINED OR COSTS INCURRED BECAUSE OF THE CONTRACTOR'S OPERATION IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, OR TO THE TEMPORARY BRACING AND SHORING OF SAME. IN THE EVENT THAT IT IS NECESSARY TO SHORE, BRACE OR SWING A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED AND THEIR PERMISSION SECURED AS TO THE METHOD USED FOR ANY SUCH WORK.

THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES AND UNDERGROUND UTILITIES.

THE CONTRACTOR SHALL NOTIFY UTILITY OWNER THROUGH SUNSHINE STATE ONE CALL OF FLORIDA (800-432-4770) AND UTILITY OWNERS LISTED BELOW AT LEAST TWO BUSINESS DAYS (OR 10 DAYS IF ON THE JOB SITE).

RESTORATION OF DAMAGED STRUCTURES OR UTILITIES: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, REBUILD OR RESTORE TO ITS FORMER CONDITION, ANY AND ALL PORTIONS OF EXISTING UTILITIES, STRUCTURES, EQUIPMENT, APPURTENANCES OR FACILITIES. OTHER THAN THOSE TO BE PAID FOR UNDER THIS CONTRACT, WHICH MAY BE DISTURBED OR DAMAGED DUE TO THIS CONSTRUCTION OPERATION, AT NO COST TO THE OWNER.

FINAL CLEANUP: UPON COMPLETION OF THE WORK BUT BEFORE FINAL PAYMENT WILL BE MADE, THE CONTRACTOR SHALL CLEAR AND REMOVE FROM THE PROJECT AREA, ALL FALSE WORK, EQUIPMENT, SURPLUS AND DISCARDED MATERIALS, RUBBISH AND TEMPORARY STRUCTURES WHICH RESULT FROM THE WORK UNDER THIS AGREEMENT, AND SHALL RESTORE IN AN ACCEPTABLE MANNER ALL PROPERTY WHICH HAS BEEN DAMAGED DURING THE EXECUTION OF THE WORK.

TECHNICAL SPECIFICATIONS

MATERIALS, CONSTRUCTION METHODS, TESTING AND TOLERANCES FOR ALL WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS, AND WITH THE SPECIFICATIONS REFERENCED UNDER THE "SUPPLEMENTAL CONDITIONS." IN THE EVENT OF CONFLICT, THE MORE STRINGENT PROVISION SHALL APPLY.

1. MOBILIZATION/DEMOBILIZATION: THE WORK SPECIFIED IN THIS SECTION CONSISTS OF THE PREPARATORY WORK AND OPERATIONS IN MOBILIZING FOR BEGINNING WORK ON THE PROJECT, INCLUDING, BUT NOT LIMITED TO, THOSE OPERATIONS NECESSARY FOR THE MOVEMENT OF PERSONNEL, EQUIPMENT, SUPPLIES, AND INCIDENTALS TO THE PROJECT SITE, AND FOR THE ESTABLISHMENT OF TEMPORARY OFFICES, BUILDINGS, SAFETY EQUIPMENT AND FIRST AID SUPPLIES, SANITARY AND OTHER FACILITIES, AS REQUIRED BY THESE SPECIFICATIONS, THE SPECIAL PROVISIONS, AND STATE AND LOCAL LAWS AND REGULATIONS. ALL COSTS FOR BONDS, PERMITS AND ANY REQUIRED INSURANCE, AND ANY OTHER PRECONSTRUCTION EXPENSE NECESSARY FOR THE START OF THE WORK, AS WELL THE COST OF THE REMOVAL OF THE ABOVE ITEMS, SHALL ALSO BE INCLUDED IN THIS SECTION.

2. CONSTRUCTION SURVEYING: THE CONTRACTOR SHALL CONSTRUCT THE REQUIRED IMPROVEMENTS AT THE LOCATIONS SHOWN ON THE PLANS. AS OUTLINED IN THE "SUPPLEMENTAL CONDITIONS," THE OWNER SHALL PROVIDE BASIC REFERENCE POINTS FOR HORIZONTAL CONTROL AND BENCHMARKS IN THE VICINITY OF THE WORK. ALL OTHER CONSTRUCTION STAKING FOR BOTH HORIZONTAL AND VERTICAL CONTROL NEEDED BY THE CONTRACTOR FOR CONTROL OF HIS WORK SHALL BE PERFORMED BY THE CONTRACTOR.

3. DRAINAGE IMPROVEMENTS; THE CONTRACTOR SHALL PROVIDE ALL THE MATERIALS AND LABOR NECESSARY TO COMPLETE THE PROJECT WORK FOR THE DRAINAGE IMPROVEMENTS AT THE LOCATION, SIZE AND TYPE SHOWN ON THE PLANS FOR THE FOLLOWING ITEMS IN ACCORDANCE WITH FDOT SPECIFICATIONS. INCLUDED IN THE UNIT COSTS FOR EACH ITEM SHALL BE THE COSTS ASSOCIATED WITH THE DESIGN AND CONSTRUCTION, BY THE CONTRACTOR, TO COMPLY WITH THE TRENCH SAFETY ACT, LAWS OF FLORIDA, CHAPTER 90-96.

   BACKFILL AND COMPACTION OF TRENCHING FOR CULVERT INSTALLATION UNDER THIS SECTION SHALL BE IN ACCORDANCE WITH SECTION 125-8.3, FDOT SPECIFICATIONS. DENSITY TESTS SHALL BE PROVIDED AT THE FOLLOWING VERTICAL LOCATIONS:

   - TWO TESTS* AT SPRINGLINE (ONE EACH SIDE OF THE PIPE);
   - ONE TEST* AT ONE-FOOT ABOVE PIPE; AND
   - ONE TEST* AT ONE-FOOT BELOW SUBGRADE OR FINISH GRADE.
   - *DENSITY OF AT LEAST 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T -99, METHOD C.

   THE MINIMUM NUMBER OF HORIZONTAL TEST LOCATIONS IS TWO PER CULVERT INSTALLATION, ONE PER 100 LINEAL FEET OF PIPE AND/OR ONE PER 20 FEET OF PAVEMENT CROSSING WHICHEVER IS GREATER. ADDITIONAL TESTS MAY BE REQUIRED AT MORE FREQUENT INTERVALS IF DEEMED NECESSARY BY THE ENGINEER.

   A. CULVERTS: CONSTRUCTION METHODS FOR DRAINAGE CULVERTS SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS 125 AND 430, FDOT SPECIFICATIONS. PIPE MATERIAL AS SPECIFIED ON THE PLANS.

   B. DRAINAGE STRUCTURES: PRE-CAST CONCRETE CATCH BASINS SHALL MEET THE REQUIREMENTS OF ASTM SPECIFICATIONS C-478 AND FOOT STANDARD SPECIFICATION 425. CONCRETE FOR PRE-CAST BASINS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SHOP DRAWINGS ARE REQUIRED.

6. FENCING AND GATES: THE CONTRACTOR SHALL FURNISH AND CONSTRUCT CHAIN-LINK FENCE AND GATES IN ACCORDANCE WITH FPL CHAIN LINK FENCE SPECIFICATIONS AND DETAILS. MATERIALS AND LOCATION OF FENCE ARE INDICATED ON THE PLANS.

7. EROSION AND POLLUTION CONTROL: THE CONTRACTOR SHALL TAKE SUFFICIENT PRECAUTIONS TO PREVENT WATER POLLUTION WITH AQUATIC WEEDS, FUELS, OILS, BITUMINOUS, CALCIUM CHLORIDE OR OTHER HARMFUL MATERIALS. ALSO, THEY SHALL CONDUCT AND SCHEDULE HIS OPERATIONS SO AS TO AVOID POLLUTION OR SILTATION OF WATER BODIES OR TO INTERFERE WITH INDIGENOUS WILDLIFE. THE INSTALLATION OF TEMPORARY EROSION AND POLLUTION CONTROL FEATURES SHALL BE COORDINATED WITH THE CONSTRUCTION OF THE PERMANENT EROSION CONTROL FEATURES TO THE EXTENT NECESSARY TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS CONTROL OF EROSION AND WATER POLLUTION THROUGHOUT THE LIFE OF THE CONTRACT. ANY EROSION OR SHOALING SHALL BE CORRECTED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE. DUE TO UNANTICIPATED CONDITIONS, THE ENGINEER MAY DIRECT THE USE OF CONTROL FEATURES OR METHODS OTHER THAN THOSE INCLUDED IN THE ORIGINAL CONTRACT. IN SUCH EVENT THIS ADDITIONAL WORK WILL BE PAID FOR AS UNFORESEEABLE WORK.

   1) SEDIMENT BARRIERS SHALL BE PLACED PRIOR TO ANY WORK ON THE SITE. SEDIMENT BARRIERS SHALL BE PLACED AS DEPICTED AS SHOWN ON THE CONSTRUCTION PLANS.
   2) WETLAND AND WETLAND BUFFER AREAS ARE TO REMAIN UNDISTURBED. VEHICLE AND CONSTRUCTION EQUIPMENT TRAFFIC IS PROHIBITED WITHIN THESE AREAS.
   3) DAMAGED TURBIDITY CONTROLS SHALL BE REPAIRED PROMPTLY AND BEFORE ANY SUBSEQUENT RAINFALL.
   4) TURBIDITY CONTROLS SHALL REMAIN IN PLACE AND MAINTAINED AND REMOVED ONLY AFTER UPLAND CONSTRUCTION AREAS HAVE BEEN STABILIZED AS APPROVED BY THE ENGINEER OF RECORD
   5) CONTRACTOR SHALL COMPLY WITH NPDES AND EPA DISCHARGE ELIMINATION PERMIT, IN PARTICULAR SEDIMENT AND EROSION CONTROLS AND STORM WATER MANAGEMENT MEASURES SHALL BE STRICTLY FOLLOWED.
   6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF THE NPDES AND RELATED STORM WATER PLAN FOR THE DURATION OF THE PROJECT. UPON COMPLETION THE CONTRACTOR SHALL REMOVE ALL TEMPORARY STORM WATER MANAGEMENT MEASURES AND SHALL DISPOSE OF THEM AS REQUIRED.
   7) DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR AT LEAST 21 DAYS SHALL BE STABILIZED WITH SEED & MULCH NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY IN THOSE AREAS. THE SEEDING SHALL FOLLOWING TYPICAL CONSTRUCTION PRACTICES TO INSURE A YEAR ROUND STABILIZED AREA.
   8) CONTRACTOR SHALL COMPLY WITH SPILL PREVENTION, CONTROL AND COUNTER MEASURES (SPEC) REQUIREMENTS PURSUANT TO EPA RULES AND REGULATIONS.
   9) ALL CONSTRUCTION WASTE MATERIAL, INCLUDING BUT NOT LIMITED TO THE EXISTING BARB WIRE FENCING AND POSTS, SHALL BE COLLECTED AND STORED IN A SECURED METAL DUMPSTER RENTED / LEASED FROM A LOCAL WASTE MANAGEMENT COMPANY. THE DUMPSTER SHALL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURES FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES SHALL BE POSTED IN THE OFFICE TRAILER / CONSTRUCTION TRAILER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.
   10) ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS AT A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.
   11) TRUCKS / EQUIPMENT IMPORTING OR EXPORTING FILL SHALL COVER THEIR LOADS WITH A TARPAULIN TO AVOID UNNECESSARY GENERATION OF DUST.
   12) ALL HAZARDOUS WATER MATERIAL SHALL BE DISPOSED OF AS PER LOCAL / STATE REGULATIONS OR AS RECOMMENDED BY THE MANUFACTURER. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES AND THE CONTRACTOR IS RESPONSIBLE TO FOLLOW THESE PRACTICES.
   13) DRIVEWAY ACCESS SHALL BE CONSTRUCTED PER FDOT INDEX 106 TO MINIMIZE THE VEHICLES TRACKED SEDIMENTS TRANSPORTED OFFSITE.
   14) THE GENERAL CONTRACTOR'S SITE SUPERINTENDENT SHALL SELECT INDIVIDUALS, TYPICALLY THREE, WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES AND FILLING OUT OF INSPECTION REPORTS. PERSONNEL SELECTED SHALL RECEIVE PROPER TRAINING, AT THE CONTRACTORS EXPENSE, PRIOR TO SITE CONSTRUCTION COMMENCEMENT.
   15) ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE INSPECTED EVERY 7 DAYS OR WITHIN 24 HOURS OF A STORM OF 0.5 INCHES OR MORE IN RAINFALL. ALL CONTROLS MUST BE IN PROPER ORDER AS REQUIRED UNTIL SITE COMPLETION.
   16) SILT FENCE SHALL BE INSPECTED FOR TEARS, DEPTH OF SEDIMENT, AND TO INSURE THE FENCE IS SECURELY FASTENED TO THE POSTS AND ALSO THAT POSTS ARE FIRMLY IN PLACE. SEDIMENT SHALL BE REMOVED IF THE DEPTH OF SEDIMENT IS GREATER THAN ONE-THIRD THE HEIGHT OF THE SILT FENCE.
   17) THE INSPECTOR SHALL RECORD ANY DAMAGES OR DEFICIENCIES IN THE TURBIDITY CONTROLS IN THE REPORT FORM FOR THIS PURPOSE. A COPY OF ALL RECORDING AND REPORTS SHALL BE FORWARDED TO THE ENGINEER FOR REVIEW.

   GENERAL SEQUENCE OF MAJOR EROSION AND POLLUTION CONTROL EVENTS:
   1) INSTALL EROSION CONTROL AT LOCATIONS SHOWN ON THE CONSTRUCTION PLANS.
   2) COMMENCE SITE CONSTRUCTION ACTIVITIES.
   3) AS PROPOSED DRAINAGE IS CONSTRUCTED, INSTALL SILT FENCE AND/OR TURBIDITY CONTROL MEASURES AT EACH.
   4) INSTALL TEMPORARY SEED AND MULCH IN AREAS WHERE CONSTRUCTION TEMPORARILY CEASES FOR AT LEAST 21 DAYS, NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITIES IN THAT AREA.
   5) INSTALL PERMANENT SEED/MULCH OR APPROVED STABILIZATION METHOD AND/OR PLANTING IN AREAS WHERE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITIES.
   6) REMOVE ACCUMULATED SEDIMENT.
   7) REMOVED TEMPORARY POLLUTION PREVENTION MEASURES AFTER ALL CONSTRUCTION ON SITE HAS BEEN COMPLETED AND DISPOSED OF MATERIALS ACCORDING TO APPLICABLE FDEP REGULATIONS AND/OR LOCAL GOVERNMENTAL CODES, ETC.

9. RECORD DRAWINGS: AFTER COMPLETION OF THE CONTRACT WORK, BUT PRIOR TO SUBMITTAL OF THE REQUEST FOR FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE FINAL RECORD DRAWINGS TO THE OWNER OF THE IMPROVEMENTS. THE RECORD DRAWINGS SHALL ALSO BE SUBMITTED DIGITALLY IN AUTOCAD / *.DWG FORMAT. THE RECORD DRAWINGS SHALL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF ST. LUCIE COUNTY, AND FDEP, AND SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

   THE FINAL LOCATION, BY REFERENCE TO AT LEAST TWO COMPLETED VISIBLE IMPROVEMENTS OR OTHER PERMANENT POINTS, OF ALL PAVING AND DRAINAGE ELEMENTS, AND SHALL INCLUDE ELEVATIONS OF PERTINENT POINTS IN THE PAVEMENT AND DRAINAGE IMPROVEMENTS, ALL REVISIONS TO THE ORIGINAL PLANS, VERIFICATION OF ALL DESIGN DIMENSIONS, ELEVATIONS, PIPE SLOPES, PIPE LENGTHS, INLETS AND CONTROL STRUCTURES LOCATION AND ELEVATIONS AND ALL OTHER INFORMATION NECESSARY TO HORIZONTALLY AND VERTICALLY LOCATE AND OPERATE THE IMPROVEMENTS CONSTRUCTED UNDER THIS CONTRACT.

   DRAWINGS SHALL INCLUDE:

   A. INDICATION OF ANY CHANGES OR VERIFICATIONS GET MARKED
   B. INDICATION OF ALL "PROPOSED" OR "CONSTRUCTS"
   C. CHANGES TO LOCATIONS OF PIPE, VALVES, FITTINGS OR MANHOLES, ETC.
   D. DETAIL BOX OF ANY SUBSTANTIAL CHANGES
   E. ALL ELEVATIONS FOR MANHOLES AND LIFT STATIONS
   F. ALL GRADES AND FOOTAGE ON SANITARY RUNS

   THE CONTRACTOR SHALL PROVIDE RECORD DRAWING PRINTS AND ONE COPY OF CERTIFIED FIELD NOTES TO THE OWNER THAT ARE SIGNED AND SEALED BY A FLORIDA REGISTERED LAND SURVEYOR. PAYMENT FOR THE RECORD DRAWINGS SHALL BE ON A LUMP SUM BASIS.

DEWATERING:
CONSTRUCTION DEWATERING MAY REQUIRE A PERMIT FROM SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD). IF DEWATERING IS TO TAKE PLACE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A DEWATERING PERMIT FOR HIS WORK.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: AS NOTED
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

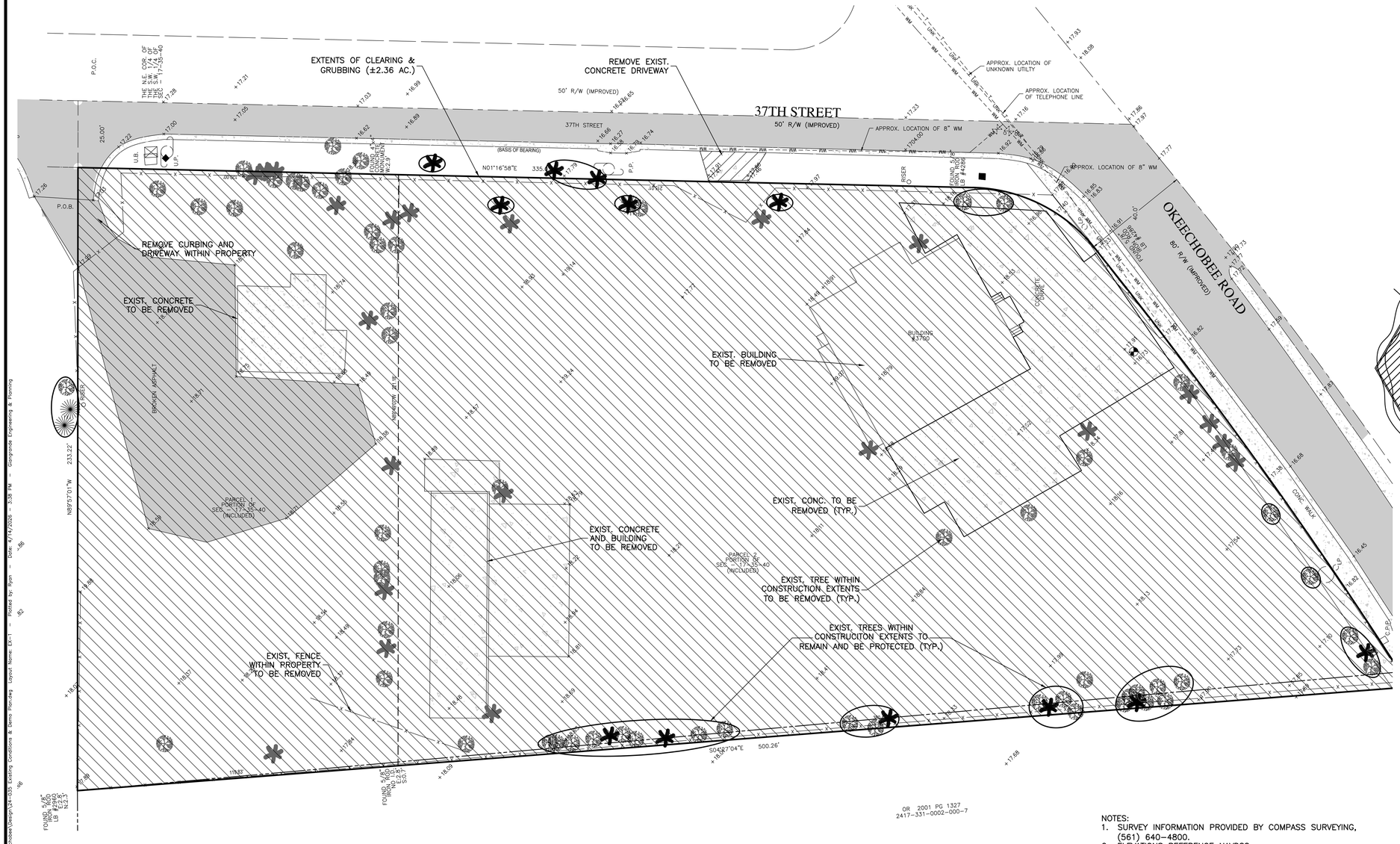
GENERAL NOTES

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

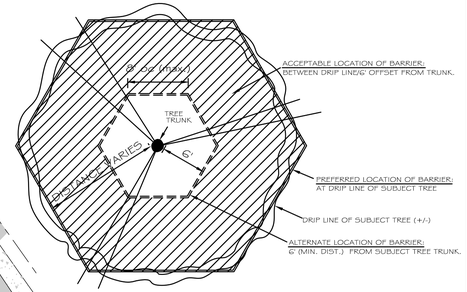
LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

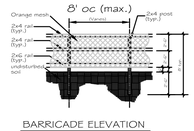
G-2



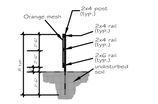
TREE PROTECTION DETAIL



BARRICADE PLAN
N.T.S.



BARRICADE ELEVATION
N.T.S.



BARRICADE SECTION
N.T.S.

BARRICADE NOTES:
1. TREE PROTECTION BARRICADE TO BE ERECTED PRIOR TO COMMENCEMENT OF ANY WORK.
2. NO CONSTRUCTION WITHIN BARRICADE WITHOUT OWNER APPROVAL
3. EXCAVATION (IF APPROVED BY OWNER) WITHIN TREE PROTECTION AREAS IS LIMITED TO HAND TOOLS (NO MACHINERY)

LEGEND

- EXIST. CLEARING & GRUBBING
- EXIST. CONCRETE
- EXIST. WATER LINE
- EXIST. TELEPHONE
- EXIST. FENCE
- EXIST. BOUNDARY
- EXIST. R.O.W.
- EXIST. CENTERLINE
- EXIST. PINE TREE
- EXIST. OAK TREE

NOTES:
1. SURVEY INFORMATION PROVIDED BY COMPASS SURVEYING, (561) 640-4800.
2. ELEVATIONS REFERENCE NAVD88.
3. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND NOTIFY ENGINEER AND/OR OWNER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF SITE PREPARATION DEBRIS ON A REGULAR BASIS TO PREVENT LARGE STOCKPILES FROM FORMING AT THE SITE.
5. SHOULD UNSUITABLE MATERIAL BE ENCOUNTERED DURING SITE PREPARATION, CONTRACTOR SHALL INFORM THE ENGINEER AND/OR OWNER PRIOR TO REMOVING MATERIAL.
6. ALL ORGANIC AND NON-FREE DRAINING SOILS SHALL BE REMOVED FROM THE BOTTOM OF THE PROPOSED RETENTION AREA.
7. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE PREPARATION ACTIVITIES.
8. ALL AREAS DISTURBED IN THE RIGHT OF WAY SHALL BE RETURNED TO ORIGINAL CONDITION OR BETTER.
9. CLEARED AREAS SHALL BE SODDED OR OTHER APPROVED STABILIZATION METHOD INSTALLED WITHIN 30 DAYS OF VEGETATION REMOVAL.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

EXISTING CONDITIONS & DEMO PLAN

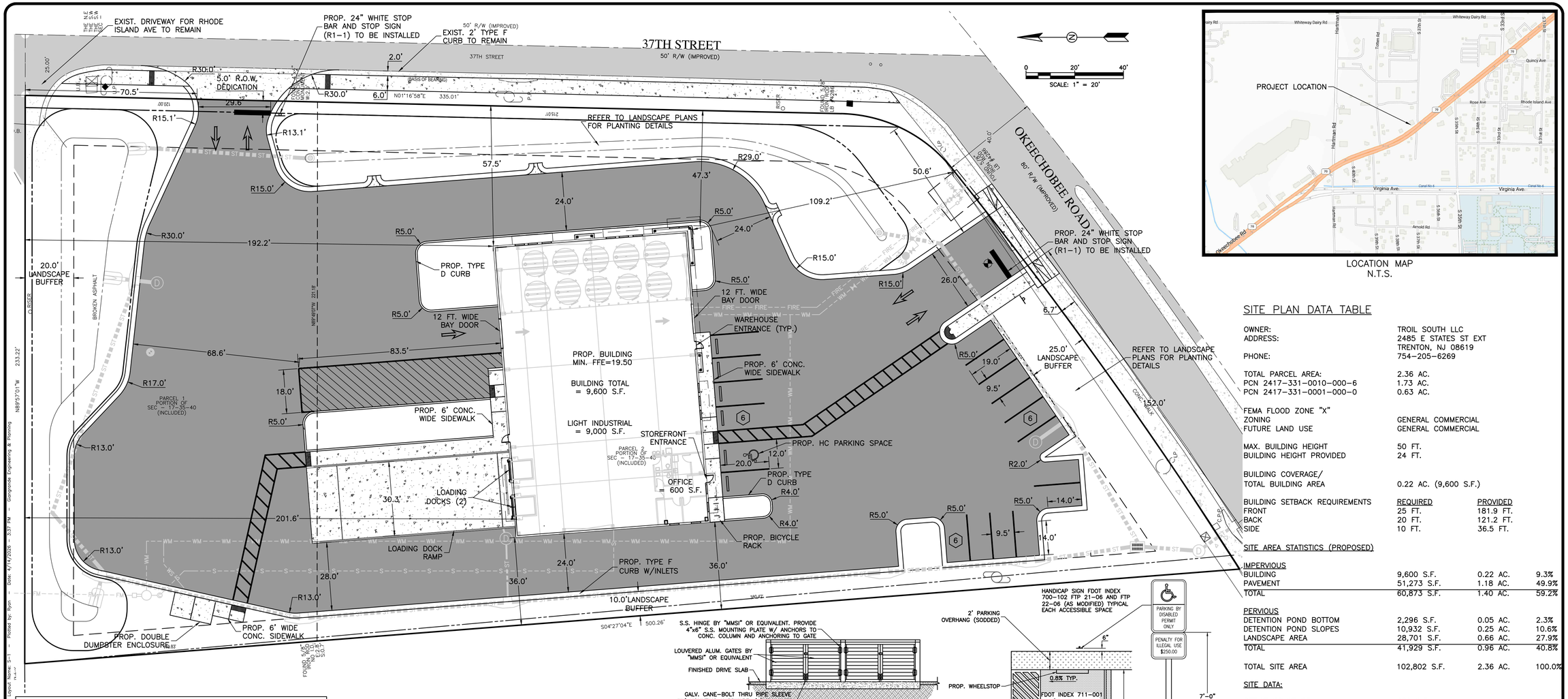
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

EX-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Existing Conditions & Demo Plan.dwg Layout Name: EX-1 - Plotted by: Ryan - Date: 4/14/2026 - 3:38 PM - Giangrande Engineering & Planning

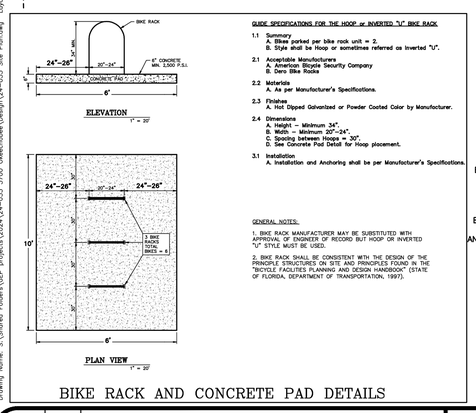


LOCATION MAP
N.T.S.

SITE PLAN DATA TABLE

OWNER:	TROIL SOUTH LLC		
ADDRESS:	2485 E STATES ST EXT TRENTON, NJ 08619		
PHONE:	754-205-6269		
TOTAL PARCEL AREA:	2.36 AC.		
PCN 2417-331-0010-000-6	1.73 AC.		
PCN 2417-331-0001-000-0	0.63 AC.		
FEMA FLOOD ZONE "X"			
ZONING	GENERAL COMMERCIAL		
FUTURE LAND USE	GENERAL COMMERCIAL		
MAX. BUILDING HEIGHT	50 FT.		
BUILDING HEIGHT PROVIDED	24 FT.		
BUILDING COVERAGE/ TOTAL BUILDING AREA	0.22 AC. (9,600 S.F.)		
BUILDING SETBACK REQUIREMENTS	REQUIRED	PROVIDED	
FRONT	25 FT.	181.9 FT.	
BACK	20 FT.	121.2 FT.	
SIDE	10 FT.	36.5 FT.	
SITE AREA STATISTICS (PROPOSED)			
IMPERVIOUS			
BUILDING	9,600 S.F.	0.22 AC.	9.3%
PAVEMENT	51,273 S.F.	1.18 AC.	49.9%
TOTAL	60,873 S.F.	1.40 AC.	59.2%
PERVIOUS			
DETENTION POND BOTTOM	2,296 S.F.	0.05 AC.	2.3%
DETENTION POND SLOPES	10,932 S.F.	0.25 AC.	10.6%
LANDSCAPE AREA	28,701 S.F.	0.66 AC.	27.9%
TOTAL	41,929 S.F.	0.96 AC.	40.8%
TOTAL SITE AREA	102,802 S.F.	2.36 AC.	100.0%
SITE DATA:			
OFFICE SPACE GFA	600 S.F.		
LIGHT INDUSTRIAL GFA	9.000 S.F.		
PARKING REQUIRED:			
OFFICE SPACE	1 SPACE PER 300 S.F. OF GFA		
WAREHOUSE	1 SPACE PER 600 S.F OF GFA		
TOTAL OFFICE SPACE	600 S.F.		
PARKING REQUIRED FOR OFFICE SPACE	600 S.F.x1 SPACE/300 S.F.=2 SPACES		
TOTAL WAREHOUSE SPACE	9,000 S.F.		
PARKING REQUIRED FOR WAREHOUSE SPACE	9,000 S.F.x1 SPACE/600 S.F.=15 SPACES		
NUMBER OF SPACES PROVIDED	18 SPACES		
PARKING SPACES PROVIDED			
STANDARD	17 SPACES		
HANDICAP	1 SPACE (REQUIRED 1 SPACE)		
TOTAL NUMBER OF SPACES PROVIDED	18 SPACES		

NOTES:
ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF FORT PIERCE CODE ORDINANCES SECTIONS 119 AND 125



GUIDE SPECIFICATIONS FOR THE HOOP or INVERTED "U" BIKE RACK

1.1 Summary
A. Bikes parked per bike rack unit = 2.
B. Style shall be Hoop or sometimes referred as Inverted "U".

2.1 Acceptable Manufacturers
A. American Bicycle Security Company
B. Dero Bike Racks

2.2 Materials
A. As per Manufacturer's Specifications.

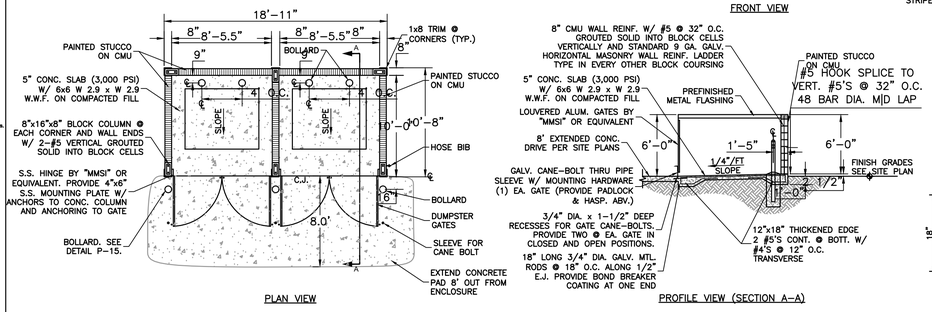
2.3 Finishes
A. Hot Dipped Galvanized or Powder Coated Color by Manufacturer.

2.4 Dimensions
A. Height – Minimum 34".
B. Width – Minimum 20"-24".
C. Spacing between Hoops = 30".
D. See Concrete Pad Detail for Hoop placement.

3.1 Installation
A. Installation and Anchoring shall be per Manufacturer's Specifications.

GENERAL NOTES:
1. BIKE RACK MANUFACTURER MAY BE SUBSTITUTED WITH APPROVAL OF ENGINEER OF RECORD BUT HOOP OR INVERTED "U" STYLE MUST BE USED.
2. BIKE RACK SHALL BE CONSISTENT WITH THE DESIGN OF THE PRINCIPLE STRUCTURES ON SITE AND PRINCIPLES FOUND IN THE "BICYCLE FACILITIES PLANNING AND DESIGN HANDBOOK" (STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, 1997).

BIKE RACK AND CONCRETE PAD DETAILS

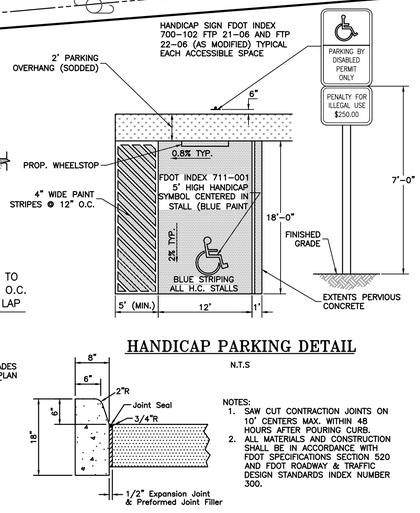


PLAN VIEW

DOUBLE DUMPSTER ENCLOSURE
N.T.S

FRONT VIEW

PROFILE VIEW (SECTION A-A)



HANDICAP PARKING DETAIL
N.T.S

SECTION VIEW

NOTES:
1. SAW CUT CONTRACTION JOINTS ON 10' CENTERS MAX. WITHIN 48 HOURS AFTER POURING CURB.
2. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS SECTION 520 AND FDOT ROADWAY & TRAFFIC DESIGN STANDARDS INDEX NUMBER 300.

FDOT INDEX TYPE "D" CURB
N.T.S

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

SITE PLAN

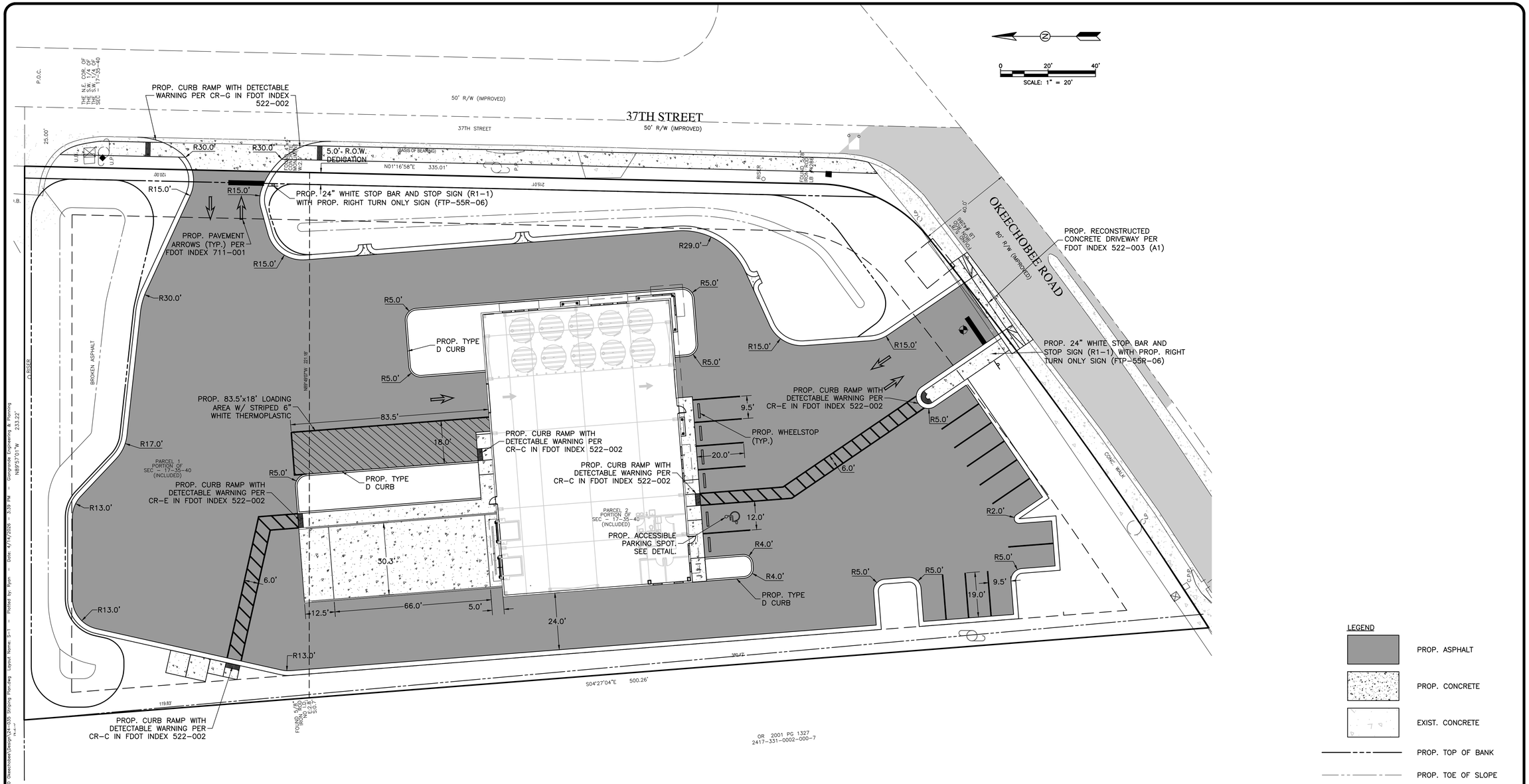
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

S-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Site Plan.dwg Layout Name: S-1 – Plotted By: Ryan – Date: 4/11/2026 – 3:37 PM



NOTE:
ALL STRIPING WITHIN THE RIGHT OF WAY SHALL BE THERMOPLASTIC

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

STRIPING PLAN

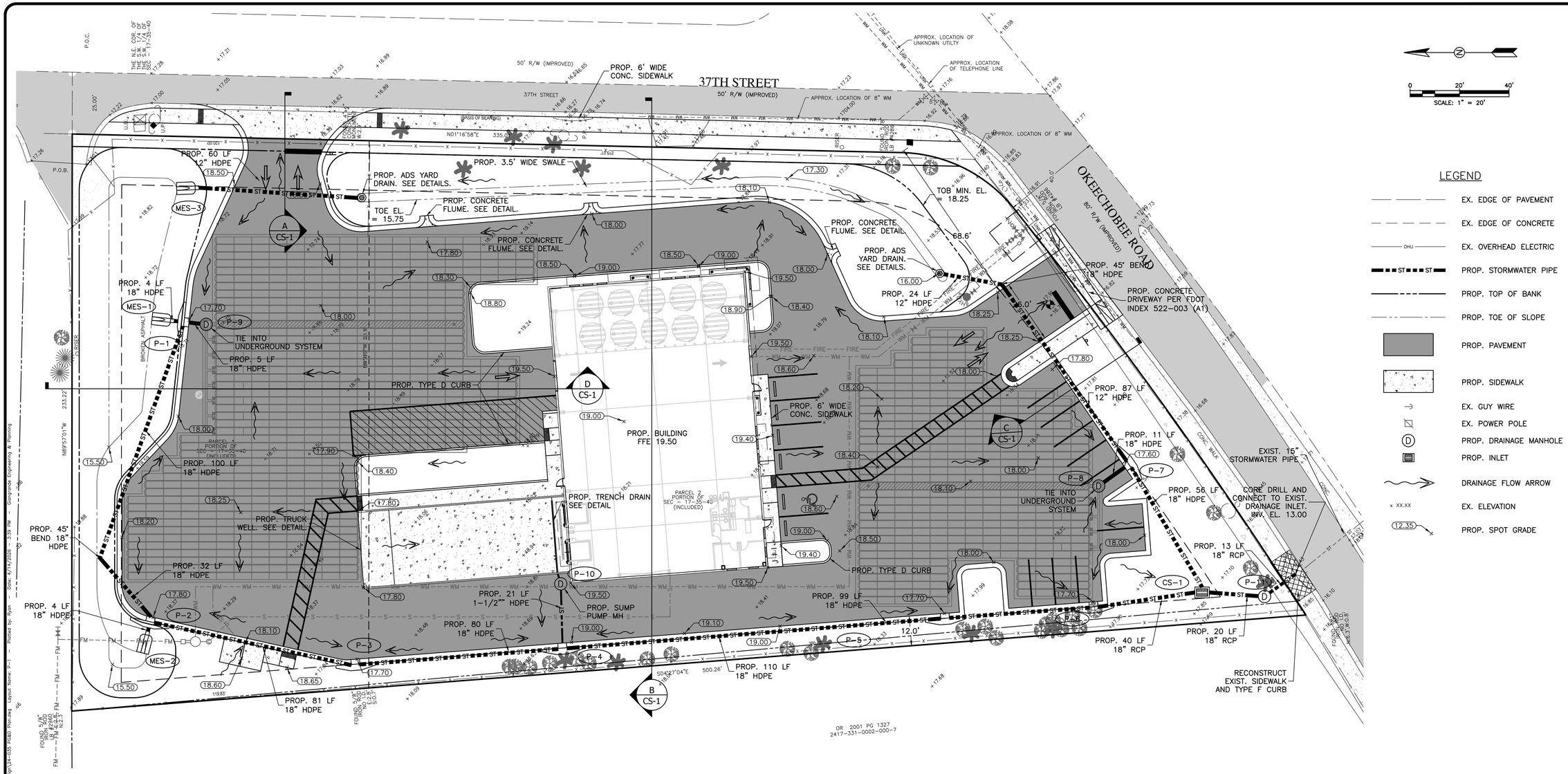
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

ST-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Striping Plan.dwg Layout Name: ST-1 Plotted by: Ryan Date: 4/14/2026 - 3:39 PM Giangrande Engineering & Planning



LEGEND

- EX. EDGE OF PAVEMENT
- EX. EDGE OF CONCRETE
- EX. OVERHEAD ELECTRIC
- PROP. STORMWATER PIPE
- PROP. TOP OF BANK
- PROP. TOE OF SLOPE
- PROP. PAVEMENT
- PROP. SIDEWALK
- EX. GUY WIRE
- EX. POWER POLE
- PROP. DRAINAGE MANHOLE
- PROP. INLET
- DRAINAGE FLOW ARROW
- EX. ELEVATION
- PROP. SPOT GRADE

NOTES:
1. ELEVATIONS REFERENCE NAVD88.
2. FILL MATERIAL SHALL BE INORGANIC (CLASSIFIED AS SP/GW) CONTAINING NOT MORE THAN 5 PERCENT (BY WEIGHT) FIBROUS ORGANIC MATERIALS. FILL MATERIAL HAVING SILT/CLAY-SIZE FINES CONTENTS GREATER THAN 5 PERCENT SHALL NOT BE USED, INCLUDING CYCLONE SAND MATERIAL. THE FILL SHALL BE PLACED IN MAXIMUM 12-INCH THICK LIFTS. EACH LIFT SHALL BE COMPACTED TO A MINIMUM DENSITY OF 98 PERCENT OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180).
3. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF SITE PREPARATION DEBRIS ON A REGULAR BASIS TO PREVENT LARGE STOCKPILES FROM FORMING AT THE SITE.
5. SHOULD UNSUITABLE MATERIAL BE ENCOUNTERED DURING SITE PREPARATION, THE CONTRACTOR SHALL INFORM THE ENGINEER PRIOR TO REMOVING MATERIAL.
6. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE PREPARATION ACTIVITIES,
7. ALL AREAS DISTURBED IN THE RIGHT OF WAY SHALL BE RETURNED TO ORIGINAL CONDITION OR BETTER.
8. CONTRACTOR TO ENSURE MINIMUM OF 12" NON-ORGANIC FREE DRAINING MATERIAL WITHIN THE BOTTOM OF THE DRY RETENTION POND. THIS CAN BE ACCOMPLISHED VIA SOIL REPLACEMENT, SOIL MIXING, OR OTHER APPROVED METHOD.

DRAINAGE STRUCTURE TABLE

STRUCTURE NO.	GRATE EL.	INVERTS	BOTTOM	DESCRIPTION
P-1	17.70	13.45	11.45	TYPE 6 CURB INLET
P-2	17.80	13.45	11.45	TYPE 6 CURB INLET
P-3	17.70	13.45	11.45	TYPE 6 CURB INLET
P-4	19.00	13.45	11.45	TYPE 6 CURB INLET
P-5	17.70	13.45	11.45	TYPE 6 CURB INLET
P-6	17.70	13.45	11.45	TYPE 6 CURB INLET
P-7	17.60	13.45	11.45	TYPE 6 CURB INLET
P-8	17.70	13.95	11.95	STORM MANHOLE
P-9	17.80	13.10	14.10	STORM MANHOLE
P-10	19.45	16.44	14.44	STORM MANHOLE
P-11	17.20	13.40	11.40	STORM MANHOLE
MES-1		15.50		MITERED END SECTION
MES-2		15.50		MITERED END SECTION
MES-3		15.50		MITERED END SECTION
CS-1	18.50	13.50	11.50	TYPE E CONTROL STRUCTURE - SEE DETAIL

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

PAVING, GRADING, & DRAINAGE PLAN

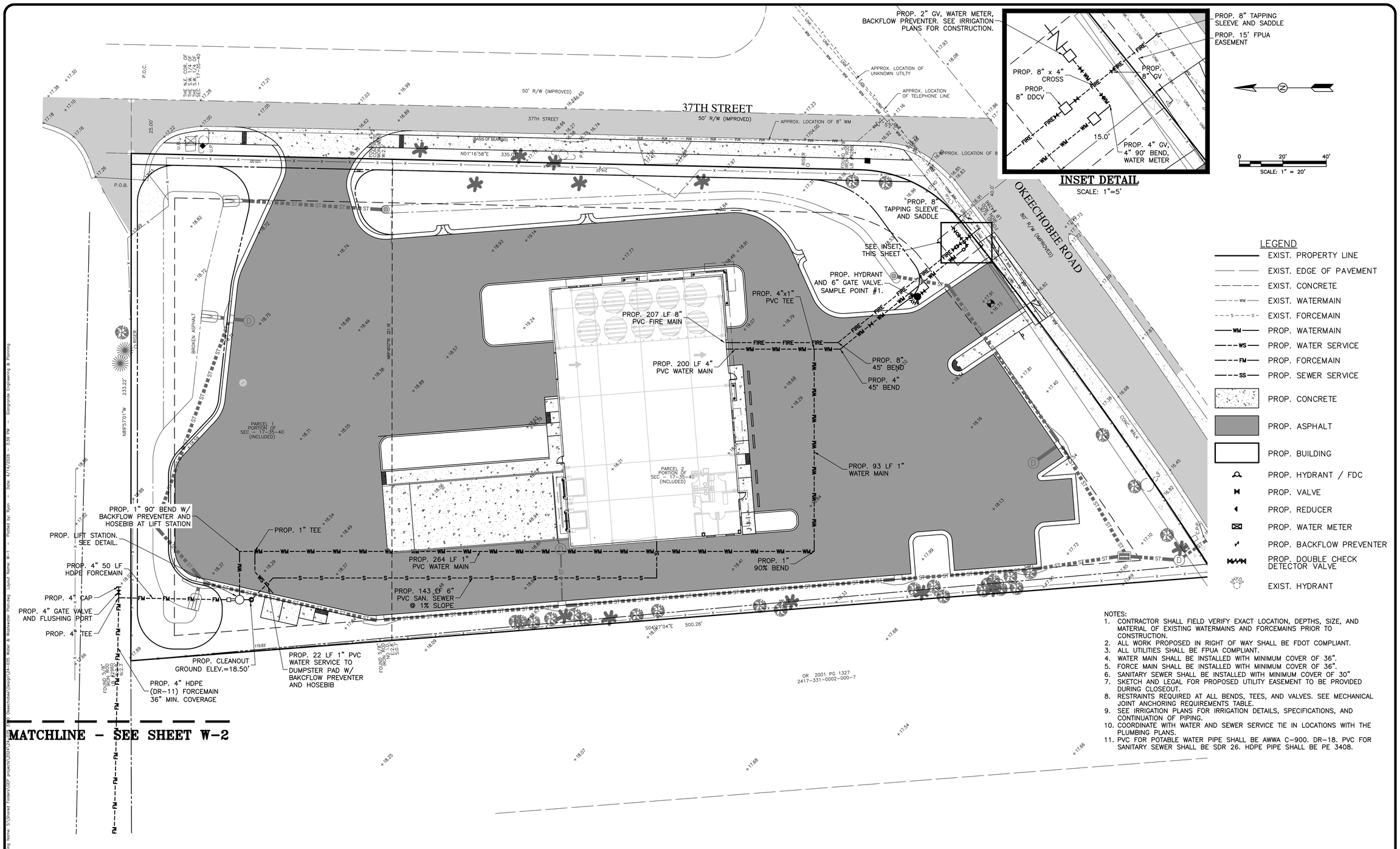
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

P-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 PG&D Plan.dwg Layout Name: P-1 - Plotted by: Ryan - Date: 4/14/2026 - 3:39 PM - Giangrande Engineering & Planning



LEGEND

- EXIST. PROPERTY LINE
- EXIST. EDGE OF PAVEMENT
- EXIST. CONCRETE
- EXIST. WATERMAIN
- EXIST. FORCEMAIN
- PROP. WATERMAIN
- PROP. WATER SERVICE
- PROP. FORCEMAIN
- PROP. SEWER SERVICE
- PROP. CONCRETE
- PROP. ASPHALT
- PROP. BUILDING
- PROP. HYDRANT / FDC
- PROP. VALVE
- PROP. REDUCER
- PROP. WATER METER
- PROP. BACKFLOW PREVENTER
- PROP. DOUBLE CHECK DETECTOR VALVE
- EXIST. HYDRANT

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION, DEPTHS, SIZE, AND MATERIAL OF EXISTING WATERMAINS AND FORCEMAINS PRIOR TO CONSTRUCTION.
2. ALL WORK PROPOSED IN RIGHT OF WAY SHALL BE FDOT COMPLIANT.
3. ALL UTILITIES SHALL BE FPUA COMPLIANT.
4. WATER MAIN SHALL BE INSTALLED WITH MINIMUM COVER OF 36".
5. FORCE MAIN SHALL BE INSTALLED WITH MINIMUM COVER OF 36".
6. SANITARY SEWER SHALL BE INSTALLED WITH MINIMUM COVER OF 30"
7. SKETCH AND LEGAL FOR PROPOSED UTILITY EASEMENT TO BE PROVIDED DURING CLOSEOUT.
8. RESTRAINTS REQUIRED AT ALL BENDS, TEES, AND VALVES. SEE MECHANICAL JOINT ANCHORING REQUIREMENTS TABLE.
9. SEE IRRIGATION PLANS FOR IRRIGATION DETAILS, SPECIFICATIONS, AND CONTINUATION OF PIPING.
10. COORDINATE WITH WATER AND SEWER SERVICE TIE IN LOCATIONS WITH THE PLUMBING PLANS.
11. PVC FOR POTABLE WATER PIPE SHALL BE AWWA C-900. DR-18. PVC FOR SANITARY SEWER SHALL BE SDR 26. HDPE PIPE SHALL BE PE 3408.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

WATER & WASTEWATER PLAN

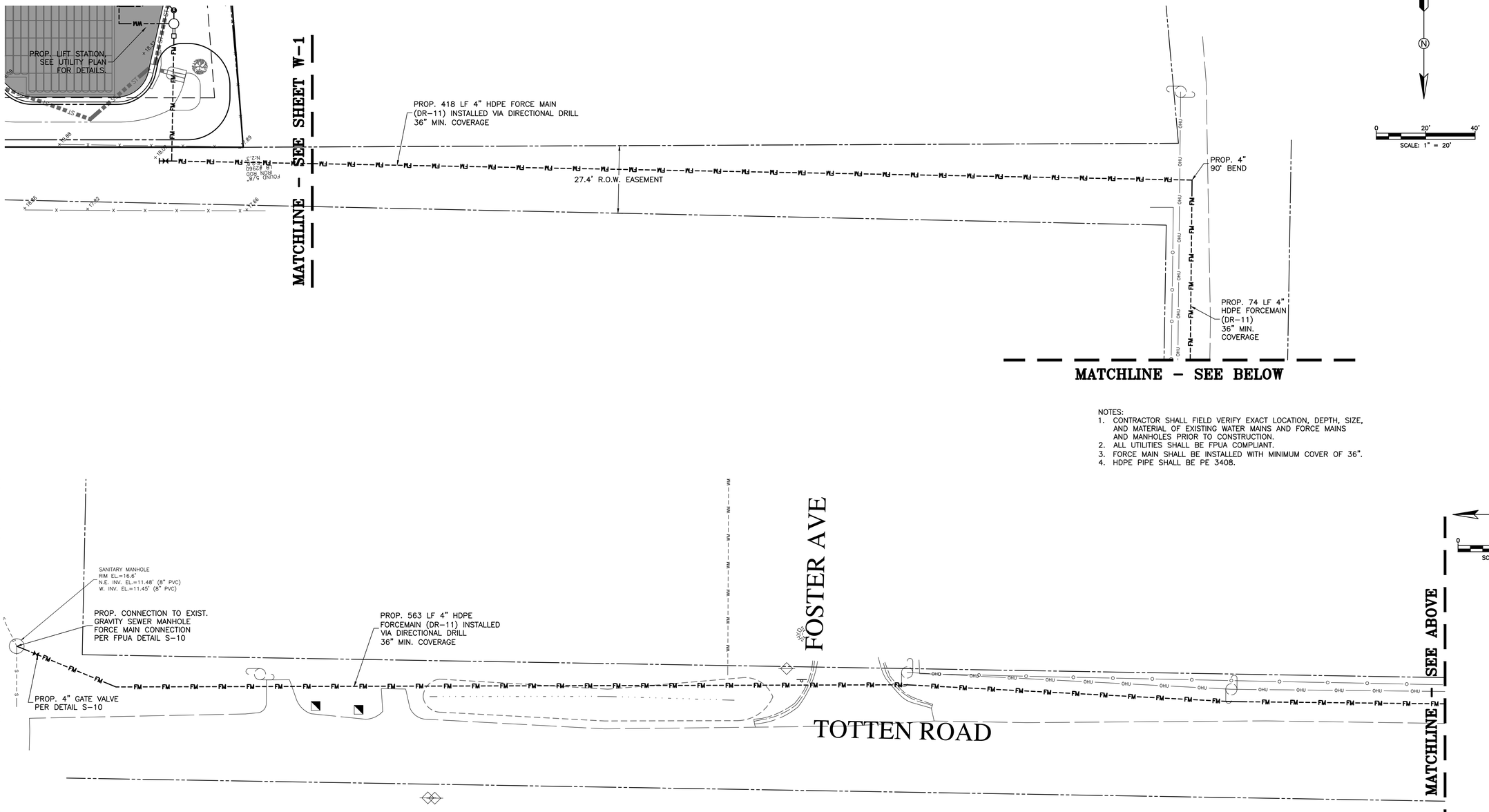
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

W-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 Okeechobee\Design\24-035 Water & Wastewater Plan.dwg Layout Name: W-1 Plotted by: Ryan Dotes: 4/14/2026 - 3:39 PM Giangrande Engineering & Planning



NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION, DEPTH, SIZE, AND MATERIAL OF EXISTING WATER MAINS AND FORCE MAINS AND MANHOLES PRIOR TO CONSTRUCTION.
2. ALL UTILITIES SHALL BE FPUA COMPLIANT.
3. FORCE MAIN SHALL BE INSTALLED WITH MINIMUM COVER OF 36".
4. HDPE PIPE SHALL BE PE 3408.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

WATER & WASTEWATER PLAN

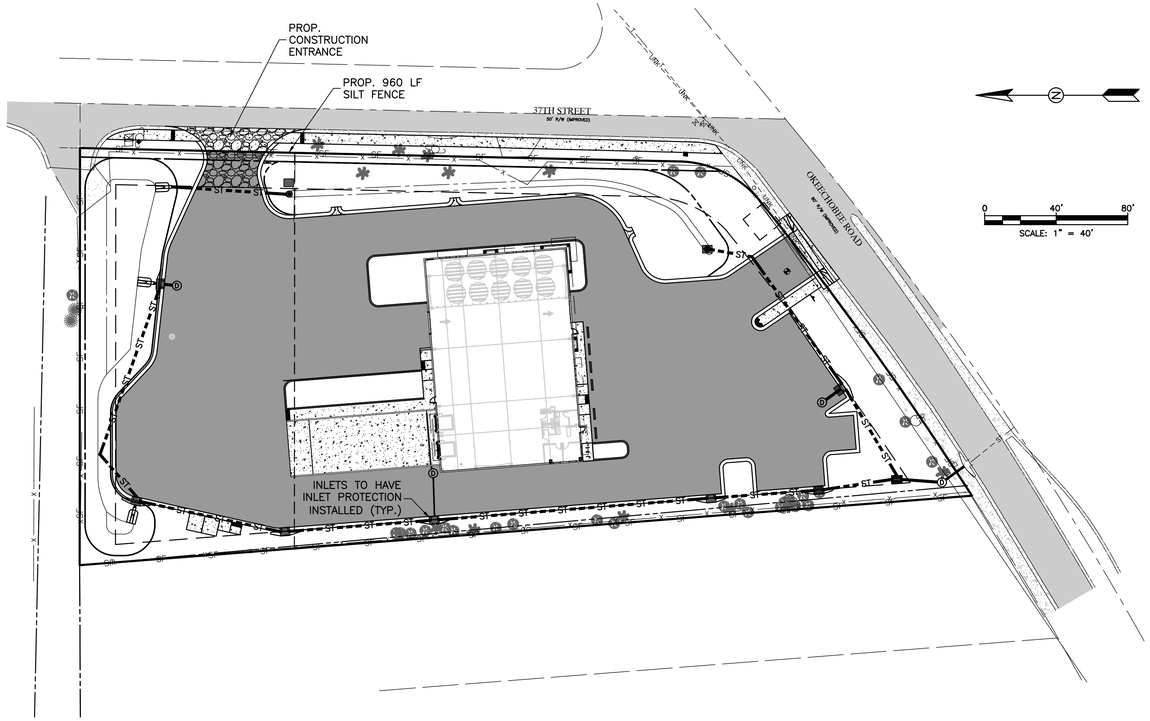
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

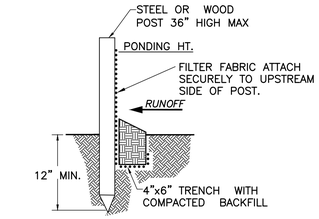
LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

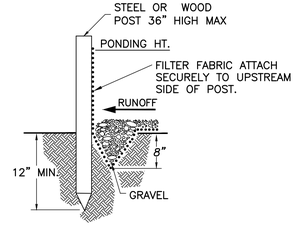
W-2

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Water & Wastewater Plan.dwg Layout Name: W-2 - Plotted by: Ryan - Date: 4/14/2026 - 3:38 PM - Giangrande Engineering & Planning

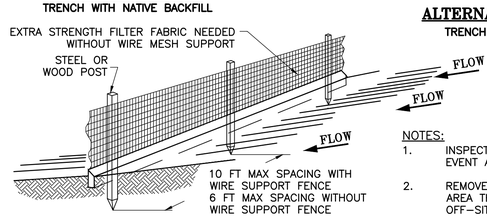




STANDARD DETAIL
TRENCH WITH NATIVE BACKFILL

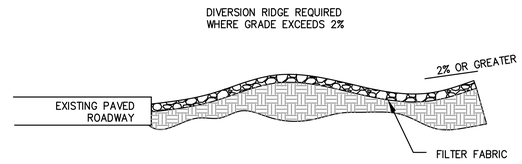


ALTERNATE DETAIL
TRENCH WITH GRAVEL

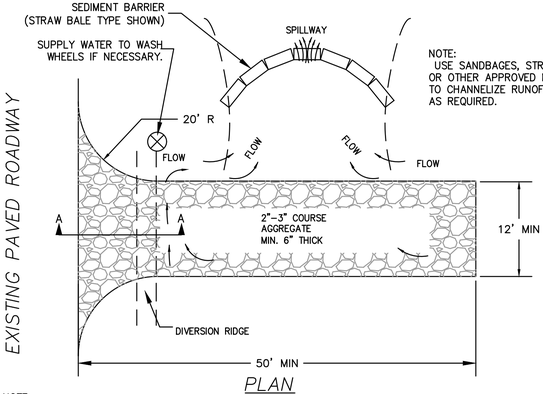


SILT FENCE DETAIL
N.T.S.

NOTES:
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOUR TO MAXIMIZE PONDING EFFICIENCY.
4. OVERLAP ALL JOINTS AT LEAST 6 FEET.



SECTION A-A



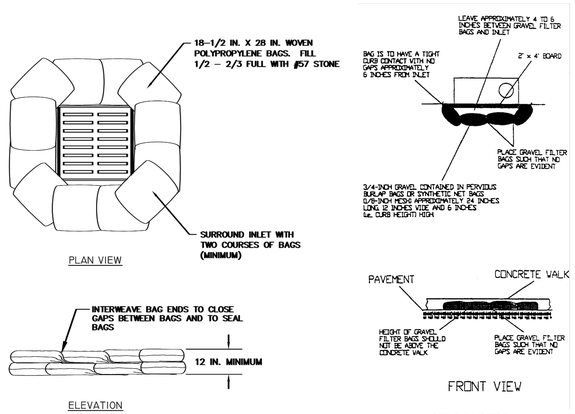
PLAN

NOTE:
USE SANDBAGES, STRAW BALES OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED.

NOTE:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING. REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

EROSION CONTROL NOTES:
1. THIS PROJECT IS SUBJECT TO ALL RELATED ENVIRONMENTAL REQUIREMENTS WHICH INCLUDE A "CONTROL OF EROSION AND SEDIMENTATION PLAN". THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING NECESSARY AND ADEQUATE MEASURES FOR PROPER CONTROL OF EROSION DUE TO SEDIMENTATION RUNOFF FROM THE SITE PRIOR TO CONSTRUCTION OPERATIONS IN A PARTICULAR AREA. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO START OF CONSTRUCTION. FIELD ADJUSTMENTS WITH RESPECT TO LOCATIONS AND DIMENSIONS MAY BE DIRECTED BY THE ENGINEER AS REQUIRED.
2. EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RAIN EVENT FOR DAMAGE AND GENERAL EFFECTIVENESS. ANY DAMAGED OR INEFFECTIVE CONTROLS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR.
3. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED, IF DEEMED NECESSARY, BY THE ON-SITE INSPECTOR.
4. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. TEMPORARY AND PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE LEFT IN PLACE AND MAINTAINED UNTIL THE AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION.
6. ALL CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ON TO ANY PUBLIC RIGHT-OF-WAY. THIS SHALL REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS REQUIRE. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHT-OF-WAY OR INTO STORM DRAINS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
7. TURBIDITY SCREENS OR EQUIVALENT SHALL BE PROPERLY EMPLOYED AND MAINTAINED AS NECESSARY DURING CONSTRUCTION ACTIVITIES SO THAT TURBIDITY LEVELS DO NOT EXCEED 29 NTU'S ABOVE NATURAL BACKGROUND 50 FEET DOWNSTREAM OF POINT OF DISCHARGE. IF TURBIDITY LEVELS EXCEED THESE LIMITS, PROJECT ACTIVITIES SHALL IMMEDIATELY CEASE, AND WORK SHALL NOT RESUME UNTIL TURBIDITY LEVELS DROP TO WITHIN THESE LIMITS.
8. CONTRACTOR SHALL SOD GRASS AREAS DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO OWNER.
9. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES).
10. SEDIMENT BARRIERS SHALL BE PLACED PRIOR TO ANY WORK ON THE SITE. SEDIMENT BARRIERS SHALL PLACED AS DEPICTED AS SHOWN ON THESE CONSTRUCTION PLANS.
11. DAMAGED TURBIDITY CONTROLS SHALL BE REPAIRED PROMPTLY AND BEFORE ANY SUBSEQUENT RAINFALL.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF THE NPDES AND RELATED STORM WATER PLAN FOR THE DURATION OF THE PROJECT. UPON COMPLETION THE CONTRACTOR SHALL REMOVED ALL TEMPORARY STORM WATER MANAGEMENT MEASURES AND SHALL DISPOSE OF THEM AS REQUIRED.
13. CONTRACTOR SHALL COMPLY WITH SPILL PREVENTION, CONTROL AND COUNTER MEASURES (SPCC) REQUIREMENTS PURSUANT TO EPA RULES AND REGULATIONS.
14. ALL CONSTRUCTION WASTE MATERIAL SHALL BE COLLECTED AND STORED IN A SECURED METAL DUMPSTER RENTED / LEASED FROM A LOCAL WASTE MANAGEMENT COMPANY. THE DUMPSTER SHALL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURES FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES SHALL BE POSTED IN THE OFFICE TRAILER / CONSTRUCTION TRAILER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.
15. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS AT A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.
16. TRUCKS / EQUIPMENT IMPORTING OR EXPORTING FILL SHALL COVER THEIR LOADS WITH A TARPAULIN TO AVOID UNNECESSARY GENERATION OF DUST.
17. ALL HAZARDOUS WATER MATERIAL SHALL BE DISPOSED OF AS PER LOCAL / STATE REGULATIONS OR AS RECOMMENDED BY THE MANUFACTURER. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES AND THE CONTRACTOR IS RESPONSIBLE TO FOLLOW THESE PRACTICES.
18. THE GENERAL CONTRACTOR'S SITE SUPERINTENDENT SHALL SELECT INDIVIDUALS, TYPICALLY THREE, WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES AND FILLING OUT OF INSPECTION REPORTS. PERSONNEL SELECTED SHALL BE RECEIVE PROPER TRAINING, AT THE CONTRACTORS EXPENSE, PRIOR TO SITE CONSTRUCTION COMMENCEMENT.
19. ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE INSPECTED EVERY 7 DAYS OR WITHIN 24 HOURS OF A STORM OF 0.5 INCHES OR MORE IN RAINFALL. ALL CONTROLS MUST BE IN PROPER ORDER AS REQUIRED UNTIL SITE COMPLETION.
20. SILT FENCE SHALL BE INSPECTED FOR TEARS, DEPTH OF SEDIMENT, AND TO INSURE THE FENCE IS SECURELY FASTENED TO THE POSTS AND ALSO THAT POSTS ARE FIRMLY IN PLACE. SEDIMENT SHALL BE REMOVED IF THE DEPTH OF SEDIMENT IS GREATER THAN ONE-THIRD THE HEIGHT OF THE SILT FENCE.
21. THE INSPECTOR SHALL RECORD ANY DAMAGES OR DEFICIENCIES IN THE TURBIDITY CONTROLS IN THE REPORT FORM FOR THIS PURPOSE. A COPY OF ALL RECORDING AND REPORTS SHALL BE FORWARDED TO THE ENGINEER FOR REVIEW.
22. THE REQUIREMENTS LISTED ABOVE AND DETAILS PRESENTED ON THIS SHEET SHALL BE CONSIDERED MINIMUM REQUIREMENTS AND THE CONTRACTOR SHALL USE WHATEVER METHODS THE CONTRACTOR DEEMS NECESSARY TO PREVENT EROSION AND SILTATION AS MAY BE REQUIRED FOR THE PROJECT.
23. PROPERTY CORNERS SHALL BE LOCATED BY A LICENSED LAND SURVEYOR AND CLEARLY MARKED IN THE FIELD PRIOR TO THE ENGINEERING DEPARTMENT'S PRE-CONSTRUCTION MEETING FOR SITE DEVELOPMENT.
24. AUTHORIZATION TO INSTALL EROSION CONTROL DEVICES AND PRESERVE BARRICADES WILL BE GRANTED AT THE PRE-CONSTRUCTION MEETING. THE AUTHORIZATION SHALL BE POSTED ON THE SITE, IN THE PERMIT BOX, ITS LOCATION SHOWN ELSEWHERE ON THIS PAGE.
25. NO ADDITIONAL LAND CLEARING SHALL COMMENCE UNTIL A SATISFACTORY INSPECTION OF THE REQUIRED EROSION CONTROL BARRICADES HAS BEEN OBTAINED.
26. ALL CONSTRUCTION BARRICADES AND SILT FENCES WILL REMAIN IN PLACE AND BE MONITORED FOR COMPLIANCE BY PERMIT HOLDER DURING THE PERMITTED DEVELOPMENT ACTIVITIES.
27. PRIOR TO SCHEDULING A FINAL ENVIRONMENTAL INSPECTION FOR THE INFRASTRUCTURE, ALL BARRICADES AND EROSION CONTROL DEVICES SHALL BE REMOVED AND DISPOSED BY THE CONTRACTOR.
28. LOCATIONS OF ANY MATERIALS TO BE TEMPORARILY STOCKPILED TO INCLUDE LAND CLEARING DEBRIS OR EXCAVATED MATERIALS SHALL BE PER THE ENGINEER.
29. THE CONTRACTOR SHALL PROVIDE A PLAN TO MINIMIZE DUST AND AIR POLLUTION DURING LAND CLEARING.
30. ALL AREAS DISTURBED IN THE RIGHT OF WAY SHALL BE RETURNED TO ORIGINAL CONDITION OR BETTER.
31. CLEARED AREAS SHALL BE SODDED OR OTHER APPROVED STABILIZATION METHOD INSTALLED WITHIN 30 DAYS OF VEGETATION REMOVAL.
32. CONTRACTOR MUST USE SITE STABILIZATION METHODS, SUCH AS, BUT NOT LIMITED TO, SEEDING WETTING, AND MULCHING WHICH MINIMIZE AIRBORNE DUST AND PARTICULATE EMISSIONS GENERATED BY CONSTRUCTION ACTIVITY. SUCH METHODS SHALL BE COMPLETED PROGRESSIVELY AND ACTIVELY MAINTAINED AS VEGETATION REMOVAL OCCURS WITHIN A GIVEN AREA OF A SITE. AT THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL INFORM THE COUNTY WHICH VEGETATION REMOVAL METHODS WILL BE CONDUCTED AND THE PLAN TO MINIMIZE AIRBORNE DUST AND PARTICULATE EMISSIONS.



DROP INLETS

CURB INLETS

NOTES:
1. STONE FILL BAGS SHALL BE WOVEN POLYPROPYLENE BAGS WITH APPROXIMATE DIMENSIONS OF 18-1/2 INCHES BY 28 INCHES.
2. THE BAGS SHALL BE FILLED 1/2 TO 2/3 FULL WITH FDOT NO. 57 STONE. TIE THE ENDS OF FILLED BAGS USING EITHER DRAW STRINGS OR WIRE TIES.
3. INTERWEAVE THE LOOSE ENDS OF THE BAGS SO THAT THE GAPS BETWEEN BAGS ARE FILLED AND THE ENDS OF THE BAGS ARE SEALED.
4. COMPLETELY SURROUND THE INLET WITH A MINIMUM OF TWO (2) ROWS OF BAGS TO A MINIMUM OF 12 INCHES IN HEIGHT.

GRAVEL FILTER BAGS INLET PROTECTION DETAIL

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: AS NOTED
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

EROSION CONTROL PLAN

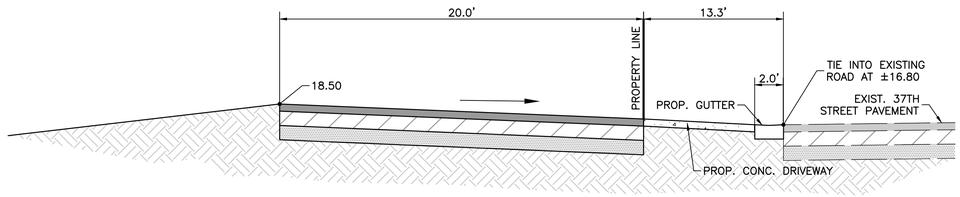
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep-llc.com
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

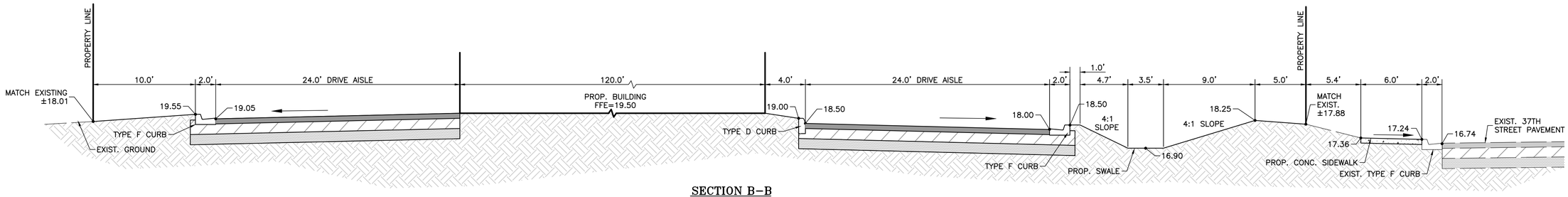
EC-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 SWPP Plan.dwg Layout Name: EC-1 - Plotted by: Ryan - Date: 4/14/2026 - 3:36 PM - Giangrande Engineering & Planning



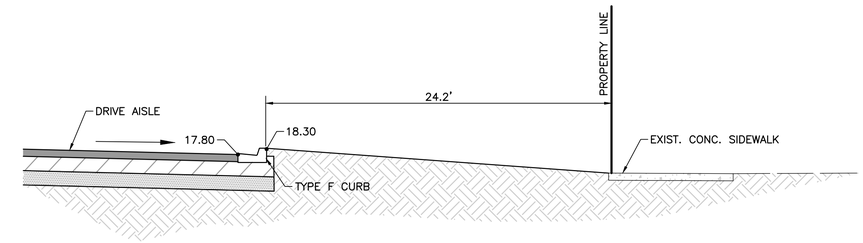
SECTION A–A

SCALE: 1"=5'



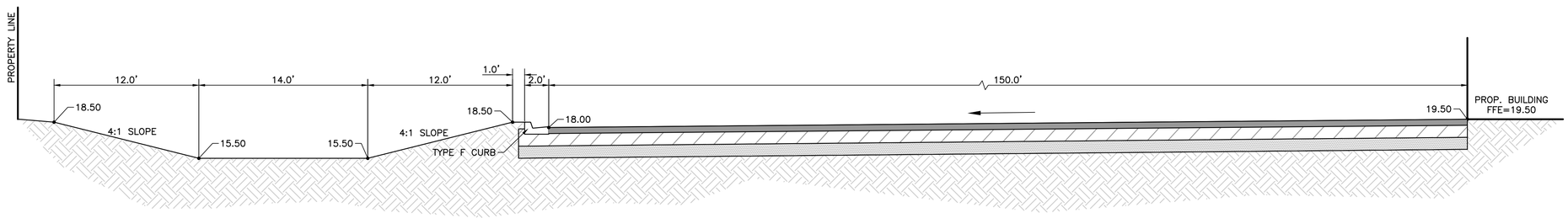
SECTION B–B

SCALE: 1"=5'



SECTION C–C

SCALE: 1"=5'



SECTION D–D

SCALE: 1"=5'

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Cross Sections.dwg Layout Name: C-1 – Plotted by: Ryan – Date: 4/14/2026 – 3:39 PM – Giangrande Engineering & Planning

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

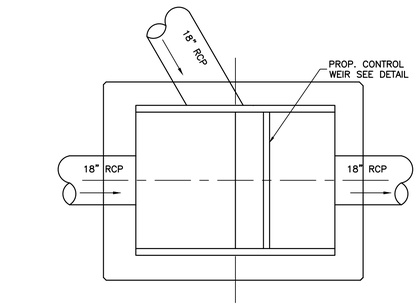
CROSS SECTIONS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

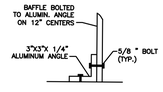
LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24–035

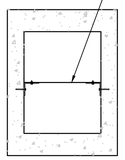
C-1



PLAN

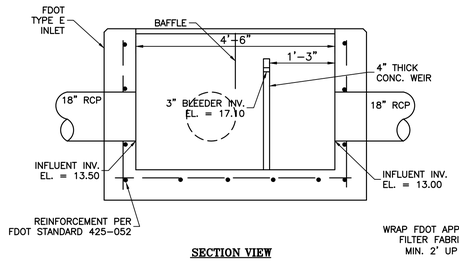


ANGLE DETAIL

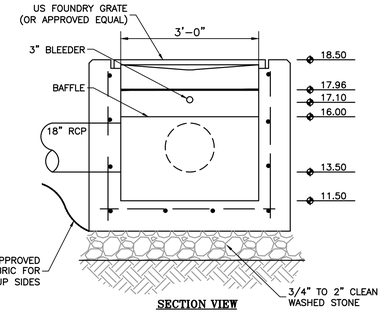


NOTE:
1. SEAL ALL JOINTS WITH RAM-NEK SEALANT.

BAFFLE DETAIL



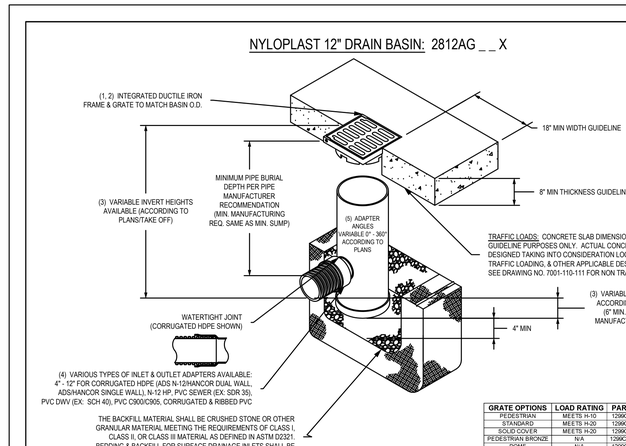
SECTION VIEW

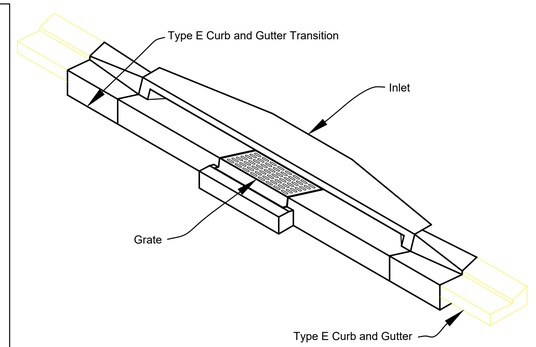


SECTION VIEW

CONTROL STRUCTURE W/ CONTROL WEIR DETAIL

N.T.S



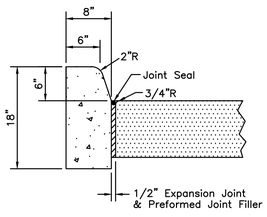


INLET TYPE 6
(Type E Curb and Gutter Shown)

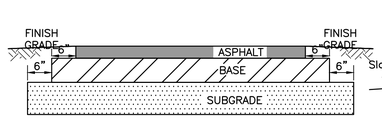
FDOT INDEX INLET TYPE 6

(TYPE E CURB AND GUTTER SHOWN)

N.T.S



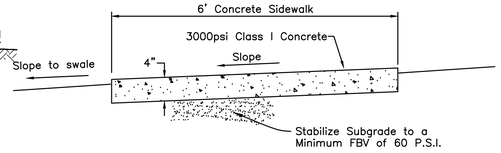
SECTION VIEW



ASPHALT CONCRETE
PAVEMENT: 1 1/2" FDOT TYPE SP-12.5 (1ST LIFT)
1" FDOT TYPE SP-9.5 (2ND LIFT)
BASE: 10" COMPACTED LIMEROCK OR COQUINA BASE (LBR-100) SAME DENSITY AS SUBGRADE
SUBGRADE: 12" THICK COMPACTED SUBGRADE (LBR-40) DENSITY SHALL BE 98% OF MAXIMUM AS DETERMINED BY AASHTO T-180 METHOD

TYPICAL PAVEMENT SECTION

N.T.S

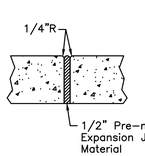


SIDEWALK DETAIL

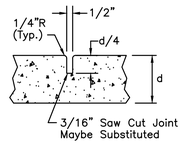
N.T.S

NOTES:

1. Saw cut contraction joints on 10' centers max. within 48 hours after pouring curb.
2. All materials and construction shall be in accordance with FDOT Specifications Section 520 and FDOT Roadway & Traffic Design Standards index number 300.

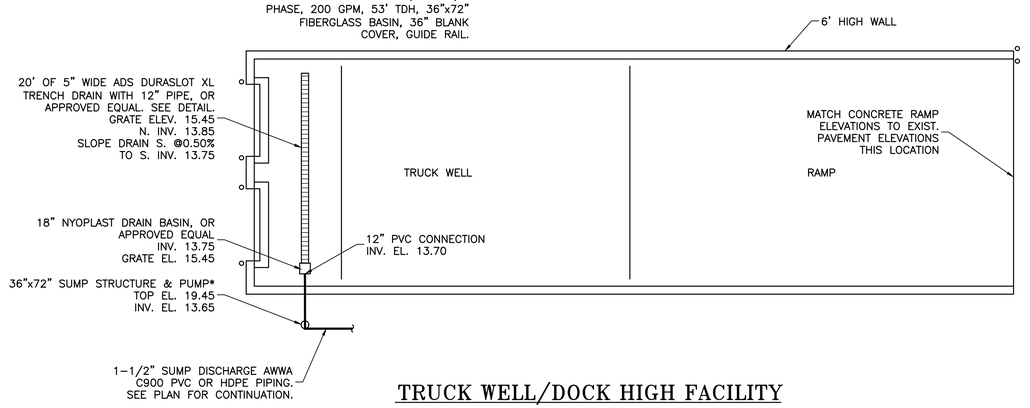


EXPANSION JOINTS



CONTRACTION JOINTS

* LIBERTY SUMP PUMP MODEL LEH102M2-2 1 HP, 230 V, 1 PHASE, 200 GPM, 53' TDH, 36"x72" FIBERGLASS BASIN, 36" BLANK COVER, GUIDE RAIL.

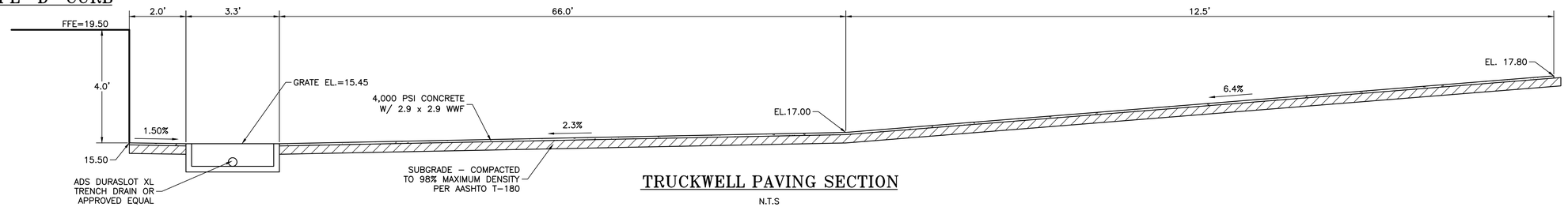


TRUCK WELL/DOCK HIGH FACILITY

N.T.S

FDOT INDEX TYPE "D" CURB

N.T.S



TRUCKWELL PAVING SECTION

N.T.S

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901
LEO GIANGRANDE, P.E.
License No: 66387

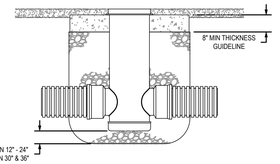
PROJECT #: 24-035

D-1

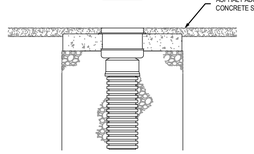
Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-1 - Plotted by: Ryan - Date: 4/14/2026 - 3:38 PM - Giangrande Engineering & Planning

ASPHALT INSTALLATION

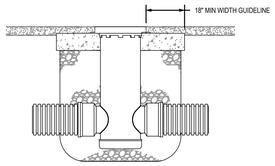
DRAIN BASIN



INLINE DRAIN



ROAD & HIGHWAY



STRUCTURE SIZE	H-20 GRATE OPTIONS					
12"	N/A	STANDARD	SOLID	2X2 R&H	N/A
15"	N/A	STANDARD	SOLID	2X2 R&H	N/A
18"	N/A	STANDARD	SOLID	2X2 R&H	2X3 R&H
24"	N/A	STANDARD	SOLID	2X2 R&H	2X3 R&H
30"	PEDESTRIAN	STANDARD	SOLID	2X2 R&H	2X3 R&H
36"	PEDESTRIAN	STANDARD	SOLID	2X2 R&H	2X3 R&H

1 - THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

2 - TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS.

3 - 36" DRAIN BASIN REQUIRES 36"X30" REDUCING CONE. REDUCING CONE REQUIRES MINIMUM 2.25FT FROM GRADE TO TOP OF PIPE.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2021 NYLOPLAST

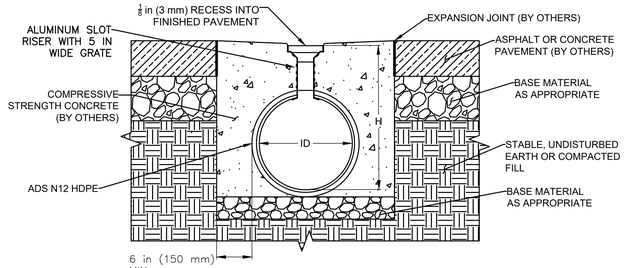
DRAWN BY	EBC	MATERIAL	
DATE	4-6-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	06-12-18		
DWG SIZE	A	SCALE 1:30	SHEET 1 OF 1

ADS Nyloplast

3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: DRAIN BASIN, INLINE DRAIN, & ROAD & HIGHWAY (H-20 TRAFFIC LOAD) ASPHALT INSTALLATION DETAIL

DWG NO. 7001-110-188 REV F



Nominal Diameter, ID, in. (mm)	Depth of Invert, H, in. (mm)	
	Minimum	Maximum
6 (150)	12.50 (318)	30.00 (762)
8 (200)	14.50 (368)	32.00 (813)
10 (250)	16.50 (419)	34.00 (864)
12 (300)	19.00 (483)	48.00 (1219)
15 (375)	22.00 (559)	51.00 (1295)
18 (450)	25.00 (635)	54.00 (1372)
24 (600)	31.25 (794)	60.00 (1524)
30 (750)	38.25 (972)	66.00 (1676)
36 (900)	44.25 (1024)	72.00 (1829)

NOTES:
1. BACKFILL DESIGN SHOULD BE USED FOR HS-20 LOADING APPLICATIONS.
2. SITE ENGINEER TO PROVIDE SITE SPECIFIC DETAILS, SUCH AS CONCRETE STRENGTH.
3. REFER TO ADS TECH NOTE 2.11 FOR ADDITIONAL DESIGN INFORMATION.
4. SLOT RECESS IS NOT INCLUDED IN DEPTH OF INVERT TABLES.

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

©2025 ADS, INC.

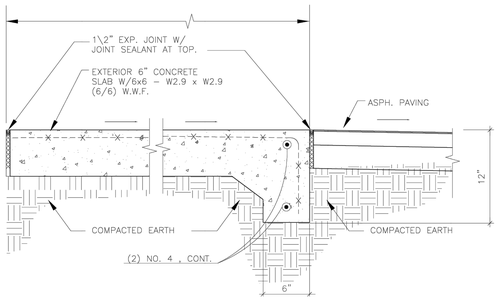
REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
	Updated Layers & Logo	KJS	01/08/25	–

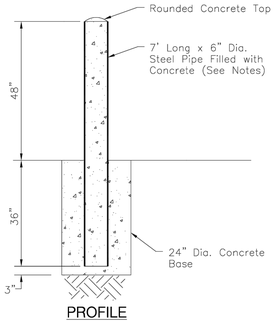
Barnelet XL Heavy Traffic Installation

DRAWING NUMBER:

4640 TRUEMAN BLVD
HILLIARD, OHIO 43026

04-18-2023
SCALE: –
NTS
1 OF 1

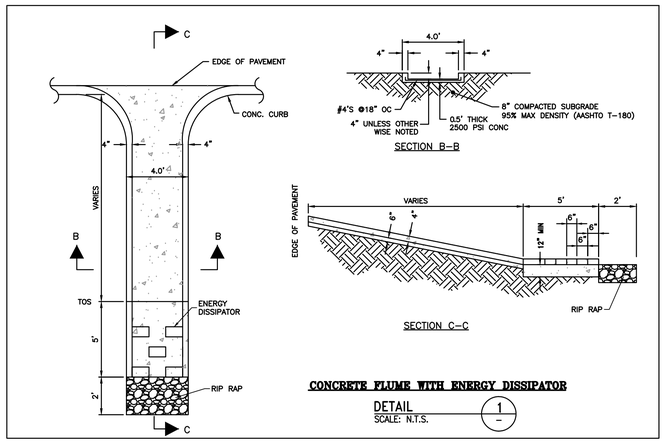




PROFILE

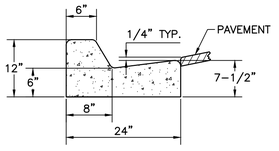
NOTES:

1. The minimum wall thickness of the pipe shall be 0.188".
2. All posts shall have 2 coats of primer and 2 coats of Yellow top coat, unless otherwise noted.
3. The primer coat shall meet the requirements of FDOT 971-5.
4. All concrete shall be FDOT class 1.



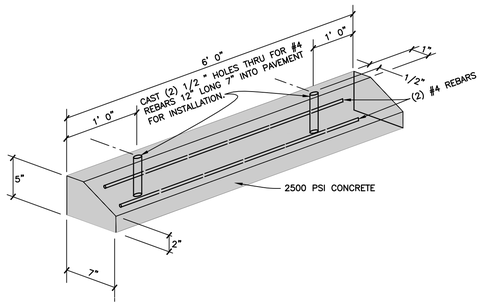
CONCRETE FLUME WITH ENERGY DISSIPATOR

DETAIL 1
SCALE: N.T.S.



