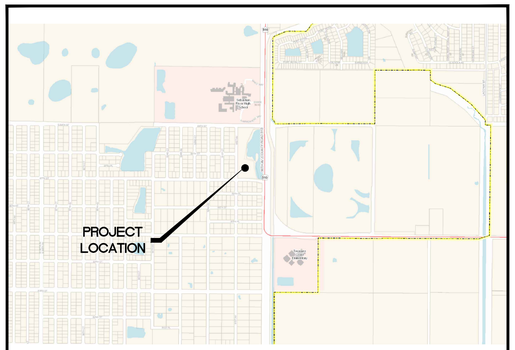
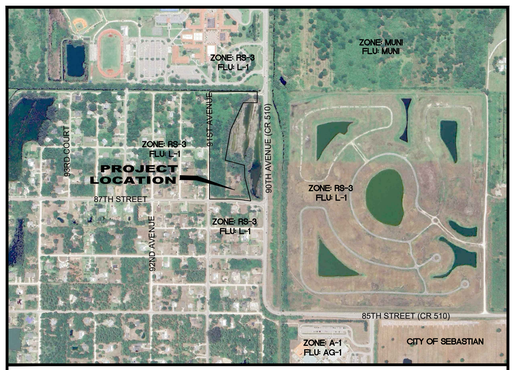
INDIAN RIVER COUNTY FIRE RESCUE FIRE STATION #15
SITE CONSTRUCTION PLAN



LOCATION MAP
SCALE: N.T.S.



VICINITY MAP
SCALE: N.T.S.

PROJECT NARRATIVE

THE PROJECT PROPOSES CONSTRUCTION OF A NEW 4-BAY, 10,085 SF FIRE STATION (#15) WITH APPLICABLE SITE INFRASTRUCTURE. THE NEW FIRE STATION CONSTRUCT AN ONSITE WET POND TO CAPTURE THE STORMWATER RUNOFF AND OUTFALL TO THE EXITING WET POND TO THE NORTH. THE FIRE STATION WILL CONNECT TO THE EXISTING WATERMAIN IN THE 87TH ST ROW FOR IT WATER SERVICE AND TO THE EXISTING SEWER FORCEMAIN AT THE NW CORNER OF 90TH AVE AND 87ST STREET. THE PROJECT WILL DEDICATE 35' ALONG THE WEST SIDE TO IRC FOR ADDITIONAL 91ST AVE ROW. THE PROJECT WILL HAVE TWO DRIVEWAY CONNECTION TO 87TH STREET.

PERMITS REQUIRED

INDIAN RIVER COUNTY MAJOR SITE PLAN
INDIAN RIVER COUNTY LAND CLEARING
INDIAN RIVER COUNTY TREE REMOVAL
INDIAN RIVER COUNTY STORMWATER TYPE "B" PERMIT
INDIAN RIVER COUNTY ROW
INDIAN RIVER COUNTY UTILITY PERMIT (UCP)
INDIAN RIVER COUNTY CONCURRENCY
SJRWMD ERP
FDEP WATER DISTRIBUTION PERMIT
FDEP WASTEWATER COLLECTION PERMIT
FDEP NPDES NOI PERMIT
FDOH PRE-DEMOLITION PERMIT (BY CONTRACTOR).
FDOH WELL-ABANDONMENT PERMIT (BY CONTRACTOR)
FDOH SEPTIC ABANDONMENT PERMIT (BY CONTRACTOR)

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811
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9010 87TH STREET
VERO BEACH, (INDIAN RIVER COUNTY) FLORIDA 32967
SECTION 27, TOWNSHIP 33S, RANGE 38E
MAJOR SITE PLAN

MAY 2025 - INITIAL SITE PLAN SUBMITTAL
OCTOBER 2025- RAI #1 RE-SUBMITTAL
JANUARY 2026- CLIENT REVISION
FEBRUARY 2026 - IRC COMMENTS

OWNER / APPLICANT

EMERGENCY SERVICES DISTRICT
OF INDIAN RIVER COUNTY
1801 27TH STREET
VERO BEACH, FL 32960
PH: (772) 226-3900

ENGINEER

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

LANDSCAPE ARCHITECT

LANDSCAPE ARCHITECTURAL
SERVICES, LLC
1708 SE JOY HAVEN STREET
PORT ST. LUCIE, FL 34983
PH: (772) 631-8400

ARCHITECT

EDLUND, DRITENBAS, BINKLEY
ARCHITECTS AND ASSOCIATES, P.A.
65 ROYAL PALM POINTE, "D"
VERO BEACH, FL 32960
PH: (772) 569-4320

SURVEYOR

INDIAN RIVER SURVEY INC.
1835 20TH STREET
VERO BEACH, FL 34983
PH: (772) 569-7880

INDEX OF DRAWINGS

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

LANDSCAPE PLANS (BY LAS)

LA-1	OVERALL LANDSCAPE PLAN & LANDSCAPE DATA
LA-2	DETAIL LANDSCAPE PLAN
LA-3	TREE DISPOSITION PLAN
LA-4	LANDSCAPE DETAILS & SPECIFICATIONS
IRR-1	IRRIGATION PLAN
IRR-2	IRRIGATION DETAILS

ARCHITECTURAL PLANS (BY EDB)

A-2	BUILDING PLAN
A-5	NORTH & SOUTH ELEVATIONS & DETAILS
A-6	EAST & WEST ELEVATIONS & DETAILS
R-1	COLOR RENDERING

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

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

DATE: 4/28/2026
PROJECT: 24-0399
SHEET
C1

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

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

BID SET
VERTICAL DATUM REFERENCES NAVD 88

O:\DRAWINGS\2024\24-0399 IRC Fire Station #15\7 - Construction\4 - Bid Set\2026-04-28 Plans to ED\24-0399 COVER-DETAILS.dwg
4/28/2026 8:58 AM TODD HOWDER

PRE-CONSTRUCTION REQUIREMENTS:

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

CONSTRUCTION NOTES:

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

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ROADWAY SPECIFICATIONS

GENERAL

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

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

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

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

GRADING

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

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

STAKING

CONSTRUCTION STAKING WILL BE PERFORMED BY THE CONTRACTOR.

STABILIZING

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

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

BASE COURSE

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

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

PRIME AND TACK COAT

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

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

TYPE SP-9.5 AND TYPE SP-12.5 ACSC SHALL BE CONSTRUCTED FOR THE DEPTH AND LIMITS SHOWN ON THE PLAN, IN ACCORDANCE WITH SECTIONS 320, 330 AND 334 OF THE STANDARD SPECIFICATIONS.

TESTING

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

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

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

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

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

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

CLEAN-UP

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

CONSTRUCTION IN STREETS AND ROAD RIGHT-OF-WAYS

1. OPEN ROAD CUTS REQUIRES PRIOR APPROVAL OF THE CITY, COUNTY, STATE OR ANY OTHER AGENCY WHICH MAY HAVE JURISDICTION.
2. ALL CONSTRUCTION, MATERIALS AND WORKMANSHIP ARE TO BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND STANDARDS.
3. ALL AREAS IN EXISTING RIGHT-OF-WAYS DISTURBED BY CONSTRUCTION SHALL RECEIVE SOLID SOD WITHIN 3 DAYS.
4. STREET RESTORATION TO BE DONE AS PER LOCAL JURISDICTIONAL AGENCY STANDARDS.
5. THE CONTRACTOR SHALL COMPLY WITH ALL RULES AND REGULATIONS OF THE STATE, COUNTY AND CITY AUTHORITIES REGARDING CLOSING OR RESTRICTING THE USE OF PUBLIC STREETS OR HIGHWAYS.
6. TRAFFIC CONTROL ON ALL COUNTY AND STATE HIGHWAY RIGHT-OF-WAYS SHALL MEET THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (U.S. DOT/FHA) AND THE REQUIREMENTS OF THE STATE AND ANY LOCAL AGENCY HAVING JURISDICTION.
7. CONTRACTOR TO SUBMIT A PEDESTRIAN DETOUR / SIDEWALK CLOSURE PLAN THAT CONFORMS TO F.D.O.T. STANDARDS AND WHICH IS APPROVED BY THE LOCAL JURISDICTIONAL AGENCY TRAFFIC DEPARTMENT. (THIS APPLIES TO THE PROPOSED WATER UTILITY CONNECTION.)

DRAINAGE SPECIFICATIONS

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

ALL REINFORCING STEEL TO BE ASTM A 615-72 GRADE 40, FYP = 40,000 PSI, AND SHALL BE HANDLED AND PLACED IN ACCORDANCE WITH ACI 318-71.

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

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

IMPORTED MATERIALS

ALL IMPORTED FILL SHALL BE IN ACCORDANCE WITH AND MEET THE REQUIREMENTS AS SPECIFIED IN THE PLANS AND GEOTECHNICAL SOILS REPORT FOR THE APPLICATIONS IT IS BEING USED. THE CONTRACTOR SHALL PROVIDE APPROPRIATE TEST REPORTS AS REQUIRED BY INDUSTRY STANDARDS, PERFORMED BY A LAB CERTIFIED IN THE STATE OF FLORIDA, DEMONSTRATING THE MATERIALS MEET OR EXCEED THE REQUIREMENTS AS SPECIFIED, FOR ITS INTENDED APPLICATION. FILL MATERIAL BEING USED FOR DRY POND FILTRATION MATERIAL SHALL PROVIDE 40%-50% VERTICAL POROSITY AND BETWEEN 1%-2% PASSING THE NO. 200 SIEVE.

CONCRETE

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

CULVERT PIPES

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

PRECAST CONCRETE DRAINAGE PRODUCTS

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

GROUNDWATER

GROUNDWATER MAY BE ENCOUNTERED ON THIS SITE. THE CONTRACTOR IS TO PLAN ACCORDINGLY. FOR DEWATERING TO PROVIDE FOR PIPE INSTALLATION, A SYSTEM CAPABLE OF MAINTAINING A GROUNDWATER LEVEL AT LEAST 2' BELOW BOTTOM OF PIPE LEVEL SHALL BE UTILIZED.

RECORD DRAWINGS

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

INSPECTION

MINIMUM CONSTRUCTION INSPECTION CHECKPOINTS

THE ENGINEER SHALL BE NOTIFIED:

1. PRIOR TO ANY MAJOR DEVIATION FROM THE APPROVED PLANS.
2. PRIOR TO BACKFILLING ANY PIPE TRENCHES.
3. UPON COMPLETION OF SUBGRADE GRADING AND COMPACTION.
4. UPON BEGINNING OF SPREADING OF ROCK BASE MATERIAL.
5. UPON COMPLETION OF GRADING AND COMPACTION OF THE BASE MATERIAL AND PRIOR TO PRIMING.
6. IMMEDIATELY PRIOR TO AND UPON APPLICATION OF A.C.S.C.
7. UPON COMPLETION OF CONSTRUCTION.
8. TO INSPECT IMPORTED BACKFILL FOR PLACEMENT IN AND AROUND THE DRY RETENTION AREAS PRIOR TO USE. AT THE REQUEST OF THE ENGINEER, THE CONTRACTOR SHALL PROVIDE TESTS FROM A LAB CERTIFIED IN THE STATE OF FLORIDA TO CONFIRM THAT THE SPECIFIED HYDRAULIC CONDUCTIVITIES CAN BE ACHIEVED BY THE SOIL THAT WAS DELIVERED.