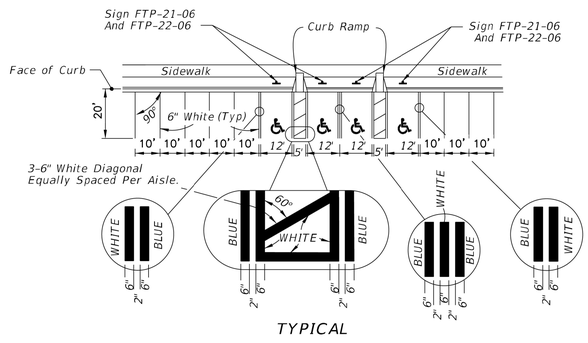
TYPE 'F' CURB DETAIL

N.T.S



WHEEL STOP DETAIL

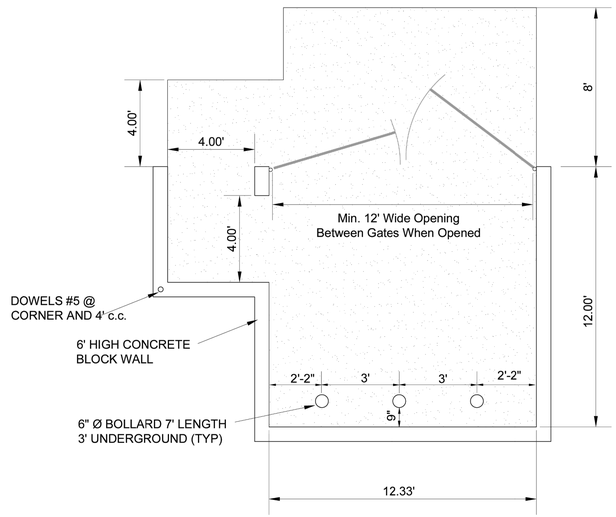
N.T.S



TYPICAL

HANDICAP PARKING DETAIL

N.T.S



DUMPSTER WITH SIDE OPENING

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-2

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-2 Plotted by: Ryan Date: 4/14/2026 - 3:40 PM Giangrande Engineering & Planning

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES

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

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

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES
CONTINUED

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

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

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

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

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

FORT PIERCE UTILITIES AUTHORITY WASTEWATER CONSTRUCTION NOTES

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

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

STANDARD SEPARATION STATEMENT FOR WATER / SEWER CONFLICTS

1. SANITARY SEWER, FORCE MAINS, AND STORM SEWERS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. SANITARY SEWERS, FORCE MAINS AND STORM SEWERS CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 6 INCHES, PREFERABLY 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE WHEN ABOVE, AND AT LEAST 12 INCHES OF SEPARATION WHEN THE WATER MAIN IS BELOW.

WHERE SANITARY SEWER, FORCE MAINS, STORM SEWERS MUST CROSS A WATER MAIN WITH LESS THAN 6 INCHES VERTICAL SEPARATION, BOTH THE SEWER AND WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) CENTERED ON THE CROSSING. (DIP IS NOT REQUIRED FOR STORM SEWERS.) SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED.

ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPES CENTERED ON THE CROSSING). AT SUCH CROSSINGS PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN 6 INCHES VERTICAL CLEARANCE, THE NEW PIPE SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWERS) AND NEW PIPES SHALL BE ARRANGED TO MEET THE CROSSING REQUIREMENTS ABOVE.

2. A MINIMUM 3-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF STORM SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

A MINIMUM 3-FOOT, AND PREFERABLE 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN VACUUM TYPE SANITARY SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

A MINIMUM 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN "ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

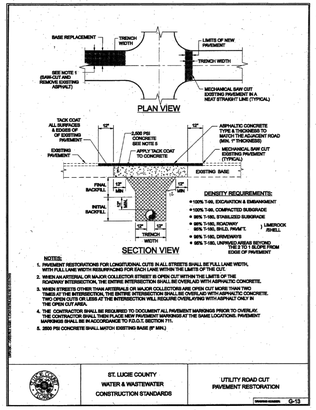
A MINIMUM 6-FOOT, AND PREFERABLE 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN GRAVITY OR PRESSURE TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE. THE MINIMUM SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO 3 FOOT WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10-FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON A UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 6 INCHES ABOVE THE TOP OF THE SEWER.

WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 6 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWER) WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).

3. ALL DIP SHALL BE PRESSURE CLASS 250 MIN. ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN ENGINEER.

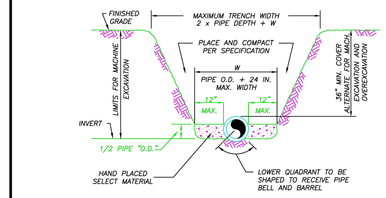
STANDARD SEPARATION STATEMENT FOR WATER/SEWER CONFLICT		G-3 WATER/SEWER CONFLICT
02-06 DATE	REVISION	BY APPD
DESIGNED: JJM	COMPUTER FILE # DETAIL NOTES 200602.DWG	WATER/WASTEWATER ENGINEERING
DRAWN BY: JJM	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1



NOTES:
1. FOR PAVEMENT RESTORATIONS FOR LONGITUDINAL CUTS IN ALL STREETS SHALL BE FULL LANE WIDTH, WITH FULL LANE WIDTH RESURFACING FOR EACH LANE WITHIN THE LIMITS OF THE CUT.
2. WHEN AN ARTERIAL OR MAJOR COLLECTOR STREET IS OPEN CUT WITHIN THE LIMITS OF THE ROADWAY INTERSECTION, THE ENTIRE INTERSECTION SHALL BE OVERLAID WITH ASPHALTIC CONCRETE.
3. WHEN STREETS OTHER THAN ARTERIALS OR MAJOR COLLECTORS ARE OPEN CUT MORE THAN TWO TIMES AT THE INTERSECTION, THE ENTIRE INTERSECTION SHALL BE OVERLAID WITH ASPHALTIC CONCRETE. WHEN ONLY ONE SIDE OF THE INTERSECTION WILL REQUIRE OVERLAYING WITH ASPHALTIC ONLY IN THE OPEN CUT AREA.
4. THE CONTRACTOR SHALL BE REQUIRED TO DOCUMENT ALL PAVEMENT MARKINGS PRIOR TO OVERLAY. THE CONTRACTOR SHALL THEN PLACE NEW PAVEMENT MARKINGS AT THE SAME LOCATIONS. PAVEMENT MARKINGS SHALL BE IN ACCORDANCE TO FDOT, SECTION 711.
5. 2000 PSI CONCRETE SHALL MATCH EXISTING BASE (IF ARL)

ST. LUCIE COUNTY WATER & WASTEWATER CONSTRUCTION STANDARDS	UTILITY ROAD CUT PAVEMENT RESTORATION	G-13

PAVEMENT RESTORATION (COUNTY)		R-2
02-06 DATE	REVISION	BY APPD
DESIGNED: JJM	COMPUTER FILE # MISC DETAILS 200602.DWG	WATER/WASTEWATER ENGINEERING
DRAWN BY: JJM	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

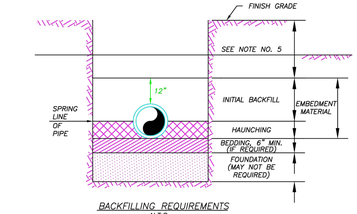


NOTES:

1) THE CONTRACTOR SHALL COMPLY WITH REQUIREMENTS OF THE FLORIDA TRENCH SAFETY ACT.
2) INITIAL BACKFILL SHALL BE HAND PLACED TO 12" ABOVE THE PIPE. BACKFILL SHALL BE MECHANICALLY TAMPED TO A MINIMUM OF 100% OF MAX. DENSITY AS DETERMINED BY AASHTO METHOD T-99.

TYPICAL TRENCH DETAIL
N.T.S.

TYPICAL TRENCH DETAIL		M-1
02-09 DATE	CONCRETE SLAB REVISION	SLL BY JLC APPD
DESIGNED: JLC	COMPUTER FILE # MISC DETAILS 200602.DWG	WATER/WASTEWATER ENGINEERING
DRAWN BY: SLL	SCALE:	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1

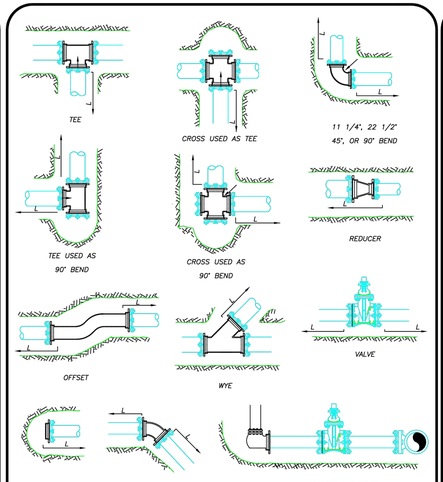


BACKFILLING REQUIREMENTS
N.T.S.

NOTES:

1) IN CERTAIN SOIL CONDITIONS A FOUNDATION MAY BE REQUIRED.
2) BEDDING IS REQUIRED PRIMARILY TO BRING THE TRENCH BOTTOM UP TO GRADE. BEDDING MATERIALS SHALL PROVIDE A UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE.
3) HAUNCHING MATERIAL SHALL BE HAND PLACED TO THE SPRINGLINE OF THE PIPE. MATERIAL SHALL BE CONSOLIDATED UNDER THE PIPE AND HAND TAMPED TO PROVIDE ADEQUATE SIDE SUPPORT.
4) INITIAL BACKFILL MATERIAL SHALL BE HAND PLACED TO 12" ABOVE THE TOP OF PIPE. THE SOIL SHALL BE COMPACTED TO 100% MAX. DENSITY.(AASHTO T-99)
5) BACKFILL SHALL BE COMPACTED TO 100% OF MAX. DENSITY AS PER AASHTO T-99, TO A POINT 30" BELOW PROPOSED PROFILE GRADE OR EXISTING GRADE. THE FINAL 30" OF BACKFILL SHALL BE COMPACTED TO 98% OF MAX. DENSITY AS PER AASHTO T-180.
6) DENSITY TEST SHALL BE PERFORMED AT AREAS DETERMINED BY THE UTILITIES ENGINEER OR PERMIT AGENCY HAVING JURISDICTION, AT THE CONTRACTORS EXPENSE.
7) CONTRACTOR TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL TRENCH SAFETY REGULATIONS.

BACKFILLING REQUIREMENTS		M-2
02-09 DATE	CONCRETE SLAB REVISION	SLL BY JLC APPD
DESIGNED: JLC	COMPUTER FILE # MISC DETAILS 200602.DWG	WATER/WASTEWATER ENGINEERING
DRAWN BY: SLL	SCALE:	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1



MECHANICAL JOINT ANCHORING REQUIREMENTS
N.T.S.

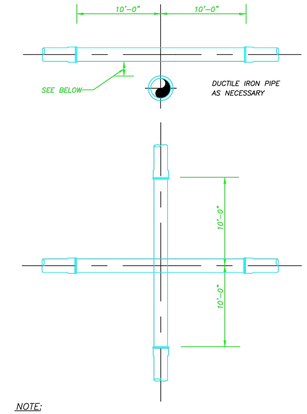
MECHANICAL JOINT ANCHORING REQUIREMENTS		M-3
02-09 DATE	CONCRETE SLAB REVISION	SLL BY JLC APPD
DESIGNED: JLC	COMPUTER FILE # MISC DETAILS 200602.DWG	WATER/WASTEWATER ENGINEERING
DRAWN BY: SLL	SCALE:	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1

MECHANICAL JOINT RESTRAINT NOTES

NOTES:

1) THE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE REQUIRED LENGTH TO BE RESTRAINED BASED UPON THE PROJECT AREA SOIL TYPE, PROPOSED TRENCH CONDITIONS AND DEPTH, PRESSURE OF 150 PSI, AND A SAFETY FACTOR OF TWO (2). A DRAWING OF EVERY TYPICAL FITTING ASSEMBLY WITHIN THE PROJECT SHALL BE SUBMITTED WHICH REFLECTS THE RESTRAINT DETAIL PROPOSED FOR USE, INCLUDING LENGTH OF PIPE RESTRAINT.
2) REQUIRED RESTRAINED LENGTH CALCULATIONS SHALL ALSO CONSIDER THE CONDITIONS OF OTHER BENDS OR FITTINGS THAT WILL BE LOCATED WITHIN THE CALCULATED RESTRAINED LENGTH (L) OF THE BEND OR FITTING IN QUESTION.
3) EVERY JOINT OR FITTING MUST BE RESTRAINED ON BOTH SIDES OF THE BEND AND FOR TEES ALONG THE BEND ALSO.

MECHANICAL JOINT RESTRAINT NOTES		M-4
02-09 DATE	CONCRETE SLAB REVISION	SLL BY JLC APPD
DESIGNED: JLC	COMPUTER FILE # MISC DETAILS 200602.DWG	WATER/WASTEWATER ENGINEERING
DRAWN BY: SLL	SCALE:	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	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.

UTILITY CROSSING DETAIL		M-5
02-09 DATE	CONCRETE SLAB REVISION	SLL BY JLC APPD
DESIGNED: JLC	COMPUTER FILE # MISC DETAILS 200602.DWG	WATER/WASTEWATER ENGINEERING
DRAWN BY: SLL	SCALE:	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

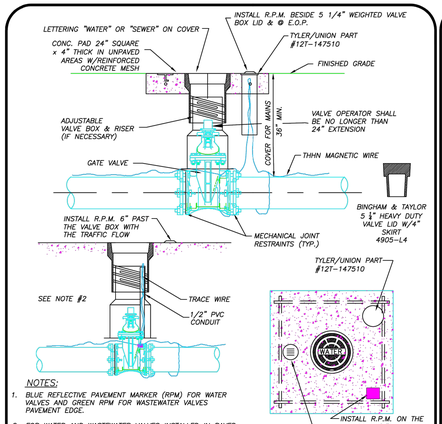
DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901
LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-3

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-3 – Plotted by: Ryan – Date: 4/14/2026 - 3:40 PM – Grangrande Engineering & Planning



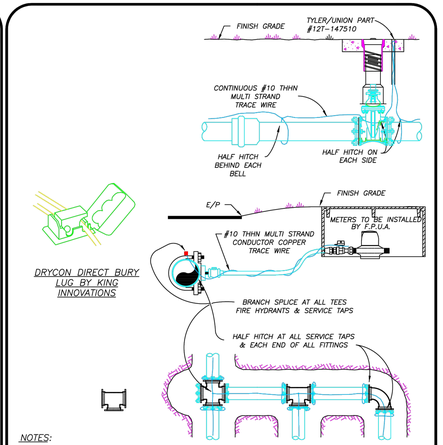
NOTES:

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

TYPICAL GATE VALVE & VALVE BOX DETAIL

N.T.S.

TYPICAL GATE VALVE & VALVE BOX DETAIL	M-6
03-09 DESIGN CONCRETE SLAB SLL JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # MISC. DETAILS 2006102.DWG
DRAWN BY: SLL	SCALE: N.T.S.
APPROVED: JLC	DATE: 2015
FT. PIERCE UTILITIES AUTHORITY	SHEET 1 OF 1

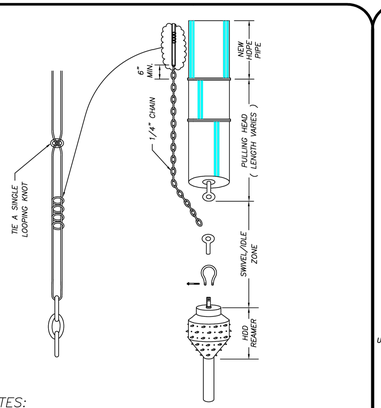


NOTES:

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

TRACE WIRE
(N.T.S.)

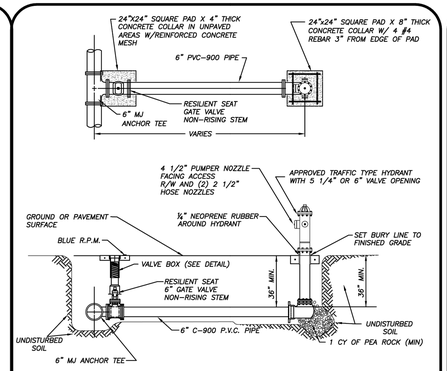
TRACE WIRE DETAIL	M-11
03-09 CONCRETE SLAB SLL JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # MISC. DETAILS 2006102.DWG
DRAWN BY: SLL	SCALE: N.T.S.
APPROVED: JLC	DATE: 2015
FT. PIERCE UTILITIES AUTHORITY	SHEET 1 OF 1



NOTES:

1. WHERE DIRECTIONAL DRILLING LENGTHS EXCEED 750 LINEAR FEET AND/OR HDPE PIPE DIAMETER EXCEED 12 INCHES, A SECOND LENGTH OF TRACE WIRE SHALL BE INSTALLED.
2. TRACE WIRE SHALL CONFORM TO THE FOLLOWING SPECIFICATION: MANUFACTURER – COPPERHEAD INDUSTRIES, LLC PART NUMBER – 12458–EHS–500 / 12458–EHS–1000 / 12458–EHS–2500 PART NUMBER DESCRIPTION – 12 (AWG), 45 (JACKET MIL), B (JACKET COLOR: B=BLUE, C=GREEN, ETC.) – EHS (EXTRA HIGH STRENGTH–HARD DRAWN / 1150# BREAKING LOAD STRENGTH) – 500 (WIRE LENGTH IN FEET)

DIRECTIONAL BORE WIRE ATTACHMENT	M-16
03-09 CONCRETE SLAB SLL JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # MISC. DETAILS 2006102.DWG
DRAWN BY: SLL	SCALE: N.T.S.
APPROVED: JLC	DATE: 2015
FT. PIERCE UTILITIES AUTHORITY	SHEET 1 OF 1



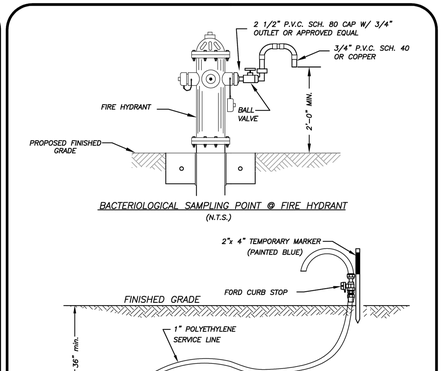
NOTES:

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

TYPICAL FIRE HYDRANT ASSEMBLY

(N.T.S.)

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



BACTERIOLOGICAL SAMPLING POINT @ FIRE HYDRANT

(N.T.S.)

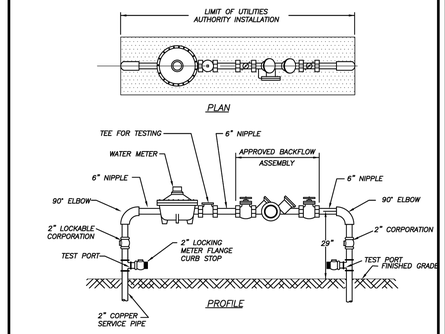
BACTERIOLOGICAL SAMPLING POINT @ WATER MAIN

(N.T.S.)

NOTE:

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

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



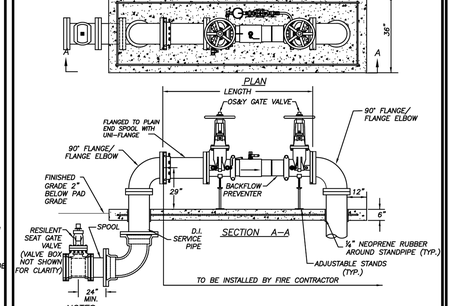
NOTES:

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.)

WATER METER/BACKFLOW PREVENTER ASSEMBLY–DOMESTIC SERVICES (METER SIZE 2" OR LESS)	W-8
03-09 DESIGN SLL JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 2006102.DWG
DRAWN BY: SLL	SCALE: N.T.S.
APPROVED: JLC	DATE: 2010
FT. PIERCE UTILITIES AUTHORITY	SHEET 1 OF 1



NOTES:

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

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

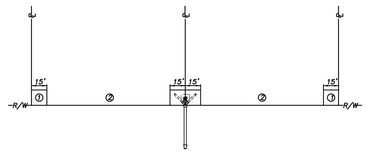
BACKFLOW PREVENTER ASSEMBLY–4"–10" FIRE SERVICE

(N.T.S.)

BACKFLOW PREVENTER ASSEMBLY 4"–10" FIRE SERVICE	W-10
11-09 CONCRETE PAD SLL JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 2006102.DWG
DRAWN BY: SLL	SCALE: N.T.S.
APPROVED: JLC	DATE: 2010
FT. PIERCE UTILITIES AUTHORITY	SHEET 1 OF 1

GENERAL POLICY

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



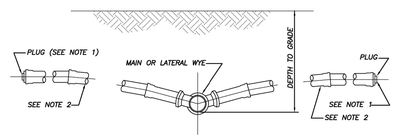
NOTES:

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

WASTEWATER SERVICE PLACEMENT

(N.T.S.)

WASTEWATER SERVICE PLACEMENT POLICY	S-1
02-06 02-15 SLL JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: JLM	COMPUTER FILE # SEWER DETAIL 2006102.DWG
DRAWN BY: SLL	SCALE: N.T.S.
APPROVED: JLC	DATE: 2010
FT. PIERCE UTILITIES AUTHORITY	SHEET 1 OF 1



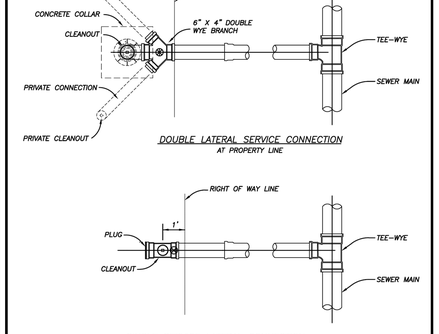
NOTES:

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

SERVICE CONNECTION

(N.T.S.)

SERVICE CONNECTION WASTEWATER	S-2
02-06 SLL JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2006102.DWG
DRAWN BY: SLL	SCALE: N.T.S.
APPROVED: JLC	DATE: 2015
FT. PIERCE UTILITIES AUTHORITY	SHEET 1 OF 1



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

SERVICE CONNECTION

(N.T.S.)

SERVICE CONNECTION WASTEWATER	S-3
02-06 SLL JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2006102.DWG
DRAWN BY: SLL	SCALE: N.T.S.
APPROVED: JLC	DATE: 2010
FT. PIERCE UTILITIES AUTHORITY	SHEET 1 OF 1

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

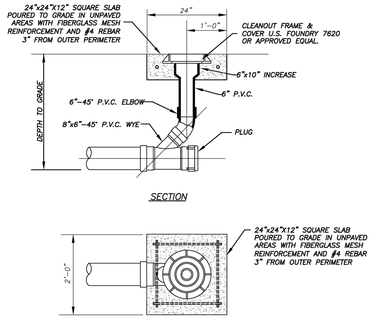
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

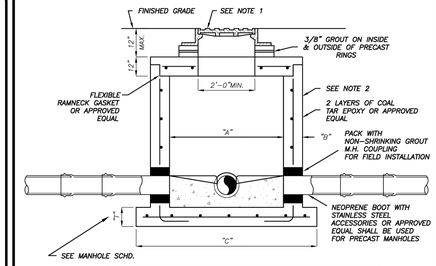
D-4

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\design\24-035 details.dwg Layout Name: D-4 – Plotted by: Ryan – Date: 4/14/2026 – 3:39 PM – Giangrande Engineering & Planning



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

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY WATER/WASTEWATER/GAS ENGINEERING 206 SOUTH 6TH STREET FT. PIERCE, FLORIDA 34947 772-466-1600	TERMINAL CLEANOUT DETAIL WASTEWATER		S-4B
10-06 DATE	REVISION:	BY:	APPD:
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2020S03.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: JLC	SCALE: N.T.S.		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 2 OF 3	



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

TYPICAL MANHOLE DIMENSIONS

NOTES:

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

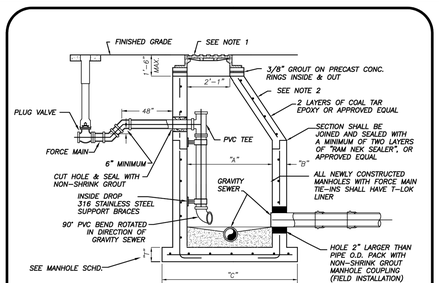
2) ALL CONCRETE MANHOLES TO BE 4000 P.S.I. TO MEET OR EXCEED ASTM C478 ALL CEMENT TO BE TYPE II ACID RESISTANT. REINFORCING AREA OF 0.02 SQ. IN/FT FOR WALL SECTION MIN. TO MEET OR EXCEED ASTM A 185.

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

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

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

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY WATER/WASTEWATER/GAS ENGINEERING 206 SOUTH 6TH STREET FT. PIERCE, FLORIDA 34947 772-466-1600	PRECAST MANHOLE DEPTH OF LESS THAN 5'- 0"		S-6
02-08 DATE	REVISION:	BY:	APPD:
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2020S03.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: JLC	SCALE: N.T.S.		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1	



PIPE DIA.	"A"	"B"	"C"	BOT. SLAB "T"
8"–24"	5'–0"	"B"	70"	8"
30"–36"	6'–0"	"B"	84"	10"
42"–48"	7'–0"	"B"	96"	12"

TYPICAL MANHOLE DIMENSIONS

NOTES:

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

2) ALL CONCRETE MANHOLES TO BE 4000 P.S.I. TO MEET OR EXCEED ASTM C478 ALL CEMENT TO BE TYPE II ACID RESISTANT. REINFORCING AREA OF 0.20IN/FT FOR WALL SECTION MIN. TO MEET OR EXEED ASTM A 185.

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

4) FORCE MAIN TIE-IN SHALL BE TO MANHOLES WITH A MINIMUM DEPTH OF 4'-0".

5) NEW MANHOLES SHALL BE T-LOCK LINED, EXISTING MANHOLES SHALL BE SEWPERCOATED.

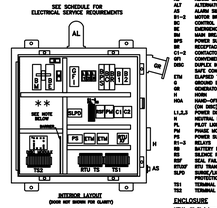
FORCE MAIN TIE-IN @ PRECAST MANHOLE
(N.T.S.)

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY WATER/WASTEWATER/GAS ENGINEERING 206 SOUTH 6TH STREET FT. PIERCE, FLORIDA 34947 772-466-1600	FORCE MAIN TIE-IN AT PRECAST MANHOLE		S-10
03-09 DATE	VALVE AND DEFLECTION REVISION:	TBL BY:	J.L.C. APPD:
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2009S02.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: JLC	SCALE: N.T.S.		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1	

CONTROL CENTER DESIGNED & MANUFACTURED TO MEET ALL D.E.P. REQUIREMENTS

MOPS CONTROL CENTER

SEE SCHEDULE FOR ELECTRICAL SERVICE REQUIREMENTS



INTERIOR LAYOUT
(DOOR NOT SHOWN FOR CLARITY)

| | | |

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	ABRAHAM JAIMES 786-960-1633 ABRAHAM.JAIMES@ADSPIPE.COM
ADS SALES REP	TIM TEAHAN 561-248-5480 TIM.TEAHAN@ADSPIPE.COM
PROJECT NO.	S482153
PROJECT SITE COORDINATOR:	JAMES FARTHING 407-663-4242 JAMES.FARTHING@ADSPIPE.COM

Advanced Drainage Systems, Inc.

ADS SiteAssist™
FOR STORMTECH
INSTALLATION INSTRUCTIONS
VISIT OUR APP

3700 OKEECHOBEE ROAD

FORT PIERCE, FL, USA

SC-310 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-310.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

1. STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 3" (80 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT ADS WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

©2026 ADS, INC.

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-6 -- Plotted by: Ryan -- Date: 4/14/2026 - 3:39 PM -- Grangrande Engineering & Planning

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-6

PROPOSED LAYOUT: NORTH BED

664	STORMTECH SC-310 CHAMBERS
90	STORMTECH SC-310 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
20,366	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
15,520	SYSTEM AREA (ft²)
657	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS: NORTH BED

24.33	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
18.16	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
17.66	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
17.66	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
17.66	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
16.83	TOP OF STONE
16.33	TOP OF SC-310 CHAMBER
15.29	8" TOP MANIFOLD INVERT
15.08	12" ISOLATOR ROW PLUS CONNECTION INVERT
15.00	BOTTOM OF SC-310 CHAMBER
14.50	BOTTOM OF STONE

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED EZ END CAP	A	12" BOTTOM PREFABRICATED EZ END CAP, PART#: SC310ECEZ / TYP OF ALL 12" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS		
PRE-CORED END CAP	B	8" TOP PRE-CORED END CAP, PART#: SC310EPE08TPC / TYP OF ALL 8" TOP CONNECTIONS		
MANIFOLD	C	8" x 8" TOP MANIFOLD, MOLDED FITTINGS	3.50"	
CONCRETE STRUCTURE	D	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		2.3 CFS IN
INSPECTION PORT	E	4" SEE DETAIL		



ISOLATOR ROW PLUS
(SEE DETAIL)

PLACE MINIMUM 12.50' OF ADSPLUS625 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THE SITE DESIGN ENGINEER MUST CONSIDER THE EFFECTS OF POSSIBLE SATURATED SOILS ON NEARBY SYSTEMS, INCLUDING BUT NOT LIMITED TO, RETAINING WALLS, SLOPE CONSTRUCTION/STABILITY, OR BUILDINGS/STRUCTURES. NO FOUNDATION LOADS SHALL BE TRANSMITTED TO THE CHAMBERS.

3700 OKEECHOBEE ROAD
FORT PIERCE, FL, USA
DATE: 02/26/2026 DRAWN: DC
PROJECT #: S482153 CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

ADS WWW.ADSPIPE.COM

0 25' 50'

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET
2 OF 8

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

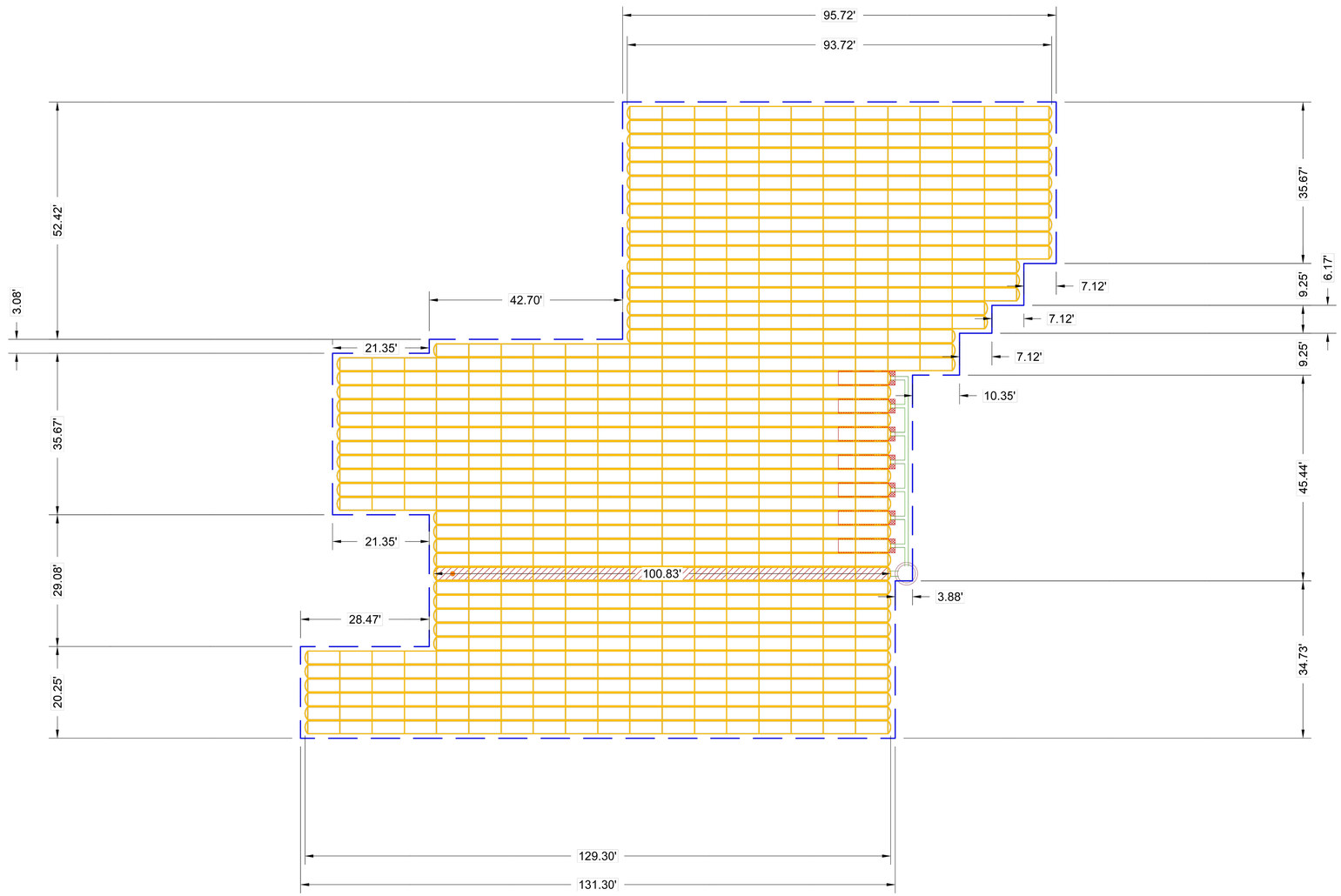
ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035
D-7

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-7 Plotted by: Ryan Date: 4/14/2026 - 3:39 PM Giangrande Engineering & Planning



3700 OKEECHOBEE ROAD
FORT PIERCE, FL, USA
DATE: 02/26/2026 | DRAWN: DC
PROJECT #: S482153 | CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

ADS WWW.ADSPIPE.COM

0 25' 50'

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET
3 OF 8

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035
D-8

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-8 -- Plotted by: Ryan -- Date: 4/14/2026 - 3:37 PM -- Giangrande Engineering & Planning

PROPOSED LAYOUT: SOUTH BED

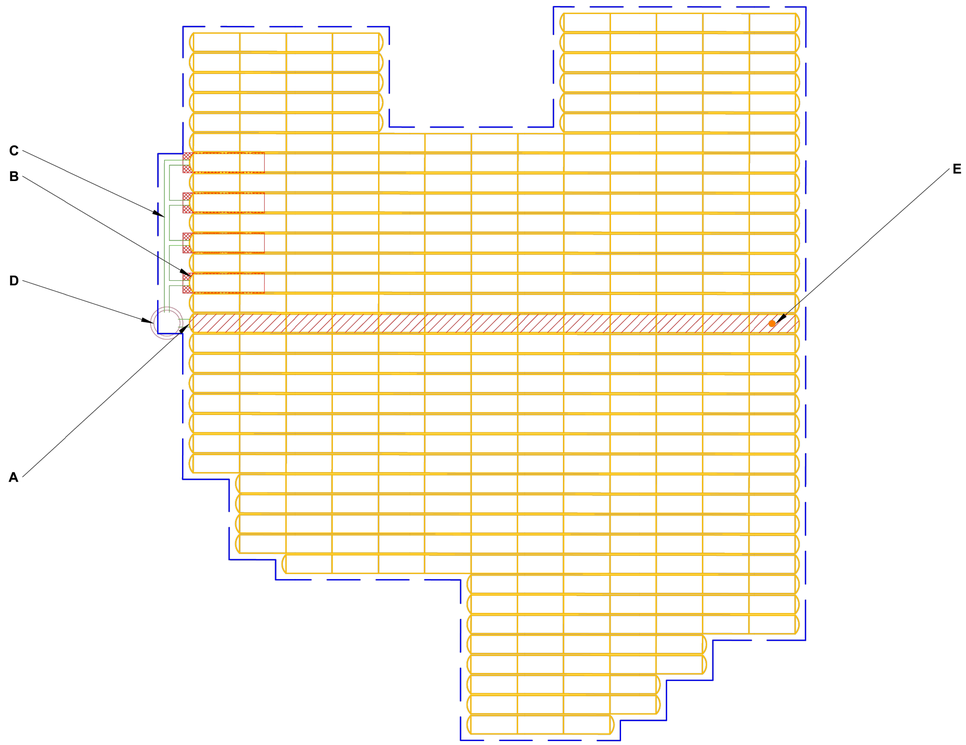
372	STORMTECH SC-310 CHAMBERS
82	STORMTECH SC-310 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
11,187	**INSTALLED SYSTEM VOLUME (CF) ABOVE ELEVATION 14.50 (PERIMETER STONE INCLUDED)**
8,842	SYSTEM AREA (ft²)
456	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS: SOUTH BED

24.23	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
18.06	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
17.56	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
17.56	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
17.56	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
16.73	TOP OF STONE
16.23	TOP OF SC-310 CHAMBER
15.19	8" TOP MANIFOLD INVERT
14.98	12" ISOLATOR ROW PLUS CONNECTION INVERT
14.90	BOTTOM OF SC-310 CHAMBER
14.40	BOTTOM OF STONE

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED EZ END CAP	A	12" BOTTOM PREFABRICATED EZ END CAP, PART#: SC310ECEZ / TYP OF ALL 12" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS		
PRE-CORED END CAP	B	8" TOP PRE-CORED END CAP, PART#: SC310EPE08TPC / TYP OF ALL 8" TOP CONNECTIONS		
MANIFOLD	C	8" x 8" TOP MANIFOLD, MOLDED FITTINGS	3.50"	
CONCRETE STRUCTURE	D	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		2.3 CFS IN
INSPECTION PORT	E	4" SEE DETAIL		



ISOLATOR ROW PLUS
(SEE DETAIL)

PLACE MINIMUM 12.50' OF ADSPLUS625 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.

3700 OKEECHOBEE ROAD
FORT PIERCE, FL, USA
DATE: 02/26/2026 DRAWN: DC
PROJECT #: S482153 CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

ADS WWW.ADSPIPE.COM

0 20 40

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET
4 OF 8

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

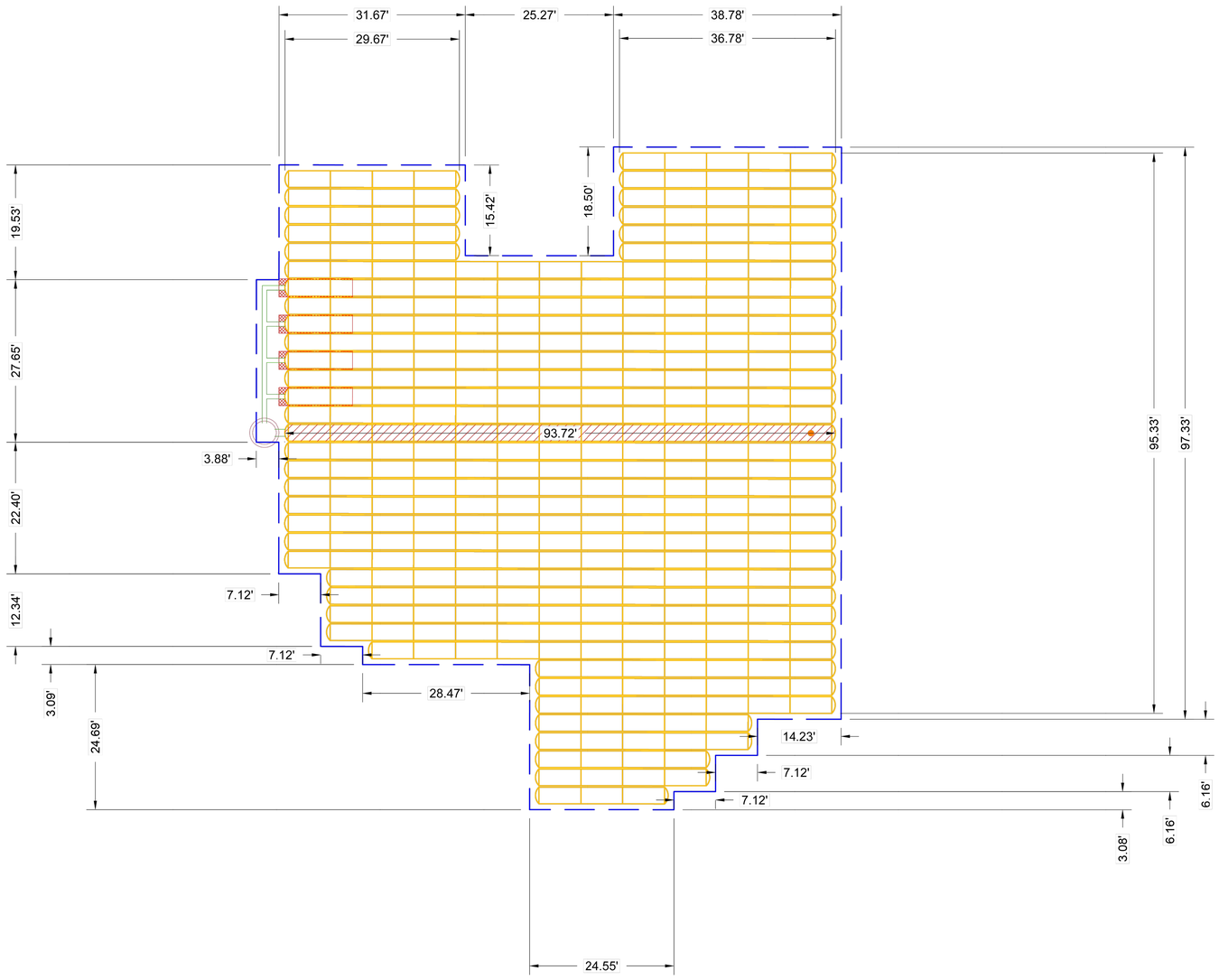
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-9

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-9 -- Plotted by: Ryan -- Date: 4/14/2026 -- 3:38 PM -- Giangrande Engineering & Planning



3700 OKEECHOBEE ROAD

FORT PIERCE, FL, USA

DATE: 02/26/2026 | DRAWN: DC

PROJECT #: S482153 | CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

ADS WWW.ADSPIPE.COM

0 20 40

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET 5 OF 8

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

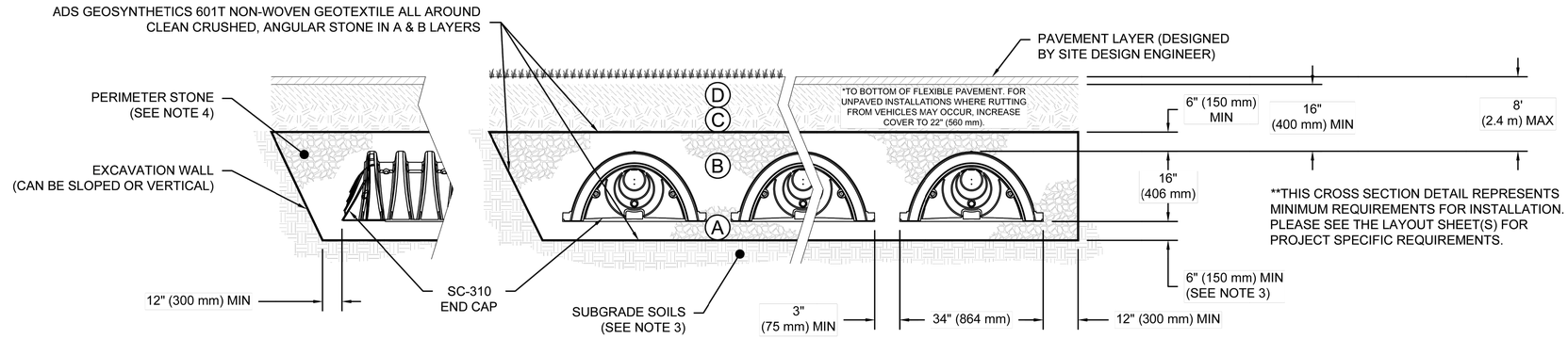
D-10

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-10 -- Plotted by: Ryan -- Date: 4/14/2026 - 3:39 PM -- Giangrande Engineering & Planning

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	3.25	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 16" (400 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2" (50 mm).
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

3700 OKEECHOBEE ROAD
#
FORT PIERCE, FL

DATE: 07/29/2025 DRAWN: DH
PROJECT #: S482153 CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

WWW.ADSPIPE.COM

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD (EOR) OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET 6 OF 8

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

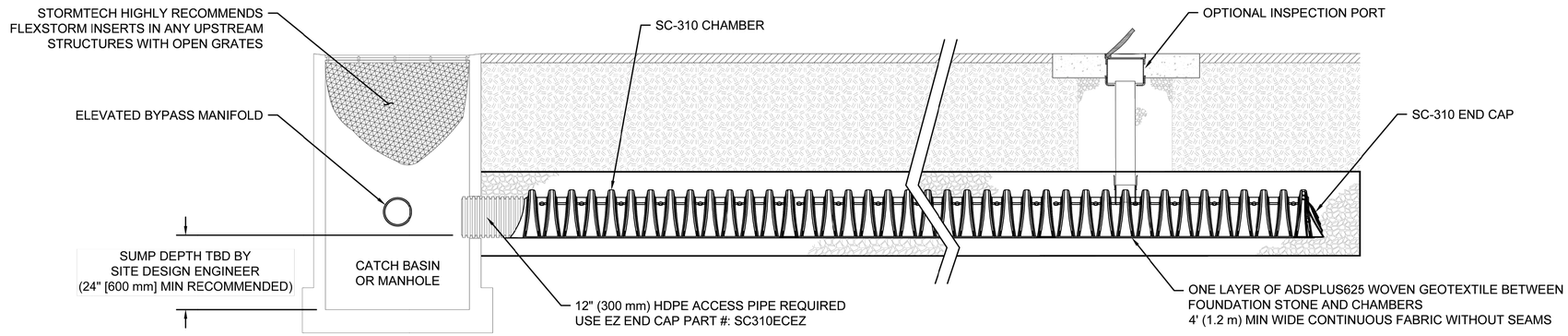
ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035
D-11

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-11 - Plotted by: Ryan - Date: 4/14/2026 - 3:38 PM - Gianogrande Engineering & Planning



SC-310 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

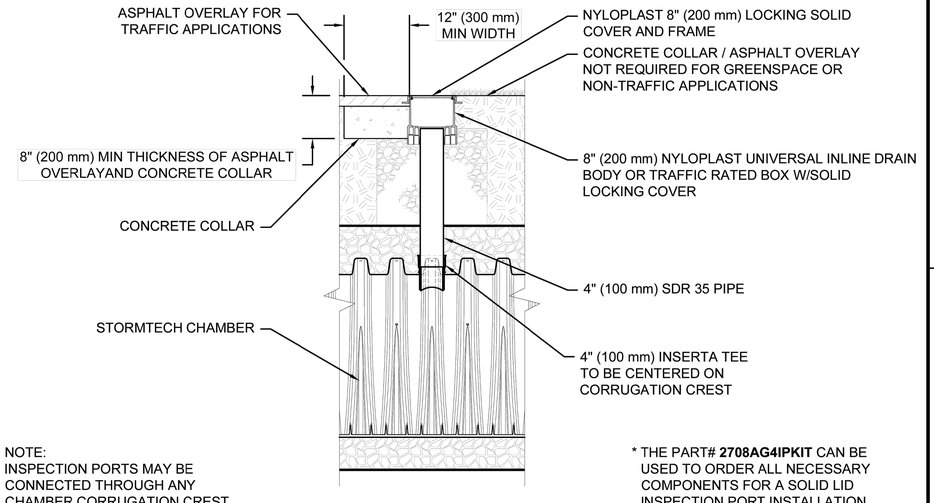
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

* THE PART# **2708AG4IPKIT** CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

4" (100 mm) PVC INSPECTION PORT DETAIL
(SC SERIES CHAMBER)
NTS

3700 OKEECHOBEE ROAD
#
FORT PIERCE, FL

DATE: 07/29/2025 | DRAWN: DH
PROJECT #: S482153 | CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

WWW.ADSPIPE.COM

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADSSTORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD (EOR)* OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc Cert. No. 30901

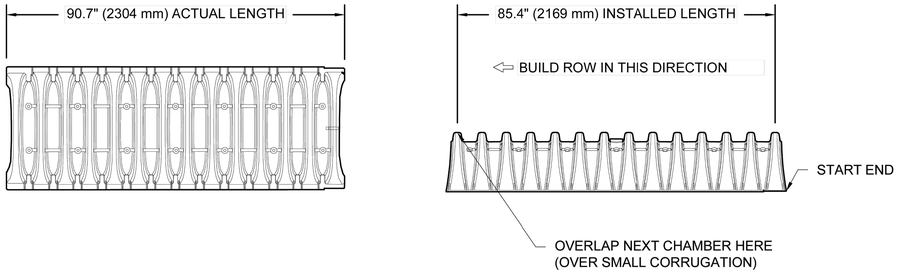
LEO GIANGRANDE, P.E.
License No: 66387

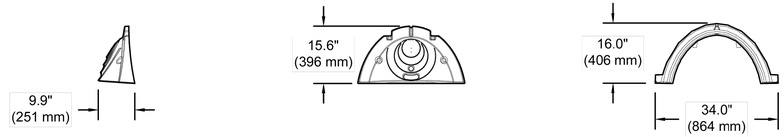
PROJECT #: 24-035
D-12

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-12 Plotted by Ryan Date: 4/14/2026 - 3:37 PM Giangrande Engineering & Planning

SC-310 TECHNICAL SPECIFICATION

NTS



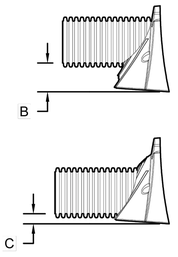


NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	29.34 CUBIC FEET	(0.83 m³)
WEIGHT	35.0 lbs.	(16.8 kg)

*ASSUMES 6" (150 mm) ABOVE AND BELOW CHAMBER; 3" (75 mm) BETWEEN CHAMBERS

PART #	STUB	B	C
SC310EPE06TPC	6" (150 mm)	5.8" (147 mm)	---
SC310EPE06BPC		---	0.5" (13 mm)
SC310EPE08TPC	8" (200 mm)	3.5" (89 mm)	---
SC310EPE08BPC		---	0.6" (15 mm)
SC310EPE10TPC	10" (250 mm)	1.4" (36 mm)	---
SC310EPE10BPC		---	0.7" (18 mm)
SC310ECEZ*	12" (300 mm)	---	0.9" (23 mm)



ALL STUBS, EXCEPT FOR THE SC310ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC310ECEZ THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL; PRE-CORED END CAPS END WITH "PC"

3700 OKEECHOBEE ROAD
#
FORT PIERCE, FL

DATE: 07/29/2025 DRAWN: DH
PROJECT #: S482153 CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech®
Chamber System

WWW.ADSPIPE.COM

ADS

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD (EOR) FOR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET 8 OF 8

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

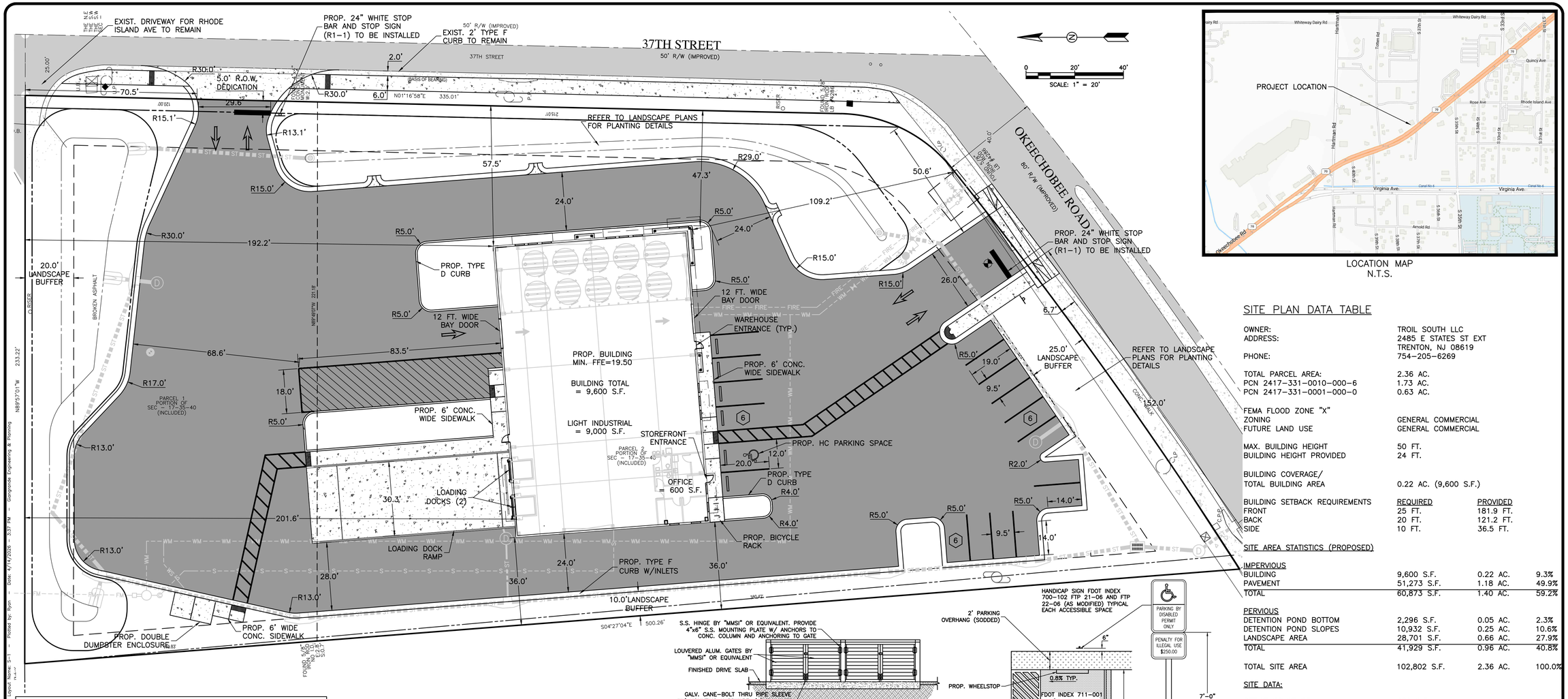
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-13

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-13 — Plotted by: Ryan — Date: 4/14/2026 — 3:37 PM — Giangrande Engineering & Planning

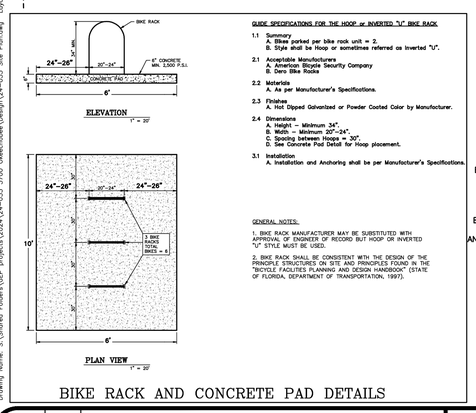


LOCATION MAP
N.T.S.

SITE PLAN DATA TABLE

OWNER:	TROIL SOUTH LLC		
ADDRESS:	2485 E STATES ST EXT TRENTON, NJ 08619		
PHONE:	754-205-6269		
TOTAL PARCEL AREA:	2.36 AC.		
PCN 2417-331-0010-000-6	1.73 AC.		
PCN 2417-331-0001-000-0	0.63 AC.		
FEMA FLOOD ZONE "X"			
ZONING	GENERAL COMMERCIAL		
FUTURE LAND USE	GENERAL COMMERCIAL		
MAX. BUILDING HEIGHT	50 FT.		
BUILDING HEIGHT PROVIDED	24 FT.		
BUILDING COVERAGE/ TOTAL BUILDING AREA	0.22 AC. (9,600 S.F.)		
BUILDING SETBACK REQUIREMENTS	REQUIRED	PROVIDED	
FRONT	25 FT.	181.9 FT.	
BACK	20 FT.	121.2 FT.	
SIDE	10 FT.	36.5 FT.	
SITE AREA STATISTICS (PROPOSED)			
IMPERVIOUS			
BUILDING	9,600 S.F.	0.22 AC.	9.3%
PAVEMENT	51,273 S.F.	1.18 AC.	49.9%
TOTAL	60,873 S.F.	1.40 AC.	59.2%
PERVIOUS			
DETENTION POND BOTTOM	2,296 S.F.	0.05 AC.	2.3%
DETENTION POND SLOPES	10,932 S.F.	0.25 AC.	10.6%
LANDSCAPE AREA	28,701 S.F.	0.66 AC.	27.9%
TOTAL	41,929 S.F.	0.96 AC.	40.8%
TOTAL SITE AREA	102,802 S.F.	2.36 AC.	100.0%
SITE DATA:			
OFFICE SPACE GFA	600 S.F.		
LIGHT INDUSTRIAL GFA	9.000 S.F.		
PARKING REQUIRED:			
OFFICE SPACE	1 SPACE PER 300 S.F. OF GFA		
WAREHOUSE	1 SPACE PER 600 S.F OF GFA		
TOTAL OFFICE SPACE	600 S.F.		
PARKING REQUIRED FOR OFFICE SPACE	600 S.F.x1 SPACE/300 S.F.=2 SPACES		
TOTAL WAREHOUSE SPACE	9,000 S.F.		
PARKING REQUIRED FOR WAREHOUSE SPACE	9,000 S.F.x1 SPACE/600 S.F.=15 SPACES		
NUMBER OF SPACES PROVIDED	18 SPACES		
PARKING SPACES PROVIDED			
STANDARD	17 SPACES		
HANDICAP	1 SPACE (REQUIRED 1 SPACE)		
TOTAL NUMBER OF SPACES PROVIDED	18 SPACES		

NOTES:
ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF FORT PIERCE CODE ORDINANCES SECTIONS 119 AND 125



GUIDE SPECIFICATIONS FOR THE HOOP or INVERTED "U" BIKE RACK

1.1 Summary
A. Bikes parked per bike rack unit = 2.
B. Style shall be Hoop or sometimes referred as Inverted "U".

2.1 Acceptable Manufacturers
A. American Bicycle Security Company
B. Dero Bike Racks

2.2 Materials
A. As per Manufacturer's Specifications.

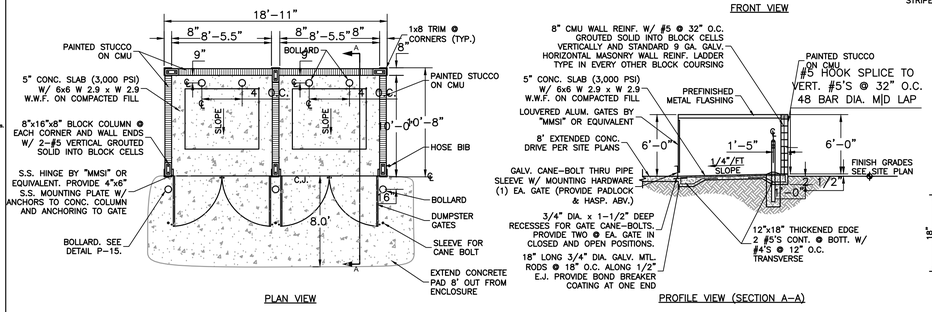
2.3 Finishes
A. Hot Dipped Galvanized or Powder Coated Color by Manufacturer.

2.4 Dimensions
A. Height – Minimum 34".
B. Width – Minimum 20"-24".
C. Spacing between Hoops = 30".
D. See Concrete Pad Detail for Hoop placement.

3.1 Installation
A. Installation and Anchoring shall be per Manufacturer's Specifications.

GENERAL NOTES:
1. BIKE RACK MANUFACTURER MAY BE SUBSTITUTED WITH APPROVAL OF ENGINEER OF RECORD BUT HOOP OR INVERTED "U" STYLE MUST BE USED.
2. BIKE RACK SHALL BE CONSISTENT WITH THE DESIGN OF THE PRINCIPLE STRUCTURES ON SITE AND PRINCIPLES FOUND IN THE "BICYCLE FACILITIES PLANNING AND DESIGN HANDBOOK" (STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, 1997).

BIKE RACK AND CONCRETE PAD DETAILS

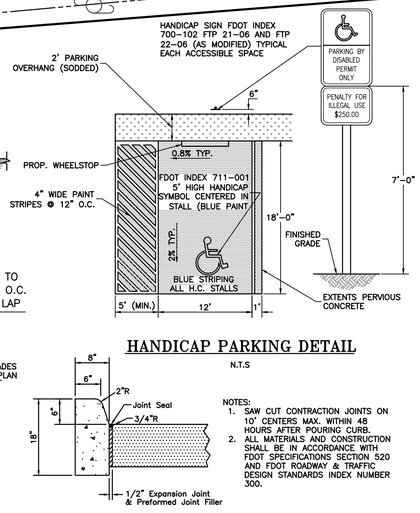


PLAN VIEW

DOUBLE DUMPSTER ENCLOSURE
N.T.S

FRONT VIEW

PROFILE VIEW (SECTION A-A)



HANDICAP PARKING DETAIL
N.T.S

SECTION VIEW

NOTES:
1. SAW CUT CONTRACTION JOINTS ON 10' CENTERS MAX. WITHIN 48 HOURS AFTER POURING CURB.
2. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS SECTION 520 AND FDOT ROADWAY & TRAFFIC DESIGN STANDARDS INDEX NUMBER 300.

FDOT INDEX TYPE "D" CURB
N.T.S

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

SITE PLAN

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

S-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Site Plan.dwg Layout Name: S-1 – Plotted By: Ryan – Date: 4/11/2026 – 3:37 PM


ARCHITECTS DESIGN
COLLABORATIVE, LLC


ARCHITECTS DESIGN
COLLABORATIVE, LLC


ARCHITECTS DESIGN
COLLABORATIVE, LLC


ARCHITECTS DESIGN
COLLABORATIVE, LLC

3700 OKEECHOBEE ROAD, FORT PIERCE, FLORIDA

TREE MITIGATION DATA SUPPORTS LANDSCAPE PLAN 4.16.26

ID#	Common Name	DBH "x H'xSP'	Action
TR1	Oak	8" x 10' x 4'	Remove
TR2	Palm	6" x 10' x 4'	Preserve
TR3	Oak	15" x 20' x 20'	Preserve
TR4	Oak	15"x 20' x 20'	Preserve
TR5	Oak	15" x 20' x 20'	Preserve
TR6	Palm	4" x 10' x 4'	Preserve
TR7	Oak	15" x 20' x 20'	Preserve
TR8	Palm	4" x 10' x 4'	Preserve
TR9	Palm	4" x 10' x 4'	Preserve
TR10	Palm	4" x 10' x 4'	Remove
TR11	Oak	4" x 10' x 4'	Remove
TR12	Palm	15" x 12' x 10'	Remove
TR13	Oak	6" x 12' x 10'	Remove
TR14	Oak	8" x 12' x 10'	Remove
TR15	Oak	8" x 12' x 10'	Remove
TR16	Palm	4" x 10' x 4'	Remove
TR17	Palm	22" x 15' x 15'	Preserve
TR18	Oak	4" x 12' x 4'	Remove
TR20	Oak	4" x 12' x 4"	Remove
TR21	Holly	4" x 12' x 8'	Remove
TR22	Oak	12" x 10' x 4'	Preserve
TR23	Oak	3" x 8' x 2'	Preserve
TR24	Oak	4" x 10' x 4'	Preserve
TR25	Oak	8" x 12' x 10'	Preserve
TR26	Palm	8" x 12' x 4'	Preserve
TR27	Oak	8" x 12' x 10'	Preserve
TR28	Oak	3" x 6' x 2'	Preserve
TR29	Oak	3" x 10' x 4'	Remove
TR30	Oak Cluster	14" x 13' x 10'	Preserve
TR31	Oak	4" x 10' x 8'	Preserve
TR32	Palm	18" x 12' x 10'	Preserve
TR33	Oak	4" x 10' x 8'	Preserve
TR34	Palm	15" x 15' x 15'	Preserve
TR35	Oak	36" x 20' x 25'	Preserve
TR36	Oak	18" x 18' x 8'	Preserve
TR37	Holly	3" x 8' x 4'	Preserve
TR38	Oak	8" x 10' x 4'	Preserve
TR39	Palm	14" x 7' x 15'	Preserve
TR40	Oak	30" x 22' x 33'	Preserve
TR41	Oak	5" x 12' x 10'	Preserve

TR42	Palm	18" x 3' x 10'	Preserve
TR43	Oak Cluster	6" x 10' x 6'	Preserve
TR44	Oak Cluster	6" x 10' x 6'	Preserve
TR45	Oak Cluster	6" x 10' x 6'	Preserve
TR46	Oak	6" x 10' x 6'	Preserve
TR47	Holly Cluster	6" x 10' x 6'	Preserve
TR48	Oak	5" x 12' x 15'	Remove
TR49	Palm	25" x 15' x 15'	Remove
TR50	Oak	4" x 10' x 10'	Remove
TR51	Palm	25" x 15' x 15'	Remove
TR52	Oak	4" x 8' x 2'	Remove
TR53	Oak	4" x 5' x 1'	Remove
TR54	Oak	12" x 3' x 3'	Remove
TR55	Palm	20" x 15' x 10'	Remove
TR56	Oak	25" x 15' x 30'	Remove
TR57	Palm	25" x 14' x 15'	Remove
TR58	Oak	30" x 15' x 25'	Remove
TR59	Oak	10" x 15' x 25'	Preserve
TR60	Oak	5" x 12' x 15'	Preserve
TR61	Palm	10" x 20' x 10'	Remove
TR62	Oak	31" x 16' x 30'	Preserve
TR63	Palm	18" x 14' x 15'	Preserve
TR64	Palm	20" x 13' x 10'	Remove
TR65	Palm	12" x 9' x NA'	Preserve
TR66	Palm	22" x 12' x 15'	Preserve
TR67	Palm	48" x 10' x 10'	Remove
TR68	Palm	23" x 12' x 14'	Remove
TR69	Palm	22" x 12' x 15'	Preserve
TR70	Pine	12" x 15' x 20'	Preserve
TR71	Oak/Palm	25" x 12' x 10'	Preserve
TR72	Palm	15" x 12' x 15'	Remove
TR73	Palm	15" x 15' x 15'	Preserve
TR74	Seagrape Cluster	7" x 12' x 20'	Remove
TR75	Oak	14" x 12' x 10'	Remove
TR76	Seagrape Cluster	15" x 15' x 30'	Remove
TR77	Palm	12" x 8' x 10'	Remove
TR78	Oak	12" x 18' x 25'	Remove
TR79	Seagrape	30" x 10' x 25'	Remove
TR80	Oak Cluster	18" x 10' x 10'	Remove
TR81	Oak Cluster	18" x 10' x 10'	Remove
TR82	Oak	3" x 7' x 3'	Remove
TR83	Palm	6" x 7' x 3'	Remove
TR84	Palm	6" x 7' x 3'	Remove
TR85	Palm	25" x 25' x 15'	Remove

TR86	Oak	5" x 10' x 15'	Remove
TR87	Oak	24" x 15' x 20'	Preserve
TR88	Holly Cluster	36" x 13' x 25'	Remove
TR89	Oak Cluster	36" x 13' x 25'	Remove
TR90	Holly Cluster	36" x 15' x 20'	Off Property
TR91	Pine	24" x 30' x 20'	Off Property
TR92	Pine	24" x 30' x 20'	Off Property
TR93	Oak	24" x 15' x 20'	Remove
TR94	Palm	24" x 15' x 15'	Preserve
TR95	Palm	12" x 10' x 8'	Remove
TR96	Palm	5" x 8' x 6'	Remove
TR97	Misc. Cluster	12" x 7' x 8'	Remove

NATIVE TREES				
TOTAL INCHES REMOVED		351"		
TOTAL INCHES PRESERVED		365"		
TOTAL INCHES PROPOSED		80"		
PALM TREES				
TOTAL NUMBER REMOVED		18		
TOTAL NUMBER PRESERVED		19		
TOTAL NUMBER PROPOSED		4		

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

January 6, 2026

City of Fort Pierce Planning Department
100 North US 1,
Fort Pierce, Florida 34950

RE: **Project#: PZSITE2025-00029 –** Conditional Use w New Construction Parcel IDs: 2417-331-0010-0006- (3700 Okeechobee Rd.)

Dear Ms. Driver,

Thank you for reviewing the project referenced above. Giangrande Engineering & Planning is pleased to provide this response to the November 4, 2025, Memorandum. Supporting documentation addressing each comment is supplied with this submittal. A summary of the comments and responses is provided below:

City of Fort Pierce Planning Department

The application **Requires Resubmittal** for the following reasons:

1. Okeechobee Road is a gateway road into the city. The site plan should be revised so that the front entrance of the building faces Okeechobee Road and not the back end of the site. The loading docks/zone should not be visible from the visible from the road

   Response: Acknowledged, please see revised plans.

2. ADA accessible area is missing. Identify the ADA parking stall dimensions on the site plan

   Response: Acknowledged, ADA parking dimensions are shown on revised site plan.

3. Provide dumpster details, according to Major and Minor Site Plan city code, Sec. 125-313

   Response: Please see new City of Fort Pierce dumpster detail in place of the previous double dumpster enclosure detail on sheet D-2.

4. Identify stop bar and stop signs on the site plan

   Response: Acknowledged, stop bar and stop signs are shown on revised site plan.

5. A tree mitigation plan is required

   Response: Please see the provided tree mitigation plan.

6. The proposed architectural design is not satisfactory to the city's Design Review standards. Okeechobee Road is a collector's road, and therefore, the

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

architectural designs should encompass architectural elements, articulations, colors, and signage. Please reference the Architectural Design Standards for commercial buildings. (document attached)

Response: Acknowledged, please see the revised architectural design on plans.

7. Color board and updated renderings of proposed building, per Sec. 125-314, shall consist of primary colors and secondary accent colors from the Architectural Design Color Palette

Response: Acknowledged, please see the revised architectural design on plans.

ENGINEERING COMMENTS:

1. Revise the Site Plan to show the existing driveways on 37th Street being removed

Response: Acknowledged, the existing driveway has been removed from the site plan.

2. Revise the site plan to include directions on the existing driveway at the NE property corner. Is it being removed? If so, how will that area be dealt with.

Response: The driveway in the NE corner of the property is to remain.

3. Provide ADA detectable warnings at all locations where required by the ADA code.

Response: Acknowledged, see revised striping plan, showing detectable warnings at all curb ramps.

4. Revise the site plan to show the existing curb on 37th Street to include the minimum 5' sidewalk previously requested. Include dimensions of both the "F" curb and the sidewalk.

Response: Acknowledged, existing curb and sidewalk dimensions are shown on the revised site plan.

5. Callout stop bar and stop sign to be installed.

Response: Acknowledged, stop bar and stop signs are shown on revised site plan.

6. Please include a lighting plan per City of Fort Pierce Code 125-313(3)(c)(8)

Response: Acknowledged, please see the revised lighting plan per Fort Pierce code.

7. Site Plan to include all necessary details, including dumpster, curb, parking, etc.

Response: Please see revised details.

8. Revise the site plan to include the dimensions of the ADA parking spaces and access area.

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

Response: Acknowledged, ADA parking dimensions are shown on revised site plan.

9. Revise the site plan to show that the minimum drive aisle width of 24' is met in all areas of the site.

   Response: Acknowledged, please see revised layout.

10. Revise site plan to include bicycle parking per City of Fort Pierce Code 125-315(I)

    Response: Please see revised site plan with bicycle parking.

1. Revise site plan to include an ADA accessible path to the SLC right-of-way per City of Fort Pierce Code 125-317(d)(2)

   Response: Acknowledged, see extended sidewalk from the SLC ROW to the site.

2. Provide a tree mitigation plan.

   Response: Please see the provided tree mitigation plan.

3. Provide information on the adjacent properties, including finished floor elevations per City of Fort Pierce Code 119-2(a)(3)

   Response: A map with FFE elevations for adjacent buildings is provided in the resubmittal.

4. Provide a note on the site plan that all construction shall comply with the City of Fort Pierce Code of Ordinances Sections 119 and 125.

   Response: Acknowledged, see updated site plan with note.

5. Provide the driveway setback as measured from the edge of the proposed driveway and the edge of the pavement of 37th Street. Please be aware that the minimum setback of 50' per Section 125- 316 does not apply in this situation, as Okeechobee Road is a St. Lucie County roadway and must adhere to the requirements specified by SLC.

   Response: Acknowledged, see updated site plan with dimension.

6. The site plan states a 15' R/W dedication. This appears to be labeled incorrectly. Please identify the 5' R/W dedication required.

   Response: The additional 5' R.O.W. dedication is updated in the revised plans.

7. The stop bar on 37th Street should be relocated out of the City R/W.

   Response: Acknowledged, the stop bar and sign are relocated in the revised plans.

LANDSCAPE PLAN:

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

1. Revise the landscape plan base file to match the revised site plan submitted. Include all drainage areas on the revised landscape plan.

   Response: Acknowledged, please see the revised landscape plan.

ADVISORY COMMENTS:

1. A preliminary review of the drainage plan was completed. An in-depth review of the drainage system and calculations will be completed at the time of DPCR submittal.

   Response: Acknowledged.

2. The plans indicate the stormwater treatment system is to be tied in to the Okeechobee Road drainage system. Please be aware that this system is owned and maintained by SLC and will require permitting through the County.

   Response: Acknowledged, permitting will be done through the county.

3. An NSLRWCD and SFWMD permit will need to be supplied to the City of Fort Pierce Engineering Department prior to project approval.

   Response: Both NSLRWCD and SFWMD permits have been achieved. Please see attached approvals.

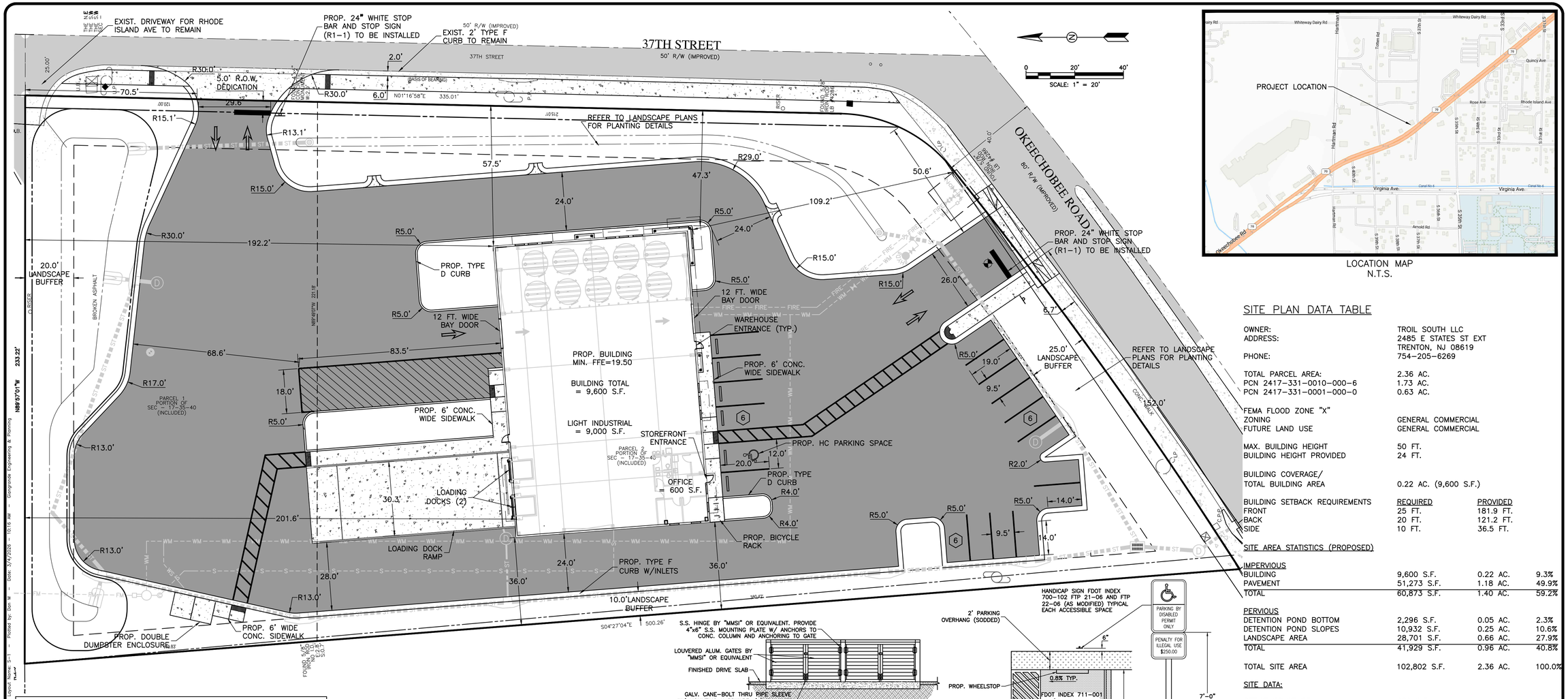
4. Construction Plans will be reviewed at the time of DPCR.

   Response: Acknowledged.

Thank you for reviewing this project. Please do not hesitate to contact me with questions or comments at (772) 888-9076.

Best regards,

Leo Giangrande, P.E.
Principal

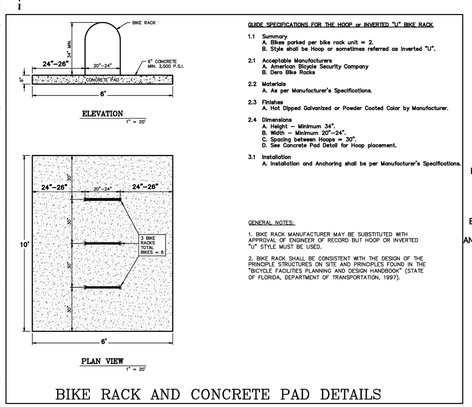


LOCATION MAP
N.T.S.

SITE PLAN DATA TABLE

OWNER:	TROIL SOUTH LLC		
ADDRESS:	2485 E STATES ST EXT TRENTON, NJ 08619		
PHONE:	754-205-6269		
TOTAL PARCEL AREA:	2.36 AC.		
PCN 2417-331-0010-000-6	1.73 AC.		
PCN 2417-331-0001-000-0	0.63 AC.		
FEMA FLOOD ZONE "X"			
ZONING	GENERAL COMMERCIAL		
FUTURE LAND USE	GENERAL COMMERCIAL		
MAX. BUILDING HEIGHT	50 FT.		
BUILDING HEIGHT PROVIDED	24 FT.		
BUILDING COVERAGE/ TOTAL BUILDING AREA	0.22 AC. (9,600 S.F.)		
BUILDING SETBACK REQUIREMENTS	REQUIRED	PROVIDED	
FRONT	25 FT.	181.9 FT.	
BACK	20 FT.	121.2 FT.	
SIDE	10 FT.	36.5 FT.	
SITE AREA STATISTICS (PROPOSED)			
IMPERVIOUS			
BUILDING	9,600 S.F.	0.22 AC.	9.3%
PAVEMENT	51,273 S.F.	1.18 AC.	49.9%
TOTAL	60,873 S.F.	1.40 AC.	59.2%
PERVIOUS			
DETENTION POND BOTTOM	2,296 S.F.	0.05 AC.	2.3%
DETENTION POND SLOPES	10,932 S.F.	0.25 AC.	10.6%
LANDSCAPE AREA	28,701 S.F.	0.66 AC.	27.9%
TOTAL	41,929 S.F.	0.96 AC.	40.8%
TOTAL SITE AREA	102,802 S.F.	2.36 AC.	100.0%
SITE DATA:			
OFFICE SPACE GFA	600 S.F.		
LIGHT INDUSTRIAL GFA	9,000 S.F.		
PARKING REQUIRED:			
OFFICE SPACE	1 SPACE PER 300 S.F. OF GFA		
WAREHOUSE	1 SPACE PER 600 S.F OF GFA		
TOTAL OFFICE SPACE	600 S.F.		
PARKING REQUIRED FOR OFFICE SPACE	600 S.F.x1 SPACE/300 S.F.=2 SPACES		
TOTAL WAREHOUSE SPACE	9,000 S.F.		
PARKING REQUIRED FOR WAREHOUSE SPACE	9,000 S.F.x1 SPACE/600 S.F.=15 SPACES		
NUMBER OF SPACES PROVIDED	18 SPACES		
PARKING SPACES PROVIDED			
STANDARD	17 SPACES		
HANDICAP	1 SPACE (REQUIRED 1 SPACE)		
TOTAL NUMBER OF SPACES PROVIDED	18 SPACES		

NOTES:
ALL CONSTRUCTION SHALL COMPLY WITH THE CITY OF FORT PIERCE CODE ORDINANCES SECTIONS 119 AND 125



GUIDE SPECIFICATIONS FOR THE HOOP or INVERTED "U" BIKE RACK

1.1 Summary
A. Bikes parked per bike rack unit = 2.
B. Style shall be Hoop or sometimes referred as Inverted "U".

2.1 Acceptable Manufacturers
A. American Bicycle Security Company
B. Dero Bike Racks

2.2 Materials
A. As per Manufacturer's Specifications.

2.3 Finishes
A. Hot Dipped Galvanized or Powder Coated Color by Manufacturer.

2.4 Dimensions
A. Height – Minimum 34".
B. Width – Minimum 20"-24".
C. Spacing between Hoops = 30".
D. See Concrete Pad Detail for Hoop placement.

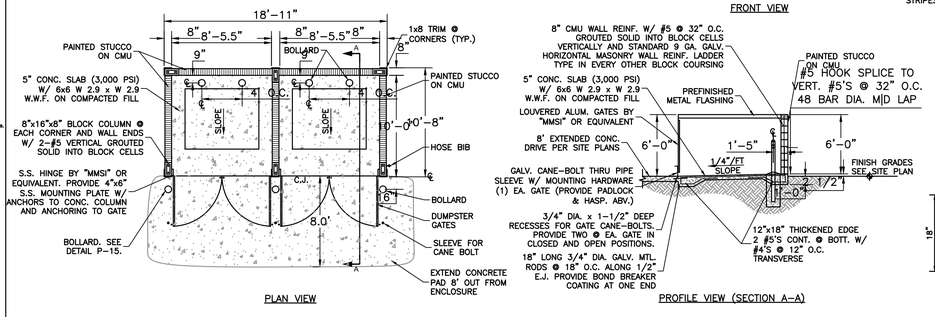
3.1 Installation
A. Installation and Anchoring shall be per Manufacturer's Specifications.

GENERAL NOTES:

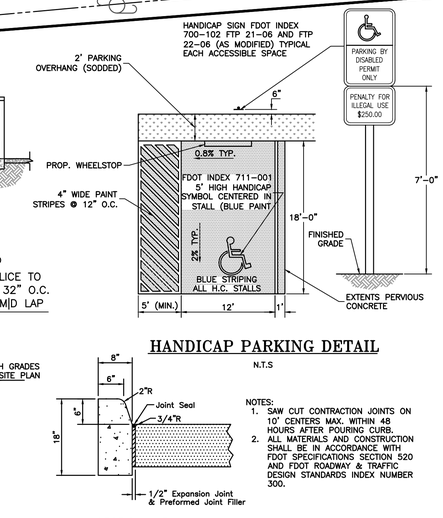
1. BIKE RACK MANUFACTURER MAY BE SUBSTITUTED WITH APPROVAL OF ENGINEER OF RECORD BUT HOOP OR INVERTED "U" STYLE MUST BE USED.

2. BIKE RACK SHALL BE CONSISTENT WITH THE DESIGN OF THE PRINCIPLE STRUCTURES ON SITE AND PRINCIPLES FOUND IN THE "BICYCLE FACILITIES PLANNING AND DESIGN HANDBOOK" (STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, 1997).

BIKE RACK AND CONCRETE PAD DETAILS



DOUBLE DUMPSTER ENCLOSURE
N.T.S



HANDICAP PARKING DETAIL
N.T.S

SECTION VIEW

NOTES:
1. SAW CUT CONTRACTION JOINTS ON 10' CENTERS MAX. WITHIN 48 HOURS AFTER POURING CURB.
2. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS SECTION 520 AND FDOT ROADWAY & TRAFFIC DESIGN STANDARDS INDEX NUMBER 300.

FDOT INDEX TYPE "D" CURB
N.T.S

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

SITE PLAN

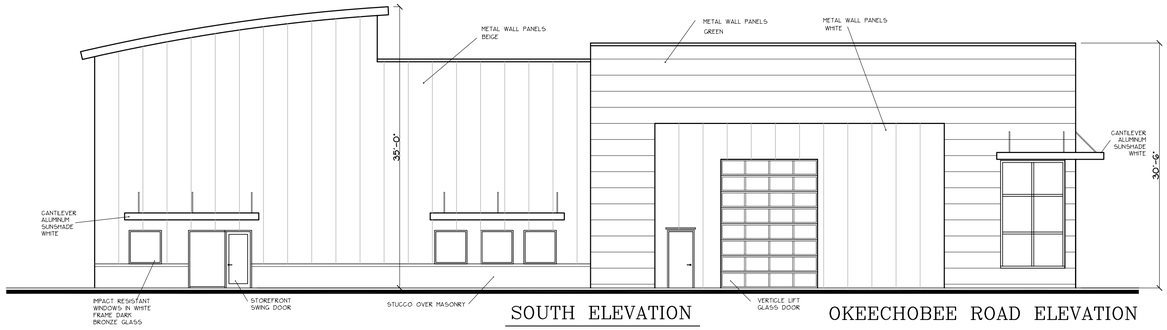
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

S-1

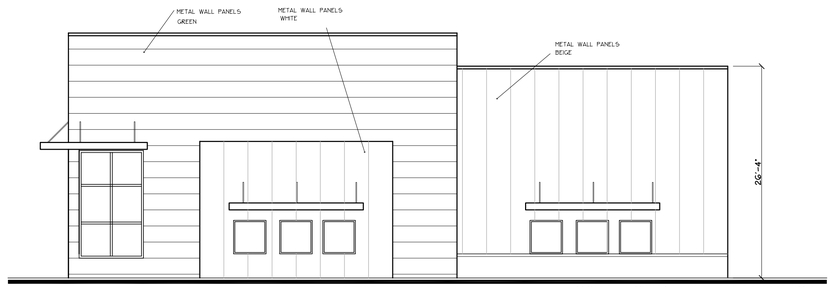
Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Site Plan.dwg Layout Name: S-1 – Plotted By: Don M – Date: 3/4/2026 – 10:16 AM



SOUTH ELEVATION

1/8" = 1'-0"

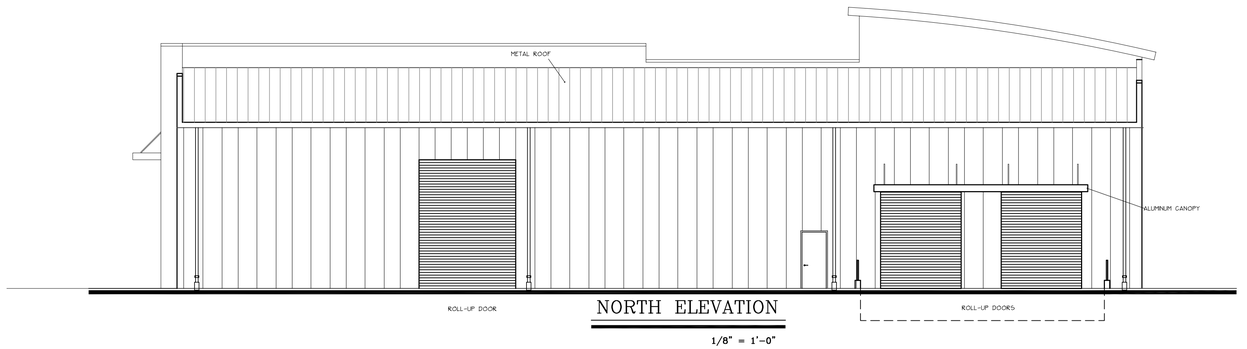
OKEECHOBEE ROAD ELEVATION



EAST ELEVATION

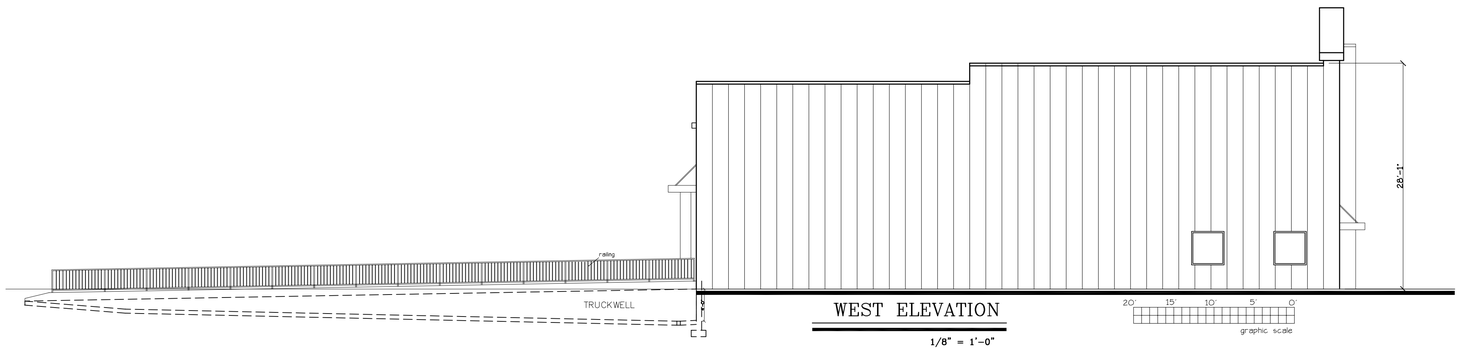
1/8" = 1'-0"

37th STREET ELEVATION



NORTH ELEVATION

1/8" = 1'-0"



WEST ELEVATION

1/8" = 1'-0"

601 HERITAGE DRIVE, SUITE 410
JUPITER, FLORIDA 33458
(561) 331-5036
CERTIFICATE OF AUTHORIZATION #AA26003279
GUY C. PELLETIER #71060
GCParchitecture@AOL.COM

GCP
ARCHITECTURE L.L.C.

SEAL

COPYRIGHT 2025/ GCP ARCHITECTURE L.L.C./ ALL RIGHTS RESERVED / UNAUTHORIZED REPRODUCTION OR MODIFICATION OF THESE PLANS OR DRAWINGS IS STRICTLY PROHIBITED

TROIL SOUTH LLC

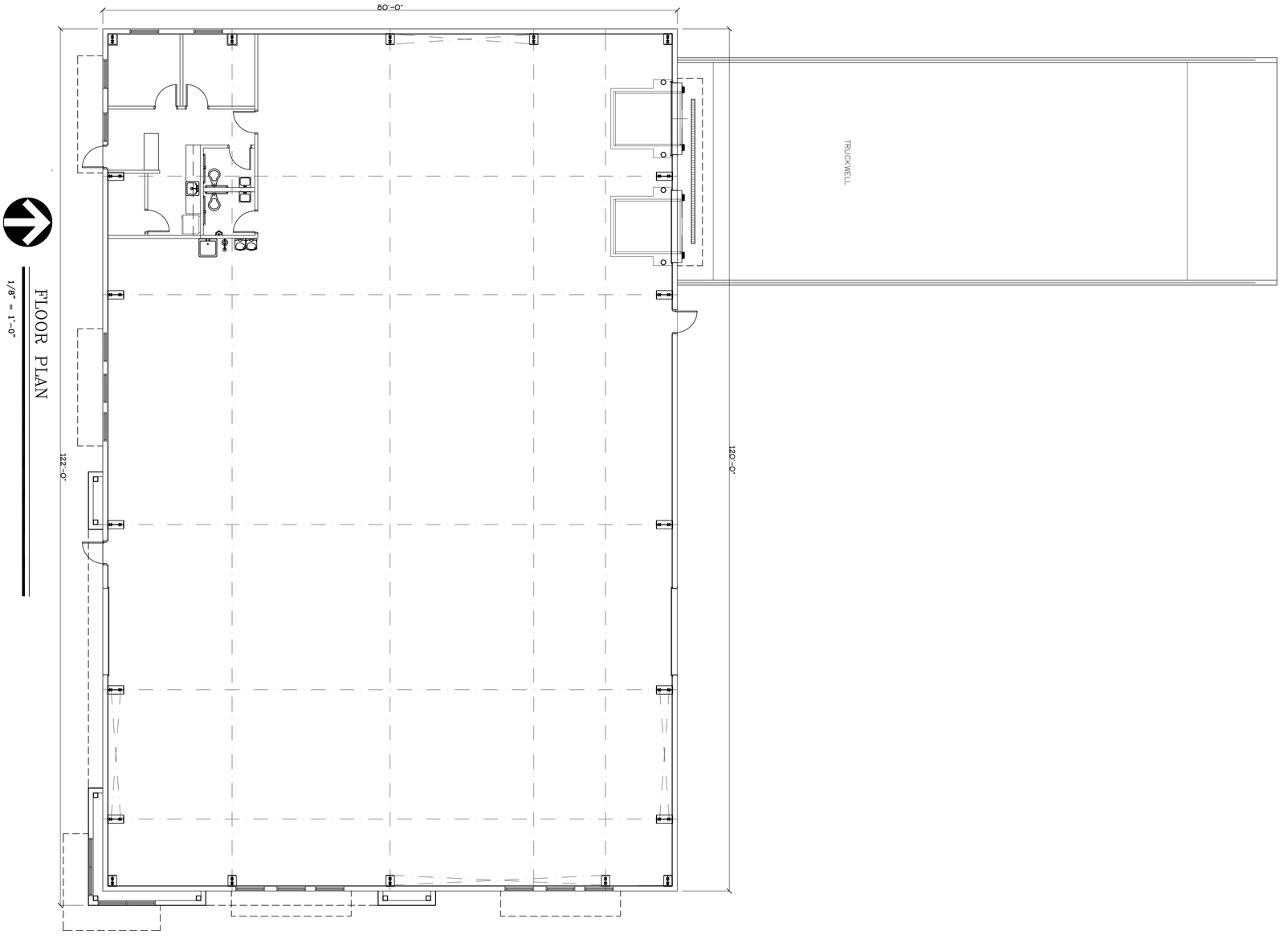
3700 OKEECHOBEE ROAD, FORT PIERCE, FLORIDA

ELEVATIONS

DATE: 4/8/26
DRAWN BY: G.P.
PROJ. NO. 2505
REVISED:

SHEET:

A-2



FLOOR PLAN

1/8" = 1'-0"

COPYRIGHT 2025/ GCP ARCHITECTURE L.L.C./ ALL RIGHTS RESERVED / UNAUTHORIZED REPRODUCTION OR MODIFICATION OF THESE PLANS OR DRAWINGS IS STRICTLY PROHIBITED

SHEET: A-1

DATE: 1/8/26
DRAWN BY: G.P.
DRAWING NO. 2505
REVISED:

TROIL SOUTH LLC

3700 OKEECHOBEE ROAD, FORT PIERCE, FLORIDA

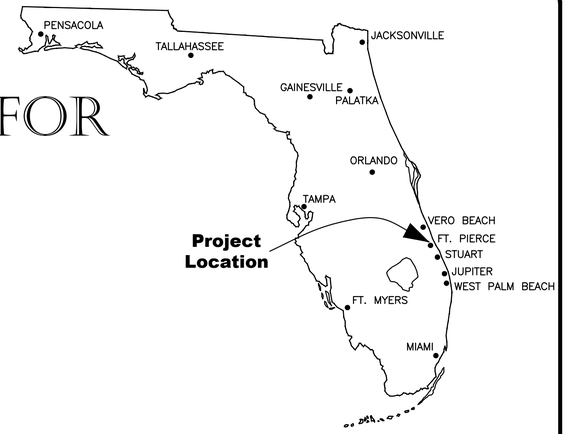
FLOOR PLAN

SEAL

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

CONSTRUCTION PLANS & SPECIFICATIONS FOR 3700 OKEECHOBEE ROAD, FORT PIERCE ST. LUCIE COUNTY, FLORIDA

SECTIONS 17, TOWNSHIP 35S, RANGE 40E



THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS, FY 2025–26.

GOVERNING SPECIFICATIONS:
FDOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, FY 2025–26.

THE FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, FY 2025–26.

THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS (GREENBOOK), 2023.

THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.), 11TH EDITION, DECEMBER 2023.

AND THE CITY OF FORT PIERCE LAND DEVELOPMENT REGULATIONS, LATEST EDITION AND FORT PIERCE UTILITY AUTHORITY (FPUA).

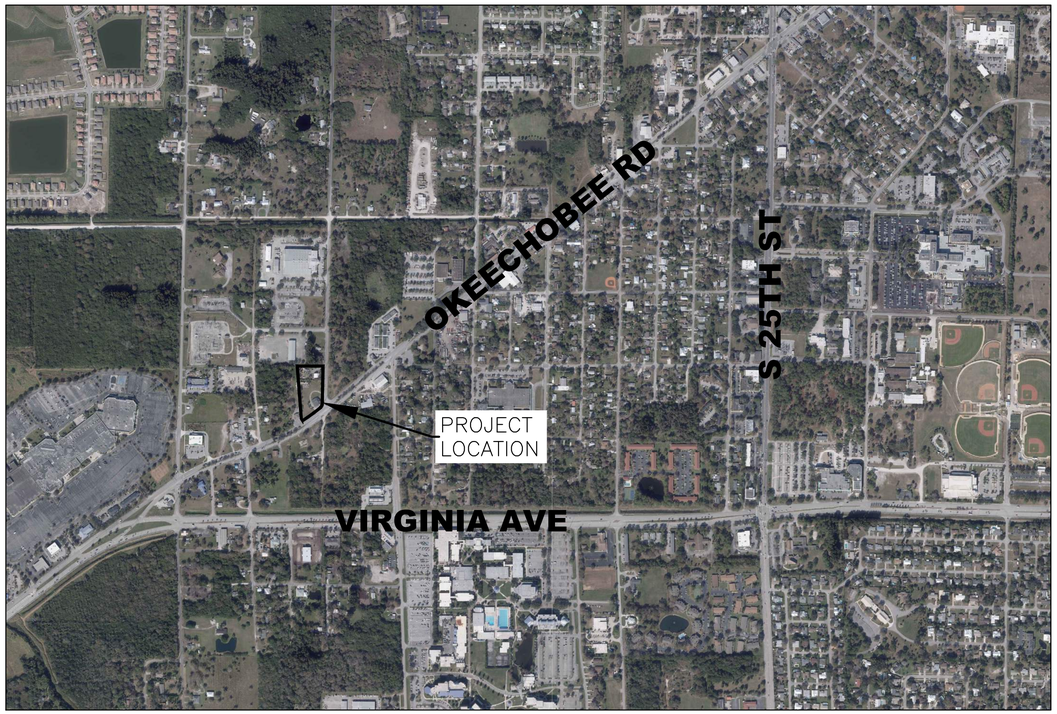
DESIGN TEAM:

CIVIL ENGINEER
GIANGRANDE ENGINEERING & PLANNING
710 SE OCEAN BLVD
STUART, FL 34996
(772) 888–9076

LAND SURVEYOR
COMPASS SURVEYING
6250 N. MILITARY TRAIL
WEST PALM BEACH, FL 33407
(561) 640–4800

LANDSCAPE ARCHITECT
DAN SUGG RLA
SUGG DESIGN STUDIO
POST OFFICE BOX 335
JENSEN BEACH, FL 34958
(772) 485–1776

LIGHTING
GENESIS LIGHTING
14101 NW 8TH ST
SUNRISE, FL 33325
(954) 306–3931



VICINITY MAP
SCALE=1:1000

Sheet List Table	
Sheet Number	Sheet Title
G–1	COVER SHEET
G–2	GENERAL NOTES
EX–1	EXISTING CONDITIONS & DEMO PLAN
S–1	SITE PLAN
ST–1	STRIPING PLAN
P–1	PAVING, GRADING, & DRAINAGE PLAN
W–1	WATER & WASTEWATER PLAN
W–2	WATER & WASTEWATER PLAN
EC–1	EROSION CONTROL PLAN
C–1	CROSS SECTIONS
D–1	DETAILS
D–2	DETAILS
D–3	DETAILS
D–4	DETAILS
D–5	DETAILS
D–6	ADS DETAILS
D–7	ADS DETAILS
D–8	ADS DETAILS
D–9	ADS DETAILS
D–10	ADS DETAILS
D–11	ADS DETAILS
D–12	ADS DETAILS
D–13	ADS DETAILS

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

JUNE 2025

REV 2 - 02/02/26 - REVISED PER SLC DRC & MINOR SITE PLAN COMMENTS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD
STUART, FLORIDA 34994
PH. (772) 888-9076
Cert. No. 30901

LEO D. GIANGRANDE, P.E.
License No: 66387

SHEET G-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 General Notes.dwg Layout Name: G-2 Plotted by: Don M Date: 7/1/2026 - 10:16 AM

SUPPLEMENTAL CONDITIONS

SCOPE OF WORK: THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, SUPERVISION, TRANSPORTATION AND INCIDENTALS NECESSARY TO CONSTRUCT THE PAVING, DRAINAGE, UTILITIES AND ASSOCIATED IMPROVEMENTS, IN ACCORDANCE WITH THE PROVISIONS OF THESE SUPPLEMENTAL CONDITIONS, SPECIFICATIONS AND THE DRAWINGS, ENTITILED, "CONSTRUCTION PLANS & SPECIFICATIONS FOR "3700 OKEECHOBEE RD", PREPARED BY GIANGRANDE ENGINEERING AND PLANNING, LLC, 710 SE OCEAN BLVD., STUART, FLORIDA 34994, (772) 888-9076. IT IS THE OBJECTIVE OF THESE DOCUMENTS TO ASSURE THE TOTAL COMPLETION OF THE WORK REQUIRED TO PROVIDE PAVING, GRADING, AND DRAINAGE IMPROVEMENTS FOR THE "3700 OKEECHOBEE RD."

PERMITS AND LICENSES: CONSTRUCTION PERMITS FOR CERTAIN ELEMENTS OF THE PROJECT WORK ARE REQUIRED, AND THE DESIGN AND CONSTRUCTION REQUIREMENTS OF THE PROJECT REFLECT CONSTRAINTS AND CONDITIONS IMPOSED BY THESE PERMITS. THESE INCLUDE CONSTRUCTION PERMITS FROM THE SAINT LUCIE COUNTY, AND FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

THE CONTRACTOR SHALL PERFORM HIS WORK AND SHALL CONSTRUCT THE PROJECT IN ACCORDANCE WITH THE REQUIREMENTS OF THESE "DESIGN" PERMITS AND APPROVALS, COPIES OF WHICH ARE AVAILABLE FOR REVIEW AND USE FROM THE ENGINEER, UPON REQUEST. THE CONTRACTOR SHALL SECURE ALL WORK PERMITS, APPROVALS AND LICENSES REQUIRED TO PERFORM THE WORK, AND HE SHALL PERFORM THE WORK IN STRICT ACCORDANCE WITH THOSE PERMITS, APPROVALS AND LICENSES.

REFERENCE TO OTHER DOCUMENTS: FOR BREVITY, REFERENCE MAY BE MADE TO OTHER SPECIFICATIONS OR DOCUMENTS WHICH WILL BE USED TO SPECIFY OR CONTROL THE MATERIALS PLACED IN THE WORK, THE CONSTRUCTION METHODS TO BE USED, THE TOLERANCES THAT WILL BE ACCEPTABLE, AND CONTRACTUAL OR LEGAL OBLIGATIONS. THE SPECIFICATIONS OR DOCUMENTS SHALL INCLUDE:

1. "STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT." THE LATEST EDITION, PREPARED BY THE ENGINEER'S JOINT CONTRACT DOCUMENTS COMMITTEE AND PUBLISHED BY THE NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS. REFERENCE SHALL BE MADE: "GENERAL CONDITIONS."
2. "FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2023-2024," PUBLISHED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION. REFERENCE SHALL BE MADE: "FDOT SPECIFICATIONS."
3. "STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, 2023-2024" PUBLISHED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION. REFERENCE SHALL BE MADE "FDOT INDEX" OR "FDOT STANDARDS."
4. "AMERICAN SOCIETY FOR TESTING AND MATERIALS SPECIFICATIONS", LATEST EDITION REFERENCE SHALL BE MADE: "ASTM."
5. "ST LUCIE COUNTY MINIMUM CONSTRUCTION STANDARDS", LATEST EDITION. REFERENCE SHALL BE MADE AS "COUNTY CODE" OR "COUNTY STANDARDS" OR "COUNTY SPECIFICATIONS."
6. "FORT PIERCE UTILITY AUTHORITY DESIGN AND CONSTRUCTION STANDARDS FOR WATER AND WASTEWATER SYSTEMS", LATEST EDITION. REFERENCE SHALL BE MADE AS "FPUA CODE" OR "FPUA STANDARDS" OR "FPUA SPECIFICATIONS".

BY REFERENCE, THE DOCUMENTS CITED ABOVE ARE MADE PART OF THESE SUPPLEMENTAL CONDITIONS AND SPECIFICATIONS. THE CONTRACTOR SHALL HAVE COPIES OF EACH IN HIS POSSESSION FOR USE THROUGHOUT THE BIDDING AND CONSTRUCTION OF THIS PROJECT WORK AND/OR BE FAMILIAR WITH THE APPLICABLE SECTIONS OF EACH DOCUMENT AND BE ABLE TO VERITY THAT ALL MATERIALS AND CONSTRUCTION METHODS ARE CONFORMANCE WITH THESE DOCUMENTS AND SPECIFICATIONS.

ADDITIONALLY, THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL OTHER APPLICABLE LOCAL, REGIONAL, STATE AND FEDERAL LAWS, REGULATIONS ANO CODES, ESPECIALLY OSHA STANDARD 29 CFR, SECTION 1926.650 SUBPART P, WHICH IS PART OF THE TRENCH SAFETY ACT AS PART OF LAWS OF FLORIDA, CHAPTER 90-96.

CONTRACT ISSUES

GENERAL CONDITIONS: UNLESS OTHERWISE STATED IN THESE SUPPLEMENTAL CONDITIONS, THE PROVISIONS OF THE "STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT," REFERENCED ABOVE, SHALL BE USED TO GOVERN ALL ISSUES ADDRESSED IN THOSE GENERAL CONDITIONS FOR THIS PROJECT.

OWNER-ENGINEER RELATIONSHIP: ANY AGREEMENT BETWEEN OWNER AND ENGINEER SHALL NOT BE CONSTRUED TO PROVIDE ANY OBLIGATION FROM THE ENGINEER TO ANY THIRD PARTIES INCLUDING, BUT NOT LIMITED TO, ARCHITECTS, OTHER ENGINEERS, ANY CONTRACTORS (GENERAL OR SUB), NOR TO ANY SUCCESSORS TO THE OWNER. THE RIGHTS UNDER ANY AGREEMENT BETWEEN OWNER AND ENGINEER INURE ONLY TO THOSE TWO PARTIES.

ERRORS OR OMISSIONS IN THE DRAWINGS OR SPECIFICATIONS: PRIOR TO INITIATION OF THE WORK, THE CONTRACTOR SHALL CHECK DIMENSIONS, GRADES, ELEVATIONS AND THE SUMMARY OF ESTIMATED QUANTITIES SHOWN ON THE DRAWINGS TO ASSURE HIMSELF THAT THEY ARE CORRECT AND THAT THE WORK CAN BE ACCOMPLISHED AS INTENDED. THE CONTRACTOR SHALL TAKE NO ADVANTAGE OF ANY APPARENT ERROR OR OMISSION WHICH HE MIGHT DISCOVER, BUT SHALL IMMEDIATELY NOTIFY THE ENGINEER OF SUCH DISCOVERY, WHO WILL THEN MAKE SUCH CORRECTIONS AND INTERPRETATIONS AS HE DEEMS NECESSARY FOR REFLECTING THE ACTUAL SPIRIT AND INTENT OF THE DRAWINGS AND SPECIFICATIONS.

BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION WAS PROVIDED BY COMPASS SURVEYING, (561) 640-4800.

HORIZONTAL AND VERTICAL CONTROL: THE CONTRACTOR SHALL CONSTRUCT THE REQUIRED IMPROVEMENTS IN THE LOCATIONS SHOWN ON THE DRAWINGS, AND SHALL USE AS HORIZONTAL CONTROL POINTS THE EXISTING PROPERTY CORNERS AS SHOWN ON THE PLAN SHEET. THE HORIZONTAL CONTROL POINTS WERE PROVIDED BY COMPASS SURVEYING, (561) 640-4800. AS VERTICAL CONTROL, BENCHMARKS SHALL BE PROVIDED AT THE SITE, FOR USE IN ESTABLISHING THE NECESSARY ELEVATIONS AND GRADES AT THE LOCATIONS SHOWN ON THE PLANS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL CONTROL POINTS AND TO RE-ESTABLISH SAID POINTS AS NECESSARY. REMAINING HORIZONTAL AND VERTICAL CONTROL WORK SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS AND DETAILS.

WRITTEN DIMENSIONS ARE PROVIDED FOR CLARITY. WHERE WRITTEN AND SCALED DIMENSIONS CONFLICT, WRITTEN DIMENSIONS SHALL GOVERN.

COORDINATION OF WORK WITH OTHERS: THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OR IMPROVEMENTS OF OTHERS WITH REGARD TO NEW CONSTRUCTION, OR FOR THE NEED OF REMOVAL, RELOCATION OR ALTERATION OF EXISTING IRRIGATION AND DRAINAGE FACILITIES. THIS INCLUDES, BUT IS NOT LIMITED TO, THE OWNER, HIS CONTRACTORS, SUBCONTRACTORS OR AGENTS.

THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PUBLIC AGENCIES PRIOR TO COMMENCING THE WORK WITHIN THEIR JURISDICTION.

SHOP DRAWINGS: ONE DIGITAL COPY OF SIGNED SHOP DRAWINGS AND SIGNED AND SEALED DESIGN DATA SHALL BE SUBMITTED PRIOR TO ORDERING MATERIALS. ALLOW 10 WORK DAYS TURNAROUND FOR SUBMITTALS.

STANDARDS FOR QUALITY AND WORKMANSHIP: ALL MATERIALS, EQUIPMENT AND SUPPLIES FURNISHED BY THE CONTRACTOR FOR PERMANENT INCORPORATION IN THE WORK SHALL BE NEW AND OF THE QUALITY STANDARDS SPECIFIED. WORKMANSHIP SHALL BE FIRST-CLASS AND THE FINISHED PRODUCT EQUAL TO THE BEST ACCEPTED STANDARDS OF THE TRADE FOR THE CATEGORY OF WORK PERFORMED.

TEMPORARY UTILITIES: ALL ARRANGEMENTS AND COSTS FOR TEMPORARY POWER, WATER AND WASTEWATER FACILITIES DURING CONSTRUCTION SHALL BE RESPONSIBILITY OF THE CONTRACTOR.

OBSERVING THE WORK: THE PROGRESS AND QUALITY OF THE WORK WILL BE OBSERVED BY THE OWNER'S ENGINEER OR ENGINEER'S APPOINTED EMPLOYEE. NO OBSERVER IS AUTHORIZED TO CHANGE ANY PROVISIONS OF THE SPECIFICATIONS WITHOUT WRITTEN AUTHORIZATION OF THE OWNER'S ENGINEER, NOR SHALL THE PRESENCE NOR THE ABSENCE OF AN OBSERVER RELIEVE THE CONTRACTOR FROM ANY REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.

THE CONTRACTOR SHALL GIVE THE ENGINEER A MINIMUM OF 48 HOURS NOTICE PRIOR TO REQUIRED INSPECTIONS, AND SHALL SUPPLY ALL EQUIPMENT NECESSARY TO PROPERLY TEST AND INSPECT THE COMPLETED WORK.

IN ADDITION TO THE REQUIREMENTS PREVIOUSLY REFERENCED, THE FOLLOWING MINIMUM CONSTRUCTION CONTROL CHECKPOINTS SHALL BE ADHERED TO, AND THE CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE FOR OBSERVATION:

1. PRIOR TO ANY DEVIATION FROM THE DRAWINGS;
2. PRIOR TO ANY BACKFILLING TRENCHES CONTAINING HYDRAULIC CONDUITS, SO THAT JOINTING MAY BE INSPECTED;
3. PRIOR TO TESTING OF ALL HYDRAULIC CONDUITS.
4. PRIOR TO PLACEMENT OF ROADWAY BASE MATERIAL, CONCRETE OR ASPHALTIC CONCRETE.
5. UPON COMPLETION OF CONSTRUCTION FOR FINAL INSPECTION WITH THE CONTRACTOR OR HIS REPRESENTATIVE.

TESTING: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE INDEPENDENT TESTING LABORATORY DESIGNATED BY THE OWNER, THE TESTING AND RETESTING NECESSARY TO ASSURE THAT THE WORK HAS BEEN PERFORMED IN STRICT COMPLIANCE WITH THE SPECIFICATIONS. COST FOR THE INITIAL TESTING SHALL BE BORNE BY THE OWNER. ANY RETESTS REQUIRED DUE TO FAILURE TO MEET THE MINIMUM REQUIREMENTS SHALL BE PERFORMED AT THE EXPENSE OF THE CONTRACTOR. THE NAME OF OWNER'S TESTING LABORATORY SHALL BE SUPPLIED AT THE PRECONSTRUCTION MEETING.

EXISTING UTILITIES AND STRUCTURES: EXISTING UTILITIES, STRUCTURES AND FACILITIES SHOWN ON THE DRAWINGS WERE LOCATED AS ACCURATELY AS POSSIBLE FROM THE RECORDS EXAMINED. NO GUARANTEE IS MADE THAT ALL EXISTING FACILITIES ARE SHOWN OR THAT THOSE SHOWN ARE ENTIRELY ACCURATE. THE CONTRACTOR SHALL ASSURE HIMSELF OF THE ACTUAL LOCATION OF THE UTILITIES, STRUCTURES OR FACILITIES PRIOR TO PERFORMANCE OF ANY WORK IN THE VICINITY. THE UTILITY COMPANIES OR UTILITY AGENCIES WILL CO-OPERATE WITH THE CONTRACTOR IN LOCATING UNDERGROUND UTILITIES THAT MAY BE SUBJECT TO DAMAGE OR INTERRUPTION OF SERVICES DURING THE CONTRACTOR'S OPERATIONS. PRIOR TO START OF THE WORK, THE CONTRACTOR SHALL REQUEST THAT EACH UTILITY AGENCY ADVISE HIM OF THE LOCATION OF THEIR FACILITIES IN THE VICINITY. THE OWNER WILL ASSUME NO LIABILITY FOR DAMAGES SUSTAINED OR COSTS INCURRED BECAUSE OF THE CONTRACTOR'S OPERATION IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, OR TO THE TEMPORARY BRACING AND SHORING OF SAME. IN THE EVENT THAT IT IS NECESSARY TO SHORE, BRACE OR SWING A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED AND THEIR PERMISSION SECURED AS TO THE METHOD USED FOR ANY SUCH WORK.

THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES AND UNDERGROUND UTILITIES.

THE CONTRACTOR SHALL NOTIFY UTILITY OWNER THROUGH SUNSHINE STATE ONE CALL OF FLORIDA (800-432-4770) AND UTILITY OWNERS LISTED BELOW AT LEAST TWO BUSINESS DAYS (OR 10 DAYS IF ON THE JOB SITE).

RESTORATION OF DAMAGED STRUCTURES OR UTILITIES: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, REBUILD OR RESTORE TO ITS FORMER CONDITION, ANY AND ALL PORTIONS OF EXISTING UTILITIES, STRUCTURES, EQUIPMENT, APPURTENANCES OR FACILITIES. OTHER THAN THOSE TO BE PAID FOR UNDER THIS CONTRACT, WHICH MAY BE DISTURBED OR DAMAGED DUE TO THIS CONSTRUCTION OPERATION, AT NO COST TO THE OWNER.

FINAL CLEANUP: UPON COMPLETION OF THE WORK BUT BEFORE FINAL PAYMENT WILL BE MADE, THE CONTRACTOR SHALL CLEAR AND REMOVE FROM THE PROJECT AREA, ALL FALSE WORK, EQUIPMENT, SURPLUS AND DISCARDED MATERIALS, RUBBISH AND TEMPORARY STRUCTURES WHICH RESULT FROM THE WORK UNDER THIS AGREEMENT, AND SHALL RESTORE IN AN ACCEPTABLE MANNER ALL PROPERTY WHICH HAS BEEN DAMAGED DURING THE EXECUTION OF THE WORK.

TECHNICAL SPECIFICATIONS

MATERIALS, CONSTRUCTION METHODS, TESTING AND TOLERANCES FOR ALL WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS, AND WITH THE SPECIFICATIONS REFERENCED UNDER THE "SUPPLEMENTAL CONDITIONS." IN THE EVENT OF CONFLICT, THE MORE STRINGENT PROVISION SHALL APPLY.

1. MOBILIZATION/DEMOBILIZATION: THE WORK SPECIFIED IN THIS SECTION CONSISTS OF THE PREPARATORY WORK AND OPERATIONS IN MOBILIZING FOR BEGINNING WORK ON THE PROJECT, INCLUDING, BUT NOT LIMITED TO, THOSE OPERATIONS NECESSARY FOR THE MOVEMENT OF PERSONNEL, EQUIPMENT, SUPPLIES, AND INCIDENTALS TO THE PROJECT SITE, AND FOR THE ESTABLISHMENT OF TEMPORARY OFFICES, BUILDINGS, SAFETY EQUIPMENT AND FIRST AID SUPPLIES, SANITARY AND OTHER FACILITIES, AS REQUIRED BY THESE SPECIFICATIONS, THE SPECIAL PROVISIONS, AND STATE AND LOCAL LAWS AND REGULATIONS. ALL COSTS FOR BONDS, PERMITS AND ANY REQUIRED INSURANCE, AND ANY OTHER PRECONSTRUCTION EXPENSE NECESSARY FOR THE START OF THE WORK, AS WELL THE COST OF THE REMOVAL OF THE ABOVE ITEMS, SHALL ALSO BE INCLUDED IN THIS SECTION.

2. CONSTRUCTION SURVEYING: THE CONTRACTOR SHALL CONSTRUCT THE REQUIRED IMPROVEMENTS AT THE LOCATIONS SHOWN ON THE PLANS. AS OUTLINED IN THE "SUPPLEMENTAL CONDITIONS," THE OWNER SHALL PROVIDE BASIC REFERENCE POINTS FOR HORIZONTAL CONTROL AND BENCHMARKS IN THE VICINITY OF THE WORK. ALL OTHER CONSTRUCTION STAKING FOR BOTH HORIZONTAL AND VERTICAL CONTROL NEEDED BY THE CONTRACTOR FOR CONTROL OF HIS WORK SHALL BE PERFORMED BY THE CONTRACTOR.

3. DRAINAGE IMPROVEMENTS; THE CONTRACTOR SHALL PROVIDE ALL THE MATERIALS AND LABOR NECESSARY TO COMPLETE THE PROJECT WORK FOR THE DRAINAGE IMPROVEMENTS AT THE LOCATION, SIZE AND TYPE SHOWN ON THE PLANS FOR THE FOLLOWING ITEMS IN ACCORDANCE WITH FDOT SPECIFICATIONS. INCLUDED IN THE UNIT COSTS FOR EACH ITEM SHALL BE THE COSTS ASSOCIATED WITH THE DESIGN AND CONSTRUCTION, BY THE CONTRACTOR, TO COMPLY WITH THE TRENCH SAFETY ACT, LAWS OF FLORIDA, CHAPTER 90-96.

   BACKFILL AND COMPACTION OF TRENCHING FOR CULVERT INSTALLATION UNDER THIS SECTION SHALL BE IN ACCORDANCE WITH SECTION 125-8.3, FDOT SPECIFICATIONS. DENSITY TESTS SHALL BE PROVIDED AT THE FOLLOWING VERTICAL LOCATIONS:

   - TWO TESTS* AT SPRINGLINE (ONE EACH SIDE OF THE PIPE);
   - ONE TEST* AT ONE-FOOT ABOVE PIPE; AND
   - ONE TEST* AT ONE-FOOT BELOW SUBGRADE OR FINISH GRADE.
   - *DENSITY OF AT LEAST 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T -99, METHOD C.

   THE MINIMUM NUMBER OF HORIZONTAL TEST LOCATIONS IS TWO PER CULVERT INSTALLATION, ONE PER 100 LINEAL FEET OF PIPE AND/OR ONE PER 20 FEET OF PAVEMENT CROSSING WHICHEVER IS GREATER. ADDITIONAL TESTS MAY BE REQUIRED AT MORE FREQUENT INTERVALS IF DEEMED NECESSARY BY THE ENGINEER.

   A. CULVERTS: CONSTRUCTION METHODS FOR DRAINAGE CULVERTS SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS 125 AND 430, FDOT SPECIFICATIONS. PIPE MATERIAL AS SPECIFIED ON THE PLANS.

   B. DRAINAGE STRUCTURES: PRE-CAST CONCRETE CATCH BASINS SHALL MEET THE REQUIREMENTS OF ASTM SPECIFICATIONS C-478 AND FOOT STANDARD SPECIFICATION 425. CONCRETE FOR PRE-CAST BASINS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SHOP DRAWINGS ARE REQUIRED.

6. FENCING AND GATES: THE CONTRACTOR SHALL FURNISH AND CONSTRUCT CHAIN-LINK FENCE AND GATES IN ACCORDANCE WITH FPL CHAIN LINK FENCE SPECIFICATIONS AND DETAILS. MATERIALS AND LOCATION OF FENCE ARE INDICATED ON THE PLANS.

7. EROSION AND POLLUTION CONTROL: THE CONTRACTOR SHALL TAKE SUFFICIENT PRECAUTIONS TO PREVENT WATER POLLUTION WITH AQUATIC WEEDS, FUELS, OILS, BITUMINOUS, CALCIUM CHLORIDE OR OTHER HARMFUL MATERIALS. ALSO, THEY SHALL CONDUCT AND SCHEDULE HIS OPERATIONS SO AS TO AVOID POLLUTION OR SILTATION OF WATER BODIES OR TO INTERFERE WITH INDIGENOUS WILDLIFE. THE INSTALLATION OF TEMPORARY EROSION AND POLLUTION CONTROL FEATURES SHALL BE COORDINATED WITH THE CONSTRUCTION OF THE PERMANENT EROSION CONTROL FEATURES TO THE EXTENT NECESSARY TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS CONTROL OF EROSION AND WATER POLLUTION THROUGHOUT THE LIFE OF THE CONTRACT. ANY EROSION OR SHOALING SHALL BE CORRECTED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE. DUE TO UNANTICIPATED CONDITIONS, THE ENGINEER MAY DIRECT THE USE OF CONTROL FEATURES OR METHODS OTHER THAN THOSE INCLUDED IN THE ORIGINAL CONTRACT. IN SUCH EVENT THIS ADDITIONAL WORK WILL BE PAID FOR AS UNFORESEEABLE WORK.

   1) SEDIMENT BARRIERS SHALL BE PLACED PRIOR TO ANY WORK ON THE SITE. SEDIMENT BARRIERS SHALL BE PLACED AS DEPICTED AS SHOWN ON THE CONSTRUCTION PLANS.
   2) WETLAND AND WETLAND BUFFER AREAS ARE TO REMAIN UNDISTURBED. VEHICLE AND CONSTRUCTION EQUIPMENT TRAFFIC IS PROHIBITED WITHIN THESE AREAS.
   3) DAMAGED TURBIDITY CONTROLS SHALL BE REPAIRED PROMPTLY AND BEFORE ANY SUBSEQUENT RAINFALL.
   4) TURBIDITY CONTROLS SHALL REMAIN IN PLACE AND MAINTAINED AND REMOVED ONLY AFTER UPLAND CONSTRUCTION AREAS HAVE BEEN STABILIZED AS APPROVED BY THE ENGINEER OF RECORD
   5) CONTRACTOR SHALL COMPLY WITH NPDES AND EPA DISCHARGE ELIMINATION PERMIT, IN PARTICULAR SEDIMENT AND EROSION CONTROLS AND STORM WATER MANAGEMENT MEASURES SHALL BE STRICTLY FOLLOWED.
   6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF THE NPDES AND RELATED STORM WATER PLAN FOR THE DURATION OF THE PROJECT. UPON COMPLETION THE CONTRACTOR SHALL REMOVE ALL TEMPORARY STORM WATER MANAGEMENT MEASURES AND SHALL DISPOSE OF THEM AS REQUIRED.
   7) DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR AT LEAST 21 DAYS SHALL BE STABILIZED WITH SEED & MULCH NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY IN THOSE AREAS. THE SEEDING SHALL FOLLOWING TYPICAL CONSTRUCTION PRACTICES TO INSURE A YEAR ROUND STABILIZED AREA.
   8) CONTRACTOR SHALL COMPLY WITH SPILL PREVENTION, CONTROL AND COUNTER MEASURES (SPEC) REQUIREMENTS PURSUANT TO EPA RULES AND REGULATIONS.
   9) ALL CONSTRUCTION WASTE MATERIAL, INCLUDING BUT NOT LIMITED TO THE EXISTING BARB WIRE FENCING AND POSTS, SHALL BE COLLECTED AND STORED IN A SECURED METAL DUMPSTER RENTED / LEASED FROM A LOCAL WASTE MANAGEMENT COMPANY. THE DUMPSTER SHALL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURES FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES SHALL BE POSTED IN THE OFFICE TRAILER / CONSTRUCTION TRAILER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.
   10) ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS AT A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.
   11) TRUCKS / EQUIPMENT IMPORTING OR EXPORTING FILL SHALL COVER THEIR LOADS WITH A TARPAULIN TO AVOID UNNECESSARY GENERATION OF DUST.
   12) ALL HAZARDOUS WATER MATERIAL SHALL BE DISPOSED OF AS PER LOCAL / STATE REGULATIONS OR AS RECOMMENDED BY THE MANUFACTURER. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES AND THE CONTRACTOR IS RESPONSIBLE TO FOLLOW THESE PRACTICES.
   13) DRIVEWAY ACCESS SHALL BE CONSTRUCTED PER FDOT INDEX 106 TO MINIMIZE THE VEHICLES TRACKED SEDIMENTS TRANSPORTED OFFSITE.
   14) THE GENERAL CONTRACTOR'S SITE SUPERINTENDENT SHALL SELECT INDIVIDUALS, TYPICALLY THREE, WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES AND FILLING OUT OF INSPECTION REPORTS. PERSONNEL SELECTED SHALL RECEIVE PROPER TRAINING, AT THE CONTRACTORS EXPENSE, PRIOR TO SITE CONSTRUCTION COMMENCEMENT.
   15) ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE INSPECTED EVERY 7 DAYS OR WITHIN 24 HOURS OF A STORM OF 0.5 INCHES OR MORE IN RAINFALL. ALL CONTROLS MUST BE IN PROPER ORDER AS REQUIRED UNTIL SITE COMPLETION.
   16) SILT FENCE SHALL BE INSPECTED FOR TEARS, DEPTH OF SEDIMENT, AND TO INSURE THE FENCE IS SECURELY FASTENED TO THE POSTS AND ALSO THAT POSTS ARE FIRMLY IN PLACE. SEDIMENT SHALL BE REMOVED IF THE DEPTH OF SEDIMENT IS GREATER THAN ONE-THIRD THE HEIGHT OF THE SILT FENCE.
   17) THE INSPECTOR SHALL RECORD ANY DAMAGES OR DEFICIENCIES IN THE TURBIDITY CONTROLS IN THE REPORT FORM FOR THIS PURPOSE. A COPY OF ALL RECORDING AND REPORTS SHALL BE FORWARDED TO THE ENGINEER FOR REVIEW.

   GENERAL SEQUENCE OF MAJOR EROSION AND POLLUTION CONTROL EVENTS:
   1) INSTALL EROSION CONTROL AT LOCATIONS SHOWN ON THE CONSTRUCTION PLANS.
   2) COMMENCE SITE CONSTRUCTION ACTIVITIES.
   3) AS PROPOSED DRAINAGE IS CONSTRUCTED, INSTALL SILT FENCE AND/OR TURBIDITY CONTROL MEASURES AT EACH.
   4) INSTALL TEMPORARY SEED AND MULCH IN AREAS WHERE CONSTRUCTION TEMPORARILY CEASES FOR AT LEAST 21 DAYS, NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITIES IN THAT AREA.
   5) INSTALL PERMANENT SEED/MULCH OR APPROVED STABILIZATION METHOD AND/OR PLANTING IN AREAS WHERE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITIES.
   6) REMOVE ACCUMULATED SEDIMENT.
   7) REMOVED TEMPORARY POLLUTION PREVENTION MEASURES AFTER ALL CONSTRUCTION ON SITE HAS BEEN COMPLETED AND DISPOSED OF MATERIALS ACCORDING TO APPLICABLE FDEP REGULATIONS AND/OR LOCAL GOVERNMENTAL CODES, ETC.

9. RECORD DRAWINGS: AFTER COMPLETION OF THE CONTRACT WORK, BUT PRIOR TO SUBMITTAL OF THE REQUEST FOR FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE FINAL RECORD DRAWINGS TO THE OWNER OF THE IMPROVEMENTS. THE RECORD DRAWINGS SHALL ALSO BE SUBMITTED DIGITALLY IN AUTOCAD / *.DWG FORMAT. THE RECORD DRAWINGS SHALL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF ST. LUCIE COUNTY, AND FDEP, AND SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

   THE FINAL LOCATION, BY REFERENCE TO AT LEAST TWO COMPLETED VISIBLE IMPROVEMENTS OR OTHER PERMANENT POINTS, OF ALL PAVING AND DRAINAGE ELEMENTS, AND SHALL INCLUDE ELEVATIONS OF PERTINENT POINTS IN THE PAVEMENT AND DRAINAGE IMPROVEMENTS, ALL REVISIONS TO THE ORIGINAL PLANS, VERIFICATION OF ALL DESIGN DIMENSIONS, ELEVATIONS, PIPE SLOPES, PIPE LENGTHS, INLETS AND CONTROL STRUCTURES LOCATION AND ELEVATIONS AND ALL OTHER INFORMATION NECESSARY TO HORIZONTALLY AND VERTICALLY LOCATE AND OPERATE THE IMPROVEMENTS CONSTRUCTED UNDER THIS CONTRACT.

   DRAWINGS SHALL INCLUDE:

   A. INDICATION OF ANY CHANGES OR VERIFICATIONS GET MARKED
   B. INDICATION OF ALL "PROPOSED" OR "CONSTRUCTS"
   C. CHANGES TO LOCATIONS OF PIPE, VALVES, FITTINGS OR MANHOLES, ETC.
   D. DETAIL BOX OF ANY SUBSTANTIAL CHANGES
   E. ALL ELEVATIONS FOR MANHOLES AND LIFT STATIONS
   F. ALL GRADES AND FOOTAGE ON SANITARY RUNS

   THE CONTRACTOR SHALL PROVIDE RECORD DRAWING PRINTS AND ONE COPY OF CERTIFIED FIELD NOTES TO THE OWNER THAT ARE SIGNED AND SEALED BY A FLORIDA REGISTERED LAND SURVEYOR. PAYMENT FOR THE RECORD DRAWINGS SHALL BE ON A LUMP SUM BASIS.

DEWATERING:
CONSTRUCTION DEWATERING MAY REQUIRE A PERMIT FROM SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD). IF DEWATERING IS TO TAKE PLACE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A DEWATERING PERMIT FOR HIS WORK.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: AS NOTED
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

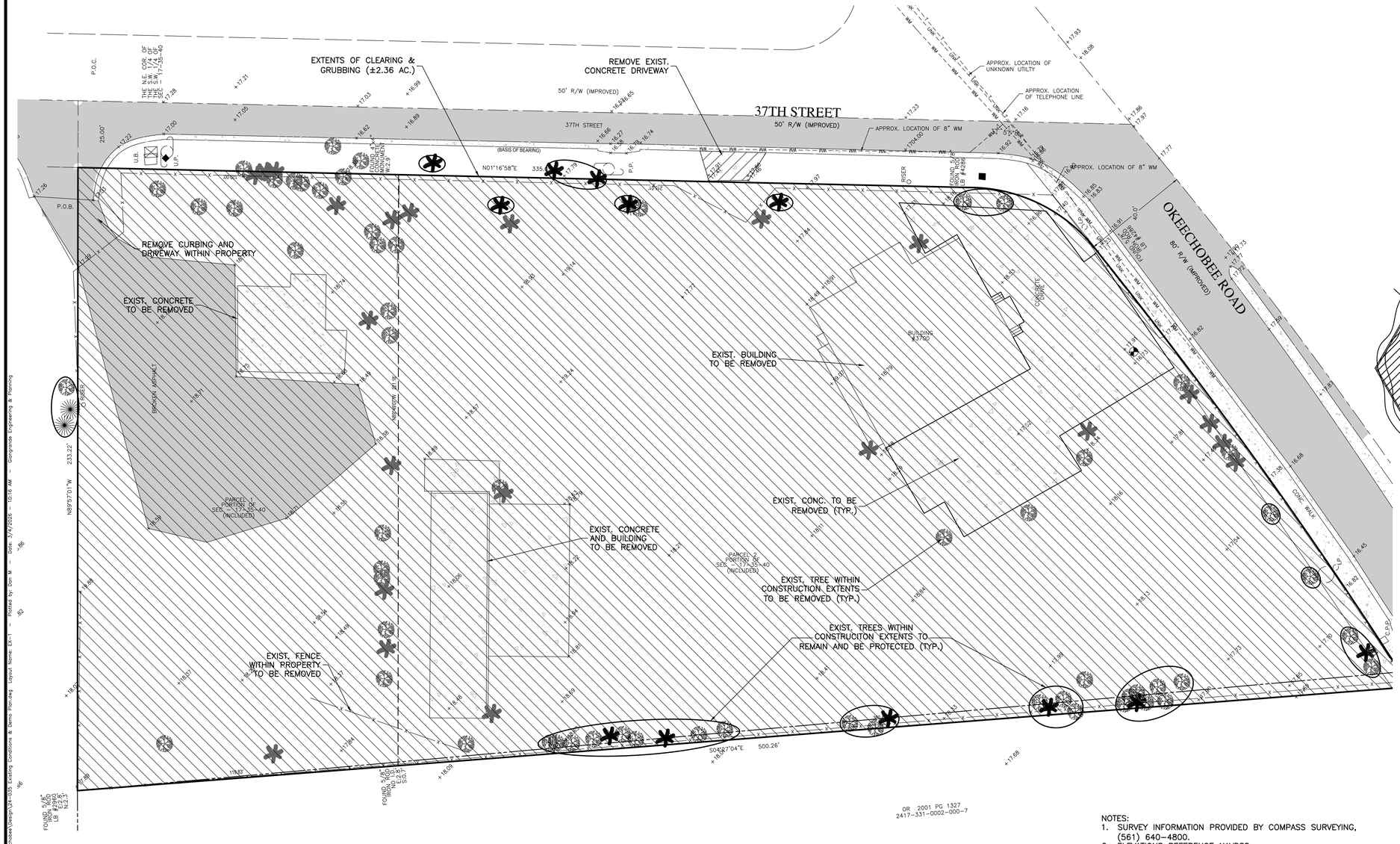
GENERAL NOTES

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

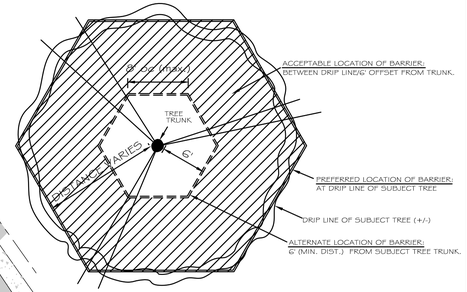
LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

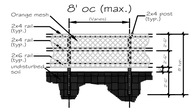
G-2



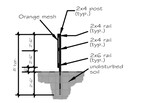
TREE PROTECTION DETAIL



BARRICADE PLAN
N.T.S.



BARRICADE ELEVATION
N.T.S.



BARRICADE SECTION
N.T.S.

BARRICADE NOTES:
1. TREE PROTECTION BARRICADE TO BE ERECTED PRIOR TO COMMENCEMENT OF ANY WORK.
2. NO CONSTRUCTION WITHIN BARRICADE WITHOUT OWNER APPROVAL
3. EXCAVATION (IF APPROVED BY OWNER) WITHIN TREE PROTECTION AREAS IS LIMITED TO HAND TOOLS (NO MACHINERY)

LEGEND

- EXIST. CLEARING & GRUBBING
- EXIST. CONCRETE
- EXIST. WATER LINE
- EXIST. TELEPHONE
- EXIST. FENCE
- EXIST. BOUNDARY
- EXIST. R.O.W.
- EXIST. CENTERLINE
- EXIST. PINE TREE
- EXIST. OAK TREE

NOTES:
1. SURVEY INFORMATION PROVIDED BY COMPASS SURVEYING, (561) 640-4800.
2. ELEVATIONS REFERENCE NAVD88.
3. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND NOTIFY ENGINEER AND/OR OWNER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF SITE PREPARATION DEBRIS ON A REGULAR BASIS TO PREVENT LARGE STOCKPILES FROM FORMING AT THE SITE.
5. SHOULD UNSUITABLE MATERIAL BE ENCOUNTERED DURING SITE PREPARATION, CONTRACTOR SHALL INFORM THE ENGINEER AND/OR OWNER PRIOR TO REMOVING MATERIAL.
6. ALL ORGANIC AND NON-FREE DRAINING SOILS SHALL BE REMOVED FROM THE BOTTOM OF THE PROPOSED RETENTION AREA.
7. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE PREPARATION ACTIVITIES.
8. ALL AREAS DISTURBED IN THE RIGHT OF WAY SHALL BE RETURNED TO ORIGINAL CONDITION OR BETTER.
9. CLEARED AREAS SHALL BE SODDED OR OTHER APPROVED STABILIZATION METHOD INSTALLED WITHIN 30 DAYS OF VEGETATION REMOVAL.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

EXISTING CONDITIONS & DEMO PLAN

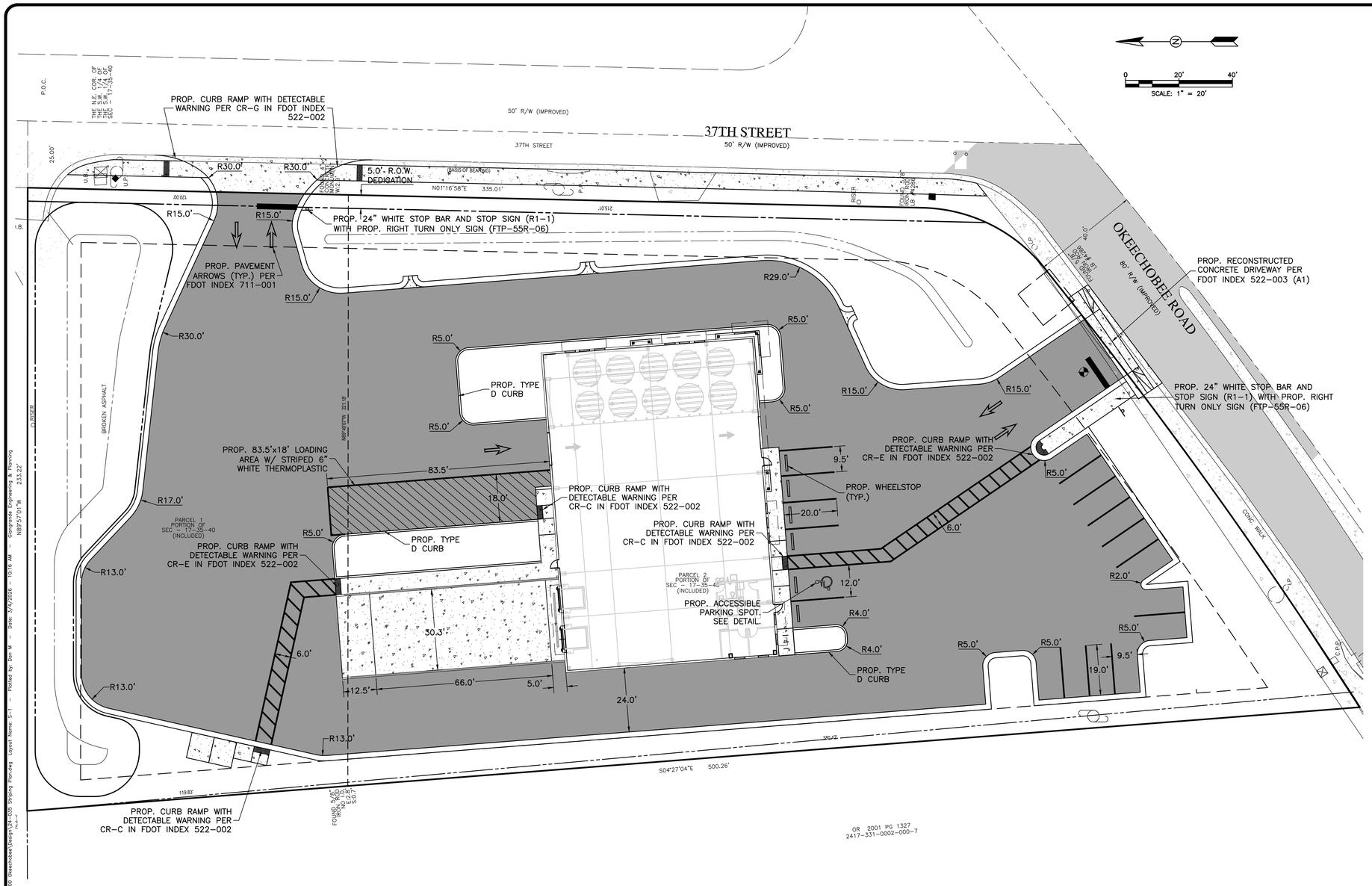
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

EX-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Existing Conditions & Demo Plan.dwg Layout Name: EX-1 - Plotted by: Don M - Date: 3/4/2026 - 10:16 AM - Gangrande Engineering & Planning



LEGEND

- PROP. ASPHALT
- PROP. CONCRETE
- EXIST. CONCRETE
- PROP. TOP OF BANK
- PROP. TOE OF SLOPE
- PROP. EDGE OF PAVEMENT
- PROP. BOUNDARY
- PROP. EASEMENT
- EXIST. CENTERLINE

NOTE:
ALL STRIPING WITHIN THE RIGHT OF WAY SHALL BE THERMOPLASTIC

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

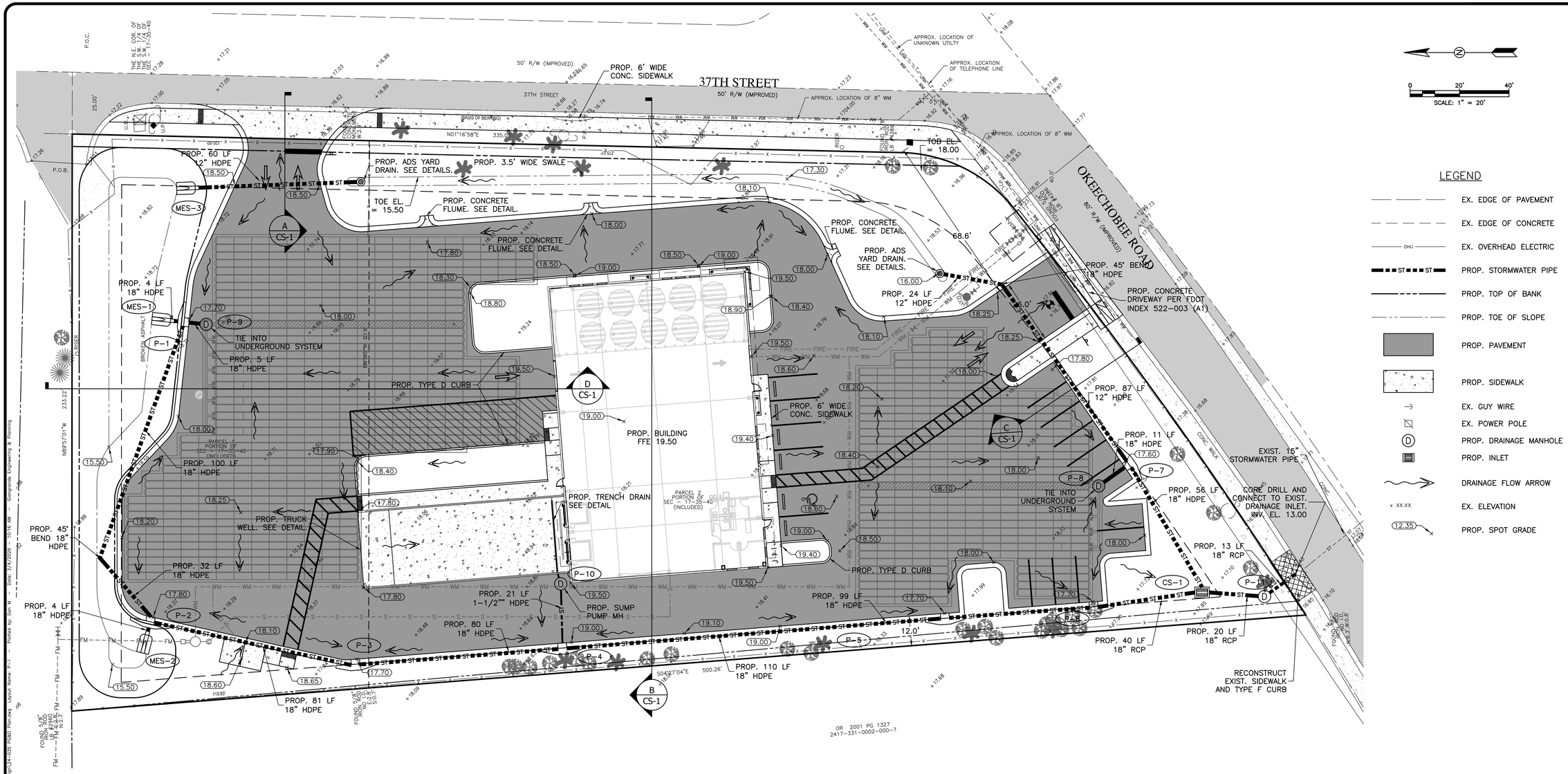
STRIPING PLAN

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

ST-1



LEGEND

- EX. EDGE OF PAVEMENT
- EX. EDGE OF CONCRETE
- EX. OVERHEAD ELECTRIC
- PROP. STORMWATER PIPE
- PROP. TOP OF BANK
- PROP. TOE OF SLOPE
- PROP. PAVEMENT
- PROP. SIDEWALK
- EX. GUY WIRE
- EX. POWER POLE
- PROP. DRAINAGE MANHOLE
- PROP. INLET
- DRAINAGE FLOW ARROW
- EX. ELEVATION
- PROP. SPOT GRADE

NOTES:
1. ELEVATIONS REFERENCE NAVD88.
2. FILL MATERIAL SHALL BE INORGANIC (CLASSIFIED AS SP/GW) CONTAINING NOT MORE THAN 5 PERCENT (BY WEIGHT) FIBROUS ORGANIC MATERIALS. FILL MATERIAL HAVING SILT/CLAY-SIZE FINES CONTENTS GREATER THAN 5 PERCENT SHALL NOT BE USED, INCLUDING CYCLONE SAND MATERIAL. THE FILL SHALL BE PLACED IN MAXIMUM 12-INCH THICK LIFTS. EACH LIFT SHALL BE COMPACTED TO A MINIMUM DENSITY OF 98 PERCENT OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180).
3. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF SITE PREPARATION DEBRIS ON A REGULAR BASIS TO PREVENT LARGE STOCKPILES FROM FORMING AT THE SITE.
5. SHOULD UNSUITABLE MATERIAL BE ENCOUNTERED DURING SITE PREPARATION, THE CONTRACTOR SHALL INFORM THE ENGINEER PRIOR TO REMOVING MATERIAL.
6. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE PREPARATION ACTIVITIES,
7. ALL AREAS DISTURBED IN THE RIGHT OF WAY SHALL BE RETURNED TO ORIGINAL CONDITION OR BETTER.
8. CONTRACTOR TO ENSURE MINIMUM OF 12" NON-ORGANIC FREE DRAINING MATERIAL WITHIN THE BOTTOM OF THE DRY RETENTION POND. THIS CAN BE ACCOMPLISHED VIA SOIL REPLACEMENT, SOIL MIXING, OR OTHER APPROVED METHOD.

DRAINAGE STRUCTURE TABLE

STRUCTURE NO.	GRATE EL.	INVERTS	BOTTOM	DESCRIPTION
P-1	17.70	13.45	11.45	TYPE 6 CURB INLET
P-2	17.80	13.45	11.45	TYPE 6 CURB INLET
P-3	17.70	13.45	11.45	TYPE 6 CURB INLET
P-4	19.00	13.45	11.45	TYPE 6 CURB INLET
P-5	17.70	13.45	11.45	TYPE 6 CURB INLET
P-6	17.70	13.45	11.45	TYPE 6 CURB INLET
P-7	17.60	13.45	11.45	TYPE 6 CURB INLET
P-8	17.70	13.95	11.95	STORM MANHOLE
P-9	17.80	13.10	14.10	STORM MANHOLE
P-10	19.45	16.44	14.44	STORM MANHOLE
P-11	17.20	13.40	11.40	STORM MANHOLE
MES-1		15.50		MITERED END SECTION
MES-2		15.50		MITERED END SECTION
MES-3		15.50		MITERED END SECTION
CS-1	18.50	13.50	11.50	TYPE E CONTROL STRUCTURE - SEE DETAIL

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

PAVING, GRADING, & DRAINAGE PLAN

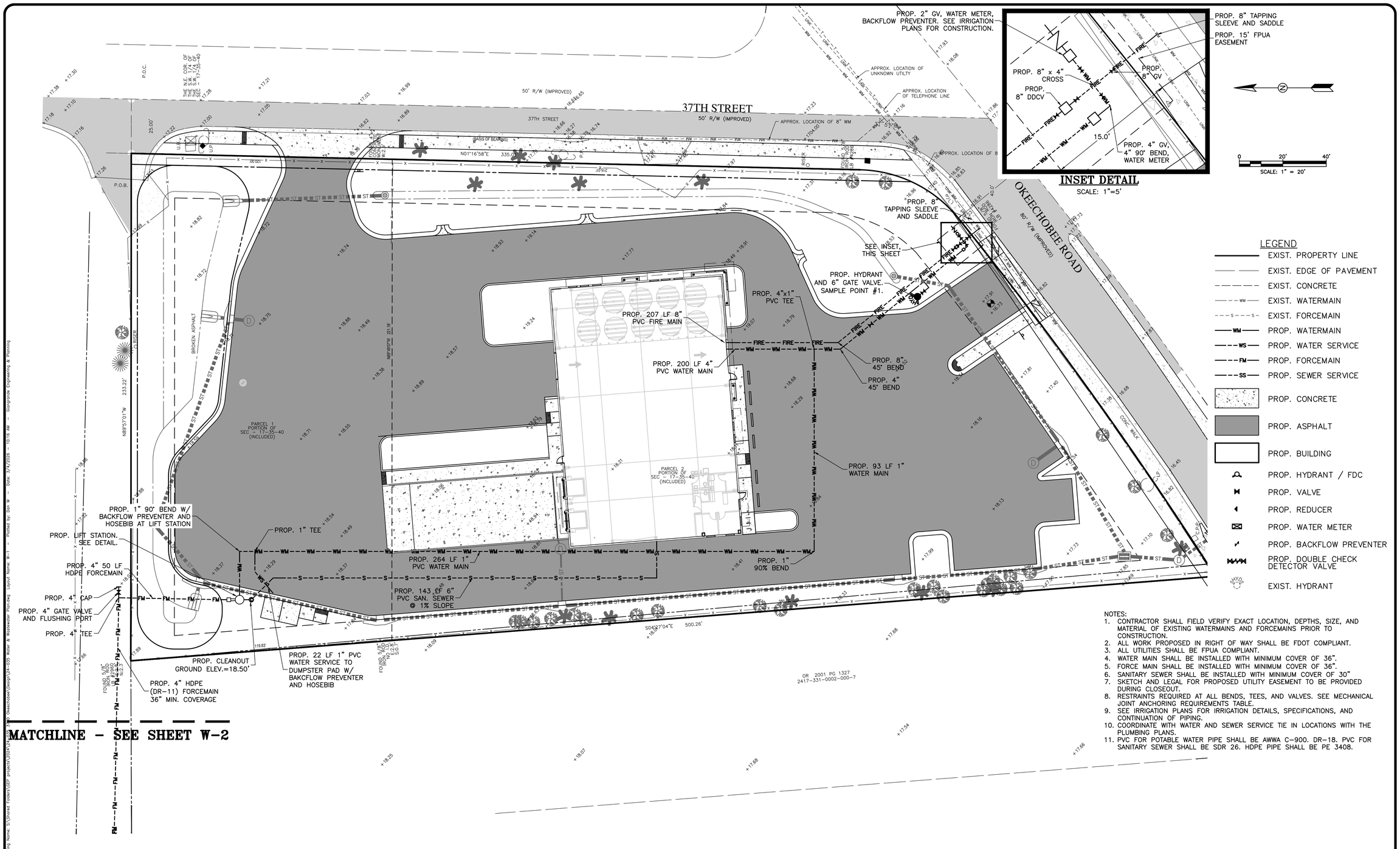
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

P-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 PG&D Plan.dwg Layout Name: P-1 - Plotted by: Don M - Date: 3/4/2026 - 10:16 AM - Giangrande Engineering & Planning



LEGEND

- EXIST. PROPERTY LINE
- EXIST. EDGE OF PAVEMENT
- EXIST. CONCRETE
- EXIST. WATERMAIN
- EXIST. FORCEMAIN
- PROP. WATERMAIN
- PROP. WATER SERVICE
- PROP. FORCEMAIN
- PROP. SEWER SERVICE
- PROP. CONCRETE
- PROP. ASPHALT
- PROP. BUILDING
- PROP. HYDRANT / FDC
- PROP. VALVE
- PROP. REDUCER
- PROP. WATER METER
- PROP. BACKFLOW PREVENTER
- PROP. DOUBLE CHECK DETECTOR VALVE
- EXIST. HYDRANT

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION, DEPTHS, SIZE, AND MATERIAL OF EXISTING WATERMAINS AND FORCEMAINS PRIOR TO CONSTRUCTION.
2. ALL WORK PROPOSED IN RIGHT OF WAY SHALL BE FDOT COMPLIANT.
3. ALL UTILITIES SHALL BE FPUA COMPLIANT.
4. WATER MAIN SHALL BE INSTALLED WITH MINIMUM COVER OF 36".
5. FORCE MAIN SHALL BE INSTALLED WITH MINIMUM COVER OF 36".
6. SANITARY SEWER SHALL BE INSTALLED WITH MINIMUM COVER OF 30"
7. SKETCH AND LEGAL FOR PROPOSED UTILITY EASEMENT TO BE PROVIDED DURING CLOSEOUT.
8. RESTRAINTS REQUIRED AT ALL BENDS, TEES, AND VALVES. SEE MECHANICAL JOINT ANCHORING REQUIREMENTS TABLE.
9. SEE IRRIGATION PLANS FOR IRRIGATION DETAILS, SPECIFICATIONS, AND CONTINUATION OF PIPING.
10. COORDINATE WITH WATER AND SEWER SERVICE TIE IN LOCATIONS WITH THE PLUMBING PLANS.
11. PVC FOR POTABLE WATER PIPE SHALL BE AWWA C-900. DR-18. PVC FOR SANITARY SEWER SHALL BE SDR 26. HDPE PIPE SHALL BE PE 3408.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

WATER & WASTEWATER PLAN

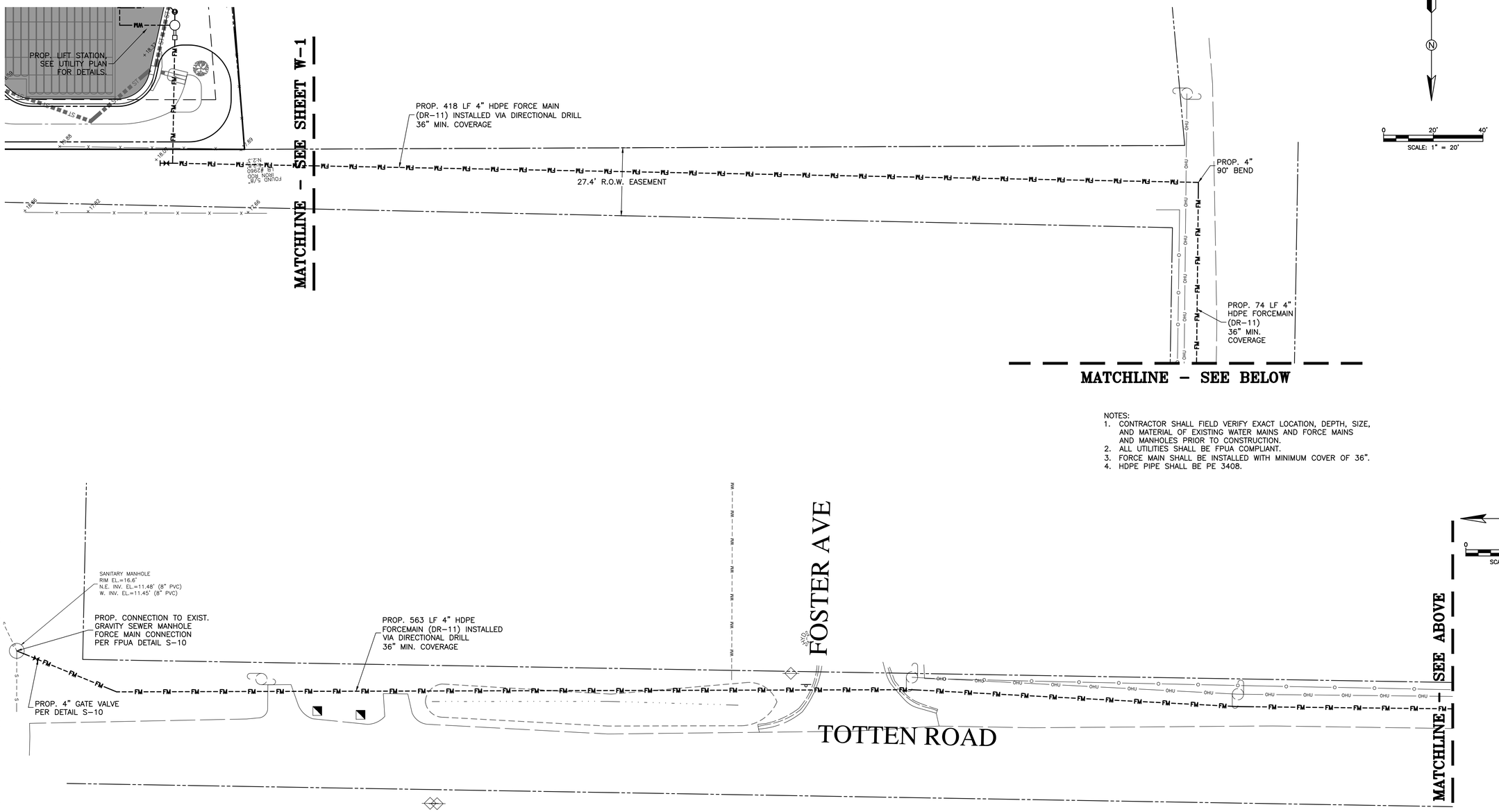
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

W-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 Okeechobee\Design\24-035 Water & Wastewater Plan.dwg Layout Name: W-1 Plotted by: Don M Date: 3/4/2026 10:16 AM Giangrande Engineering & Planning



NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION, DEPTH, SIZE, AND MATERIAL OF EXISTING WATER MAINS AND FORCE MAINS AND MANHOLES PRIOR TO CONSTRUCTION.
2. ALL UTILITIES SHALL BE FPUA COMPLIANT.
3. FORCE MAIN SHALL BE INSTALLED WITH MINIMUM COVER OF 36".
4. HDPE PIPE SHALL BE PE 3408.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

WATER & WASTEWATER PLAN

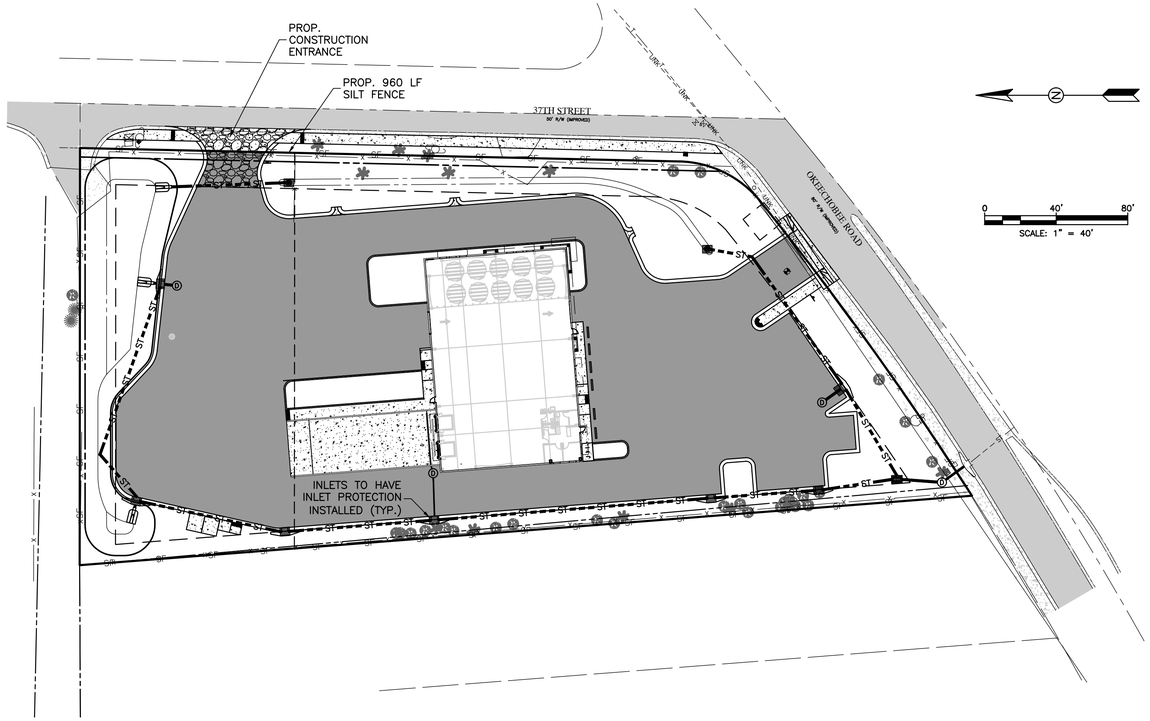
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

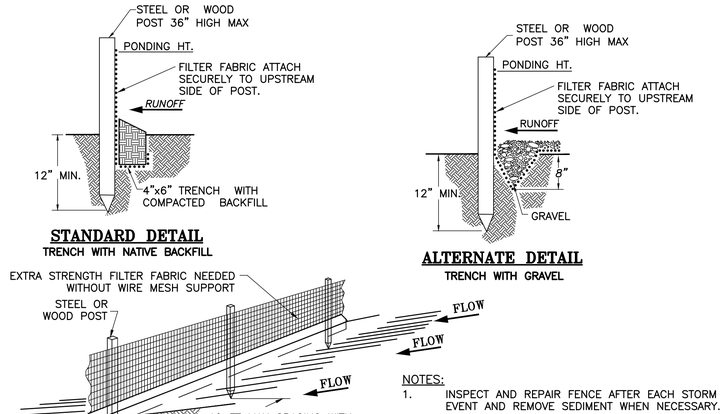
LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

W-2

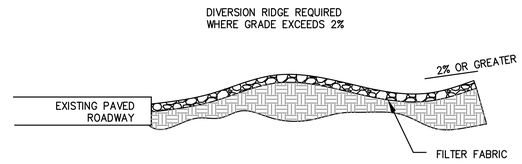
Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Water & Wastewater Plan.dwg Layout Name: W-2 - Plotted by: Don M - Date: 3/4/2026 - 10:16 AM - Giangrande Engineering & Planning



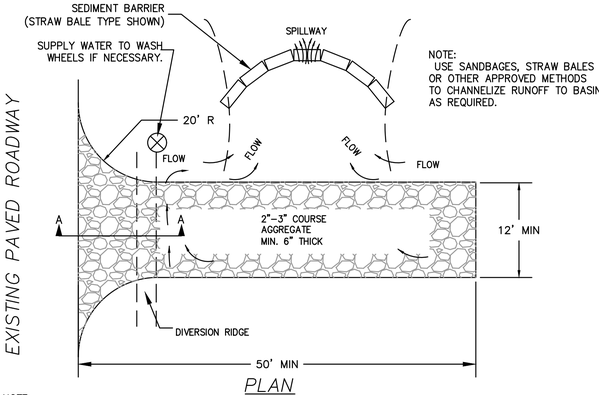


SILT FENCE DETAIL
N.T.S.

NOTES:
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOUR TO MAXIMIZE PONDING EFFICIENCY.
4. OVERLAP ALL JOINTS AT LEAST 6 FEET.



SECTION A-A



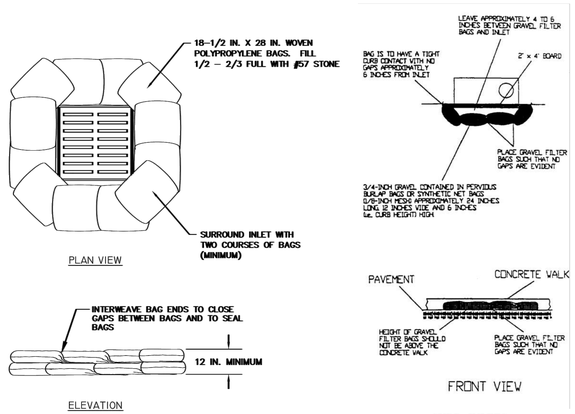
PLAN

NOTE:
USE SANDBAGES, STRAW BALES OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED.

NOTE:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING. REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

EROSION CONTROL NOTES:
1. THIS PROJECT IS SUBJECT TO ALL RELATED ENVIRONMENTAL REQUIREMENTS WHICH INCLUDE A "CONTROL OF EROSION AND SEDIMENTATION PLAN". THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING NECESSARY AND ADEQUATE MEASURES FOR PROPER CONTROL OF EROSION DUE TO SEDIMENTATION RUNOFF FROM THE SITE PRIOR TO CONSTRUCTION OPERATIONS IN A PARTICULAR AREA. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO START OF CONSTRUCTION. FIELD ADJUSTMENTS WITH RESPECT TO LOCATIONS AND DIMENSIONS MAY BE DIRECTED BY THE ENGINEER AS REQUIRED.
2. EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RAIN EVENT FOR DAMAGE AND GENERAL EFFECTIVENESS. ANY DAMAGED OR INEFFECTIVE CONTROLS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR.
3. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED, IF DEEMED NECESSARY, BY THE ON-SITE INSPECTOR.
4. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. TEMPORARY AND PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE LEFT IN PLACE AND MAINTAINED UNTIL THE AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION.
6. ALL CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ON TO ANY PUBLIC RIGHT-OF-WAY. THIS SHALL REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS REQUIRE. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHT-OF-WAY OR INTO STORM DRAINS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
7. TURBIDITY SCREENS OR EQUIVALENT SHALL BE PROPERLY EMPLOYED AND MAINTAINED AS NECESSARY DURING CONSTRUCTION ACTIVITIES SO THAT TURBIDITY LEVELS DO NOT EXCEED 29 NTU'S ABOVE NATURAL BACKGROUND 50 FEET DOWNSTREAM OF POINT OF DISCHARGE. IF TURBIDITY LEVELS EXCEED THESE LIMITS, PROJECT ACTIVITIES SHALL IMMEDIATELY CEASE, AND WORK SHALL NOT RESUME UNTIL TURBIDITY LEVELS DROP TO WITHIN THESE LIMITS.
8. CONTRACTOR SHALL SOD GRASS AREAS DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO OWNER.
9. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES).
10. SEDIMENT BARRIERS SHALL BE PLACED PRIOR TO ANY WORK ON THE SITE. SEDIMENT BARRIERS SHALL PLACED AS DEPICTED AS SHOWN ON THESE CONSTRUCTION PLANS.
11. DAMAGED TURBIDITY CONTROLS SHALL BE REPAIRED PROMPTLY AND BEFORE ANY SUBSEQUENT RAINFALL.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF THE NPDES AND RELATED STORM WATER PLAN FOR THE DURATION OF THE PROJECT. UPON COMPLETION THE CONTRACTOR SHALL REMOVED ALL TEMPORARY STORM WATER MANAGEMENT MEASURES AND SHALL DISPOSE OF THEM AS REQUIRED.
13. CONTRACTOR SHALL COMPLY WITH SPILL PREVENTION, CONTROL AND COUNTER MEASURES (SPCC) REQUIREMENTS PURSUANT TO EPA RULES AND REGULATIONS.
14. ALL CONSTRUCTION WASTE MATERIAL SHALL BE COLLECTED AND STORED IN A SECURED METAL DUMPSTER RENTED / LEASED FROM A LOCAL WASTE MANAGEMENT COMPANY. THE DUMPSTER SHALL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURES FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES SHALL BE POSTED IN THE OFFICE TRAILER / CONSTRUCTION TRAILER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.
15. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS AT A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.
16. TRUCKS / EQUIPMENT IMPORTING OR EXPORTING FILL SHALL COVER THEIR LOADS WITH A TARPAULIN TO AVOID UNNECESSARY GENERATION OF DUST.
17. ALL HAZARDOUS WATER MATERIAL SHALL BE DISPOSED OF AS PER LOCAL / STATE REGULATIONS OR AS RECOMMENDED BY THE MANUFACTURER. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES AND THE CONTRACTOR IS RESPONSIBLE TO FOLLOW THESE PRACTICES.
18. THE GENERAL CONTRACTOR'S SITE SUPERINTENDENT SHALL SELECT INDIVIDUALS, TYPICALLY THREE, WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES AND FILLING OUT OF INSPECTION REPORTS. PERSONNEL SELECTED SHALL BE RECEIVE PROPER TRAINING, AT THE CONTRACTORS EXPENSE, PRIOR TO SITE CONSTRUCTION COMMENCEMENT.
19. ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE INSPECTED EVERY 7 DAYS OR WITHIN 24 HOURS OF A STORM OF 0.5 INCHES OR MORE IN RAINFALL. ALL CONTROLS MUST BE IN PROPER ORDER AS REQUIRED UNTIL SITE COMPLETION.
20. SILT FENCE SHALL BE INSPECTED FOR TEARS, DEPTH OF SEDIMENT, AND TO INSURE THE FENCE IS SECURELY FASTENED TO THE POSTS AND ALSO THAT POSTS ARE FIRMLY IN PLACE. SEDIMENT SHALL BE REMOVED IF THE DEPTH OF SEDIMENT IS GREATER THAN ONE-THIRD THE HEIGHT OF THE SILT FENCE.
21. THE INSPECTOR SHALL RECORD ANY DAMAGES OR DEFICIENCIES IN THE TURBIDITY CONTROLS IN THE REPORT FORM FOR THIS PURPOSE. A COPY OF ALL RECORDING AND REPORTS SHALL BE FORWARDED TO THE ENGINEER FOR REVIEW.
22. THE REQUIREMENTS LISTED ABOVE AND DETAILS PRESENTED ON THIS SHEET SHALL BE CONSIDERED MINIMUM REQUIREMENTS AND THE CONTRACTOR SHALL USE WHATEVER METHODS THE CONTRACTOR DEEMS NECESSARY TO PREVENT EROSION AND SILTATION AS MAY BE REQUIRED FOR THE PROJECT.
23. PROPERTY CORNERS SHALL BE LOCATED BY A LICENSED LAND SURVEYOR AND CLEARLY MARKED IN THE FIELD PRIOR TO THE ENGINEERING DEPARTMENT'S PRE-CONSTRUCTION MEETING FOR SITE DEVELOPMENT.
24. AUTHORIZATION TO INSTALL EROSION CONTROL DEVICES AND PRESERVE BARRICADES WILL BE GRANTED AT THE PRE-CONSTRUCTION MEETING. THE AUTHORIZATION SHALL BE POSTED ON THE SITE, IN THE PERMIT BOX, ITS LOCATION SHOWN ELSEWHERE ON THIS PAGE.
25. NO ADDITIONAL LAND CLEARING SHALL COMMENCE UNTIL A SATISFACTORY INSPECTION OF THE REQUIRED EROSION CONTROL BARRICADES HAS BEEN OBTAINED.
26. ALL CONSTRUCTION BARRICADES AND SILT FENCES WILL REMAIN IN PLACE AND BE MONITORED FOR COMPLIANCE BY PERMIT HOLDER DURING THE PERMITTED DEVELOPMENT ACTIVITIES.
27. PRIOR TO SCHEDULING A FINAL ENVIRONMENTAL INSPECTION FOR THE INFRASTRUCTURE, ALL BARRICADES AND EROSION CONTROL DEVICES SHALL BE REMOVED AND DISPOSED BY THE CONTRACTOR.
28. LOCATIONS OF ANY MATERIALS TO BE TEMPORARILY STOCKPILED TO INCLUDE LAND CLEARING DEBRIS OR EXCAVATED MATERIALS SHALL BE PER THE ENGINEER.
29. THE CONTRACTOR SHALL PROVIDE A PLAN TO MINIMIZE DUST AND AIR POLLUTION DURING LAND CLEARING.
30. ALL AREAS DISTURBED IN THE RIGHT OF WAY SHALL BE RETURNED TO ORIGINAL CONDITION OR BETTER.
31. CLEARED AREAS SHALL BE SODDED OR OTHER APPROVED STABILIZATION METHOD INSTALLED WITHIN 30 DAYS OF VEGETATION REMOVAL.
32. CONTRACTOR MUST USE SITE STABILIZATION METHODS, SUCH AS, BUT NOT LIMITED TO, SEEDING WETTING, AND MULCHING WHICH MINIMIZE AIRBORNE DUST AND PARTICULATE EMISSIONS GENERATED BY CONSTRUCTION ACTIVITY. SUCH METHODS SHALL BE COMPLETED PROGRESSIVELY AND ACTIVELY MAINTAINED AS VEGETATION REMOVAL OCCURS WITHIN A GIVEN AREA OF A SITE. AT THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL INFORM THE COUNTY WHICH VEGETATION REMOVAL METHODS WILL BE CONDUCTED AND THE PLAN TO MINIMIZE AIRBORNE DUST AND PARTICULATE EMISSIONS.



NOTES:
1. STONE FILL BAGS SHALL BE WOVEN POLYPROPYLENE BAGS WITH APPROXIMATE DIMENSIONS OF 18-1/2 INCHES BY 28 INCHES.
2. THE BAGS SHALL BE FILLED 1/2 TO 2/3 FULL WITH FDOT NO. 57 STONE. TIE THE ENDS OF FILLED BAGS USING EITHER DRAW STRINGS OR WIRE TIES.
3. INTERWEAVE THE LOOSE ENDS OF THE BAGS SO THAT THE GAPS BETWEEN BAGS ARE FILLED AND THE ENDS OF THE BAGS ARE SEALED.
4. COMPLETELY SURROUND THE INLET WITH A MINIMUM OF TWO (2) ROWS OF BAGS TO A MINIMUM OF 12 INCHES IN HEIGHT.

GRAVEL FILTER BAGS INLET PROTECTION DETAIL

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: AS NOTED
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

EROSION CONTROL PLAN

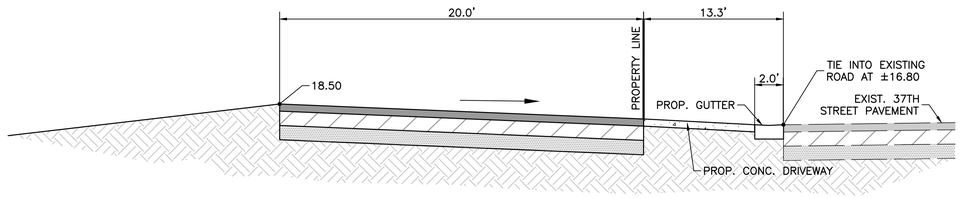
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep-llc.com
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

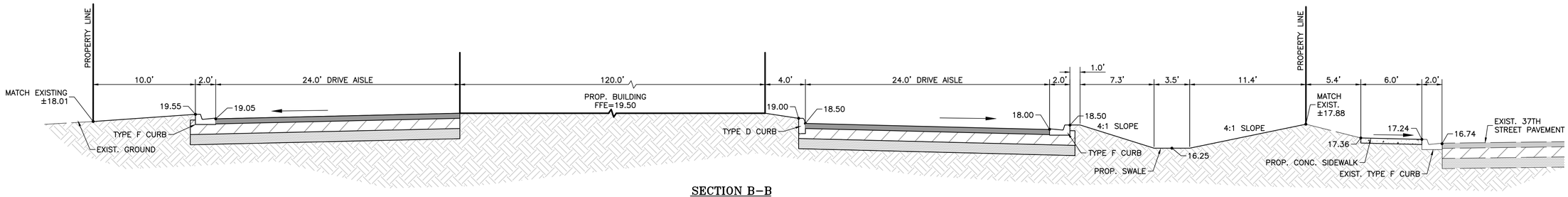
EC-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 SWPP Plan.dwg Layout Name: EC-1 - Plotted by: Don M - Date: 3/4/2026 - 10:16 AM - Giangrande Engineering & Planning



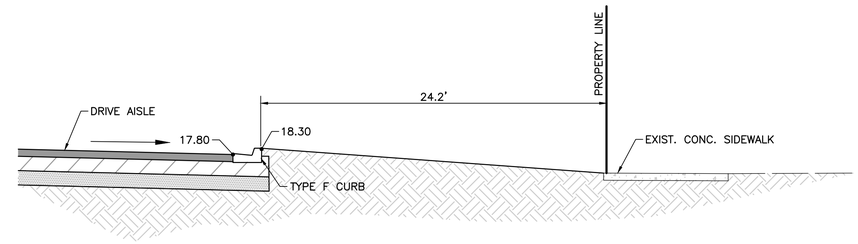
SECTION A–A

SCALE: 1"=5'



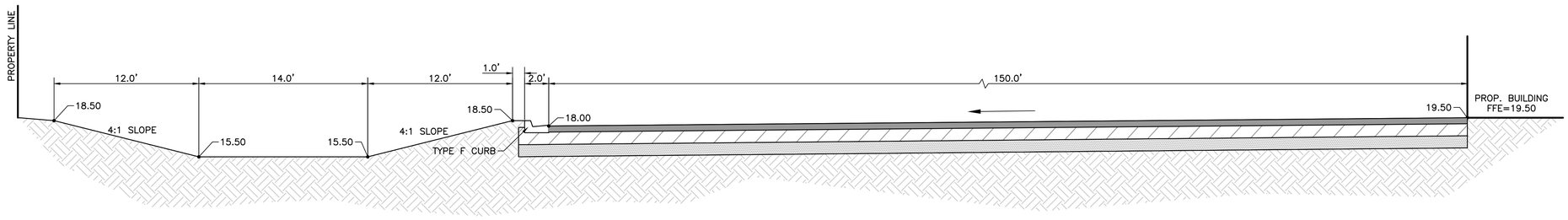
SECTION B–B

SCALE: 1"=5'



SECTION C–C

SCALE: 1"=5'



SECTION D–D

SCALE: 1"=5'

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Cross Sections.dwg Layout Name: C-1 – Plotted by: Don M – Date: 3/4/2026 – 10:16 AM – Giangrande Engineering & Planning

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

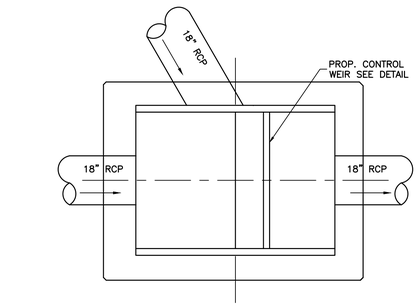
CROSS SECTIONS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

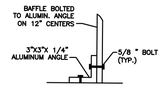
LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24–035

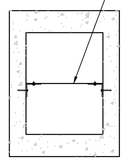
C-1



PLAN

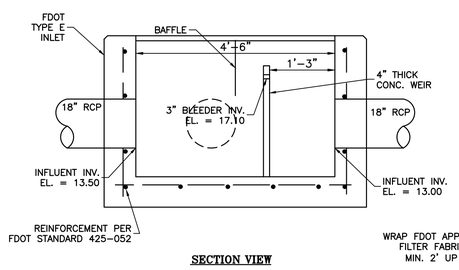


ANGLE DETAIL

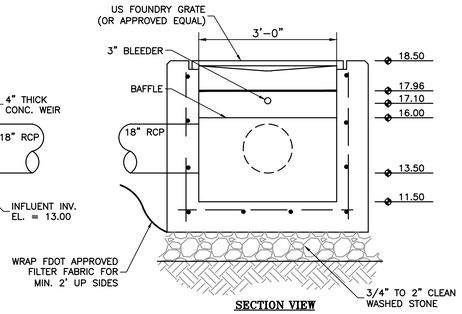


NOTE:
1. SEAL ALL JOINTS WITH RAM-NEK SEALANT.