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR CHECKING ACTUAL SITE CONDITIONS BEFORE STARTING CONSTRUCTION.
2. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK.
3. ALL WORK SHALL BE IN WORKMANLIKE MANNER AND SHALL CONFORM WITH ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL REGULATIONS AND/OR CODES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND LICENSES REQUIRED TO BEGIN WORK.
4. ALL MATERIALS AND LABOR UNDER THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH REQUIREMENTS OF THE LOCAL JURISDICTIONAL AGENCY, WATER MANAGEMENT DISTRICT, FDEP AND THESE PLANS AND SPECIFICATIONS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST 48 HOURS IN ADVANCE FOR CONSTRUCTION OPERATIONS.
6. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN TO BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.
7. CONTRACTOR SHALL SUPPLY DENSITY TESTS TO ENGINEER ON ALL SUB-GRADE AND BASE. TESTS SHALL BE PREPARED PER AASHTO T-180 METHOD.
8. SLOPE GRADES FROM ELEVATIONS SHOWN TO EXISTING GRADE AT PROPERTY LINE. MAXIMUM SLOPE 4:1.
9. ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE FOR ANY INSPECTION.
10. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH M.U.T.C.D. STANDARDS, LOCAL JURISDICTIONAL AGENCY AND F.D.O.T.
11. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", LATEST EDITION.
12. THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTORS BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE. WHEN GROUNDWATER IS ENCOUNTERED THE CONTRACTOR SHALL PLAN ACCORDINGLY.
13. ALL INLETS SHALL HAVE A 6" MIN. SUMP BELOW LOWEST INVERT.
14. EROSION CONTROL FENCING MUST BE IN PLACE PRIOR TO GRADING.
15. PIPE LENGTHS AND SLOPES SHOWN ARE APPROXIMATE.
16. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE, AS NECESSARY, TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
17. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
18. CONTRACTOR SHALL ADJUST INLET/STRUCTURE OR CONNECTION LOCATION, AS REQUIRED, TO ENSURE PROPOSED STRUCTURES AND PIPES ARE IN PROPER ALIGNMENT AND MATCH SLOPE OF EXISTING PIPES OR CONNECTIONS.
19. THIS PLAN CONTEMPLATES ACCESS CONNECTIONS TO ADJACENT ROADS AS SHOWN.
20. FILL MATERIAL MAY NOT BE STOCKPILED HIGHER THAN SIX (6) VERTICAL FEET ONSITE PER LOCAL JURISDICTIONAL AGENCY CODE.
21. DIMENSIONS SHOWN ARE TO EDGE OF GUTTER OR PAVEMENT. RADII SHOWN ARE TO FACE OF CURB.
22. ALL SIGNS SHALL BE PER M.U.T.C.D. STANDARDS.
23. ALL PAVEMENT MARKINGS, EXCEPT PARKING STALL STRIPING, SHALL BE THERMOPLASTIC PER LOCAL JURISDICTIONAL AGENCY REQUIREMENTS.
24. THE USES PROPOSED AS PART OF THIS PLAN DO NOT REQUIRE A SUBMITTAL OF A RISK MANAGEMENT PLAN PURSUANT TO U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) REGULATIONS AND SHALL NOT EXCEED THE EPA'S RMP THRESHOLD QUANTITIES OF LISTED SUBSTANCES.
25. WATER FOR FIRE FIGHTING PURPOSES SHALL BE INDICATED WITH A BLUE ROADWAY REFLECTOR, PLACE ONE FOOT OFF OF THE CENTERLINE OF THE ROAD FACING THE FIRE HYDRANT. THIS INCLUDES NEW AND EXISTING SOURCES.
26. REGARDLESS OF PRIVATE OR PUBLIC DEDICATIONS, THERE SHALL BE NO UTILITY CONNECTIONS, METER BOXES OR VALVE BOXES IN EXISTING OR PROPOSED SIDEWALK OR DRIVEWAY AREAS.
27. CONTRACTOR SHALL ADJUST INLET/STRUCTURE OR CONNECTION LOCATION, AS REQUIRED, TO ENSURE PROPOSED STRUCTURES AND PIPES ARE IN PROPER ALIGNMENT AND MATCH SLOPE OF EXISTING PIPES OR CONNECTIONS.
28. ANY STATE AND FEDERAL PERMITS THAT MAY BE REQUIRED AS A RESULT OF LAND CLEARING AND LANDSCAPING ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
29. CONTRACTOR IS RESPONSIBLE TO PROTECT AND/OR REPLACE ALL SURVEY MONUMENTATION BY A LICENSED SURVEYOR IN THE STATE OF FLORIDA.
30. ALL PARKING SPACES WITH EXCEPTION OF THE HANDICAPPED PARKING SPACES SHALL BE STRIPED IN WHITE, TRAFFIC PAINT AND BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR FOR ROAD & BRIDGE CONSTRUCTION, SECTION 710, LATEST EDITION.
31. ALL HANDICAPPED PARKING SPACES SHALL BE PROPERLY SIGNED AND STRIPED IN ACCORDANCE WITH FDOT STANDARD INDEX 711-001, LATEST EDITION.
32. COMMERCIAL/MULTI-FAMILY BUILDINGS SHALL POST A MINIMUM 6 INCH NUMERICAL ADDRESS.
33. THERMOPLASTIC PAVEMENT MARKINGS SHALL BE REQUIRED ON EXISTING / PROPOSED DRIVEWAYS THAT CONNECT TO THE COUNTY RIGHT-OF-WAY (ROW) AND PROPOSED PAVEMENT MARKINGS WITHIN 25' OF THE COUNTY ROW.
34. ALL SUBDIVISION CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE APPLICABLE LOCAL JURISDICTIONAL AGENCY ORDINANCES.
35. ALL NUISANCE EXOTIC VEGETATION EXISTING WITHIN DEVELOPMENT PROJECT SITE PROPERTY MUST BE REMOVED IN CONJUNCTION WITH SITE DEVELOPMENT.
36. BUILDINGS USING VERTICAL LIGHT-FRAME CONSTRUCTION IN ANY PORTION OF THE STRUCTURE SHALL BE MARKED WITH A SIGN AS REQUIRED BY FLORIDA STATE STATUTE 633-027 AND THE SIGN SHALL BE REQUIRED TO COMPLY WITH THE FLORIDA ADMINISTRATIVE CODE 69A-3.012 AND/OR 69A-60.0081. SIGN MUST BE 8 INCHES BY 8 INCHES.

PRIMARY BENCHMARK:
ELEVATIONS SHOWN ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 REFERENCING INDIAN RIVER COUNTY BENCHMARK BM546056 AT AN ELEVATION OF 19.15(NAVD88)

BID SET

VERTICAL DATUM REFERENCES NAVD 88

△	REVISIONS	DATE
8		
7	PER IRC COMMENTS	03-18-2026
6	PER FDEP WATER COMMENTS	03-10-2026
5	PER IRC COMMENTS	02-26-2026
4	ROOF DRAIN TIE-IN	02-20-2026
3	PER IRC COMMENTS	02-11-2026
2	PER CLIENT COMMENTS	01-06-2026
1	IRC TRC COMMENTS (RAI #1)	10-10-2025

JOB NO.	24-0399
DESIGNED	TH
DRAWN	SS
DATE	MAY 2025
CHECKED	AS
DATE ISSUED	

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
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FT. PIERCE, FL - PH (772) 468-9055

GENERAL NOTES

IRC FIRE RESCUE
FIRE STATION #15
INDIAN RIVER COUNTY FLORIDA

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

AARON G. STANTON
FL. P.E. #72460 4/28/2026

SHEET
C2

24-0399

SEE SHEET C6 FOR OVERALL DEVELOPMENT AREA

LEGAL DESCRIPTION:

THE EAST ONE HALF OF THE NORTHEAST ONE QUARTER OF THE SOUTHEAST ONE QUARTER OF SECTION 27, TOWNSHIP 31 SOUTH, RANGE 38 EAST. LESS AND EXCEPT: THE RIGHT OF WAY FOR C.R. 510 (WABASSO ROAD) LYING WESTERLY OF THE EAST LINE OF THE EAST ONE HALF OF THE NORTHEAST ONE QUARTER OF THE SOUTHEAST ONE QUARTER OF SECTION 27, TOWNSHIP 31 SOUTH, RANGE 38 EAST AND LYING EASTERLY OF THE EAST LINE OF THE PARCEL DESCRIBED IN OFFICIAL RECORD BOOK 1414, PAGE 1112, AS RECORDED IN THE PUBLIC RECORDS ON INDIAN RIVER COUNTY, FLORIDA.

ALSO LESS AND EXCEPT (PER O.R.B. 1414,PG. 1112)
COMMENCE AT THE NORTHWEST CORNER OF THE EAST ONE HALF OF THE NORTHEAST ONE QUARTER OF THE SOUTHEAST ONE QUARTER OF SECTION 27, TOWNSHIP 31 SOUTH, RANGE 38 EAST, ACCORDING THE LAST GENERAL PLAT OF THE LANDS OF THE INDIAN RIVER FARMS COMPANY RECORDED IN PLAT BOOK 2, PAGE 25 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA. AND RUN SOUTH 00°09'15" WEST, ALONG THE WEST LINE, A DISTANCE OF 134 FEET TO A POINT. THEN RUN SOUTH 89°53'20" EAST, PARALLEL WITH THE NORTH LINE, A DISTANCE OF 401.79 FEET TO THE POINT OF BEGINNING. THEN RUN STILL PARALLEL WITH THE NORTH LINE, SOUTH 89°53'20" EAST, A DISTANCE OF 248.58 FEET TO THE EAST RIGHT OF WAY LINE OF COUNTY ROAD 510. THEN RUN SOUTH 00°12'07" WEST, A DISTANCE OF 1197.22 FEET TO A POINT ON THE NORTH RIGHT OF WAY LINE OF 87TH STREET. THEN RUN ALONG THE NORTH RIGHT OF WAY, NORTH 83°23'41" WEST, A DISTANCE OF 154.26 FEET TO A POINT. THEN RUN NORTH 14°26'43" WEST, A DISTANCE OF 280.11 FEET TO A POINT OF 18.43 FOOT ELEVATION, N.G.V.D. ESTABLISHED AS HIGH WATER LINE OF A LAKE. THEN RUN NORTH 02°26'18" WEST, A DISTANCE OF 156.99 FEET TO ANOTHER POINT OF 18.43 FOOT ELEVATION. THEN RUN NORTH 75°07'48" WEST, A DISTANCE OF 238.35 FEET TO A POINT. THEN RUN NORTH 10°01'41" EAST, A DISTANCE OF 366.30 FEET TO ANOTHER POINT OF 18.43 FOOT ELEVATION. THEN RUN NORTH 24°44'03" EAST, A DISTANCE OF 363.30 FEET TO THE POINT OF BEGINNING. CONTAINING 8.92 ACRES, MORE OR LESS, LYING IN INDIAN RIVER COUNTY, FLORIDA. AS SHOWN ON A DRAWING ENTITLED "VERO LAKE ESTATES 87TH STREET LAKE", DATED FEBRUARY 7, 2001. COUNTY PROJECT #0104.

SURVEYOR'S NOTES

1. THIS SURVEY DOES NOT DETERMINE OR INDICATE LAND OWNERSHIP.
2. THE SURVEYOR DID NOT RESEARCH OR ABSTRACT THE LAND RECORDS FOR RIGHTS-OF-WAY, EASEMENTS, RESERVATIONS, DEED RESTRICTIONS, ZONING REGULATIONS, SETBACKS, LAND USE PLAN DESIGNATIONS, LIENS, MURPHY ACT RIGHTS-OF-WAY, AREAS OF LOCAL CONCERN, OR OTHER SIMILAR JURISDICTIONAL DETERMINATIONS. TO THE EXTENT THAT THIS TYPE OF INFORMATION IS SHOWN, IT IS SHOWN SOLELY ON THE BASIS OF INFORMATION PROVIDED BY THE CLIENT OR INFORMATION OTHERWISE KNOWN TO THE SURVEYOR AND MAY NOT BE COMPLETE.
3. UNDERGROUND UTILITIES, BUILDING FOUNDATIONS, AND OTHER UNDERGROUND FIXED IMPROVEMENTS WERE NOT LOCATED, UNLESS OTHERWISE INDICATED. TO THE EXTENT THAT THIS TYPE OF INFORMATION IS SHOWN, IT IS SHOWN SOLELY ON THE BASIS OF SURFACE INDICATIONS OBSERVED BY THE SURVEYOR AND MAY NOT BE COMPLETE. ALL UNDERGROUND UTILITIES MUST BE FIELD VERIFIED PRIOR TO EXCAVATION OR CONSTRUCTION.
4. JURISDICTIONAL WETLANDS AND ENDANGERED OR THREATENED SPECIES HABITAT, IF ANY, THAT MAY EXIST ON OR AROUND THE SURVEY SITE WERE NOT DETERMINED OR LOCATED.
5. THE SURVEY DATE IS THE FIELD DATE SHOWN IN THE TITLE BLOCK, NOT THE SIGNATURE DATE.
6. BEARINGS SHOWN HEREON REFER TO STATE PLANE COORDINATES FLORIDA EAST ZONE, NAD83, 2011 ADJUSTMENT AND WERE DERIVED BY ASSIGNING A GRID BEARING OF BEARS S89°48'48"E TO THE NORTH RIGHT OF WAY LINE OF 87TH STREET.
7. LOT DIMENSIONS ARE AS PLATTED OR PER DESCRIPTION UNLESS OTHERWISE NOTED.
8. ELEVATIONS SHOWN ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 REFERENCING INDIAN RIVER COUNTY BENCHMARK BM546056 AT AN ELEVATION OF 19.15(NAVD88)
9. FLOOD ZONE X, AE, AND AE (EL 18.7), FLOOD INSURANCE RATE MAP NUMBER 12061C0094J, DATED JANUARY 26, 2023.

LEGEND

BOC	=	BACK OF CURB
BWF	=	BARBED WIRE FENCE
CLF	=	CHAIN LINK FENCE
CM	=	CONCRETE MONUMENT
CMP	=	CORRUGATED METAL PIPE
CONC.	=	CONCRETE
COVD.	=	COVERED
(D)	=	DESCRIPTION
ECMP	=	ELLIPTICAL CORRUGATED METAL PIPE
EDR	=	EDGE OF DIRT DRIVE
EL	=	ELEVATION
EM	=	ELECTRIC METER
FFE	=	FINISHED FLOOR ELEVATION
FM	=	FORCE MAIN
FND	=	FOUND
GV	=	GATE VALVE
HW	=	HEADWALL
ID	=	IDENTIFICATION
IP	=	IRON PIPE
IR	=	IRON ROD
IRC	=	IRON ROD WITH CAP
(IRC)	=	INDIAN RIVER COUNTY
LB	=	LICENSED BUSINESS
LS	=	LICENSED SURVEYOR
OHW	=	OVERHEAD WIRES
O.R.B.	=	OFFICIAL RECORD BOOK
(P)	=	PLAT
P.B.	=	PLAT BOOK
PG.	=	PAGE
PSM	=	PROFESSIONAL SURVEYOR AND MAPPER
PVC	=	POLY VINYL CHLORIDE
RCP	=	REINFORCED CONCRETE PIPE
(S)	=	SURVEYED
TOB	=	TOP OF BANK
TOS	=	TOE OF SLOPE
TRANS	=	TRANSFORMER
UG	=	UNDERGROUND
WDF	=	WOODEN FENCE
WL	=	WATER LINE
WM	=	WATER METER
	=	FIRE HYDRANT
	=	GUY ANCHOR
	=	UTILITY POLE
	=	WATER GATE VALVE
	=	WELL

REVISIONS	DATE
8	
7 PER IRC COMMENTS	03-18-2026
6 PER FDEP WATER COMMENTS	03-10-2026
5 PER IRC COMMENTS	02-26-2026
4 ROOF DRAIN TIE-IN	02-20-2026
3 PER IRC COMMENTS	02-11-2026
2 PER CLIENT COMMENTS	01-06-2026
1 IRC TRC COMMENTS (RAI #1)	10-10-2025

JOB NO.	24-0399
DESIGNED	TH
DRAWN	SS
DATE	MAY 2025
CHECKED	AS
DATE ISSUED	

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VERO BEACH, FL 32960
PH. (772) 778-3317
FX. (772) 778-3317

EXISTING CONDITIONS

IRC FIRE RESCUE
FIRE STATION #15

INDIAN RIVER COUNTY FLORIDA

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

AARON G. STANTON
FL. P.E. #72460 4/28/2026

SHEET
C3

24-0399

EXISTING CONDITIONS

SCALE: 1" =30'

GRAPHIC SCALE
0 30 60
(IN FEET)
1 inch = 30 ft.