BAFFLE DETAIL



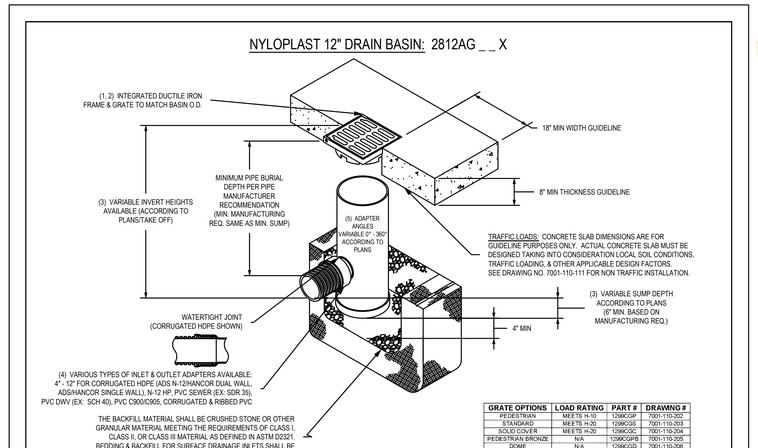
SECTION VIEW



SECTION VIEW

CONTROL STRUCTURE W/ CONTROL WEIR DETAIL

N.T.S



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1296CGP	7001-110-202
STANDARD	MEETS H-20	1296CGS	7001-110-203
SOLID COVER	MEETS H-20	1296CGC	7001-110-204
PEDESTRIAN BRONZE	N/A	1296CGPB	7001-110-205
DOME	N/A	1296CGD	7001-110-206
DROP IN GRATE	LIGHT DUTY	1201DI	7001-110-021

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2013 NYLOPLAST

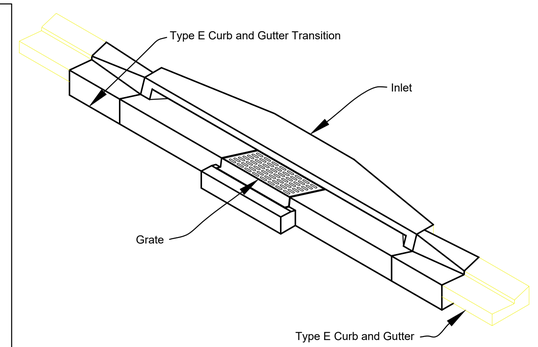
DRAWN BY	EBC	MATERIAL	
DATE	03-29-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-11-16		
DWG SIZE	A	SCALE 1:20	SHEET 1 OF 1

ADS Nyloplast

3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE
12 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-189 REV E

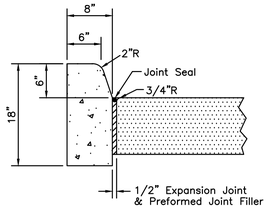


INLET TYPE 6
(Type E Curb and Gutter Shown)

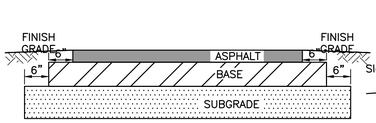
FDOT INDEX INLET TYPE 6

(TYPE E CURB AND GUTTER SHOWN)

N.T.S



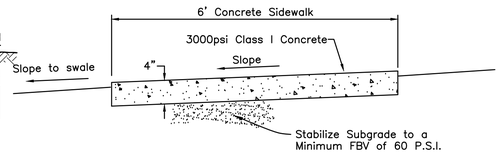
SECTION VIEW



ASPHALT CONCRETE
PAVEMENT: 1 1/2" FDOT TYPE SP-12.5 (1ST LIFT)
1" FDOT TYPE SP-9.5 (2ND LIFT)
BASE: 10" COMPACTED LIMEROCK OR COQUINA BASE (LBR-100) SAME DENSITY AS SUBGRADE
SUBGRADE: 12" THICK COMPACTED SUBGRADE (LBR-40) DENSITY SHALL BE 98% OF MAXIMUM AS DETERMINED BY AASHTO T-180 METHOD

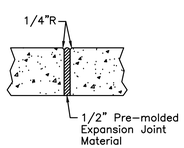
TYPICAL PAVEMENT SECTION

N.T.S

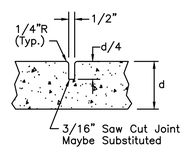


SIDEWALK DETAIL

N.T.S



EXPANSION JOINTS

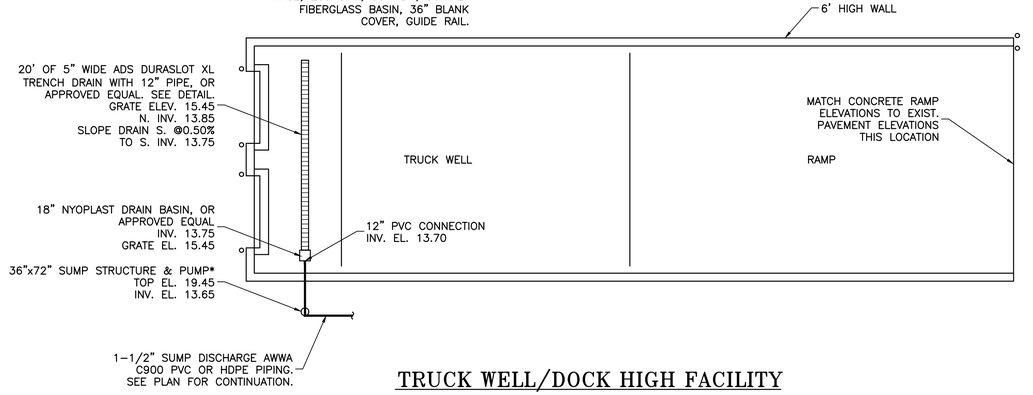


CONTRACTION JOINTS

NOTES:

1. Saw cut contraction joints on 10' centers max. within 48 hours after pouring curb.
2. All materials and construction shall be in accordance with FDOT Specifications Section 520 and FDOT Roadway & Traffic Design Standards index number 300.

* LIBERTY SUMP PUMP MODEL LEH102M2-2 1 HP, 230 V, 1 PHASE, 200 GPM, 53' TDH, 36"x72" FIBERGLASS BASIN, 36" BLANK COVER, GUIDE RAIL.

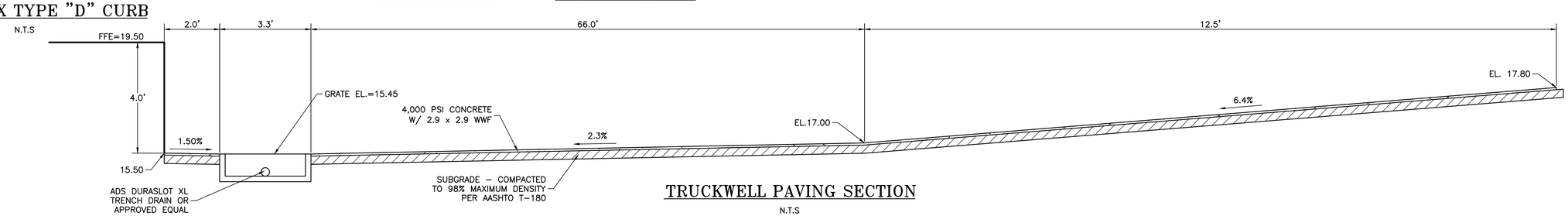


TRUCK WELL/DOCK HIGH FACILITY

N.T.S

FDOT INDEX TYPE "D" CURB

N.T.S



TRUCKWELL PAVING SECTION

N.T.S

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

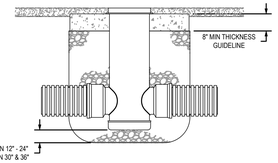
PROJECT #: 24-035

D-1

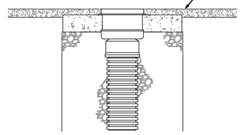
Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-1 - Plotted by: Don W - Date: 3/4/2026 - 10:17 AM - Giangrande Engineering & Planning

ASPHALT INSTALLATION

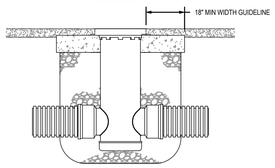
DRAIN BASIN



INLINE DRAIN



ROAD & HIGHWAY



STRUCTURE SIZE	H-20 GRATE OPTIONS				
12"	N/A	STANDARD	SOLID	2X2 R&H	N/A
15"	N/A	STANDARD	SOLID	2X2 R&H	N/A
18"	N/A	STANDARD	SOLID	2X2 R&H	2X3 R&H
24"	N/A	STANDARD	SOLID	2X2 R&H	2X3 R&H
30"	PEDESTRIAN	STANDARD	SOLID	2X2 R&H	2X3 R&H
36"	PEDESTRIAN	STANDARD	SOLID	2X2 R&H	2X3 R&H

1 - THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

2 - TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS.

3 - 36" DRAIN BASIN REQUIRES 36"X30" REDUCING CONE. REDUCING CONE REQUIRES MINIMUM 2.25FT FROM GRADE TO TOP OF PIPE.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2021 NYLOPLAST

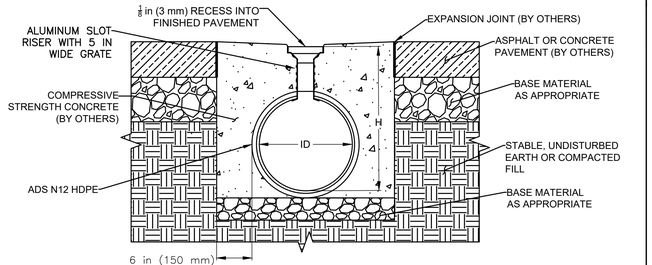
DRAWN BY	EBC	MATERIAL	
DATE	4-6-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	06-12-18		
DWG SIZE	A	SCALE 1:30	SHEET 1 OF 1

ADS Nyloplast

3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: DRAIN BASIN, INLINE DRAIN, & ROAD & HIGHWAY (H-20 TRAFFIC LOAD) ASPHALT INSTALLATION DETAIL

DWG NO. 7001-110-188 REV F



Nominal Diameter, ID, in. (mm)	Depth of Invert, H, in. (mm)	
	Minimum	Maximum
6 (150)	12.50 (318)	30.00 (762)
8 (200)	14.50 (368)	32.00 (813)
10 (250)	16.50 (419)	34.00 (864)
12 (300)	19.00 (483)	48.00 (1219)
15 (375)	22.00 (559)	51.00 (1295)
18 (450)	25.00 (635)	54.00 (1372)
24 (600)	31.25 (794)	60.00 (1524)
30 (750)	38.25 (972)	66.00 (1676)
36 (900)	44.25 (1024)	72.00 (1829)

NOTES:
1. BACKFILL DESIGN SHOULD BE USED FOR HS-20 LOADING APPLICATIONS.
2. SITE ENGINEER TO PROVIDE SITE SPECIFIC DETAILS, SUCH AS CONCRETE STRENGTH.
3. REFER TO ADS TECH NOTE 2.11 FOR ADDITIONAL DESIGN INFORMATION.
4. SLOT RECESS IS NOT INCLUDED IN DEPTH OF INVERT TABLES.

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

©2025 ADS, INC.

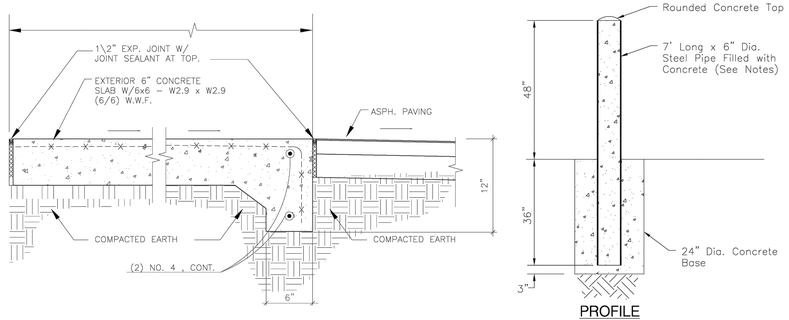
REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
	Updated Layers & Logo	KJS	01/08/25	–

Duraslot XL Heavy Traffic Installation

DRAWING NUMBER:

4640 TRUEMAN BLVD
HILLIARD, OHIO 43026

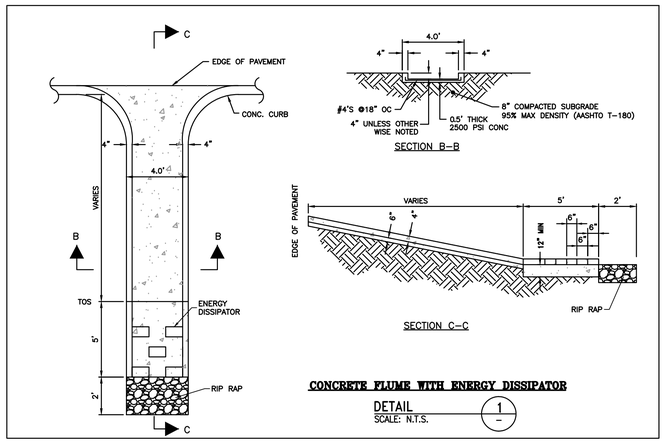
04-18-2023
SCALE: –
NTS
1 OF 1



PROFILE

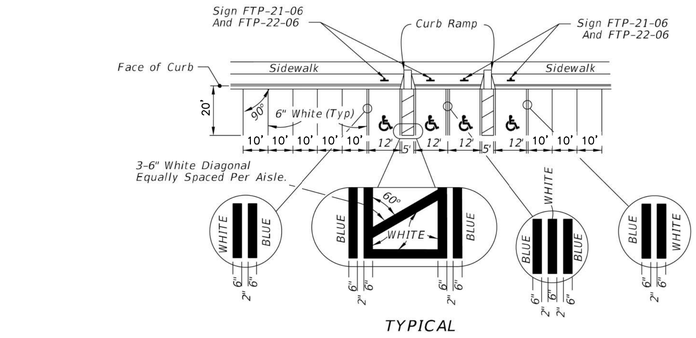
NOTES:

1. The minimum wall thickness of the pipe shall be 0.188".
2. All posts shall have 2 coats of primer and 2 coats of Yellow top coat, unless otherwise noted.
3. The primer coat shall meet the requirements of FDOT 971-5.
4. All concrete shall be FDOT class 1.



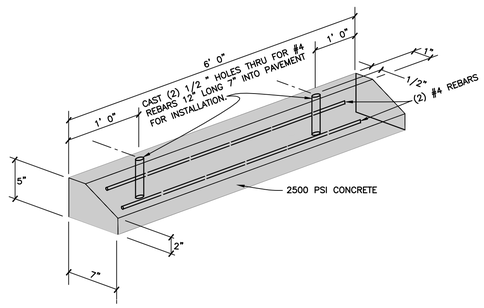
CONCRETE FLUME WITH ENERGY DISSIPATOR

DETAIL 1
SCALE: N.T.S.



TYPE 'F' CURB DETAIL

N.T.S



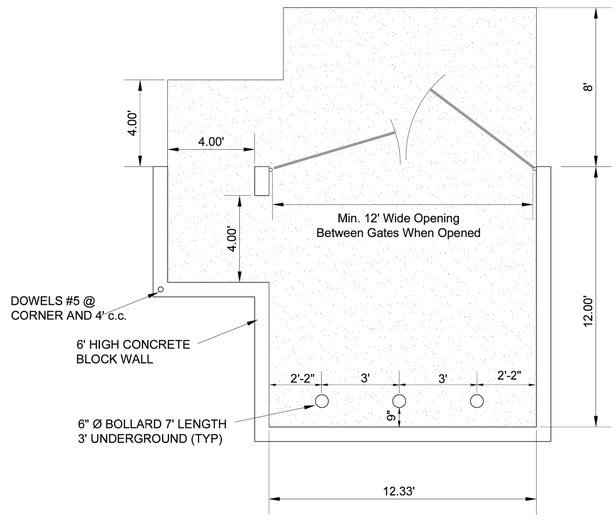
WHEEL STOP DETAIL

N.T.S

TYPICAL

HANDICAP PARKING DETAIL

N.T.S



DUMPSTER WITH SIDE OPENING

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-2

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-2 – Plotted by: Don M – Date: 3/4/2026 – 10:17 AM – Giangrande Engineering & Planning

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES

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

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

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES
CONTINUED

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

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

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

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

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

FORT PIERCE UTILITIES AUTHORITY WASTEWATER CONSTRUCTION NOTES

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

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

STANDARD SEPARATION STATEMENT FOR WATER / SEWER CONFLICTS

1. SANITARY SEWER, FORCE MAINS, AND STORM SEWERS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. SANITARY SEWERS, FORCE MAINS AND STORM SEWERS CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 6 INCHES, PREFERABLY 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE WHEN ABOVE, AND AT LEAST 12 INCHES OF SEPARATION WHEN THE WATER MAIN IS BELOW.

WHERE SANITARY SEWER, FORCE MAINS, STORM SEWERS MUST CROSS A WATER MAIN WITH LESS THAN 6 INCHES VERTICAL SEPARATION, BOTH THE SEWER AND WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) CENTERED ON THE CROSSING. (DIP IS NOT REQUIRED FOR STORM SEWERS.) SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED.

ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPES CENTERED ON THE CROSSING). AT SUCH CROSSINGS PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN 6 INCHES VERTICAL CLEARANCE, THE NEW PIPE SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWERS) AND NEW PIPES SHALL BE ARRANGED TO MEET THE CROSSING REQUIREMENTS ABOVE.

2. A MINIMUM 3-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF STORM SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

A MINIMUM 3-FOOT, AND PREFERABLE 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN VACUUM TYPE SANITARY SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

A MINIMUM 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN "ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

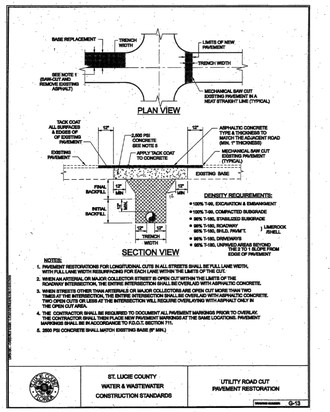
A MINIMUM 6-FOOT, AND PREFERABLE 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN GRAVITY OR PRESSURE TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE. THE MINIMUM SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO 3 FOOT WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10-FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON A UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 6 INCHES ABOVE THE TOP OF THE SEWER.

WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 6 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWER) WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).

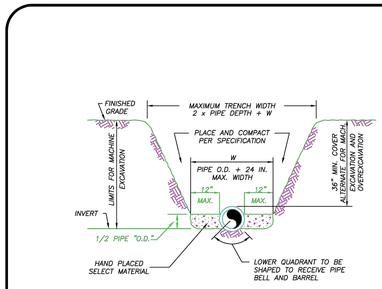
3. ALL DIP SHALL BE PRESSURE CLASS 250 MIN. ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN ENGINEER.

STANDARD SEPARATION STATEMENT FOR WATER/SEWER CONFLICT	G-3 WATER/SEWER CONFLICT
02-06 DATE: REVISION: BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JJM — COMPUTER FILE #: DETAIL NOTES 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: JJM — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2010	SHEET 1 OF 1



NOTES:
1. PAVEMENT RESTORATIONS FOR LONGITUDINAL CUTS IN ALL STREETS SHALL BE FULL LANE WIDTH, WITH PULLLANE WIDTH RESURFACING FOR EACH LANE WITHIN THE LIMITS OF THE CUT.
2. WHEN AN ARTERIAL OR MAJOR COLLECTOR STREET IS OPEN CUT WITHIN THE LIMITS OF THE ROADWAY INTERSECTION, THE ENTIRE INTERSECTION SHALL BE OVERLAID WITH ASPHALTIC CONCRETE.
3. WHEN STREETS OTHER THAN ARTERIALS OR MAJOR COLLECTORS ARE OPEN CUT MORE THAN TWO TIMES AT THE SAME LOCATION, THE ENTIRE INTERSECTION SHALL BE OVERLAID WITH ASPHALTIC CONCRETE. THE DETERMINATION AS TO USE OF THE INTERSECTION WILL REQUIRE OVERLAYING WITH ASPHALT ONLY IN THE OPEN CUT AREA.
4. THE CONTRACTOR SHALL BE REQUIRED TO DOCUMENT ALL PAVEMENT MARKINGS PRIOR TO OVERLAY. THE CONTRACTOR SHALL THEN PLACE NEW PAVEMENT MARKINGS AT THE SAME LOCATIONS. PAVEMENT MARKINGS SHALL BE IN ACCORDANCE TO FDOT, SECTION 711.
5. 2500 PSI CONCRETE SHALL MATCH EXISTING BASE (IF MIN.)

PAVEMENT RESTORATION (COUNTY)	R-2
02-06 DATE: REVISION: BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JJM — COMPUTER FILE #: MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: JJM — SCALE: N.T.S.	
APPROVED: JLC — DATE: 2010	SHEET 1 OF 1

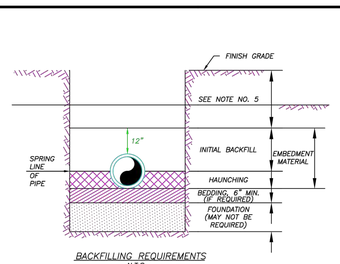


NOTES:

1) THE CONTRACTOR SHALL COMPLY WITH REQUIREMENTS OF THE FLORIDA TRENCH SAFETY ACT.
2) INITIAL BACKFILL SHALL BE HAND PLACED TO 12" ABOVE THE PIPE. BACKFILL SHALL BE MECHANICALLY TAMPED TO A MINIMUM OF 100% OF MAX. DENSITY AS DETERMINED BY AASHTO METHOD T-99.

TYPICAL TRENCH DETAIL
N.T.S.

TYPICAL TRENCH DETAIL	M-1
02-09 DATE: CONCRETE SLAB REVISION: SLL BY: JLC APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE #: MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:	
APPROVED: JLC — DATE: 2015	SHEET 1 OF 1

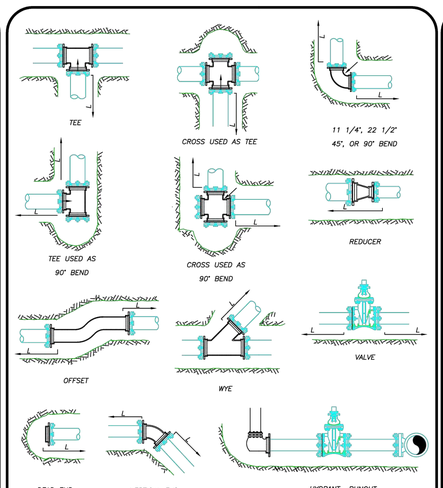


BACKFILLING REQUIREMENTS
N.T.S.

NOTES:

1) IN CERTAIN SOIL CONDITIONS A FOUNDATION MAY BE REQUIRED.
2) BEDDING IS REQUIRED PRIMARILY TO BRING THE TRENCH BOTTOM UP TO GRADE. BEDDING MATERIALS SHALL PROVIDE A UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE.
3) HAUNCHING MATERIAL SHALL BE HAND PLACED TO THE SPRINGLINE OF THE PIPE. MATERIAL SHALL BE CONSOLIDATED UNDER THE PIPE AND HAND TAMPED TO PROVIDE ADEQUATE SIDE SUPPORT.
4) INITIAL BACKFILL MATERIAL SHALL BE HAND PLACED TO 12" ABOVE THE TOP OF PIPE. THE SOIL SHALL BE COMPACTED TO 100% MAX. DENSITY.(AASHTO T-99)
5) BACKFILL SHALL BE COMPACTED TO 100% OF MAX. DENSITY AS PER AASHTO T-99, TO A POINT 30" BELOW PROPOSED PROFILE GRADE OR EXISTING GRADE. THE FINAL 30" OF BACKFILL SHALL BE COMPACTED TO 98% OF MAX. DENSITY AS PER AASHTO T-180.
6) DENSITY TEST SHALL BE PERFORMED AT AREAS DETERMINED BY THE UTILITIES ENGINEER OR PERMIT AGENCY HAVING JURISDICTION, AT THE CONTRACTORS EXPENSE.
7) CONTRACTOR TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL TRENCH SAFETY REGULATIONS.

BACKFILLING REQUIREMENTS	M-2
02-09 DATE: CONCRETE SLAB REVISION: SLL BY: JLC APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE #: MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:	
APPROVED: JLC — DATE: 2015	SHEET 1 OF 1



MECHANICAL JOINT ANCHORING REQUIREMENTS
N.T.S.

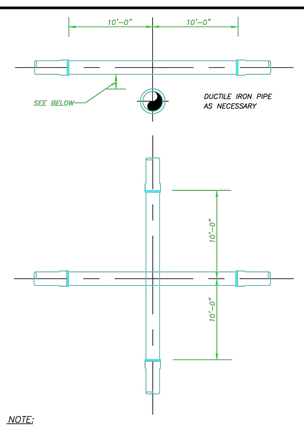
MECHANICAL JOINT ANCHORING REQUIREMENTS	M-3
02-09 DATE: CONCRETE SLAB REVISION: SLL BY: JLC APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE #: MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:	
APPROVED: JLC — DATE: 2015	SHEET 1 OF 1

MECHANICAL JOINT RESTRAINT NOTES

NOTES:

1) THE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE REQUIRED LENGTH TO BE RESTRAINED BASED UPON THE PROJECT AREA SOIL TYPE, PROPOSED TRENCH CONDITIONS AND DEPTH, PRESSURE OF 150 PSI, AND A SAFETY FACTOR OF TWO (2). A DRAWING OF EVERY TYPICAL FITTING ASSEMBLY WITHIN THE PROJECT SHALL BE SUBMITTED WHICH REFLECTS THE RESTRAINT DETAIL PROPOSED FOR USE, INCLUDING LENGTH OF PIPE RESTRAINT.
2) REQUIRED RESTRAINED LENGTH CALCULATIONS SHALL ALSO CONSIDER THE CONDITIONS OF OTHER BENDS OR FITTINGS THAT WILL BE LOCATED WITHIN THE CALCULATED RESTRAINED LENGTH (L) OF THE BEND OR FITTING IN QUESTION.
3) EVERY JOINT OR FITTING MUST BE RESTRAINED ON BOTH SIDES OF THE BEND AND FOR TEES ALONG THE BEND ALSO.

MECHANICAL JOINT RESTRAINT NOTES	M-4
02-09 DATE: CONCRETE SLAB REVISION: SLL BY: JLC APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE #: MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:	
APPROVED: JLC — DATE: 2015	SHEET 1 OF 1



NOTE:

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

UTILITY CROSSING DETAIL
N.T.S.

UTILITY CROSSING DETAIL	M-5
02-09 DATE: CONCRETE SLAB REVISION: SLL BY: JLC APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC — COMPUTER FILE #: MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL — SCALE:	
APPROVED: JLC — DATE: 2015	SHEET 1 OF 1

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

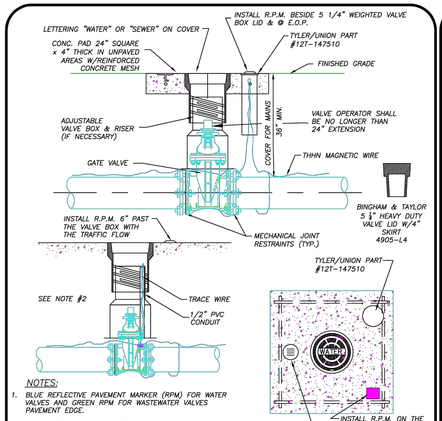
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-3

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-3 – Plotted by: Dan M – Date: 1/4/2026 – 10:17 AM – Giangrande Engineering & Planning



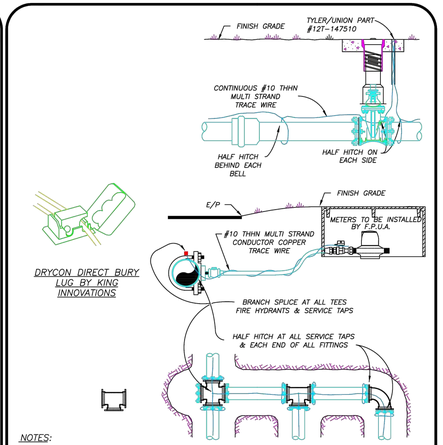
NOTES:

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

TYPICAL GATE VALVE & VALVE BOX DETAIL

N.T.S.

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

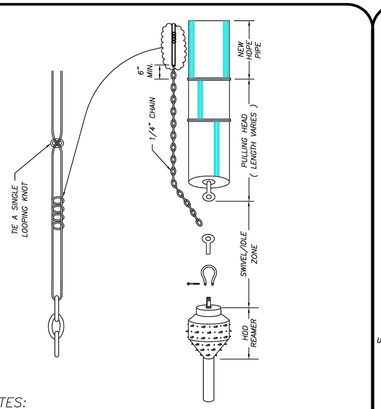


NOTES:

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

TRACE WIRE
(N.T.S.)

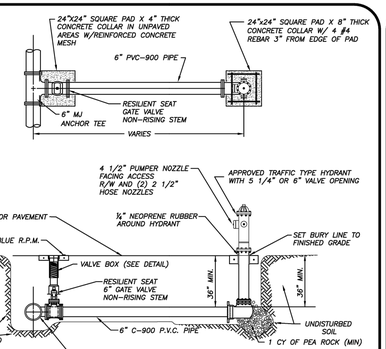
TRACE WIRE DETAIL	M-11
03-09 CONCRETE SLAB SLL JLC	WATER/WASTEWATER ENGINEERING
DESIGNED: COMPUTER FILE # MISC_DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL SCALE:	
APPROVED: JLC DATE: 2015	SHEET 1 OF 1



NOTES:

1. WHERE DIRECTIONAL DRILLING LENGTHS EXCEED 750 LINEAR FEET AND/OR HDPE PIPE DIAMETER EXCEED 12 INCHES, A SECOND LENGTH OF TRACE WIRE SHALL BE INSTALLED.
2. TRACE WIRE SHALL CONFORM TO THE FOLLOWING SPECIFICATION:
   MANUFACTURER – COPPERHEAD INDUSTRIES, LLC
   PART NUMBER – 12458–EHS–500 / 12458–EHS–1000 / 12458–EHS–2500
   PART NUMBER DESCRIPTION – 12 (AWG), 45 (JACKET MIL), B (JACKET COLOR: B=BLUE, G=GREEN, ETC.) – EHS (EXTRA HIGH STRENGTH–HARD DRAWN / 1150# BREAKING LOAD STRENGTH) – 500 (WIRE LENGTH IN FEET)

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



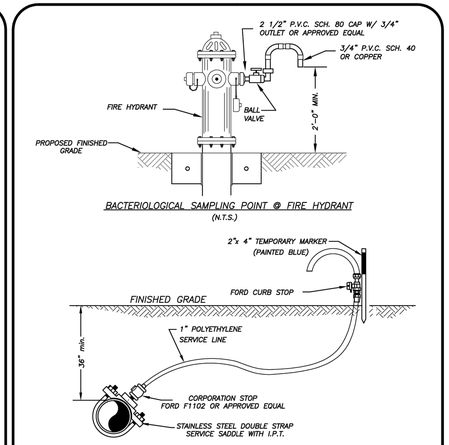
NOTES:

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

TYPICAL FIRE HYDRANT ASSEMBLY

(N.T.S.)

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



BACTERIOLOGICAL SAMPLING POINT @ FIRE HYDRANT

(N.T.S.)

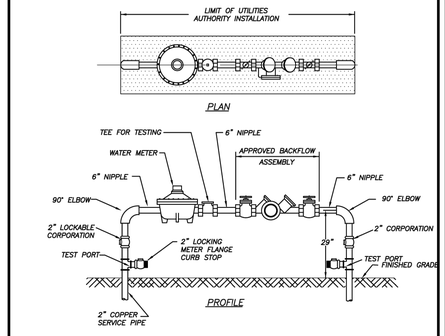
BACTERIOLOGICAL SAMPLING POINT @ WATER MAIN

(N.T.S.)

NOTE:

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

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



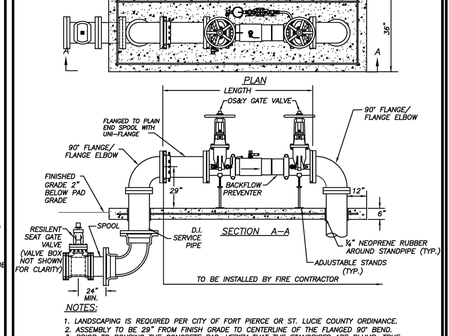
NOTES:

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.)

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



NOTES:

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

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

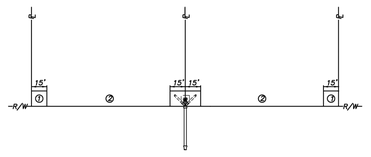
BACKFLOW PREVENTER ASSEMBLY–4"–10" FIRE SERVICE

(N.T.S.)

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

GENERAL POLICY

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



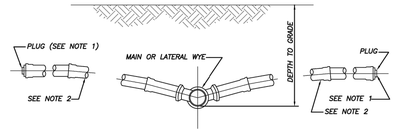
NOTES:

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

WASTEWATER SERVICE PLACEMENT

(N.T.S.)

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



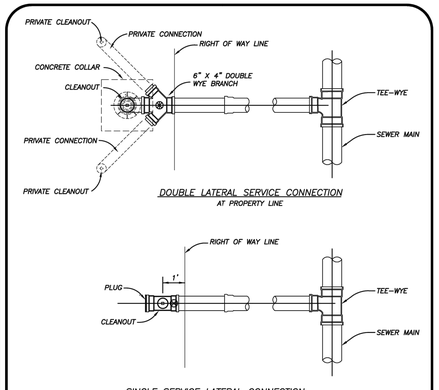
NOTES:

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

SERVICE CONNECTION

(N.T.S.)

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



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

SERVICE CONNECTION

(N.T.S.)

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

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

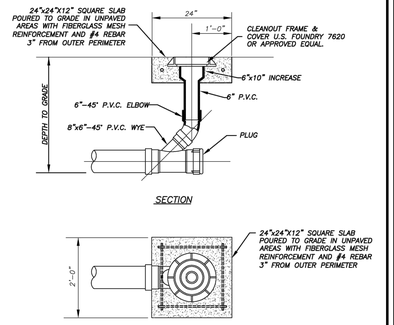
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-4

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg – Layout Name: D-4 – Plotted by: Dan M – Date: 1/9/2026 – 10:17 AM – Giangrande Engineering & Planning



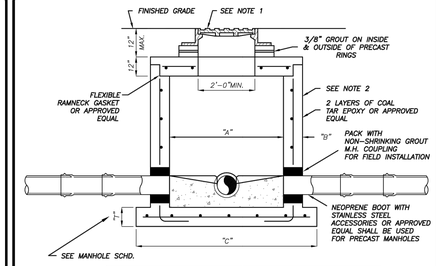
SECTION

PLAN

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

TERMINAL CLEANOUT DETAIL WASTEWATER			S-4B
10-06 (DATE)	REVISION:	BBC (BY)	APPD:
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2009003.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: JLC	SCALE: N.T.S.		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 2 OF 3	

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING DEPARTMENT, 1001 SOUTH 21ST STREET, FT. PIERCE, FLORIDA 34947, 772-466-1600



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

TYPICAL MANHOLE DIMENSIONS

NOTES:

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

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

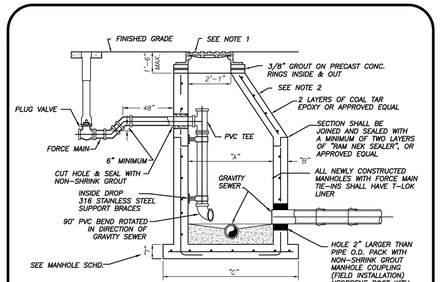
3) A MAXIMUM OF 2 LAYERS OF PRECAST CONCRETE RINGS, IF REQUIRED.

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

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

PRECAST MANHOLE DEPTH OF LESS THAN 5'- 0"			S-6
02-08 (DATE)	REVISION:	BY:	APPD:
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2009003.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: JLC	SCALE: N.T.S.		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1	

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING DEPARTMENT, 1001 SOUTH 21ST STREET, FT. PIERCE, FLORIDA 34947, 772-466-1600



PIPE DIA.	"A"	"B"	"C"	BOT. SLAB "T"
8"-24"	5'-0"	"B"	70"	8"
30"-36"	6'-0"	"B"	84"	10"
42"-48"	7'-0"	"B"	96"	12"

TYPICAL MANHOLE DIMENSIONS

NOTES:

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

2) ALL CONCRETE MANHOLES TO BE 4000 P.S.I. TO MEET OR EXCEED ASTM C478 ALL CEMENT TO BE TYPE II ACID RESISTANT. REINFORCING AREA OF 0.20IN/FT FOR WALL SECTION MIN. TO MEET OR EXEED ASTM A 185.

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

4) FORCE MAIN TIE-IN SHALL BE TO MANHOLES WITH A MINIMUM DEPTH OF 4'-0".

5) NEW MANHOLES SHALL BE T-LOCK LINED, EXISTING MANHOLES SHALL BE SEWPERCOATED.

FORCE MAIN TIE-IN @ PRECAST MANHOLE
(N.T.S.)

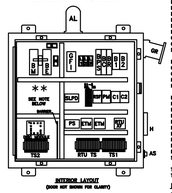
FORCE MAIN TIE-IN AT PRECAST MANHOLE			S-10
03-09 (DATE)	VALVE AND DEFLECTION (REVISION)	TBL (BY)	JLC APPD:
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2009003.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: BLL	SCALE: N.T.S.		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1	

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING DEPARTMENT, 1001 SOUTH 21ST STREET, FT. PIERCE, FLORIDA 34947, 772-466-1600

CONTROL CENTER DESIGNED & MANUFACTURED TO MEET ALL D.E.P. REQUIREMENTS

MOPS CONTROL CENTER

SEE SCHEDULE FOR ELECTRICAL SERVICE REQUIREMENTS



** THIS SPACE AVAILABLE FOR CAPACITORS FOR SINGLE PHASE OR TRANSFORMER FOR 480V.

PANEL COMPONENTS

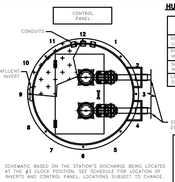
AL	ALARM LIGHT
AR	ALARM RELAY (ON DISC)
AS	ALARM SILENCE SWITCH
B1-2	MOTOR BREAKERS
BC	CONTROL BREAKER
BE	EMERGENCY BREAKER
BM	MAIN BREAKER
BPS	POWER SUPPLY BREAKER
C1-2	CONTACTOR, MOTOR
C1-2	CONTACTOR, MOTOR START
CR	CONVENIENCE RECEPTACLE
DRG	DUPLEX INTRINSICALLY SAFE CONTROLLER
ETM	ELAPSED TIME METER
GB	GROUND BLOCK
GR	GROUND FAULT RECEPTACLE
H	HORN
HOA	HAND-OFF-AUTO SWITCH (ON DISC)
L1,2,3	POWER DISTRIBUTION BLOCK
N	NEUTRAL BLOCK
PL	PILOT LIGHT (ON DISC)
PR	POWER RELAY
PS	POWER SUPPLY
R1-3	RELAYS
RB	BATTERY RELAY
RS	SILENCE RELAY
RSF	SEAL FAIL RELAY
RTRP	RTU TRANSFORMER
SLPS	SOLID STATE LEVEL PROTECTION DEV.
TS1	TERMINAL STRIP FOR PUMPS
TS2	TERMINAL STRIP FOR FLOATS
TS3	TERMINAL STRIP FOR

ENCLOSURE
NEMA 4X Stainless Steel Single Door w/ Padlock Hasp 30"W x 30"H x 8"D

NOTES:
1. PANEL LABELED FOR U.L. 508A "MOTOR CONTROL CENTERS" AND U.L. 698A "HAZARDOUS LOCATIONS" (INTRINSICALLY SAFE)
2. COMPLETE BACK-UP, SELF-CHARGING BATTERY, WITH VISUAL/AUDIO ALARM SYSTEM PER ESNT-40.
3. SEE CONTROL CENTER DETAIL SHEET FOR ANY ADDITIONAL NOTES.

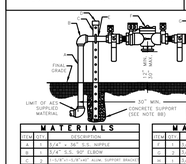
HUB AND INVERT LOCATION

ITEMS	CLOCK POSITION
DISCHARGE LINES	3:00
PRIMARY INVERT	9:00
SECONDARY INVERT	9:00
LOCATION OF CONTROL PANEL	9:00



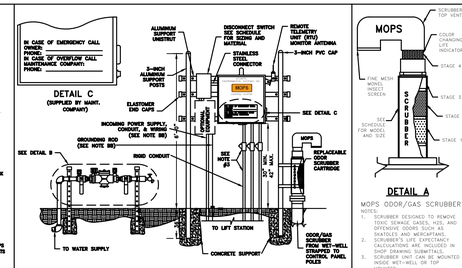
SCHEMATIC BASED ON THE STATION'S DISCHARGE BEING LOCATED AT THE @1 CLOCK POSITION, SEE SCHEDULE FOR LOCATION OF INVERTS AND CONTROL PANEL, LOCATIONS SUBJECT TO CHANGE.

NOTE: BACKFILL AROUND LIFT STATION TO BE COMPACTED USING SPLIT TO FINISHED GRADE SHALL BE COMMON FILL COMPACTED IN 12-INCH MAX. LIFTS TO 98% DENSITY PER AASHTO T-180. EXERCISE CAUTION AND USE CARE NOT TO DAMAGE WETWELL DURING COMPACTION.



MATERIALS			MATERIALS		
ITEM	QTY	DESCRIPTION	ITEM	QTY	DESCRIPTION
1	1	2" SCH. 80 PVC PIPE	7	1	3/4" BRP, BACKFLOW PREVENTER
2	1	2"X 45° S.S. ELBOW	8	1	3/4" x 3" S.S. NIPPLE
3	1	2"X 90° S.S. ELBOW	9	1	3/4" x 4" S.S. NIPPLE
4	1	2"X 3"X 2" S.S. TEE	10	1	3/4" x 5" S.S. COUPLING
5	1	1/4"X 1-1/4"x4" A/SN. SUPPORT BRACKET	11	1	3/4" BRONZE NIPPLE W/SN.
6	1	SUPPORT BRACKET CAPS W/SN. (#6)	12	1	3/4" BRONZE HOSE BIB
7	1	2"X 5 S. PIPE BOLTS	13	1	3/4" VACUUM BREAKER

DETAIL B
R.P.Z. BACKFLOW PREVENTER ASSEMBLY DETAIL
U.S.C. AND A.S.S.E. APPROVED — N.T.S.

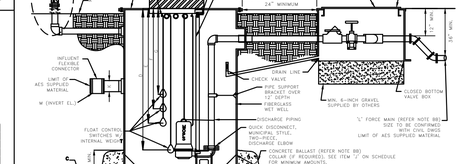


DETAIL C
(SUPPLIED BY MANUF. COMPANY)

CONTROL CENTER ASSEMBLY AND INSTALLATION N.T.S.

PUMP STATION — VALVE BOX ASSEMBLY

TOP VIEW N.T.S.



SECTION VIEW N.T.S.

DETAIL A
MOPS ODOR/GAS SCRUBBER

NOTES:
1. SCRUBBER DESIGNED TO REMOVE TOXIC SEWAGE GASES, H2S, AND OFFENSIVE ODORS SUCH AS MERCAPTANS AND AMMONIA.
2. SCRUBBER'S LIFE EXPECTANCY CALCULATIONS ARE INCLUDED IN SHOP DRAWING SUBMITTALS.
3. SCRUBBER UNIT CAN BE MOUNTED INSIDE WET-WELL OR TOP MOUNTED.
4. MODEL 'B' SHOWN.

MOPS — PRIVATE SERIES

MANUFACTURED ODORLESS PUMP STATION
ATLANTIC ENVIRONMENTAL SYSTEMS, INC.
LAKE WORTH, FL 33461
PH: (561) 547-8080 FAX: (561) 547-3999

THIS DRAWING AND THE DESIGNS CONTAINED UPON IS PROPRIETARY TO ATLANTIC ENVIRONMENTAL SYSTEMS, INC. AND SHALL NOT BE REPRODUCED, COPIED, OR USED IN WHOLE OR PART, AS WELL AS NOT BEING SHOWN TO ANY OTHER PERSONS OR FIRMS WITHOUT THE EXPRESSED WRITTEN PERMISSION OF ATLANTIC ENVIRONMENTAL SYSTEMS, INC. ANY REPRODUCTION, IN WHOLE OR IN PART, SHALL CONSTITUTE THE ATLANTIC ENVIRONMENTAL SYSTEMS, INC. AUTHORIZATION.

MOPS PUMP STATION SCHEDULE

MOPS SERIES		ITEM	DESCRIPTION	
INITIAL DESIGN FLOW (G.P.M.)	24		100 YEAR FLOOD ELEVATION	13.56'
INITIAL DESIGN HEAD (T.D.H.)	42'		25 YEAR FLOOD ELEVATION	17.97'
SECONDARY DESIGN FLOW (G.P.M.)	39	A	GRADE ELEVATION	18.80'
SECONDARY DESIGN HEAD (T.D.H.)	11'	B	TOP ELEVATION OF WET WELL	18.80'
RATED PERFORMANCE SPEED	3450 RPM	C	BOTTOM ELEVATION OF WET WELL	10.80'
RATED MOTOR HORSEPOWER	2	D	ALL PUMPS OFF ELEVATION	12.30'
SUBMERSIBLE PUMP TYPE (P-1,P-2)	GRINDER	E	LEAD PUMP ON ELEVATION	13.50'
PUMP MODEL NUMBER	MOPS	F	LAG PUMP ON ELEVATION	14.00'
SERVICE ENTRANCE VOLTAGE	230	G	HIGH ALARM ELEVATION	14.50'
SERVICE ENTRANCE PHASE	3	H	INSIDE DIAMETER OF WET-WELL	48"
CONTROL CENTER FULL LOAD AMPS	19	I	OUTSIDE DIAMETER OF ANTI-FLOATATION RING	84"
NEMA 3R PAINTED STEEL	30	J	MINIMUM CUBIC FEET OF CONCRETE BALLAST (CU YDS)	000/(D)
DISCONNECT SWITCH, RATED AMPS	N/A	K	INVERT PIPE DIAMETER	4"
WET WELL SCOURER SYSTEM	W/SA	L	FORCE MAIN DIAMETER	2" / 4"
REMOTE STATION MONITOR (TELEMETRY)	N/A	M	PRIMARY INVERT ELEVATION	15.00'
ON-SITE GENERATOR SYSTEM		N	SECONDARY INVERT ELEVATION	N/A

MOPS EQUIPMENT IDENTIFICATION	QTY.	MODEL DESIGNATION
MOPS PUMP STATION	1	B22-4896-C-2.0
MOPS VALVE BOX ASSEMBLY (VBA)	1	VBA-22
MOPS ODOR/GAS SCRUBBER (OGS)	1	OGS-B
MOPS R.P.Z. ASSEMBLY	1	75
MOPS CONTROL CENTER	1	PSC-222-2.0
MOPS DISCONNECT SWITCH	1	FDS-30-3-2-PS
MOPS CONTROL CENTER MOUNTING ASSEMBLY	1	CCMA-32AL
MOPS WET WELL SCOURER SYSTEM	0	N/A
MOPS REMOTE STATION MONITOR	1	PROVIDED WITH SERVICE AGREEMENT
1st YEAR SERVICE/MAINTENANCE CONTRACT	1	LEVEL 1 WITH REMOTE MONITOR
MOPS ON-SITE GENERATOR SYSTEM	0	N/A
MOPS FIELD SERVICE WORK	1	CONTROL INSTALLATION & START-UP

MOPS PUMP STATION COMPLIANCE NOTES:

THIS PUMP STATION DESIGN COMPLIES WITH THE FOLLOWING REQUIRED STANDARDS:
- STATE OF FLORIDA ENVIRONMENTAL PROTECTION STANDARDS
- FLORIDA ADMINISTRATIVE CODE (F.A.C.): 62-640.400- COLLECTION AND TRANSMISSION SYSTEMS
- NATIONAL ELECTRIC CODE (NEC) CLASS 1, DIVISION 1, GROUP D-- HAZARDOUS LOCATIONS
- UNDERWRITER'S LABORATORIES (U.L.) 508A--MOTOR CONTROL CENTERS AND U.L. 698A--INTRINSICALLY SAFE CONTROL CENTERS
- RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES (2014 EDITION).

1. PUMPS ARE RATED BY FACTORY MUTUAL FOR CLASS 1, DIVISION 1, GROUP D ATMOSPHERES AS REQUIRED BY NEC.
2. THE CONTROL CENTER INCORPORATES INTRINSICALLY SAFE RELAYS AND IS LISTED TO UL 698A INTRINSICALLY SAFE FOR CLASS 1, DIVISION 1 ATMOSPHERES.
3. THE CONDUIT PROVIDED, ALONG WITH CONDUIT GAS-SEAL-OFFS, ARE RATED FOR CLASS 1, DIVISION 1 LOCATIONS.
4. THE WASTEWATER PUMPS AND THE CONTROL CENTER INCORPORATE A MECHANICAL SEAL FAILURE DETECTION AND NOTIFICATION SYSTEM.
5. THE CONTROL CENTER INCLUDES EITHER A REMOTE TELEMETRY UNIT (RTU) OR A SELF-CHARGING, BACK-UP ALARM SYSTEM TO OPERATE ON POWER FAILURE.
6. THE PUMP STATION INCORPORATES AN ODORLESS DESIGN WITH A SCRUBBER SYSTEM TO CONTROL TOXIC GASES AND ODORS FOR COMPLIANCE TO F.A.C. 62-604.400.
7. THE BOTTOM OF THE TOP RIM ELEVATION OF PUMP STATION MUST BE LOCATED AT A HIGHER ELEVATION THAN THE 25 YEAR FLOOD ELEVATION. THE LISTED 25 YEAR FLOOD ELEVATION PROVIDED BY SITE CIVIL ENGINEER.
8. THE BOTTOM ELEVATION OF THE MOPS CONTROL CENTER MUST BE LOCATED AT A HIGHER ELEVATION THAN THE 100 YEAR FLOOD ELEVATION. THE LISTED 100 YEAR FLOOD ELEVATION PROVIDED BY THE SITE CIVIL ENGINEER.

MOPS ENGINEERING NOTES:

AA. THE HORSEPOWER SHOWN ON THE SCHEDULE IS A MINIMUM HORSEPOWER REQUIREMENT BASED ON THE STATION'S DESIGN CRITERIA AND THE REQUIRE TORQUE. (LOWER RATED HORSEPOWER EQUIPMENT WILL NOT BE ACCEPTABLE.)
BB. THESE ITEMS ARE NOT SUPPLIED BY A.E.S. WITH THE MOPS STATION.
CC. INVERT ELEVATIONS BASED ON INSIDE BOTTOM OF PIPE.
DD. THE MOPS CONTROL ASSEMBLY CONSISTS OF THE FOLLOWING: CONTROL CENTER DISCONNECT SWITCH, MOUNTING ASSEMBLY, ELECTRICAL CONDUITS, AND SEAL-OFF. THESE ITEMS MUST BE SUPPLIED AND INSTALLED BY THE MOPS PUMP STATION MANUFACTURER TO VALIDATE MOPS WARRANTY PROGRAM.
EE. FOR STATIONS IN MIAMI-DADE COUNTY, THE MOPS PUMP STATION IS SUPPLIED WITH A REMOTE TELEMETRY MONITORING UNIT AND A.E.S. MAINTENANCE SERVICE. THE R.T.U. ALLOWS FOR MONITORING OF LAG ALARM, HIGH ALARM, AND POWER FAILURE PER CHAPTER 24.42.215). THE R.T.U. IS EQUIPPED WITH A BATTERY BACK UP AND IS INSTALLED ABOVE THE 100 YEAR FLOOD ELEVATION.

THE MOPS WASTEWATER PUMP STATION DESIGN AND EQUIPMENT SHOWN ON THIS DRAWING HAS BEEN REVIEWED, PERMITTED, AND CERTIFIED AS COMPLYING WITH ALL THE STATE OF FLORIDA D.E.P. AND LOCAL REQUIREMENTS. ANY SUBSTITUTION FROM THIS DESIGN MAY REQUIRE NEW PERMITS, APPLICATION FEES, AND ENGINEERING SERVICES FOR RE-CERTIFICATION AND DESIGN REVIEW.

P.E. CERTIFICATION:

Bonnie McLeod, P.E., Lic # 70797 V.P. of Engineering
Atlantic Environmental Systems, Inc., Certificate # 26398
2244 4th Ave. North, Lake Worth, Florida 33461
Ph: 561-547-8080 Fax: 561-547-3999

DATE	BY	REVISION
/ /	/	1
/ /	/	1
/ /	/	1

Project	3700 Okeechobee Rd
Proposed Use	Giangrande Engineering & Planning
	710 SE Ocean Blvd, Stuart FL, 34994

GEP Project No.	2460
Date	01/30/26

Page No. LS-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-5 – Plotted by: Dan M – Date: 2/4/2026 – 10:17 AM – Giangrande Engineering & Planning

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-5

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	ABRAHAM JAIMES 786-960-1633 ABRAHAM.JAIMES@ADSPIPE.COM
ADS SALES REP	TIM TEAHAN 561-248-5480 TIM.TEAHAN@ADSPIPE.COM
PROJECT NO.	S482153
PROJECT SITE COORDINATOR:	JAMES FARTHING 407-663-4242 JAMES.FARTHING@ADSPIPE.COM

Advanced Drainage Systems, Inc.

ADS SiteAssist™
FOR STORMTECH
INSTALLATION INSTRUCTIONS
VISIT OUR APP

3700 OKEECHOBEE ROAD

FORT PIERCE, FL, USA

SC-310 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-310.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

1. STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 3" (80 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "SC/DC STORMTECH CHAMBER INSTALLATION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT ADS WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

©2026 ADS, INC.

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-6 — Plotted by: Dan M — Date: 3/4/2026 - 10:17 AM — Giangrande Engineering & Planning

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-6

PROPOSED LAYOUT: NORTH BED

664	STORMTECH SC-310 CHAMBERS
90	STORMTECH SC-310 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
20,366	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
15,520	SYSTEM AREA (ft²)
657	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS: NORTH BED

24.33	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
18.16	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
17.66	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
17.66	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
17.66	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
16.83	TOP OF STONE
16.33	TOP OF SC-310 CHAMBER
15.29	8" TOP MANIFOLD INVERT
15.08	12" ISOLATOR ROW PLUS CONNECTION INVERT
15.00	BOTTOM OF SC-310 CHAMBER
14.50	BOTTOM OF STONE

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED EZ END CAP	A	12" BOTTOM PREFABRICATED EZ END CAP, PART#: SC310ECEZ / TYP OF ALL 12" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS		
PRE-CORED END CAP	B	8" TOP PRE-CORED END CAP, PART#: SC310EPE08TPC / TYP OF ALL 8" TOP CONNECTIONS		
MANIFOLD	C	8" x 8" TOP MANIFOLD, MOLDED FITTINGS	3.50"	
CONCRETE STRUCTURE	D	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		2.3 CFS IN
INSPECTION PORT	E	4" SEE DETAIL		



ISOLATOR ROW PLUS
(SEE DETAIL)

PLACE MINIMUM 12.50' OF ADSPLUS625 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THE SITE DESIGN ENGINEER MUST CONSIDER THE EFFECTS OF POSSIBLE SATURATED SOILS ON NEARBY SYSTEMS, INCLUDING BUT NOT LIMITED TO, RETAINING WALLS, SLOPE CONSTRUCTION/STABILITY, OR BUILDINGS/STRUCTURES. NO FOUNDATION LOADS SHALL BE TRANSMITTED TO THE CHAMBERS.

3700 OKEECHOBEE ROAD
FORT PIERCE, FL, USA
DATE: 02/26/2026 | DRAWN: DC | CHECKED: HAK
PROJECT #: S482153

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

ADS WWW.ADSPIPE.COM

50' 25' 0

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET
2 OF 8

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg — Layout Name: D-7 — Plotted by: Dan M — Date: 3/4/2026 — 10:18 AM — Gingrande Engineering & Planning

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

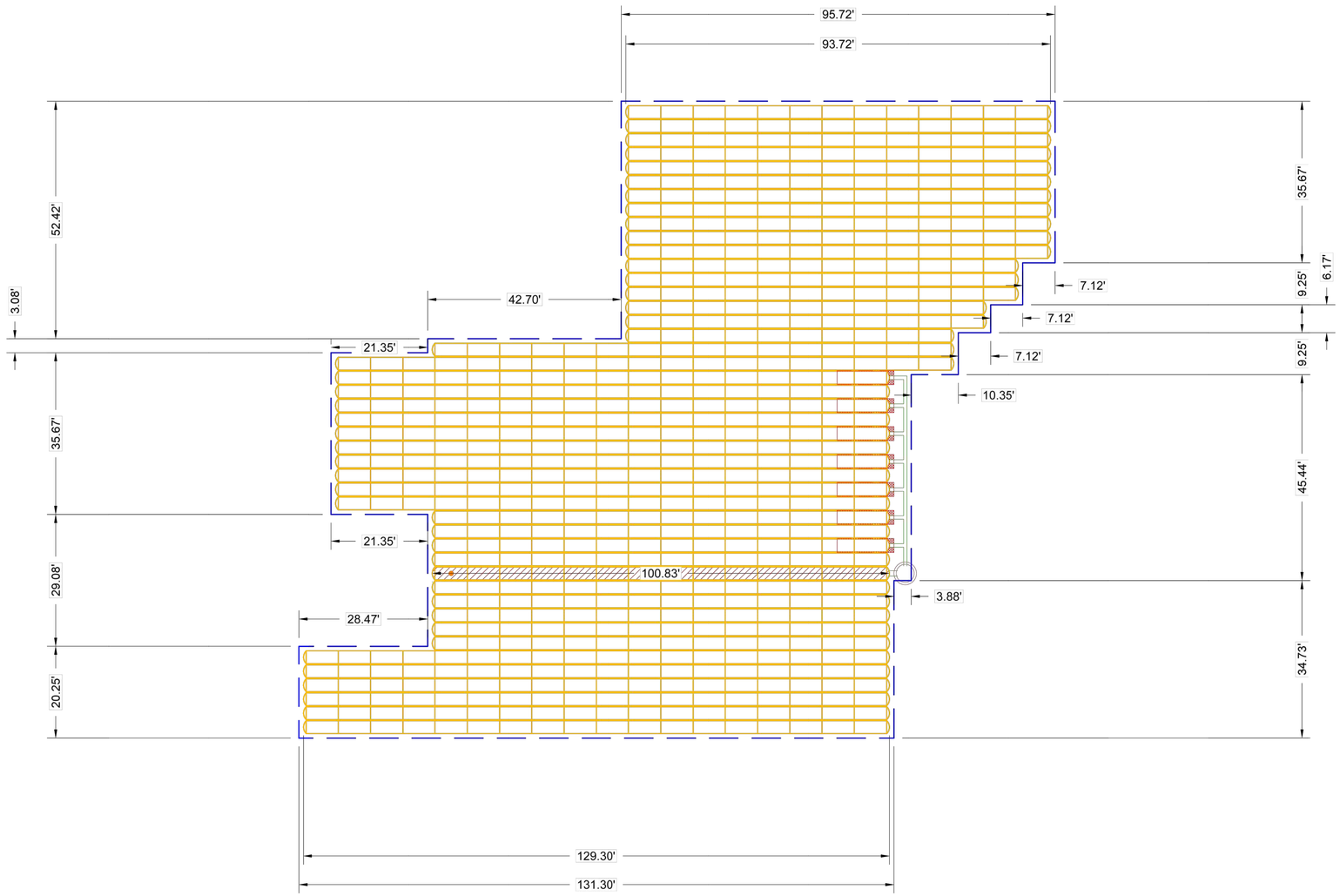
3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035
D-7



3700 OKEECHOBEE ROAD

FORT PIERCE, FL, USA

DATE: 02/26/2026 | DRAWN: DC | PROJECT #: S482153 | CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

WWW.ADSPIPE.COM

50' 25' 0

SHEET 3 OF 8

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-8

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-8 - Plotted by: Don M - Date: 3/4/2026 - 10:18 AM - Giangrande Engineering & Planning

PROPOSED LAYOUT: SOUTH BED

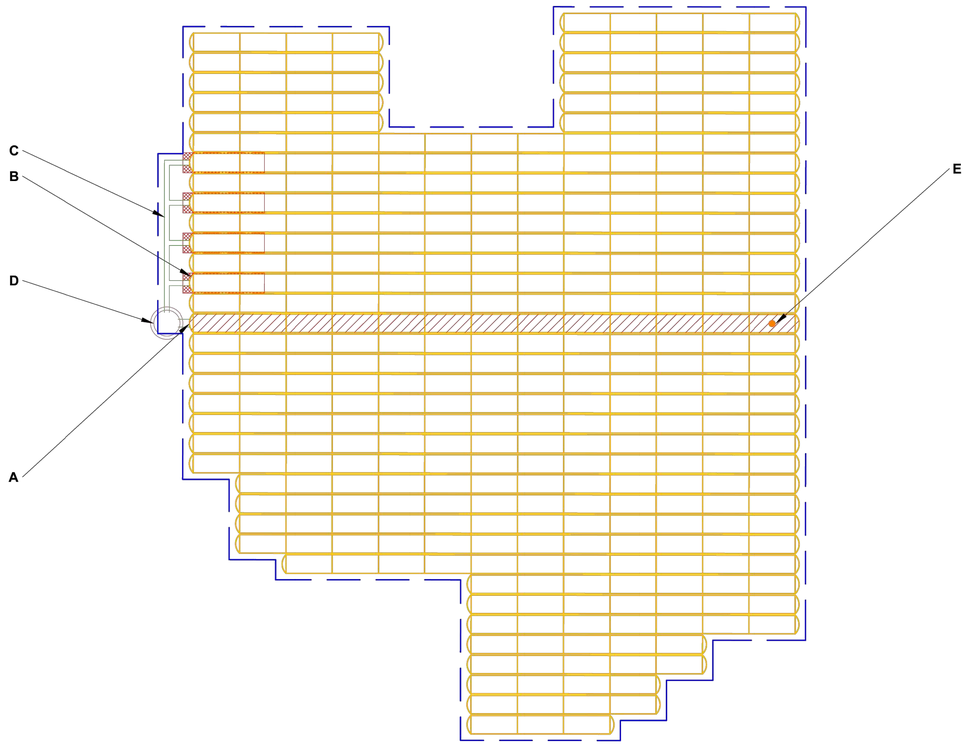
372	STORMTECH SC-310 CHAMBERS
82	STORMTECH SC-310 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
11,187	**INSTALLED SYSTEM VOLUME (CF) ABOVE ELEVATION 14.50 (PERIMETER STONE INCLUDED)**
8,842	SYSTEM AREA (ft²)
456	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS: SOUTH BED

24.23	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
18.06	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
17.56	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
17.56	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
17.56	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
16.73	TOP OF STONE
16.23	TOP OF SC-310 CHAMBER
15.19	8" TOP MANIFOLD INVERT
14.98	12" ISOLATOR ROW PLUS CONNECTION INVERT
14.90	BOTTOM OF SC-310 CHAMBER
14.40	BOTTOM OF STONE

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED EZ END CAP	A	12" BOTTOM PREFABRICATED EZ END CAP, PART#: SC310ECEZ / TYP OF ALL 12" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS		
PRE-CORED END CAP	B	8" TOP PRE-CORED END CAP, PART#: SC310EPE08TPC / TYP OF ALL 8" TOP CONNECTIONS		
MANIFOLD	C	8" x 8" TOP MANIFOLD, MOLDED FITTINGS	3.50"	
CONCRETE STRUCTURE	D	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		2.3 CFS IN
INSPECTION PORT	E	4" SEE DETAIL		



ISOLATOR ROW PLUS
(SEE DETAIL)

PLACE MINIMUM 12.50' OF ADSPLUS625 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.

3700 OKEECHOBEE ROAD
FORT PIERCE, FL, USA
DATE: 02/26/2026 | DRAWN: DC | PROJECT #: S482153 | CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

ADS WWW.ADSPIPE.COM

0 20 40

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET
4 OF 8

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

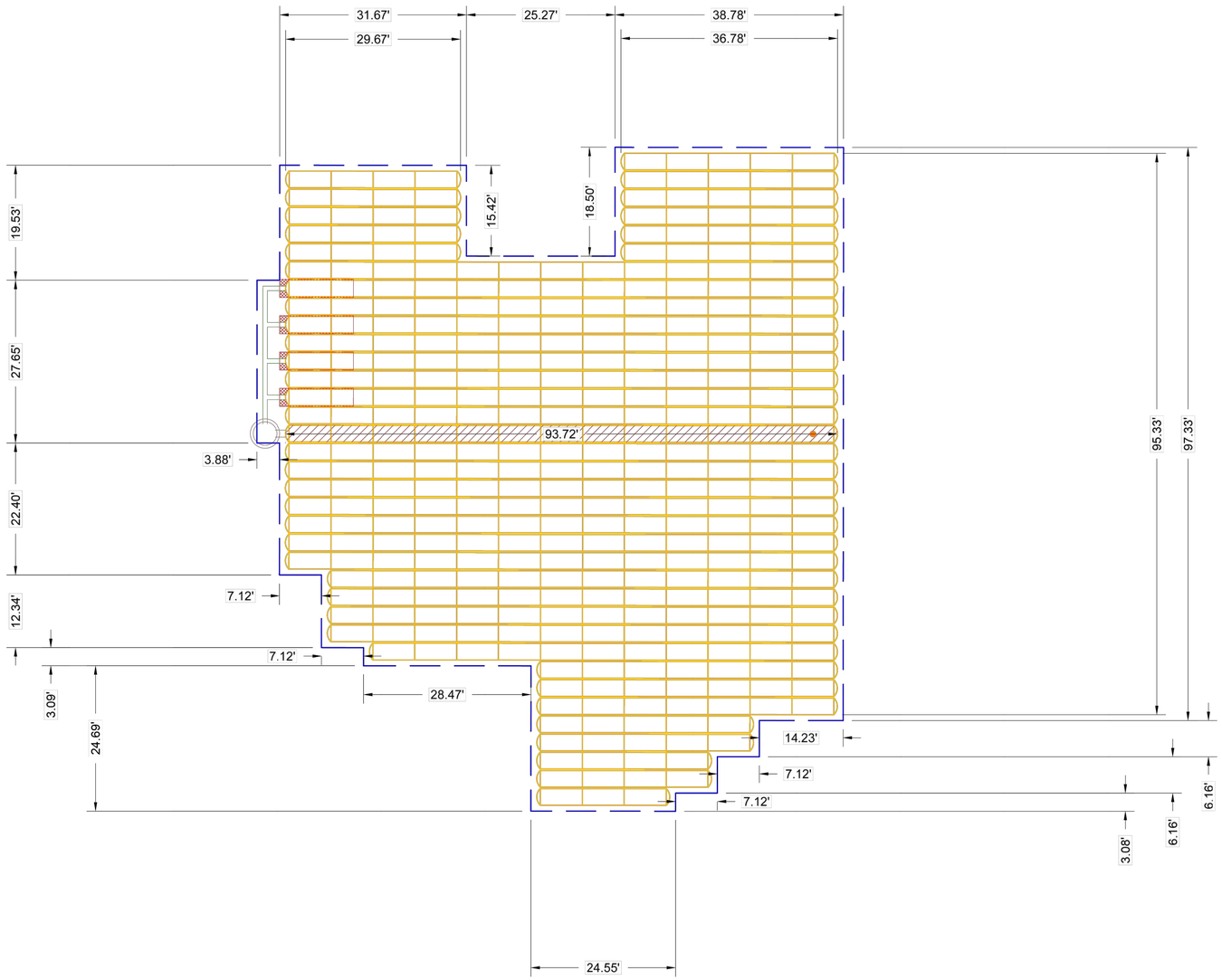
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-9

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-9 -- Plotted by: Dan M -- Date: 3/4/2026 -- 10:18 AM -- Giangrande Engineering & Planning



3700 OKEECHOBEE ROAD

FORT PIERCE, FL, USA

DATE: 02/26/2026 | DRAWN: DC

PROJECT #: S482153 | CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

ADS WWW.ADSPIPE.COM

0 20 40

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET 5 OF 8

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

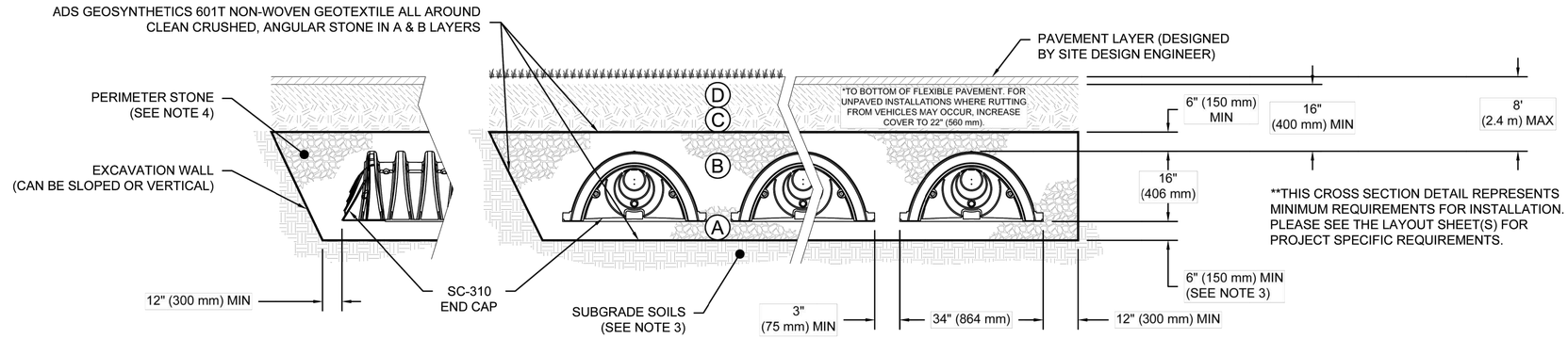
D-10

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-10 - Plotted by: Don M - Date: 3/4/2026 - 10:18 AM - Giangrande Engineering & Planning

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	3.25	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 16" (400 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2" (50 mm).
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

3700 OKEECHOBEE ROAD
#
FORT PIERCE, FL

DATE: 07/29/2025 DRAWN: DH
PROJECT #: S482153 CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

WWW.ADSPIPE.COM

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD (EOR) OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET 6 OF 8

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

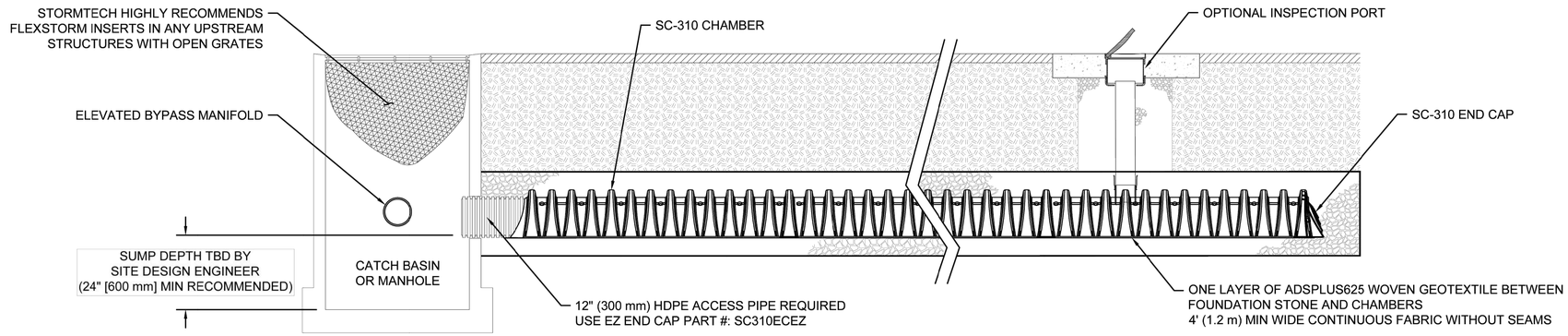
ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035
D-11

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-11 Plotted by: Don M Date: 3/4/2026 - 10:18 AM Giangrande Engineering & Planning



SC-310 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

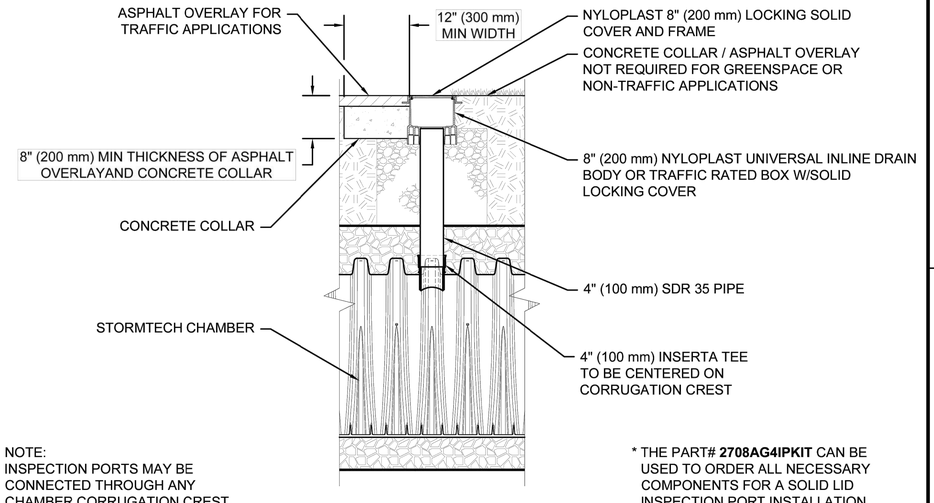
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

* THE PART# **2708AG4IPKIT** CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

4" (100 mm) PVC INSPECTION PORT DETAIL
(SC SERIES CHAMBER)
NTS

3700 OKEECHOBEE ROAD
#
FORT PIERCE, FL

DATE: 07/29/2025 | DRAWN: DH
PROJECT #: S482153 | CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

WWW.ADSPIPE.COM

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADSSTORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD (EOR)* OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc Cert. No. 30901

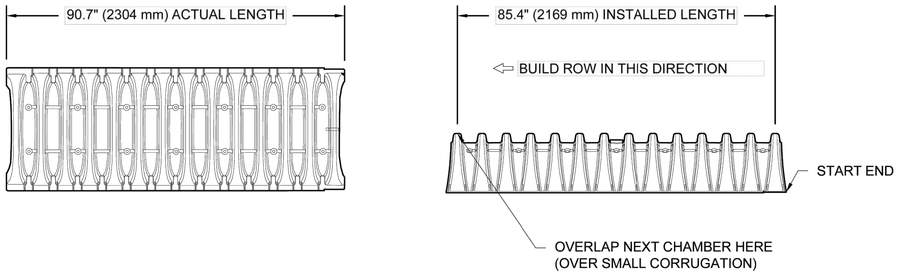
LEO GIANGRANDE, P.E.
License No: 66387

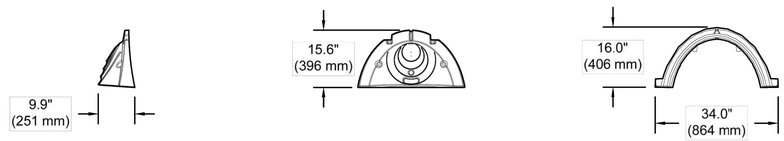
PROJECT #: 24-035
D-12

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-12 - Plotted by: Don M - Date: 3/4/2026 - 10:18 AM - Giangrande Engineering & Planning

SC-310 TECHNICAL SPECIFICATION

NTS



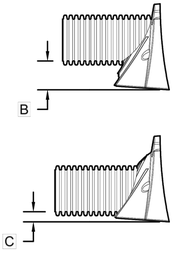


NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	29.34 CUBIC FEET	(0.83 m³)
WEIGHT	35.0 lbs.	(16.8 kg)

*ASSUMES 6" (150 mm) ABOVE AND BELOW CHAMBER; 3" (75 mm) BETWEEN CHAMBERS

PART #	STUB	B	C
SC310EPE06TPC	6" (150 mm)	5.8" (147 mm)	---
SC310EPE06BPC		---	0.5" (13 mm)
SC310EPE08TPC	8" (200 mm)	3.5" (89 mm)	---
SC310EPE08BPC		---	0.6" (15 mm)
SC310EPE10TPC	10" (250 mm)	1.4" (36 mm)	---
SC310EPE10BPC		---	0.7" (18 mm)
SC310ECEZ*	12" (300 mm)	---	0.9" (23 mm)



ALL STUBS, EXCEPT FOR THE SC310ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC310ECEZ THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL; PRE-CORED END CAPS END WITH "PC"

3700 OKEECHOBEE ROAD
#
FORT PIERCE, FL

DATE: 07/29/2025 DRAWN: DH
PROJECT #: S482153 CHECKED: HAK

DATE	DWN	CHK
2/26/2026	DHC	DHC

StormTech® Chamber System

WWW.ADSPIPE.COM

ADS

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADSSTORMTECH I UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD (EOR)FOR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EORS PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

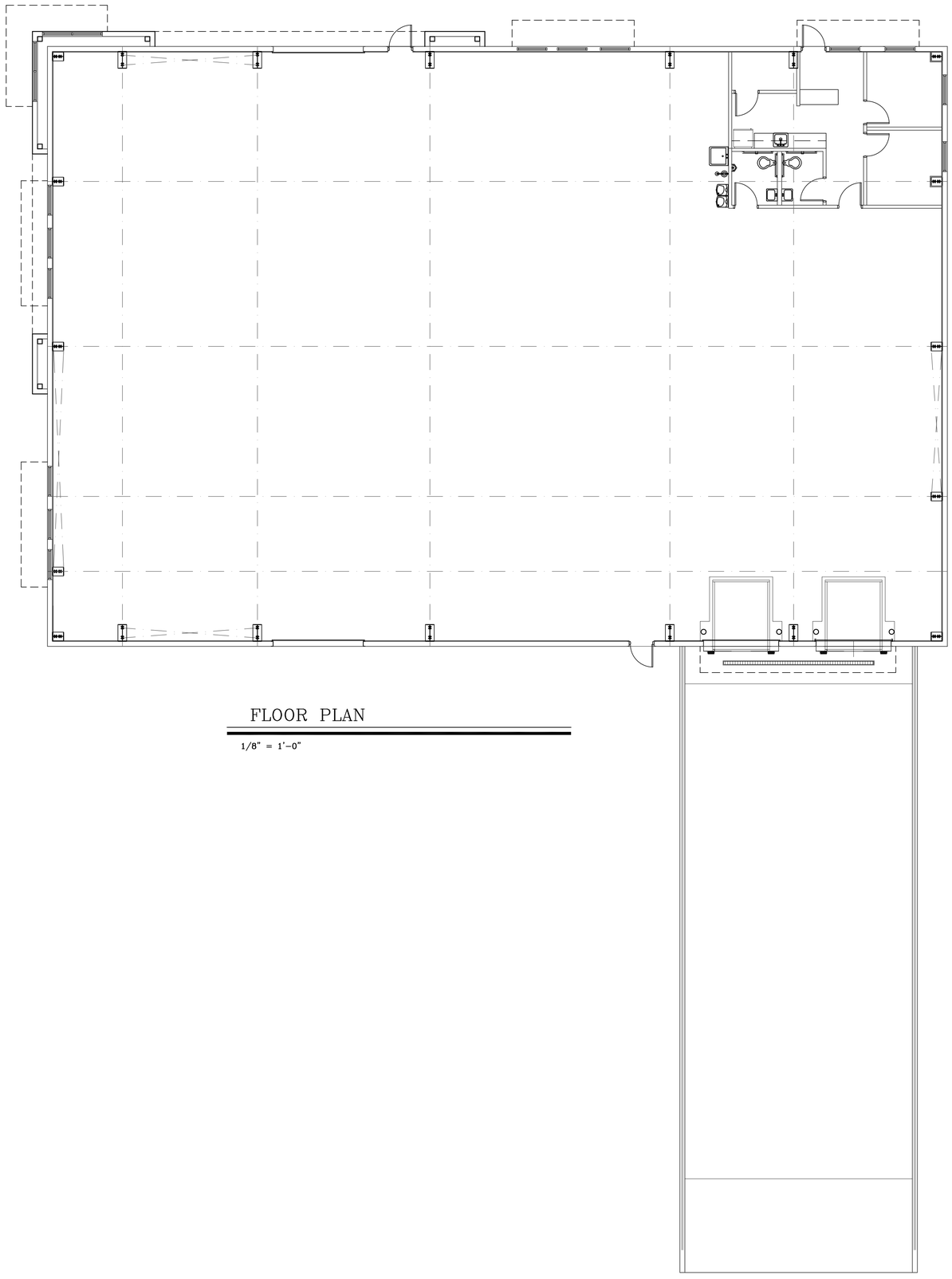
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-13

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-13 - Plotted by: Don M - Date: 3/4/2026 - 10:18 AM - Giangrande Engineering & Planning



FLOOR PLAN

1/8" = 1'-0"

REQUIRED TREE DATA

PERIMETER LANDSCAPE BUFFER 1322.43 L. FT.–60' ACCESS WAY= 1221 L. FT.
DIVIDED BY 30 L. FT. – 40.7 TREES = 41 PERIMETER TREES REQUIRED

PERIMETER TREES

PROPOSED		EXISTING		TOTAL			
RED MAPLE	12	RED MAPLE	0	RED MAPLE			12
DAHOON HOLLY	7	DAHOON HOLLY	0	DAHOON HOLLY			14
SABAL PALMS	15	SABAL PALMS	16	SABAL PALMS	15 + 16	=	31
LIVE OAKS	11	LIVE OAKS	25	LIVE OAKS	25 + 11	=	36
				TOTAL PERIMETER TREES PROVIDED			93

TREE MITIGATION – TOTAL OF DATA

SABAL PALMS TO BE REMOVED	15
SABAL PALMS TO BE PRESERVED	19
SABAL PALMS PROPOSED TO BE PLANTED	15

NATIVE TREES

TOTAL INCHES TO BE REMOVED	343"
TATAL INCHES TO BE PRESERVED	365"
TOTAL INCHES PROPOSED TO BE PLANTED	80"

THE DETAILED LIST OF MITIGATION DATA IS ATTACHED.

NOTE: SEE DEMOLITION PLAN FOR TREES THAT ARE SCHEDULED TO BE REMOVED.

PLANT MATERIAL LIST

TREES & PALMS (* indicates native tree)

	Code Name	Quantity	Scientific Name	Common Name	Planting Size
*	AR	13	ACER RUBRUM	'FLORIDA FLAME' RED MAPLE	12' X 5', 4' CT 2 1/2"DBH
*	IC	7	ILEX CASSINE	DAHOON HOLLY	12' X 5', 4' CT 2 1/2"DBH
*	SP	15	SABAL PALMETTO	CABBAGE PALM	10'–15' OF CLEAR TRUMK
*	QV	12	QUERCUS VIRGINIANA	LIVE OAK	12' X 6', 4' CT 2 1/2"DBH

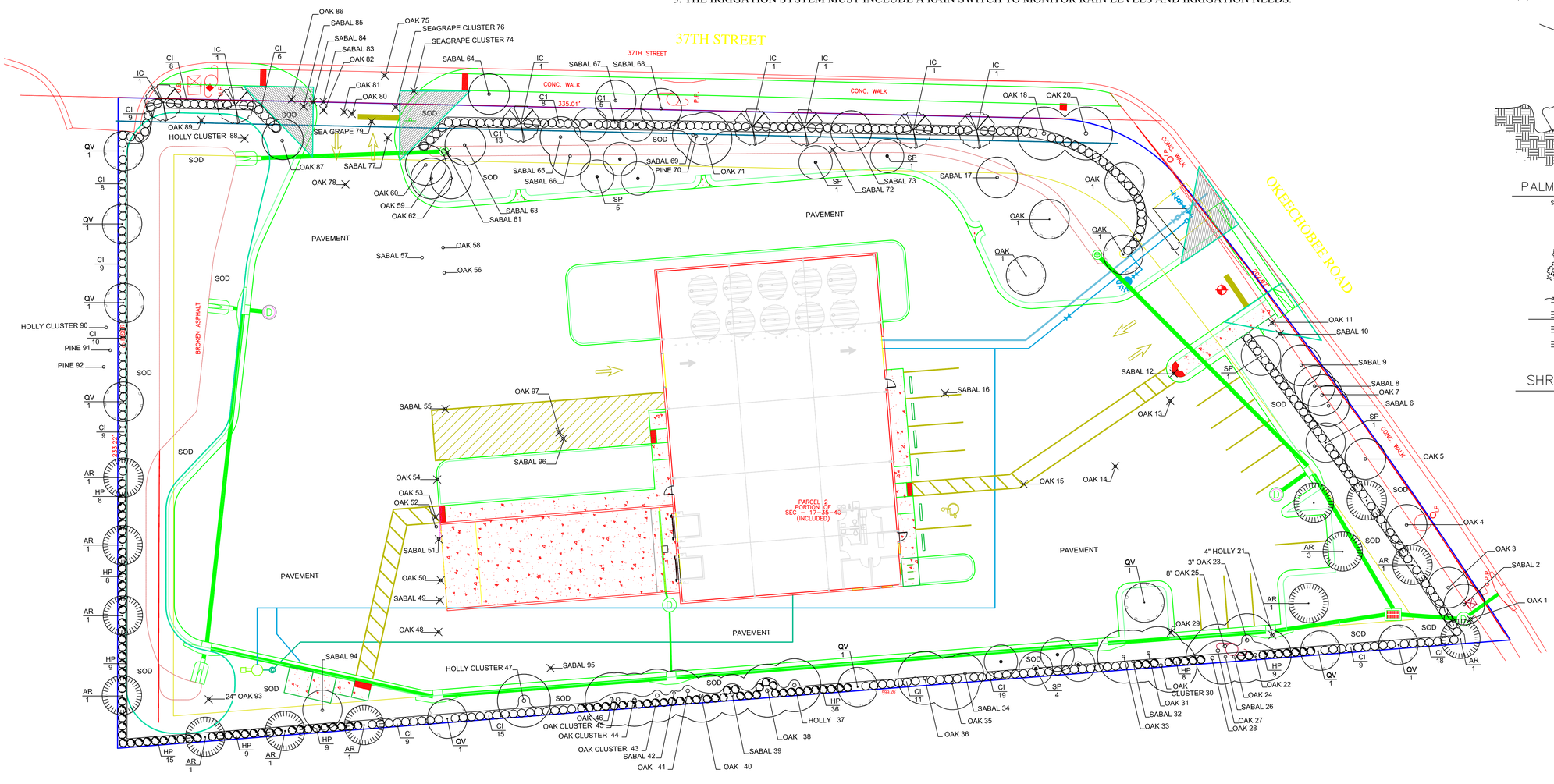
SHRUBS & GROUNDCOVERS (* indicates native shrub or ground cover)

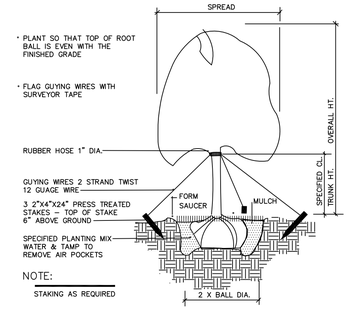
	Code Name	Quantity	Scientific Name	Common Name	Planting Size
*	CI	267	CHRYSOBALANUS ICACO	COCCOPLUM	30" X 30" #3, 3' OC
*	HP	103	HAMELIA PATENS	FIREBUSH	30" X 28" #3, 3' OC

OTHER MATERIALS

MULCH	12	CU. YDS. ENVIRO MULCH (EST.)
SOD	27,000	SQ. FT. BAHIA SOD (EST.)

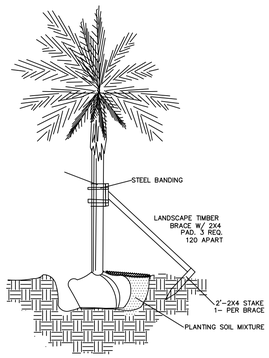
NOTE:
1. LANDSCAPED AREAS SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM OF SUFFICIENT CAPACITY TO MAINTAIN THE LANDSCAPING IN A HEALTHY GROWING CONDITION. THE IRRIGATION SYSTEM SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN SUCH A MANNER AS NOT TO BE A PROBLEM OR NUISANCE TO ADJACENT PROPERTIES AND T0 THE GENERAL PUBLIC.
2. DESIGN PLANS FOR THE IRRIGATION SYSTEN MUST BE SUBMITTED WITH THE REQUIRED LANDSCAPE PLAN FOR THE REVIEW AND APPROVAL BY THE DEVELOPMENT DEPARTMENT.
3. THE IRRIGATION SYSTEM MUST INCLUDE A RAIN SWITCH TO MONITOR RAIN LEVELS AND IRRIGATION NEEDS.





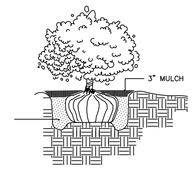
TREE PLANTING – GUY WIRES

SCALE: NOT TO SCALE



PALM PLANTING

SCALE: NOT TO SCALE



SHRUB PLANTING

SCALE: NOT TO SCALE

DATE: 6/16/25
REV. 9/24/25
REV. 10/20/25
REV. 3/28/26

DANIEL J. SUGG
LANDSCAPE ARCHITECT / SITE PLANNER
POST OFFICE BOX 335, JENSEN BEACH, FL 34958
PHONE: (772) 485–1776 danlandarch@gmail.com
MARTIN COUNTY BUSINESS LICENSE #– 2013–101–0738

LANDSCAPE PLAN

3700 OKEECHOBEE ROAD
FORT PIERCE, FLORIDA

SCALE: 1" = 20'

SHEET
L–1
OF ONE

3700 OKEECHOBEE ROAD, FORT PIERCE, FLORIDA

TREE MITIGATION DATA SUPPORTS LANDSCAPE PLAN 3.28.26

ID#	Common Name	DBH "x H'xSP'	Action
TR1	Oak	8" x 10' x 4'	Remove
TR2	Palm	6" x 10' x 4'	Preserve
TR3	Oak	15" x 20' x 20'	Preserve
TR4	Oak	15"x 20' x 20'	Preserve
TR5	Oak	15" x 20' x 20'	Preserve
TR6	Palm	4" x 10' x 4'	Preserve
TR7	Oak	15" x 20' x 20'	Preserve
TR8	Palm	4" x 10' x 4'	Preserve
TR9	Palm	4" x 10' x 4'	Preserve
TR10	Palm	4" x 10' x 4'	Remove
TR11	Oak	4" x 10' x 4'	Remove
TR12	Palm	15" x 12' x 10'	Remove
TR13	Oak	6" x 12' x 10'	Remove
TR14	Oak	8" x 12' x 10'	Remove
TR15	Oak	8" x 12' x 10'	Remove
TR16	Palm	4" x 10' x 4'	Remove
TR17	Palm	22" x 15' x 15'	Preserve
TR18	Oak	4" x 12' x 4'	Preserve
TR20	Oak	4" x 12' x 4"	Preserve
TR21	Holly	4" x 12' x 8'	Remove
TR22	Oak	12" x 10' x 4'	Preserve
TR23	Oak	3" x 8' x 2'	Preserve
TR24	Oak	4" x 10' x 4'	Preserve
TR25	Oak	8" x 12' x 10'	Preserve
TR26	Palm	8" x 12' x 4'	Preserve
TR27	Oak	8" x 12' x 10'	Preserve
TR28	Oak	3" x 6' x 2'	Preserve
TR29	Oak	3" x 10' x 4'	Remove
TR30	Oak Cluster	14" x 13' x 10'	Preserve
TR31	Oak	4" x 10' x 8'	Preserve
TR32	Palm	18" x 12' x 10'	Preserve
TR33	Oak	4" x 10' x 8'	Preserve
TR34	Palm	15" x 15' x 15'	Preserve
TR35	Oak	36" x 20' x 25'	Preserve
TR36	Oak	18" x 18' x 8'	Preserve
TR37	Holly	3" x 8' x 4'	Preserve
TR38	Oak	8" x 10' x 4'	Preserve
TR39	Palm	14" x 7' x 15'	Preserve
TR40	Oak	30" x 22' x 33'	Preserve
TR41	Oak	5" x 12' x 10'	Preserve

TR42	Palm	18" x 3' x 10'	Preserve
TR43	Oak Cluster	6" x 10' x 6'	Preserve
TR44	Oak Cluster	6" x 10' x 6'	Preserve
TR45	Oak Cluster	6" x 10' x 6'	Preserve
TR46	Oak	6" x 10' x 6'	Preserve
TR47	Holly Cluster	6" x 10' x 6'	Preserve
TR48	Oak	5" x 12' x 15'	Remove
TR49	Palm	25" x 15' x 15'	Remove
TR50	Oak	4" x 10' x 10'	Remove
TR51	Palm	25" x 15' x 15'	Remove
TR52	Oak	4" x 8' x 2'	Remove
TR53	Oak	4" x 5' x 1'	Remove
TR54	Oak	12" x 3' x 3'	Remove
TR55	Palm	20" x 15' x 10'	Remove
TR56	Oak	25" x 15' x 30'	Remove
TR57	Palm	25" x 14' x 15'	Remove
TR58	Oak	30" x 15' x 25'	Remove
TR59	Oak	10" x 15' x 25'	Preserve
TR60	Oak	5" x 12' x 15'	Preserve
TR61	Palm	10" x 20' x 10'	Remove
TR62	Oak	31" x 16' x 30'	Preserve
TR63	Palm	18" x 14' x 15'	Preserve
TR64	Palm	20" x 13' x 10'	Preserve
TR65	Palm	12" x 9' x NA'	Preserve
TR66	Palm	22" x 12' x 15'	Preserve
TR67	Palm	48" x 10' x 10'	Preserve
TR68	Palm	23" x 12' x 14'	Preserve
TR69	Palm	22" x 12' x 15'	Preserve
TR70	Pine	12" x 15' x 20'	Preserve
TR71	Oak/Palm	25" x 12' x 10'	Preserve
TR72	Palm	15" x 12' x 15'	Remove
TR73	Palm	15" x 15' x 15'	Preserve
TR74	Seagrape Cluster	7" x 12' x 20'	Remove
TR75	Oak	14" x 12' x 10'	Remove
TR76	Seagrape Cluster	15" x 15' x 30'	Remove
TR77	Palm	12" x 8' x 10'	Remove
TR78	Oak	12" x 18' x 25'	Remove
TR79	Seagrape	30" x 10' x 25'	Remove
TR80	Oak Cluster	18" x 10' x 10'	Remove
TR81	Oak Cluster	18" x 10' x 10'	Remove
TR82	Oak	3" x 7' x 3'	Remove
TR83	Palm	6" x 7' x 3'	Remove
TR84	Palm	6" x 7' x 3'	Remove
TR85	Palm	25" x 25' x 15'	Remove

TR86	Oak	5" x 10' x 15'	Remove
TR87	Oak	24" x 15' x 20'	Preserve
TR88	Holly Cluster	36" x 13' x 25'	Remove
TR89	Oak Cluster	36" x 13' x 25'	Remove
TR90	Holly Cluster	36" x 15' x 20'	Off Property
TR91	Pine	24" x 30' x 20'	Off Property
TR92	Pine	24" x 30' x 20'	Off Property
TR93	Oak	24" x 15' x 20'	Remove
TR94	Palm	24" x 15' x 15'	Preserve
TR95	Palm	12" x 10' x 8'	Remove
TR96	Palm	5" x 8' x 6'	Remove
TR97	Misc. Cluster	12" x 7' x 8'	Remove

NATIVE TREES				
TOTAL INCHES REMOVED		343"		
TOTAL INCHES PRESERVED		365"		
TOTAL INCHES PROPOSED		80"		
PALM TREES				
TOTAL NUMBER REMOVED		15		
TOTAL NUMBER PRESERVED		19		
TOTAL NUMBER PROPOSED		4		

Docusign Envelope ID: 54973D27-EAA7-437A-AFDB-49A5358EC52A

District Use Only: No. ____ - 025 - 009 - FMC

NORTH ST. LUCIE RIVER WATER CONTROL DISTRICT

("District")

14666 Orange Avenue • Fort Pierce, Florida 34945 • (772) 461-5050 • FAX (772) 461-9446

Application to Connect to, or Use, District Facilities, or for Utility Construction*

3700 Okeechobee Rd

A. General Information:

Applicant Information:

Name: Brian Murphy/ Troil South LLC

Address: 2485 E State Street Ext

Trenton, NJ 08619

Telephone: (754)205-6269

Email: brian.murphy@traprockind.com

Owner Information (if different from Applicant):

Name:

Address:

Telephone: ( )

Email:

Engineer of Record Information (if applicable):

Name: Leo Giangrande, PE

Address: 710 SE Ocean Blvd Stuart, FL 34996

Telephone: (772) 888 - 9076

Email: leo@gep-llc.com

Billing Contact Information:

Name: John Hockey

Address: 2600 S Kanner Hwy APT X12

Stuart, FL 34994

Telephone: (772)-285- 5212

Email: john@calibecontractinginc.com

B. Project Information: (Check appropriate box and attach drawings to show location and details):

- [x] Culvert Connection to District canal for irrigation or gravity drainage.
- [ ] Pump Connection to District canal for irrigation or drainage.
- [ ] Installation of culvert or water control structure in District canal for crossing or water control.
- [ ] Utility Crossing:
  - [ ] Electric
  - [ ] Telephone
  - [ ] Gas
  - [ ] Cable Television
  - [ ] Water Main
  - [ ] Force Main
- [ ] Other (specify): ____

Location: Section(s): 17 Township: 35S Range: 40E Canal No.: FIVE MILE CREEK

Description of Indirect Connection: Stormwater is discharged offsite through a control structure to the Okeechobee Rd storm system until it is eventually discharged to the west at Five Mile Creek.

Drainage area served: 2.36 acres (Culvert or pump Connections.)

C. Construction Schedule:

Estimated commencement date: October 2025 Estimated completion date: June 2026

D. Application, Use Fee: $ 750 **Review Deposit:** $ 4,000

(Submit fee with this application in accordance with the District's fee schedule.)

ACKNOWLEDGEMENT AND ACCEPTANCE:

As reflected by my signature below, I hereby certify that the information shown above is accurate to the best of my knowledge, and that I agree to satisfy or abide by all requirements of this Permit, including "Standard Provisions" itemized on the reverse, and "Special Conditions" imposed by the District. Further, I acknowledge that the District and its Engineers are doing work to benefit the property and non-payment may result in the filing of a construction lien as permitted by the Florida Statutes.

Owner Signature: Brian Murphy

0988A908CB404F8...

Owner Name (Type or Print): Brian Murphy

Date: 8/7/2025

District Use Only: No. _____ - 025 - 009 - FHC

NORTH ST. LUCIE RIVER WATER CONTROL DISTRICT

("District")

14666 Orange Avenue • Fort Pierce, Florida 34945 • (772) 461-5050 • FAX (772) 461-9446

Application to Connect to, or Use, District Facilities, or for Utility Construction*

SPECIAL CONDITIONS: (for District Use Only):

Attached

****

Application Approved and Permit for Construction Issued:

By: _____ Date of Approval: 10-30-25

For the North St. Lucie River Water Control District

Permit Expiration Date: 10-25 30-27 Construction Expiration Date: _____

****

Project Certification Received and Accepted:

By: _____ Date of Approval: _____

For the North St. Lucie River Water Control District

Certification Expiration Date: _____

**This Application will become a Permit if and when approved and signed by an authorized representative of the District.*

****

October 30, 2025
3700 Okeechobee Rd- Proposed Industrial Use Tank Farm Site
NSLRWCD Permit Application No. 025-009-029

Permit Summary:

The 2.36-acre 3700 Okeechobee Road project site will be developed with one mixed-use building containing office and light-industrial units, along with associated parking and infrastructure. The proposed stormwater management system consists of a dry retention pond designed to provide water-quality treatment and attenuate discharges to meet NSLRWCD's volumetric discharge criteria of 2 inches over the site area during the 10-year, 3-day storm event. Runoff will be collected via on-site inlets and piped to the west side of the property before discharging to the existing Okeechobee Road drainage system, which ultimately flows to NSLRWCD Five Mile Creek.

Permit Conditions

1. At least two (2) week prior to commencement of construction, the permittee shall contact the District Office and District Engineer to schedule a pre-construction meeting.

2. The permittee shall notify the District Supervisor of Works prior to the start of construction.

3. The contractor shall provide the NSLRWCD with a 24-hour contact number and personnel for emergency situations

4. The District Engineer shall be contacted in advance of the following construction activities to schedule a site inspection by the District Engineer or his designated representative. No work may proceed without District acknowledgment of such requested inspection.

    a. Outfall Culvert Installation – including placement, alignment, bedding, joint wrapping and backfilling.

    b. Riprap Installation – including gradation, bedding, apron, side slopes, and toe protection.

    c. Other Work Within District Right-of-Way – including excavation, embankment, grading, utility crossings, or temporary access.

    d. Final Certification & Inspection – following receipt, review, and acceptance of as-built or record drawings to confirm compliance with approved plans and permit conditions.

    e. Other District-directed Inspections – as may be reasonably required to confirm construction conforms to District standards and does not impair canal capacity or impact canal maintenance, or limit District access.

    Failure to contact the District and obtain inspections at these milestones shall constitute a violation of permit conditions and may result in enforcement action, including work stoppage, permit revocation, and/or restoration at the permittee's sole expense.

5. The permittee shall be responsible for all review fees associated with this permit application.

6. The applicant shall be responsible for notifying the District of deviations from the approved plans during construction that would impact or affect District right-of-way or facilities. Any revisions or modifications to the approved plans shall be submitted to the District for review and approval.

7. All disturbed areas shall be sodded and pinned, except for areas calling for other material (i.e. riprap stabilization) as on the approved plans.

8. The applicant shall provide a one (1) year warranty on the slope areas affected by the proposed project within the District Right-of-Way. If any failure occurs during this one (1) year time frame, the applicant shall repair to the satisfaction of the District.

9. Pursuant to the NSLRWCD Permit Information and Criteria Manual, the installation and maintenance responsibility for the use of, or construction of facilities, in, on, or over District rights-of-ways hall be that of the permittee or the entity identified in the permit. Failure to maintain the permitted use or works may result in the revocation of the permit, and at the District's sole discretion, the removal of the crossing, connection, or use.

10. If dewatering is proposed, the permittee shall furnish a copy of the proposed dewatering plan and SFWMD permit (if applicable) to this District prior to the start of construction. The permittee may need to provide a standby pump for bypassing the canal flow around a temporary canal blockage/closure. However, in the event of forecasted landfall of a named storm event, the permittee shall be prepared to provide additional pumping capabilities or completely reopen the canal so that the historical canal flow can be maintained. The permittee shall coordinate with the District Superintendent of Works to assess if, or when, bypass pumping is necessary.

11. The applicant shall ensure that the project complies with current State Water Quality Standards. The permittee shall be responsible for installing and maintaining measures to prevent sedimentation and turbidity issues within District canals. At a minimum, the Board recommends installing turbidity curtains downstream of the construction site and installing silt fence as applicable. The contractor shall stake all turbidity barriers at the canal high water line at minimum. Please be advised that the contractor will need to coordinate with the District Supervisor or Works as necessary for the removal of any turbidity barriers in the event of forecasted landfall of a named storm event.

12. Within 30 days after completion of the permitted activity, the permittee shall submit notice of completion to the District for approval. This shall consist of a written, signed, and sealed statement of completion and certification by a Florida Registered Professional Engineer, and two (2) complete sets of the final "Record Drawings", signed and sealed by the project engineer of record or licensed surveyor. These statements must specify the actual date of construction completion and must certify that all improvements have been constructed in substantial conformance with the plans and specifications approved by the District and will function as intended and designed. If deviations from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. All surveyed dimensions and elevations shall be certified by a registered surveyor. If as-built certification is not received within thirty days of installation, the District will either have certification completed at owner/applicant's expense or order removal of the installation.

STANDARD PROVISIONS

for

Application / Permit No. 025-009-FMC

If this Application for a Permit is approved, I do acknowledge, understand, and agree that:

1. I hereby indemnify and hold the District harmless from claims for property damage or personal injury arising from the installation or use of the permitted facility, and that this indemnification extends to damage to the facility itself that may occur from District operation and maintenance work.
2. Approval of this application does not relieve the Permittee from securing any and all other permits that may be required by other entities or governmental agencies, including, but not limited to, the South Florida Water Management District, the Florida Department of Environmental Protection, and St. Lucie County.
3. The use of, or construction within, the District's right-of-way shall conform to the details of the **attached approved drawings** supporting this application. **Modifications must be approved by the District in writing prior to construction.**
4. If required in the interests of the District's operation and maintenance program, or by any modifications to the District's Standard Provisions, I agree to alter, replace, relocate, or remove the permitted facilities at no cost to the District, all as is more fully set forth by District Policy Resolution duly recorded in O.R. Book 669 at page 699 of the Public Records of St. Lucie County, Florida, but subject to the limitations thereof.
5. The lands to be benefited by this application are, or may be, subject to flooding during periods of high water resulting from heavy rains or other acts of God. This Permit will be accepted subject to this possibility, which is recognized not to be within the control of the District.
6. Any other requirements that may be imposed by the District are binding upon me, my successors and assigns.
7. Any Permit issued as an approval of this application other than one issued in irrevocable, recordable form pursuant to the Policy Resolution referenced in item 4, above, shall not be transferable from the Permittee to a subsequent owner or owners of all, or a portion of, the subject property without the express, written approval of the District.
8. Any Permit issued as approval of this application is strictly subject to all of the rules of the District, duly promulgated from time to time, which are on file and available for examination at the offices of the District by those having interest.
9. If a Permit is granted, I shall notify the District not less than 24 hours prior to the beginning and completion of the work, to enable the coordination and scheduling of inspections.
10. I accept total responsibility for any erosion of, or shoaling in, the District's right-of-way or canals that results from the permitted work, and I shall repair or remove same promptly, at no expense to the District.
11. During and after construction, I shall prevent material from the construction area from being discharged to, or settling in, District canals.
12. Unless authorized by Permit, I shall neither place, construct or plant, nor cause to be placed, constructed or planted, any object or improvement within the District right-of-way without the express written prior approval of the District.
13. Within thirty (30) days of completion of the work, I shall submit a written statement to the District certifying that the work was performed and completed in accordance with the Permit and the approved drawings. If the work deviates from the Permit or approved drawings, the certification shall state the nature and extent of those deviations.
14. If this Permit is for a drainage connection, then drainage discharge from the area served shall not exceed the volumetric equivalent of 2.0 inches of depth over the area for any 24-hour period (38 gallons per minute per acre) from the 10-year frequency, 72-hour duration rainfall.
15. If a Permit is issued for a hydraulic connection of property with a District canal, I shall not discharge hyacinths or other aquatic vegetation into the District canal.
16. The Permittee, his agents and contractors, shall conduct the work in a manner that will not impair the use, or potential use, of the District right-of-way and facilities. In no case shall drainage or irrigation canals or appurtenant works be obstructed or restricted.
17. All irrigation and drainage connections to District facilities shall be clearly marked with a post of contrasting colors to identify the location and extent of the permitted installation.
18. If access is permitted via an existing culvert crossing installed in District right-of-way, the Permittee is advised that the crossing may be permitted for use by other affected owners, as such crossings are limited in number by the District.
19. The District reserves the right to permit the use of culvert crossings installed in rights-of-ways by other affected owners of District lands, as culvert crossings are subject to distance limitations imposed by the District.
20. All utility installations shall be clearly marked with above-ground signs or markers, as required by the District's "Permit Information and Criteria Manual."

South Florida Water Management District
Individual Environmental Resource Permit No. 56-114480-P
Date Issued: November 25, 2025

Permittee:	Troil South, LLC 2485 E State Street Ext Trenton, NJ 08619
Project:	3700 Okeechobee Road
Application No.	250218-50293
Location:	St Lucie County, See Exhibit 1

Your application for an Individual Environmental Resource Permit is approved. This action is taken based on Chapter 373, Part IV, of Florida Statutes (F.S.) and the rules in Chapter 62-330, Florida Administrative Code (F.A.C.). Unless otherwise stated, this permit constitutes certification of compliance with state water quality standards under section 401 of the Clean Water Act, 33 U.S.C. 1341, and a finding of consistency with the Florida Coastal Management Program. Please read this entire agency action thoroughly and understand its contents.

This permit is subject to:

- Not receiving a filed request for a Chapter 120, F.S., administrative hearing.
- The attached General Conditions for Environmental Resource Permits.
- The attached Special Conditions.
- All referenced Exhibits.

All documents are available online through the District's RegPermitting site at www.sfwmd.gov/regpermitting.

If you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights", we will assume that you concur with the District's action.

The District does not publish notices of action. If you wish to limit the time within which a person may request an administrative hearing regarding this action, you are encouraged to publish, at your own expense, a notice of agency action in the legal advertisement section of a newspaper of general circulation in the county or counties where the activity will occur. Legal requirements and instructions for publishing a notice of agency action, as well as a noticing format that can be used, are available upon request. If you publish a notice of agency action, please send a copy of the affidavit of publication provided by the newspaper to the District's West Palm Beach office for retention in this file.

If you have any questions regarding your permit or need any other information, please call us at 1-800-432-2045 or email regpermitting@sfwmd.gov.

Melissa M. Lawrence, P.E.
Bureau Chief, Environmental Resource Bureau

South Florida Water Management District
Individual Environmental Resource Permit No. 56-114480-P

Date Issued: November 25, 2025	**Expiration Date:** November 25, 2030
Project Name:	3700 Okeechobee Road
Permittee:	Troil South, LLC 2485 E State Street Ext Trenton, NJ 08619
Operating Entity:	Troil South, LLC 2485 E State Street Ext Trenton, NJ 08619
Location:	St Lucie County
Permit Acres:	2.36 acres
Project Land Use:	Industrial including Utilities
Special Drainage District:	North St Lucie River Water Control District North St Lucie River Water Control District
Water Body Classification:	CLASS III
FDEP Water Body ID:	3194D
Conservation Easement to District:	No
Sovereign Submerged Lands:	No

Project Summary
This Environmental Resource Permit (ERP) authorizes construction and operation of a stormwater management (SWM) system serving 2.36 acres of industrial development known as 3700 Okeechobee Road.

The project proposes the construction of a commercial building, supporting infrastructure, and a SWM system. The SWM system consists of inlets and storm sewer to collect and convey runoff to a dry retention system with outfall through a control structure to the SR 70 (Okeechobee Road) SWM system. Refer to the Engineering Evaluation and Exhibit Nos. 2.0 and 2.1 for additional information.

Issuance of this permit constitutes certification of compliance with state water quality standards in accordance with Rule 62-330.062, FAC.

Site Description
The site is undeveloped land located at the intersection of S 37th Street and Okeechobee Road in St. Lucie County. Refer to Exhibit No. 1.0 for a location map.

For information on wetland and other surface water (OSW) impacts, please see the Wetlands and OSWs section of this permit.

Ownership and Operation & Maintenance (O&M)
Perpetual O&M of the SWM system will be the responsibility of Troil South, LLC. Upon conveyance or division of ownership or control of the property or the system, the permittee must notify the Agency in writing within 30 days, and the new owner must request transfer of the permit.

According to the SWM plans submitted and attached hereto as Exhibit 2.0, this project includes works on Okeechobee Road right of way and 37th Street. Issuance of this permit does not constitute authorization on behalf of Saint Lucie County and City of Fort Pierce, to perform those works or install any improvements within the roadways. Pursuant to General Condition 9, it is the responsibility of the pemittee to obtain propoer authorization that allows for this.

Engineering Evaluation:

Land Use
Please refer to the Engineering Evaluation Tables for land use details

Water Quality
The project is located within a watershed identified by the Florida Department of Environmental Protection as impaired; therefore, the design includes a site-specific pollutant loading analysis and an additional 50% water quality treatment volume above the amounts required pursuant to Section 4.2.1, ERP Applicant's Handbook (AH) Volume (Vol.) II, as reasonable assurances that the projects discharge will not cause or contribute to violations of State water quality standards.

Please refer to the Engineering Evaluation Tables for water quality treatment volumes and methods.

The project includes implementation of a Turbidity and Erosion Control Plan (Exhibit No. 2.0) as additional reasonable assurance of compliance with water quality criteria during construction.

Discharge
As found in the Water Quantity Data Table, the SWM design meets the criteria of Section 3.2(a), ERP AH Vol. II based on a pre- vs. post-development analysis.

Parking Lot Design
As found in the Water Quantity Data Table, minimum parking lot elevations have been set at or above the peak design storm elevation.

Perimeter Berm
As found in the Water Quantity Data Table, minimum perimeter berm elevations have been set at or above the peak design storm elevation.

Finished Floors
As found in the Water Quantity Data Table, minimum finished floor elevations have been set at or above the peak design storm elevation.

Construction Completion Certification (CCC) and O&M
Pursuant to Chapter 62-330.310, F.A.C., Individual Permits will not be converted from the construction phase to the operation phase until CCC of the project is submitted to and accepted by the District. This includes compliance with all permit conditions, except for any long-term maintenance and monitoring requirements. It is suggested that the permittee retain the services of an appropriate professional registered in the State of Florida for periodic observation of construction of the project.

For projects permitted with an operating entity that is different from the permittee, it should be noted that until the CCC is accepted by the District and the permit is transferred to an acceptable operating entity pursuant to Sections 12.1 - 12.3, ERP AH Vol. I and Section 62-330.310, F.A.C., the permittee is liable for O&M in compliance with the terms and conditions of this permit.

In accordance with Section 373.416(2), F.S., unless revoked or abandoned, all SWM systems and works permitted under Part IV of Chapter 373, F.S., must be operated and maintained in perpetuity.

The efficiency of SWM systems, dams, impoundments, and most other project components will decrease over time without periodic maintenance. The O&M entity must perform periodic inspections to identify if there are any deficiencies in structural integrity, degradation due to insufficient maintenance, or improper operation of projects that may endanger public health, safety, or welfare, or the water resources. If deficiencies are found, the O&M entity is responsible for correcting the deficiencies in a timely manner to prevent compromises to flood protection and water quality. See Section 12.4, ERP AH Vol. I for Minimum

Operation and Maintenance Standards.

Notable project components requiring routine inspection and maintenance include but are not limited to:

- Side slopes for stormwater lakes and ponds – maintain side slopes no steeper than 4:1 (horizontal:vertical) to a depth of 2.0 feet below the control elevation and nurtured or planted from 2.0 feet below to 1.0 feet above the control elevation pursuant to Section 5.4.2, ERP AH Vol. II.

- Conveyance pipes, conveyance structures and discharge structures – all pipes and structures must be inspected for structural integrity and be maintained clear of trash, sediment and vegetative debris.

- Exfiltration trenches – all pipes and structures must be inspected for structural integrity and be maintained clear of trash, sediment and vegetative debris.

- Swales – maintain the permitted cross-section and vegetative cover.

- Underground storage facilities – all facilities must be inspected for structural integrity and be maintained clear of trash, sediment and vegetative debris.

- Pumps – float switches should be inspected and any obstructions removed to ensure proper operation; intake and discharge pipes should be maintained clear of trash, sediment and vegetative debris; motors should be maintained to ensure proper operation.

Engineering Evaluation Tables:

Land Use

Basin	Land Type	Area (ac)	% of Total Basin
Site	Building Coverage	0.22	9.32
	Concrete	0.13	5.51
	Pavement	1.03	43.64
	Open Space	0.70	29.66
	Dry Retention Bottom	0.07	2.97
	Dry Retention Sides	0.21	8.90
	Total:	2.36	100%

Water Quality Volumetric

Basin	Treatment Type	Treatment System	Volume Required (ac-ft)	Volume Provided (ac-ft)
Site	Treatment	DRY RETENTION	0.57	0.57

Water Quantity

Basin	Elevation Type	Storm Event (Yr/Day)	Precipitation Depth (in)	Peak Stage (ft NAVD88)	Min. EL (ft NAVD88)	Peak Discharge Rate (cfs)	Allowable Discharge Rate (cfs)
Site	Finished Floor	100Y3D	12.00	18.59	19.50	N/A	N/A
	Perimeter Berm/ Discharge	25YR3D	9.50	18.08	18.10	6.08	11.58
	Parking Lot	10YR1D	6.00	17.57	17.60	N/A	N/A

Weir

Basin	Control EL (ft NAVD88)	Structure #	Structure Type	Count	Type	Dia (in)	Crest EL (ft NAVD88)	Receiving Body
Site	14.00	CS	Water Quality	1	Circular Orifice	3.0	17.10	SR 70 SWM System
Site	14.00	CS	Water Quality	1	Sharp Crested	36.0	17.92	SR 70 SWM System

Environmental Evaluation:

Wetland and OSW Description

There are no wetlands or OSWs located within the project site or affected by this project.

Fish, Wildlife, and Listed Species

The project site does not contain significant habitat for wetland-dependent endangered or threatened wildlife species, or species of special concern. No wetland-dependent endangered or threatened species or species of special concern were observed onsite. Submitted information indicates that potential use of the site by such species is minimal.

This permit does not relieve the permittee from complying with all applicable rules and any other agencies' requirements if, in the future, endangered or threatened species or species of special concern are discovered on the site.

Related Concerns:

Water Use Permit (WUP) Status

- The permittee has indicated that public water supply will be used as a source for irrigation water for the project.

- The permittee has indicated that dewatering is not required for construction of this project.

This permit does not release the permittee from obtaining all necessary Water Use authorization(s) prior to the commencement of activities which will require such authorization, including construction dewatering and irrigation.

Water and Wastewater Service
Fort Pierce Utility Authority

Historical/ Archaeological Resources
The District has received correspondence from the Florida Department of State, Division of Historical Resources indicating that no significant archaeological or historical resources are recorded on the project site; therefore, the project is unlikely to have an effect upon any such resources.

This permit does not release the permittee from complying with any other agencies' requirements in the event that historical and/or archaeological resources are found on the site.

General Conditions for Individual Environmental Resource Permits, 62-330.350, F.A.C.

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.

2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.

3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation, June 2007), and the Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), which are both incorporated by reference in subparagraph 62-330.050(9)(b)5., F.A.C., unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.

4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice," (October 1, 2013), (http://www.flrules.org/Gateway/reference.asp?No=Ref-02505), incorporated by reference herein, indicating the expected start and completion dates. A copy of this form may be obtained from the Agency, as described in subsection 62-330.010(5), F.A.C., and shall be submitted electronically or by mail to the Agency. However, for activities involving more than one acre of construction that also require a NPDES stormwater construction general permit, submittal of the Notice of Intent to Use Generic Permit for Stormwater Discharge from Large and Small Construction Activities, DEP Form 62-621.300(4)(b), shall also serve as notice of commencement of construction under this chapter and, in such a case, submittal of Form 62-330.350(1) is not required.

5. Unless the permit is transferred under rule 62-330.340, F.A.C., or transferred to an operating entity under rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms, and conditions of the permit for the life of the project or activity.

6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
   a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex- "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit"[Form 62-330.310(3)]; or
   b. For all other activities- "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
   c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.

7. If the final operation and maintenance entity is a third party:
   a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as-built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.4 of Volume I) as filed with the Florida Department of State, Division of Corporations, and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the

County in which the activity is located.
b. Within 30 days of submittal of the as-built certification, the permittee shall submit “Request for Transfer of Environmental Resource Permit to the Perpetual Operation and Maintenance Entity” [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.

8. The permittee shall notify the Agency in writing of changes required by any other regulatory agency that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.

9. This permit does not:
   a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
   b. Convey to the permittee or create in the permittee any interest in real property;
   c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
   d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.

10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.

11. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.

12. The permittee shall notify the Agency in writing:
    a. Immediately if any previously submitted information is discovered to be inaccurate; and
    b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.

13. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.

14. If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, stone tools, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance Review Section (DHR), at (850)245-6333, as well as the appropriate permitting agency office. Project activities shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and the proper authorities notified in accordance with section 872.05, F.S. For project activities subject to prior consultation with the DHR and as an alternative to the above requirements, the permittee may follow procedures for unanticipated discoveries as set forth within a cultural resources assessment survey determined complete and sufficient by DHR and included as a specific permit condition herein.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.

16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.

17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.

18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.

Special Conditions for Individual Environmental Resource Permits, 62-330.350, F.A.C.

1. The construction authorization for this permit shall expire on the date shown on page 2.

2. Perpetual O&M of the SWM system shall be the responsibility of Troil South LLC. The permittee shall notify the Agency in writing within 30 days of any conveyance or division of ownership or control of the property of the system, and the new owner must request transfer of the permit in accordance with Rule 62-330.340, F.A.C.

3. A stable, permanent and accessible elevation reference shall be established on or within 100 feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.

4. Prior to any future construction, the permittee shall apply for and receive an Individual ERP. As part of the permit application, the applicant for that phase shall provide documentation verifying that the proposed construction is consistent with the design of the master stormwater management system, including the land use and site grading assumptions.

5. Prior to initiating construction activities associated with this ERP, the permittee is required to hold a pre-construction meeting with field representatives, consultants, contractors, District Environmental Resource Bureau (ERB) staff, and any other local government entities as necessary. The purpose of the pre-construction meeting is to discuss construction methods, sequencing, best management practices, identify work areas, staking and roping of preserves where applicable, and to facilitate coordination and assistance amongst relevant parties. To schedule a pre-construction meeting, please contact ERB staff from the Okeechobee Service Center at (863) 462-5260 or via e-mail at: precon@sfwmd.gov. When sending a request for a pre-construction meeting, please include the application number, permit number, and contact name and phone number.

6. This permit does not authorize the permittee to cause any adverse impact to or “take” of state listed species and other regulated species of fish and wildlife. Compliance with state laws regulating the take of fish and wildlife is the responsibility of the owner or permittee associated with this project. Please refer to Chapter 68A-27, F.A.C. for definitions of “take” and a list of fish and wildlife species. If listed species are observed onsite, FWC staff are available to provide decision support information or assist in obtaining the appropriate FWC permits. Most marine endangered and threatened species are statutorily protected and a “take” permit cannot be issued. Requests for further information or review can be sent to: FWCConservationPlanningServices@MyFWC.com.

7. In addition to the requirements of General Condition No. 6, the permittee shall provide the following at the time of certification and request to transfer the permit to the operation phase: a. Record drawings signed and sealed by a registered professional in the State of Florida per Subsection 12.2(b)2, ERP AH Vol. I. b. A copy of the O&M plan, revised as necessary to be applicable to the SWM system as designed and permitted per Subsection 12.2.1.(b)5, ERP AH Vol. I. c. An updated copy of the cost estimate per Subsections 12.2.1.(b)6 & 12.3.5(a)4, ERP AH Vol. I.

8. In accordance with Exhibit No. 2.2 and Sections 12.5 and 12.6, ERP AH Vol. I, the permittee shall inspect the SWM system and submit an annual inspection report.

Project Work Schedule for Permit No. 56-114480-P

The following activities are requirements of this Permit and shall be completed in accordance with the Project Work Schedule below. Please refer to General Conditions, Special Conditions and/or Specific Conditions for more information. Any deviation from these time frames will require prior approval from the District's Environmental Resources Bureau and may require a modification to this permit. Such requests must be made in writing and shall include: (1) reason for the change, (2) proposed start/finish and/or completion dates, and (3) progress report on the status of the project.

Condition No.	Date Added	Description (Application Number)	Due Date	Date Satisfied
GC 4	11/25/2025	Construction Commencement Notice	Prior to Construction	
GC 6	11/25/2025	Submit Certification	30 Days After Construction Completion	
GC 7	11/25/2025	Submit Operation Transfer Request	Within 30 days of Certification	
SC 5	11/25/2025	Pre-Construction Meeting	Prior to Construction	
SC 7	11/25/2025	O&M Documents	30 Days After Construction Complete Date	
SC 8	11/25/2025	O&M Inspection Report 1	With in 1 year of Certification	

GC = General Condition

SC = Special Condition

Distribution List

Leo Giangrande, Giangrande Engineering & Planning

City of Port St Lucie - Planning and Zoning Division

City of Port St Lucie - Public Works

US Army Corps of Engineers - Permit Section

St. Lucie County Engineer

St. Lucie County Planning and Development Services

City Of Fort Pierce

Exhibits

The following exhibits to this permit are incorporated by reference. The exhibits can be viewed by clicking on the links below or by visiting the District's RegPermitting website at www.sfwmd.gov/regpermitting and searching under this application number 250218-50293.

Exhibit No. 1.0 Location Map

Exhibit No. 2.0 SWM Plans

Exhibit No. 2.1 SWM Report

Exhibit No. 2.2 O&M Manual

NOTICE OF RIGHTS

As required by Chapter 120, Florida Statutes, the following provides notice of the opportunities which may be available for administrative hearing pursuant to Sections 120.569 and 120.57, Florida Statutes, or judicial review pursuant to Section 120.68, Florida Statutes, when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Some of the legal proceedings detailed below may not be applicable or appropriate for your situation. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Florida Statutes. Persons seeking a hearing on a District decision which affects or may affect their substantial interests shall file a petition for hearing in accordance with the filing instructions set forth herein within 21 days of receipt of written notice of the decision unless one of the following shorter time periods apply: (1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Florida Statutes; or (2) within 14 days of service of an Administrative Order pursuant to Section 373.119(1), Florida Statutes. "Receipt of written notice of agency decision" means receipt of written notice through mail, electronic mail, posting, or publication that the District has taken or intends to take final agency action. Any person who receives written notice of a District decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

If the District takes final agency action that materially differs from the noticed intended agency decision, persons who may be substantially affected shall, unless otherwise provided by law, have an additional point of entry pursuant to Rule 28-106.111, Florida Administrative Code.

Any person to whom an emergency order is directed pursuant to Section 373.119(2), Florida Statutes, shall comply therewith immediately, but on petition to the board shall be afforded a hearing as soon as possible.

A person may file a request for an extension of time for filing a petition. The District may grant the request for good cause. Requests for extension of time must be filed with the District prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and whether the District and any other parties agree to or oppose the extension. A timely request for an extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

FILING INSTRUCTIONS

A petition for administrative hearing must be filed with the Office of the District Clerk. Filings with the Office of the District Clerk may be made by mail, hand-delivery, or e-mail. Filings by facsimile will not be accepted. A petition for administrative hearing or other document is deemed filed upon receipt during normal business hours by the Office of the District Clerk at the District's headquarters in West Palm Beach, Florida. The District's normal business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Any document received by the Office of the District Clerk after 5:00 p.m. shall be deemed filed as of 8:00 a.m. on the next regular business day.

Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the District Clerk, 3301 Gun Club Road, West Palm Beach, Florida 33406.
- Filings by hand-delivery must be delivered to the Office of the District Clerk. Delivery of a petition to the District's security desk does not constitute filing. It will be necessary to request that the District's security officer contact the Office of the District Clerk. An employee of the District's Clerk's office will

receive and process the petition.

- Filings by e-mail must be transmitted to the Office of the District Clerk at clerk@sfwmd.gov. The filing date for a document transmitted by electronic mail shall be the date the Office of the District Clerk receives the complete document.

INITIATION OF ADMINISTRATIVE HEARING

Pursuant to Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes, and Rules 28-106.201 and 28-106.301, Florida Administrative Code, initiation of an administrative hearing shall be made by written petition to the District in legible form and on 8 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, District file number or any other District identification number, if known.
2. The name, address, any email address, any facsimile number, and telephone number of the petitioner, petitioner's attorney or qualified representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the District's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the District's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the District's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the District to take with respect to the District's proposed action.

MEDIATION

The procedures for pursuing mediation are set forth in Section 120.573, Florida Statutes, and Rules 28-106.111 and 28-106.401–.405, Florida Administrative Code. The District is not proposing mediation for this agency action under Section 120.573, Florida Statutes, at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Section 120.68, Florida Statutes, and in accordance with Florida Rule of Appellate Procedure 9.110, a party who is adversely affected by final District action may seek judicial review of the District's final decision by filing a notice of appeal with the Office of the District Clerk in accordance with the filing instructions set forth herein within 30 days of rendition of the order to be reviewed, and by filing a copy of the notice with the appropriate district court of appeals via the Florida Courts E-Filing Portal.

Docusign Envelope ID: 54973D27-EAA7-437A-AFDB-49A5358EC52A

District Use Only: No. ____ - 025 - 009 - FMC

NORTH ST. LUCIE RIVER WATER CONTROL DISTRICT

("District")

14666 Orange Avenue • Fort Pierce, Florida 34945 • (772) 461-5050 • FAX (772) 461-9446

Application to Connect to, or Use, District Facilities, or for Utility Construction*

3700 Okeechobee Rd

A. General Information:

Applicant Information:

Name: Brian Murphy/ Troil South LLC

Address: 2485 E State Street Ext

Trenton, NJ 08619

Telephone: (754)205-6269

Email: brian.murphy@traprockind.com

Owner Information (if different from Applicant):

Name:

Address:

Telephone: ( )

Email:

Engineer of Record Information (if applicable):

Name: Leo Giangrande, PE

Address: 710 SE Ocean Blvd Stuart, FL 34996

Telephone: (772) 888 - 9076

Email: leo@gep-llc.com

Billing Contact Information:

Name: John Hockey

Address: 2600 S Kanner Hwy APT X12

Stuart, FL 34994

Telephone: (772)-285- 5212

Email: john@calibecontractinginc.com

B. Project Information: (Check appropriate box and attach drawings to show location and details):

- [x] Culvert Connection to District canal for irrigation or gravity drainage.
- [ ] Pump Connection to District canal for irrigation or drainage.
- [ ] Installation of culvert or water control structure in District canal for crossing or water control.
- [ ] Utility Crossing:
  - [ ] Electric
  - [ ] Telephone
  - [ ] Gas
  - [ ] Cable Television
  - [ ] Water Main
  - [ ] Force Main
- [ ] Other (specify): ____

Location: Section(s): 17 Township: 35S Range: 40E Canal No.: FIVE MILE CREEK

Description of Indirect Connection: Stormwater is discharged offsite through a control structure to the Okeechobee Rd storm system until it is eventually discharged to the west at Five Mile Creek.

Drainage area served: 2.36 acres (Culvert or pump Connections.)

C. Construction Schedule:

Estimated commencement date: October 2025 Estimated completion date: June 2026

D. Application, Use Fee: $ 750 **Review Deposit:** $ 4,000

(Submit fee with this application in accordance with the District's fee schedule.)

ACKNOWLEDGEMENT AND ACCEPTANCE:

As reflected by my signature below, I hereby certify that the information shown above is accurate to the best of my knowledge, and that I agree to satisfy or abide by all requirements of this Permit, including "Standard Provisions" itemized on the reverse, and "Special Conditions" imposed by the District. Further, I acknowledge that the District and its Engineers are doing work to benefit the property and non-payment may result in the filing of a construction lien as permitted by the Florida Statutes.

Owner Signature: Brian Murphy

0988A908CB404F8...

Owner Name (Type or Print): Brian Murphy

Date: 8/7/2025

District Use Only: No. _____ - 025 - 009 - FHC

NORTH ST. LUCIE RIVER WATER CONTROL DISTRICT

("District")

14666 Orange Avenue • Fort Pierce, Florida 34945 • (772) 461-5050 • FAX (772) 461-9446

Application to Connect to, or Use, District Facilities, or for Utility Construction*

SPECIAL CONDITIONS: (for District Use Only):

Attached

****

Application Approved and Permit for Construction Issued:

By: _____ Date of Approval: 10-30-25

For the North St. Lucie River Water Control District

Permit Expiration Date: 10-25 30-27 Construction Expiration Date: _____

****

Project Certification Received and Accepted:

By: _____ Date of Approval: _____

For the North St. Lucie River Water Control District

Certification Expiration Date: _____

**This Application will become a Permit if and when approved and signed by an authorized representative of the District.*

****

October 30, 2025
3700 Okeechobee Rd- Proposed Industrial Use Tank Farm Site
NSLRWCD Permit Application No. 025-009-029

Permit Summary:

The 2.36-acre 3700 Okeechobee Road project site will be developed with one mixed-use building containing office and light-industrial units, along with associated parking and infrastructure. The proposed stormwater management system consists of a dry retention pond designed to provide water-quality treatment and attenuate discharges to meet NSLRWCD's volumetric discharge criteria of 2 inches over the site area during the 10-year, 3-day storm event. Runoff will be collected via on-site inlets and piped to the west side of the property before discharging to the existing Okeechobee Road drainage system, which ultimately flows to NSLRWCD Five Mile Creek.

Permit Conditions

1. At least two (2) week prior to commencement of construction, the permittee shall contact the District Office and District Engineer to schedule a pre-construction meeting.

2. The permittee shall notify the District Supervisor of Works prior to the start of construction.

3. The contractor shall provide the NSLRWCD with a 24-hour contact number and personnel for emergency situations

4. The District Engineer shall be contacted in advance of the following construction activities to schedule a site inspection by the District Engineer or his designated representative. No work may proceed without District acknowledgment of such requested inspection.

    a. Outfall Culvert Installation – including placement, alignment, bedding, joint wrapping and backfilling.

    b. Riprap Installation – including gradation, bedding, apron, side slopes, and toe protection.

    c. Other Work Within District Right-of-Way – including excavation, embankment, grading, utility crossings, or temporary access.

    d. Final Certification & Inspection – following receipt, review, and acceptance of as-built or record drawings to confirm compliance with approved plans and permit conditions.

    e. Other District-directed Inspections – as may be reasonably required to confirm construction conforms to District standards and does not impair canal capacity or impact canal maintenance, or limit District access.

    Failure to contact the District and obtain inspections at these milestones shall constitute a violation of permit conditions and may result in enforcement action, including work stoppage, permit revocation, and/or restoration at the permittee's sole expense.

5. The permittee shall be responsible for all review fees associated with this permit application.

6. The applicant shall be responsible for notifying the District of deviations from the approved plans during construction that would impact or affect District right-of-way or facilities. Any revisions or modifications to the approved plans shall be submitted to the District for review and approval.

7. All disturbed areas shall be sodded and pinned, except for areas calling for other material (i.e. riprap stabilization) as on the approved plans.

8. The applicant shall provide a one (1) year warranty on the slope areas affected by the proposed project within the District Right-of-Way. If any failure occurs during this one (1) year time frame, the applicant shall repair to the satisfaction of the District.

9. Pursuant to the NSLRWCD Permit Information and Criteria Manual, the installation and maintenance responsibility for the use of, or construction of facilities, in, on, or over District rights-of-ways hall be that of the permittee or the entity identified in the permit. Failure to maintain the permitted use or works may result in the revocation of the permit, and at the District's sole discretion, the removal of the crossing, connection, or use.

10. If dewatering is proposed, the permittee shall furnish a copy of the proposed dewatering plan and SFWMD permit (if applicable) to this District prior to the start of construction. The permittee may need to provide a standby pump for bypassing the canal flow around a temporary canal blockage/closure. However, in the event of forecasted landfall of a named storm event, the permittee shall be prepared to provide additional pumping capabilities or completely reopen the canal so that the historical canal flow can be maintained. The permittee shall coordinate with the District Superintendent of Works to assess if, or when, bypass pumping is necessary.

11. The applicant shall ensure that the project complies with current State Water Quality Standards. The permittee shall be responsible for installing and maintaining measures to prevent sedimentation and turbidity issues within District canals. At a minimum, the Board recommends installing turbidity curtains downstream of the construction site and installing silt fence as applicable. The contractor shall stake all turbidity barriers at the canal high water line at minimum. Please be advised that the contractor will need to coordinate with the District Supervisor or Works as necessary for the removal of any turbidity barriers in the event of forecasted landfall of a named storm event.

12. Within 30 days after completion of the permitted activity, the permittee shall submit notice of completion to the District for approval. This shall consist of a written, signed, and sealed statement of completion and certification by a Florida Registered Professional Engineer, and two (2) complete sets of the final "Record Drawings", signed and sealed by the project engineer of record or licensed surveyor. These statements must specify the actual date of construction completion and must certify that all improvements have been constructed in substantial conformance with the plans and specifications approved by the District and will function as intended and designed. If deviations from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. All surveyed dimensions and elevations shall be certified by a registered surveyor. If as-built certification is not received within thirty days of installation, the District will either have certification completed at owner/applicant's expense or order removal of the installation.

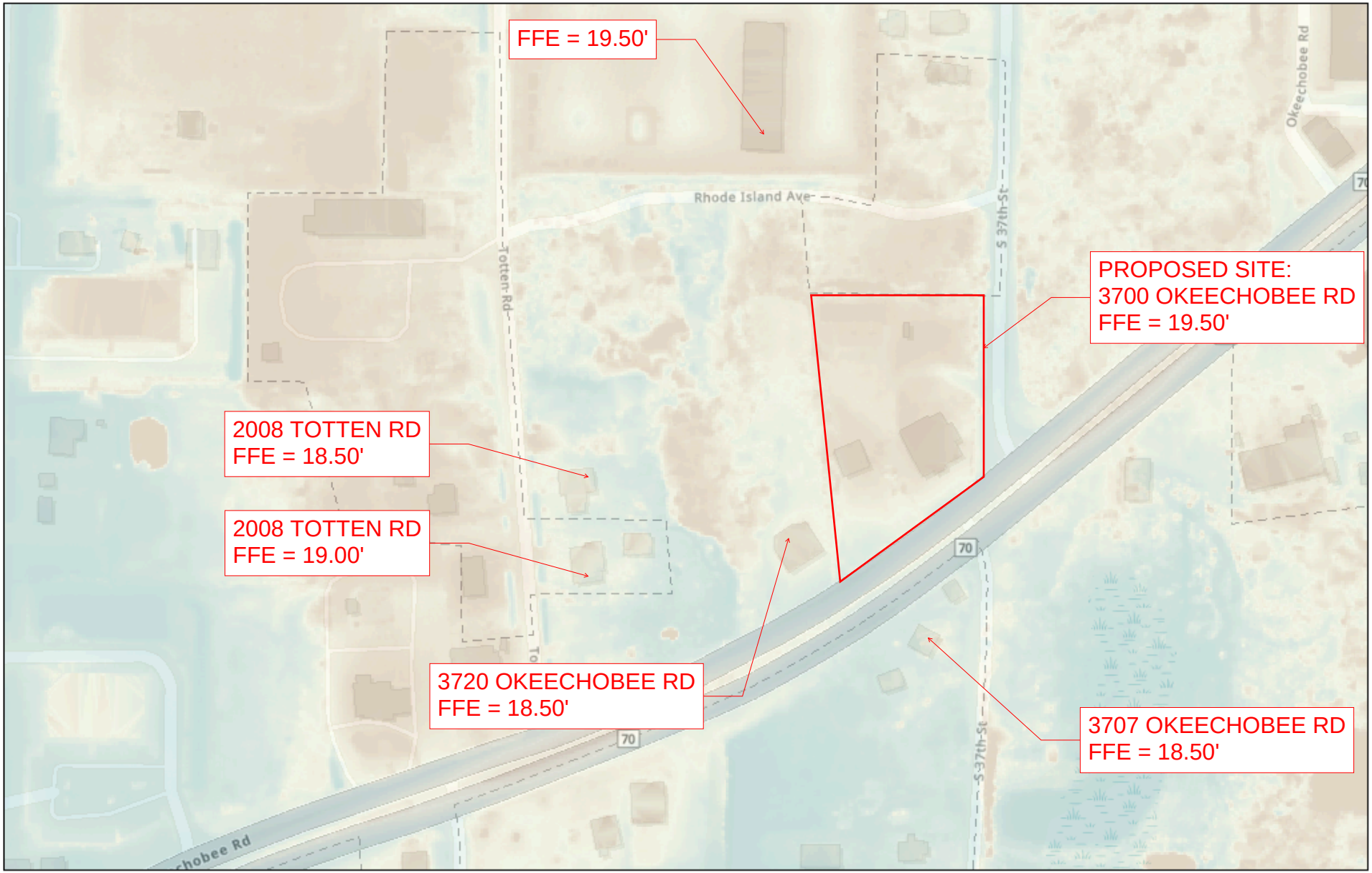
STANDARD PROVISIONS

for

Application / Permit No. 025-009-FMC

If this Application for a Permit is approved, I do acknowledge, understand, and agree that:

1. I hereby indemnify and hold the District harmless from claims for property damage or personal injury arising from the installation or use of the permitted facility, and that this indemnification extends to damage to the facility itself that may occur from District operation and maintenance work.
2. Approval of this application does not relieve the Permittee from securing any and all other permits that may be required by other entities or governmental agencies, including, but not limited to, the South Florida Water Management District, the Florida Department of Environmental Protection, and St. Lucie County.
3. The use of, or construction within, the District's right-of-way shall conform to the details of the **attached approved drawings** supporting this application. **Modifications must be approved by the District in writing prior to construction.**
4. If required in the interests of the District's operation and maintenance program, or by any modifications to the District's Standard Provisions, I agree to alter, replace, relocate, or remove the permitted facilities at no cost to the District, all as is more fully set forth by District Policy Resolution duly recorded in O.R. Book 669 at page 699 of the Public Records of St. Lucie County, Florida, but subject to the limitations thereof.
5. The lands to be benefited by this application are, or may be, subject to flooding during periods of high water resulting from heavy rains or other acts of God. This Permit will be accepted subject to this possibility, which is recognized not to be within the control of the District.
6. Any other requirements that may be imposed by the District are binding upon me, my successors and assigns.
7. Any Permit issued as an approval of this application other than one issued in irrevocable, recordable form pursuant to the Policy Resolution referenced in item 4, above, shall not be transferable from the Permittee to a subsequent owner or owners of all, or a portion of, the subject property without the express, written approval of the District.
8. Any Permit issued as approval of this application is strictly subject to all of the rules of the District, duly promulgated from time to time, which are on file and available for examination at the offices of the District by those having interest.
9. If a Permit is granted, I shall notify the District not less than 24 hours prior to the beginning and completion of the work, to enable the coordination and scheduling of inspections.
10. I accept total responsibility for any erosion of, or shoaling in, the District's right-of-way or canals that results from the permitted work, and I shall repair or remove same promptly, at no expense to the District.
11. During and after construction, I shall prevent material from the construction area from being discharged to, or settling in, District canals.
12. Unless authorized by Permit, I shall neither place, construct or plant, nor cause to be placed, constructed or planted, any object or improvement within the District right-of-way without the express written prior approval of the District.
13. Within thirty (30) days of completion of the work, I shall submit a written statement to the District certifying that the work was performed and completed in accordance with the Permit and the approved drawings. If the work deviates from the Permit or approved drawings, the certification shall state the nature and extent of those deviations.
14. If this Permit is for a drainage connection, then drainage discharge from the area served shall not exceed the volumetric equivalent of 2.0 inches of depth over the area for any 24-hour period (38 gallons per minute per acre) from the 10-year frequency, 72-hour duration rainfall.
15. If a Permit is issued for a hydraulic connection of property with a District canal, I shall not discharge hyacinths or other aquatic vegetation into the District canal.
16. The Permittee, his agents and contractors, shall conduct the work in a manner that will not impair the use, or potential use, of the District right-of-way and facilities. In no case shall drainage or irrigation canals or appurtenant works be obstructed or restricted.
17. All irrigation and drainage connections to District facilities shall be clearly marked with a post of contrasting colors to identify the location and extent of the permitted installation.
18. If access is permitted via an existing culvert crossing installed in District right-of-way, the Permittee is advised that the crossing may be permitted for use by other affected owners, as such crossings are limited in number by the District.
19. The District reserves the right to permit the use of culvert crossings installed in rights-of-ways by other affected owners of District lands, as culvert crossings are subject to distance limitations imposed by the District.
20. All utility installations shall be clearly marked with above-ground signs or markers, as required by the District's "Permit Information and Criteria Manual."



SFWMD Districtwide Digital Elevation Model (2023 Version)

South Florida Water Management District
3301 Gun Club Road, West Palm Beach, Florida 33406
561-686-8800; www.sfwmd.gov

N W E S

0 0.01 0.03 0.04 0.06 0.07 mi

0 0.03 0.06 0.09 0.12 km

DISCLAIMER:
This map is a conceptual or planning tool only. The South Florida Water Management District does not guarantee or make any representation regarding the information contained herein. It is not self-executing or binding, and does not affect the interests of any persons or properties, including any present or future right or use of real property and is exempt from public records disclosure and confidential under Section 119.071(3)(a)(1), Florida Statute.

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

October 27, 2025

The Sunrise City Fort Pierce Planning Department, Florida
Kerry C. Driver, Senior Planner
920 South U.S. Highway 1
Fort Pierce, FL 34950

RE: Project#: PZSITE2025-00029 – Conditional Use w New Construction Parcel IDs: 2417-331-0010-0006 - (3700 Okeechobee Rd.)

Dear Ms. Driver,

Thank you for reviewing the project referenced above. Giangrande Engineering & Planning is pleased to provide this response to the July 17, 2025, Comments Memorandum. Supporting documentation addressing each comment is supplied with this submittal. A summary of the comments and responses is provided below:

City of Fort Pierce Planning Department

The application **Requires Resubmittal** for the following reasons:

1. Your site plan is short one (1) parking space. Per Off-street parking city code Sec. 125-315, 17 regular stalls are required and one (1) ADA stall for your development. This should bring the total parking stalls, including ADA, to 18

   Response: Acknowledged, see revised site plan.

2. Provide dumpster details, according to Major and Minor Site Plan city code, Sec. 125-313

   Response: Please see Details, sheet D-2.

3. Provide the complete dimensions for the off-street loading space

   Response: Acknowledged, see revised striping plan.

4. Provide driveway widths and access point measurements, per Access Control, city code Sec. 125-316

   Response: Acknowledged, see revised site plan.

5. The proposed architectural design is not satisfactory to the city's Design Review standards. Okeechobee Road is a collector's road and therefore, the architectural designs should encompass architectural elements and articulations. Please reference the Architectural Design Standards for commercial buildings. (document attached)

   Response: Acknowledged, see revised design.

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

6. Color board and updated renderings of proposed building, per Sec. 125-314, shall consist of primary colors and secondary accent colors from the Architectural Design Color Palette

Response: Acknowledged, see revised color board.

St. Lucie County Fire District Development & Site Plan Review

The following Conditions/Revisions are necessary:

1. Please submit a completed application for Development/Site Plan Review (St. Lucie County Fire District Development & Site Plan Review Application). This form is available on-line at https://www.slcfd.com.

Response: Development/Site Plan Review permit application has been submitted.

2. Invoicing contact information will need to be provided in the Applicant/Agent for Owner section on the application. Please be sure to include the assigned project number, business name, address, primary contact name, phone number and email address for the responsible party. Invoices will be generated upon receipt of application and supporting documents. An abbreviated fee schedule is included on the application form. Payment can be made by credit card or check.

Response: Development/Site Plan Review permit application has been submitted.

3. Written acknowledgement of the conditions/comments provided, as well as any required revisions are due at the time of application submittal.

Response: Acknowledged.

4. Fire District review fees are due at the time of submittal. An abbreviated fee schedule is included on the application form.

Response: Acknowledged.

5. Fire District Development/Site Plan Review application, supporting documentation, and the associated review fee, are due prior to site plan approval.

Response: Acknowledged.

6. A separate submittal to SLCFD for review and permitting will be required for any Fire Alarm, Fire Sprinkler, Underground Fire Main, or other life safety systems where required by the currently adopted version of the *Florida Fire Prevention Code.*

Response: Acknowledged.

7. Fire department access roads provided in accordance with 18.2.3 shall be provided at the start of a project and shall be maintained throughout construction. (NFPA 1 16.1.4). Surface. Fire department access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be provided with an all- weather driving surface. (NFPA 1.18.2.3.5.2)

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

Response: Acknowledged.

8. Electronic security gates must have an access control key switch on the control panel to allow for Fire Department entry in an emergency. Manual security gates that will be locked require a Knox lock. All security gates shall maintain a clear width of 12 feet when open and provide a means to open the gates manually upon loss of power. (SLCFD Resolution 740-23)

Response: Acknowledged.

9. Per the St. Lucie County Fire District Fire Prevention Code Resolution 740-23, at least 13 feet 6 inches nominal vertical clearance shall be provided and maintained over the full width of all means of access (including, but not limited to trees, canopies, etc.)

Response: Acknowledged.

10. The Fire District reserves the right for future comments at the site plan & building construction phase.

Response: Acknowledged.

11. Please provide a truck circulation detail.

Response: See attached autoturn exhibit for fire truck.

12. Be advised: Dimensions of largest vehicle are as follows: 38 tons or 77,000 lbs, 47.5 ft. total length, 21.5 ft. wheel base, 10.5 ft. total width, 41.5 degree turning radius. (SLCFD Resolution 740-23)

Response: Acknowledged.

13. Minimum roadway pavement width (two-way traffic) shall be twenty (20) ft. (SLCFD Resolution 740-23)

Response: Acknowledged.

14. Minimum roadway pavement width (one-way traffic) shall be twelve (12) ft. (SLCFD Resolution 740-23)

Response: Acknowledged.

15. Fire apparatus access roads connecting to roadways shall be provided with curb cuts extending at least 2 ft (0.61 m) beyond each edge of the fire apparatus access road. (NFPA 1 18.2.3.5.3.3)

Response: Acknowledged.

16. The angle of approach and departure for any means of fire apparatus access road shall not exceed 1 ft drop in 20 ft (0.3 m drop in 6 m) or the design limitations of the fire apparatus of the fire department, and shall be subject to approval by the AHJ.(NFPA 1 18.2.3.5.6.2)

Response: Acknowledged.

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

17. A fire department access road shall extend to within 50 ft (15 m) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1.18.2.3.2.1)

Response: Acknowledged.

18. Fire hydrants (shall be) are provided for buildings other than detached one-and- two-family dwellings IAW both of the following 1) The maximum distance to a fire hydrant from the closest point in the building shall not exceed 400 feet. 2) The maximum distance between fire hydrants shall not exceed 500 feet. NFPA 1:18.5.3. Please provide fire flow calculations for hydrants.

Response: Acknowledged.

19. An approved water supply capable of supplying the required fire flow for fire protection (shall be) is identified to all premises upon which facilities, buildings, or portions of buildings which are to be constructed or moved into the jurisdiction. The approved water supply shall be in accordance with NFPA 1:18.4.

Response: Acknowledged.

20. Fire department connections shall be located on the street side of buildings and shall be located and arranged so that hose lines can be readily attached to the inlets without interference from any nearby objects, including buildings, fences, landscaping, or other fire department connections. The locations of connections shall be based upon the access requirements of the fire department.

Response: Acknowledged.

21. The distance allowed between the fire department connection and a fire hydrant shall be no more than one hundred fifty (150) feet as a vehicle travels.

Response: Acknowledged.

22. Where underground water mains and hydrants are to be provided, they shall be installed, completed, and in service prior to commencing construction work on any structure. It is not intended to prohibit the construction of non-combustible structure foundation elements such as foundations and footings prior to the completion of underground water mains and hydrants (NFPA 1 16.4.3.1.3).

Response: Acknowledged.

23. The minimum size of water mains for supplying water for firefighting purposes shall be six (6) inches. b. The minimum size of water mains supplying hydrants on a dead end main shall be eight (8) inches. c. The maximum number of hydrants located on a dead end main shall be one (1). d. Grid or Tee systems shall be supplied by a minimum of an eight (8) inch looped main. Exceptions may be granted based on the capacity of the water distribution system but in no case shall the main size be less than six (6) inches. e. The minimum size water main(s) shall be determined by the needed fire flow as established by the Fire Marshal and based on the current Insurance Service Office (ISO) requirements.

Response: Acknowledged.

24. Hydrants shall be located no more than 12ft. from the curb of roadways or from the edge of payment. Clearances of three feet (3 ft.) shall be maintained around the circumference of

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

hydrants. A clear space of not less than five feet (5ft.) shall be provided in front of each hydrant connection having a diameter greater than 2 ½ inches. The center of hose outlet shall be not less than 18 inches above final grade. (SLCFD Fire Prevention Code Resolution 740-23).

Response: Acknowledged.

25. Site Plans submitted in accordance with this Fire Prevention Code shall include the size, layout, and offsite connections for the water distribution system and the location of all existing and proposed fire hydrants within one thousand (1,000) feet of the proposed project.

Response: Acknowledged.

FORT PIERCE ENGINEERING DEPARTMENT:

1. *Survey.*
   a. Provide a topographic survey which includes offsite elevations 50' (min.) in accordance with the City of Fort Pierce Code of Ordinances Sections 119 and 125.

Response: See revised survey plan.

   b. The legal descriptions shall identify whether the description is for Parcel 1 or Parcel 2 and include the overall parcel size.

Response: See revised survey plan.

   c. Please correct the legal descriptions to coincide with bearings and distances reflected on the plan view.

Response: See revised survey plan.

   d. Please indicate all above ground public utilities located within the 37°* Street R/W as there are utility poles and a drainage inlet missing from the survey

Response: See revised survey plan.

   e. Identify each parcel's POB and POC.

Response: See revised survey plan.

2. *Landscape Plan:*
   a. Revise the plan to eliminate the proposed live oak trees along S. 37** Street as a minimum horizontal clearance of 40' is required from the existing overhead power lines located within the S. 37'h Street right-of-way.

Response: See revised landscape plan.

   b. Update the plan to include the clear vision sight triangles at the proposed driveways as per Section 125-308.

Response: See revised landscape plan.

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

c. Relocate the dry retention areas to the rear of the property as per the requirements specified in the City of Fort Pierce Code of Ordinances Section 119-9.

Response: Acknowledged, see revised plans.

3. Site *Plan:*

a. Provide the driveway setback as measured from edge of the proposed driveway and the edge of pavement of 37th Street. Please be aware that the minimum setback of SO' per Section 125-316 does not apply in this situation as Okeechobee Road is a St. Lucie County roadway and must adhere to the requirements specified by SLC.

Response: Acknowledged, see updated plans.

b. Provide a 5' wide concrete sidewalk along 37'* Street. The sidewalk shall extend the limits of the property.

Response: Acknowledged, see updated plans.

c. The proposed driveway aprons located within the 37*h Street and Okeechobee Road shall be comprised of concrete as per the City of Fort Pierce Code of Ordinances Section 32-9(b).

Response: Acknowledged, driveways will be comprised of concrete.

d. The City of Fort Pierce Code of Ordinances specifies that roadways classified as "local" shall have a minimum right-of-way width of 60'. 37'° Street currently has a substandard right-of-way width of 50'. Therefore, it is requested that the applicant provide a 5' right-of-way donation, or 1/z of the required 10', as a part of the site plan approval process.

Response: Acknowledged, see updated plans.

e. Relocate the dry retention areas to the rear of the property as per the requirements specified in the City of Fort Pierce Code of Ordinances Section 119-9.

Response: Acknowledged, see revised plans.

f. Provide a note on the site plan that all construction shall comply with the City of Fort Pierce Code of Ordinances Sections 119 and 125.

Response: Acknowledged, see revised plans.

g. Provide the driveway width of the two proposed driveways and parking stall dimensions.

Response: Provided in updated plans.

h. Provide a detail of the dumpster enclosure which shall adhere to the minimum dimensions noted on the attached detail.

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

Response: Detail provided on sheet D-2.

i. Provide a minimum two-way access aisle of 24‘ for two-way traffic.

Response: Acknowledged, see revised plans.

j. Provide the setback distance eastern property line to project‘s proposed drive aisle located on the east side of the building.

Response: Acknowledged, see revised plans.

4. *Conceptual Drainacle Plan.-*
   a. Relocate the dry retention areas to the rear of the property as per the City of Fort Pierce Code of Ordinances Section 119-9.

Response: Acknowledged, see revised plans.

5. *Advisory Comments:*
   a. The project is comprised of two (2) parcels and will require unification prior to the issuance of a site work permit.

Response: Acknowledged, unification will happen following the annexation of the parcel to the city.

b. The plans indicate the stormwater treatment system is to be tie-in to the Okeechobee Road drainage system. Please be aware this system is owned and maintained by SLC and will require permitting through the County.

Response: Site development permit application has been submitted.

The following comments are offered by SLC PW - Engineering:

1. Please refer to section 7.05.06 of the County’s land development code. Sites that generate more than 50 vehicle trips per day shall not be authorized left turn movements to access the driveway unless the nearest edge of the driveway is a minimum of 350 feet from the parallel base building line. Driveways may be restricted to right in right out only.

   Response: Acknowledged.

2. Any driveway on a corner lot shall be a minimum of 50 feet from the parallel base building line.

   Response: Acknowledged, driveway meets code requirement.

3. A 5-foot sidewalk is required along S 37th Street.

   Response: Acknowledged, provided in updated plans.

GIANGRANDE
Engineering & Planning

710 SE Ocean Blvd
Stuart, FL 34994
772-888-9076

4. A Site Development permit for access and drainage outfall from the County prior to initiation of site improvements is required. Please submit a site development permit application through the County's online permitting portal.

   Response: Site development permit application has been submitted.

5. For discussion regarding these comments and response, please contact me at 772-462-2741, chambersg@stlucieco.org.

Please do not hesitate to contact me if you require additional information or have any questions. Thank you for your review of this project. Please do not hesitate to contact me with questions or comments at (772) 888-9076.

Best regards,



Leo Giangrande, P.E.
Principal

S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Permitting\Fort Pierce\Minor Site Plan Application\comments initial submittal 2025-7-16\Response Letter

LEGAL DESCRIPTION:

PARCEL 1: THE NORTH 120 FEET OF THE FOLLOWING DESCRIBED PROPERTY: BEGINNING AT THE NORTHEAST CORNER OF THE SW 1/4 OF THE SW 1/4 OF SECTION 17, TOWNSHIP 35 SOUTH, RANGE 40 EAST, RUN WEST 256.97 FEET MORE OR LESS TO A STAKE; THENCE SOUTHERLY PARALLEL TO TOTTEN'S ROAD 523.5 FEET TO THE NORTH LINE OF THE OKEECHOBEE ROAD RIGHT OF WAY; THENCE NORTHEASTERLY ALONG SAID RIGHT OF WAY TO THE EAST LINE OF SAID SW 1/4 OR SW 1/4; THENCE NORTH ALONG SAID EAST LINE 375.7 FEET, MORE OR LESS, TO THE POINT OF BEGINNING: EXCEPT RIGHT OF WAY NOW USED FOR PUBLIC ROADS.

PARCEL 2: BEGINNING AT A POINT 25 FEET WEST OF THE NORTHEAST CORNER OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 17, TOWNSHIP 35 SOUTH, RANGE 40 EAST; RUN THENCE WEST 233.23 FEET TO A CONCRETE MONUMENT; THENCE SOUTHERLY PARALLEL TO TOTTEN'S ROAD, 523.5 FEET, MORE OR LESS, TO THE NORTH RIGHT-OF-WAY LINE OF OKEECHOBEE ROAD; THENCE NORTHEASTERLY ALONG SAID RIGHT-OF-WAY TO A POINT 25 FEET WEST OF THE EAST LINE OF THE SAID SOUTHWEST 1/4 OF THE SOUTHWEST 1/4; THENCE ALONG A LINE PARALLEL TO AND 25 FEET WEST OF THE EAST LINE OF THE SAID SOUTHWEST 1/4 OF THE SOUTHWEST 1/4, 375.7 FEET, MORE OR LESS, TO THE POINT OF BEGINNING; EXCEPTING THEREFROM THE FOLLOWING: 1. THE NORTH 100 FEET THEREOF; 2. THE SOUTH 20 FEET OF THE NORTH 120 FEET THEREOF; 3. TRACT DESCRIBED AS: FROM THE NORTHEAST CORNER OF THE SW 1/4 OF THE SW 1/4 OF SECTION 17, TOWNSHIP 35 SOUTH, RANGE 40 EAST, RUN WEST ON THE NORTH LINE OF SW 1/4 OF THE SW 1/4, 256.97 FEET TO THE POINT OF BEGINNING; THENCE RUN SOUTHERLY PARALLEL WITH TOTTEN'S ROAD 523.5 FEET TO THE NORTH BOUNDARY LINE OF OKEECHOBEE ROAD; THENCE RUN SOUTHWESTERLY ALONG SAID ROAD 100 FEET TO A STAKE OR PIPE; THENCE RUN NORTHERLY PARALLEL TO TOTTEN'S ROAD 585 FEET TO THE NORTH LINE OF SAID SW 1/4 OF THE SW1/4; THENCE RUN EAST 83.8 FEET TO THE POINT OF BEGINNING. 4. PARCELS THEREOF CONVEYED BY HARRY J. KICLITER AND ETHEL P. KICLITER TO STATE OF FLORIDA FOR RIGHTS-OF-WAY AS DESCRIBED IN DEED BOOK 236, PAGE 398 AND 399, PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.

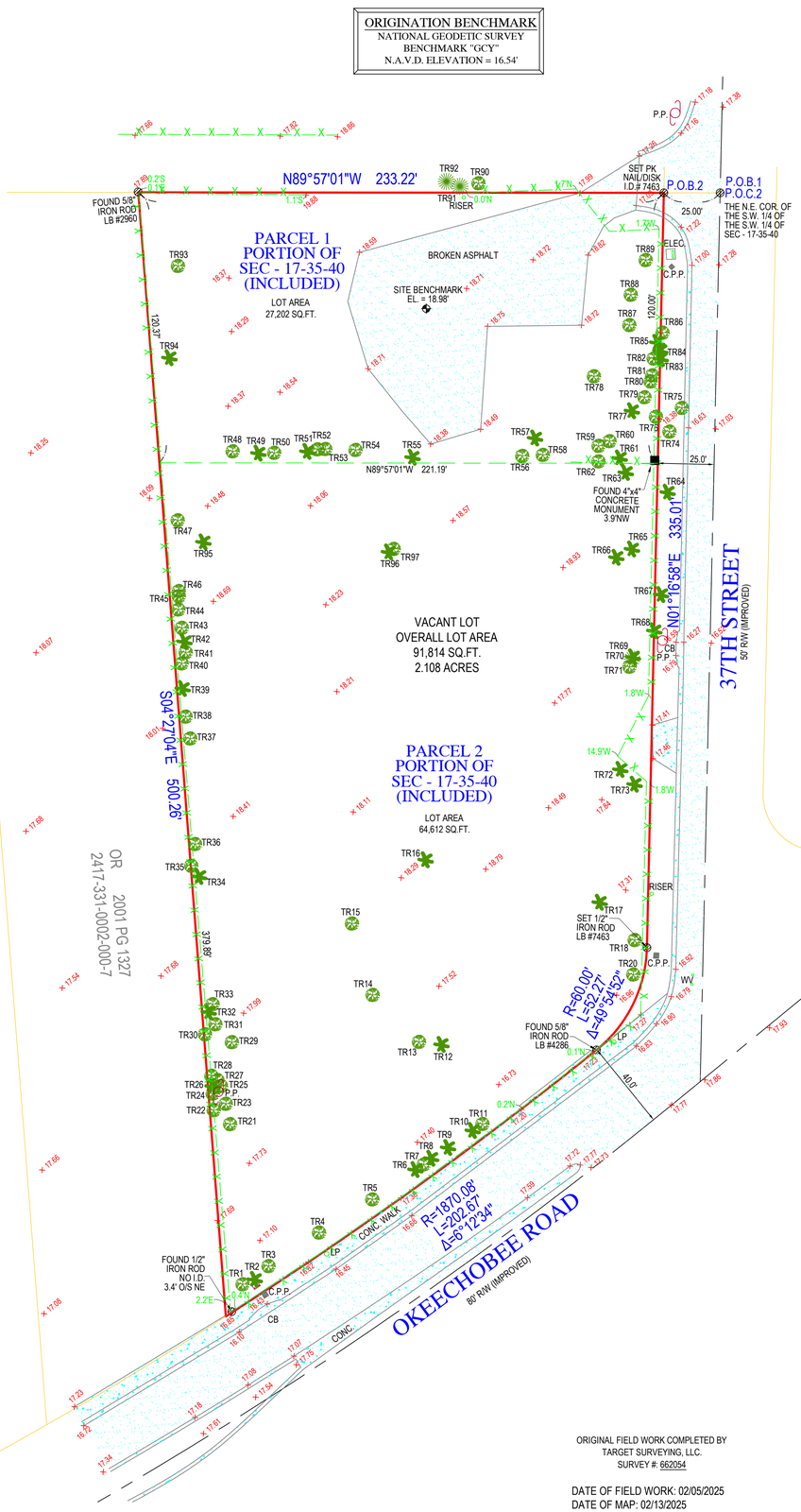
OVERALL BOUNDARY BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
A PORTION OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 17, TOWNSHIP 35 SOUTH, RANGE 40 EAST: BEGINNING AT A POINT 25 FEET WEST OF THE NORTHEAST CORNER OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 17, TOWNSHIP 35 SOUTH, RANGE 40 EAST; RUN THENCE NORTH 89°57'01" WEST, FOR 233.22 FEET TO A 5/8" IRON ROD; THENCE SOUTH 04°27'04" EAST, FOR 500.26 FEET TO THE NORTH RIGHT-OF-WAY LINE OF OKEECHOBEE ROAD; THENCE NORTHEAST ALONG A CURVE CONCAVE TO THE NORTH, HAVING A RADIUS OF 1870.08 FEET, FOR AN ARC LENGTH OF 202.67 FEET TO A POINT OF A COMPOUND CURVEY TO THE NORTHWEST; THENCE NORTHEAST ALONG THE CURVE, HAVING A RADIUS OF 60.00 FEET, FOR AN ARC LENGTH OF 52.27 FEET TO A POINT OF TANGENCY; THENCE NORTH 01°16'58" EAST, FOR 355.01 FEET TO THE POINT OF BEGINNING.

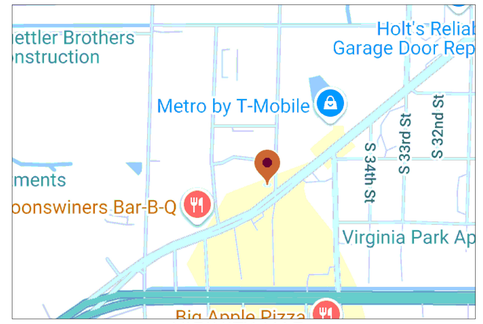
TREE LEGEND

TREE#	COMMON NAME	SIZE: DBH"xH'x C'
TR1	OAK	8"x 10' x 4'
TR2	PALM	6"x 10' x 4'
TR3	OAK	15"x 20' x 20'
TR4	OAK	15"x 20' x 20'
TR5	OAK	15"x 20' x 20'
TR6	PALM	4"x 10' x 4'
TR7	OAK	15"x 20' x 20'
TR8	PALM	4"x 10' x 4'
TR9	PALM	4"x 10' x 4'
TR10	PALM	4"x 10' x 4'
TR11	OAK	4"x 10' x 4'
TR12	PALM	15"x 12' x 10'
TR13	OAK	6"x 12' x 10'
TR14	OAK	8"x 12' x 10'
TR15	OAK	8"x 12' x 10'
TR16	PALM	4"x 10' x 4'
TR17	PALM	22"x 15' x 15'
TR18	OAK	4"x 12' x 4'
TR20	OAK	4"x 12' x 4'
TR21	HOLLY	4"x 12' x 8'
TR22	OAK	12"x 10' x 4'
TR23	OAK	3"x 8' x 2'
TR24	OAK	4"x 10' x 4'
TR25	OAK	8"x 12' x 10'
TR26	PALM	8'x 12' x 4'
TR27	OAK	8"x 12' x 10'
TR28	OAK	3"x 6' x 2'
TR29	OAK	3"x 10' x 4'
TR30	OAK CLUSTER	14"x 13' x 10'
TR31	OAK	4"x 10' x 8'
TR32	PALM	18"x 12' x 10'
TR33	OAK	4"x 10' x 8'
TR34	PALM	15"x 15' x 15'
TR35	OAK	36"x 20' x 25'
TR36	OAK	18"x 18' x 8'
TR37	HOLLY	3"x 8' x 4'
TR38	OAK	8"x 10' x 4'
TR39	PALM	14"x 7' x 15'
TR40	OAK	30"x 22' x 33'
TR41	OAK	5"x 12' x 10'
TR42	PALM	18"x 3' x 10'
TR43	OAK CLUSTER	6"x 10' x 6'
TR44	OAK CLUSTER	6"x 10' x 6'
TR45	OAK CLUSTER	6"x 10' x 6'
TR46	OAK	6"x 10' x 6'
TR47	HOLLY CLUSTER	6"x 10' x 6'
TR48	OAK	5"x 12' x 15'
TR49	PALM	25"x 15' x 15'

TREE LEGEND

TREE#	COMMON NAME	SIZE: DBH"xH'x C'
TR50	OAK	4"x 10' x 10'
TR51	PALM	25"x 15' x 15'
TR52	OAK	4"x 8' x 2'
TR53	OAK	4"x 5' x 1'
TR54	OAK	12"x 3' x 3'
TR55	PALM	20"x 15' x 10'
TR56	OAK	25"x 15' x 30'
TR57	PALM	25"x 14' x 15'
TR58	OAK	30"x 15' x 25'
TR59	OAK	10"x 15' x 25'
TR60	OAK	5"x 12' x 15'
TR61	PALM	10"x 20' x 10'
TR62	OAK	31"x 16' x 30'
TR63	PALM	18"x 14' x 15'
TR64	PALM	29"x 13' x 10'
TR65	PALM	12"x 9' x NA'
TR66	PALM	22"x 12' x 15'
TR67	PALM	48"x 10' x 10'
TR68	PALM	23"x 12' x 14'
TR69	PALM	22"x 12' x 15'
TR70	PINE	12"x 15' x 20'
TR71	OAK/PALM	25"x 12' x 10'
TR72	PALM	15"x 12' x 15'
TR73	PALM	15"x 15' x 15'
TR74	SEAGRAPE CLUSTER	7"x 12' x 20'
TR75	OAK	14"x 12' x 10'
TR76	SEAGRAPE CLUSTER	15"x 15' x 30'
TR77	PALM	12"x 8' x 10'
TR78	OAK	12"x 18' x 25'
TR79	SEAGRAPE	30"x 10' x 25'
TR80	OAK CLUSTER	18"x 10' x 10'
TR81	OAK CLUSTER	18"x 10' x 10'
TR82	OAK	3"x 7' x 3'
TR83	PALM	6"x 7' x 3'
TR84	PALM	6"x 7' x 3'
TR85	PALM	25"x 25' x 15'
TR86	OAK	5"x 10' x 15'
TR87	OAK	24"x 15' x 20'
TR88	HOLLY CLUSTER	36"x 13' x 25'
TR89	OAK CLUSTER	36"x 13' x 25'
TR90	HOLLY CLUSTER	36"x 15' x 20'
TR91	PINE	24"x 30' x 20'
TR92	PINE	24"x 30' x 20'
TR93	OAK	24"x =15' x 20'
TR94	PALM	24"x 15' x 15'
TR95	PALM	12"x 10' x 8'
TR96	PALM	5"x 8' x 6'
TR97	MISC. CLUSTER	12"x 7' x 8'





VICINITY MAP
NOT TO SCALE

Flood Zone: X
Community Number: 120286
Panel: 12111C0186
Suffix: J
FIRM Date: 02/16/2012

OR 2005 PG 1740
2417-312-0001-000-1

SCALE: 1"=30'

LEGEND

A/C	AIR CONDITIONER
B.F.P.	BACKFLOW PREVENTER
C.B.S.	CONCRETE BLOCK STRUCTURE
EL	ELEVATION
F.F.	FINISHED FLOOR
I.D.	IDENTIFICATION
L	LENGTH
L.B.	LICENSED BUSINESS
M	MEASURED
N.A.V.D.	NORTH AMERICAN VERTICAL DATUM
N.G.V.D.	NATIONAL GEODETIC VERTICAL DATUM
O.R.B.	OFFICIAL RECORDS BOOK
P	PLAT
PSM	PROFESSIONAL SURVEYOR AND MAPPER
P.R.M.	PERMANENT REFERENCE MONUMENT
PG	PAGE
P.B.	PLAT BOOK
PK	PARKER KYLON NAIL
R	RADIUS
R/W	RIGHT OF WAY
D.E.	DRAINAGE EASEMENT
U.E.	UTILITY EASEMENT
℄	CENTERLINE
&	AND
#	NUMBER
Δ	DELTA OR CENTRAL ANGLE
	CONCRETE
	CHAIN LINK FENCE
	WOOD FENCE
	MISCELLANEOUS FENCE
P.O.B.	POINT OF BEGINNING
P.O.C.	POINT OF COMMENCEMENT

NOTES:

1. LEGAL DESCRIPTION PROVIDE BY CLIENT
2. NO SEARCH OF THE PUBLIC RECORD FOR THE PURPOSE OF ABSTRACTING TITLE WAS PERFORMED BY THIS OFFICE
3. NO SUBSURFACE IMPROVEMENTS WERE LOCATED AS PART OF THIS SURVEY
4. ALL ANGLES OR BEARINGS AND DISTANCES SHOWN HEREON ARE BOTH RECORD AND MEASURED UNLESS OTHERWISE NOTED
5. SOME FEATURES MAY NOT BE AT SCALE IN ORDER TO SHOW DETAIL.
6. THE BEARINGS SHOWN HEREON ARE BASED UPON THE EASTERLY PROPERTY LINE, HAVING A BEARING OF N01°16'58"E.

ORIGINAL FIELD WORK COMPLETED BY
TARGET SURVEYING, LLC.
SURVEY #: 662054

DATE OF FIELD WORK: 02/05/2025
DATE OF MAP: 02/13/2025

SURVEYORS CERTIFICATE
I HEREBY CERTIFY THAT THIS BOUNDARY SURVEY IS A TRUE AND CORRECT REPRESENTATION OF A SURVEY PREPARED UNDER MY DIRECTION.
NOT VALID WITHOUT AN AUTHENTICATED ELECTRONIC SIGNATURE AND AUTHENTICATED ELECTRONIC SEAL, OR A RAISED EMBOSSED SEAL AND SIGNATURE.

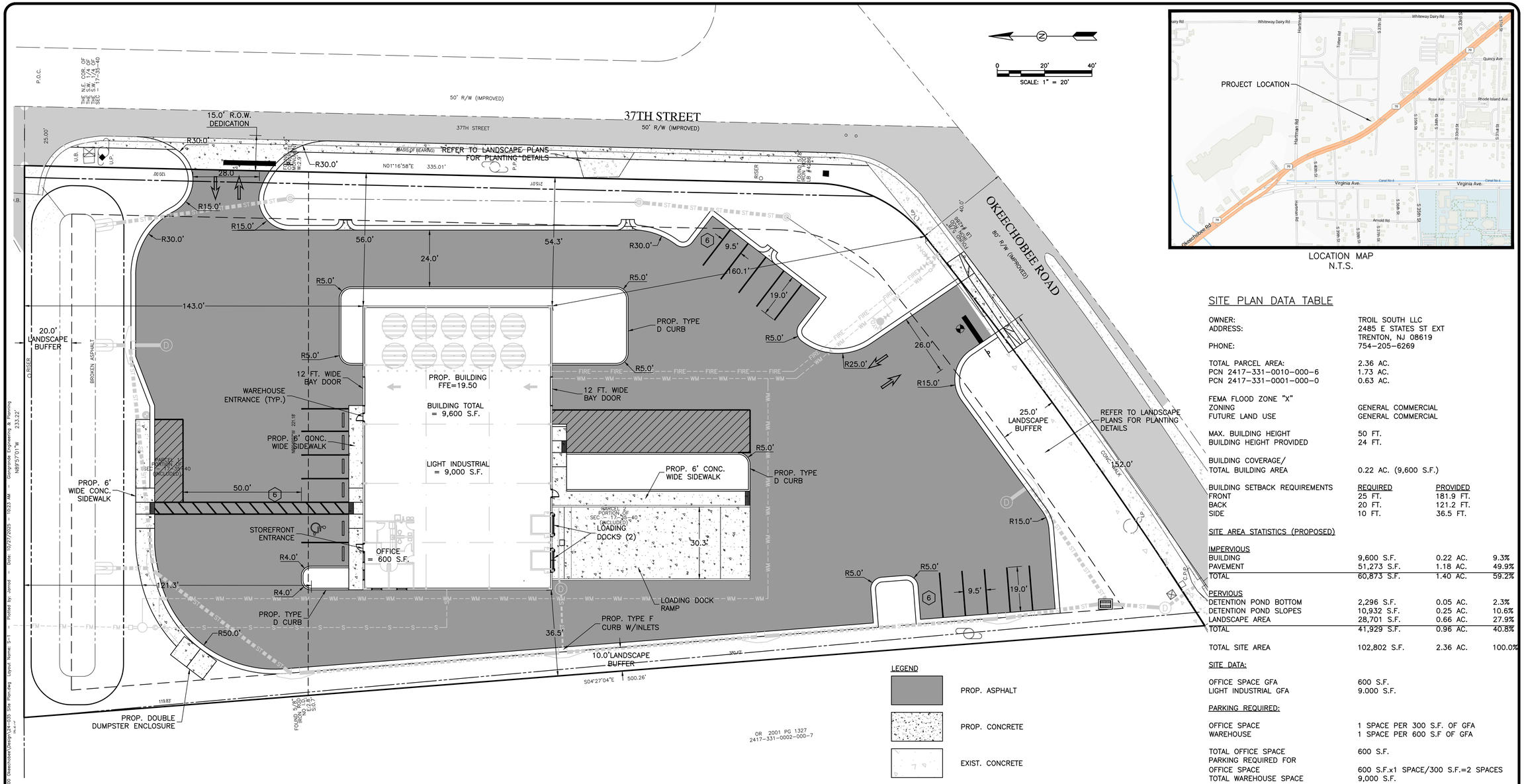
DAVID G CUTLER CERTIFICATE NO. 5593 STATE OF FLORIDA PROFESSIONAL SURVEYOR & MAPPER

(SIGNED)
DAVID G CUTLER
PROFESSIONAL SURVEYOR AND MAPPER #5593

BOUNDARY, TOPOGRAPHIC AND TREE SURVEY OF
3700 OKEECHOBEE ROAD
FORT PIERCE, FL 34947
PREPARED FOR:
CALIBER CONTRACTING, INC.

Project	Sheet
C-673041	1 OF 1
Date: 02/05/2025	
Scale: 1"=30'	

6250 N. MILITARY TRAIL
SUITE 102
WEST PALM BEACH, FL
33407
PHONE: 561.640.4800
FAX: 561.640.0576
LB #7463
COMPASS SURVEYING
WWW.COMPASSSURVEYING.NET



LOCATION MAP
N.T.S.