LEGEND
- EXISTING ASPHALT
- EXISTING MILLINGS
- EXISTING BROKEN ASPHALT

BID SET
VERTICAL DATUM REFERENCES NAVD 88

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

O:\DRIVWINCS\2024\24-0399 IRC Fire Station #15\7 - Construction\4 - Bid Sets\2026-04-28 Plans to ED\SHEETS\24-0399 BASE.dwg

SEE SHEET C6 FOR OVERALL DEVELOPMENT AREA

BENCHMARK
SET 1/2" IRC
LB 7545
EL.=19.05(NAVD88)

PROVIDE ±30LF TURBIDITY BARRIER

PROVIDE INLET PROTECTION UPON INSTALLATION (TYP.)

PROVIDE ±1,680LF SILT FENCE

PROVIDE ±65LF TURBIDITY BARRIER

TEMPORARY CONSTRUCTION ENTRANCE, SEE DETAIL, SHEET C13

41LF - 15" RCP
E INV EL=15.98
W INV EL=16.27

39LF - 15 RCP
INV EL=16.74

BENCHMARK
SET NAIL &
WASHER LB 7545
EL.=19.44(NAVD88)

CATCH BASIN
TOP EL=18.98

CATCH BASIN
TOP EL=19.10

BENCHMARK
SET NAIL &
WASHER LB 7545
EL.=19.02(NAVD88)

91ST AVENUE
(35' RIGHT OF WAY PB 4, PG 70)
S83°22'43"E 1293.47'(S) - 1293.02'(P)

87TH STREET
S83°22'43"E 264.25'(S)
S82°08'55"E 258.15'(P)
249.12'

90TH AVENUE (CR 510)
(OVERALL) - S00°12'15"E
135.35'
53.26'
272.09'
40.06'
73.87'
76.46'
77.89'
23.00'
23.15'

RADIUS=4946.00'
ANGLE=2°35'06"
LENGTH=179.99'

EAST LINE OF THE SE 1/4 OF SECT
(OVERALL -
SURVEY BASELINE - FDOT MAP S

DRAINAGE EASEMENT (ORB 1406, PG 2689)

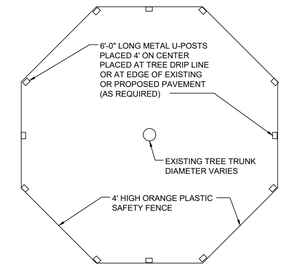
DRAINAGE & WATER RETENTION EASEMENT (ORB 1406, PG 2689)

SEE SHEET C13 FOR EROSION CONTROL DETAILS

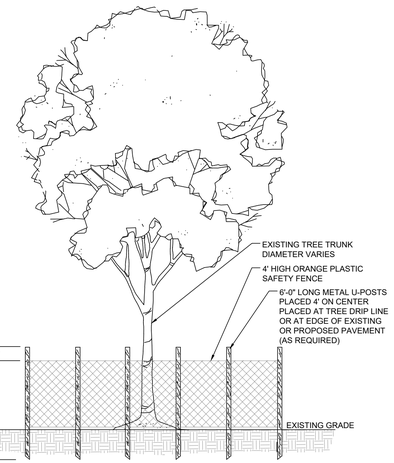
SEE LANDSCAPE PLANS FOR TREE PROTECTION DETAILS

LEGEND

- EXISTING ASPHALT
- EXISTING MILLINGS
- EXISTING BROKEN ASPHALT
- PROPOSED SILT FENCE
- PROPOSED INLET PROTECTION
- PROPOSED TREE PROTECTION



PLAN VIEW



ELEVATION

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

TREE PROTECTION BARRIER DETAIL

NTS

EROSION CONTROL NOTES:
1. SILT FENCE TO BE SITED TO AVOID REMAINING TREEES

EROSION CONTROL PLAN

SCALE: 1" =30'

GRAPHIC SCALE
0 30 60
(IN FEET)
1 inch = 30 ft.

VERTICAL DATUM REFERENCES NAVD 88

BID SET

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

#	REVISIONS	DATE
8		
7	PER IRC COMMENTS	03-18-2026
6	PER FDEP-WATER COMMENTS	03-10-2026
5	PER IRC COMMENTS	02-26-2026
4	ROOF DRAIN TIE-IN	02-20-2026
3	PER IRC COMMENTS	02-11-2026
2	PER CLIENT COMMENTS	01-06-2026
1	IRC TRC COMMENTS (RAI #1)	10-10-2025

JOB NO.	24-0399
DESIGNED	TH
DRAWN	SS
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CHECKED	AS
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EROSION CONTROL PLAN

IRC FIRE RESCUE
FIRE STATION #15
INDIAN RIVER COUNTY FLORIDA

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STATE OF FLORIDA
PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460 4/28/2026

SHEET
C4

24-0399

O:\DRAWINGS\2024\24-0399 IRC Fire Station #15\7 - Construction\4 - Bid Set\2026-04-28 Plans to ED\SHEETS\24-0399 BASE.dwg

SEE SHEET C6 FOR OVERALL DEVELOPMENT AREA

SEE SHEET C6 FOR ADDITIONAL INFORMATION FOR EXISTING SURFACE WATERS NORTH OF THE DEVELOPMENT AREA TO REMAIN UNDISTURBED

BENCHMARK SET 1/2" IRC L.B 7545 EL.=19.05(NAVD88)

LIMITS OF EVELOPMENT

NON-EXCLUSIVE WATER RETENTION & DRAINAGE EASEMENT (ORB 1406, PG 2669)

OSW-2 EX. SWALE AREA TO BE FILLED

EX. 6" PIPE TO BE REMOVED

35LF - 8" PVC E. INV EL=18.26 W. INV EL=18.66

EX. WELL TO BE ABANDONED

OSW-1 EX. 0.11 AC SURFACE WATER TO BE DREDGED

EX. O.H. WIRES AND POWER POLES TO BE REMOVED

EX. SEPTIC TANKS AND DRAIN FIELDS TO BE ABANDONED AND REMOVED THROUGH DOH PERMIT BY A LICENSED CONTRACTOR

EX. WELL TO BE INSPECTED AND TESTED FOR FUTURE USE FOR IRRIGATION

EX. O.H. WIRES AND POWER POLES TO BE REMOVED

10' BROKEN ASPHALT PAVEMENT

WOOD/METAL FENCE WITH GATE

EX. POWER POLE AND GUY WIRES TO REMAIN

EX. O.H. WIRES, POWER POLES AND GUY WIRE TO BE REMOVED

EX. POWER POLE AND GUY WIRE TO REMAIN

EX. POWER POLE AND GUY WIRES TO REMAIN

EX. STORM PIPE TO BE REMOVED

EX. HEAD WALL TO BE REMOVED, SEE PGD PLAN FOR IMPROVEMENTS

40LF - 24" CMP E. INV EL=15.40 W. INV EL=16.19

4LF - 15" RCP E. INV EL=15.98 W. INV EL=16.27

0.05 AC SWALE AREA TO BE FILLED

0.06 AC SWALE AREA TO BE FILLED

39LF - 15 RCP INV EL=16.74

EX. "91st AVE INTERSECTION" SIGN TO BE RELOCATED

EX. HEAD WALL TO BE REMOVED, SEE PGD PLAN FOR IMPROVEMENTS

EX. 15" PIPE AND HEAD WALLS TO BE REMOVED, SEE PGD PLAN FOR IMPROVEMENTS

CATCH BASIN TOP EL=18.98

CATCH BASIN TOP EL=19.10

BENCHMARK SET NAIL & WASHER LB 7545 EL.=19.44(NAVD88)

BENCHMARK SET NAIL & WASHER LB 7545 EL.=19.02(NAVD88)

91ST AVENUE
(35' RIGHT OF WAY PB 4, PG 70)
1293.47'(S) - 1293.02'(P)

87TH STREET

90TH AVENUE (CR 510)

RADIUS=4946.00'
ANGLE=2°35'06"
LENGTH=179.99'

(OVERALL) - S00°12'15"E

EAST LINE OF THE SE 1/4 OF SECT
(OVERALL -
SURVEY BASELINE - FDOT MAP S

135.35'
53.26'
272.09'
40.06'
23.00'
23.35'
73.87'
76.46'
77.89'

S83°22'43"E 154.35'(S)
N83°23'41"W 154.26'(D)

S83°22'43"E 264.25'(S)
S82°08'55"E 258.15'(P)
249.12'

LEGEND

- EXISTING ASPHALT
- EXISTING MILLINGS
- EXISTING BROKEN ASPHALT
- EXISTING SURFACES AND FEATURES TO BE REMOVED
- EXISTING AREAS TO BE FILLED
- EXISTING AREAS TO BE EXCAVATED
- EXISTING PALM TREE TO BE REMOVED/RELOCATED
- EXISTING OAK / HARDWOOD TO BE REMOVED
- EXISTING PINE TO BE REMOVED

NOTE: ALL TREES THAT DO NOT CONTAIN THE "X" SYMBOL OVER THEM AND ARE A FADED GRAY COLOR ARE TO REMAIN IN PLACE. SEE LANDSCAPE PLANS FOR TREE PROTECTION DETAILS AND ALL LANDSCAPE DESIGN CALCULATIONS.

DEMOLITION NOTES

1. ALL EXOTIC AND INVASIVE SPECIES TO BE REMOVED CONGRUENT WITH DEVELOPMENT.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE ATTAINMENT OF ALL DEMOLITION PERMITS NECESSARY FOR PROPOSED CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY / ALL NECESSARY EROSION CONTROL MEASURES AS PRESENTED ON SHEET C4 AND INCLUDED IN THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
4. ALL BARRIERS AND PROTECTION MEASURES FOR TREES BEING SAVED SHALL BE PLACED BEFORE ANY DEMOLITION ACTIVITY BEGINS. LARGE TREES ON ADJACENT PROPERTIES, NEAR THE PROPERTY LINE, SHOULD ALSO BE PROTECTED.
5. SEE LANDSCAPE ARCHITECT SPECIFICATIONS FOR SPECIFIC INFORMATION REGARDING TREE REMOVAL / MITIGATION.
6. ALL SEPTIC ABANDONMENT TO BE PERFORMED BY A LICENSED CONTRACTOR PER DOH REQUIREMENTS.
6. ALL WELL ABANDONMENT TO BE PERFORMED BY A LICENSED CONTRACTOR PER DOH REQUIREMENTS.

DEMOLITION PLAN

SCALE: 1" =30'

GRAPHIC SCALE
0 30 60
(IN FEET)
1 inch = 30 ft.

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

BID SET
VERTICAL DATUM REFERENCES NAVD 88

	DATE	REVISIONS
8	03-18-2026	7 PER IRC COMMENTS
7	03-10-2026	6 PER FDEP-WATER COMMENTS
6	02-26-2026	5 PER IRC COMMENTS
5	02-20-2026	4 ROOF DRAIN TIE-IN
4	02-11-2026	3 PER IRC COMMENTS
3	01-06-2026	2 PER CLIENT COMMENTS
2	10-10-2025	1 IRC TRC COMMENTS (RAI #1)
1		

JOB NO.	24-0399
DESIGNED	TH
DRAWN	SS
DATE	MAY 2025
CHECKED	AS
DATE ISSUED	

MBV ENGINEERING, INC.
MOAL BOWLES VILLAMIZAR & ASSOCIATES CONSULTING ENGINEERING CA #3728
MELBOURNE, FL - PH (321) 253-1510
FT. PIERCE, FL - PH (772) 465-9505
1893 - 28TH STREET
VERO BEACH, FL 32960
PH: (772) 794-3417
FX: (772) 778-3417