SITE PLAN DATA TABLE

OWNER:	TROIL SOUTH LLC		
ADDRESS:	2485 E STATES ST EXT TRENTON, NJ 08619		
PHONE:	754-205-6269		
TOTAL PARCEL AREA:	2.36 AC.		
PCN 2417-331-0010-000-6	1.73 AC.		
PCN 2417-331-0001-000-0	0.63 AC.		
FEMA FLOOD ZONE "X"			
ZONING	GENERAL COMMERCIAL		
FUTURE LAND USE	GENERAL COMMERCIAL		
MAX. BUILDING HEIGHT	50 FT.		
BUILDING HEIGHT PROVIDED	24 FT.		
BUILDING COVERAGE/ TOTAL BUILDING AREA	0.22 AC. (9,600 S.F.)		
BUILDING SETBACK REQUIREMENTS	REQUIRED	PROVIDED	
FRONT	25 FT.	181.9 FT.	
BACK	20 FT.	121.2 FT.	
SIDE	10 FT.	36.5 FT.	
SITE AREA STATISTICS (PROPOSED)			
IMPERVIOUS			
BUILDING	9,600 S.F.	0.22 AC.	9.3%
PAVEMENT	51,273 S.F.	1.18 AC.	49.9%
TOTAL	60,873 S.F.	1.40 AC.	59.2%
PERVIOUS			
DETENTION POND BOTTOM	2,296 S.F.	0.05 AC.	2.3%
DETENTION POND SLOPES	10,932 S.F.	0.25 AC.	10.6%
LANDSCAPE AREA	28,701 S.F.	0.66 AC.	27.9%
TOTAL	41,929 S.F.	0.96 AC.	40.8%
TOTAL SITE AREA	102,802 S.F.	2.36 AC.	100.0%
SITE DATA:			
OFFICE SPACE GFA	600 S.F.		
LIGHT INDUSTRIAL GFA	9,000 S.F.		
PARKING REQUIRED:			
OFFICE SPACE	1 SPACE PER 300 S.F. OF GFA		
WAREHOUSE	1 SPACE PER 600 S.F OF GFA		
TOTAL OFFICE SPACE	600 S.F.		
PARKING REQUIRED FOR OFFICE SPACE	600 S.F.x1 SPACE/300 S.F.=2 SPACES		
TOTAL WAREHOUSE SPACE	9,000 S.F.		
PARKING REQUIRED FOR WAREHOUSE SPACE	9,000 S.F.x1 SPACE/600 S.F.=15 SPACES		
NUMBER OF SPACES PROVIDED	18 SPACES		
PARKING SPACES PROVIDED			
STANDARD	17 SPACES		
HANDICAP	1 SPACE (REQUIRED 1 SPACE)		
TOTAL NUMBER OF SPACES PROVIDED	18 SPACES		

LEGEND

- PROP. ASPHALT
- PROP. CONCRETE
- EXIST. CONCRETE
- PROP. TOP OF BANK
- PROP. TOE OF SLOPE
- PROP. EDGE OF PAVEMENT
- PROP. BOUNDARY
- PROP. EASEMENT
- EXIST. CENTERLINE

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

SITE PLAN

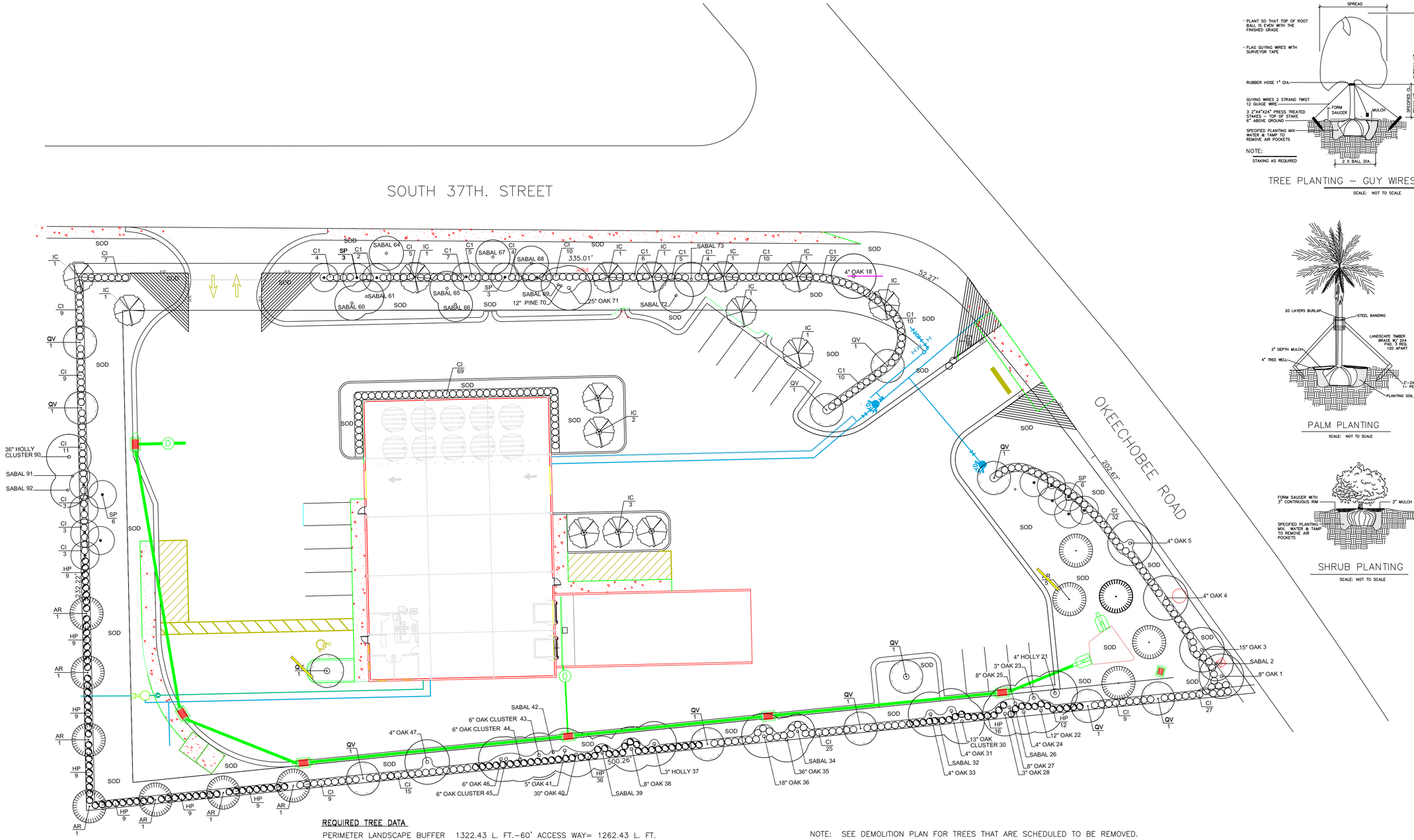
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

S-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Site Plan.dwg Layout Name: S-1 Plotted By: Jarrod Date: 10/27/2025 - 10:23 AM Giangrande Engineering & Planning



TREE PLANTING – GUY WIRES

SCALE: NOT TO SCALE

PALM PLANTING

SCALE: NOT TO SCALE

SHRUB PLANTING

SCALE: NOT TO SCALE

REQUIRED TREE DATA

PERIMETER LANDSCAPE BUFFER 1322.43 L. FT.–60' ACCESS WAY= 1262.43 L. FT.
DIVIDED BY 30 L. FT. – 42.08 TREES = 43 TREES REQUIRED

PERIMETER TREES

PROPOSED		EXISTING		TOTAL			
RED MAPLE	12	RED MAPLE	0	RED MAPLE			12
DAHOON HOLLY	14	DAHOON HOLLY	0	DAHOON HOLLY			14
SABAL PALMS	18	SABAL PALMS	14	SABAL PALMS	18	+ 14 =	32
LIVE OAKS	10	LIVE OAKS	23	LIVE OAKS	23	+ 12 =	35
				TOTAL PERIMETER TREES			93

NOTE:
1. LANDSCAPED AREAS SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM OF SUFFICIENT CAPACITY TO MAINTAIN THE LANDSCAPING IN A HEALTHY GROWING CONDITION. THE IRRIGATION SYSTEM SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN SUCH A MANNER AS NOT TO BE A PROBLEM OR NUISANCE TO ADJACENT PROPERTIES AND T0 THE GENERAL PUBLIC.
2. DESIGN PLANS FOR THE IRRIGATION SYSTEN MUST BE SUBMITTED WITH THE REQUIRED LANDSCAPE PLAN FOR THE REVIEW AND APPROVAL BY THE DEVELOPMENT DEPARTMENT.
3. THE IRRIGATION SYSTEM MUST INCLUDE A RAIN SWITCH TO MONITOR RAIN LEVELS AND IRRIGATION NEEDS.

NOTE: SEE DEMOLITION PLAN FOR TREES THAT ARE SCHEDULED TO BE REMOVED.

PLANT MATERIAL LIST

TREES & PALMS (* indicates native tree)

	Code Name	Quantity	Scientific Name	Common Name	Planting Size
*	AR	12	ACER RUBRUM	'FLORIDA FLAME' RED MAPLE	12' X 5', 4' CT 2 1/2"DBH
*	IC	14	ILEX CASSINE	DAHOON HOLLY	12' X 5', 4' CT 2 1/2"DBH
*	SP	18	SABAL PALMETTO	CABBAGE PALM	10'–15' OF CLEAR TRUMK
*	QV	11	QUERCUS VIRGINIANA	LIVE OAK	12' X 6', 4' CT 2 1/2"DBH

SHRUBS & GROUNDCOVERS (* indicates native shrub or ground cover)

	Code Name	Quantity	Scientific Name	Common Name	Planting Size
*	CI	337	CHRYSOBALANUS ICACO	COCCOPLUM	30" X 30" #3, 3' OC
*	HP	190	HAMELIA PATENS	FIREBUSH	30" X 28" #3, 3' OC

OTHER MATERIALS

MULCH	390	CU. YDS. ENVIRO MULCH (EST.)
SOD	26,700	SQ. FT. BAHIA SOD (EST.)

DATE: 6/16/25
REV. 9/24/25
REV. 10/20/25

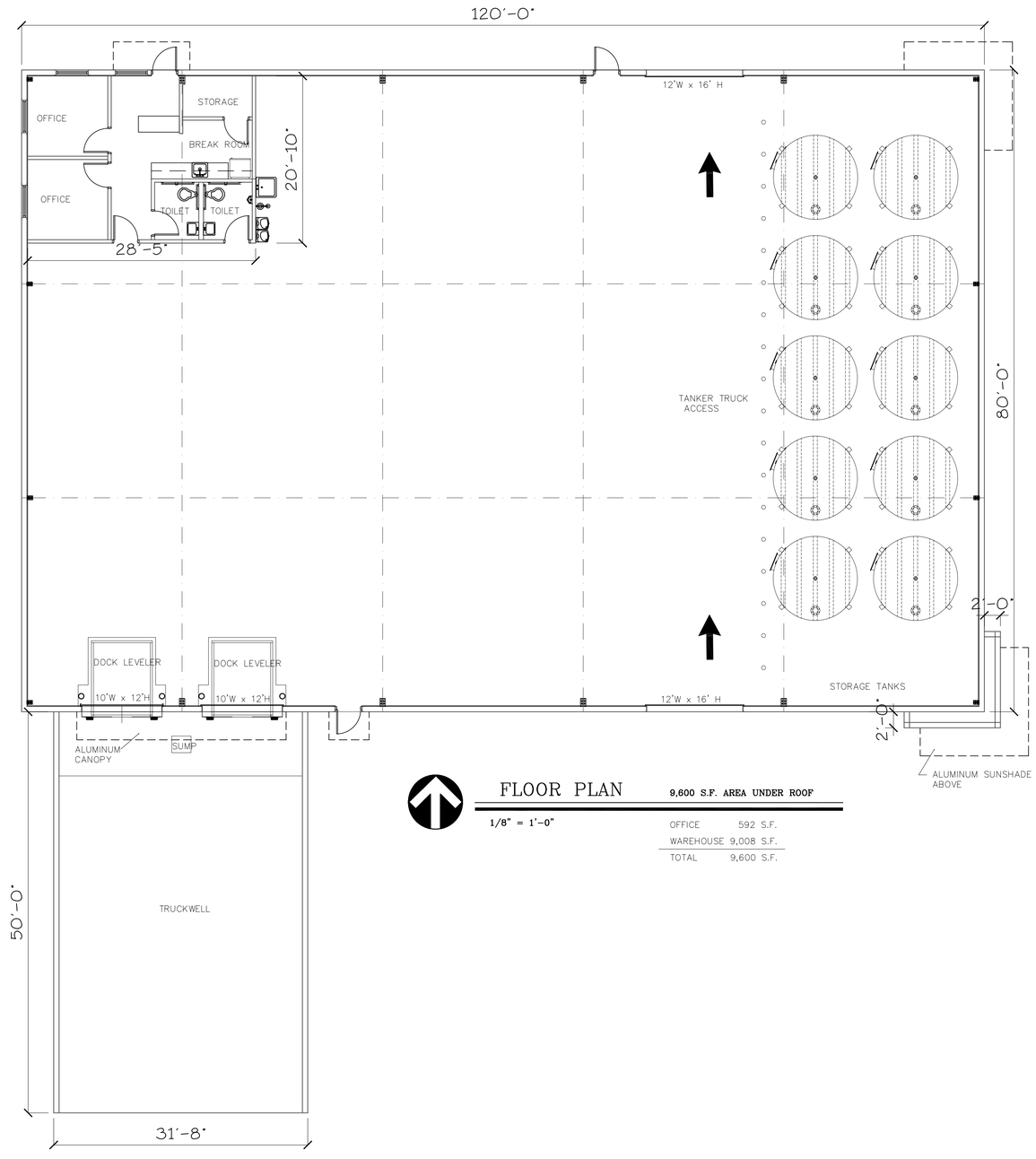
DANIEL J. SUGG
LANDSCAPE ARCHITECT / SITE PLANNER
POST OFFICE BOX 335, JENSEN BEACH, FL 34958
PHONE: (772) 485-1776 danlandarch@gmail.com
MARTIN COUNTY BUSINESS LICENSE # 2013-101-0738

LANDSCAPE PLAN

3700 OKEECHOBEE ROAD
FORT PIERCE, FLORIDA

SCALE: 1" = 20'

SHEET
L – 1
OF ONE



FLOOR PLAN

9,600 S.F. AREA UNDER ROOF

1/8" = 1'-0"

OFFICE	592 S.F.
WAREHOUSE	9,008 S.F.
TOTAL	9,600 S.F.

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

GCP ARCHITECTURE L.L.C.

SEAL

COPYRIGHT 2025/ GCP ARCHITECTURE L.L.C./ ALL RIGHTS RESERVED / UNAUTHORIZED REPRODUCTION OR MODIFICATION OF THESE PLANS OR DRAWINGS IS STRICTLY PROHIBITED

TROIL SOUTH LLC

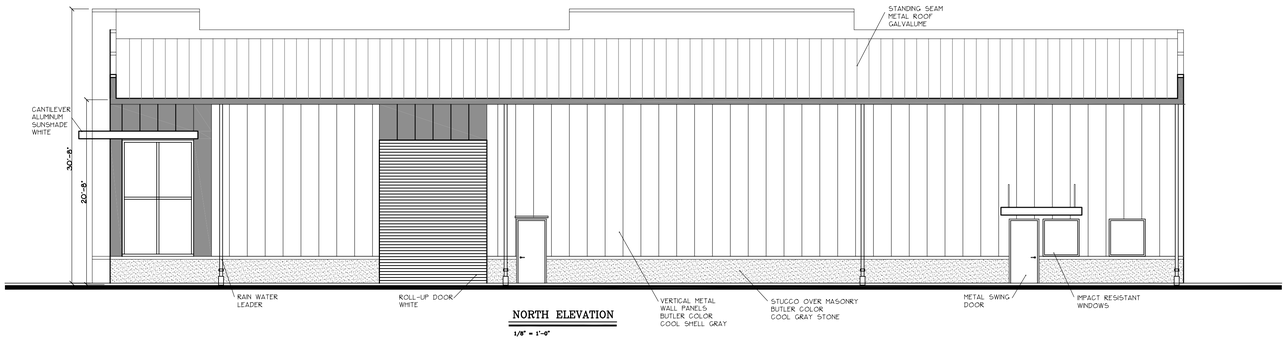
3700 OKEECHOBEE ROAD, FORT PIERCE, FLORIDA

FLOOR PLAN

DATE: 8/12/125
DRAWN BY: G.P.
PROJ. NO. 2505
REVISED:

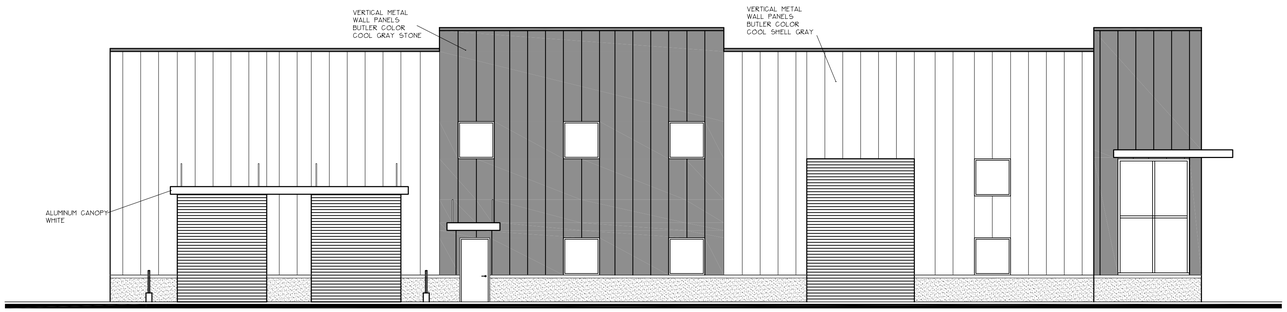
SHEET:

A-1



NORTH ELEVATION

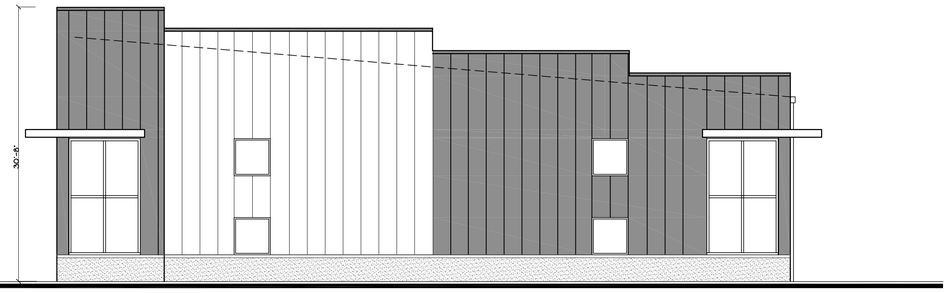
1/8" = 1'-0"



SOUTH ELEVATION

1/8" = 1'-0"

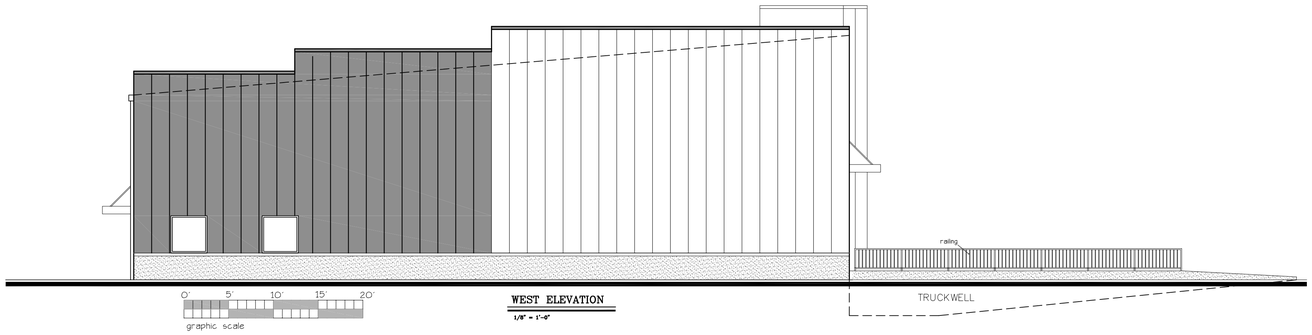
OKEECHOBEE ROAD ELEVATION



37th STREET ELEVATION

EAST ELEVATION

1/8" = 1'-0"



WEST ELEVATION

1/8" = 1'-0"

601 HERITAGE DRIVE, SUITE 410
JUPITER, FLORIDA 33458
(561) 331-5036
CERTIFICATE OF AUTHORIZATION #AA26003279
GUY C. PELLETIER #7000
GCParchitecture@AOL.COM

GCP
ARCHITECTURE L.L.C.

SEAL

TROIL SOUTH LLC

3700 OKEECHOBEE ROAD, FORT PIERCE, FLORIDA

ELEVATIONS

COPYRIGHT 2025/ GCP ARCHITECTURE L.L.C./ ALL RIGHTS RESERVED / UNAUTHORIZED REPRODUCTION OR MODIFICATION OF THESE PLANS OR DRAWINGS IS STRICTLY PROHIBITED

DATE: 8/12/25
DRAWN BY: G.P.
PROJ. NO. 2505
REVISED:

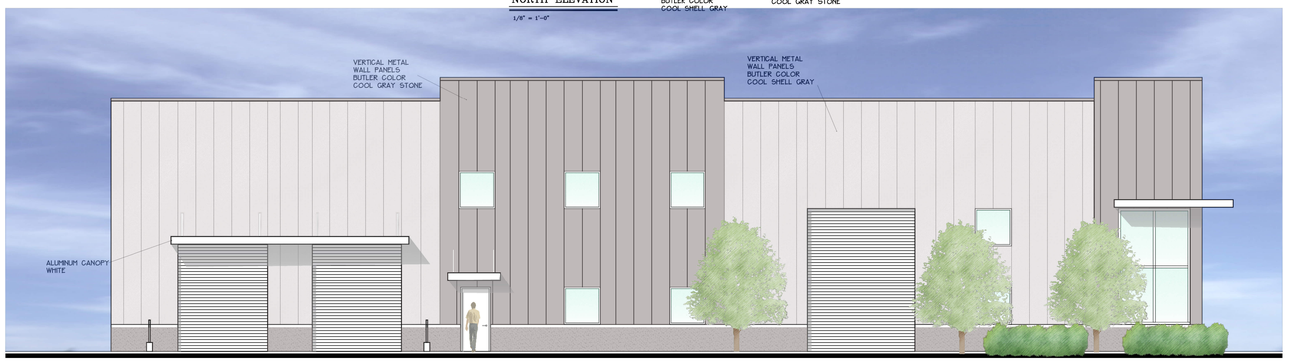
SHEET:

A-2



NORTH ELEVATION

1/8" = 1'-0"



SOUTH ELEVATION

1/8" = 1'-0"

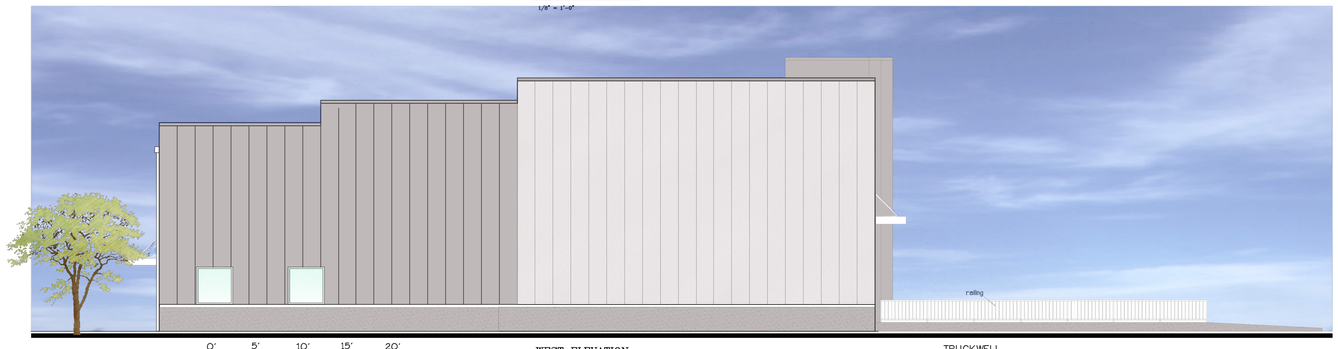
OKEECHOBEE ROAD ELEVATION



37th STREET ELEVATION

EAST ELEVATION

1/8" = 1'-0"



0' 5' 10' 15' 20'

graphic scale

WEST ELEVATION

1/8" = 1'-0"

TRUCKWELL

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

GCP
ARCHITECTURE L.L.C.

SEAL

COPYRIGHT 2025/ GCP ARCHITECTURE L.L.C./ ALL RIGHTS RESERVED / UNAUTHORIZED REPRODUCTION OR MODIFICATION OF THESE PLANS OR DRAWINGS IS STRICTLY PROHIBITED

TROIL SOUTH LLC

3700 OKEECHOBEE ROAD, FORT PIERCE, FLORIDA

ELEVATIONS

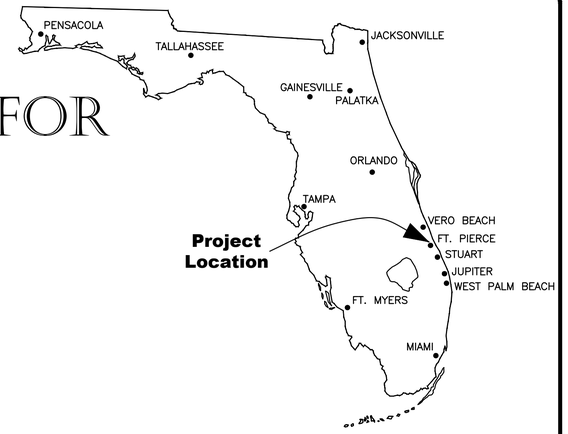
DATE: 8/12/25
DRAWN BY: G.P.
PROJ. NO. 2505
REVISED:

SHEET:

A-2

CONSTRUCTION PLANS & SPECIFICATIONS FOR 3700 OKEECHOBEE ROAD, FORT PIERCE ST. LUCIE COUNTY, FLORIDA

SECTIONS 17, TOWNSHIP 35S, RANGE 40E



THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS, FY 2025–26.

GOVERNING SPECIFICATIONS:
FDOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, FY 2025–26.

THE FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, FY 2025–26.

THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS (GREENBOOK), 2023.

THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.), 11TH EDITION, DECEMBER 2023.

AND THE CITY OF FORT PIERCE LAND DEVELOPMENT REGULATIONS, LATEST EDITION AND FORT PIERCE UTILITY AUTHORITY (FPUA).

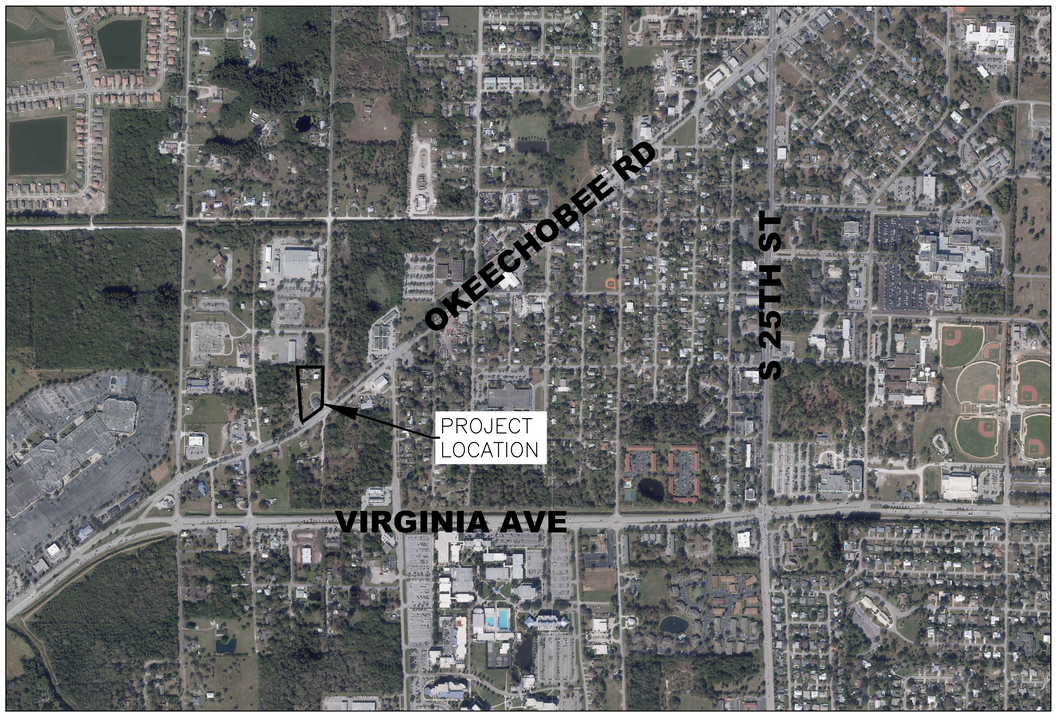
DESIGN TEAM:

CIVIL ENGINEER
GIANGRANDE ENGINEERING & PLANNING
710 SE OCEAN BLVD
STUART, FL 34996
(772) 888–9076

LAND SURVEYOR
COMPASS SURVEYING
6250 N. MILITARY TRAIL
WEST PALM BEACH, FL 33407
(561) 640–4800

LANDSCAPE ARCHITECT
DAN SUGG RLA
SUGG DESIGN STUDIO
POST OFFICE BOX 335
JENSEN BEACH, FL 34958
(772) 485–1776

LIGHTING
GENESIS LIGHTING
14101 NW 8TH ST
SUNRISE, FL 33325
(954) 306–3931



VICINITY MAP
SCALE=1:1000

Sheet List Table	
Sheet Number	Sheet Title
G–1	COVER SHEET
G–2	GENERAL NOTES
EX–1	EXISTING CONDITIONS & DEMO PLAN
S–1	SITE PLAN
ST–1	STRIPING PLAN
P–1	PAVING, GRADING, & DRAINAGE PLAN
W–1	WATER & WASTEWATER PLAN
W–2	WATER & WASTEWATER PLAN
EC–1	EROSION CONTROL PLAN
C–1	CROSS SECTIONS
D–1	DETAILS
D–2	DETAILS
D–3	DETAILS
D–4	DETAILS
D–5	DETAILS
D–6	ADS DETAILS
D–7	ADS DETAILS
D–8	ADS DETAILS
D–9	ADS DETAILS
D–10	ADS DETAILS
D–11	ADS DETAILS

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

JUNE 2025

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD
STUART, FLORIDA 34994
PH. (772) 888-9076
Cert. No. 30901

LEO D. GIANGRANDE, P.E.
License No: 66387

SHEET G-1

SUPPLEMENTAL CONDITIONS

SCOPE OF WORK: THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, SUPERVISION, TRANSPORTATION AND INCIDENTALS NECESSARY TO CONSTRUCT THE PAVING, DRAINAGE, UTILITIES AND ASSOCIATED IMPROVEMENTS, IN ACCORDANCE WITH THE PROVISIONS OF THESE SUPPLEMENTAL CONDITIONS, SPECIFICATIONS AND THE DRAWINGS, ENTITILED, "CONSTRUCTION PLANS & SPECIFICATIONS FOR "3700 OKEECHOBEE RD", PREPARED BY GIANGRANDE ENGINEERING AND PLANNING, LLC, 710 SE OCEAN BLVD., STUART, FLORIDA 34994, (772) 888-9076. IT IS THE OBJECTIVE OF THESE DOCUMENTS TO ASSURE THE TOTAL COMPLETION OF THE WORK REQUIRED TO PROVIDE PAVING, GRADING, AND DRAINAGE IMPROVEMENTS FOR THE "3700 OKEECHOBEE RD."

PERMITS AND LICENSES: CONSTRUCTION PERMITS FOR CERTAIN ELEMENTS OF THE PROJECT WORK ARE REQUIRED, AND THE DESIGN AND CONSTRUCTION REQUIREMENTS OF THE PROJECT REFLECT CONSTRAINTS AND CONDITIONS IMPOSED BY THESE PERMITS. THESE INCLUDE CONSTRUCTION PERMITS FROM THE SAINT LUCIE COUNTY, AND FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

THE CONTRACTOR SHALL PERFORM HIS WORK AND SHALL CONSTRUCT THE PROJECT IN ACCORDANCE WITH THE REQUIREMENTS OF THESE "DESIGN" PERMITS AND APPROVALS, COPIES OF WHICH ARE AVAILABLE FOR REVIEW AND USE FROM THE ENGINEER, UPON REQUEST. THE CONTRACTOR SHALL SECURE ALL WORK PERMITS, APPROVALS AND LICENSES REQUIRED TO PERFORM THE WORK, AND HE SHALL PERFORM THE WORK IN STRICT ACCORDANCE WITH THOSE PERMITS, APPROVALS AND LICENSES.

REFERENCE TO OTHER DOCUMENTS: FOR BREVITY, REFERENCE MAY BE MADE TO OTHER SPECIFICATIONS OR DOCUMENTS WHICH WILL BE USED TO SPECIFY OR CONTROL THE MATERIALS PLACED IN THE WORK, THE CONSTRUCTION METHODS TO BE USED, THE TOLERANCES THAT WILL BE ACCEPTABLE, AND CONTRACTUAL OR LEGAL OBLIGATIONS. THE SPECIFICATIONS OR DOCUMENTS SHALL INCLUDE:

1. "STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT." THE LATEST EDITION, PREPARED BY THE ENGINEER'S JOINT CONTRACT DOCUMENTS COMMITTEE AND PUBLISHED BY THE NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS. REFERENCE SHALL BE MADE: "GENERAL CONDITIONS."
2. "FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2023-2024," PUBLISHED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION. REFERENCE SHALL BE MADE: "FDOT SPECIFICATIONS."
3. "STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, 2023-2024" PUBLISHED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION. REFERENCE SHALL BE MADE "FDOT INDEX" OR "FDOT STANDARDS."
4. "AMERICAN SOCIETY FOR TESTING AND MATERIALS SPECIFICATIONS", LATEST EDITION REFERENCE SHALL BE MADE: "ASTM."
5. "ST LUCIE COUNTY MINIMUM CONSTRUCTION STANDARDS", LATEST EDITION. REFERENCE SHALL BE MADE AS "COUNTY CODE" OR "COUNTY STANDARDS" OR "COUNTY SPECIFICATIONS."
6. "FORT PIERCE UTILITY AUTHORITY DESIGN AND CONSTRUCTION STANDARDS FOR WATER AND WASTEWATER SYSTEMS", LATEST EDITION. REFERENCE SHALL BE MADE AS "FPUA CODE" OR "FPUA STANDARDS" OR "FPUA SPECIFICATIONS".

BY REFERENCE, THE DOCUMENTS CITED ABOVE ARE MADE PART OF THESE SUPPLEMENTAL CONDITIONS AND SPECIFICATIONS. THE CONTRACTOR SHALL HAVE COPIES OF EACH IN HIS POSSESSION FOR USE THROUGHOUT THE BIDDING AND CONSTRUCTION OF THIS PROJECT WORK AND/OR BE FAMILIAR WITH THE APPLICABLE SECTIONS OF EACH DOCUMENT AND BE ABLE TO VERITY THAT ALL MATERIALS AND CONSTRUCTION METHODS ARE CONFORMANCE WITH THESE DOCUMENTS AND SPECIFICATIONS.

ADDITIONALLY, THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL OTHER APPLICABLE LOCAL, REGIONAL, STATE AND FEDERAL LAWS, REGULATIONS ANO CODES, ESPECIALLY OSHA STANDARD 29 CFR, SECTION 1926.650 SUBPART P, WHICH IS PART OF THE TRENCH SAFETY ACT AS PART OF LAWS OF FLORIDA, CHAPTER 90-96.

CONTRACT ISSUES

GENERAL CONDITIONS: UNLESS OTHERWISE STATED IN THESE SUPPLEMENTAL CONDITIONS, THE PROVISIONS OF THE "STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT," REFERENCED ABOVE, SHALL BE USED TO GOVERN ALL ISSUES ADDRESSED IN THOSE GENERAL CONDITIONS FOR THIS PROJECT.

OWNER-ENGINEER RELATIONSHIP: ANY AGREEMENT BETWEEN OWNER AND ENGINEER SHALL NOT BE CONSTRUED TO PROVIDE ANY OBLIGATION FROM THE ENGINEER TO ANY THIRD PARTIES INCLUDING, BUT NOT LIMITED TO, ARCHITECTS, OTHER ENGINEERS, ANY CONTRACTORS (GENERAL OR SUB), NOR TO ANY SUCCESSORS TO THE OWNER. THE RIGHTS UNDER ANY AGREEMENT BETWEEN OWNER AND ENGINEER INURE ONLY TO THOSE TWO PARTIES.

ERRORS OR OMISSIONS IN THE DRAWINGS OR SPECIFICATIONS: PRIOR TO INITIATION OF THE WORK, THE CONTRACTOR SHALL CHECK DIMENSIONS, GRADES, ELEVATIONS AND THE SUMMARY OF ESTIMATED QUANTITIES SHOWN ON THE DRAWINGS TO ASSURE HIMSELF THAT THEY ARE CORRECT AND THAT THE WORK CAN BE ACCOMPLISHED AS INTENDED. THE CONTRACTOR SHALL TAKE NO ADVANTAGE OF ANY APPARENT ERROR OR OMISSION WHICH HE MIGHT DISCOVER, BUT SHALL IMMEDIATELY NOTIFY THE ENGINEER OF SUCH DISCOVERY, WHO WILL THEN MAKE SUCH CORRECTIONS AND INTERPRETATIONS AS HE DEEMS NECESSARY FOR REFLECTING THE ACTUAL SPIRIT AND INTENT OF THE DRAWINGS AND SPECIFICATIONS.

BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION WAS PROVIDED BY COMPASS SURVEYING, (561) 640-4800.

HORIZONTAL AND VERTICAL CONTROL: THE CONTRACTOR SHALL CONSTRUCT THE REQUIRED IMPROVEMENTS IN THE LOCATIONS SHOWN ON THE DRAWINGS, AND SHALL USE AS HORIZONTAL CONTROL POINTS THE EXISTING PROPERTY CORNERS AS SHOWN ON THE PLAN SHEET. THE HORIZONTAL CONTROL POINTS WERE PROVIDED BY COMPASS SURVEYING, (561) 640-4800. AS VERTICAL CONTROL, BENCHMARKS SHALL BE PROVIDED AT THE SITE, FOR USE IN ESTABLISHING THE NECESSARY ELEVATIONS AND GRADES AT THE LOCATIONS SHOWN ON THE PLANS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL CONTROL POINTS AND TO RE-ESTABLISH SAID POINTS AS NECESSARY. REMAINING HORIZONTAL AND VERTICAL CONTROL WORK SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS AND DETAILS.

WRITTEN DIMENSIONS ARE PROVIDED FOR CLARITY. WHERE WRITTEN AND SCALED DIMENSIONS CONFLICT, WRITTEN DIMENSIONS SHALL GOVERN.

COORDINATION OF WORK WITH OTHERS: THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OR IMPROVEMENTS OF OTHERS WITH REGARD TO NEW CONSTRUCTION, OR FOR THE NEED OF REMOVAL, RELOCATION OR ALTERATION OF EXISTING IRRIGATION AND DRAINAGE FACILITIES. THIS INCLUDES, BUT IS NOT LIMITED TO, THE OWNER, HIS CONTRACTORS, SUBCONTRACTORS OR AGENTS.

THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PUBLIC AGENCIES PRIOR TO COMMENCING THE WORK WITHIN THEIR JURISDICTION.

SHOP DRAWINGS: ONE DIGITAL COPY OF SIGNED SHOP DRAWINGS AND SIGNED AND SEALED DESIGN DATA SHALL BE SUBMITTED PRIOR TO ORDERING MATERIALS. ALLOW 10 WORK DAYS TURNAROUND FOR SUBMITTALS.

STANDARDS FOR QUALITY AND WORKMANSHIP: ALL MATERIALS, EQUIPMENT AND SUPPLIES FURNISHED BY THE CONTRACTOR FOR PERMANENT INCORPORATION IN THE WORK SHALL BE NEW AND OF THE QUALITY STANDARDS SPECIFIED. WORKMANSHIP SHALL BE FIRST-CLASS AND THE FINISHED PRODUCT EQUAL TO THE BEST ACCEPTED STANDARDS OF THE TRADE FOR THE CATEGORY OF WORK PERFORMED.

TEMPORARY UTILITIES: ALL ARRANGEMENTS AND COSTS FOR TEMPORARY POWER, WATER AND WASTEWATER FACILITIES DURING CONSTRUCTION SHALL BE RESPONSIBILITY OF THE CONTRACTOR.

OBSERVING THE WORK: THE PROGRESS AND QUALITY OF THE WORK WILL BE OBSERVED BY THE OWNER'S ENGINEER OR ENGINEER'S APPOINTED EMPLOYEE. NO OBSERVER IS AUTHORIZED TO CHANGE ANY PROVISIONS OF THE SPECIFICATIONS WITHOUT WRITTEN AUTHORIZATION OF THE OWNER'S ENGINEER, NOR SHALL THE PRESENCE NOR THE ABSENCE OF AN OBSERVER RELIEVE THE CONTRACTOR FROM ANY REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.

THE CONTRACTOR SHALL GIVE THE ENGINEER A MINIMUM OF 48 HOURS NOTICE PRIOR TO REQUIRED INSPECTIONS, AND SHALL SUPPLY ALL EQUIPMENT NECESSARY TO PROPERLY TEST AND INSPECT THE COMPLETED WORK.

IN ADDITION TO THE REQUIREMENTS PREVIOUSLY REFERENCED, THE FOLLOWING MINIMUM CONSTRUCTION CONTROL CHECKPOINTS SHALL BE ADHERED TO, AND THE CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE FOR OBSERVATION:

1. PRIOR TO ANY DEVIATION FROM THE DRAWINGS;
2. PRIOR TO ANY BACKFILLING TRENCHES CONTAINING HYDRAULIC CONDUITS, SO THAT JOINTING MAY BE INSPECTED;
3. PRIOR TO TESTING OF ALL HYDRAULIC CONDUITS.
4. PRIOR TO PLACEMENT OF ROADWAY BASE MATERIAL, CONCRETE OR ASPHALTIC CONCRETE.
5. UPON COMPLETION OF CONSTRUCTION FOR FINAL INSPECTION WITH THE CONTRACTOR OR HIS REPRESENTATIVE.

TESTING: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE INDEPENDENT TESTING LABORATORY DESIGNATED BY THE OWNER, THE TESTING AND RETESTING NECESSARY TO ASSURE THAT THE WORK HAS BEEN PERFORMED IN STRICT COMPLIANCE WITH THE SPECIFICATIONS. COST FOR THE INITIAL TESTING SHALL BE BORNE BY THE OWNER. ANY RETESTS REQUIRED DUE TO FAILURE TO MEET THE MINIMUM REQUIREMENTS SHALL BE PERFORMED AT THE EXPENSE OF THE CONTRACTOR. THE NAME OF OWNER'S TESTING LABORATORY SHALL BE SUPPLIED AT THE PRECONSTRUCTION MEETING.

EXISTING UTILITIES AND STRUCTURES: EXISTING UTILITIES, STRUCTURES AND FACILITIES SHOWN ON THE DRAWINGS WERE LOCATED AS ACCURATELY AS POSSIBLE FROM THE RECORDS EXAMINED. NO GUARANTEE IS MADE THAT ALL EXISTING FACILITIES ARE SHOWN OR THAT THOSE SHOWN ARE ENTIRELY ACCURATE. THE CONTRACTOR SHALL ASSURE HIMSELF OF THE ACTUAL LOCATION OF THE UTILITIES, STRUCTURES OR FACILITIES PRIOR TO PERFORMANCE OF ANY WORK IN THE VICINITY. THE UTILITY COMPANIES OR UTILITY AGENCIES WILL CO-OPERATE WITH THE CONTRACTOR IN LOCATING UNDERGROUND UTILITIES THAT MAY BE SUBJECT TO DAMAGE OR INTERRUPTION OF SERVICES DURING THE CONTRACTOR'S OPERATIONS. PRIOR TO START OF THE WORK, THE CONTRACTOR SHALL REQUEST THAT EACH UTILITY AGENCY ADVISE HIM OF THE LOCATION OF THEIR FACILITIES IN THE VICINITY. THE OWNER WILL ASSUME NO LIABILITY FOR DAMAGES SUSTAINED OR COSTS INCURRED BECAUSE OF THE CONTRACTOR'S OPERATION IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, OR TO THE TEMPORARY BRACING AND SHORING OF SAME. IN THE EVENT THAT IT IS NECESSARY TO SHORE, BRACE OR SWING A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED AND THEIR PERMISSION SECURED AS TO THE METHOD USED FOR ANY SUCH WORK.

THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES AND UNDERGROUND UTILITIES.

THE CONTRACTOR SHALL NOTIFY UTILITY OWNER THROUGH SUNSHINE STATE ONE CALL OF FLORIDA (800-432-4770) AND UTILITY OWNERS LISTED BELOW AT LEAST TWO BUSINESS DAYS (OR 10 DAYS IF ON THE JOB SITE).

RESTORATION OF DAMAGED STRUCTURES OR UTILITIES: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, REBUILD OR RESTORE TO ITS FORMER CONDITION, ANY AND ALL PORTIONS OF EXISTING UTILITIES, STRUCTURES, EQUIPMENT, APPURTENANCES OR FACILITIES. OTHER THAN THOSE TO BE PAID FOR UNDER THIS CONTRACT, WHICH MAY BE DISTURBED OR DAMAGED DUE TO THIS CONSTRUCTION OPERATION, AT NO COST TO THE OWNER.

FINAL CLEANUP: UPON COMPLETION OF THE WORK BUT BEFORE FINAL PAYMENT WILL BE MADE, THE CONTRACTOR SHALL CLEAR AND REMOVE FROM THE PROJECT AREA, ALL FALSE WORK, EQUIPMENT, SURPLUS AND DISCARDED MATERIALS, RUBBISH AND TEMPORARY STRUCTURES WHICH RESULT FROM THE WORK UNDER THIS AGREEMENT, AND SHALL RESTORE IN AN ACCEPTABLE MANNER ALL PROPERTY WHICH HAS BEEN DAMAGED DURING THE EXECUTION OF THE WORK.

TECHNICAL SPECIFICATIONS

MATERIALS, CONSTRUCTION METHODS, TESTING AND TOLERANCES FOR ALL WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS, AND WITH THE SPECIFICATIONS REFERENCED UNDER THE "SUPPLEMENTAL CONDITIONS." IN THE EVENT OF CONFLICT, THE MORE STRINGENT PROVISION SHALL APPLY.

1. MOBILIZATION/DEMOBILIZATION: THE WORK SPECIFIED IN THIS SECTION CONSISTS OF THE PREPARATORY WORK AND OPERATIONS IN MOBILIZING FOR BEGINNING WORK ON THE PROJECT, INCLUDING, BUT NOT LIMITED TO, THOSE OPERATIONS NECESSARY FOR THE MOVEMENT OF PERSONNEL, EQUIPMENT, SUPPLIES, AND INCIDENTALS TO THE PROJECT SITE, AND FOR THE ESTABLISHMENT OF TEMPORARY OFFICES, BUILDINGS, SAFETY EQUIPMENT AND FIRST AID SUPPLIES, SANITARY AND OTHER FACILITIES, AS REQUIRED BY THESE SPECIFICATIONS, THE SPECIAL PROVISIONS, AND STATE AND LOCAL LAWS AND REGULATIONS. ALL COSTS FOR BONDS, PERMITS AND ANY REQUIRED INSURANCE, AND ANY OTHER PRECONSTRUCTION EXPENSE NECESSARY FOR THE START OF THE WORK, AS WELL THE COST OF THE REMOVAL OF THE ABOVE ITEMS, SHALL ALSO BE INCLUDED IN THIS SECTION.

2. CONSTRUCTION SURVEYING: THE CONTRACTOR SHALL CONSTRUCT THE REQUIRED IMPROVEMENTS AT THE LOCATIONS SHOWN ON THE PLANS. AS OUTLINED IN THE "SUPPLEMENTAL CONDITIONS," THE OWNER SHALL PROVIDE BASIC REFERENCE POINTS FOR HORIZONTAL CONTROL AND BENCHMARKS IN THE VICINITY OF THE WORK. ALL OTHER CONSTRUCTION STAKING FOR BOTH HORIZONTAL AND VERTICAL CONTROL NEEDED BY THE CONTRACTOR FOR CONTROL OF HIS WORK SHALL BE PERFORMED BY THE CONTRACTOR.

3. DRAINAGE IMPROVEMENTS; THE CONTRACTOR SHALL PROVIDE ALL THE MATERIALS AND LABOR NECESSARY TO COMPLETE THE PROJECT WORK FOR THE DRAINAGE IMPROVEMENTS AT THE LOCATION, SIZE AND TYPE SHOWN ON THE PLANS FOR THE FOLLOWING ITEMS IN ACCORDANCE WITH FDOT SPECIFICATIONS. INCLUDED IN THE UNIT COSTS FOR EACH ITEM SHALL BE THE COSTS ASSOCIATED WITH THE DESIGN AND CONSTRUCTION, BY THE CONTRACTOR, TO COMPLY WITH THE TRENCH SAFETY ACT, LAWS OF FLORIDA, CHAPTER 90-96.

   BACKFILL AND COMPACTION OF TRENCHING FOR CULVERT INSTALLATION UNDER THIS SECTION SHALL BE IN ACCORDANCE WITH SECTION 125-8.3, FDOT SPECIFICATIONS. DENSITY TESTS SHALL BE PROVIDED AT THE FOLLOWING VERTICAL LOCATIONS:

   - TWO TESTS* AT SPRINGLINE (ONE EACH SIDE OF THE PIPE);
   - ONE TEST* AT ONE-FOOT ABOVE PIPE; AND
   - ONE TEST* AT ONE-FOOT BELOW SUBGRADE OR FINISH GRADE.
   - *DENSITY OF AT LEAST 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T -99, METHOD C.

   THE MINIMUM NUMBER OF HORIZONTAL TEST LOCATIONS IS TWO PER CULVERT INSTALLATION, ONE PER 100 LINEAL FEET OF PIPE AND/OR ONE PER 20 FEET OF PAVEMENT CROSSING WHICHEVER IS GREATER. ADDITIONAL TESTS MAY BE REQUIRED AT MORE FREQUENT INTERVALS IF DEEMED NECESSARY BY THE ENGINEER.

   A. CULVERTS: CONSTRUCTION METHODS FOR DRAINAGE CULVERTS SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS 125 AND 430, FDOT SPECIFICATIONS. PIPE MATERIAL AS SPECIFIED ON THE PLANS.

   B. DRAINAGE STRUCTURES: PRE-CAST CONCRETE CATCH BASINS SHALL MEET THE REQUIREMENTS OF ASTM SPECIFICATIONS C-478 AND FOOT STANDARD SPECIFICATION 425. CONCRETE FOR PRE-CAST BASINS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SHOP DRAWINGS ARE REQUIRED.

6. FENCING AND GATES: THE CONTRACTOR SHALL FURNISH AND CONSTRUCT CHAIN-LINK FENCE AND GATES IN ACCORDANCE WITH FPL CHAIN LINK FENCE SPECIFICATIONS AND DETAILS. MATERIALS AND LOCATION OF FENCE ARE INDICATED ON THE PLANS.

7. EROSION AND POLLUTION CONTROL: THE CONTRACTOR SHALL TAKE SUFFICIENT PRECAUTIONS TO PREVENT WATER POLLUTION WITH AQUATIC WEEDS, FUELS, OILS, BITUMINOUS, CALCIUM CHLORIDE OR OTHER HARMFUL MATERIALS. ALSO, THEY SHALL CONDUCT AND SCHEDULE HIS OPERATIONS SO AS TO AVOID POLLUTION OR SILTATION OF WATER BODIES OR TO INTERFERE WITH INDIGENOUS WILDLIFE. THE INSTALLATION OF TEMPORARY EROSION AND POLLUTION CONTROL FEATURES SHALL BE COORDINATED WITH THE CONSTRUCTION OF THE PERMANENT EROSION CONTROL FEATURES TO THE EXTENT NECESSARY TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS CONTROL OF EROSION AND WATER POLLUTION THROUGHOUT THE LIFE OF THE CONTRACT, ANY EROSION OR SHOALING SHALL BE CORRECTED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE. DUE TO UNANTICIPATED CONDITIONS, THE ENGINEER MAY DIRECT THE USE OF CONTROL FEATURES OR METHODS OTHER THAN THOSE INCLUDED IN THE ORIGINAL CONTRACT. IN SUCH EVENT THIS ADDITIONAL WORK WILL BE PAID FOR AS UNFORESEEABLE WORK.

   1) SEDIMENT BARRIERS SHALL BE PLACED PRIOR TO ANY WORK ON THE SITE. SEDIMENT BARRIERS SHALL BE PLACED AS DEPICTED AS SHOWN ON THE CONSTRUCTION PLANS.
   2) WETLAND AND WETLAND BUFFER AREAS ARE TO REMAIN UNDISTURBED. VEHICLE AND CONSTRUCTION EQUIPMENT TRAFFIC IS PROHIBITED WITHIN THESE AREAS.
   3) DAMAGED TURBIDITY CONTROLS SHALL BE REPAIRED PROMPTLY AND BEFORE ANY SUBSEQUENT RAINFALL.
   4) TURBIDITY CONTROLS SHALL REMAIN IN PLACE AND MAINTAINED AND REMOVED ONLY AFTER UPLAND CONSTRUCTION AREAS HAVE BEEN STABILIZED AS APPROVED BY THE ENGINEER OF RECORD
   5) CONTRACTOR SHALL COMPLY WITH NPDES AND EPA DISCHARGE ELIMINATION PERMIT, IN PARTICULAR SEDIMENT AND EROSION CONTROLS AND STORM WATER MANAGEMENT MEASURES SHALL BE STRICTLY FOLLOWED.
   6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF THE NPDES AND RELATED STORM WATER PLAN FOR THE DURATION OF THE PROJECT. UPON COMPLETION THE CONTRACTOR SHALL REMOVE ALL TEMPORARY STORM WATER MANAGEMENT MEASURES AND SHALL DISPOSE OF THEM AS REQUIRED.
   7) DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR AT LEAST 21 DAYS SHALL BE STABILIZED WITH SEED & MULCH NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY IN THOSE AREAS. THE SEEDING SHALL FOLLOWING TYPICAL CONSTRUCTION PRACTICES TO INSURE A YEAR ROUND STABILIZED AREA.
   8) CONTRACTOR SHALL COMPLY WITH SPILL PREVENTION, CONTROL AND COUNTER MEASURES (SPEC) REQUIREMENTS PURSUANT TO EPA RULES AND REGULATIONS.
   9) ALL CONSTRUCTION WASTE MATERIAL, INCLUDING BUT NOT LIMITED TO THE EXISTING BARB WIRE FENCING AND POSTS, SHALL BE COLLECTED AND STORED IN A SECURED METAL DUMPSTER RENTED / LEASED FROM A LOCAL WASTE MANAGEMENT COMPANY. THE DUMPSTER SHALL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURES FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES SHALL BE POSTED IN THE OFFICE TRAILER / CONSTRUCTION TRAILER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.
   10) ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS AT A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.
   11) TRUCKS / EQUIPMENT IMPORTING OR EXPORTING FILL SHALL COVER THEIR LOADS WITH A TARPAULIN TO AVOID UNNECESSARY GENERATION OF DUST.
   12) ALL HAZARDOUS WATER MATERIAL SHALL BE DISPOSED OF AS PER LOCAL / STATE REGULATIONS OR AS RECOMMENDED BY THE MANUFACTURER. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES AND THE CONTRACTOR IS RESPONSIBLE TO FOLLOW THESE PRACTICES.
   13) DRIVEWAY ACCESS SHALL BE CONSTRUCTED PER FDOT INDEX 106 TO MINIMIZE THE VEHICLES TRACKED SEDIMENTS TRANSPORTED OFFSITE.
   14) THE GENERAL CONTRACTOR'S SITE SUPERINTENDENT SHALL SELECT INDIVIDUALS, TYPICALLY THREE, WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES AND FILLING OUT OF INSPECTION REPORTS. PERSONNEL SELECTED SHALL RECEIVE PROPER TRAINING, AT THE CONTRACTORS EXPENSE, PRIOR TO SITE CONSTRUCTION COMMENCEMENT.
   15) ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE INSPECTED EVERY 7 DAYS OR WITHIN 24 HOURS OF A STORM OF 0.5 INCHES OR MORE IN RAINFALL. ALL CONTROLS MUST BE IN PROPER ORDER AS REQUIRED UNTIL SITE COMPLETION.
   16) SILT FENCE SHALL BE INSPECTED FOR TEARS, DEPTH OF SEDIMENT, AND TO INSURE THE FENCE IS SECURELY FASTENED TO THE POSTS AND ALSO THAT POSTS ARE FIRMLY IN PLACE. SEDIMENT SHALL BE REMOVED IF THE DEPTH OF SEDIMENT IS GREATER THAN ONE-THIRD THE HEIGHT OF THE SILT FENCE.
   17) THE INSPECTOR SHALL RECORD ANY DAMAGES OR DEFICIENCIES IN THE TURBIDITY CONTROLS IN THE REPORT FORM FOR THIS PURPOSE. A COPY OF ALL RECORDING AND REPORTS SHALL BE FORWARDED TO THE ENGINEER FOR REVIEW.

   GENERAL SEQUENCE OF MAJOR EROSION AND POLLUTION CONTROL EVENTS:
   1) INSTALL EROSION CONTROL AT LOCATIONS SHOWN ON THE CONSTRUCTION PLANS.
   2) COMMENCE SITE CONSTRUCTION ACTIVITIES.
   3) AS PROPOSED DRAINAGE IS CONSTRUCTED, INSTALL SILT FENCE AND/OR TURBIDITY CONTROL MEASURES AT EACH.
   4) INSTALL TEMPORARY SEED AND MULCH IN AREAS WHERE CONSTRUCTION TEMPORARILY CEASES FOR AT LEAST 21 DAYS, NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITIES IN THAT AREA.
   5) INSTALL PERMANENT SEED/MULCH OR APPROVED STABILIZATION METHOD AND/OR PLANTING IN AREAS WHERE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITIES.
   6) REMOVE ACCUMULATED SEDIMENT.
   7) REMOVED TEMPORARY POLLUTION PREVENTION MEASURES AFTER ALL CONSTRUCTION ON SITE HAS BEEN COMPLETED AND DISPOSED OF MATERIALS ACCORDING TO APPLICABLE FDEP REGULATIONS AND/OR LOCAL GOVERNMENTAL CODES, ETC.

9. RECORD DRAWINGS: AFTER COMPLETION OF THE CONTRACT WORK, BUT PRIOR TO SUBMITTAL OF THE REQUEST FOR FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE FINAL RECORD DRAWINGS TO THE OWNER OF THE IMPROVEMENTS. THE RECORD DRAWINGS SHALL ALSO BE SUBMITTED DIGITALLY IN AUTOCAD / *.DWG FORMAT. THE RECORD DRAWINGS SHALL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF ST. LUCIE COUNTY, AND FDEP, AND SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

   THE FINAL LOCATION, BY REFERENCE TO AT LEAST TWO COMPLETED VISIBLE IMPROVEMENTS OR OTHER PERMANENT POINTS, OF ALL PAVING AND DRAINAGE ELEMENTS, AND SHALL INCLUDE ELEVATIONS OF PERTINENT POINTS IN THE PAVEMENT AND DRAINAGE IMPROVEMENTS, ALL REVISIONS TO THE ORIGINAL PLANS, VERIFICATION OF ALL DESIGN DIMENSIONS, ELEVATIONS, PIPE SLOPES, PIPE LENGTHS, INLETS AND CONTROL STRUCTURES LOCATION AND ELEVATIONS AND ALL OTHER INFORMATION NECESSARY TO HORIZONTALLY AND VERTICALLY LOCATE AND OPERATE THE IMPROVEMENTS CONSTRUCTED UNDER THIS CONTRACT.

   DRAWINGS SHALL INCLUDE:

   A. INDICATION OF ANY CHANGES OR VERIFICATIONS GET MARKED
   B. INDICATION OF ALL "PROPOSED" OR "CONSTRUCTS"
   C. CHANGES TO LOCATIONS OF PIPE, VALVES, FITTINGS OR MANHOLES, ETC.
   D. DETAIL BOX OF ANY SUBSTANTIAL CHANGES
   E. ALL ELEVATIONS FOR MANHOLES AND LIFT STATIONS
   F. ALL GRADES AND FOOTAGE ON SANITARY RUNS

   THE CONTRACTOR SHALL PROVIDE RECORD DRAWING PRINTS AND ONE COPY OF CERTIFIED FIELD NOTES TO THE OWNER THAT ARE SIGNED AND SEALED BY A FLORIDA REGISTERED LAND SURVEYOR. PAYMENT FOR THE RECORD DRAWINGS SHALL BE ON A LUMP SUM BASIS.

DEWATERING:
CONSTRUCTION DEWATERING MAY REQUIRE A PERMIT FROM SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD). IF DEWATERING IS TO TAKE PLACE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A DEWATERING PERMIT FOR HIS WORK.

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 General Notes.dwg Layout Name: G-2 - Plotted by: Jarrod - Date: 10/27/2025 - 10:22 AM - Giangrande Engineering & Planning

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: AS NOTED
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

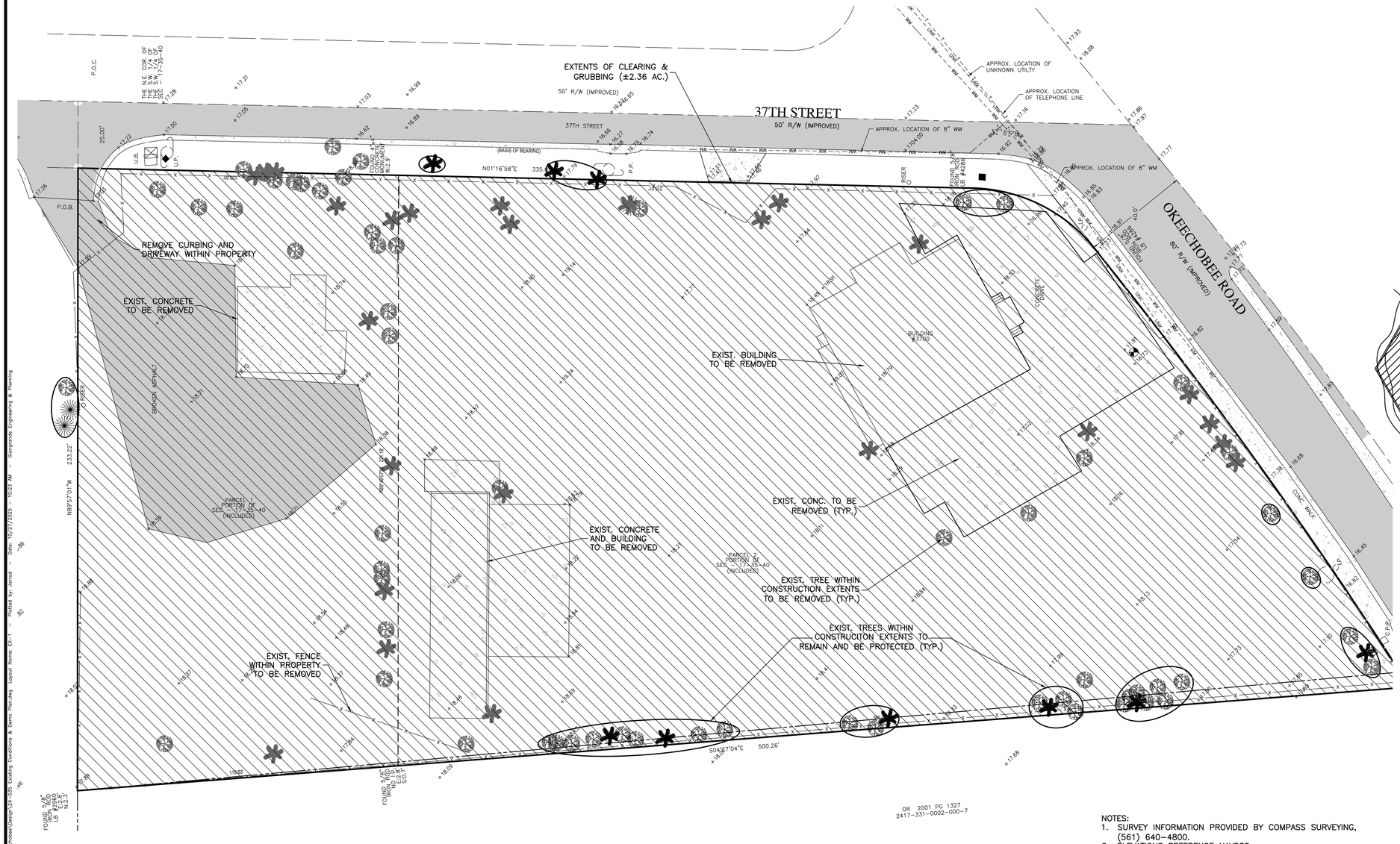
GENERAL NOTES

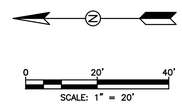
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

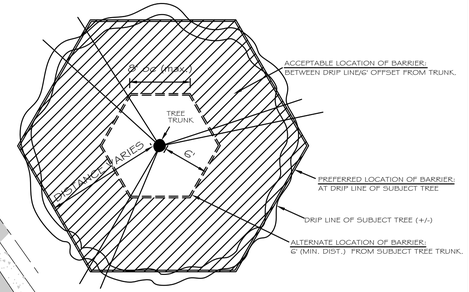
PROJECT #: 24-035

G-2

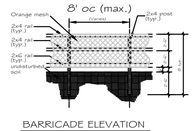




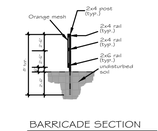
TREE PROTECTION DETAIL



BARRICADE PLAN
N.T.S.



BARRICADE ELEVATION
N.T.S.



BARRICADE SECTION
N.T.S.

BARRICADE NOTES:
1. TREE PROTECTION BARRICADE TO BE ERECTED PRIOR TO COMMENCEMENT OF ANY WORK.
2. NO CONSTRUCTION WITHIN BARRICADE WITHOUT OWNER APPROVAL
3. EXCAVATION (IF APPROVED BY OWNER) WITHIN TREE PROTECTION AREAS IS LIMITED TO HAND TOOLS (NO MACHINERY)

LEGEND

- EXIST. CLEARING & GRUBBING
- EXIST. CONCRETE
- EXIST. WATER LINE
- EXIST. TELEPHONE
- EXIST. FENCE
- EXIST. BOUNDARY
- EXIST. R.O.W.
- EXIST. CENTERLINE
- EXIST. PINE TREE
- EXIST. OAK TREE

NOTES:
1. SURVEY INFORMATION PROVIDED BY COMPASS SURVEYING, (561) 640-4800.
2. ELEVATIONS REFERENCE NAVD88.
3. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND NOTIFY ENGINEER AND/OR OWNER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF SITE PREPARATION DEBRIS ON A REGULAR BASIS TO PREVENT LARGE STOCKPILES FROM FORMING AT THE SITE.
5. SHOULD UNSUITABLE MATERIAL BE ENCOUNTERED DURING SITE PREPARATION, CONTRACTOR SHALL INFORM THE ENGINEER AND/OR OWNER PRIOR TO REMOVING MATERIAL.
6. ALL ORGANIC AND NON-FREE DRAINING SOILS SHALL BE REMOVED FROM THE BOTTOM OF THE PROPOSED RETENTION AREA.
7. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE PREPARATION ACTIVITIES.
8. ALL AREAS DISTURBED IN THE RIGHT OF WAY SHALL BE RETURNED TO ORIGINAL CONDITION OR BETTER.
9. CLEARED AREAS SHALL BE SODDED OR OTHER APPROVED STABILIZATION METHOD INSTALLED WITHIN 30 DAYS OF VEGETATION REMOVAL.

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

EXISTING CONDITIONS & DEMO PLAN

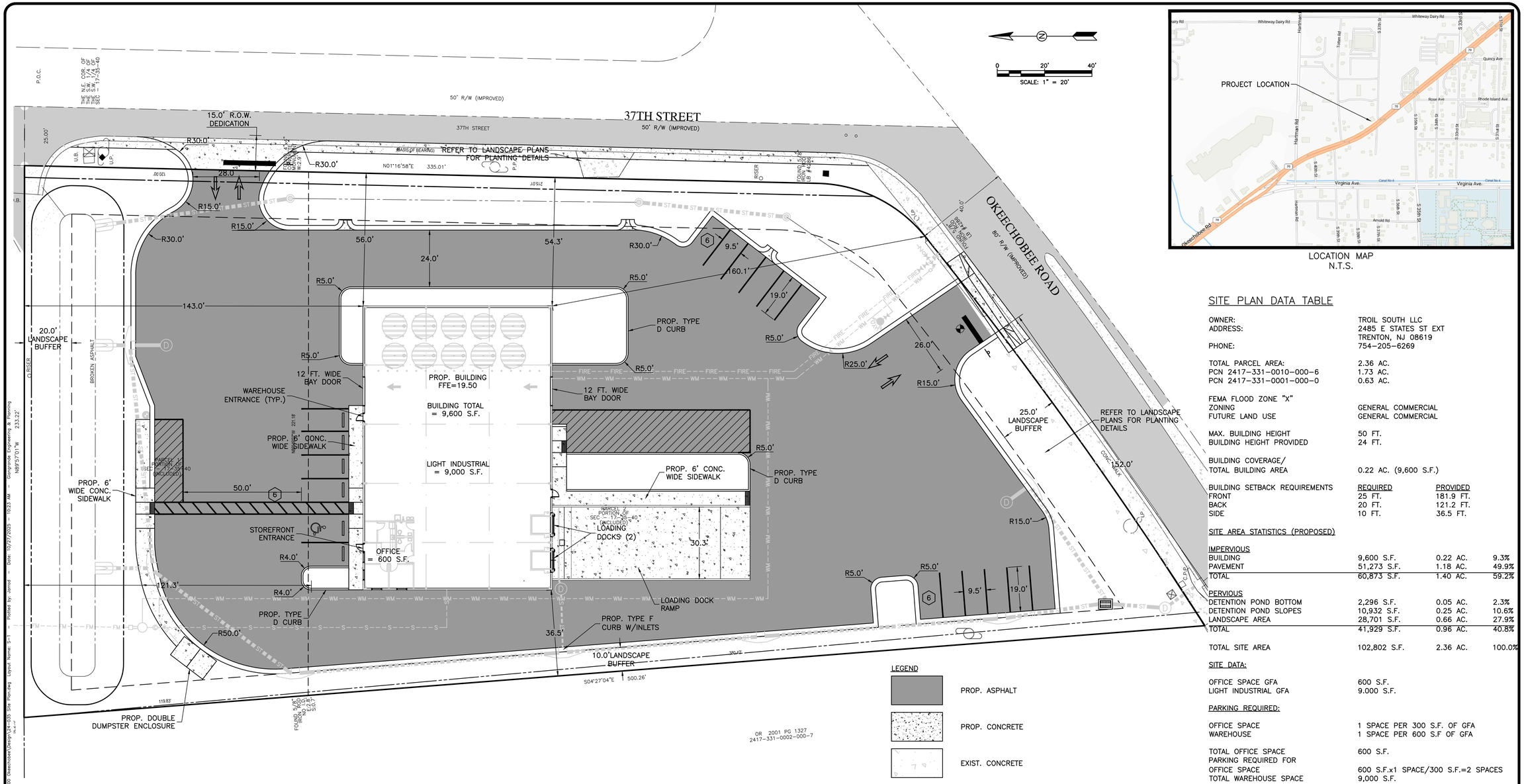
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

EX-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Existing Conditions & Demo Plan.dwg Layout Name: EX-1 - Plotted by: Jarrod - Date: 10/27/2025 - 10:23 AM - Giangrande Engineering & Planning



LOCATION MAP
N.T.S.

SITE PLAN DATA TABLE

OWNER:	TROIL SOUTH LLC		
ADDRESS:	2485 E STATES ST EXT TRENTON, NJ 08619		
PHONE:	754-205-6269		
TOTAL PARCEL AREA:	2.36 AC.		
PCN 2417-331-0010-000-6	1.73 AC.		
PCN 2417-331-0001-000-0	0.63 AC.		
FEMA FLOOD ZONE "X"			
ZONING	GENERAL COMMERCIAL		
FUTURE LAND USE	GENERAL COMMERCIAL		
MAX. BUILDING HEIGHT	50 FT.		
BUILDING HEIGHT PROVIDED	24 FT.		
BUILDING COVERAGE/ TOTAL BUILDING AREA	0.22 AC. (9,600 S.F.)		
BUILDING SETBACK REQUIREMENTS	REQUIRED	PROVIDED	
FRONT	25 FT.	181.9 FT.	
BACK	20 FT.	121.2 FT.	
SIDE	10 FT.	36.5 FT.	
SITE AREA STATISTICS (PROPOSED)			
IMPERVIOUS			
BUILDING	9,600 S.F.	0.22 AC.	9.3%
PAVEMENT	51,273 S.F.	1.18 AC.	49.9%
TOTAL	60,873 S.F.	1.40 AC.	59.2%
PERVIOUS			
DETENTION POND BOTTOM	2,296 S.F.	0.05 AC.	2.3%
DETENTION POND SLOPES	10,932 S.F.	0.25 AC.	10.6%
LANDSCAPE AREA	28,701 S.F.	0.66 AC.	27.9%
TOTAL	41,929 S.F.	0.96 AC.	40.8%
TOTAL SITE AREA	102,802 S.F.	2.36 AC.	100.0%
SITE DATA:			
OFFICE SPACE GFA	600 S.F.		
LIGHT INDUSTRIAL GFA	9,000 S.F.		
PARKING REQUIRED:			
OFFICE SPACE	1 SPACE PER 300 S.F. OF GFA		
WAREHOUSE	1 SPACE PER 600 S.F OF GFA		
TOTAL OFFICE SPACE	600 S.F.		
PARKING REQUIRED FOR OFFICE SPACE	600 S.F.x1 SPACE/300 S.F.=2 SPACES		
TOTAL WAREHOUSE SPACE	9,000 S.F.		
PARKING REQUIRED FOR WAREHOUSE SPACE	9,000 S.F.x1 SPACE/600 S.F.=15 SPACES		
NUMBER OF SPACES PROVIDED	18 SPACES		
PARKING SPACES PROVIDED			
STANDARD	17 SPACES		
HANDICAP	1 SPACE (REQUIRED 1 SPACE)		
TOTAL NUMBER OF SPACES PROVIDED	18 SPACES		

LEGEND

- PROP. ASPHALT
- PROP. CONCRETE
- EXIST. CONCRETE
- PROP. TOP OF BANK
- PROP. TOE OF SLOPE
- PROP. EDGE OF PAVEMENT
- PROP. BOUNDARY
- PROP. EASEMENT
- EXIST. CENTERLINE

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

SITE PLAN

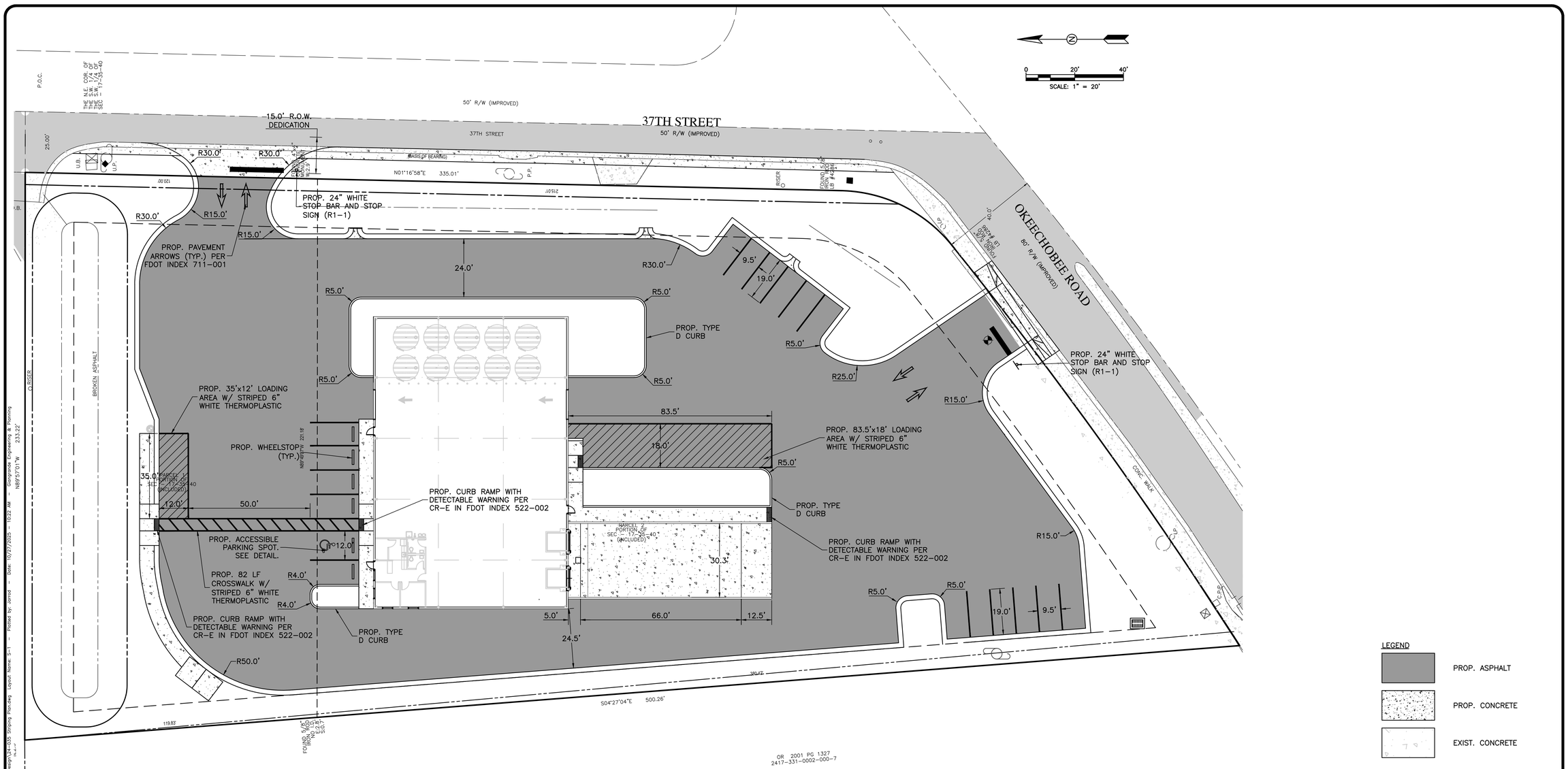
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

S-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Site Plan.dwg Layout Name: S-1 Plotted By: Jarrod Date: 10/27/2025 - 10:23 AM Giangrande Engineering & Planning



LEGEND

- PROP. ASPHALT
- PROP. CONCRETE
- EXIST. CONCRETE
- PROP. TOP OF BANK
- PROP. TOE OF SLOPE
- PROP. EDGE OF PAVEMENT
- PROP. BOUNDARY
- PROP. EASEMENT
- EXIST. CENTERLINE

NOTE:
ALL STRIPING WITHIN THE RIGHT OF WAY SHALL BE THERMOPLASTIC

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

STRIPING PLAN

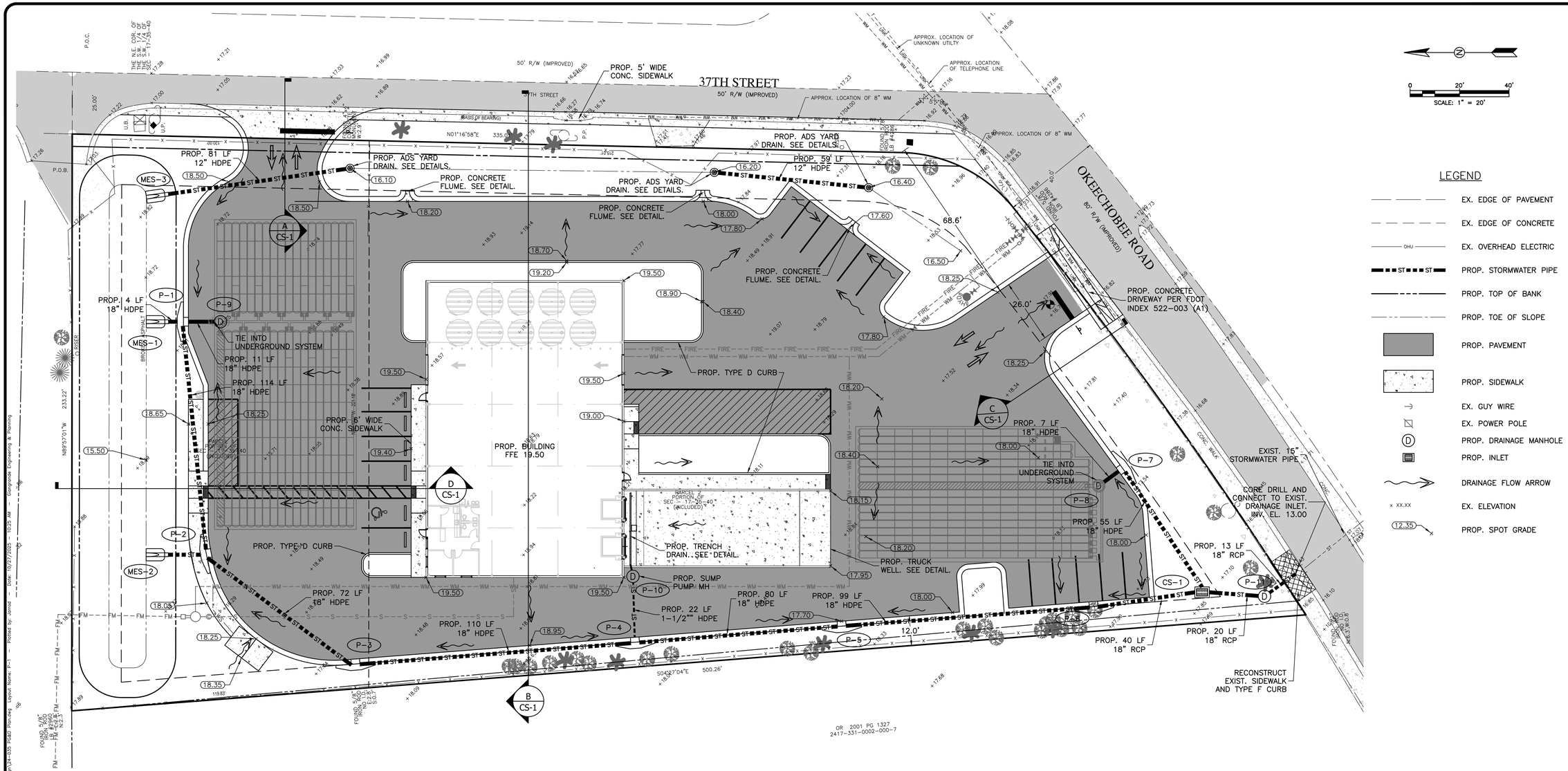
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

ST-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Striping Plan.dwg Layout Name: S-1 -- Plotted By: Jarrod -- Date: 10/27/2025 -- 10:22 AM -- Giangrande Engineering & Planning



LEGEND

- EX. EDGE OF PAVEMENT
- EX. EDGE OF CONCRETE
- EX. OVERHEAD ELECTRIC
- PROP. STORMWATER PIPE
- PROP. TOP OF BANK
- PROP. TOE OF SLOPE
- PROP. PAVEMENT
- PROP. SIDEWALK
- EX. GUY WIRE
- EX. POWER POLE
- PROP. DRAINAGE MANHOLE
- PROP. INLET
- DRAINAGE FLOW ARROW
- EX. ELEVATION
- PROP. SPOT GRADE

NOTES:
1. ELEVATIONS REFERENCE NAVD88.
2. FILL MATERIAL SHALL BE INORGANIC (CLASSIFIED AS SP/GW) CONTAINING NOT MORE THAN 5 PERCENT (BY WEIGHT) FIBROUS ORGANIC MATERIALS. FILL MATERIAL HAVING SILT/CLAY-SIZE FINES CONTENTS GREATER THAN 5 PERCENT SHALL NOT BE USED, INCLUDING CYCLONE SAND MATERIAL. THE FILL SHALL BE PLACED IN MAXIMUM 12-INCH THICK LIFTS. EACH LIFT SHALL BE COMPACTED TO A MINIMUM DENSITY OF 98 PERCENT OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180).
3. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF SITE PREPARATION DEBRIS ON A REGULAR BASIS TO PREVENT LARGE STOCKPILES FROM FORMING AT THE SITE.
5. SHOULD UNSUITABLE MATERIAL BE ENCOUNTERED DURING SITE PREPARATION, THE CONTRACTOR SHALL INFORM THE ENGINEER PRIOR TO REMOVING MATERIAL.
6. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE PREPARATION ACTIVITIES,
7. ALL AREAS DISTURBED IN THE RIGHT OF WAY SHALL BE RETURNED TO ORIGINAL CONDITION OR BETTER.
8. CONTRACTOR TO ENSURE MINIMUM OF 12" NON-ORGANIC FREE DRAINING MATERIAL WITHIN THE BOTTOM OF THE DRY RETENTION POND. THIS CAN BE ACCOMPLISHED VIA SOIL REPLACEMENT, SOIL MIXING, OR OTHER APPROVED METHOD.

DRAINAGE STRUCTURE TABLE

STRUCTURE NO.	GRATE EL.	INVERTS	BOTTOM	DESCRIPTION
P-1	18.00	13.45	11.45	TYPE 6 CURB INLET
P-2	17.50	13.45	11.45	TYPE 6 CURB INLET
P-3	18.40	13.45	11.45	TYPE 6 CURB INLET
P-4	18.60	13.45	11.45	TYPE 6 CURB INLET
P-5	17.70	13.45	11.45	TYPE 6 CURB INLET
P-6	17.50	13.45	11.45	TYPE 6 CURB INLET
P-7	17.50	13.45	11.45	TYPE 6 CURB INLET
P-8	17.80	13.95	11.95	STORM MANHOLE
P-9	18.10	13.10	14.10	STORM MANHOLE
P-10	19.45	16.44	14.44	STORM MANHOLE
P-11	17.20	13.40	11.40	STORM MANHOLE
MES-1		15.50		MITERED END SECTION
MES-2		15.50		MITERED END SECTION
MES-3		15.50		MITERED END SECTION
CS-1	18.50	13.50	11.50	TYPE E CONTROL STRUCTURE - SEE DETAIL

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

PAVING, GRADING, & DRAINAGE PLAN

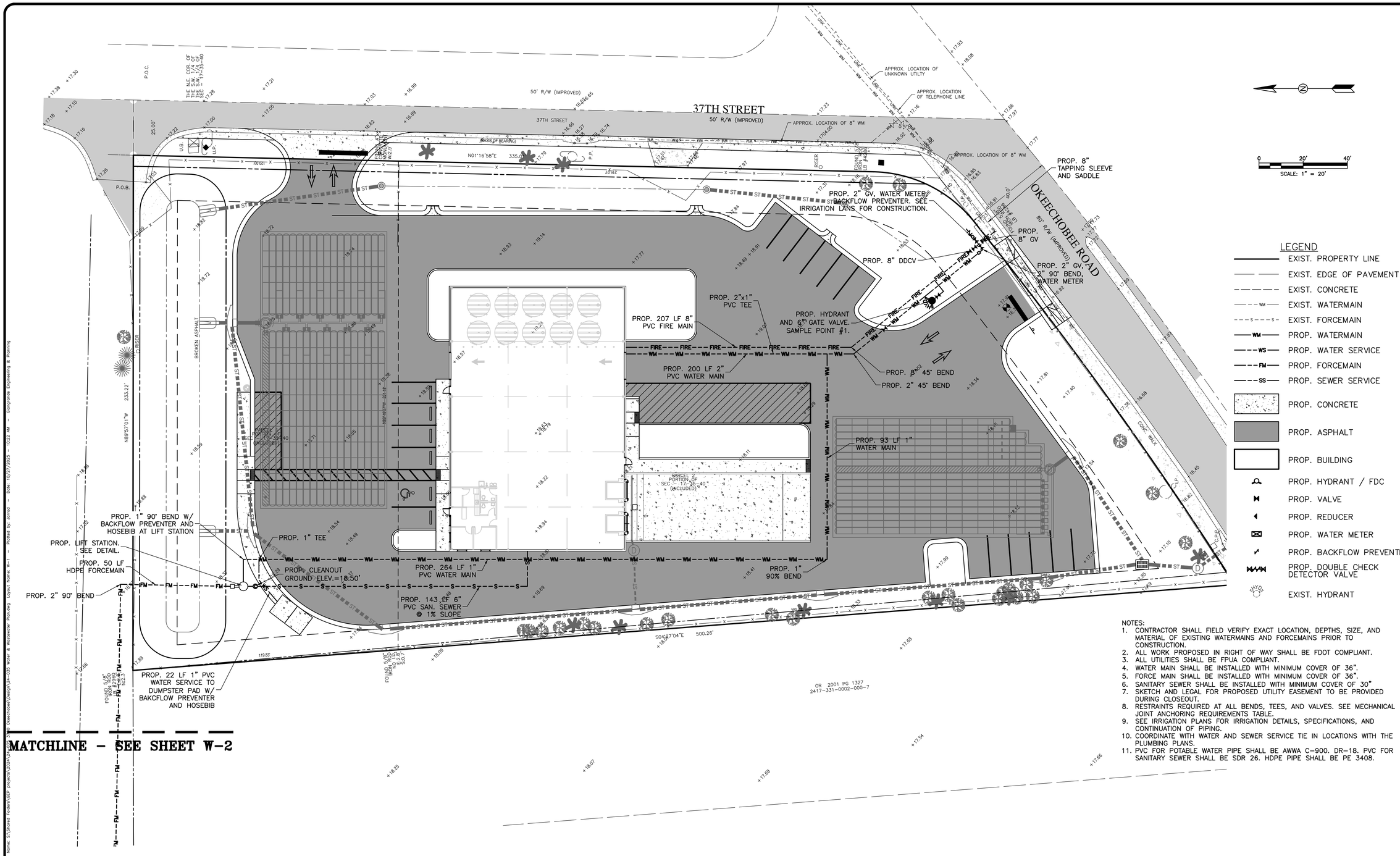
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

P-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 PG&D Plan.dwg Layout Name: P-1 — Date: 10/27/2025 — 10:25 AM — Giangrande Engineering & Planning — Plotted by: Jarrod



LEGEND

- EXIST. PROPERTY LINE
- EXIST. EDGE OF PAVEMENT
- EXIST. CONCRETE
- EXIST. WATERMAIN
- EXIST. FORCEMAIN
- PROP. WATERMAIN
- PROP. WATER SERVICE
- PROP. FORCEMAIN
- PROP. SEWER SERVICE
- PROP. CONCRETE
- PROP. ASPHALT
- PROP. BUILDING
- PROP. HYDRANT / FDC
- PROP. VALVE
- PROP. REDUCER
- PROP. WATER METER
- PROP. BACKFLOW PREVENTER
- PROP. DOUBLE CHECK DETECTOR VALVE
- EXIST. HYDRANT

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION, DEPTHS, SIZE, AND MATERIAL OF EXISTING WATERMAINS AND FORCEMAINS PRIOR TO CONSTRUCTION.
2. ALL WORK PROPOSED IN RIGHT OF WAY SHALL BE FDOT COMPLIANT.
3. ALL UTILITIES SHALL BE FPUA COMPLIANT.
4. WATER MAIN SHALL BE INSTALLED WITH MINIMUM COVER OF 36".
5. FORCE MAIN SHALL BE INSTALLED WITH MINIMUM COVER OF 36".
6. SANITARY SEWER SHALL BE INSTALLED WITH MINIMUM COVER OF 30"
7. SKETCH AND LEGAL FOR PROPOSED UTILITY EASEMENT TO BE PROVIDED DURING CLOSEOUT.
8. RESTRAINTS REQUIRED AT ALL BENDS, TEES, AND VALVES. SEE MECHANICAL JOINT ANCHORING REQUIREMENTS TABLE.
9. SEE IRRIGATION PLANS FOR IRRIGATION DETAILS, SPECIFICATIONS, AND CONTINUATION OF PIPING.
10. COORDINATE WITH WATER AND SEWER SERVICE TIE IN LOCATIONS WITH THE PLUMBING PLANS.
11. PVC FOR POTABLE WATER PIPE SHALL BE AWWA C-900. DR-18. PVC FOR SANITARY SEWER SHALL BE SDR 26. HDPE PIPE SHALL BE PE 3408.