IRC FIRE RESCUE
FIRE STATION #15

INDIAN RIVER COUNTY FLORIDA

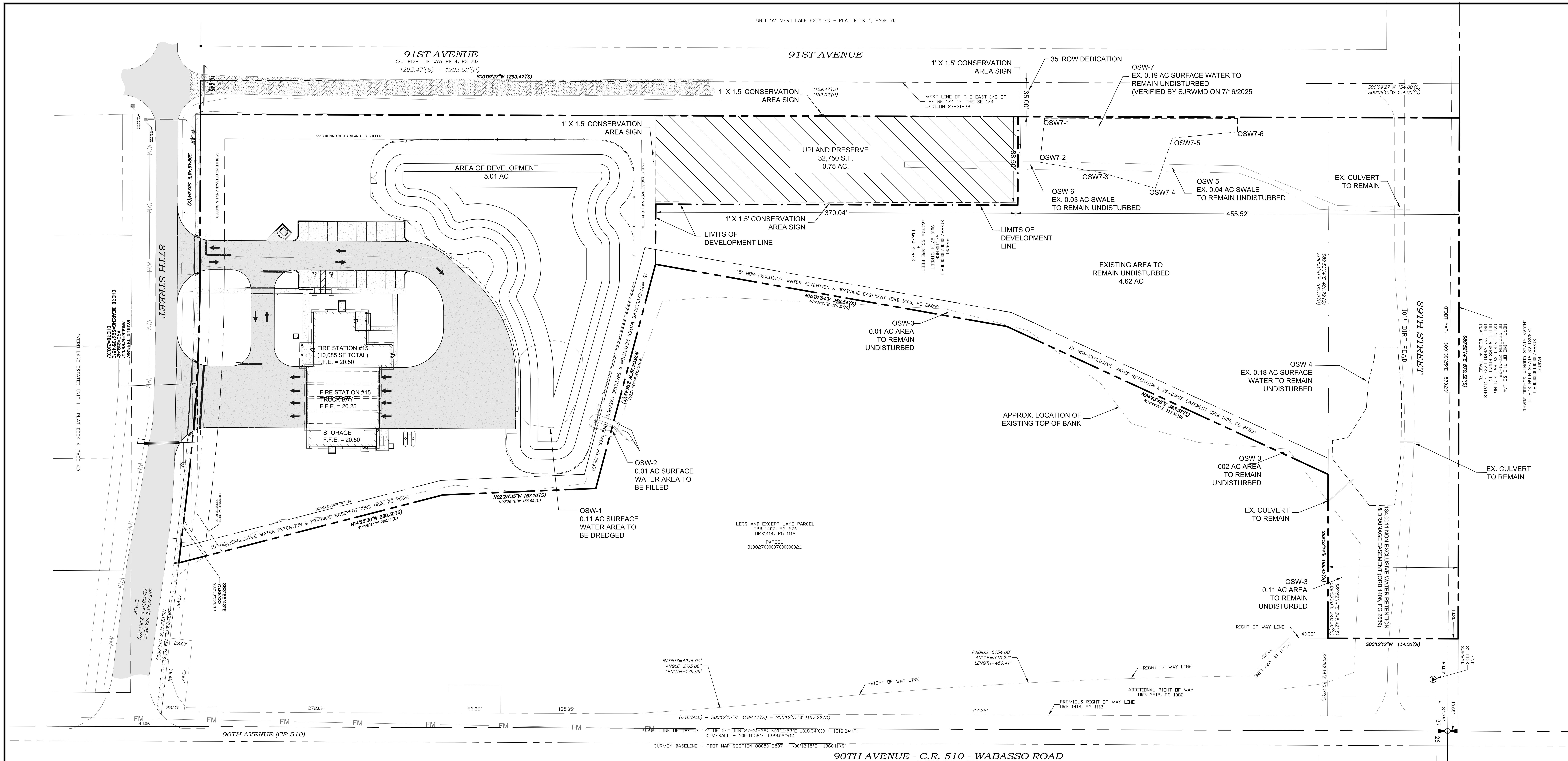
AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460
4/28/2026

SHEET
C5

24-0399

O:\DRAWINGS\2024\24-0399 IRC Fire Station #15\7 - Construction\4 - Bid Set\2026-04-28 Plans to EDB\24-0399 BASE.dwg



OVERALL SITE PLAN

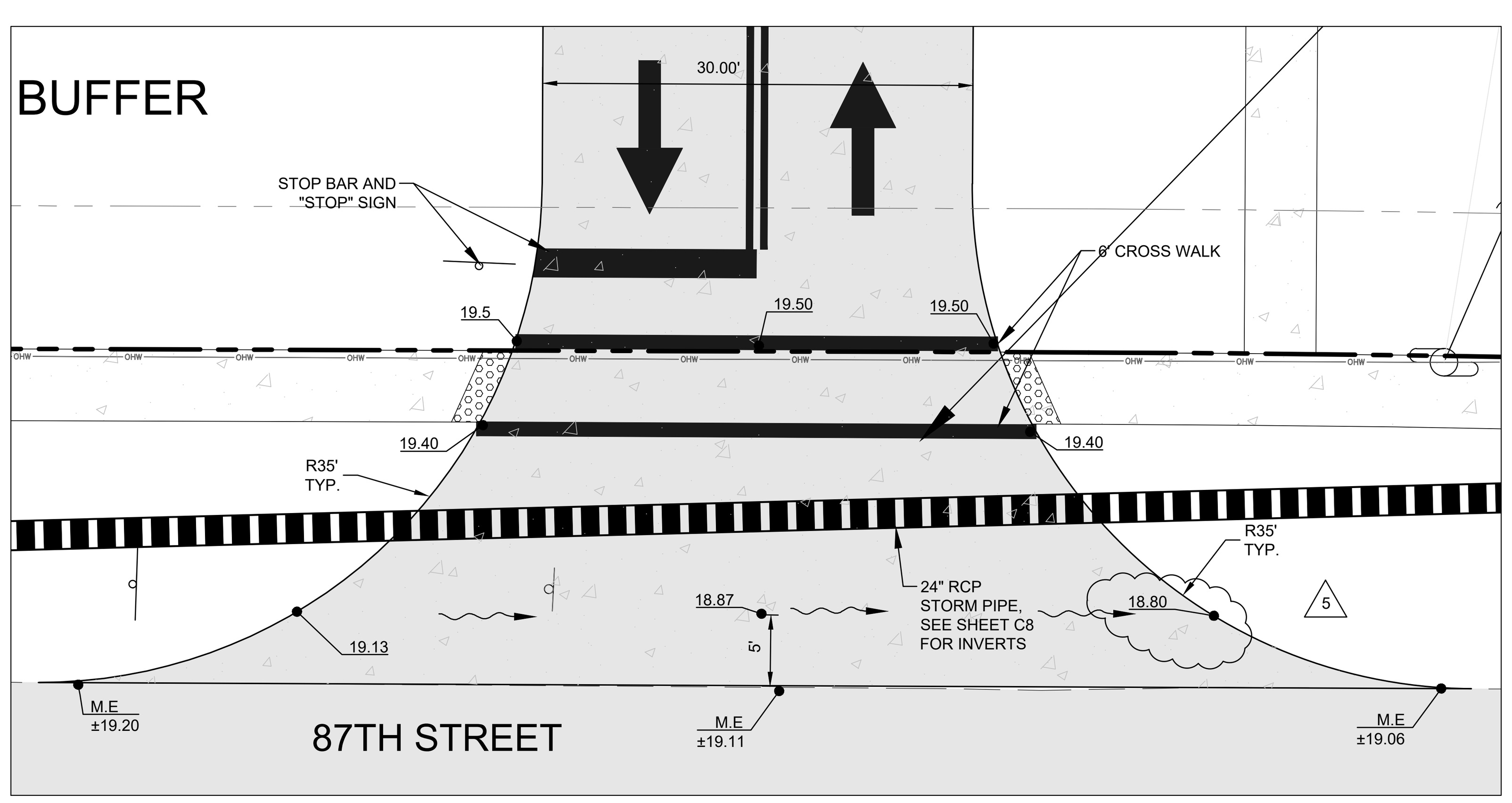
SCALE: 1" = 50'

GRAPHIC SCALE

0 50 100

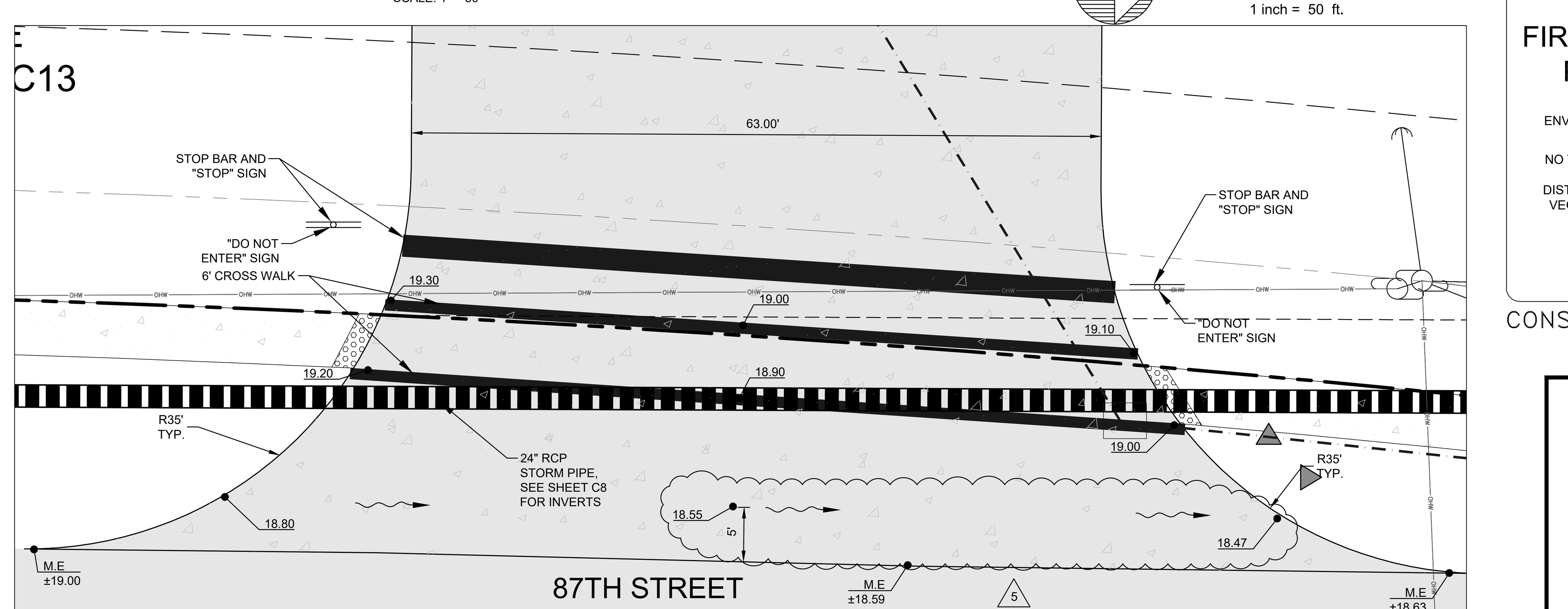
(IN FEET)

1 inch = 50 ft.



WEST DRIVEWAY DETAIL

SCALE: 1" = 10'



EAST DRIVEWAY DETAIL

SCALE: 1" = 10'



CONSERVATION SIGNAGE
(TYP)

BID SET

VERTICAL DATUM REFERENCES NAVD 88

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

O:\DRAWINGS\2024\24-0399 IRC Fire Station #15\7 - Construction\4 - Bid Sets\2026-04-28 Plans to EDB\24-0399 BASE.dwg

8		
7	PER IRC COMMENTS	03-18-2026
6	PER FDEP WATER COMMENTS	03-10-2026
5	PER IRC COMMENTS	02-26-2026
4	ROOF DRAIN TIE-IN	02-20-2026
3	PER IRC COMMENTS	02-11-2026
2	PER CLIENT COMMENTS	01-06-2026
1	IRC TRC COMMENTS (RAI #1)	10-10-2025
△	REVISIONS	DATE

JOB NO.	24-0399
DESIGNED	TH
DRAWN	SS
DATE	MAY 2025
CHECKED	AS
DATE ISSUED	

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

OVERALL SITE PLAN

IRC FIRE RESCUE
FIRE STATION #15

INDIAN RIVER COUNTY FLORIDA

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

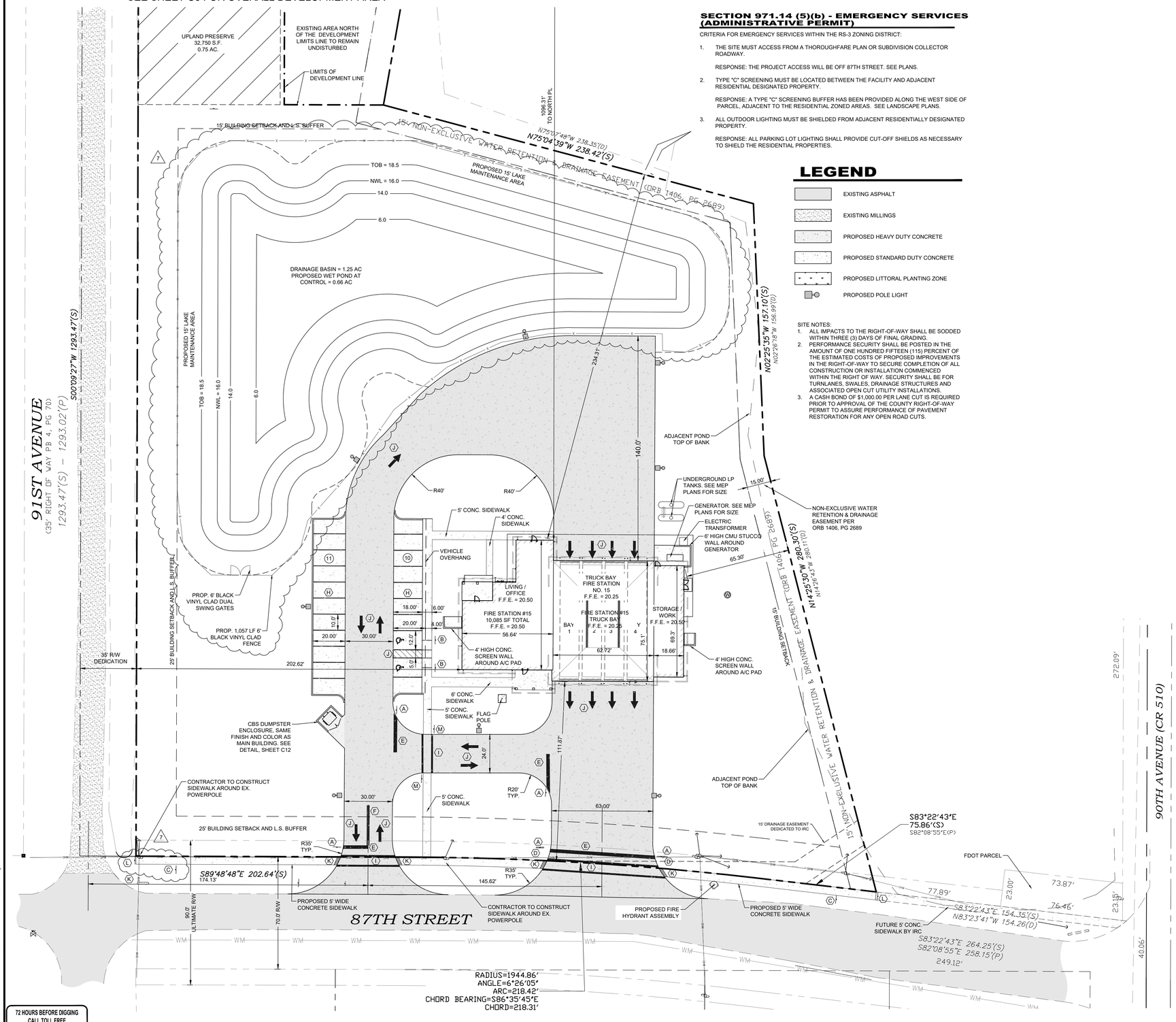
AARON G. STANTON
FL. P.E. #72460
4/28/2026

SHEET

C6

24-0399

SEE SHEET C6 FOR OVERALL DEVELOPMENT AREA



SECTION 971.14 (5)(b) - EMERGENCY SERVICES (ADMINISTRATIVE PERMIT)

CRITERIA FOR EMERGENCY SERVICES WITHIN THE RS-3 ZONING DISTRICT:

1. THE SITE MUST ACCESS FROM A THOROUGHFARE PLAN OR SUBDIVISION COLLECTOR ROADWAY.

   RESPONSE: THE PROJECT ACCESS WILL BE OFF 87TH STREET. SEE PLANS.

2. TYPE "C" SCREENING MUST BE LOCATED BETWEEN THE FACILITY AND ADJACENT RESIDENTIAL DESIGNATED PROPERTY.

   RESPONSE: A TYPE "C" SCREENING BUFFER HAS BEEN PROVIDED ALONG THE WEST SIDE OF PARCEL, ADJACENT TO THE RESIDENTIAL ZONED AREAS. SEE LANDSCAPE PLANS.

3. ALL OUTDOOR LIGHTING MUST BE SHIELDED FROM ADJACENT RESIDENTIALLY DESIGNATED PROPERTY.

   RESPONSE: ALL PARKING LOT LIGHTING SHALL PROVIDE CUT-OFF SHIELDS AS NECESSARY TO SHIELD THE RESIDENTIAL PROPERTIES.

LEGEND

- EXISTING ASPHALT
- EXISTING MILLINGS
- PROPOSED HEAVY DUTY CONCRETE
- PROPOSED STANDARD DUTY CONCRETE
- PROPOSED LITTORAL PLANTING ZONE
- PROPOSED POLE LIGHT

SITE NOTES:

1. ALL IMPACTS TO THE RIGHT-OF-WAY SHALL BE SODDED WITHIN THREE (3) DAYS OF FINAL GRADING.
2. PERFORMANCE SECURITY SHALL BE POSTED IN THE AMOUNT OF ONE HUNDRED FIFTEEN (115) PERCENT OF THE ESTIMATED COSTS OF PROPOSED IMPROVEMENTS IN THE RIGHT-OF-WAY TO SECURE COMPLETION OF ALL CONSTRUCTION OR INSTALLATION COMMENCED WITHIN THE RIGHT OF WAY. SECURITY SHALL BE FOR TURNLANES, SWALES, DRAINAGE STRUCTURES AND ASSOCIATED OPEN CUT UTILITY INSTALLATIONS.
3. A CASH BOND OF $1,000.00 PER LANE CUT IS REQUIRED PRIOR TO APPROVAL OF THE COUNTY RIGHT-OF-WAY PERMIT TO ASSURE PERFORMANCE OF PAVEMENT RESTORATION FOR ANY OPEN ROAD CUTS.

SIGNAGE & PAVEMENT MARKING SCHEDULE

SIGN ID NUMBER	SIZE	DESIGNATION / NOTES
(A)	30"	R1-1 "STOP" SIGN PER MUTCD LATEST EDITION
(B)	12"	FTP-20-06 HC PARKING SIGN PER MUTCD LATEST EDITION
(C)	24"	"SIDEWALK ENDS IN 25 FT" SIGN PER MUTCD LATEST EDITION
(D)	30"	R5-1 "DO NOT ENTER" SIGN PER MUTCD LATEST EDITION
(E)	24"	SOLID WHITE STOP BAR, THERMOPLASTIC
(F)	6"	25LF DOUBLE YELLOW STRIPE, THERMOPLASTIC
(G)		PAVEMENT MARKINGS PER FDOT INDEX #711-001 (THERMOPLASTIC w/IN R/W)
(H)	4"	PAINTED WHITE STRIPE
(I)	12"	6' WIDE CROSSWALK PER FDOT INDEX #711-001, THERMOPLASTIC, C.E.
(J)		PAVEMENT MARKINGS PER FDOT INDEX # 711-001, CURRENT EDITION
(K)		DETECTABLE WARNINGS PER FDOT INDEX # 522-002, CURRENT EDITION
(L)	18"x18"	OM4-2 CASE 2 9 BUTTON REFLECTOR SIGN PER MUTCD LATEST EDITION
(M)	30"x30"	W11-2, w/ W16-7P 21" x 15"

SITE PLAN

SCALE: 1" =30'

GRAPHIC SCALE
0 30 60
(IN FEET)
1 inch = 30 ft.

BID SET

VERTICAL DATUM REFERENCES NAVD 88

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

	DATE	REVISIONS
8	03-18-2026	
7	03-10-2026	PER IRC COMMENTS
6	02-26-2026	PER FDEP WATER COMMENTS
5	02-20-2026	PER IRC COMMENTS
4	02-11-2026	ROOF DRAIN TIE-IN
3	01-06-2026	PER IRC COMMENTS
2	10-10-2025	PER CLIENT COMMENTS
1		IRC TRC COMMENTS (RAI #1)

JOB NO. 24-0399
DESIGNED TH
DRAWN SS
DATE MAY 2025
CHECKED AS
DATE ISSUED

MBV ENGINEERING, INC.
MOAL BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1893 - 28TH STREET
VERO BEACH, FL 32960
PH (772) 770-5177
FX (772) 778-3417
MELBOURNE, FL - PH (321) 253-1510
FT. PIERCE, FL - PH (772) 468-9505

SITE PLAN

IRC FIRE RESCUE
FIRE STATION #15

INDIAN RIVER COUNTY FLORIDA

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

AARON G. STANTON
FL. P.E. #72460 4/28/2026

SHEET
C7

24-0399

D:\DRAWINGS\2024\24-0399 IRC Fire Station #15\7 - Construction\4 - Bid Set\2026-04-28 Plans to EDR\24-0399 BASE.dwg

SEE SHEET C6 FOR OVERALL DEVELOPMENT AREA

LIMITS OF DEVELOPMENT AREA

PROP. RE-GRADING OF EXISTING SWALE

PROP. RIP-RAP EROSION ABATEMENT

PROP. MES INV.= 15.50

PROPOSED 15' LAKE MAINTENANCE AREA

TOB = 18.5
NWL = 16.0
14.0
6.0

DRAINAGE BASIN = 1.25 AC
PROPOSED WET POND AT CONTROL = 0.66 AC

PROPOSED 15' LAKE MAINTENANCE AREA

TOB = 18.5
NWL = 16.0
14.0
6.0

91ST AVENUE

90TH AVENUE (CR 510)

87TH STREET

TRUCK BAY

FIRE STATION NO. 15
F.F.E. = 20.25

LIVING / OFFICE
F.F.E. = 20.50
(10,085 SF TOTAL)

STORAGE / WORK
F.F.E. = 20.50

BAY 1 | BAY 2 | BAY 3 | BAY 4

CONSTRUCT TYPE "D" CURB (TYP.)

PERFORATED END PIPE INV.= 12.50

41LF - 15" RCP
E INV EL=15.98
W INV EL=16.27

PIPE INV.= 15.98

INSTALL RIPRAP PER FDOT SEC. 530-2.2.2 & SEC. 530-3.2 OF THE FDOT ROAD & BRIDGE CONSTRUCTION (CURRENT EDITION

INSTALL 24" RCP

INSTALL TYPE "F" INLET

39LF - 15 RCP
INV EL=16.74

CATCH BASIN
TOP EL=18.98

CATCH BASIN
TOP EL=19.10

PROP. MES
INV.= 15.40

15' DRAINAGE EASEMENT DEDICATED TO PIC

DS-1 | DS-2 | DS-3 | DS-4 | DS-5 | DS-6 | DS-7 | DS-8 | DS-9 | DS-10

P-1 | P-2 | P-3 | P-4 | P-5 | P-6 | P-7 | P-8 | P-9 | P-10 | P-11 | P-12 | P-13 | P-14 | P-15 | P-16 | P-17

CS-1

8 LF 6" PVC
6" C.O.
INV. 16.04
6" C.O.
INV. 15.33
20 LF 6" PVC
23 LF 6" PVC
6" C.O.
INV. 15.72
12 LF
6" PVC
16 LF
6" PVC
6" C.O.
INV. 15.15
6" C.O.
INV. 15.32

M.E
±19.20
M.E
±19.00
M.E
±18.6
M.E
±18.63

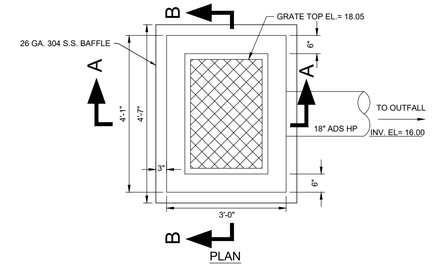
WM | FM | SS | S | W | FL

DRAINAGE STRUCTURE SCHEDULE

STRUCTURE NUMBER	RIM ELEV.	INVERT ELEVATION N	S	E	W	BOTTOM ELEV.	DESCRIPTION
DS- 1	18.50				14.80 (SW)	14.80	FDOT TYPE 'F' INLET
DS- 2	18.50		15.00 (SE)	14.53 (NE)	14.43 (SW)	14.43	FDOT TYPE 'C' INLET
DS- 3	18.50				14.80	14.80	FDOT TYPE 'C' INLET
DS- 4	18.50	15.00		14.55	14.45	14.45	FDOT TYPE 'F' INLET
DS- 5	18.50	13.92		14.02		13.92	FDOT TYPE 'F' INLET
DS- 6	18.50		13.64	14.16 (NE)	13.54 (NW)	13.54	FDOT TYPE 'F' INLET
DS- 7	19.00	16.74 (NE)	16.74	15.87		15.87	FDOT TYPE 'F' INLET
DS- 8	19.00			15.80	15.80	15.80	FDOT TYPE 'C' INLET
DS- 9	18.50			15.67	15.67	15.67	FDOT TYPE 'C' INLET
DS- 10	17.75	15.48			15.48	15.48	FDOT TYPE 'C' INLET
CS-1		SEE SHEET C13 FOR DETAIL					MODIFIED TYPE "C" CATCH BASIN

DRAINAGE PIPE SCHEDULE

PIPE NUMBER	SIZE (IN.)	LENGTH (LF)	DESCRIPTION
P- 1	18"	91	ADS STORM HP
P- 2	18"	90	ADS STORM HP
P- 3	18"	84	ADS STORM HP
P- 4	18"	143	ADS STORM HP
P- 5	18"	92	ADS STORM HP
P- 6	24"	114	ADS STORM HP
P- 7	24"	20	RCP
P- 8	24"	71	RCP
P- 9	24"	135	RCP
P- 10	24"	194	RCP
P- 11	24"	68	RCP
P- 12	18"	45	ADS STORM HP
P- 13	8"	71	ADS STORM HP
P- 14	8"	33	ADS STORM HP
P- 15	8"	57	ADS STORM HP
P- 16	8"	17	ADS STORM HP
P- 17	8"	27	ADS STORM HP



TYPE "C" MODIFIED CONTROL STRUCTURE - CS-1

N.T.S.

LEGEND

- EXISTING ASPHALT
- EXISTING MILLINGS
- PROPOSED HEAVY DUTY CONCRETE
- PROPOSED STANDARD DUTY CONCRETE
- PROPOSED LITTORAL PLANTING ZONE
- PROPOSED POLE LIGHT
- 11.85 × EXISTING GRADE
- 20.17 PROPOSED GRADE
- PROPOSED SURFACE FLOW AND SLOPE

SEE SHEET C9 FOR SITE CROSS SECTIONS

PAVING, GRADING AND DRAINAGE PLAN

SCALE: 1" =30'

GRAPHIC SCALE
0 30 60
(IN FEET)
1 inch = 30 ft.