MATCHLINE - SEE SHEET W-2

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

WATER & WASTEWATER PLAN

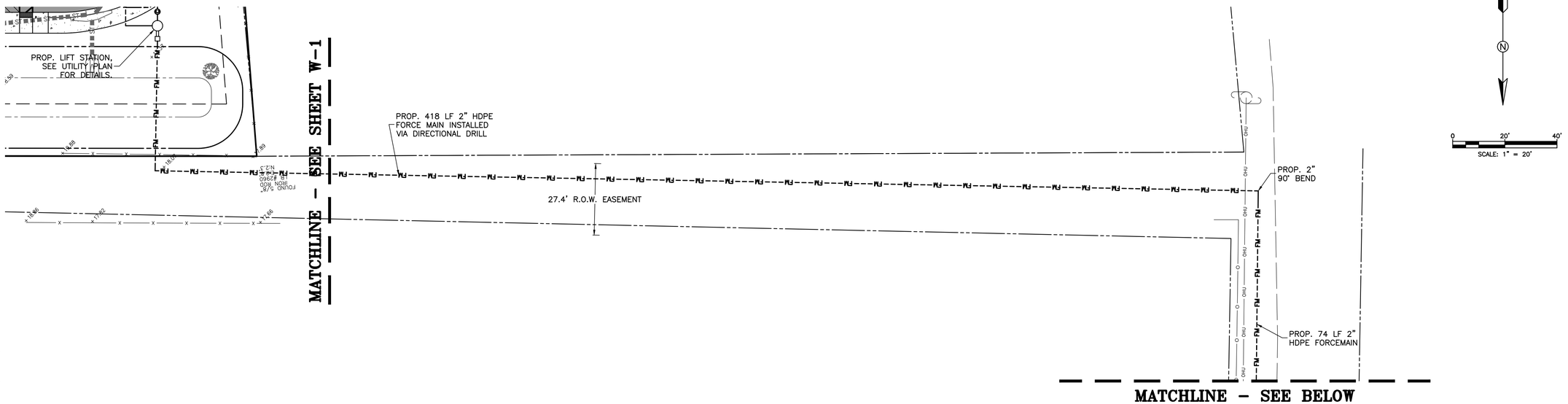
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

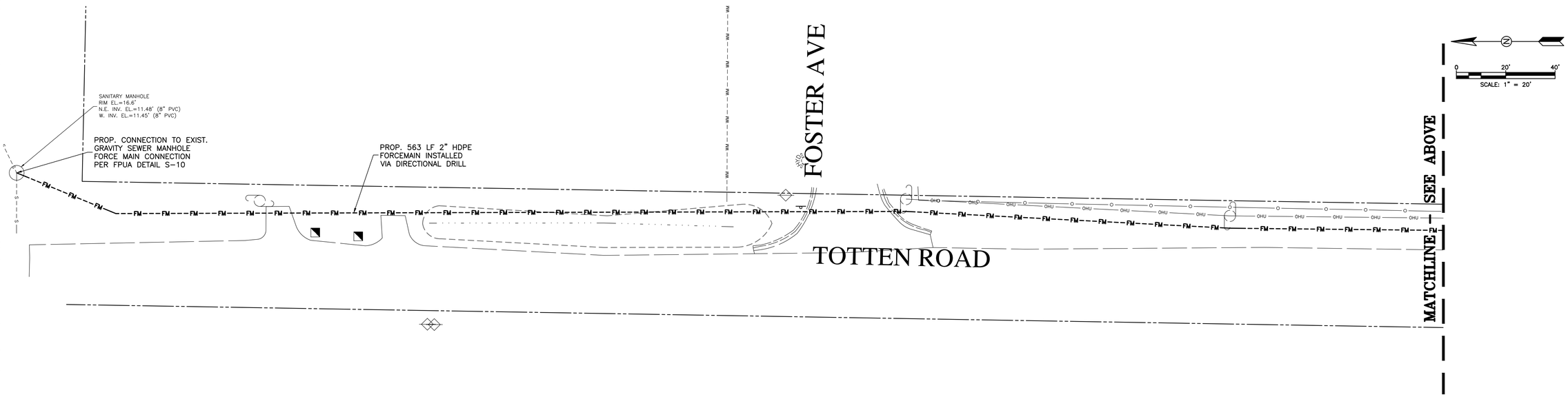
PROJECT #: 24-035

W-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 Okeechobee\Design\24-035 Water & Wastewater Plan.dwg Layout Name: W-1 Plotted by: Jarrod Date: 10/27/2025 - 10:22 AM



NOTES:
1. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION, DEPTH, SIZE, AND MATERIAL OF EXISTING WATER MAINS AND FORCE MAINS AND MANHOLES PRIOR TO CONSTRUCTION.
2. ALL UTILITIES SHALL BE FPUA COMPLIANT.
3. FORCE MAIN SHALL BE INSTALLED WITH MINIMUM COVER OF 36".
4. HDPE PIPE SHALL BE PE 3408.



DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

WATER & WASTEWATER PLAN

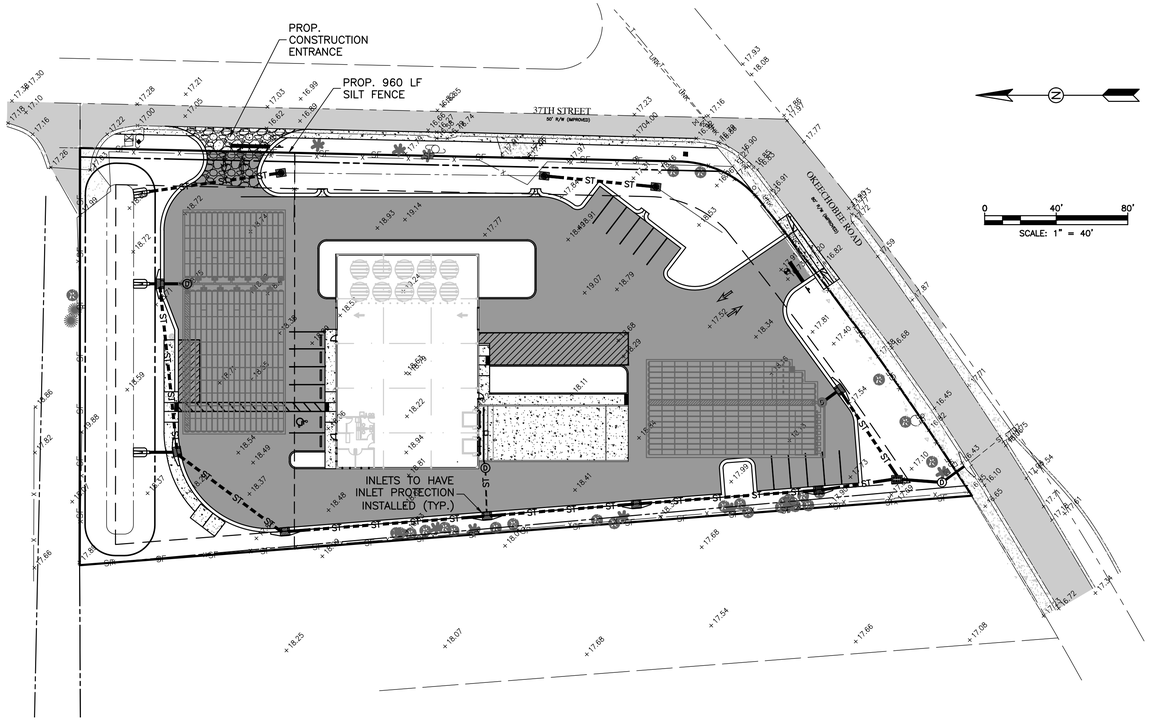
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

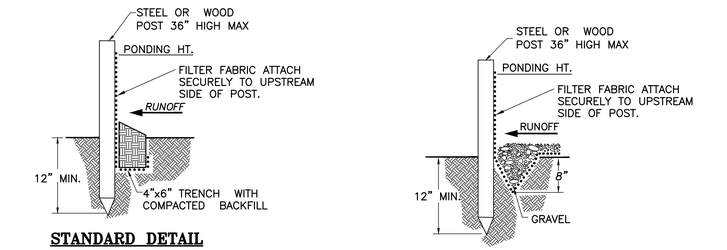
LEO GIANGRANDE, P.E.
License No: 66387

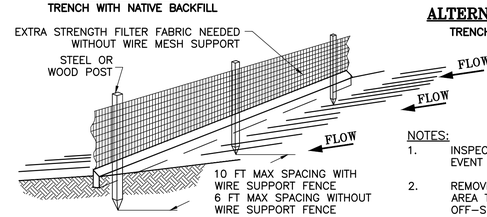
PROJECT #: 24-035

W-2

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Water & Wastewater Plan.dwg Layout Name: W-2 Plotted by: Jarrod Date: 10/27/2025 - 10:25 AM Giangrande Engineering & Planning





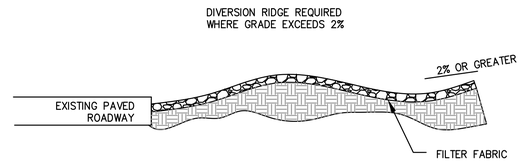


SILT FENCE DETAIL

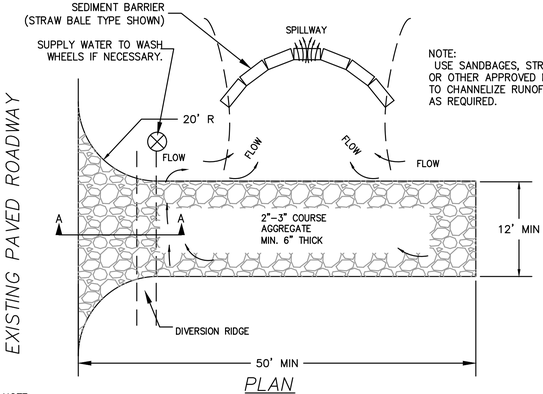
N.T.S.

NOTES:

1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOUR TO MAXIMIZE PONDING EFFICIENCY.
4. OVERLAP ALL JOINTS AT LEAST 6 FEET.



SECTION A-A



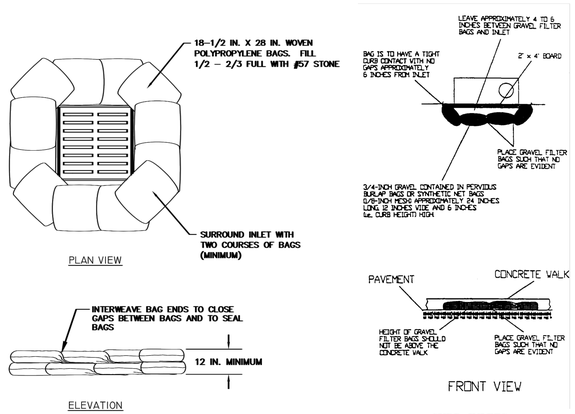
NOTE:
USE SANDBAGES, STRAW BALES OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED.

NOTE:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING. REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

EROSION CONTROL NOTES:

1. THIS PROJECT IS SUBJECT TO ALL RELATED ENVIRONMENTAL REQUIREMENTS WHICH INCLUDE A "CONTROL OF EROSION AND SEDIMENTATION PLAN". THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING NECESSARY AND ADEQUATE MEASURES FOR PROPER CONTROL OF EROSION DUE TO SEDIMENTATION RUNOFF FROM THE SITE PRIOR TO CONSTRUCTION OPERATIONS IN A PARTICULAR AREA. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO START OF CONSTRUCTION. FIELD ADJUSTMENTS WITH RESPECT TO LOCATIONS AND DIMENSIONS MAY BE DIRECTED BY THE ENGINEER AS REQUIRED.
2. EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RAIN EVENT FOR DAMAGE AND GENERAL EFFECTIVENESS. ANY DAMAGED OR INEFFECTIVE CONTROLS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR.
3. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED, IF DEEMED NECESSARY, BY THE ON-SITE INSPECTOR.
4. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. TEMPORARY AND PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE LEFT IN PLACE AND MAINTAINED UNTIL THE AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION.
6. ALL CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ON TO ANY PUBLIC RIGHT-OF-WAY. THIS SHALL REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS REQUIRE. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHT-OF-WAY OR INTO STORM DRAINS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
7. TURBIDITY SCREENS OR EQUIVALENT SHALL BE PROPERLY EMPLOYED AND MAINTAINED AS NECESSARY DURING CONSTRUCTION ACTIVITIES SO THAT TURBIDITY LEVELS DO NOT EXCEED 29 NTU'S ABOVE NATURAL BACKGROUND 50 FEET DOWNSTREAM OF POINT OF DISCHARGE. IF TURBIDITY LEVELS EXCEED THESE LIMITS, PROJECT ACTIVITIES SHALL IMMEDIATELY CEASE, AND WORK SHALL NOT RESUME UNTIL TURBIDITY LEVELS DROP TO WITHIN THESE LIMITS.
8. CONTRACTOR SHALL SOD GRASS AREAS DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO OWNER.
9. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES).
10. SEDIMENT BARRIERS SHALL BE PLACED PRIOR TO ANY WORK ON THE SITE. SEDIMENT BARRIERS SHALL PLACED AS DEPICTED AS SHOWN ON THESE CONSTRUCTION PLANS.
11. DAMAGED TURBIDITY CONTROLS SHALL BE REPAIRED PROMPTLY AND BEFORE ANY SUBSEQUENT RAINFALL.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF THE NPDES AND RELATED STORM WATER PLAN FOR THE DURATION OF THE PROJECT. UPON COMPLETION THE CONTRACTOR SHALL REMOVED ALL TEMPORARY STORM WATER MANAGEMENT MEASURES AND SHALL DISPOSE OF THEM AS REQUIRED.
13. CONTRACTOR SHALL COMPLY WITH SPILL PREVENTION, CONTROL AND COUNTER MEASURES (SPCC) REQUIREMENTS PURSUANT TO EPA RULES AND REGULATIONS.
14. ALL CONSTRUCTION WASTE MATERIAL SHALL BE COLLECTED AND STORED IN A SECURED METAL DUMPSTER RENTED / LEASED FROM A LOCAL WASTE MANAGEMENT COMPANY. THE DUMPSTER SHALL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURES FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES SHALL BE POSTED IN THE OFFICE TRAILER / CONSTRUCTION TRAILER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.
15. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS AT A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.
16. TRUCKS / EQUIPMENT IMPORTING OR EXPORTING FILL SHALL COVER THEIR LOADS WITH A TARPAULIN TO AVOID UNNECESSARY GENERATION OF DUST.
17. ALL HAZARDOUS WATER MATERIAL SHALL BE DISPOSED OF AS PER LOCAL / STATE REGULATIONS OR AS RECOMMENDED BY THE MANUFACTURER. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES AND THE CONTRACTOR IS RESPONSIBLE TO FOLLOW THESE PRACTICES.
18. THE GENERAL CONTRACTOR'S SITE SUPERINTENDENT SHALL SELECT INDIVIDUALS, TYPICALLY THREE, WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES AND FILLING OUT OF INSPECTION REPORTS. PERSONNEL SELECTED SHALL BE RECEIVE PROPER TRAINING, AT THE CONTRACTORS EXPENSE, PRIOR TO SITE CONSTRUCTION COMMENCEMENT.
19. ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE INSPECTED EVERY 7 DAYS OR WITHIN 24 HOURS OF A STORM OF 0.5 INCHES OR MORE IN RAINFALL. ALL CONTROLS MUST BE IN PROPER ORDER AS REQUIRED UNTIL SITE COMPLETION.
20. SILT FENCE SHALL BE INSPECTED FOR TEARS, DEPTH OF SEDIMENT, AND TO INSURE THE FENCE IS SECURELY FASTENED TO THE POSTS AND ALSO THAT POSTS ARE FIRMLY IN PLACE. SEDIMENT SHALL BE REMOVED IF THE DEPTH OF SEDIMENT IS GREATER THAN ONE-THIRD THE HEIGHT OF THE SILT FENCE.
21. THE INSPECTOR SHALL RECORD ANY DAMAGES OR DEFICIENCIES IN THE TURBIDITY CONTROLS IN THE REPORT FORM FOR THIS PURPOSE. A COPY OF ALL RECORDING AND REPORTS SHALL BE FORWARDED TO THE ENGINEER FOR REVIEW.
22. THE REQUIREMENTS LISTED ABOVE AND DETAILS PRESENTED ON THIS SHEET SHALL BE CONSIDERED MINIMUM REQUIREMENTS AND THE CONTRACTOR SHALL USE WHATEVER METHODS THE CONTRACTOR DEEMS NECESSARY TO PREVENT EROSION AND SILTATION AS MAY BE REQUIRED FOR THE PROJECT.
23. PROPERTY CORNERS SHALL BE LOCATED BY A LICENSED LAND SURVEYOR AND CLEARLY MARKED IN THE FIELD PRIOR TO THE ENGINEERING DEPARTMENT'S PRE-CONSTRUCTION MEETING FOR SITE DEVELOPMENT.
24. AUTHORIZATION TO INSTALL EROSION CONTROL DEVICES AND PRESERVE BARRICADES WILL BE GRANTED AT THE PRE-CONSTRUCTION MEETING. THE AUTHORIZATION SHALL BE POSTED ON THE SITE, IN THE PERMIT BOX, ITS LOCATION SHOWN ELSEWHERE ON THIS PAGE.
25. NO ADDITIONAL LAND CLEARING SHALL COMMENCE UNTIL A SATISFACTORY INSPECTION OF THE REQUIRED EROSION CONTROL BARRICADES HAS BEEN OBTAINED.
26. ALL CONSTRUCTION BARRICADES AND SILT FENCES WILL REMAIN IN PLACE AND BE MONITORED FOR COMPLIANCE BY PERMIT HOLDER DURING THE PERMITTED DEVELOPMENT ACTIVITIES.
27. PRIOR TO SCHEDULING A FINAL ENVIRONMENTAL INSPECTION FOR THE INFRASTRUCTURE, ALL BARRICADES AND EROSION CONTROL DEVICES SHALL BE REMOVED AND DISPOSED BY THE CONTRACTOR.
28. LOCATIONS OF ANY MATERIALS TO BE TEMPORARILY STOCKPILED TO INCLUDE LAND CLEARING DEBRIS OR EXCAVATED MATERIALS SHALL BE PER THE ENGINEER.
29. THE CONTRACTOR SHALL PROVIDE A PLAN TO MINIMIZE DUST AND AIR POLLUTION DURING LAND CLEARING.
30. ALL AREAS DISTURBED IN THE RIGHT OF WAY SHALL BE RETURNED TO ORIGINAL CONDITION OR BETTER.
31. CLEARED AREAS SHALL BE SODDED OR OTHER APPROVED STABILIZATION METHOD INSTALLED WITHIN 30 DAYS OF VEGETATION REMOVAL.
32. CONTRACTOR MUST USE SITE STABILIZATION METHODS, SUCH AS, BUT NOT LIMITED TO, SEEDING WETTING, AND MULCHING WHICH MINIMIZE AIRBORNE DUST AND PARTICULATE EMISSIONS GENERATED BY CONSTRUCTION ACTIVITY. SUCH METHODS SHALL BE COMPLETED PROGRESSIVELY AND ACTIVELY MAINTAINED AS VEGETATION REMOVAL OCCURS WITHIN A GIVEN AREA OF A SITE. AT THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL INFORM THE COUNTY WHICH VEGETATION REMOVAL METHODS WILL BE CONDUCTED AND THE PLAN TO MINIMIZE AIRBORNE DUST AND PARTICULATE EMISSIONS.



NOTES:

1. STONE FILL BAGS SHALL BE WOVEN POLYPROPYLENE BAGS WITH APPROXIMATE DIMENSIONS OF 18-1/2 INCHES BY 28 INCHES.
2. THE BAGS SHALL BE FILLED 1/2 TO 2/3 FULL WITH FDOT NO. 57 STONE. TIE THE ENDS OF FILLED BAGS USING EITHER DRAW STRINGS OR WIRE TIES.
3. INTERWEAVE THE LOOSE ENDS OF THE BAGS SO THAT THE GAPS BETWEEN BAGS ARE FILLED AND THE ENDS OF THE BAGS ARE SEALED.
4. COMPLETELY SURROUND THE INLET WITH A MINIMUM OF TWO (2) ROWS OF BAGS TO A MINIMUM OF 12 INCHES IN HEIGHT.

GRAVEL FILTER BAGS INLET PROTECTION DETAIL

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: AS NOTED
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

EROSION CONTROL PLAN

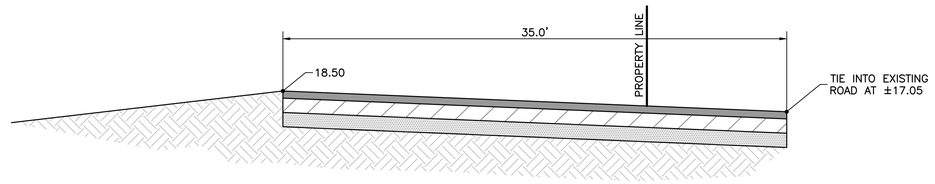
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep-llc.com
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

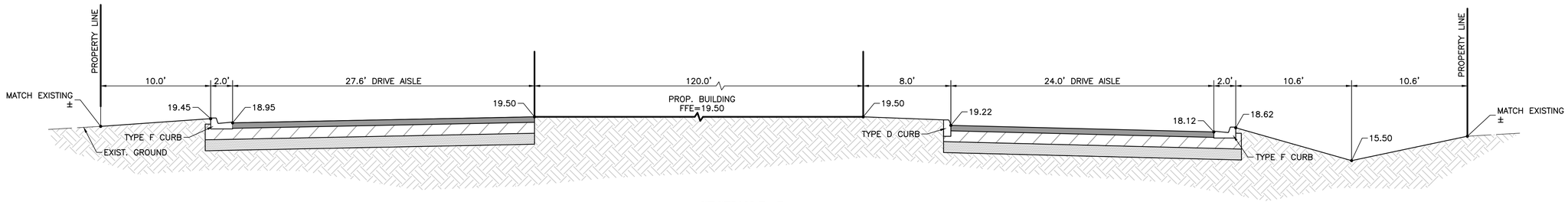
EC-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 SWPP Plan.dwg Layout Name: EC-1 - Plotted by: jamal - Date: 10/27/2025 - 10:23 AM - Giangrande Engineering & Planning



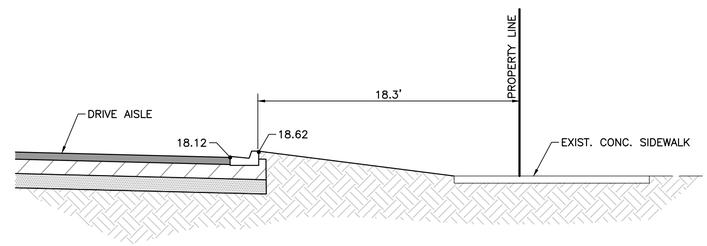
SECTION A-A

SCALE: 1"=5'



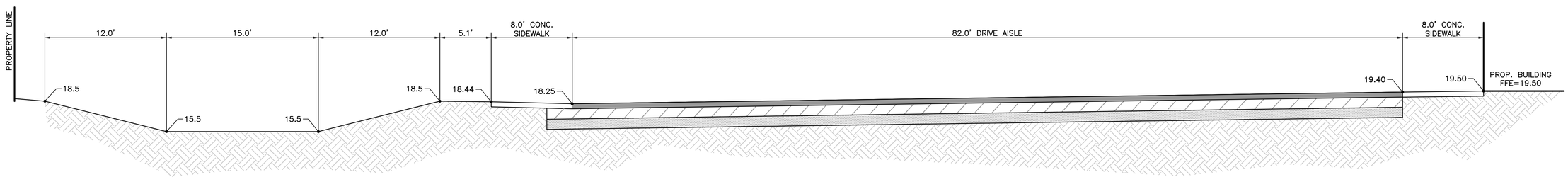
SECTION B-B

SCALE: 1"=5'



SECTION C-C

SCALE: 1"=5'



SECTION D-D

SCALE: 1"=5'

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Cross Sections.dwg Layout Name: C-1 - Plotted by: Jamad - Date: 10/27/2025 - 10:23 AM - Giangrande Eng

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

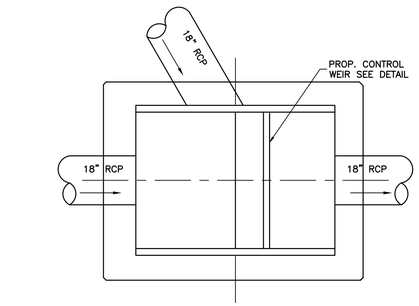
CROSS SECTIONS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

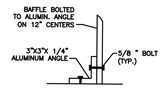
LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

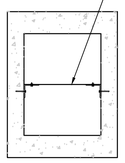
C-1



PLAN

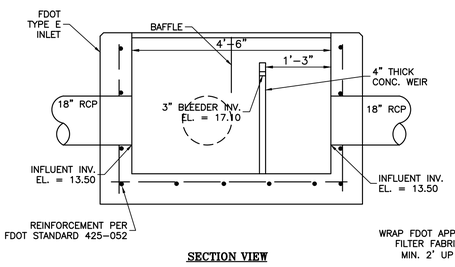


ANGLE DETAIL

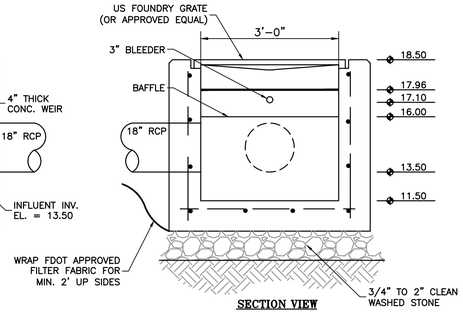


NOTE:
1. SEAL ALL JOINTS WITH RAM-NEK SEALANT.

BAFFLE DETAIL



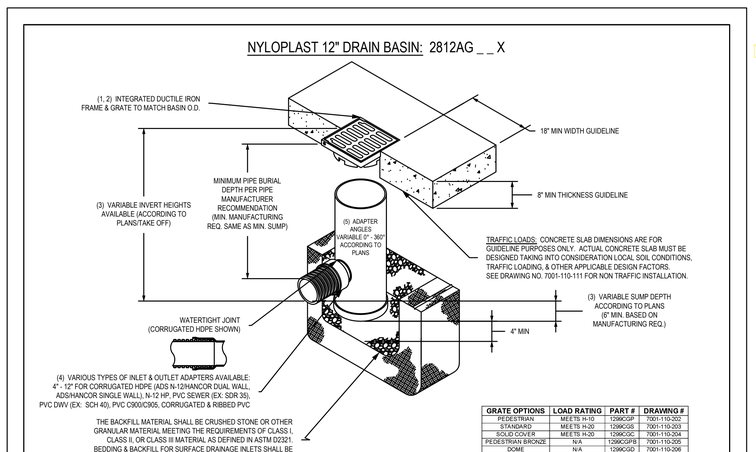
SECTION VIEW



SECTION VIEW

CONTROL STRUCTURE W/ CONTROL WEIR DETAIL

N.T.S



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1296CGP	7001-110-202
STANDARD	MEETS H-20	1296CGS	7001-110-203
SOLID COVER	MEETS H-20	1296CGC	7001-110-204
PEDESTRIAN BRONZE	N/A	1296CGPB	7001-110-205
DOME	N/A	1296CGD	7001-110-206
DROP IN GRATE	LIGHT DUTY	1201DI	7001-110-021

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

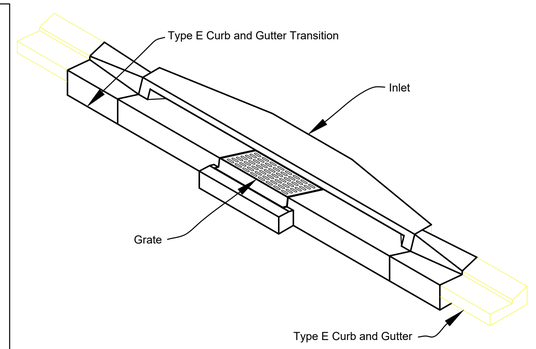
THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2013 NYLOPLAST

DRAWN BY	EBC	MATERIAL	
DATE	03-29-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-11-16		
DWG SIZE	A	SCALE 1:20	SHEET 1 OF 1

ADS Nyloplast
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE
12 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-189 REV E



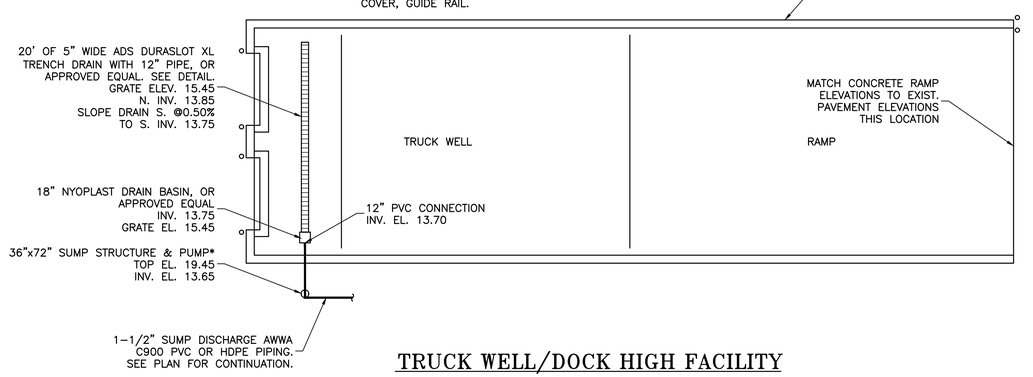
INLET TYPE 6
(Type E Curb and Gutter Shown)

FDOT INDEX INLET TYPE 6

(TYPE E CURB AND GUTTER SHOWN)

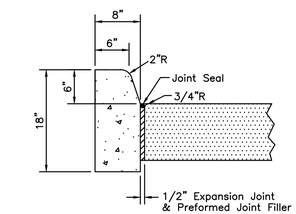
N.T.S

* LIBERTY SUMP PUMP MODEL LEH102M2-2 1 HP, 230 V, 1 PHASE, 200 GPM, 53' TDH, 36"x72" FIBERGLASS BASIN, 36" BLANK COVER, GUIDE RAIL.

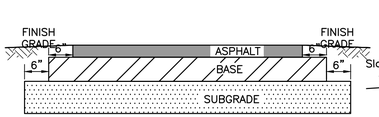


TRUCK WELL/DOCK HIGH FACILITY

N.T.S



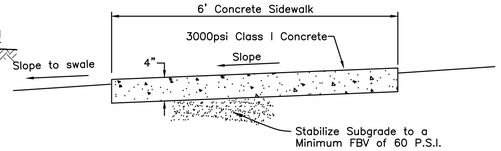
SECTION VIEW



ASPHALT CONCRETE
PAVEMENT: 1 1/2" FDOT TYPE SP-12.5 (1ST LIFT)
1" FDOT TYPE SP-9.5 (2ND LIFT)
BASE: 10" COMPACTED LIMEROCK OR COQUINA BASE (LBR-100) SAME DENSITY AS SUBGRADE
SUBGRADE: 12" THICK COMPACTED SUBGRADE (LBR-40) DENSITY SHALL BE 98% OF MAXIMUM AS DETERMINED BY AASHTO T-180 METHOD

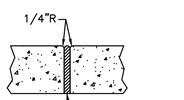
TYPICAL PAVEMENT SECTION

N.T.S

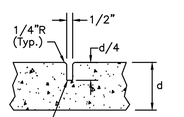


SIDEWALK DETAIL

N.T.S



EXPANSION JOINTS



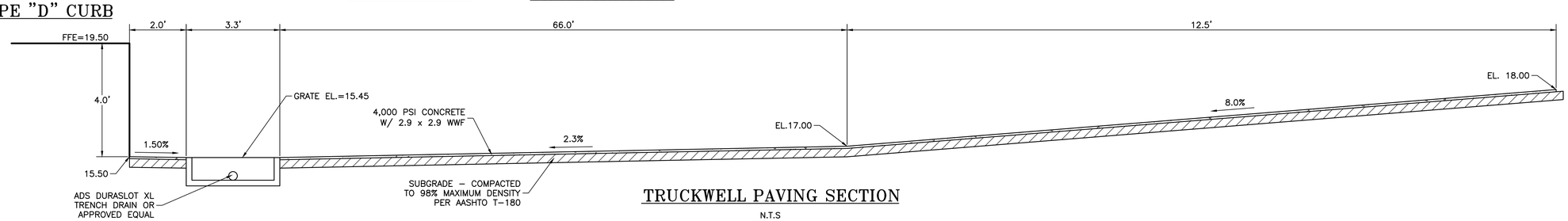
CONTRACTION JOINTS

NOTES:

1. Saw cut contraction joints on 10' centers max. within 48 hours after pouring curb.
2. All materials and construction shall be in accordance with FDOT Specifications Section 520 and FDOT Roadway & Traffic Design Standards index number 300.

FDOT INDEX TYPE "D" CURB

N.T.S



TRUCKWELL PAVING SECTION

N.T.S

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

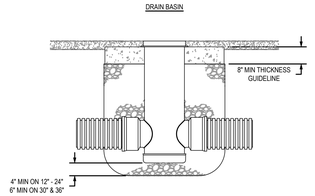
LEO GIANGRANDE, P.E.
License No: 66387

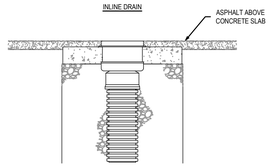
PROJECT #: 24-035

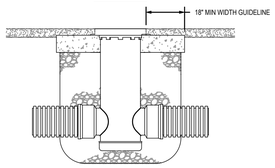
D-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-1 -- Plotted by: Jarrod -- Date: 10/27/2025 - 10:22 AM -- Giangrande Engineering & Planning

ASPHALT INSTALLATION







STRUCTURE SIZE	H-20 GRATE OPTIONS				
12"	N/A	STANDARD	SOLID	2X2 R&H	N/A
15"	N/A	STANDARD	SOLID	2X2 R&H	N/A
18"	N/A	STANDARD	SOLID	2X2 R&H	2X3 R&H
24"	N/A	STANDARD	SOLID	2X2 R&H	2X3 R&H
30"	PEDESTRIAN	STANDARD	SOLID	2X2 R&H	2X3 R&H
36"	PEDESTRIAN	STANDARD	SOLID	2X2 R&H	2X3 R&H

1 - THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

2 - TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS.

3 - 36" DRAIN BASIN REQUIRES 36"X30" REDUCING CONE. REDUCING CONE REQUIRES MINIMUM 2.25FT FROM GRADE TO TOP OF PIPE.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2021 NYLOPLAST

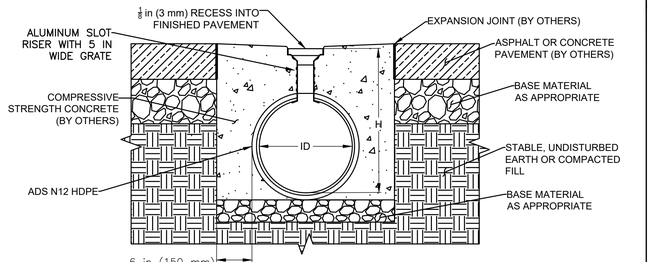
DRAWN BY	EBC	MATERIAL	
DATE	4-4-06		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	06-12-18		
DWG SIZE	A	SCALE 1:30	SHEET 1 OF 1

ADS Nyloplast

3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: DRAIN BASIN, INLINE DRAIN, & ROAD & HIGHWAY (18-20 TRAFFIC LOAD) ASPHALT INSTALLATION DETAIL

DWG NO. 7001-110-188 REV F



Nominal Diameter, ID, in. (mm)	Depth of Invert, H, in. (mm)	
	Minimum	Maximum
6 (150)	12.50 (318)	30.00 (762)
8 (200)	14.50 (368)	32.00 (813)
10 (250)	16.50 (419)	34.00 (864)
12 (300)	19.00 (483)	48.00 (1219)
15 (375)	22.00 (559)	51.00 (1295)
18 (450)	25.00 (635)	54.00 (1372)
24 (600)	31.25 (794)	60.00 (1524)
30 (750)	38.25 (972)	66.00 (1676)
36 (900)	44.25 (1024)	72.00 (1829)

NOTES:
1. BACKFILL DESIGN SHOULD BE USED FOR HS-20 LOADING APPLICATIONS.
2. SITE ENGINEER TO PROVIDE SITE SPECIFIC DETAILS, SUCH AS CONCRETE STRENGTH.
3. REFER TO ADS TECH NOTE 2.11 FOR ADDITIONAL DESIGN INFORMATION.
4. SLOT RECESS IS NOT INCLUDED IN DEPTH OF INVERT TABLES.

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.
©2025 ADS, INC.

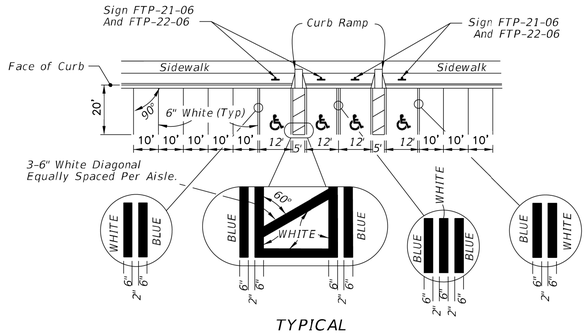
REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
	Updated Layers & Logo	KJS	01/09/25	–

Duraslot XL Heavy Traffic Installation

DRAWING NUMBER:

ADS 4640 TRUEMAN BLVD HILLIARD, OHIO 43026

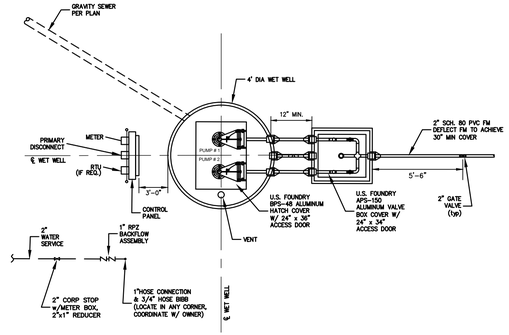
04-18-2023
SCALE: NTS
SHEET 1 OF 1



TYPICAL

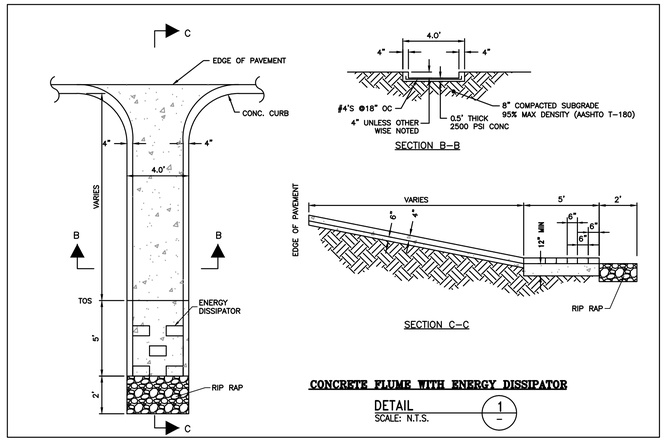
HANDICAP PARKING DETAIL

N.T.S



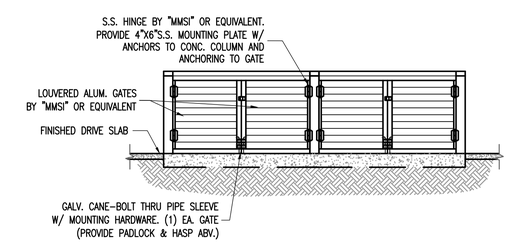
LIFT STATION DETAIL (PLAN VIEW)

N.T.S

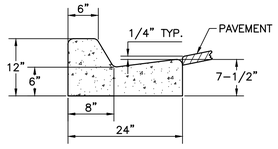


CONCRETE PLUME WITH ENERGY DISSIPATOR

DETAIL 1
SCALE: N.T.S.

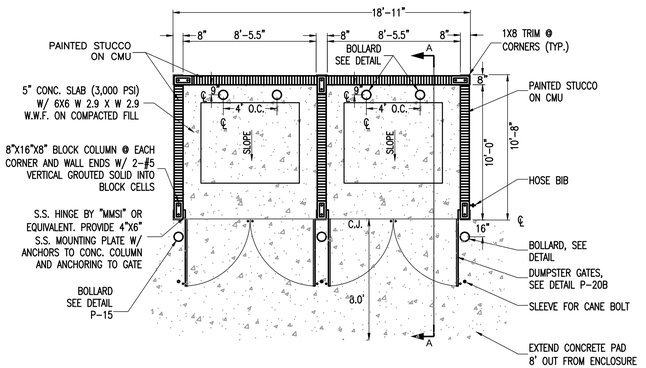


FRONT VIEW
N.T.S.

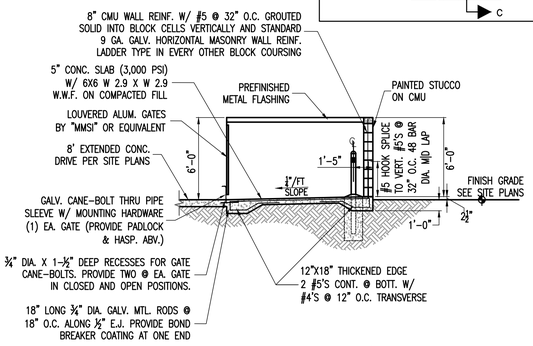


TYPE 'F' CURB DETAIL

N.T.S



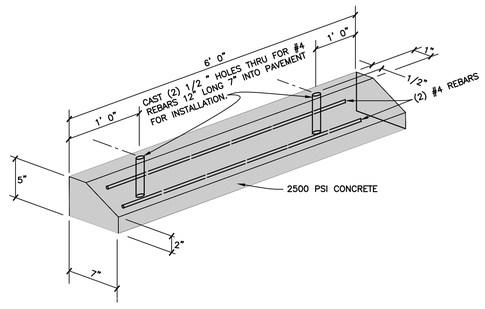
PLAN VIEW
N.T.S.



PROFILE VIEW (SECTION A-A)
N.T.S.

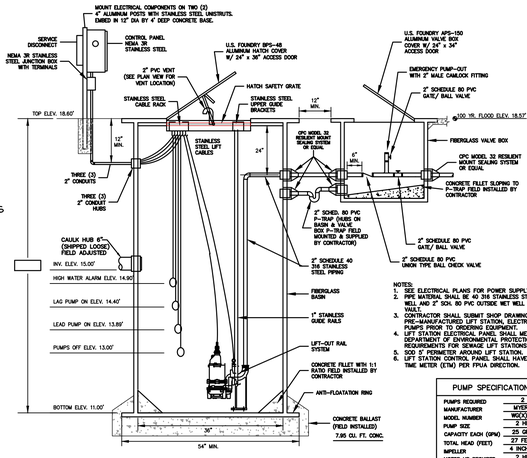
DOUBLE DUMPSTER ENCLOSURE

N.T.S



WHEEL STOP DETAIL

N.T.S



PUMP SPECIFICATIONS	
PUMPS REQUIRED	2
MANUFACTURER	MYERS
MODEL NUMBER	WDC020
PUMP SIZE	2 HP
CAPACITY EACH (GPM)	25 GPM
TOTAL HEAD (FEET)	27 FEET
IMPELLER	4 INCHES
MOTOR HP REQUIRED	2 HP
SPEED (RPM)	3,500 RPM
ELECTRICAL	3 PH, 60 Hz

LIFT STATION DETAIL (SECTION VIEW)

N.T.S

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-2

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-2 - Plotted by: Jamod - Date: 10/27/2025 - 10:22 AM - Giangrande Engineering & Planning

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES

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

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

FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES
CONTINUED

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

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

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

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

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

FORT PIERCE UTILITIES AUTHORITY WASTEWATER CONSTRUCTION NOTES

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

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

STANDARD SEPARATION STATEMENT FOR WATER / SEWER CONFLICTS

1. SANITARY SEWER, FORCE MAINS, AND STORM SEWERS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. SANITARY SEWERS, FORCE MAINS AND STORM SEWERS CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 6 INCHES, PREFERABLY 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE WHEN ABOVE, AND AT LEAST 12 INCHES OF SEPARATION WHEN THE WATER MAIN IS BELOW.

WHERE SANITARY SEWER, FORCE MAINS, STORM SEWERS MUST CROSS A WATER MAIN WITH LESS THAN 6 INCHES VERTICAL SEPARATION, BOTH THE SEWER AND WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) CENTERED ON THE CROSSING. (DIP IS NOT REQUIRED FOR STORM SEWERS.) SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED.

ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPES CENTERED ON THE CROSSING). AT SUCH CROSSINGS PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN 6 INCHES VERTICAL CLEARANCE, THE NEW PIPE SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWERS) AND NEW PIPES SHALL BE ARRANGED TO MEET THE CROSSING REQUIREMENTS ABOVE.

2. A MINIMUM 3-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF STORM SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

A MINIMUM 3-FOOT, AND PREFERABLE 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN VACUUM TYPE SANITARY SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

A MINIMUM 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN "ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.

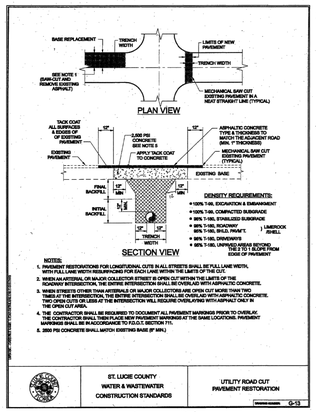
A MINIMUM 6-FOOT, AND PREFERABLE 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN GRAVITY OR PRESSURE TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO 3 FOOT WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10-FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON A UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 6 INCHES ABOVE THE TOP OF THE SEWER.

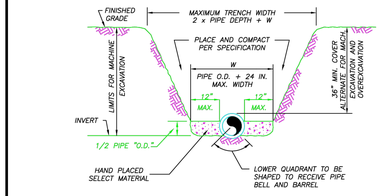
WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 6 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWER) WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).

3. ALL DIP SHALL BE PRESSURE CLASS 250 MIN. ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN ENGINEER.

STANDARD SEPARATION STATEMENT FOR WATER/SEWER CONFLICT		G-3 WATER/SEWER CONFLICT
02-06 DATE:	REVISION: BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLM	COMPUTER FILE # DETAIL NOTES 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: JLM	SCALE: N.T.S.	
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1



PAVEMENT RESTORATION (COUNTY)		R-2
02-06 DATE:	REVISION: BY: APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLM	COMPUTER FILE # MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: JLM	SCALE: N.T.S.	
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

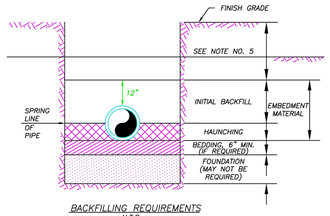


NOTES:

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 AASHITO METHOD T-99.

TYPICAL TRENCH DETAIL
N.T.S.

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

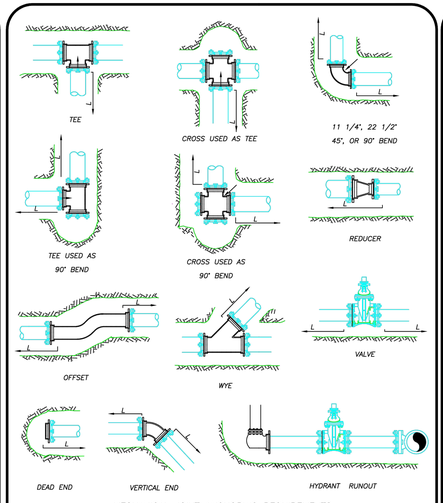


BACKFILLING REQUIREMENTS
N.T.S.

NOTES:

1) IN CERTAIN SOIL CONDITIONS A FOUNDATION MAY BE REQUIRED.
2) BEDDING IS REQUIRED PRIMARILY TO BRING THE TRENCH BOTTOM UP TO GRADE. BEDDING MATERIALS SHALL PROVIDE A UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE.
3) HAUNCHING MATERIAL SHALL BE HAND PLACED TO THE SPRINGLINE OF THE PIPE. MATERIAL SHALL BE CONSOLIDATED UNDER THE PIPE AND HAND TAMPED TO PROVIDE ADEQUATE SIDE SUPPORT.
4) INITIAL BACKFILL MATERIAL SHALL BE HAND PLACED TO 12" ABOVE THE TOP OF PIPE. THE SOIL SHALL BE COMPACTED TO 100% MAX. DENSITY.(AASHTO T-99)
5) BACKFILL SHALL BE COMPACTED TO 100% OF MAX. DENSITY AS PER AASHTO T-99, TO A POINT 30" BELOW PROPOSED PROFILE GRADE OR EXISTING GRADE. THE FINAL 30" OF BACKFILL SHALL BE COMPACTED TO 98% OF MAX. DENSITY AS PER AASHTO T-180.
6) DENSITY TEST SHALL BE PERFORMED AT AREAS DETERMINED BY THE UTILITIES ENGINEER OR PERMIT AGENCY HAVING JURISDICTION, AT THE CONTRACTORS EXPENSE.
7) CONTRACTOR TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL TRENCH SAFETY REGULATIONS.

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



MECHANICAL JOINT ANCHORING REQUIREMENTS
N.T.S.

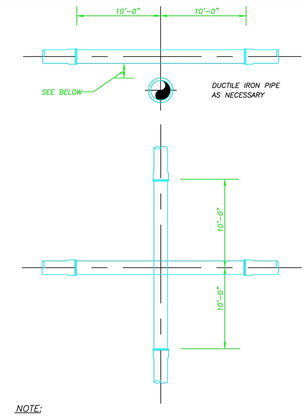
MECHANICAL JOINT ANCHORING REQUIREMENTS		M-3
03-09 DATE:	CONCRETE SLAB REVISION: SLL BY: A.C. APPD:	WATER/WASTEWATER ENGINEERING
DESIGNED: JLC	COMPUTER FILE # MISC. DETAILS 200602.DWG	FT. PIERCE UTILITIES AUTHORITY
DRAWN BY: SLL	SCALE:	
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1

MECHANICAL JOINT RESTRAINT NOTES

NOTES:

1) THE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE REQUIRED LENGTH TO BE RESTRAINED BASED UPON THE PROJECT AREA SOIL TYPE, PROPOSED TRENCH CONDITIONS AND DEPTH, PRESSURE OF 150 PSI, AND A SAFETY FACTOR OF TWO (2). A DRAWING OF EVERY TYPICAL FITTING ASSEMBLY WITHIN THE PROJECT SHALL BE SUBMITTED WHICH REFLECTS THE RESTRAINT DETAIL PROPOSED FOR USE, INCLUDING LENGTH OF PIPE RESTRAINT.
2) REQUIRED RESTRAINED LENGTH CALCULATIONS SHALL ALSO CONSIDER THE CONDITIONS OF OTHER BENDS OR FITTINGS THAT WILL BE LOCATED WITHIN THE CALCULATED RESTRAINED LENGTH (L) OF THE BEND OR FITTING IN QUESTION.
3) EVERY JOINT OR FITTING MUST BE RESTRAINED ON BOTH SIDES OF THE BEND AND FOR TEES ALONG THE BEND ALSO.

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



NOTE:

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

UTILITY CROSSING DETAIL
N.T.S.

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

DATE	BY	REVISIONS	

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

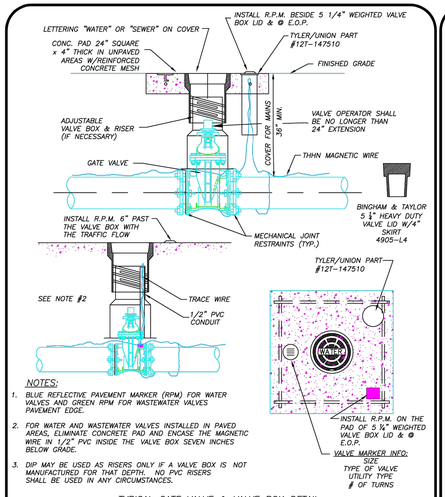
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-3

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-3 – Plotted by: Jarrod – Date: 10/27/2025 – 10:23 AM – Giangrande Engineering & Planning



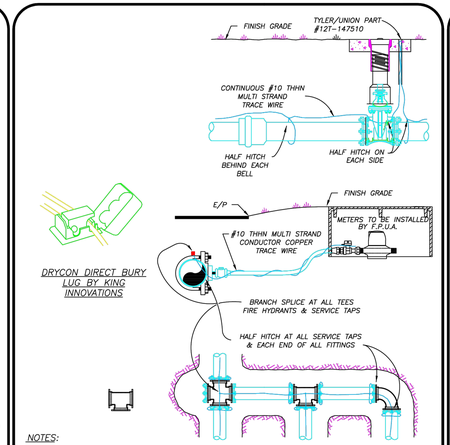
NOTES:

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

TYPICAL GATE VALVE & VALVE BOX DETAIL

N.T.S.

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING & CONSTRUCTION DIVISIONS, 1701 SOUTH 6TH STREET, FT. PIERCE, FLORIDA 34947, 772-466-1600	TYPICAL GATE VALVE & VALVE BOX DETAIL		M-6
03-09 DATE:	02-15 REVISION:	SLL BY:	JLC APPD:
DESIGNED: JLC	COMPUTER FILE # MISC_DETAILS 200602.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: SLL	SCALE: N.T.S.		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1	

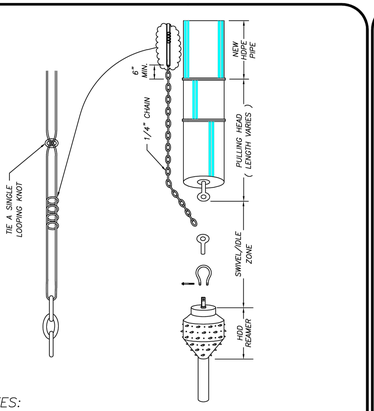


NOTES:

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 — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING & CONSTRUCTION DIVISIONS, 1701 SOUTH 6TH STREET, FT. PIERCE, FLORIDA 34947, 772-466-1600	TRACE WIRE DETAIL		M-11
03-09 DATE:	CONCRETE SLAB REVISION:	SLL BY:	JLC APPD:
DESIGNED: JLC	COMPUTER FILE # MISC_DETAILS 200602.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: SLL	SCALE:		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1	

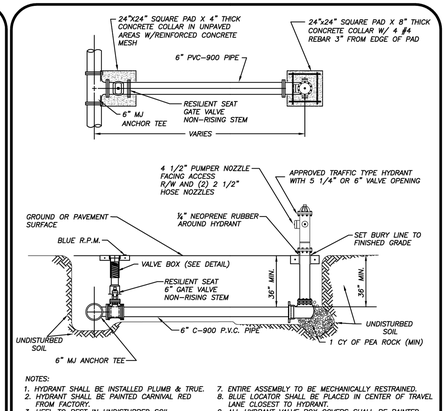


NOTES:

1. WHERE DIRECTIONAL DRILLING LENGTHS EXCEED 750 LINEAR FEET AND/OR HDPE PIPE DIAMETER EXCEED 12 INCHES, A SECOND LENGTH OF TRACE WIRE SHALL BE INSTALLED.
2. TRACE WIRE SHALL CONFORM TO THE FOLLOWING SPECIFICATION:
   MANUFACTURER – COPPERHEAD INDUSTRIES, LLC
   PART NUMBER – 12458–EHS–500 / 12458–EHS–1000 / 12458–EHS–2500
   PART NUMBER DESCRIPTION – 12 (AWG), 45 (JACKET MIL), B (JACKET COLOR: B=BLUE, G=GREEN, ETC.) – EHS (EXTRA HIGH STRENGTH–HARD DRAWN / 1150# BREAKING LOAD STRENGTH) – 500 (WIRE LENGTH IN FEET)

DIRECTIONAL BORE
WIRE ATTACHMENT

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING & CONSTRUCTION DIVISIONS, 1701 SOUTH 6TH STREET, FT. PIERCE, FLORIDA 34947, 772-466-1600	DIRECTIONAL BORE WIRE ATTACHMENT		M-16
03-09 DATE:	CONCRETE SLAB REVISION:	SLL BY:	JLC APPD:
DESIGNED: JLC	COMPUTER FILE # MISC_DETAILS 200602.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: SLL	SCALE:		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1	

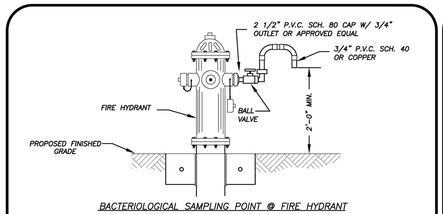


NOTES:

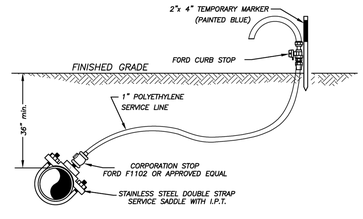
1. HYDRANT SHALL BE INSTALLED PLUMB & TRUE.
2. HYDRANT SHALL BE PAINTED CARNIVAL RED FROM FACTORY.
3. HEEL TO REST IN UNDISTURBED SOIL.
4. THE ONLY HYDRANTS ACCEPTABLE ARE, MUELLER SUPER CENTURION 250 OR AMERICAN DARLING B–84–B–5.
5. HYDRANT ASSEMBLY MUST BE RESTRAINED TO TEE.
6. ALL FITTINGS SHALL BE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

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

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING & CONSTRUCTION DIVISIONS, 1701 SOUTH 6TH STREET, FT. PIERCE, FLORIDA 34947, 772-466-1600	TYPICAL FIRE HYDRANT ASSEMBLY		W-5
12-09 DATE:	DESIGN REVISION:	SLL BY:	JLC APPD:
DESIGNED: JLC	COMPUTER FILE # WATERDETAIL.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: SLL	SCALE: N.T.S.		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1	



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

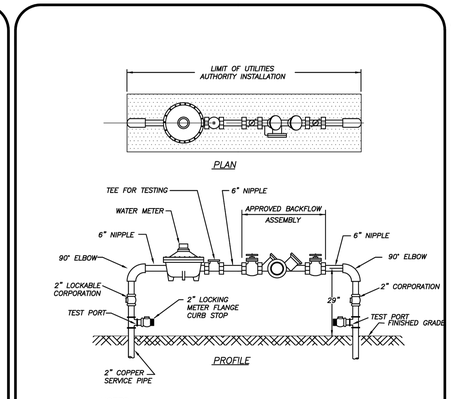


BACTERIOLOGICAL SAMPLING POINT @ WATER MAIN
(N.T.S.)

NOTE:

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

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING & CONSTRUCTION DIVISIONS, 1701 SOUTH 6TH STREET, FT. PIERCE, FLORIDA 34947, 772-466-1600	BACTERIOLOGICAL SAMPLING PONIT DETAIL		W-6
03-09 DATE:	02-15 REVISION:	SLL BY:	JLC APPD:
DESIGNED: JLC	COMPUTER FILE # WATERDETAIL.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: SLL	SCALE: N.T.S.		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1	

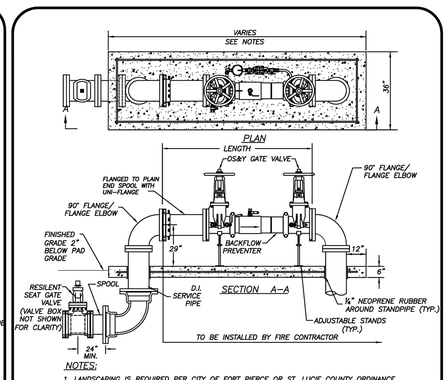


NOTES:

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 — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING & CONSTRUCTION DIVISIONS, 1701 SOUTH 6TH STREET, FT. PIERCE, FLORIDA 34947, 772-466-1600	WATER METER/BACKFLOW PREVENTER ASSEMBLY–DOMESTIC SERVICES METER SIZE 2" OR LESS		W-8
03-09 DATE:	DESIGN REVISION:	SLL BY:	JLC APPD:
DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 200602.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: SLL	SCALE: N.T.S.		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1	



NOTES:

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

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

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

FPUA COMMUNITY PROUD — FT. PIERCE UTILITIES AUTHORITY, WATER/WASTEWATER ENGINEERING & CONSTRUCTION DIVISIONS, 1701 SOUTH 6TH STREET, FT. PIERCE, FLORIDA 34947, 772-466-1600	BACKFLOW PREVENTER ASSEMBLY 4"–10" FIRE SERVICE		W-10
12-09 DATE:	CONCRETE PAD REVISION:	SLL BY:	JLC APPD:
DESIGNED: JLC	COMPUTER FILE # WATER DETAILS 200602.DWG		WATER/WASTEWATER ENGINEERING
DRAWN BY: SLL	SCALE: N.T.S.		FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1	

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

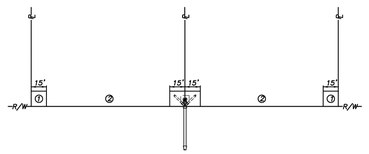
PROJECT #: 24-035

D-4

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-4 – Plotted by: Jarrod – Date: 10/27/2025 – 10:26 AM – Giangrande Engineering & Planning

GENERAL POLICY

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

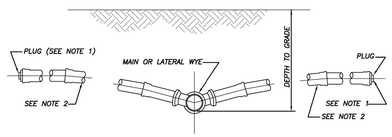


NOTES:

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

WASTEWATER SERVICE PLACEMENT
(N.T.S.)

FPUA COMMUNITY PROUD	WASTEWATER SERVICE PLACEMENT POLICY	S-1
02-06 DATE:	02-15 REVISION:	TILL BY: APPD:
DESIGNED: JAM	COMPUTER FILE # SEWER DETAIL 2009S3.DWG	WATER/WASTEWATER ENGINEERING
DRAWN BY: TILL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

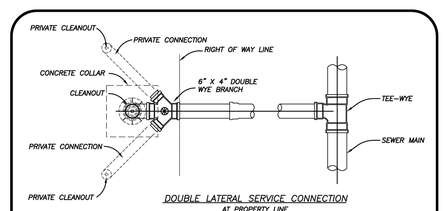


NOTES:

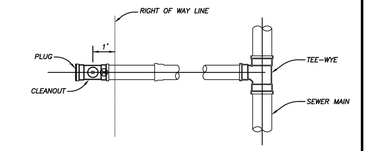
1) BALL TYPE WASTEWATER LOCATOR BY 3M CORP. OR APPROVED EQUAL.
2) MINIMUM SLOPE OF 1/8" PER FOOT, USE GREATER SLOPE WHERE POSSIBLE.
3) SERVICE LATERAL SHALL TERMINATE WITH A CLEANOUT.
4) INSTALL CLEANOUT AT THE PROPERTY LINE. REFER TO DETAIL S-1 FOR SPECIFIC PROPERTY LAYOUT.

SERVICE CONNECTION
(N.T.S.)

FPUA COMMUNITY PROUD	SERVICE CONNECTION WASTEWATER	S-2
02-06 DATE:	REVISION:	BY: APPD:
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2009S3.DWG	WATER/WASTEWATER ENGINEERING
DRAWN BY: TILL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2015	SHEET 1 OF 1



DOUBLE LATERAL SERVICE CONNECTION
AT PROPERTY LINE

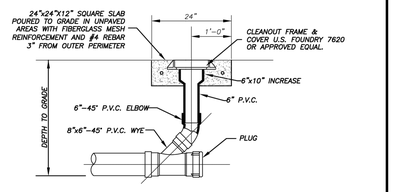


SINGLE SERVICE LATERAL CONNECTION

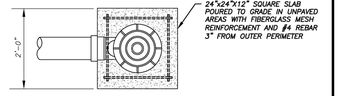
⊛ = BALL TYPE WASTEWATER LOCATOR INSTALLED ABOVE THIS POINT
BALL BY 3M CORP. OR APPROVED EQUAL
SERVICE LATERAL SHALL TERMINATE WITH A CLEANOUT

SERVICE CONNECTION
(N.T.S.)

FPUA COMMUNITY PROUD	SERVICE CONNECTION WASTEWATER	S-3
02-06 DATE:	REVISION:	BY: APPD:
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2009S3.DWG	WATER/WASTEWATER ENGINEERING
DRAWN BY: TILL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1



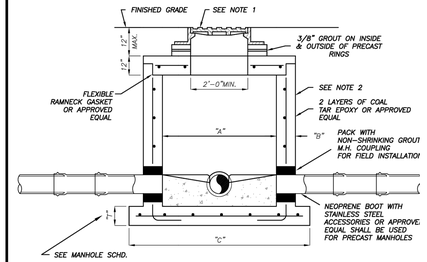
SECTION



PLAN

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

FPUA COMMUNITY PROUD	TERMINAL CLEANOUT DETAIL WASTEWATER	S-4B
10-06 DATE:	REVISION:	BY: APPD:
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2009S3.DWG	WATER/WASTEWATER ENGINEERING
DRAWN BY: TILL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 2 OF 3



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

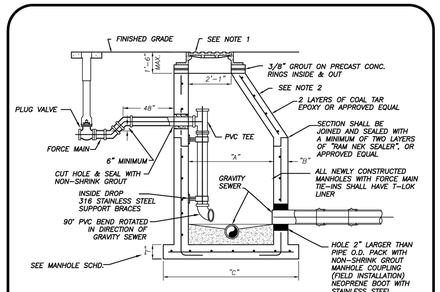
TYPICAL MANHOLE DIMENSIONS

NOTES:

1) MANHOLE FRAME & COVER WITH THE WORDS " SANITARY SEWER" CAST IN THE COVER. U.S. FOUNDRY 170 OR APPROVED EQUAL.
2) ALL CONCRETE MANHOLES TO BE 4000 P.S.I. TO MEET OR EXCEED ASTM C478 ALL CEMENT TO BE TYPE II ACID RESISTANT. REINFORCING AREA OF 0.02 SQ. IN/FT FOR WALL SECTION MIN. TO MEET OR EXCEED ASTM A 185.
3) A MAXIMUM OF 2 LAYERS OF PRECAST CONCRETE RINGS, IF REQUIRED.
4) RAIN GUARDS SHALL BE INSTALLED IN MANHOLES THAT HAVE GRAVITY MAINS 12" OR LESS.

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

FPUA COMMUNITY PROUD	PRECAST MANHOLE DEPTH OF LESS THAN 5'- 0"	S-6
02-06 DATE:	REVISION:	BY: APPD:
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2009S3.DWG	WATER/WASTEWATER ENGINEERING
DRAWN BY: TILL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1



PIPE DIA.	"A"	"B"	"C"	BOT. SLAB "T"
8"-24"	5'-0"	"B"	70"	8"
30"-36"	6'-0"	"B"	84"	10"
42"-48"	7'-0"	"B"	96"	12"

TYPICAL MANHOLE DIMENSIONS

NOTES:

1) MANHOLE FRAME & COVER WITH THE WORDS " SANITARY SEWER" CAST IN THE COVER. U.S. FOUNDRY 170 OR APPROVED EQUAL.
2) ALL CONCRETE MANHOLES TO BE 4000 P.S.I. TO MEET OR EXCEED ASTM C478 ALL CEMENT TO BE TYPE II ACID RESISTANT. REINFORCING AREA OF 0.20IN/FT FOR WALL SECTION MIN. TO MEET OR EXEED ASTM A 185.
3) A MAXIMUM OF 2 LAYERS OF PRECAST CONCRETE RINGS, IF REQUIRED.
4) FORCE MAIN TIE-IN SHALL BE TO MANHOLES WITH A MINIMUN DEPTH OF 4'-0".
5) NEW MANHOLES SHALL BE T-LOCK LINED, EXISTING MANHOLES SHALL BE SEWPERCOATED.

FORCE MAIN TIE-IN @ PRECAST MANHOLE
(N.T.S.)

FPUA COMMUNITY PROUD	FORCE MAIN TIE-IN AT PRECAST MANHOLE	S-10
03-09 DATE:	VALVE AND DEFLECTION REVISION:	TILL BY: JLC APPD:
DESIGNED: JLC	COMPUTER FILE # SEWER DETAIL 2009S3.DWG	WATER/WASTEWATER ENGINEERING
DRAWN BY: TILL	SCALE: N.T.S.	FT. PIERCE UTILITIES AUTHORITY
APPROVED: JLC	DATE: 2010	SHEET 1 OF 1

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-5

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-5 - Plotted by Jarrod - Date: 10/27/2025 - 10:25 AM - Giangrande Engineering & Planning

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	ABRAHAM JAIMES 786-960-1633 ABRAHAM.JAIMES@ADSPIPE.COM
ADS SALES REP	TIM TEAHAN 561-248-5480 TIM.TEAHAN@ADSPIPE.COM
PROJECT NO.	S482153
PROJECT SITE COORDINATOR:	JAMES FARTHING 407-663-4242 JAMES.FARTHING@ADSPIPE.COM

Advanced Drainage Systems, Inc.

ADS SiteAssist™
FOR STORMTECH
INSTALLATION INSTRUCTIONS
VISIT OUR APP

3700 OKEECHOBEE ROAD

FORT PIERCE, FL, USA

SC-310 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-310.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

1. STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 3" (80 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

©2025 ADS, INC.

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-6 — Plotted by: Jarrod — Date: 10/27/2025 - 10:21 AM — GeoGrande Engineering & Planning

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-6

PROPOSED LAYOUT: SOUTH BED

221	STORMTECH SC-310 CHAMBERS
34	STORMTECH SC-310 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
6,994	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
5,397	SYSTEM AREA (ft²)
308	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS: SOUTH BED

23.20	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
17.03	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
16.53	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
16.53	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
16.53	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
15.70	TOP OF STONE
15.20	TOP OF SC-310 CHAMBER
14.16	8" TOP MANIFOLD INVERT
13.95	12" ISOLATOR ROW PLUS CONNECTION INVERT
13.87	BOTTOM OF SC-310 CHAMBER
13.37	BOTTOM OF STONE

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PRE-CORED END CAP	A	8" TOP PRE-CORED END CAP, PART#: SC310EPE08TPC / TYP OF ALL 8" TOP CONNECTIONS	3.50"	
PREFABRICATED EZ END CAP	B	12" BOTTOM PREFABRICATED EZ END CAP, PART#: SC310ECEZ / TYP OF ALL 12" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	0.90"	
FLAMP	C	INSTALL FLAMP ON 12" ACCESS PIPE / PART#: SC31012RAMP		
MANIFOLD	D	8" x 8" TOP MANIFOLD, ADS N-12	3.50	
CONCRETE STRUCTURE	E	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		4.0 CFS IN
INSPECTION PORT	F	4" (SEE DETAIL)		



ISOLATOR ROW PLUS (SEE DETAIL)

PLACE MINIMUM 12.50' OF ADSPLUS625 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

3700 OKEECHOBEE ROAD
FORT PIERCE, FL, USA
DATE: 07/29/2025
DRAWN: DH
PROJECT #: S482153
CHECKED: HAK

DATE	DWN	CHK

StormTech® Chamber System

4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

0 20' 40'

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET
2 OF 6

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-7

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-7 – Plotted by: Jarrod – Date: 10/27/2025 – 10:25 AM – Giangrande Engineering & Planning

PROPOSED LAYOUT: NORTH BED

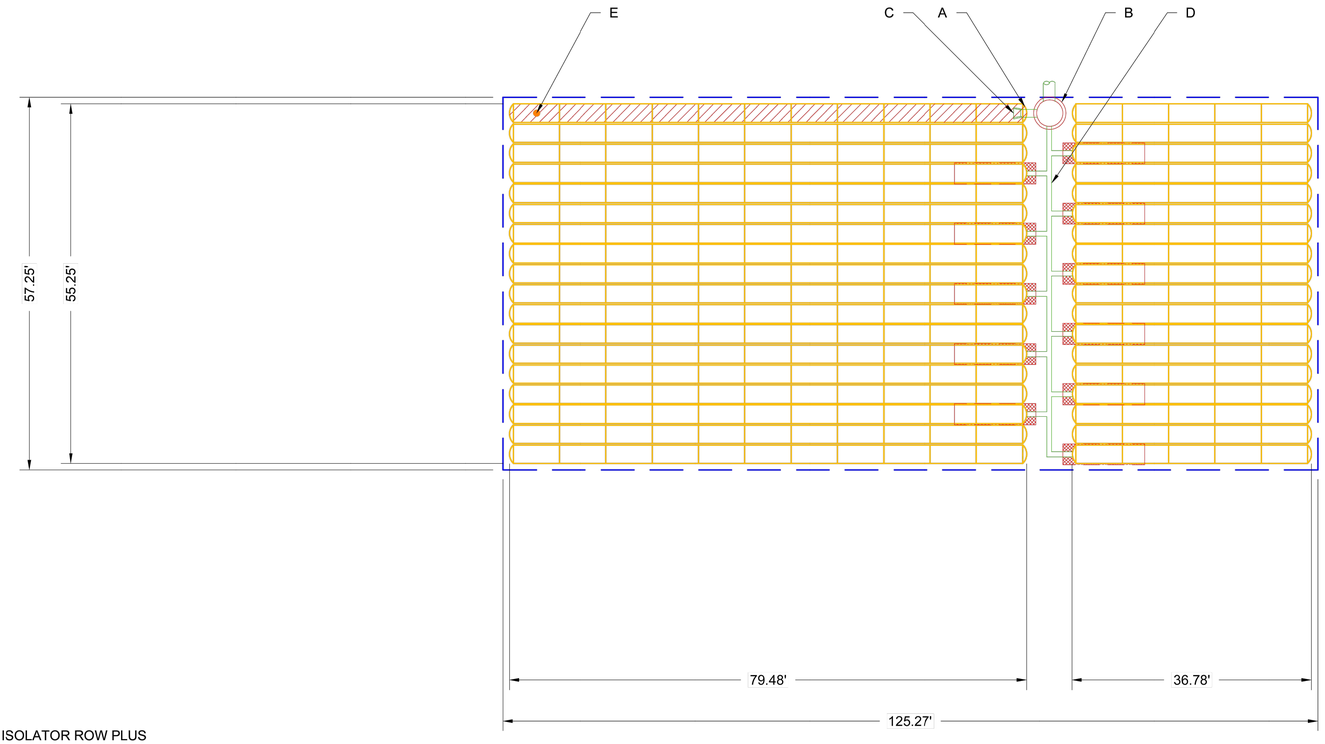
288	STORMTECH SC-310 CHAMBERS
72	STORMTECH SC-310 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
9,244	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
7,172	SYSTEM AREA (ft²)
365	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS: NORTH BED

22.35	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
16.18	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
15.68	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
15.68	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
15.68	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
14.85	TOP OF STONE
14.35	TOP OF SC-310 CHAMBER
13.31	8" TOP MANIFOLD INVERT
13.10	12" ISOLATOR ROW PLUS CONNECTION INVERT
13.02	BOTTOM OF SC-310 CHAMBER
12.52	BOTTOM OF STONE

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED EZ END CAP	A	12" EZ END CAP, PART#: SC310ECEZ / TYP OF ALL SC-310 CONNECTIONS & 12" ISOLATOR ROW PLUS CONNECTIONS	0.90"	
CONCRETE STRUCTURE	B	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		2.3 CFS IN
FLAMP	C	INSTALL FLAMP ON 12" ACCESS PIPE / PART#: SC31012RAMP		
MANIFOLD	D	8" x 8" TOP MANIFOLD, ADS N-12	3.50"	
INSPECTION PORT	E	4" (SEE DETAIL)		



ISOLATOR ROW PLUS (SEE DETAIL)

PLACE MINIMUM 12.50' OF ADSPLUS625 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

3700 OKEECHOBEE ROAD
FORT PIERCE, FL, USA
DRAWN: DH
CHECKED: HAK
DATE: 07/29/2025
PROJECT #: S482153

DATE	DWN	CHK

THE PROJECT IS ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

StormTech® Chamber System

4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

ADS

40'
20'
0

SHEET
3 OF 6

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

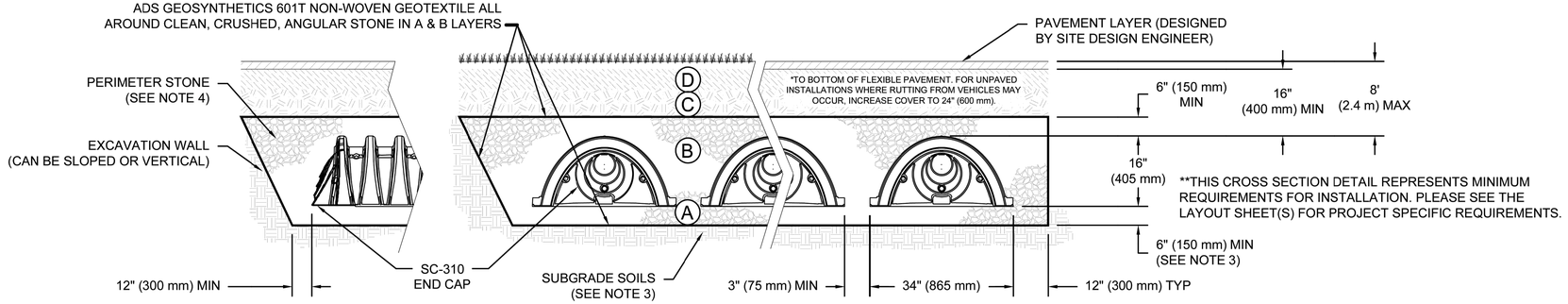
D-8

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-8 -- Plotted by: Jamod -- Date: 10/27/2025 -- 10:24 AM -- Giangrande Engineering & Planning

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 16" (460 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE5	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE5	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

3700 OKEECHOBEE ROAD
FORT PIERCE, FL, USA
DATE: 07/29/2025 | DRAWN: DH | PROJECT #: S482153 | CHECKED: HAK

DATE	DWN	CHK

StormTech® Chamber System

4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET
4 OF 6

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

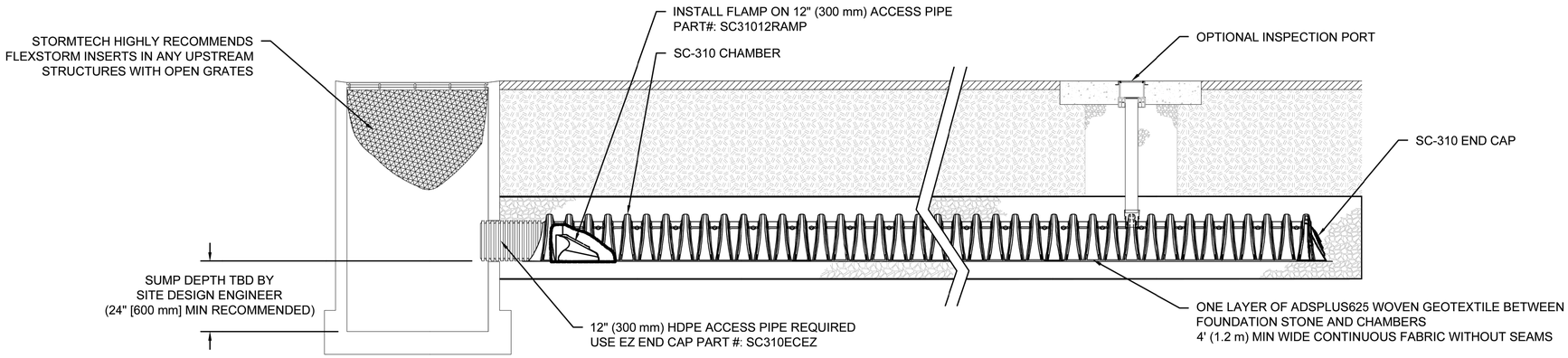
ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035
D-9

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-9 — Plotted by: Jarod — Date: 10/27/2025 - 10:24 AM — Giangrande Engineering & Planning



SC-310 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

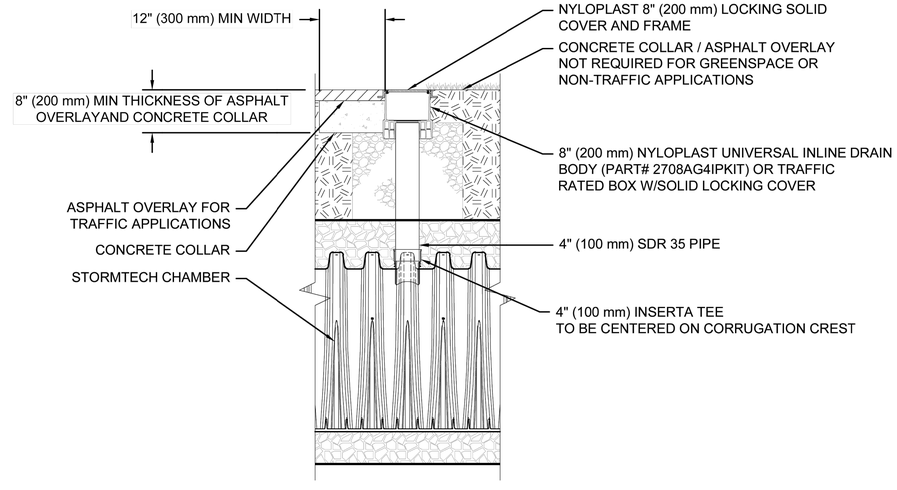
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

4" PVC INSPECTION PORT DETAIL
(SC SERIES CHAMBER)
NTS

3700 OKEECHOBEE ROAD
FORT PIERCE, FL, USA
DATE: 07/29/2025 | DRAWN: DH
PROJECT #: S482153 | CHECKED: HAK

DATE	DWN	CHK

StormTech® Chamber System

4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET
5 OF 6

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

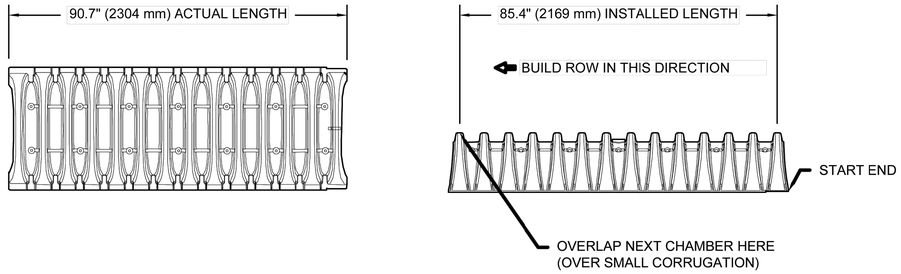
LEO GIANGRANDE, P.E.
License No: 66387

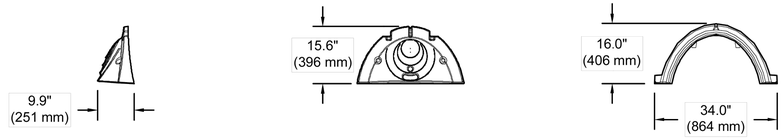
PROJECT #: 24-035
D-10

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-10 Plotted by: Jarrod Date: 10/27/2025 10:27 AM Gangrande Engineering & Planning

SC-310 TECHNICAL SPECIFICATION

NTS



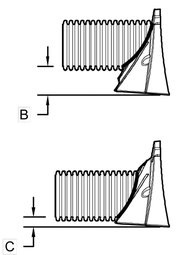


NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	29.3 CUBIC FEET	(0.83 m³)
WEIGHT	35.0 lbs.	(16.8 kg)

*ASSUMES 6" (152 mm) ABOVE, BELOW, AND 3" (75 mm) BETWEEN CHAMBERS

PART #	STUB	B	C
SC310EPE06TPC	6" (150 mm)	5.8" (147 mm)	---
SC310EPE06BPC		---	0.5" (13 mm)
SC310EPE08TPC	8" (200 mm)	3.5" (89 mm)	---
SC310EPE08BPC		---	0.6" (15 mm)
SC310EPE10TPC	10" (250 mm)	1.4" (36 mm)	---
SC310EPE10BPC		---	0.7" (18 mm)
SC310ECEZ*	12" (300 mm)	---	0.9" (23 mm)



ALL STUBS, EXCEPT FOR THE SC310ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC310ECEZ THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL; PRE-CORED END CAPS END WITH "PC"

3700 OKEECHOBEE ROAD
FORT PIERCE, FL, USA
DATE: 07/29/2025 | DRAWN: DH | PROJECT #: S482153 | CHECKED: HAK

DATE	DWN	CHK

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

StormTech® Chamber System

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

SHEET
6 OF 6

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: N/A
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

ADS DETAILS

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

D-11

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Details.dwg Layout Name: D-11 Plotted by: Jsmod Date: 10/27/2025 - 10:26 AM Giangrande Engineering & Planning

MICHELLE R. MILLER, CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY
FILE # 5422408 OR BOOK 5248 PAGE 676, Recorded 12/19/2024 08:02:59 AM Doc Tax: $6300.00

THIS INSTRUMENT PREPARED BY AND RETURN TO:
H. Randolph Klein, Esq.
Klein & Klein, LLC
40 SE 11th Avenue
Ocala, Florida 34471
Our File No.: **R2024262**
Property Appraisers Parcel Identification (Folio) Numbers: **2417-331-0010-000-6 and 2417-331-0001-000-0**
Florida Documentary Stamps in the amount of **$6,300.00** have been paid hereon.

SPACE ABOVE THIS LINE FOR RECORDING DATA

WARRANTY DEED

THIS WARRANTY DEED, made the 17th day of **December, 2024** by **TWELVE 28 LLC, a Florida limited liability company**, whose post office address is **5500 Orange Avenue, Fort Pierce, FL 34947,** herein called the Grantor, to **TROIL SOUTH, LLC, a Delaware limited liability company** whose post office address is **P.O. Box 419, Kingston, NJ 08528**, 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)

W I T N E S S E T H: That the Grantor, for and in consideration of the sum of TEN AND 00/100'S ($10.00) Dollars 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, State of Florida, viz.:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

Subject to easements, restrictions and reservations of record, which are not intended to be reimposed hereby, and to taxes for the year 2025 and thereafter.

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 whomsoever.

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:

x _____
Witness #1 Signature

x Frank. H. Fee III
Witness #1 Printed Name

x 426 Avenue A
Witness #1 Post Office Address

x Fort Pierce FL 34950
Witness #1 Post Office Address continued

x _____
Witness #2 Signature

x Lisa L. Bolton
Witness #2 Printed Name

x 426 Avenue A
Witness #2 Post Office Address

x Fort Pierce, FL 34950
Witness #2 Post Office Address continued

TWELVE 28 LLC, a Florida limited liability company

By:x _____
George Douglas Miller, its Manager

STATE OF FLORIDA

COUNTY OF St. Lucie

The foregoing instrument was acknowledged before me by means of physical presence this 17th day of December, 2024 by George Douglas Miller, the Manager of TWELVE 28 LLC, a Florida limited liability company, on behalf of the company. He is X personally known to me OR ____ produced personally known as identification.

SEALx

x _____
Notary Signature

x Lisa L. Bolton
Printed Notary Signature

My Commission Expires:**x**

LISA L. BOLTON
Commission # HH 592422
Expires November 3, 2028

EXHIBIT "A"

LEGAL DESCRIPTION

PARCEL 1:

BEGINNING at a point 25 feet West of the Northeast corner of the Southwest 1/4 of the Southwest 1/4 of Section 17, Township 35 South, Range 40 East; run thence West 233.23 feet to a concrete monument; thence Southerly parallel to Totten's Road, 523.5 feet, more or less, to the North right-of-way line of Okeechobee Road; thence Northeasterly along said right-of-way to a point 25 feet West of the East line of the said Southwest 1/4 of the Southwest 1/4; thence along a line parallel to and 25 feet West of the East line of the said Southwest 1/4 of the Southwest 1/4, 375.7 feet, more or less, to the POINT OF BEGINNING;

EXCEPTING THEREFROM THE FOLLOWING:

1. The North 100 feet thereof;
2. The South 20 feet of the North 120 feet thereof;
3. Tract described as: From the Northeast corner of the SW 1/4 of the SW 1/4 of Section 17, Township 35 South, Range 40 East, run West on the North line of SW 1/4 of the SW 1/4, 256.97 feet to the point of beginning; thence run Southerly parallel with Totten's Road 523.5 feet to the North boundary line of Okeechobee Road; thence run Southwesterly along said road 100 feet to a stake or pipe; thence run Northerly parallel to Totten's Road 585 feet to the North line of said SW 1/4 of the SW 1/4; thence run East 83.8 feet to the Point of Beginning.
4. Parcels thereof conveyed by Harry J. Kicliter and Ethel P. Kicliter to State of Florida for rights-of-way as described in Deed Book 236, page 398 and 399, Public Records of St. Lucie County, Florida.