VERTICAL DATUM REFERENCES NAVD 88

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

O:\DRAWINGS\2024\24-0399 IRC Fire Station #15\4 - Drawings\24-0399 BASE DWG 7/15/2026 7:58 AM TODD HOWDER

	DATE
9 PER BIDDING RFI	07-15-2026
8 PER BIDDING RFI	07-07-2026
7 PER IRC COMMENTS	03-18-2026
6 PER FDEP WATER COMMENTS	03-10-2026
5 PER IRC COMMENTS	02-26-2026
4 ROOF DRAIN TIE-IN	02-20-2026
3 PER IRC COMMENTS	02-11-2026
2 PER CLIENT COMMENTS	01-06-2026
1 IRC TRC COMMENTS (RAI #1)	10-10-2025
△ REVISIONS	DATE

JOB NO. 24-0399
DESIGNED TH
DRAWN SS
DATE MAY 2025
CHECKED AS
DATE ISSUED

MBV ENGINEERING, INC.
MOAL BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
MELBOURNE, FL - PH (321) 253-1510
1813 - 28TH STREET
VERO BEACH, FL 32960
PH. (772) 794-9004
FX. (772) 778-3417
FT. PIERCE, FL - PH (772) 468-9505

PAVING, GRADING AND DRAINAGE PLAN

IRC FIRE RESCUE
FIRE STATION #15

INDIAN RIVER COUNTY FLORIDA

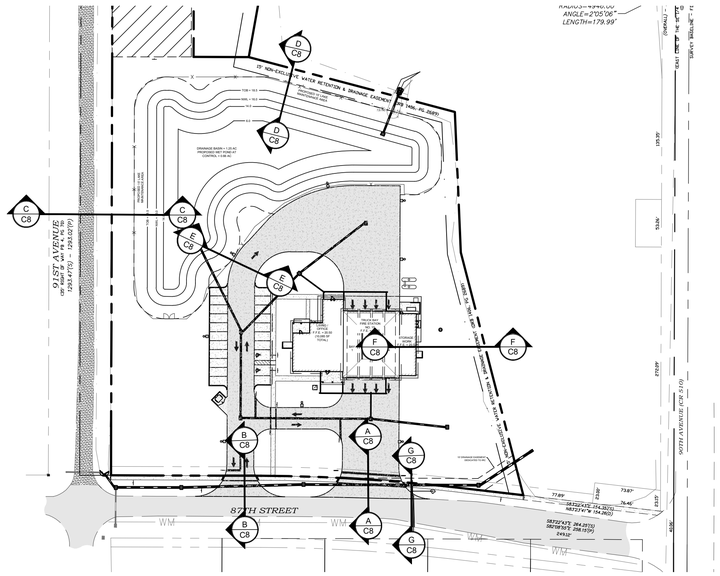
AARON G. STANTON
LICENSE
No. 72460
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

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

SHEET
C8

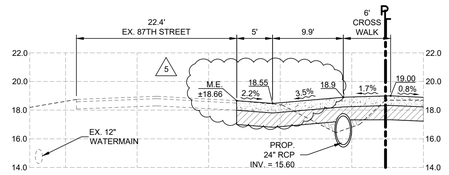
24-0399

SEE SHEET C6 FOR OVERALL DEVELOPMENT AREA



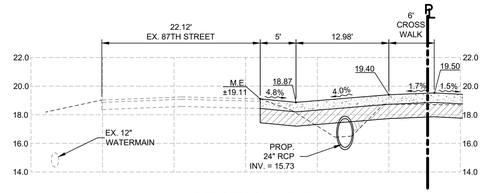
SECTION KEY MAP

GRAPHIC SCALE
0 80 160
(IN FEET)
1 inch = 80 ft.



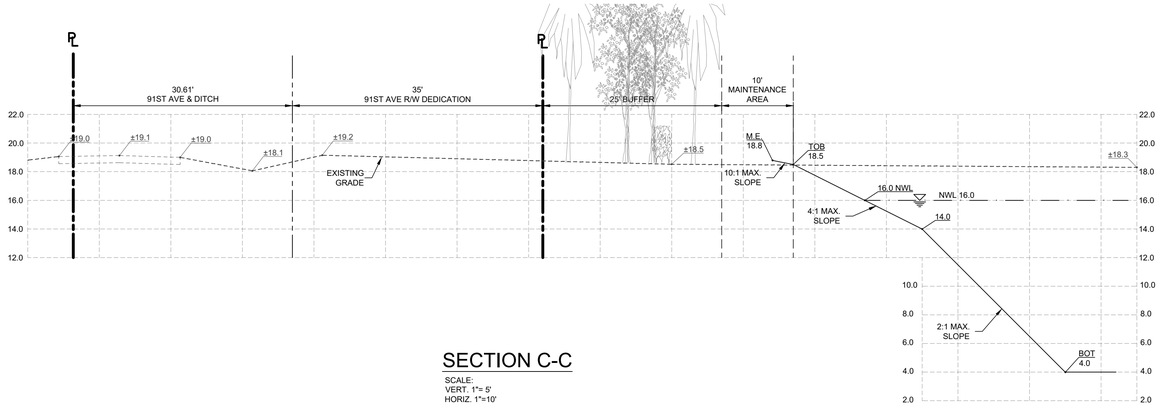
SECTION A-A

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



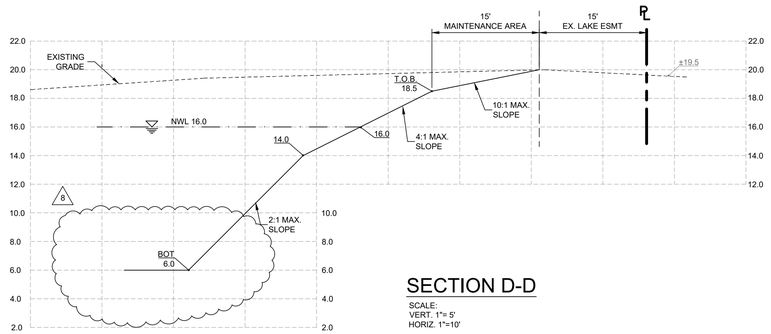
SECTION B-B

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



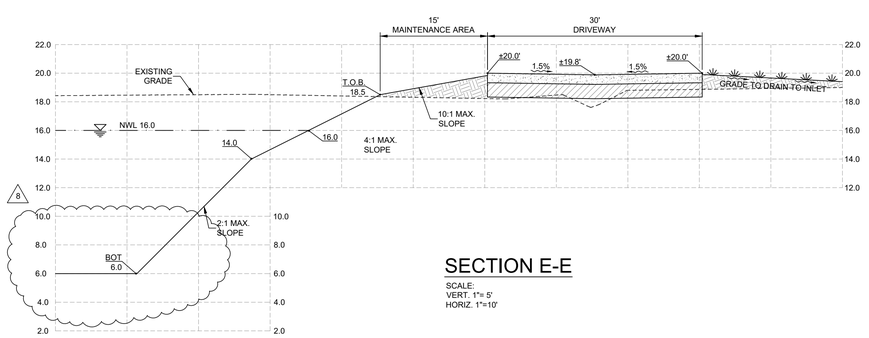
SECTION C-C

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



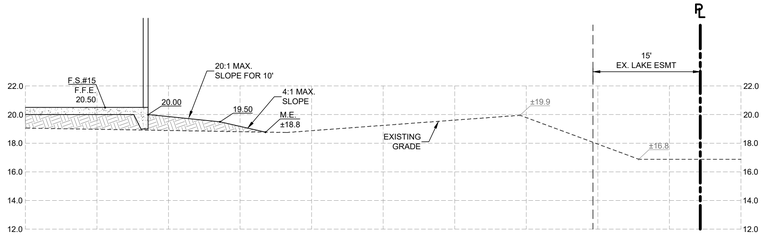
SECTION D-D

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



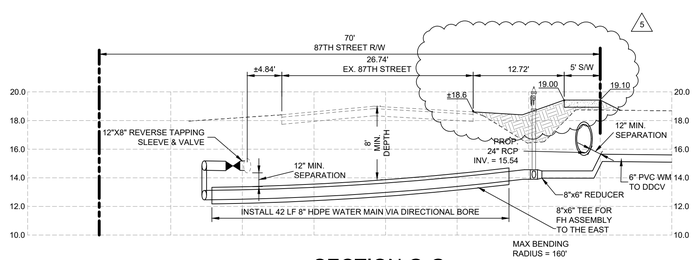
SECTION E-E

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



SECTION F-F

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



SECTION G-G
DIRECTIONAL BORE PROFILE FOR WATER MAIN CROSSING 87TH STREET

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

NOTE:
1. UTILITY VALVE COVERS TO BE INSTALLED OUTSIDE OF ANY SIDEWALK.
2. SHORING OR TRENCH BOX TO BE USED FOR DIRECTIONAL BORE TO PREVENT PAVEMENT STRUCTURE DAMAGE

7

VERTICAL DATUM REFERENCES NAVD 88

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

O:\DRAWINGS\2024\24-0399 IRC Fire Station #15\4 - Drawings\24-0399 BASE.DWG 7/7/2026 7:40 AM COLE SPENCE

	DATE
8 PER BIDDING RFI	07-07-2026
7 PER IRC COMMENTS	03-18-2026
6 PER FDEP WATER COMMENTS	03-10-2026
5 PER IRC COMMENTS	02-26-2026
4 ROOF DRAIN TIE-IN	02-20-2026
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1 IRC TRC COMMENTS (RAI #1)	10-10-2025
REVISIONS	DATE

JOB NO. 24-0399
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SITE CROSS SECTIONS

IRC FIRE RESCUE
FIRE STATION #15

INDIAN RIVER COUNTY FLORIDA

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

SHEET
C9

24-0399

SEE SHEET C6 FOR OVERALL DEVELOPMENT AREA

91ST AVENUE
(35' RIGHT OF WAY PB 4, PG 70)

LIMITS OF DEVELOPMENT LINE

15' NON-EXCLUSIVE WATER RETENTION & DRAINAGE EASEMENT (ORB 1406, PG 2689)

PROPOSED 15' LAKE MAINTENANCE AREA

TOB = 18.5
NWL = 16.0
14.0
6.0

DRAINAGE BASIN = 1.25 AC
PROPOSED WET POND AT CONTROL = 0.66 AC

LP TANKS REFER TO ARCH. PLANS
2" LP LINE
GENERATOR (BY OTHERS)
ELEC. TRANSFORMER
LP GAS SEE ARCH. PLANS
TRUCK BAY
FIRE STATION NO. 15 F.F.E. = 20.25
LIVING / OFFICE F.F.E. = 20.50 (10,085 SF TOTAL)
BAY 1 | BAY 2 | BAY 3 | BAY 4
STORAGE / WORK F.F.E. = 20.50
MECHANICAL EQUIPMENT PAD
CLEAN-OUT, (TYP.)
GREASE TRAP, SEE ARCH PLANS
36 LF 4" PVC SAN. @ 2.0% INV = 18.00
C.O. INV = 17.58
7 LF 4" PVC SAN. @ 2.0% C.O. INV = 16.17
46 LF 4" PVC FDC FIRE LINE
TEMP. SAMPLE POINT #2, PER IRCDUS DETAIL W-8
2" 90° BEND
136 LF 2" PEXa WATER SERVICE
C.O. INV = 15.50
146 LF 4" PVC SAN. @ 2.0%
HANDHOLD FOR CONNECTION
6" FIRE LINE TO BLDG. RISER ROOM. COORDINATE WITH INTERIOR SPRINKLER CONTRACTOR FOR EXACT LOCATION
25 LF 4" PVC SAN. @ 2.0%
550 GAL OIL/WATER SEPARATOR
HOSE BIB
5' Ø PRIVATE FIBERGLASS LIFT STATION (SEE SHEETS C11 & C12)
CLEAN-OUT (TYP.) TOP = 20.20 INV. = 17.26
PROP. FDC
±230 LF 2" CONDUIT FOR PREEMPTION SIGNAL CABLE
94 LF 6" C900 WM
2" 45° BEND
78 LF 2" PE-4710 FM
CONTRACTOR TO FIELD ADJUST LIGH AS NEEDED TO AVOID CONFLICT WITH UTILITIES
6" 45° BEND
2" 45° BEND
6" DDCV, PER IRCDUS DETAIL W-10
2" RPZ, PER IRCDUS DETAIL W-N
15' DRAINAGE EASEMENT DEDICATED TO IRC
12"x4" TAPPING SLEEVE AND VALVE, PER IRCDUS DETAIL M-5
TOP OF BANK
2" 45° BEND
2" WATER METER, PER IRCDUS DETAIL W-4
8"x8" TEE, (2) 8"x6" REDUCERS
42 LF 8" PE-4710 WM (DIRECTIONAL DRILL), SEE SHEET C9 FOR PROFILE
4"x 4" TEE, (1) 4" GV w/ 2" REDUCER, (1) 4" GV
259 LF 4" PVC FM
RESTRAINED DEAD END
FIRE HYDRANT ASSEMBLY, PER IRCDUS DETAIL W-2
REVERSE 8"x 12" TAPPING SLEEVE AND VALVE, PER IRCDUS DETAIL M-5, TEMP. SAMPLE POINT #1, PER IRCDUS DETAIL W-8, TEMPORARY JUMPER, PER IRCDUS DETAIL W-13 & W-13A
8" 90° BEND
EXISTING TRAFFIC SIGNAL BOX
±375 LF 2" CONDUIT FOR PREEMPTION SIGNAL CABLE. (DIRECTION DRILL IN R/W)

87TH STREET

90TH AVENUE (CR 510)

15' NON-EXCLUSIVE WATER RETENTION & DRAINAGE EASEMENT (ORB 1406, PG 2689)

CONFLICT TABLE

CONFLICT NUMBER		C1	C2	C3	C4	C5	C6
	GROUND ELEVATION	19.4 '	19.4 '	19.0 '	19.0 '	19.5 '	19.4 '
	COVER (UPPER)	1.7 '	1.7 '	2.4 '	2.4 '	3.0 '	3.0 '
Upper Pipe	PIPE SIZE	24 "	24 "	18 "	18 "	6 "	6 "
	MATERIAL	ST(RCP)	ST(RCP)	ST(RCP)	ST (ADS)	WTR(PVC)	WTR(PVC)
	INV. ELEV	15.5 '	15.5 '	14.9 '	14.9 '	16.0 '	15.9 '
	WALL THICKNESS	3.00 "	3.00 "	2.50 "	2.00 "	0.28 "	0.28 "
	BOTT. OF PIPE	15.3 '	15.3 '	14.7 '	14.8 '	16.0 '	15.9 '
	SEPARATION	1.0 '	1.0 '	1.0 '	1.1 '	1.0 '	1.0 '
	COVER (LOWER)	5.2 '	5.2 '	5.3 '	5.3 '	4.5 '	4.5 '
	TOP OF PIPE	14.3 '	14.2 '	13.7 '	13.7 '	15.0 '	14.9 '
	OBV. ELEV.	14.3 '	14.2 '	13.7 '	13.7 '	14.9 '	14.9 '
Lower Pipe	PIPE SIZE	2 "	6 "	2 "	6 "	4 "	4 "
	MATERIAL	FM(HDPE)	WTR(PVC)	FM(HDPE)	WTR(PVC)	SS(PVC)	SS(PVC)
	INV. ELEV	14.1 '	13.7 '	13.5 '	13.2 '	14.6 '	14.5 '
	WALL THICKNESS	0.22 "	0.28 "	0.22 "	0.28 "	0.24 "	0.24 "

ALL UTILITY CONSTRUCTION MUST ADHERE TO THE IRCDUS UTILITY CONSTRUCTION STANDARDS, LATEST EDITION
https://indianriver.gov/services/utilities/index.php
(Quick Links:WATER and WASTEWATER Utility Standards)

NOTE:
1. UTILITY VALVE COVERS TO BE INSTALLED OUTSIDE OF ANY SIDEWALK.
2. SHORING OR TRENCH BOX TO BE USED FOR DIRECTIONAL BORE TO PREVENT PAVEMENT STRUCTURE DAMAGE

7

FDEP SEPARATION CRITERIA:

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

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER, FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610,F.A.C.
(B)NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.
(C) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PREASSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610,F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.
(D) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2),F.S., AND RULE 64E-6.002, F.A.C.

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

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

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

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

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

NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C; AT LEAST THREE FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER; AT LEAST SIX FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED GRAVITY-OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

LEGEND

- EXISTING ASPHALT
- EXISTING MILLINGS
- PROPOSED HEAVY DUTY CONCRETE
- PROPOSED STANDARD DUTY CONCRETE
- PROPOSED LITTORAL PLANTING ZONE
- PROPOSED POLE LIGHT
- S — PROPOSED GRAVITY SANITAIRY
- FM — PROPOSED FORCE MAIN (TRENCH)
- WM — PROPOSED WATER MAIN (DIRECTIONAL BORE)
- WM — PROPOSED WATER MAIN (TRENCH)
- gas — EXISTING 20" & 26" GAS TRANSMISSION LINES
- oe — PROPOSED OVERHEAD ELECTRIC LINES
- E — PROPOSED UNDERGROUND ELECTRIC LINES

WATER SERVICE CONNECTION

SCALE: 1" = 5'

UTILITY PLAN

SCALE: 1" =30'

GRAPHIC SCALE
0 30 60
(IN FEET)
1 inch = 30 ft.

BID SET

VERTICAL DATUM REFERENCES NAVD 88

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

O:\DRAWINGS\2024\24-0399 IRC Fire Station #15\7 - Construction\4 - Bid Set\2026-04-28 Phase to EDP\24-0399 BASE.dwg

	DATE	REVISIONS
8	03-18-2026	PER IRC COMMENTS
7	03-10-2026	PER FDEP WATER COMMENTS
6	02-26-2026	PER IRC COMMENTS
5	02-20-2026	ROOF DRAIN TIE-IN
4	02-11-2026	PER IRC COMMENTS
3	01-06-2026	PER CLIENT COMMENTS
2	10-10-2025	IRC TRC COMMENTS (RAI #1)
1		

JOB NO.	24-0399
DESIGNED	TH
DRAWN	SS
DATE	MAY 2025
CHECKED	AS
DATE ISSUED	

MBV ENGINEERING, INC.
MOAL BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
MELBOURNE, FL - PH (321) 253-1510
FT. PIERCE, FL - PH (772) 468-9505
1813 - 20TH STREET
VERO BEACH, FL 32960
PH: (772) 794-3417
FX: (772) 778-3417

UTILITY PLAN

IRC FIRE RESCUE
FIRE STATION #15

FLORIDA
INDIAN RIVER COUNTY

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

AARON G. STANTON
FL P.E. #72460 4/28/2026

SHEET
C10

24-0399

SPECIFICATIONS FOR SUBMERSIBLE GRINDER LIFT STATION

PART 1 GENERAL
1.01
TWO GRINDER PUMPS ARE TO BE INSTALLED AT THE SITE. REFER TO THE PUMP STATION DATA TABLE IN THIS SHEET FOR PUMP DETAILS.

1.02 QUALITY ASSURANCE
1. UNIT INTEGRITY: THE PUMPS, MOTORS, CONTROL PANEL, ACCESS COVER, AND GUIDE RAIL ASSEMBLIES SHALL BE SUPPLIED BY THE PUMP SUPPLIER TO INSURE UNIT INTEGRITY.
2. PUMP TESTS: THE PUMP SUPPLIER SHALL PERFORM THE FOLLOWING TESTS ON EACH PUMP BEFORE SHIPMENT FROM THE SUPPLIER:
   A. MEGGER THE PUMP FOR INSULATION BREAKS OR MOISTURE.
   B. INTERNALLY PRESSURIZE THE MOTOR HOUSING TO 5 PSI WITH A HALOGEN GAS. CHECK ALL O-RING MATING SURFACES FOR GAS LEAKS WITH A HALOGEN GAS DETECTOR.
   C. VERIFY VOLTAGE SETTING MATCHES ORDER REQUIREMENTS.
   D. PUMP SHALL BE RUN DRY TO VERIFY ROTATION, PHASE BALANCE, AND DYNAMIC BALANCE.
   E. A WRITTEN CERTIFIED TEST REPORT GIVING THE ABOVE INFORMATION SHALL BE SUPPLIED WITH EACH PUMP AT THE TIME OF SHIPMENT.
   F. EACH PUMP CABLE END SHALL BE FITTED WITH A RUBBER SHRINK FIT BOOT TO PROTECT CABLE ENDS.
3. GUARANTEED PARTS STOCKING PROGRAM: THE PUMP SUPPLIER SHALL HAVE A GUARANTEED PARTS STOCKING PROGRAM IN THE STATE OF FLORIDA. THESE PARTS SHALL INCLUDE AT LEAST ONE SET OF SPARE PARTS AS LISTED BELOW FOR EACH PUMP SUPPLIED ON THIS CONTRACT. IF THE PUMP SUPPLIER DOES NOT MEET THIS REQUIREMENT FOR A GUARANTEED STOCK PROGRAM, THE CONTRACTOR SHALL FURNISH THE FOLLOWING SPARE PARTS FOR EACH PUMP.

UPPER LIP SEAL	INSPECTION PLUG WASHERS
LOWER MECHANICAL SEAL	IMPELLER BOLT IMPELLER
CUTTERS	KEY UPPER BEARING LOWER
MOTOR CABLE	BEARING COMPLETE SET OF O-RINGS
CABLE ENTRY WASHER/GROMMET	
COMPLETE SET OF O-RINGS	

1.03 SUBMITTALS
1. COPIES OF ALL MATERIALS REQUIRED TO ESTABLISH COMPLIANCE WITH THE SPECIFICATIONS SET FORTH HERE SHALL BE SUBMITTED TO THE ENGINEER. SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:
   A. EQUIPMENT DIMENSION DRAWINGS, ANCHOR BOLT LAYOUTS, AND WEIGHTS
   B. TECHNICAL DATA ON THE PUMP AND MOTOR MATERIALS OF CONSTRUCTION
   C. MOTOR ELECTRICAL DATA
   D. HYDRAULIC PERFORMANCE CURVES
   E. COMPLETE BILLS OF MATERIALS
   F. CONTROL PANEL LAYOUT DRAWINGS, SCHEMATICS, AND BILLS OF MATERIALS
2. ANY EQUIPMENT THAT DOES NOT CONFORM WITH ALL OF THE DETAILED REQUIREMENTS OF THE SPECIFICATIONS, SHALL BE ACCOMPANIED BY COMPLETE DESCRIPTIONS OF DEVIATIONS AND ALL NONCONFORMING ASPECTS. FAILURE TO DESCRIBE ANY AND ALL DEVIATIONS FROM THE SPECIFICATIONS WILL BE CAUSE FOR REJECTION.
3. OPERATING AND MAINTENANCE MANUALS SHALL BE FURNISHED IN QUANTITIES AS REQUIRED BY THE COUNTY/COUNTY. MANUALS SHALL INCLUDE ALL NECESSARY INFORMATION TO INSTRUCT OPERATING AND MAINTENANCE PERSONNEL UNFAMILIAR WITH SUCH EQUIPMENT.

1.04 WARRANTY
WARRANTY: THE PUMP MANUFACTURER SHALL WARRANT THE PUMPS BEING SUPPLIED AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR UNDER NORMAL USE, OPERATION AND SERVICE. THE MANUFACTURER SHALL REPLACE ANY PARTS, WHICH FAIL UNDER NORMAL USE AS A RESULT OF FACTORY MANUFACTURING DEFECTS FOR A PERIOD OF ONE YEAR. THE WARRANTY SHALL BE IN PUBLISHED FORM AND APPLY TO ALL SIMILAR UNITS.

PART 2. PRODUCTS
2.01 MATERIALS
ALL METAL COMPONENTS IN THE LIFT STATION, WITH THE EXCEPTION OF THE PUMPS, MOTORS, GUIDE RAIL BASES, AND STATION PIPING, SHALL BE TYPE 304 STAINLESS STEEL.