PARCEL 2:

The North 120 feet of the following described property:

Beginning at the Northeast corner of the SW 1/4 of the SW 1/4 of Section 17, Township 35 South, Range 40 East, run West 256.97 feet more or less to a stake; thence Southerly parallel to Totten's Road 523.5 feet to the North line of the Okeechobee Road right of way; thence Northeasterly along said right of way to the East line of said SW 1/4 or SW 1/4; thence North along said East line 375.7 feet, more or less, to the point of beginning.

Except right of way now used for public roads.

Michelle Franklin, CFA -- Saint Lucie County Property Appraiser -- All rights reserved -- 3/27/2025, 12:16 PM

Property Identification

Site Address: 3700 OKEECHOBEE RD	Parcel ID: 2417-331-0010-000-6	Account #: 26503	Sec/Town/Range: 17/35S/40E
Use Type: 1700	Jurisdiction: Fort Pierce	Map ID: 24/17S	Zoning: General Co

Ownership

Troil South LLC

PO Box 419
Kingston, NJ 08528-0419

Legal Description

17 35 40 BEG 25 FT W OF NE COR OF SW 1/4 OF SW 1/4 RUN W 233.23 FT, TH SLY // TO TOTTEN RD 523.5 FT TO N R/W OF OKEE RD, TH NELY ALG R/W TO PT 25 FT W OF E LI OF SW 1/4 OF SW 1/4, TH ALG LI // TO AND 25 FT W OF E LI OF SW 1/4 OF SW 1/4 375.7 FT TO POB-LESS N 120 FT THEREOF AND LESS RD R/W- (80) (1.73 AC)

Current Values

Just/Market:	$313,000	Assessed:	$47,916
Exemptions:	$0	Taxable:	$47,916

Historical Values 3-year

Year	Just/Market	Assessed	Exemptions	Taxable
2024	$313,000	$47,916	$0	$47,916
2023	$44,300	$43,560	$0	$43,560
2022	$50,100	$39,600	$0	$39,600

Sale History

Date	Book/Page	Sale Code	Deed	Grantor	Price
12-17-2024	5248 / 0676	0205	WD	Twelve 28 LLC	$900,000
02-09-2024	5106 / 1045	0002	WD	Indian River Oil Co	$450,000
01-01-1900					$0

Primary Building Information

Finished Area of this building: 3,745 SF
Gross Sketched Area: 4,047 SF

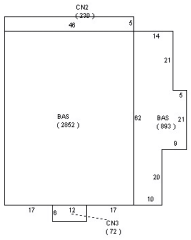
Exterior Data

View:	Roof Cover: Mod Bitimun	Roof Structure: Flat/Shed	Building Type: LROF
Year Built: 1950	Frame: Conc Blk	Grade: Y_D	Effective Year: 1950
Primary Wall: Conc Block	Story Height: 1 Story	No. Units: 1	Secondary Wall:

Interior Data

Bedrooms: 0	A/C %: 75%	Electric: AVERAGE	Primary Int Wall:
Full Baths: 0	Heated %: 75%	Heat Type: FrcdHotAir	Avg Hgt/Floor: 0
Half Baths: 0	Sprinkled %: 100%	Heat Fuel: ELEC	Primary Floors: Vinyl Tiles





Total Areas

Finished/Under Air (SF):	3,745
Gross Sketched Area (SF):	4,047
Land Size (acres):	1.73
Land Size (SF):	75,358.8
Total Building Count:	1

Special Features and Yard Items

Type	Qty	Units	Year Blt
CONCRETE LOW	1	3198	1950
CONCRETE LOW	1	2122	1970
CONCRETE LOW	1	1710	1970
SINGLE LIGHT	2	25	1980
BARB WIRE	1	1035	1980
CHAINLINK 6'	1	1035	1980

All information is believed to be correct at this time, but is subject to change and is provided without any warranty.
© Copyright 2025 Saint Lucie County Property Appraiser. All rights reserved.

Michelle Franklin, CFA -- Saint Lucie County Property Appraiser -- All rights reserved -- 6/2/2025, 3:12 PM

Property Identification

Site Address: 1903 S 37TH ST
Sec/Town/Range: 17/35S/40E
Parcel ID: 2417-331-0001-000-0
Jurisdiction: Saint Lucie County

Use Type: 1000
Account #: 26493
Map ID: 24/17S
Zoning: Comm Neigh

Ownership

Troil South LLC

PO Box 419
Kingston, NJ 08528-0419

Legal Description

17 35 40 BEG AT NE COR OF SW 1/4 OF SW 1/4, TH RUN W 258.23 FT, TH SLY 120 FT, TH ELY TO E LI OF SW 1/4 OF SW 1/4, TH NLY TO POB (81)(0.63 AC) (OR 4077-2458)



Current Values

Just/Market Value:	$110,500
Assessed Value:	$34,991
Exemptions:	$0
Taxable Value:	$34,991

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):	0.63
Land Size (SF):	27,442.8

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 17, 2024	5248 / 0676	0205	WD	Twelve 28 LLC	$900,000
Jun 18, 2024	5166 / 1894	0001	WD	BalBuena Ramon G	$53,600
Dec 11, 2017	4077 / 2458	0001	WD	Christopher Patricia G	$32,800
Sep 15, 2014	3680 / 1540	0111	QC	Christopher Patricia G	$100
Jun 15, 2012	3400 / 1504	0111	TXDEED	Christopher Patricia G	$0
Jun 4, 2012	3395 / 2574	0111	TXDEED	Christopher Patricia G	$10,200
Aug 30, 2007	2882 / 2174	XX01	PB	Christopher Patricia G	$0
Dec 7, 2005	2435 / 0945	XX01	ORDADM	Jurkowski(EST) Betty J	$0
Dec 2, 1989	0667 / 1473	XX01	QC	Spells Robert J	$100
May 15, 1963	0071 / 0369	XX00	WD	Christopher Patricia G	$0

Building Information (1 of 1)

Finished Area: 0 SF

Gross Sketched Area: 0 SF

Exterior Data

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

Interior Data

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



Image or Sketch unavailable for display

Sketch Area Legend

Sub Area	Description	Area	Fin. Area	Perimeter

Special Features and Yard Items

Type	Qty	Units	Year Blt

Current Year Values

Current Values Breakdown

Building and SFYI:	$0
Land:	$110,500
Just/Market:	$110,500
Ag Credit:	$0
Save Our Homes or 10% Cap:	$75,509
Assessed:	$34,991
Exemption(s):	$0
Taxable:	$34,991

Current Year Exemption Value Breakdown

Current Year Special Assessment Breakdown

Start Year	AssessCode	Units	Description	Amount
2013	0054	0.63	North St. Lucie Water Management District	$25.00

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	$110,500	$34,991	$0	$34,991
2023	$53,600	$31,810	$0	$31,810
2022	$53,600	$28,919	$0	$28,919
2021	$29,500	$26,290	$0	$26,290

Permits

Number	Issue Date	Description	Amount	Fee
C200-20633	Feb 24, 2000	Demolition	$0	$0
C20020635	Feb 24, 2000	Demolition	$0	$0
C20020636	Feb 24, 2000	Demolition	$0	$0
BLDC-2503-003176	Apr 2, 2025	Demolition	$5,000	$0

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

All information is believed to be correct at this time, but is subject to change and is provided without any warranty.
© Copyright 2025 Saint Lucie County Property Appraiser. All rights reserved.

Google Maps



Imagery ©2025 Airbus, Maxar Technologies, Map data ©2025 200 ft







Image capture: Jul 2024 © 2025 Google




Google


Google


KEITH PEARSON
Google




RENT ME 772-281





BOUNDARY SURVEY

LEGAL DESCRIPTION:

THE NORTH 120 FEET OF THE FOLLOWING DESCRIBED PROPERTY: BEGINNING AT THE NORTHEAST CORNER OF THE SW 1/4 OF THE SW 1/4 OF SECTION 17, TOWNSHIP 35 SOUTH, RANGE 40 EAST, RUN WEST 256.97 FEET MORE OR LESS TO A STAKE; THENCE SOUTHERLY PARALLEL TO TOTTEN'S ROAD 523.5 FEET TO THE NORTH LINE OF THE OKEECHOBEE ROAD RIGHT OF WAY; THENCE NORTHEASTERLY ALONG SAID RIGHT OF WAY TO THE EAST LINE OF SAID SW 1/4 OR SW 1/4; THENCE NORTH ALONG SAID EAST LINE 375.7 FEET, MORE OR LESS, TO THE POINT OF BEGINNING: EXCEPT RIGHT OF WAY NOW USED FOR PUBLIC ROADS. SUBJECT TO RESTRICTIONS, RESERVATIONS, LIMITATIONS, AND EASEMENTS OF RECORD, IF ANY; THIS REFERENCE TO SAID RESTRICTIONS SHALL NOT OPERATE TO REIMPOSE THE SAME, AND TAXES FOR THE CURRENT AND SUBSEQUENT YEARS. GRANTOR COVENANTS WITH GRANTEE THAT THE ABOVE DESCRIBED PROPERTY IS COMMERCIAL REAL PROPERTY AND IS NOT NOW, NOR HAS IT EVER BEEN, THE HOMESTEAD OF GRANTOR OR THE SPOUSE OF GRANTOR WHO LIVE ELSEWHERE IN ST. LUCIE COUNTY, FLORIDA.

BEGINNING AT A POINT 25 FEET WEST OF THE NORTHEAST CORNER OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 17, TOWNSHIP 35 SOUTH, RANGE 40 EAST; RUN THENCE WEST 233.23 FEET TO A CONCRETE MONUMENT; THENCE SOUTHERLY PARALLEL TO TOTTEN'S ROAD, 523.5 FEET, MORE OR LESS, TO THE NORTH RIGHT-OF-WAY LINE OF OKEECHOBEE ROAD; THENCE NORTHEASTERLY ALONG SAID RIGHT-OF-WAY TO A POINT 25 FEET WEST OF THE EAST LINE OF THE SAID SOUTHWEST 1/4 OF THE SOUTHWEST 1/4; THENCE ALONG A LINE PARALLEL TO AND 25 FEET WEST OF THE EAST LINE OF THE SAID SOUTHWEST 1/4 OF THE SOUTHWEST 1/4, 375.7 FEET, MORE OR LESS, TO THE POINT OF BEGINNING; EXCEPTING THEREFROM THE FOLLOWING: 1. THE NORTH 100 FEET THEREOF; 2. THE SOUTH 20 FEET OF THE NORTH 120 FEET THEREOF; 3. TRACT DESCRIBED AS: FROM THE NORTHEAST CORNER OF THE SW 1/4 OF THE SW 1/4 OF SECTION 17, TOWNSHIP 35 SOUTH, RANGE 40 EAST, RUN WEST ON THE NORTH LINE OF SW 1/4 OF THE SW 1/4, 256.97 FEET TO THE POINT OF BEGINNING; THENCE RUN SOUTHERLY PARALLEL WITH TOTTEN'S ROAD 523.5 FEET TO THE NORTH BOUNDARY LINE OF OKEECHOBEE ROAD; THENCE RUN SOUTHWESTERLY ALONG SAID ROAD 100 FEET TO A STAKE OR PIPE; THENCE RUN NORTHERLY PARALLEL TO TOTTEN'S ROAD 585 FEET TO THE NORTH LINE OF SAID SW 1/4 OF THE SW1/4; THENCE RUN EAST 83.8 FEET TO THE POINT OF BEGINNING. 4. PARCELS THEREOF CONVEYED BY HARRY J. KICLITER AND ETHEL P. KICLITER TO STATE OF FLORIDA FOR RIGHTS-OF-WAY AS DESCRIBED IN DEED BOOK 236, PAGE 398 AND 399, PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA.

COMMUNITY NUMBER: 120285
PANEL: 0186
SUFFIX: J
F.I.R.M. DATE:
FLOOD ZONE: X
FIELD WORK: 11/15/2024

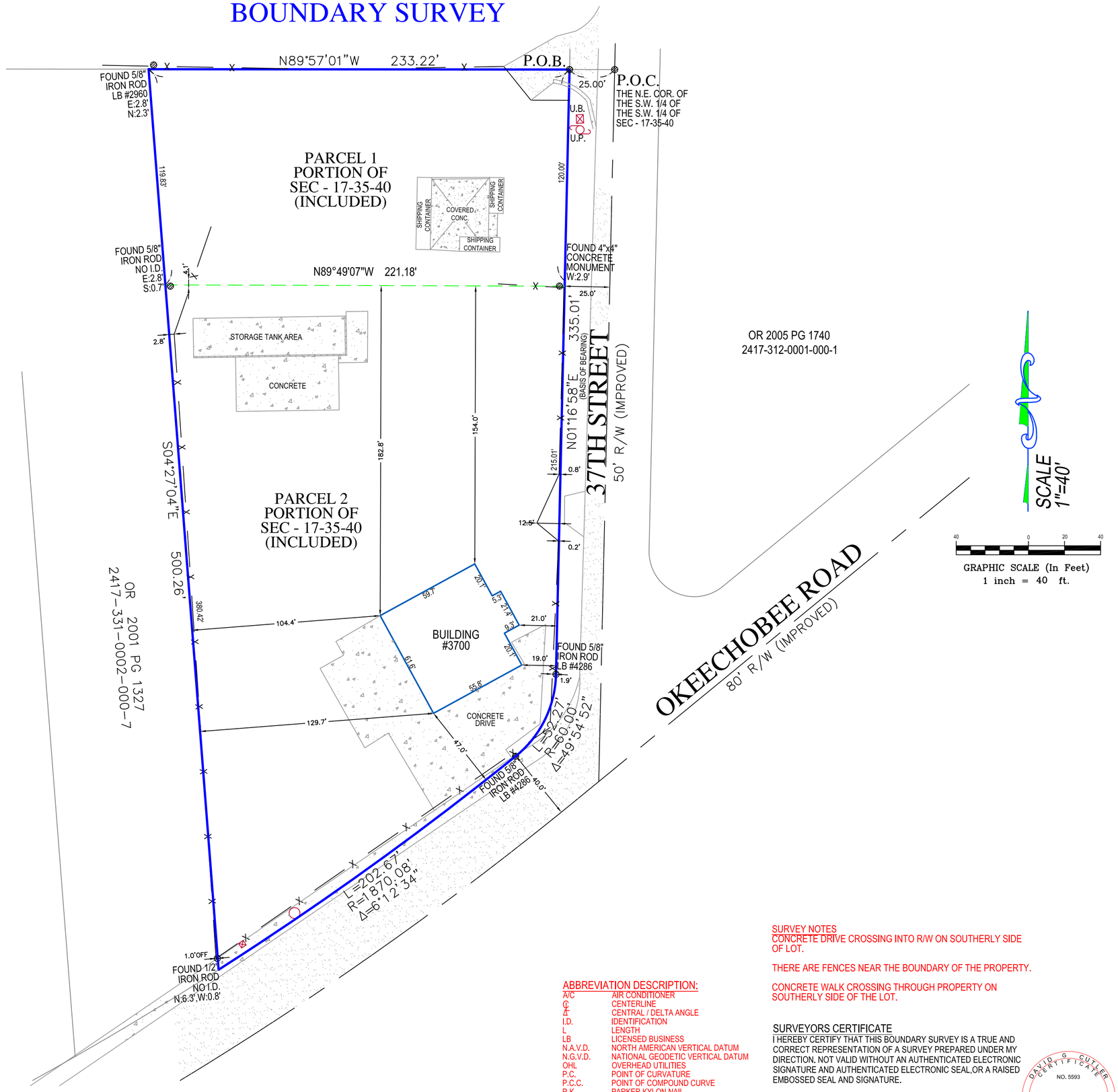
CERTIFIED TO:
TROIL SOUTH, LLC; CALIBER CONTRACTING, INC.

PROPERTY ADDRESS:
3700 OKEECHOBEE ROAD
FORT PIERCE, FL 34947

SURVEY NUMBER: 662054

SYMBOL DESCRIPTIONS:

= CATCH BASIN
= CENTERLINE ROAD
= COVERED AREA
= EXISTING ELEVATION
= HYDRANT
= MANHOLE
= METAL FENCE
= MISC. FENCE
= PROPERTY CORNER
= UTILITY BOX
= UTILITY POLE
= WATER METER
= WELL
= WOOD FENCE



REVISIONS:
1) LEGAL DESCRIPTION REVISED. . . 11-20-2024

ABBREVIATION DESCRIPTION:

A/C	AIR CONDITIONER
℄	CENTERLINE
Δ	CENTRAL / DELTA ANGLE
I.D.	IDENTIFICATION
L	LENGTH
LB	LICENSED BUSINESS
N.A.V.D.	NORTH AMERICAN VERTICAL DATUM
N.G.V.D.	NATIONAL GEODETIC VERTICAL DATUM
OHL	OVERHEAD UTILITIES
P.C.	POINT OF CURVATURE
P.C.C.	POINT OF COMPOUND CURVE
P-K	PARKER KYLON NAIL
P.R.C.	POINT OF REVERSE CURVE
PSM	PROFESSIONAL SURVEYOR MAPPER
P.T.	POINT OF TANGENCY
R	RADIAL / RADIUS
R/W	RIGHT OF WAY

SURVEY NOTES
CONCRETE DRIVE CROSSING INTO R/W ON SOUTHERLY SIDE OF LOT.

THERE ARE FENCES NEAR THE BOUNDARY OF THE PROPERTY.

CONCRETE WALK CROSSING THROUGH PROPERTY ON SOUTHERLY SIDE OF THE LOT.

SURVEYORS CERTIFICATE
I HEREBY CERTIFY THAT THIS BOUNDARY SURVEY IS A TRUE AND CORRECT REPRESENTATION OF A SURVEY PREPARED UNDER MY DIRECTION. NOT VALID WITHOUT AN AUTHENTICATED ELECTRONIC SIGNATURE AND AUTHENTICATED ELECTRONIC SEAL,OR A RAISED EMBOSSED SEAL AND SIGNATURE.

(SIGNED) _____
DAVID G CUTLER
PROFESSIONAL SURVEYOR AND MAPPER #5593

DAVID G CUTLER CERTIFICATE NO. 5593 STATE OF FLORIDA PROFESSIONAL SURVEYOR & MAPPER

GENERAL NOTES:
1) LEGAL DESCRIPTION PROVIDED BY OTHERS
2) THE LANDS SHOWN HEREON WERE NOT ABSTRACTED FOR EASEMENTS OR OTHER RECORDED ENCUMBRANCES NOT SHOWN ON THE PLAT.
3) UNDERGROUND PORTIONS OF FOOTINGS, FOUNDATIONS OR OTHER IMPROVEMENTS WERE NOT LOCATED.
4) WALL TIES ARE TO THE FACE OF THE WALL AND ARE NOT TO BE USED TO RECONSTRUCT BOUNDARY LINES.
5) ONLY VISIBLE ENCROACHMENTS LOCATED.
6) DIMENSIONS SHOWN ARE PLAT AND MEASURED UNLESS OTHERWISE SHOWN.
7) FENCE OWNERSHIP NOT DETERMINED.
8) ELEVATIONS INDICATED HEREON ARE IN FEET AND DECIMALS REFRENCED TO N.A.V.D. 1988
9) THIS SURVEY HAS BEEN COMPLETED FOR A MORTGAGE TRANSACTION. ITS SCOPE IS LIMITED TO THE DETERMINATION OF TITLE DEFICIENCIES. NO DESIGN OR CONSTRUCTION SHALL BE BASED UPON THIS SURVEY WITHOUT APPROVAL FROM TARGET SURVEYING FIRM. TO THE EXTENT PERMITTED BY LAW, TARGET SURVEYING SHALL HAVE NO LIABILITIES FOR ERRORS RESULTING FROM FAILURE TO ADHERE TO THIS CLAUSE.
10) IN SOME INSTANCES, GRAPHIC REPRESENTATIONS HAVE BEEN EXAGGERATED TO MORE CLEARLY ILLUSTRATE RELATIONSHIPS BETWEEN PHYSICAL IMPROVEMENTS AND/OR LOT LINES. IN ALL CASES, DIMENSIONS SHALL CONTROL THE LOCATION OF THE IMPROVEMENTS OVER SCALED POSITIONS.

LB #7893
SERVING FLORIDA
6250 N. MILITARY TRAIL, SUITE 102
WEST PALM BEACH, FL 33407
PHONE (561) 640-4800
STATEWIDE PHONE (800) 226-4807
STATEWIDE FACSIMILE (800) 741-0576
WEBSITE: http://targetsurveying.net

TARGET SURVEYING, LLC

GIANGRANDE
Engineering & Planning
Consulting Civil Engineers

710 SE Ocean Blvd
Stuart, FL 34994
772.888.9076

Written Narrative

Date:	May 15, 2025
To:	City of Fort Pierce Planning and Development Services Department
From:	Leo Giangrande, PE
Subject:	Fort Pierce Minor Site Plan Submittal – 3700 Okeechobee – GEP Project No. 24-035
Distribution:	City of Fort Pierce, File, Client

Project Narrative: The proposed 1.73-acre site named; **New Tank Farm @ 3700 Okeechobee** is located at the northwest corner of S 37th St and Okeechobee Rd. The site consists of one metal industrial building used to store 8-10 8,000-10,000 gallon tanks, with 600 SF of office space and parking.

Application: This narrative is provided in order to satisfy minor site plan application requirements. The property owner is aware of all application fees and County impact fees.

Buildings: The proposed project consists of one building, which will provide office space and light industrial space used for storing oil tanks as shown on the preliminary site plan provided.

Driveways and Parking: The project proposes modifications to two existing concrete driveways connecting to Okeechobee Rd and S 37th St. The lot will have a truck well with loading docks for trucks. Also proposed, is off-street parking to accommodate the users. Parking spaces are typically designed with a size of 10' x 20'. ADA accessible parking spaces and sidewalks are provided on site and out to the adjacent road right of way. ITE Trip Generation and Parking Rates are provided on the preliminary site plan. No additional off-site improvements such as turn lanes are expected from the project's low traffic impact.

Environmental: This project does not intend on preserving any of the proposed project area. The environmental assessment which was conducted earlier this year has provided the Florida Wildlife Commission (FWC) with the reasonable assurance that the property is suitable for development without impact on any protected species of native animals or vegetation. Please refer to the environmental documentation provided with the minor site plan submittal.

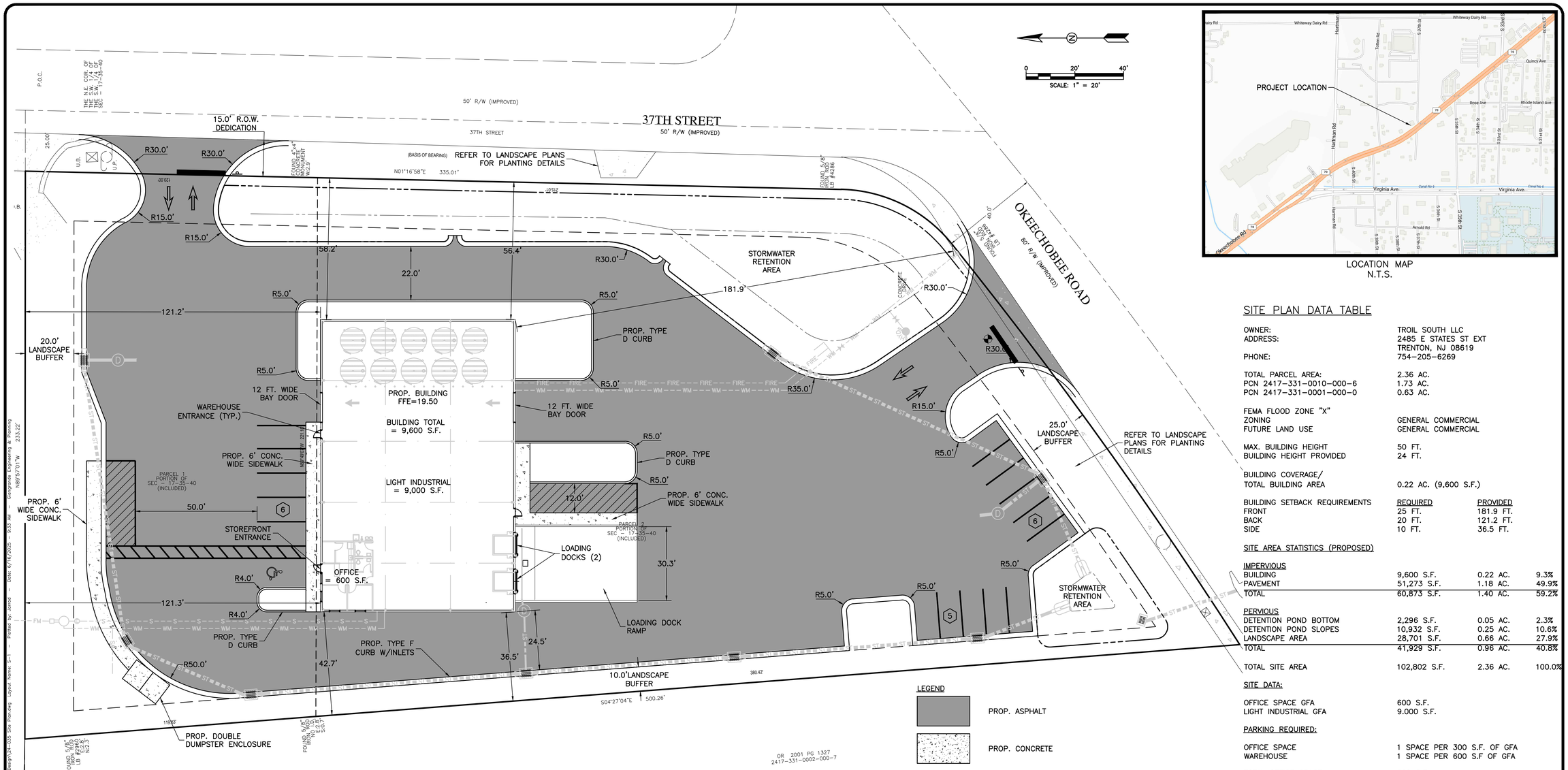
Vegetation Removal: A tree survey and topographic survey have been completed and are included for reference with this pre-app documents. A vegetation removal permit will be requested as part of the site plan application.

Utilities: Utilities within the service district of FPUA for water, sewer, electric and gas. Water and electric are available in the adjacent road right of way of Okeechobee Rd, sewer is available via manhole connection on Totten Rd.

Buffers: Landscaping will be provided as required along the parking, frontage, and sides. Screening will be provided for water service backflow preventers as well as trash dumpster receptacles.

Drainage: Drainage for the project will consist of some underground drainage and a stormwater detention system around the boundaries of the site. It is anticipated that it will be dry detention. Stormwater quality will be provided on site in accordance with SFWMD criteria.

Should you have any questions, please contact Leo Giangrande at (772) 888-9076 or e-mail at Leo@GEP-LLC.com



LOCATION MAP
N.T.S.

SITE PLAN DATA TABLE

OWNER:	TROIL SOUTH LLC
ADDRESS:	2485 E STATES ST EXT TRENTON, NJ 08619
PHONE:	754–205–6269
TOTAL PARCEL AREA:	2.36 AC.
PCN 2417–331–0010–000–6	1.73 AC.
PCN 2417–331–0001–000–0	0.63 AC.
FEMA FLOOD ZONE "X"	
ZONING	GENERAL COMMERCIAL
FUTURE LAND USE	GENERAL COMMERCIAL
MAX. BUILDING HEIGHT	50 FT.
BUILDING HEIGHT PROVIDED	24 FT.
BUILDING COVERAGE/ TOTAL BUILDING AREA	0.22 AC. (9,600 S.F.)

BUILDING SETBACK REQUIREMENTS	REQUIRED	PROVIDED
FRONT	25 FT.	181.9 FT.
BACK	20 FT.	121.2 FT.
SIDE	10 FT.	36.5 FT.

SITE AREA STATISTICS (PROPOSED)

IMPERVIOUS			
BUILDING	9,600 S.F.	0.22 AC.	9.3%
PAVEMENT	51,273 S.F.	1.18 AC.	49.9%
TOTAL	60,873 S.F.	1.40 AC.	59.2%
PERVIOUS			
DETENTION POND BOTTOM	2,296 S.F.	0.05 AC.	2.3%
DETENTION POND SLOPES	10,932 S.F.	0.25 AC.	10.6%
LANDSCAPE AREA	28,701 S.F.	0.66 AC.	27.9%
TOTAL	41,929 S.F.	0.96 AC.	40.8%
TOTAL SITE AREA	102,802 S.F.	2.36 AC.	100.0%

SITE DATA:

OFFICE SPACE GFA	600 S.F.
LIGHT INDUSTRIAL GFA	9.000 S.F.

PARKING REQUIRED:

OFFICE SPACE	1 SPACE PER 300 S.F. OF GFA
WAREHOUSE	1 SPACE PER 600 S.F OF GFA
TOTAL OFFICE SPACE	600 S.F.
PARKING REQUIRED FOR OFFICE SPACE	600 S.F.x1 SPACE/300 S.F.=2 SPACES
TOTAL WAREHOUSE SPACE	9,000 S.F.
PARKING REQUIRED FOR WAREHOUSE SPACE	9,000 S.F.x1 SPACE/600 S.F.=15 SPACES
NUMBER OF SPACES PROVIDED	17 SPACES

PARKING SPACES PROVIDED

STANDARD	16 SPACES
HANDICAP	1 SPACE (REQUIRED 1 SPACE)
TOTAL NUMBER OF SPACES PROVIDED	17 SPACES

LEGEND

- PROP. ASPHALT
- PROP. CONCRETE
- EXIST. CONCRETE
- PROP. TOP OF BANK
- PROP. TOE OF SLOPE
- PROP. EDGE OF PAVEMENT
- PROP. BOUNDARY
- PROP. EASEMENT
- EXIST. CENTERLINE

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

SITE PLAN

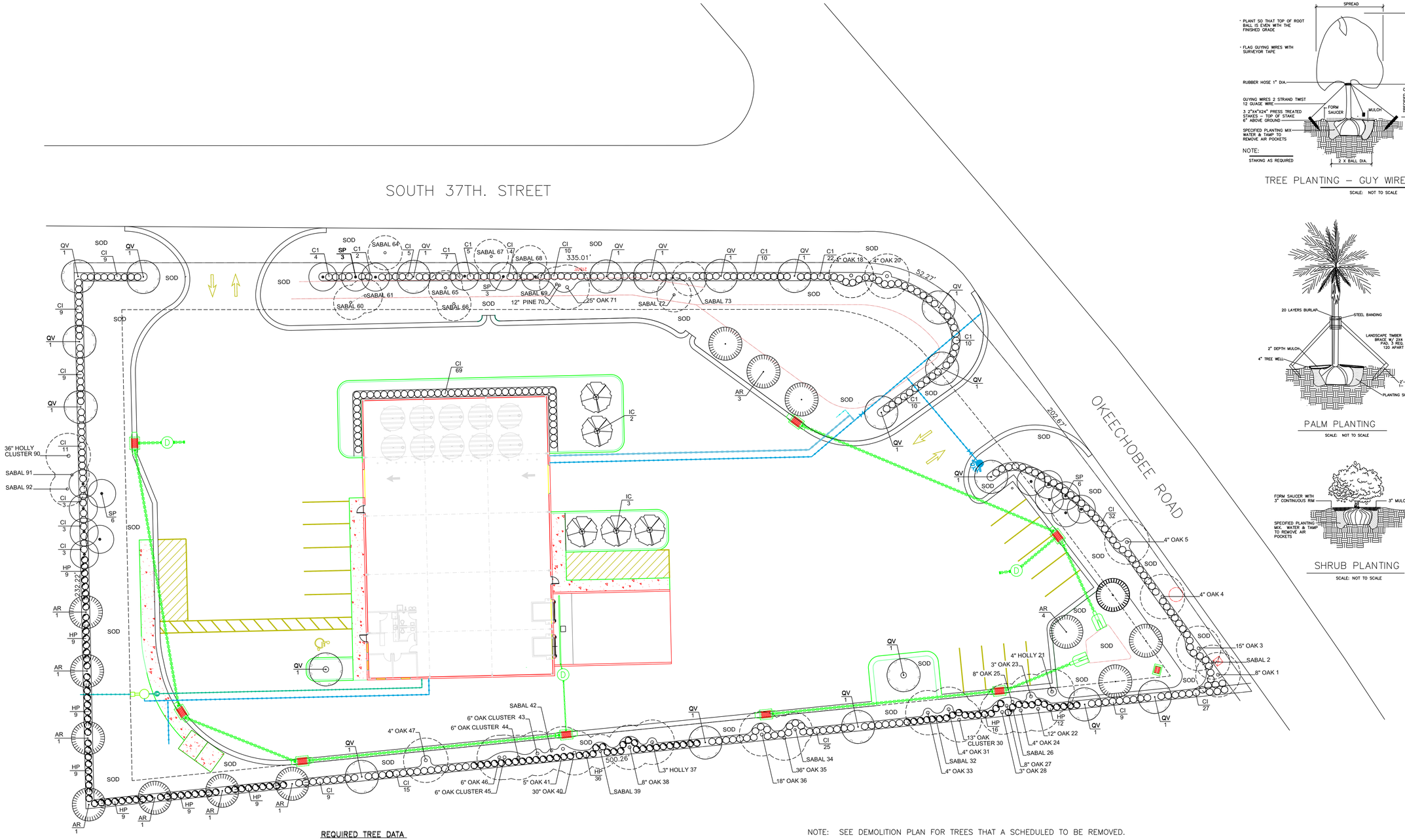
GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24–035

S-1

Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Site Plan.dwg Layout Name: S-1 – Plotted by: Jarrod – Date: 6/16/2025 – 9:35 AM – Giangrande Engineering & Planning



TREE PLANTING - GUY WIRES

SCALE: NOT TO SCALE

PALM PLANTING

SCALE: NOT TO SCALE

SHRUB PLANTING

SCALE: NOT TO SCALE

REQUIRED TREE DATA

PERIMETER LANDSCAPE BUFFER 1322.43 L. FT.-60' ACCESS WAY= 1262.43 L. FT.
DIVIDED BY 30 L. FT. - 42.08 TREES = 43 TREES REQUIRED

PERIMETER TREES

PROPOSED		EXISTING		TOTAL	
RED MAPLE	7	PINES	1	PINES	14
SABAL PALMS	30	SABAL PALMS	14	SABAL PALMS 44/31 =	14
LIVE OAKS	19	LIVE OAKS	24	LIVE OAKS	43
				TOTAL PERIMETER TREES	71

NOTE:
1. LANDSCAPED AREAS SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM OF SUFFICIENT CAPACITY TO MAINTAIN THE LANDSCAPING IN A HEALTHY GROWING CONDITION. THE IRRIGATION SYSTEM SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN SUCH A MANNER AS NOT TO BE A PROBLEM OR NUISANCE TO ADJACENT PROPERTIES AND T0 THE GENERAL PUBLIC.
2. DESIGN PLANS FOR THE IRRIGATION SYSTEN MUST BE SUBMITTED WITH THE REQUIRED LANDSCAPE PLAN FOR THE REVIEW AND APPROVAL BY THE DEVELOPMENT DEPARTMENT.
3. THE IRRIGATION SYSTEM MUST INCLUDE A RAIN SWITCH TO MONITOR RAIN LEVELS AND IRRIGATION NEEDS.

NOTE: SEE DEMOLITION PLAN FOR TREES THAT A SCHEDULED TO BE REMOVED.

PLANT MATERIAL LIST

TREES & PALMS (* indicates native tree)

	Code Name	Quantity	Scientific Name	Common Name	Planting Size
*	AR	14	ACER RUBRUM	'FLORIDA FLAME' RED MAPLE	12' X 5', 4' CT 2 1/2"DBH
*	IC	5	ILEX CASSINE	DAHOON HOLLY	12' X 5', 4' CT 2 1/2"DBH
*	SP	18	SABAL PALMETTO	CABBAGE PALM	10'-15' OF CLEAR TRUMK
*	QV	19	QUERCUS VIRGINIANA	LIVE OAK	12' X 6', 4' CT 2 1/2"DBH

SHRUBS & GROUNDCOVERS (* indicates native shrub or ground cover)

	Code Name	Quantity	Scientific Name	Common Name	Planting Size
*	CI	0	CHRYSOBALANUS ICACO	COCCOPLUM	30" X 30" #3, 3' OC
*	HP	0	HAMELIA PATENS	FIREBUSH	30" X 28" #3, 3' OC

OTHER MATERIALS

MULCH	390	CU. YDS. ENVIRO MULCH (EST.)
SOD	26,700	SQ. FT. BAHIA SOD (EST.)

DATE: 6/16/25

DANIEL J. SUGG
LANDSCAPE ARCHITECT / SITE PLANNER
POST OFFICE BOX 335, JENSEN BEACH, FL 34958
PHONE: (772) 485-1776 danlandarch@gmail.com
MARTIN COUNTY BUSINESS LICENSE # 2013-101-0738

LANDSCAPE PLAN

5700 OKEECHOBEE ROAD
FORT PIERCE, FLORIDA

SCALE: 1" = 20'

SHEET
L-1
OF ONE

GIANGRANDE
Engineering & Planning
Consulting Civil Engineers

710 SE Ocean Blvd
Stuart, FL 34994
772.888.9076

Written Narrative

Date:	May 15, 2025
To:	City of Fort Pierce Planning and Development Services Department
From:	Leo Giangrande, PE
Subject:	Fort Pierce Minor Site Plan Submittal – 3700 Okeechobee – GEP Project No. 24-035
Distribution:	City of Fort Pierce, File, Client

Project Narrative: The proposed 1.73-acre site named; **New Tank Farm @ 3700 Okeechobee** is located at the northwest corner of S 37th St and Okeechobee Rd. The site consists of one metal industrial building used to store 8-10 8,000-10,000 gallon tanks, with 600 SF of office space and parking.

Application: This narrative is provided in order to satisfy minor site plan application requirements. The property owner is aware of all application fees and County impact fees.

Buildings: The proposed project consists of one building, which will provide office space and light industrial space used for storing oil tanks as shown on the preliminary site plan provided.

Driveways and Parking: The project proposes modifications to two existing concrete driveways connecting to Okeechobee Rd and S 37th St. The lot will have a truck well with loading docks for trucks. Also proposed, is off-street parking to accommodate the users. Parking spaces are typically designed with a size of 10' x 20'. ADA accessible parking spaces and sidewalks are provided on site and out to the adjacent road right of way. ITE Trip Generation and Parking Rates are provided on the preliminary site plan. No additional off-site improvements such as turn lanes are expected from the project's low traffic impact.

Environmental: This project does not intend on preserving any of the proposed project area. The environmental assessment which was conducted earlier this year has provided the Florida Wildlife Commission (FWC) with the reasonable assurance that the property is suitable for development without impact on any protected species of native animals or vegetation. Please refer to the environmental documentation provided with the minor site plan submittal.

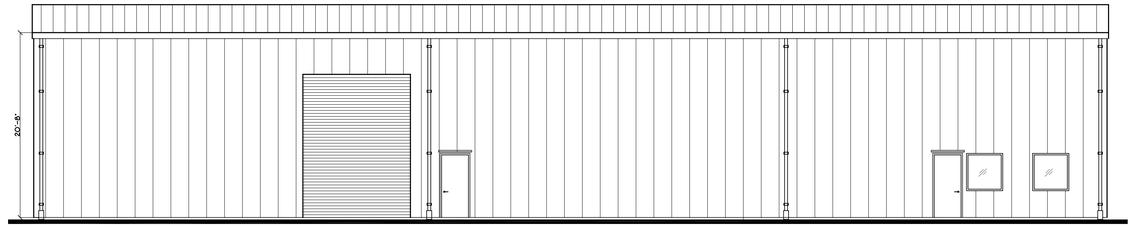
Vegetation Removal: A tree survey and topographic survey have been completed and are included for reference with this pre-app documents. A vegetation removal permit will be requested as part of the site plan application.

Utilities: Utilities within the service district of FPUA for water, sewer, electric and gas. Water and electric are available in the adjacent road right of way of Okeechobee Rd, sewer is available via manhole connection on Totten Rd.

Buffers: Landscaping will be provided as required along the parking, frontage, and sides. Screening will be provided for water service backflow preventers as well as trash dumpster receptacles.

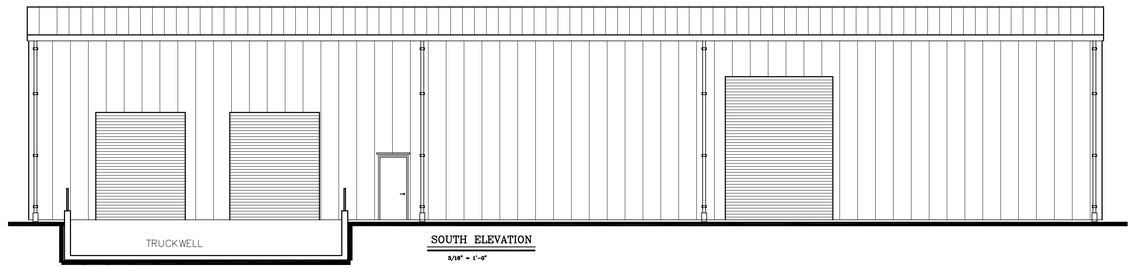
Drainage: Drainage for the project will consist of some underground drainage and a stormwater detention system around the boundaries of the site. It is anticipated that it will be dry detention. Stormwater quality will be provided on site in accordance with SFWMD criteria.

Should you have any questions, please contact Leo Giangrande at (772) 888-9076 or e-mail at Leo@GEP-LLC.com



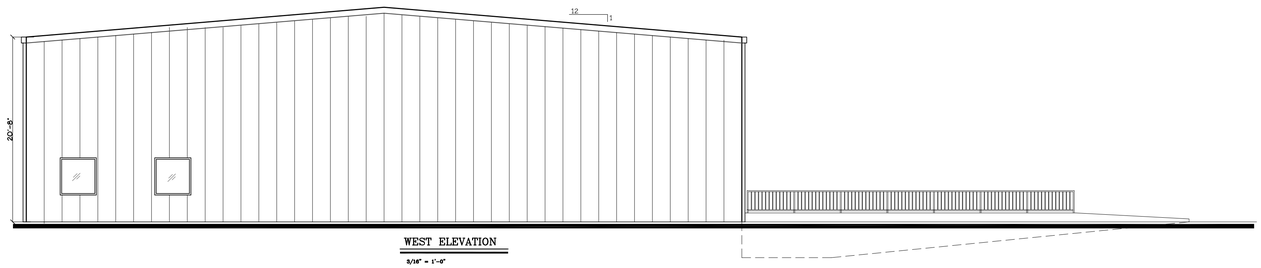
NORTH ELEVATION

3/16" = 1'-0"



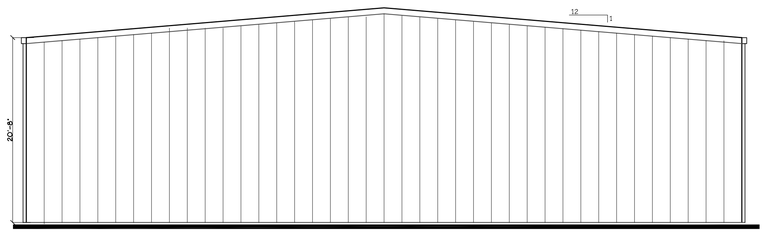
SOUTH ELEVATION

3/16" = 1'-0"



WEST ELEVATION

3/16" = 1'-0"



EAST ELEVATION

3/16" = 1'-0"

601 HERITAGE DRIVE, SUITE 410
JUPITER, FLORIDA 33458
(561) 331-5036
CERTIFICATE OF AUTHORIZATION #AA26003279
GUY C. PELLETIER #71060
GCPArchitecture@AOL.COM

GCP
ARCHITECTURE L.L.C.

SEAL

COPYRIGHT 2025/ GCP ARCHITECTURE L.L.C./ ALL RIGHTS RESERVED / UNAUTHORIZED REPRODUCTION OR MODIFICATION OF THESE PLANS OR DRAWINGS IS STRICTLY PROHIBITED

TROIL SOUTH LLC

3700 OKEECHOBEE ROAD, FORT PIERCE, FLORIDA

ELEVATIONS

DATE: 2/11/25
DRAWN BY: G.P.
PROJ. NO. 2505
REVISED:

SHEET:

A-2

3700 OKEECHOBEE BUILDING COLOR SELECTIONS



COLORED IMAGE OF A GENERIC BUILDING

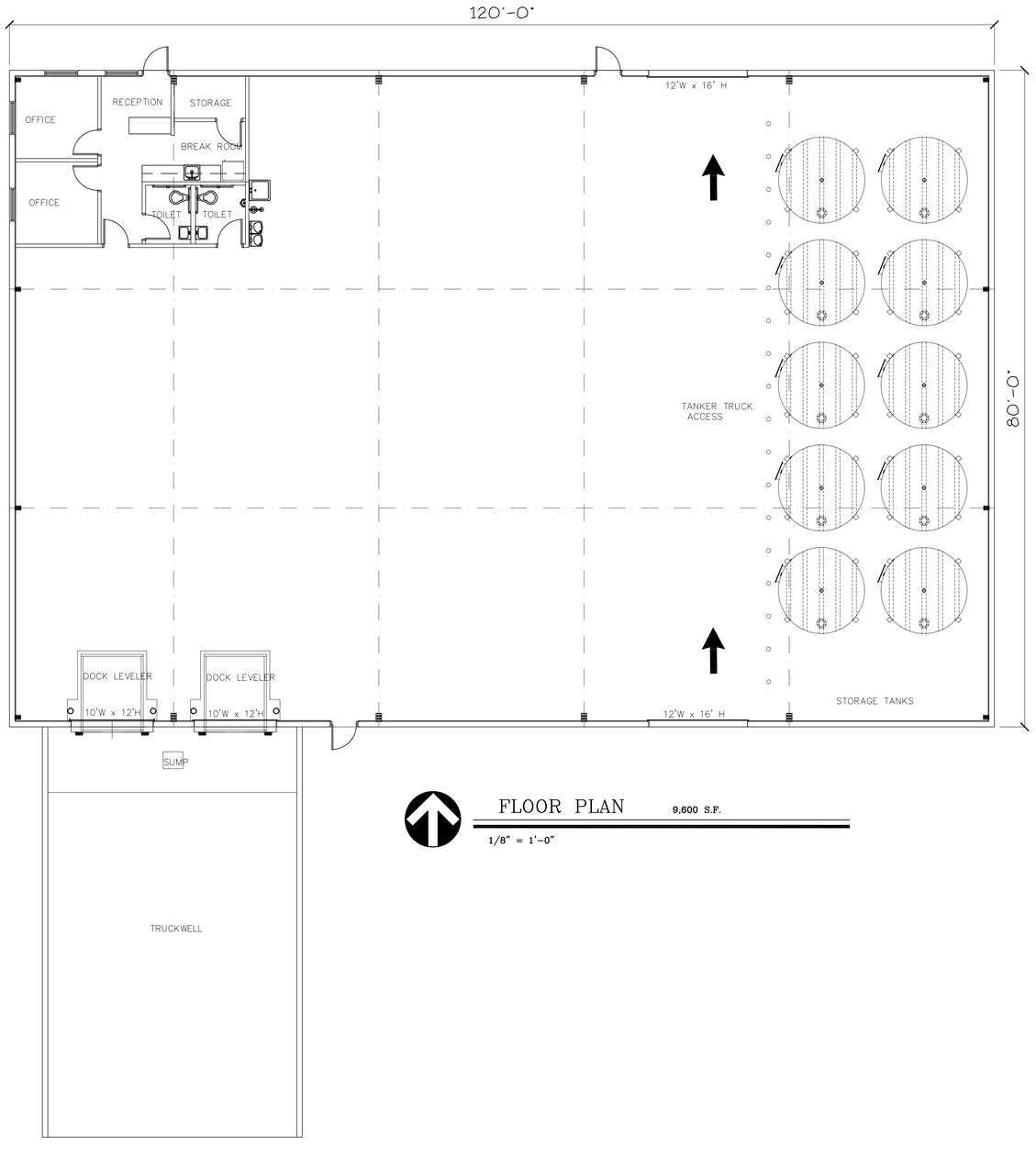
Roof: Galvalume

Walls & Downspouts: Pearl Gray

Wainscot: Slate Gray

Trim: Pearl Gray

PVDF (KYNAR) COLORS FROM
NUCOR COLOR CHART



FLOOR PLAN 9,600 S.F.

1/8" = 1'-0"

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

GCP
ARCHITECTURE L.L.C.

SEAL

COPYRIGHT 2025/ GCP ARCHITECTURE L.L.C./ ALL RIGHTS RESERVED / UNAUTHORIZED REPRODUCTION OR MODIFICATION OF THESE PLANS OR DRAWINGS IS STRICTLY PROHIBITED

TROIL SOUTH LLC

3700 OKEECHOBEE ROAD, FORT PIERCE, FLORIDA

FLOOR PLAN

DATE: 2/12/25
DRAWN BY: G.P.
PROJ. NO. 2505
REVISED:

SHEET:

A-1

GIANGRANDE
Engineering & Planning
Consulting Civil Engineers

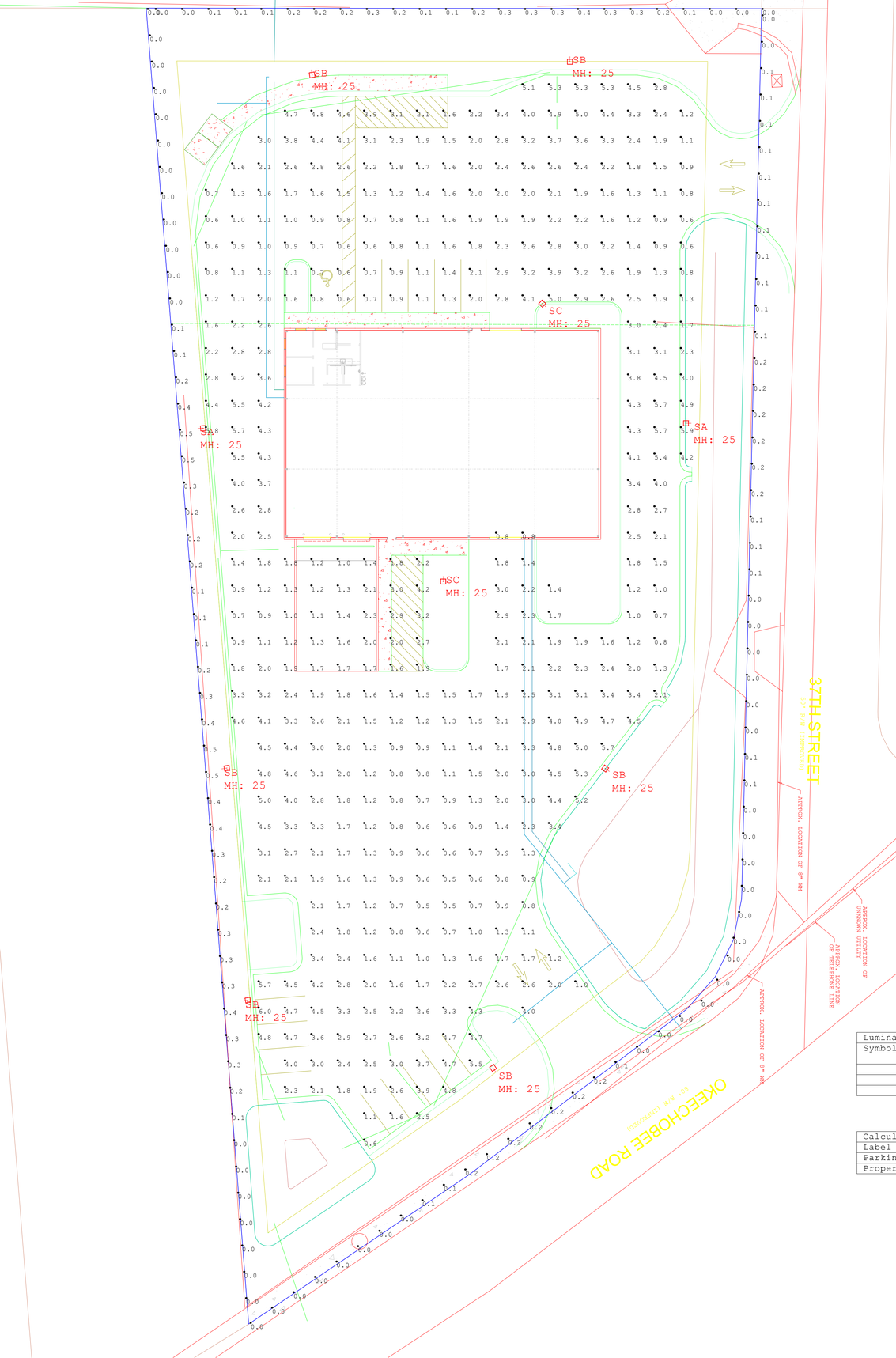
710 SE Ocean Blvd
Stuart, FL 34994
772.888.9076

Rendering of Signs

Date:	May 15, 2025
To:	City of Fort Pierce Planning and Development Services Department
From:	Leo Giangrande, PE
Subject:	Fort Pierce Minor Site Plan Submittal – 3700 Okeechobee – GEP Project No. 24-035
Distribution:	City of Fort Pierce, File, Client

No signs have been proposed for this project.

Should you have any questions, please contact Leo Giangrande at (772) 888-9076 or e-mail at Leo@GEP-LLC.com



Luminaire Schedule

Symbol	Qty	Label	Arrangement	Description	LLF	Luminaire Lumens	Luminaire Watts	Total Watts
	2	SA	Single	Cree Lighting OSQL-C-30L-40K7-3B-NM-XX-XX	0.900	19600	175	350
	6	SB	Single	Cree Lighting OSQL-C-30L-40K7-4B-NM-XX-XX	0.900	18000	175	1050
	2	SC	Single	Cree Lighting OSQM-C-16L-40K7-4M-NM-XX-XX	0.900	15200	97	194

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Parking and Drive Lanes	Illuminance	Fc	2.31	6.0	0.5	4.62	12.00
Property Line	Illuminance	Fc	0.17	0.5	0.0	N.A.	N.A.

3700 OKEECHOBEE RD

FORT PIERCE, FL

LIGHTING FIXTURE SCHEDULE

TYPE	IMAGE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	LAMPS TYPE	DIMMING	VOLTAGE	MOUNTING	REMARKS	INPUT WATTS
SA		CREE LIGHTING	OSQL-C-30L-40K7-3B-[VOLTAGE]-NM-[FINISH]	LED AREA / PARKING LOT SITE FIXTURE W/ BACKLIGHT SHIELDING OPTIC	INTEGRATED LED	0-10V	TBC	TENON	MH: 25'-0" AFG	175W
SB		CREE LIGHTING	OSQL-C-30L-40K7-3B-[VOLTAGE]-NM-[FINISH]	LED AREA / PARKING LOT SITE FIXTURE W/ BACKLIGHT SHIELDING OPTIC	INTEGRATED LED	0-10V	TBC	TENON	MH: 25'-0" AFG	175W
SC		CREE LIGHTING	OSQM-C-16L-40K7-4M-[VOLTAGE]-NM-[FINISH]	LED AREA / PARKING LOT SITE FIXTURE	INTEGRATED LED	0-10V	TBC	TENON	MH: 25'-0" AFG	97W

LIGHTING SCHEDULE NOTES:

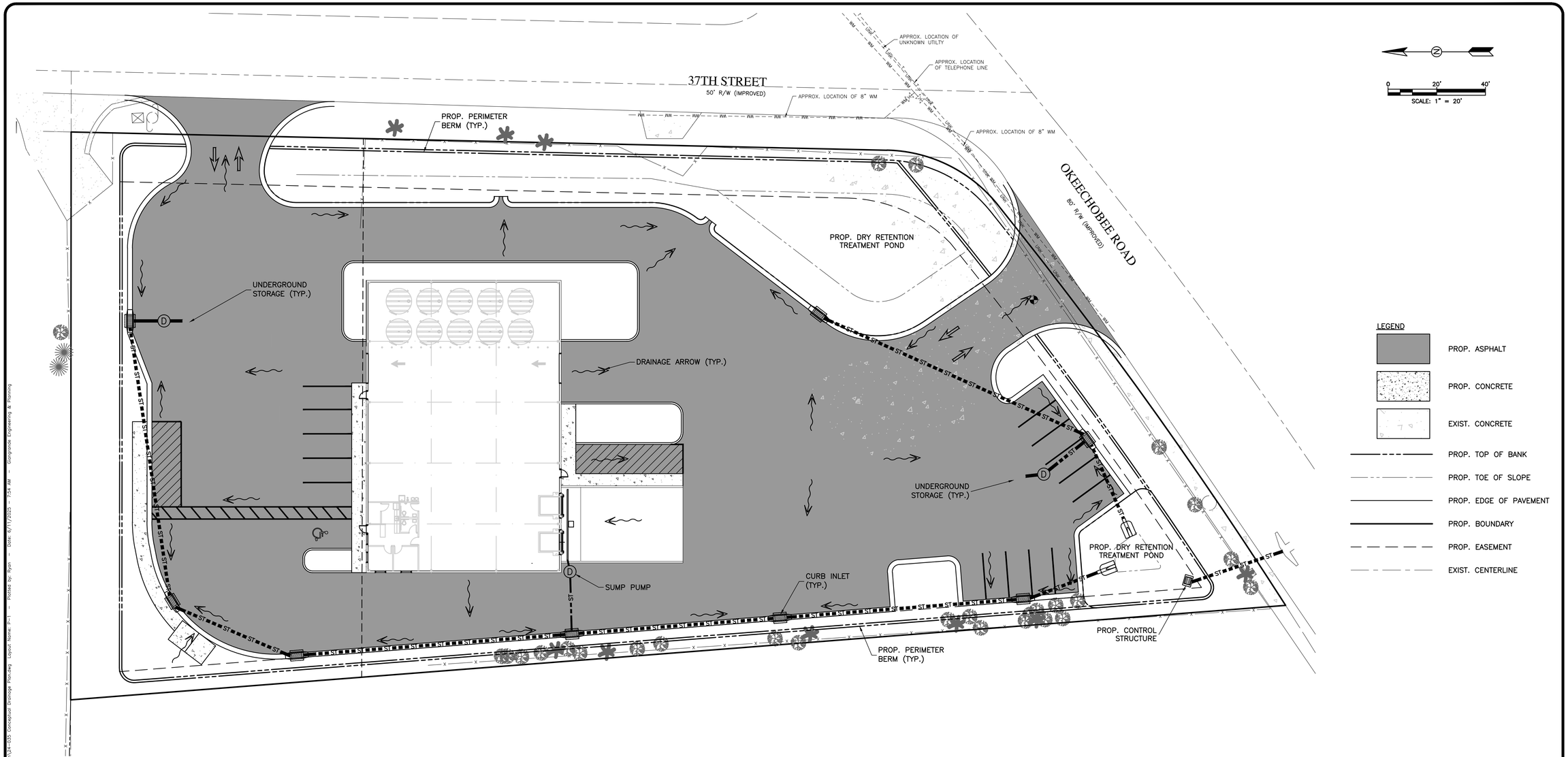
1. For pricing please email Genesis Lighting at quotes@genesislighting.net, for technical questions please contact Brian Meneses @ 772-919-5670 (Bmeneses@genesislighting.net)

2. No substituions allowed without prior approval by architect, engineer or design team

3. Contractor to verify all voltages, mounting and run lengths prior to final bid and installation of fixtures

4. Verify correct mounting for each fixture with Architectural reflected ceiling plans and/or Site Plans

GENESIS LIGHTING



Drawing Name: S:\Shared Folders\GEP projects\2024\24-035 3700 Okeechobee\Design\24-035 Conceptual Drainage Plan.dwg Layout Name: P-1 — Plotted by: Ryan — Date: 6/17/2025 — 7:54 AM — Giangrande Engineering & Planning

DATE	BY	REVISIONS

Date: 11/26/2024
Scale: 1:20
Design By: JS
Drawn By: DCM
Check By: JS

3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL

CONCEPTUAL GRADING PLAN

GIANGRANDE ENGINEERING AND PLANNING
710 SE OCEAN BLVD.
STUART, FLORIDA 34994
PH. (772) 888-9076
leo@gep.llc
Cert. No. 30901

LEO GIANGRANDE, P.E.
License No: 66387

PROJECT #: 24-035

CG-1

THE SUNRISE CITY
FORT PIERCE
PLANNING DEPARTMENT
Florida

CONCURRENCY
CAPACITY ANALYSIS

I. Site Data:

	Existing Use	Future Land Use	Zoning
North	GENERAL COMERCIAL	GC	CITY OF FORT PIECE
South	CG, GENERAL COMERCIAL	COM	ST. LUCIE COUNTY
East	GENERAL COMERCIAL	GC	CITY OF FORT PIECE
West	GENERAL COMERCIAL	GC	CITY OF FORT PIECE

	Future Land Use	Zoning Classification	Maximum Intensity Residential: Dwelling Units per Acre Other: Square Footage	Total Acreage	Flood Zone
Current	GC	RS-3(SLC),GC(FP)	SQUARE FOOTAGE	2.36	X
****Proposed**	GC	GC	SQUARE FOOTAGE	2.36	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 Office Building: 15 gpd per 100 SF of space
Current Zoning/FLU	Total gallons per day 3745 SF = 561
**Proposed Zoning/FLU	Total gallons per day (Commercial warehouse, 2 loading bays, 15 employees per shift)= 425 gpd
**Change in Demand	Total gallons per day Decrease of 136 gpd

B. Wastewater:	
Average Use	Residential: 100 gallons per day per person (du x 2.6= persons x 100 gpd = demand) Other: 0.1 gallons per day per square foot
Demand Analysis	Maximum Office Building: 15 gpd per 100 SF of space
Current Zoning/FLU	Total gallons per day 3745 SF = 561
**Proposed Zoning/FLU	Total gallons per day (Commercial warehouse, 2 loading bays, 15 employees per shift)= 425 gpd
**Change in Demand	Total gallons per day Decrease of 136 gpd

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

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

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

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

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

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

Impact	Any additional runoff is managed by a drainage system. Please refer to the uploaded Drainage Report.

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	54 Vehicle Trips	12 Vehicle Trips
****Proposed Zoning/FLU**	13 Truck, 53 Vehicle Trips	1 Truck, 30 Vehicle Trips
***Change in Demand**	Trips +2	Trips + 19
Impact to Capacity	Increase in truck usage, and overall trips. Overall minor increase in trips. Please refer to the uploaded Traffic Impact Report	

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): 9600			
Mixed-use (describe use):			
(If this is a single phase project, name it Phase I – Total) 9600			

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**
Warehouse 9,000 SF + Office Space 600 SF	Phase 1	9600	1.73	10/2025	4/2026

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

B. 1. Does this application involve demolition or re-use of any structure(s)? ☑ Yes ☐ No
If yes, what is the size of the structure(s) to be demolished or re-used? 2 driveways, 3750 SF of building

2. What is the current use of the structure to be demolished or re-used? Office Building

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

A Traffic Impact Analysis of:

Tank Farm at 3700 Okeechobee Rd

Located in:

St. Lucie County, Florida

Prepared for:
Troil South LLC

Prepared by:

GIANGRANDE
Engineering & Planning
Engineering Business License: 30901
710 SE Ocean Blvd.
Stuart FL, 34994
772.888.9076

Prepared:
May 2025

Leo D. Giangrande, PE
PE Reg #66387
Date: 4/29/2024

TABLE OF CONTENTS

Introduction……1
Trip Generation…… 2
Trip Distribution…… 3
Background & Build-out Conditions……3
Concurrency Requirements……... 3
Project Access……3
Conclusion…… 4

LIST OF FIGURES

Figure 1 – Site Location……1
Figure 2 – Trip Distribution……...4

LIST OF TABLES

Table 1 – Proposed Trip Generation…… 2
Table 2 – Build-out Calculation……3
Table 3 – Link Analysis……..... 3

APPENDICES

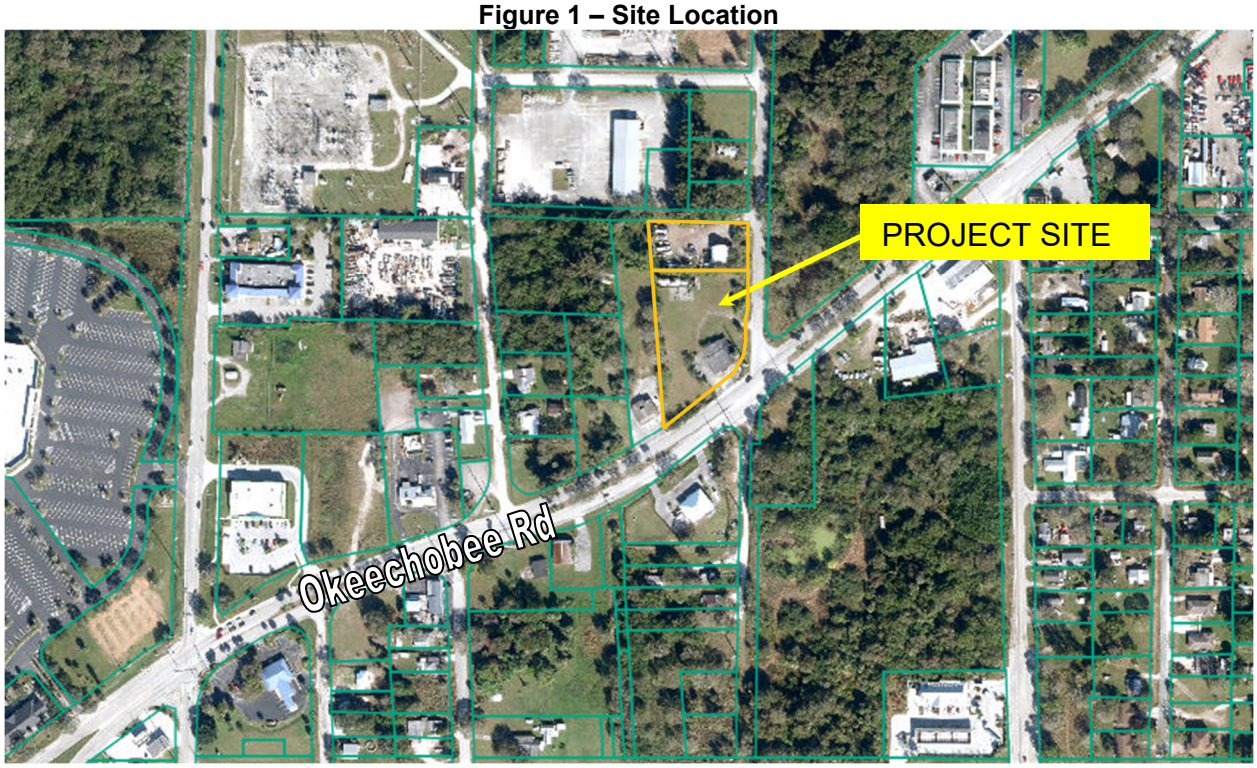
3700 Okeechobee Rd Schematic Site Plan
St. Lucie County 2024 Roadway Level of Service Inventory Report
ITE Trip Generation equations

Purpose and Applicability

Giangrande Engineering and Planning has been requested to perform a traffic impact analysis in support of the proposed Tank Farm at 3700 Okeechobee Rd in St. Lucie County, Florida. The development site is 1.73 acres in size located on the intersection of Okeechobee Rd and 37th St. This project proposes one building which will include one 9,600 SF industrial building which includes 600 SF of office space, all serviced by adjacent parking. A revised site plan has been included in the **Appendix**.

The site is located on the intersection of Okeechobee Road and 37th Street. The St. Lucie County Parcel Identification Numbers are 2417-331-0001-000-0, and 2417-331-0010-000-6. **Figure 1** below details the location of the site in relation to the surrounding roadway network.

Figure 1 – Site Location



TRIP GENERATION

The peak hour traffic generation for the site was available from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11[1h] Edition for Warehousing (ITE Code 150) and for Small Office Building (ITE Code 712). The full build-out development will replace an existing small office building with an industrial building used for warehousing and some office unit space as described in the *Introduction*. Pass-by reduction percentages were not utilized for this type of land use. The calculation of the trip generation is summarized below in **Table 1**.

Table 1 – Proposed Trip Generation

	Tank Farm at 3700 Okeechobee Rd									
	11th Generation ITE Generation Rates									
				AM			PM			ADT
	ITE Code	Type	Amount	In	Out	Total	In	Out	Total	Total
(+) Proposed	150	Light Industrial	9,600 SF	21	7	28	8	22	30	66
(-) Existing	712	Small Office Building	3,745 SF	5	1	6	5	7	12	54
			Total	**16**	**6**	**22**	**3**	**15**	**18**	**12**

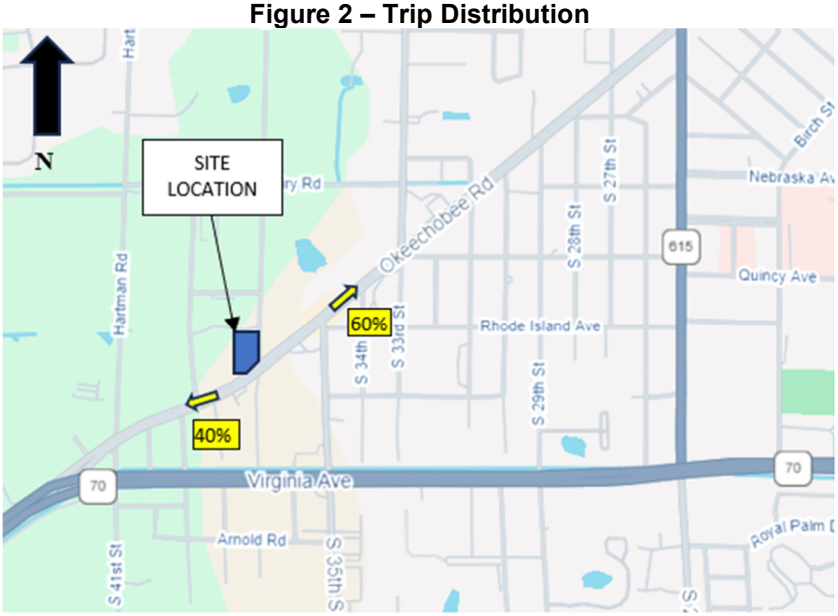
The equations utilized in the trip generation are provided in the appendix of this report.

TRIP DISTRIBUTION

The distribution of trips generally assumes that 60% of the traffic generated from the project will leave the site and travel eastbound on Okeechobee Rd, and 40% of the traffic heading westbound.

The development of the trip distributions from the project site to the surrounding communities were based on the location of population and major roadways within the vicinity of the project. Assumptions made in previous traffic studies in the area were also taken into account for the project. **Figure 2** is provided as a graphical representation of the trip distribution percentages to roadway links and intersections within the project vicinity. Project trip distribution can also be viewed in **Table 2**.

Figure 2 – Trip Distribution



BACKGROUND & BUILD-OUT CONDITIONS

Background conditions for the completion year, 2024, have been calculated using the annual growth percentages shown in **Table 2**. The growth factor of 2% was utilized with consideration of the information contained in the St. Lucie County 2023 Roadway Level of Service Inventory Reports. The recent LOS reports provide a negative short term growth rate. The applicable pages can be found in the ***Appendix***.

Table 2 – Build-out Calculation

Road Name	From	To	Type	2024 AADT	2024 PH (dir) Existing	2024 Gen. LOS	Annual Growth	2029 PH (dir) Growth	Project Assign.	Project Trips	2029 PH (dir) Build-out	Service Volume*	Project % of Service	2% Test	Concurrency Test
Okeechobee Rd (EB)	site	33rd St	2-ln	15,615	813	D	2.00%	898	60%	10	907	1,630	0.6%	33	OK
Okeechobee Rd (WB)	site	Hartman Rd	2-ln	13,178	681	C	2.00%	752	40%	6	758	1,630	0.4%	33	OK

CONCURRENCY REQUIREMENTS

The St. Lucie County has adopted a Concurrency Management System. Included in the ordinance are specific requirements for determining the extent of the study area and the links impacted by the development. Project trips have been added to the 2029 growth trips to determine build-out trips. Links must be included in the analysis if they consume at least 2% of the service volume for the link. **Table 3** is provided to show the concurrency analysis for each of the links potentially impacted by the project. As indicated in **Table 3**, all links will be below capacity in the 2029 build-out year.

Table 3 – Link Analysis

Road Name	From	To	Type	Project Assign.	Project Trips	2029 PH (dir) Build-out	Service Volume*	Project % of Service	2% Test	Concurrency Test
Okeechobee Rd (EB)	site	33rd St	2-ln	60%	10	907	1,630	0.6%	33	OK
Okeechobee Rd (WB)	site	Hartman Rd	2-ln	40%	6	758	1,630	0.4%	33	OK

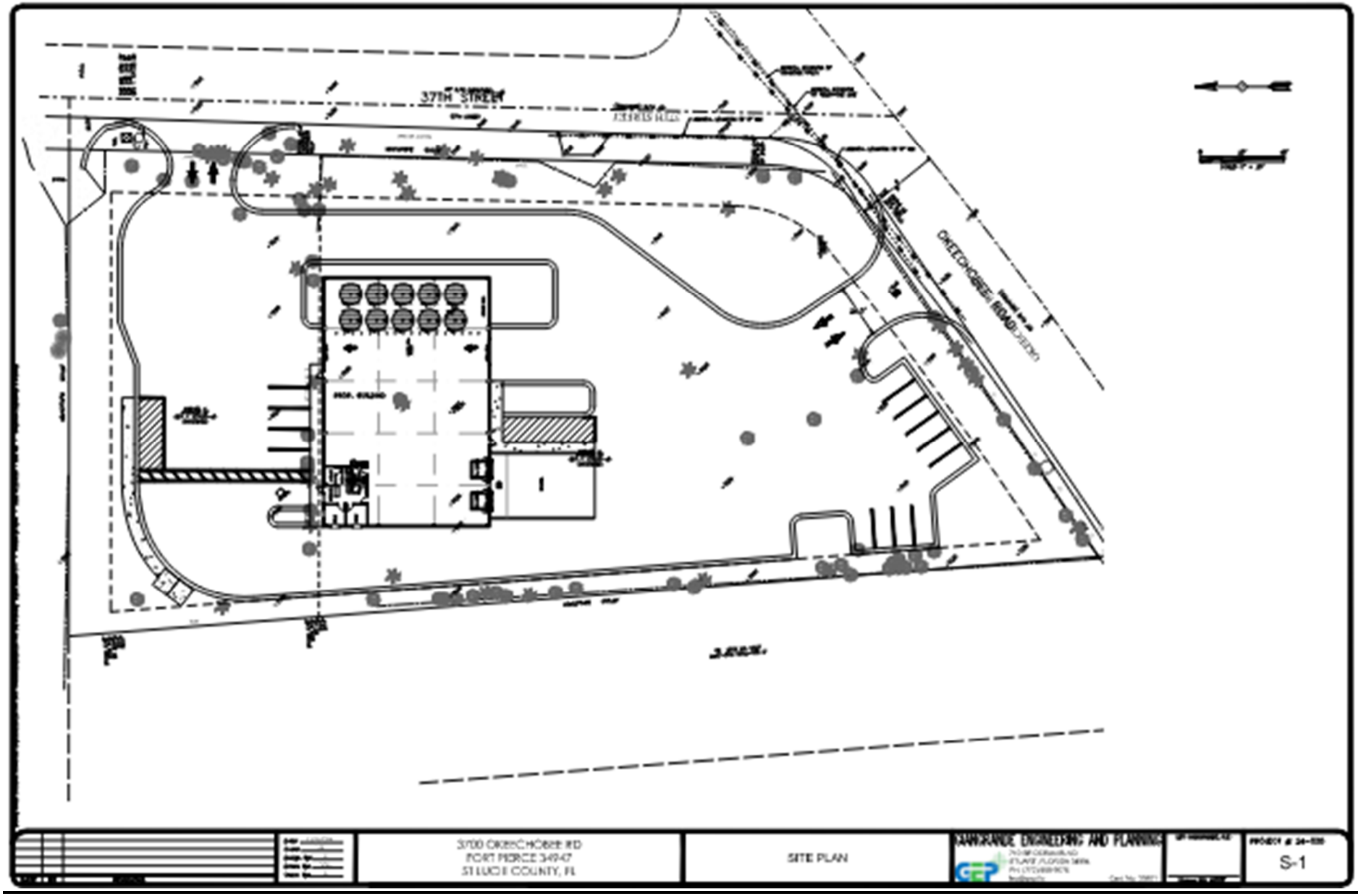
PROJECT ACCESS

The site is located on the intersection of Okeechobee Rd and 37th St. The site will be serviced by one driveway connection to Okeechobee Rd and one driveway connection to 37th St.

CONCLUSION

Based on this traffic analysis, the proposed development is not anticipated to have adverse impacts to the surrounding roadway network based on build-out conditions. The projected volumes generated by the anticipated uses indicate that the adjacent roadway links will operate at an acceptable Level of Service with no mitigation improvements. The existing roadway network is capable of accommodating the additional new vehicle trips the development is anticipated to generate.

APPENDIX


37TH STREET
OKEECHOBEE ROAD
3700 OKEECHOBEE RD
FORT PIERCE 34947
ST LUCIE COUNTY, FL
SITE PLAN
GIANGRANDE ENGINEERING AND PLANNING
S-1

St. Lucie Transportation Planning Organization

Traffic Counts and Level of Service Report
2024

Coco Vista Centre
466 SW Port St. Lucie Blvd, Suite 111
Port St. Lucie, FL 34953
772-462-1593 www.stlucietpo.org

Roadway Name	Location	STATION ID	2024 AADT *	Last Physical Count Year	Pk Hr Service Capacity	AM Pk Hr Pk Dir			PM Pk Hr Pk Dir		
						Volume	LOS	V/C	Volume	LOS	V/C
OKEECHOBEE RD	BLUEFIELD RD to CARLTON RD	687	9,900	2024	2,000	536	B	0.27	542	B	0.27
OKEECHOBEE RD	CARLTON RD to SNEED RD	940039	9,696	2023							
OKEECHOBEE RD	IDEAL HOLDING RD to HEADER CANAL RD	940039	9,696	2023							
OKEECHOBEE RD	SNEED RD to IDEAL HOLDING RD	940039	9,696	2023							
OKEECHOBEE RD	HEADER CANAL RD to MIDWAY RD	940039	9,696	2023							
OKEECHOBEE RD	MIDWAY RD to SHINN RD	940039	9,696	2023							
OKEECHOBEE RD	SHINN RD to MCCARTY RD	940195	7,267	2023							
OKEECHOBEE RD	MCCARTY RD to FLORIDA'S TURNPIKE	940025	10,118	2023							
OKEECHOBEE RD	FLORIDA'S TURNPIKE to KINGS HWY	940025	10,118	2023							
OKEECHOBEE RD	KINGS HWY to CROSSROADS PKWY	940748	24,489	2023							
OKEECHOBEE RD	CROSSROADS PKWY to I-95	940106	26,459	2023							
OKEECHOBEE RD	I-95 to JENKINS RD	940029	33,776	2023							
OKEECHOBEE RD	JENKINS RD to MCNEIL RD	940029	33,776	2023							
OKEECHOBEE RD	MCNEIL RD to VIRGINIA AVE	940742	32,311	2023							
OKEECHOBEE RD	VIRGINIA AVE to HARTMAN RD	688	13,178	2023	2,100	681	C	0.32	672	C	0.32
OKEECHOBEE RD	HARTMAN RD to 35TH ST	688	13,178	2023	1,630	681	C	0.42	672	C	0.41
OKEECHOBEE RD	35TH ST to 33RD ST	689	15,615	2023	1,630	813	D	0.50	778	D	0.48
OKEECHOBEE RD	33RD ST to 25TH ST	689	15,615	2023	1,630	813	D	0.50	778	D	0.48

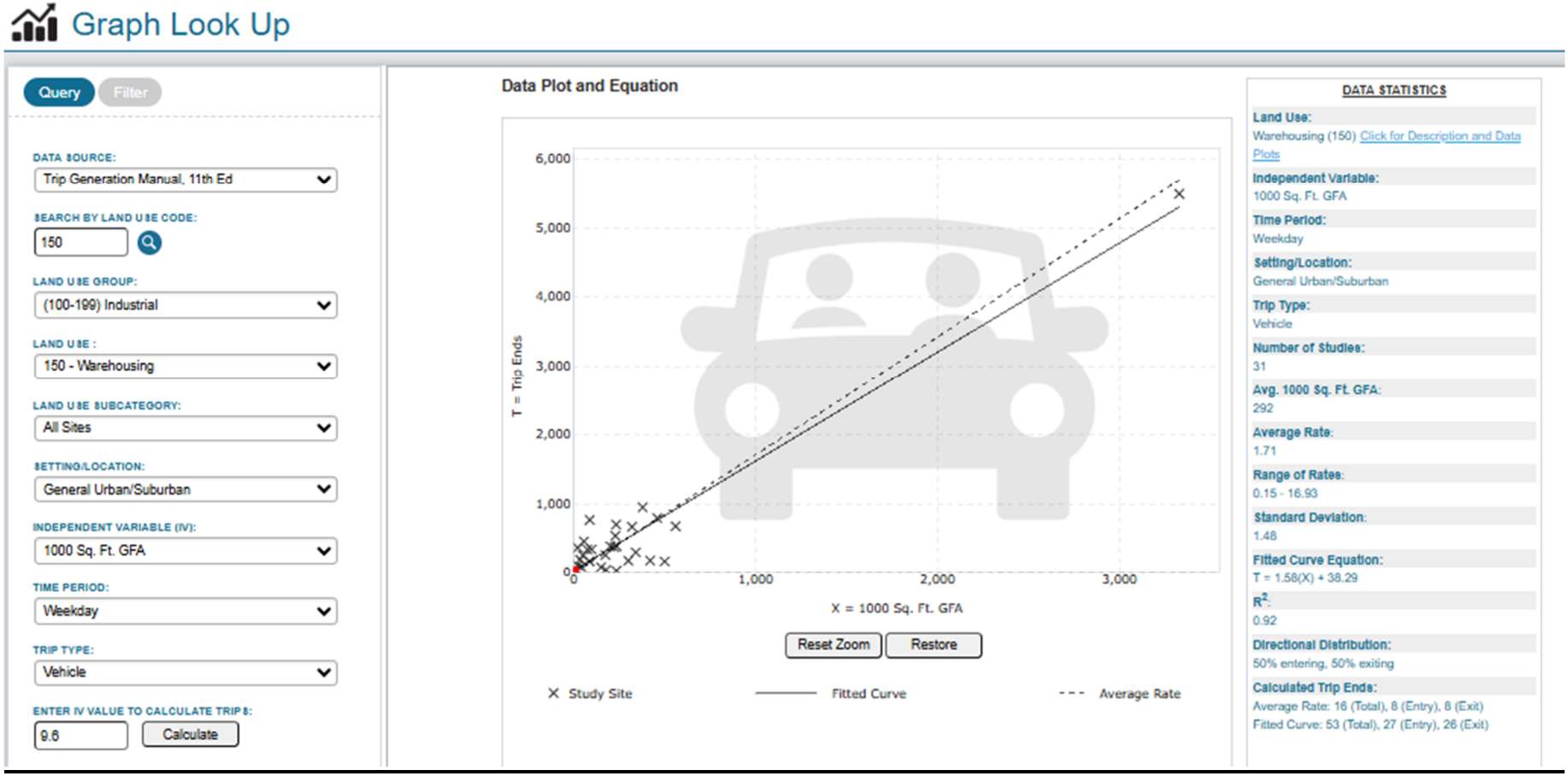
* **NOTE:** A six digit number in the "STATION ID" column identifies segment counted by FDOT. FDOT count stations use standard K and D factors to determine peak hour values.
Peak hour data is not available for locations on State roads due to differences in data availability, LOS Methodologies, and service level thresholds.
Please refer to FDOT sources for detailed data on FDOT traffic counts.

* Volumes shown were adjusted using FDOT Seasonal Factors

* AADT = Annual Average Daily Traffic (volumes for both directions where applicable)

* **NOTE:** If the Last Count Year is older than the year of the report, the AADT is projected from historical traffic count data.

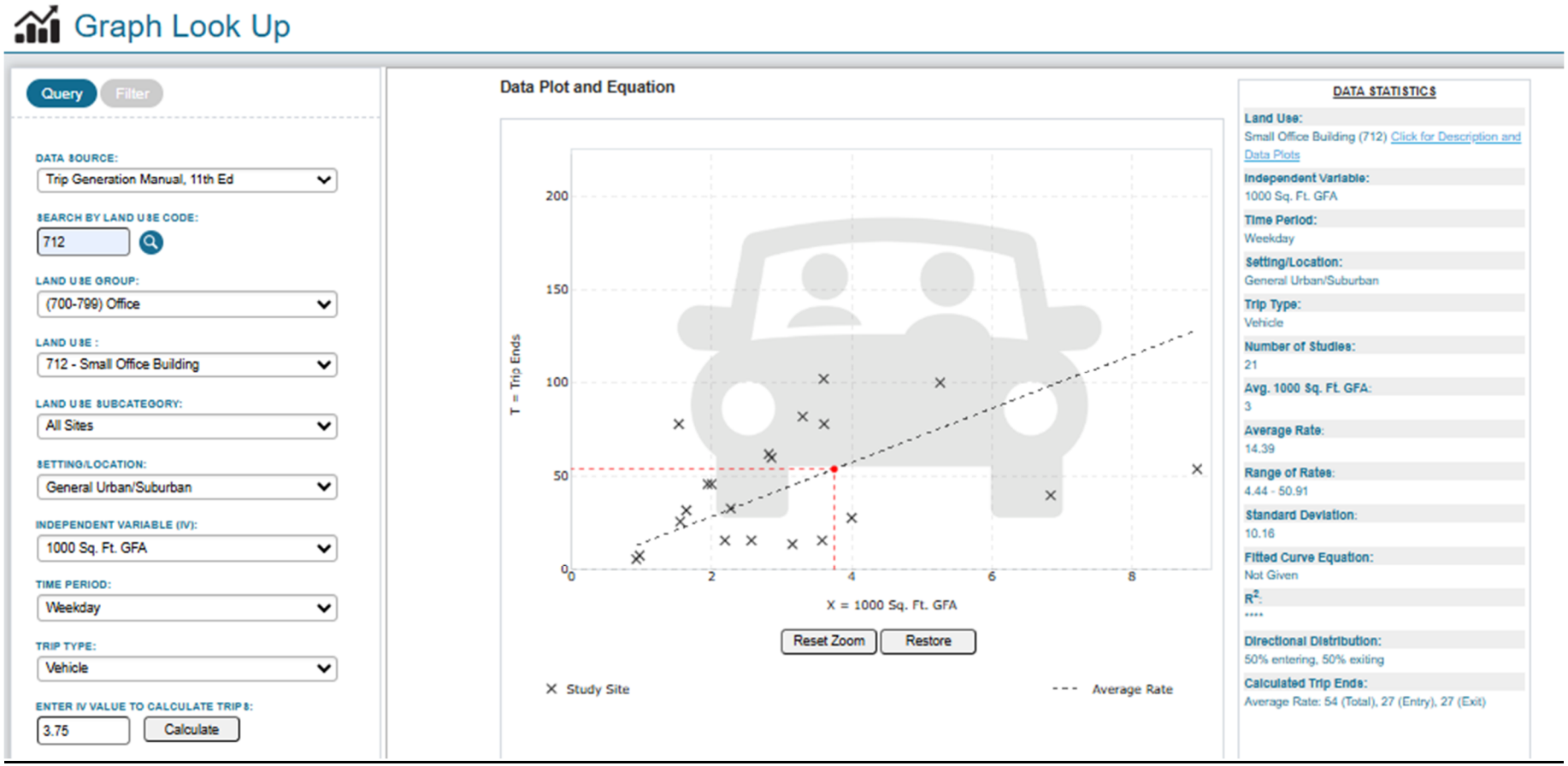
10



Proposed Use: Vehicles



Proposed Use: Trucks



Existing Use: Vehicles

GIANGRANDE
Engineering & Planning
Consulting Civil Engineers

710 SE Ocean Blvd
Stuart, FL 34994
772.888.9076

Environmental Impact Report

Date:	May 27, 2025
To:	City of Fort Pierce Planning and Development Services Department
From:	Leo Giangrande, PE
Subject:	Fort Pierce Minor Site Plan Submittal – 3700 Okeechobee – GEP Project No. 24-035
Distribution:	City of Fort Pierce, File, Client

An Environmental Impact Report is not necessary for the project.

Should you have any questions, please contact Leo Giangrande at (772) 888-9076 or e-mail at Leo@GEP-LLC.com

GIANGRANDE
Engineering & Planning
Consulting Civil Engineers

710 SE Ocean Blvd
Stuart, FL 34994
772.888.9076

Justification Statement

Date:	May 15, 2025
To:	City of Fort Pierce Planning and Development Services Department
From:	Leo Giangrande, PE
Subject:	Fort Pierce Minor Site Plan Submittal – 3700 Okeechobee – GEP Project No. 24-035

Distribution: City of Fort Pierce, File, Client

In accordance with the Code of Ordinances, Section 125-423, we are submitting the following statements:

The proposed development involves the construction of a 9,600 square foot industrial warehouse designed for the storage of oil tanks and associated logistics. The proposed site is replacing an existing office building with two roadway accesses on Okeechobee Rd and 37th St. Of the total area, approximately 600 square feet will be dedicated to office space for administrative use, with the remaining area allocated for compliant oil storage and operational functions.

In addition to the new building, the project includes a large parking lot area, as well as reconstruction and improvement of two driveway entries to enhance site access and accommodate truck deliveries. These improvements are intended to increase safety and efficiency while supporting the facility's industrial use. The site will be developed to meet all applicable environmental and fire safety standards, including secondary containment for oil storage and appropriate drainage management.

This redevelopment supports the economic revitalization of the area by replacing an outdated office facility with a modern, purpose-built warehouse that maximizes land use and provides critical infrastructure for oil logistics. The proposed layout and access improvements are designed to ensure operational efficiency while maintaining compliance with all regulatory requirements.

Should you have any questions, please contact Leo Giangrande at (772) 888-9076 or e-mail at Leo@GEP-LLC.com