GRINDER PUMP STATION EQUIPMENT
2.02 PUMPS
1. THE CONTRACTOR SHALL FURNISH AND INSTALL ELECTRIC MOTOR DRIVEN TOTALLY SUBMERSIBLE GRINDER PUMPS AS MANUFACTURED BY SULZER OR PRE-APPROVED EQUAL.
2. PUMP DESIGN:
   A. PUMPS SHALL BE CAPABLE OF HANDLING RAW, UNSCREENED SEWAGE. THE GRINDER UNIT SHALL BE CAPABLE OF SHEARING AND REDUCING TO A FINE SLURRY ALL MATERIAL NORMALLY FOUND IN DOMESTIC AND COMMERCIAL SEWAGE SUCH AS SANITARY NAPKINS, DISPOSABLE DIAPERS, CLOTH DIAPERS, WASH RAGS, WOOD, PLASTIC, ETC. THE SLURRY SHALL BE CAPABLE OF FREELY PASSING THROUGH A 2" PIPING SYSTEM INCLUDING CHECK AND GATE VALVES.
   B. THE DESIGN SHALL BE SUCH THAT THE PUMPS WILL BE AUTOMATICALLY CONNECTED TO THE DISCHARGE PIPING WHEN LOWERED ONTO THE DISCHARGE CONNECTION GUIDED BY ONE 2" DIA. SCH 40 304 STAINLESS STEEL GUIDE RAIL. PUMPS SHALL BE EASILY REMOVABLE FOR INSPECTION OR SERVICE, REQUIRING NO BOLTS, NUTS OR OTHER FASTENINGS TO BE REMOVED FOR THIS PURPOSE AND NO NEED FOR PERSONNEL TO ENTER THE WET WELL. EACH PUMP SHALL BE FITTED WITH A 300 STAINLESS STEEL LIFTING BAIL WITH AN OPENING OF AT LEAST EIGHT INCHES IN DIAMETER AND A SERIES 300 STAINLESS STEEL LIFTING CABLE OF ADEQUATE STRENGTH AND LENGTH TO PERMIT RAISING THE PUMP FOR INSPECTION AND REMOVAL.
3. GRINDER PUMP CONSTRUCTION:
   A. THE STATOR CASING, OIL CASING AND IMPELLER SHALL BE OF GRAY IRON CONSTRUCTION, WITH ALL PARTS COMING INTO CONTACT WITH SEWAGE PROTECTED BY PVC EPOXY PRIMER WITH A COMPATIBLE EPOXY FINISH COAT. ALL EXTERNAL BOLTS AND NUTS SHALL BE OF 300 STAINLESS STEEL.
   B. THE PUMP SHALL BE OF THE CENTRIFUGAL TYPE WITH THE ROTATING CUTTER MOUNTED ON THE PUMP SHAFT DIRECTLY AGAINST THE IMPELLER. THE STATIONARY CUTTER SHALL BE MOUNTED IN AN ADJUSTABLE BOTTOM PLATE. THE BOTTOM PLATE SHALL BE CAST WITH GROOVES SPIRALING OUTWARD FROM THE CENTER OPENING OF THE PLATE TO THE OUTER DIAMETER. THE IMPELLER SHALL BE A MULTIPLE VANE CENTRIFUGAL TYPE. THE CUTTER MATERIAL SHALL BE SIMILAR TO AN AISI 440C STAINLESS STEEL WITH THE ADDITION OF COBALT, VANADIUM, AND MOLYBDENUM FOR SUPERIOR ABRASION RESISTANCE AND A HARDNESS OF 58-62 ROCKWELL C.
   C. THE COMMON PUMP AND MOTOR SHAFT SHALL BE 420 STAINLESS STEEL SUPPORTED BY A HEAVY DUTY LOWER SINGLE ROW BALL BEARING IN 2 AND 2.5 HORSEPOWER MODELS ONLY WHILE 3 HORSEPOWER AND ABOVE SHALL HAVE A MAXI-DUTY DOUBLE ROW LOWER BALL BEARING. THE UPPER BEARING SHALL BE A SEALED SINGLE ROW BALL BEARING, ALL MODELS. THE CUTTING ELEMENTS AND IMPELLER SHALL BE DESIGNED TO KEEP THE OVERHUNG LOAD DISTANCE TO A MINIMUM. ALL FASTENERS SHALL BE 304 STAINLESS STEEL.
   D. EACH PUMP SHALL BE EQUIPPED WITH TWO SEALS. THE LOWER SEAL (PUMP SIDE) SHALL BE OF THE MECHANICAL TYPE WITH SILICON CARBIDE FACES. THE UPPER SEAL SHALL BE A LIP TYPE SEAL MOUNTED AT A SLIGHT ANGLE TO THE SHAFT. THE SEALS SHALL BE SEPARATED BY AN OIL CHAMBER.
   E. THE PUMP SHALL BE FITTED WITH AN OIL CHAMBER IN WHICH THE SHAFT MECHANICAL SEALS OPERATE. THE CHAMBER SHALL BE FITTED WITH A DRAIN AND INSPECTION PLUG EASILY ACCESSIBLE FROM THE OUTSIDE OF THE PUMP. THE CHAMBER SHALL ALSO BE FITTED WITH A PROBE EXTENDING FROM THE BOTTOM OF THE MOTOR HOUSING INTO THE OIL CHAMBER. THE PROBE SHALL DETECT THE PRESENCE OF WATER IN THE OIL WHEN CONNECTED TO A RESISTIVE THRESHOLD RELAY INSTALLED IN THE CONTROL PANEL.THE RELAY SHALL TURN ON A SEAL FAILURE WARNING LIGHT ON THE INNER DOOR OF THE CONTROL PANEL WHEN WATER IS DETECTED IN THE OIL CHAMBER AS WELL AS IN THE MOTOR HOUSING. THIS SYSTEM WILL PROVIDE ADVANCE WARNING TO AN OPERATOR OF POTENTIAL SEAL FAILURE BEFORE MAJOR DAMAGE OCCURS TO THE PUMP MOTOR.
   F. THE PUMP DISCHARGE SHALL BE FITTED WITH A GUIDE BRACKET THAT SHALL BE A SEPARATE CASTING FITTED WITH A RENEWABLE BUNA-N SEAT AND BOLTED TO THE PUMP DISCHARGE. MACHINED GUIDE RAIL MATING FACES INTEGRAL TO THE PUMP DISCHARGE WILL NOT BE CONSIDERED EQUAL TO THE BOLT ON BRACKET WITH RENEWABLE SEAT SPECIFIED. SEALING OF THE GUIDE BRACKET TO THE DISCHARGE BASE SHALL NOT REQUIRE MOVEMENT OF THE PUMP, HYDRAULIC PRESSURE, OR MACHINED FACES. THE CAST IRON DISCHARGE CONNECTION SHALL BE BOLTED TO THE FLOOR OF THE WET WELL AND DESIGNED SO AS TO RECEIVE THE PUMP CONNECTING FLANGE WITHOUT THE NEED OF ANY BOLTS OR FASTENERS.
4. PUMP MOTOR:
   A. PUMP MOTORS RATED FOR 2 AND 2.5 HORSEPOWER SHALL BE NEMA DESIGN B HOUSED IN AN OIL FILLED CASING. PUMP MOTORS 3 HORSEPOWER AND LARGER SHALL BE NEMA DESIGN B HOUSED IN AN AIR FILLED CASING. ALL MOTORS SHALL HAVE CLASS F INSULATED MOISTURE RESISTANT WINDINGS. THE TEMPERATURE AT ANY POINT IN THE WINDINGS SHALL NOT EXCEED 155 C AT ANY LOAD ON THE OPERATING CURVE OF THE PUMP. BIMETALLIC THERMAL SWITCHES SHALL BE IMBEDDED IN EACH PHASE OF THE WINDING TO SENSE HIGH TEMPERATURE. THE RATING OF THE SWITCH SHALL BE 120OC ± 5OC. THE CONTROL CURRENT SHALL BE CONNECTED THROUGH THE BIMETALLIC SWITCHES SO THE MOTOR IS SHUT DOWN SHOULD A HIGH TEMPERATURE CONDITION EXIST. THE SWITCHES SHALL BE SELF-RESETTING WHEN THE MOTOR COOLS.
   B. SINGLE PHASE MOTORS SHALL BE OF THE EXTERNAL CAPACITOR START CAPACITOR RUN TYPE FOR HIGH STARTING TORQUE. MOTORS THAT HAVE INTEGRAL START CAPACITORS INSIDE THE MOTOR HOUSING SHALL NOT BE ACCEPTABLE.
   C. OIL FILLED MOTORS OF 2 & 2.5 HORSEPOWER SHALL BE ENCLOSED IN A TYPE 316 STAINLESS STEEL OUTER HOUSING. AIR FILLED MOTORS 3 HORSEPOWER AND ABOVE SHALL HAVE CAST IRON HOUSINGS EQUIPPED WITH EXTERNAL COOLING FINS.
   D. THE PUMP/MOTOR SHAFT SHALL BE CONSTRUCTED OF 420 STAINLESS STEEL AND SHALL BE KEYED TO ACCEPT THE IMPELLER. THE IMPELLER SHALL BE SECURED TO THE SHAFT BY A STAINLESS STEEL LOCKING BOLT OR NUT. SHAFTS THAT HAVE TAPERED OR THREADED ENDS FOR SECURING THE IMPELLER WILL NOT BE ACCEPTABLE.
   E. SEALING OF THE POWER CABLE ENTRANCE INTO THE TERMINAL CHAMBER SHALL BE PROVIDED BY A BUNA-N GROMMET IN A COMPRESSION FITTING. EPOXY OR OTHER COMPOUNDS USED IN THE SEALING OF THE POWER CABLE ENTRY IS UNACCEPTABLE. THE TERMINAL CHAMBER SHALL BE ISOLATED FROM THE MOTOR CHAMBER BY A WATERTIGHT BARRIER.
5. CABLE:
   PUMP MOTOR CABLE SHALL BE OF THE SO/SOW TYPE SUITABLE FOR SUBMERSIBLE PUMP APPLICATIONS WITH THE RATING PERMANENTLY EMBOSSED ON THE CABLE. CABLE LENGTH SHALL BE SUFFICIENT TO REACH THE CONTROL PANEL WITHOUT THE NEED FOR JUNCTION BOXES OR SPLICES. CABLE SIZING SHALL CONFORM TO NEC REQUIREMENTS FOR THE FULL LOAD CURRENT OF THE PUMP MOTOR. THE POWER CABLE FROM EACH PUMP SHALL BE PULLED TO THE CONTROL PANEL THROUGH A MINIMUM OF A 2" DIAMETER CONDUIT. ALL FLOAT SWITCHES SHALL BE PULLED THROUGH A SEPARATE 2" DIAMETER CONDUIT.

2.03 ACCESSORIES
1. ACCESS HATCHES:
   THE WET WELL AND VALVE VAULT SHALL BE EQUIPPED WITH ACCESS HATCHES OF THE SINGLE OR DOUBLE LEAF CONSTRUCTION IN THE MINIMUM SIZES SHOWN ON THE DRAWINGS. THE PUMP MANUFACTURER SHALL COORDINATE THE WET WELL HATCH SIZE WITH THE PUMPS BEING FURNISHED WHILE THE VALVE VAULT COVER SHALL BE SINGLE LEAF WITH A MINIMUM OF A 36"X 36" CLEAR OPENING. THE HATCHES SHALL BE FABRICATED OF ALUMINUM DIAMOND PLATE REINFORCED FOR A 300# LOAD RATING. THE COVER(S) SHALL BE EQUIPPED WITH STAINLESS STEEL HINGES, STAINLESS STEEL AUTOMATIC HOLD OPEN ARMS, AND PADLOCK HASPS. HATCHES SHALL BE AS MANUFACTURED BY HALLIDAY PRODUCTS OR ELECTRIC SPECIALTY.
2. FLOAT / CABLE HANGER:
   A 300 SERIES STAINLESS STEEL CABLE HOLDER WITH A MINIMUM OF SIX HOOKS OF SUFFICIENT LENGTH AND STRENGTH TO PROVIDE SUPPORT FOR EACH SEPARATE CABLE SHALL BE FURNISHED. THE FLOAT/CABLE HANGER SHALL BE EASILY ACCESSED FROM THE HATCH OPENING.
3. FLOAT SWITCHES:
   FLOAT SWITCHES SHALL BE U.L. LISTED NON FLOATING DISPLACEMENT TYPE WITH SEALED MERCURY SWITCHES IN A CHEMICAL RESISTANT POLYPROPYLENE CASING. SUFFICIENT CABLE SHALL BE PROVIDED TO REACH THE CONTROL PANEL WITHOUT THE NEED FOR SPLICES OR JUNCTION BOXES IN ADDITION TO PROVIDING AMPLE CABLE FOR HEIGHT ADJUSTMENTS. FLOAT SWITCHES SHALL BE ROTO-FLOATS AS MANUFACTURED BY ANCHOR SCIENTIFIC.

4. FIBERGLASS BASIN:
   THE FIBERGLASS BASIN SHALL BE MANUFACTURED FROM COMMERCIAL GRADE POLYESTER RESIN. THE COMPLETE WET WELL SHALL HAVE A DYNAMIC LOADING OF 16,000FT-LBS AND SHALL NOT DEFLECT VERTICALLY DOWNWARD MORE THAN A 1/4" AT THE POINT OF LOAD APPLICATION WHEN LOADED TO 24,000LBS. THE FIBERGLASS VALVE VAULT SHALL BE 24"X36"X30" DEEP AND MEET THE REQUIREMENTS FOR INCIDENTAL TRAFFIC H-10 LOADING AS ESTABLISHED BY ASSHTO. THE COMPRESSION STRENGTH SHALL BE AT LEAST 11,000PSI. FLOAT SWITCHES SHALL BE UL LISTED TYPE "S-ROTOFLOAT" MANUFACTURED BY ANCHOR SCIENTIFIC, INC. WITH 30 FEET OF STO PVC CABLE.

2.04 CONTROL PANEL:
A PUMP STATION CONTROL PANEL SHALL BE PROVIDED FOR EACH PUMPING STATION. THE CONTROL PANEL SHALL RESPOND TO LIQUID LEVEL FLOAT SWITCHES TO AUTOMATICALLY START AND STOP THE PUMP TO COMPENSATE FOR VARIATIONS IN PUMP STATION INFLUENT FLOW AS WELL AS PROVIDING VISUAL AND AUDIBLE ALARMS AT HIGH WET WELL LEVELS AND VISUAL ALARMS UPON DETECTION OF MOISTURE IN THE PUMP. PANEL SHALL BE AS MANUFACTURED BY ELECTRIC SPECIALTY OR STACON. THE PUMP CONTROL PANEL SHALL BE THE STANDARD SYSTEM OF THE MANUFACTURER AS MODIFIED FOR THIS APPLICATION. THE WET WELL LEVELS TO BE MAINTAINED IN OPERATION ARE AS SHOWN ON THE DRAWINGS.
1. OPERATION REQUIREMENTS:
   A. THE CONTROL PANEL SHALL INCLUDE A MAIN CIRCUIT BREAKER, A MOTOR CIRCUIT PROTECTOR, AND MAGNETIC STARTER, FOR EACH PUMP MOTOR, AND 15 AMPERE, 120 VOLT CIRCUIT BREAKERS AS REQUIRED FOR CONTROL CIRCUITS AND DUPLEX RECEPTACLE.
   B. ALL PUMP CONTROL OPERATIONS SHALL BE ACCOMPLISHED BY A FLOAT TYPE LIQUID LEVEL CONTROL SYSTEM OPERATING ON A 110 VOLT CIRCUIT. ALL CONTROL COMPONENTS SHALL BE MOUNTED IN ONE COMMON ENCLOSURE.
   C. CONTROL SWITCHES OF THE H-O-A TYPE SHALL PROVIDE MEANS TO OPERATE EACH PUMP MANUALLY OR AUTOMATICALLY. WHEN OPERATED IN THE AUTOMATIC MODE, THE CONTROL LOGIC SHALL PROVIDE MEANS TO MANUALLY SELECT OR AUTOMATICALLY ALTERNATE THE POSITION OF THE "LEAD" AND "LAG" PUMPS AFTER EACH PUMPING CYCLE.
   D. PROVISIONS FOR THE CONNECTION OF EACH PUMP'S THERMAL OVERLOADS INTO A SERIES CONFIGURATION WITH THE HOLDING COIL OF THE APPROPRIATE PUMP STARTER SHALL BE MADE. THIS CIRCUIT SHALL SHUT THE PUMP DOWN IN THE EVENT OF MOTOR OVER-TEMPERATURE. THE CIRCUIT SHALL BE AUTOMATICALLY RESETTING. APPROPRIATELY MARKED TERMINALS SHALL BE PROVIDED FOR THE CONNECTION OF THE PUMP THERMAL OVERLOAD LEADS.
2. CONSTRUCTION:
   A. THE ELECTRICAL CONTROL EQUIPMENT SHALL BE MOUNTED WITHIN A NEMA TYPE 3R DEAD FRONT ENCLOSURE, CONSTRUCTED OF NOT LESS THAN 14 GAUGE TYPE 304 STAINLESS STEEL.
   B. THE ENCLOSURE SHALL BE EQUIPPED WITH A RAIN DRIP SHIELD ON TOP AND A DEAD FRONT OUTER DOOR FITTED WITH A PIANO TYPE HINGE AND A LOCKING HASP.
   C. AN ALUMINUM INNER DOOR SHALL HAVE CUTOUTS TO EXPOSE THE OPERATING HANDLES OF ALL BREAKERS AND SHALL INCORPORATE THE COMPONENTS NECESSARY FOR AN OPERATOR TO CHECK THE STATUS OF A PUMP.
   D. CONTROL COMPONENTS SHALL BE MOUNTED ON A REMOVABLE BACK PLATE THAT IS SECURED TO THE ENCLOSURE WITH COLLAR STUDS.
   E. ALL CONTROL COMPONENTS SHALL BE MARKED WITH LEGENDS FOR EASY IDENTIFICATION.
   F. CONTROL WIRE SHALL BE MINIMUM 18 GA. AWG, U.L. #1015. ALL CONTROL WIRE SHALL BE ROUTED THROUGH PLASTIC WIREWAYS WITH SNAP ON COVERS AND BE NEATLY BUNDLED AND TIE WRAPPED TO FORM A NEAT ASSEMBLY. EACH WIRE SHALL BE NUMBERED BOTH ENDS WITH BRADY TYPE WIRE MARKERS.
   G. EACH CONDUIT ENTERING THE CONTROL PANEL FROM THE WET WELL SHALL BE FITTED WITH A SEAL OFF CONNECTION AS SHOWN ON THE DRAWINGS. EACH SEAL OFF SHALL BE AMPLY FILLED WITH A REUSABLE AND PLIABLE ELECTRICAL SEALING COMPOUND TO PREVENT THE INTRUSION OF SEWER GAS INTO THE CONTROL PANEL. CHICO OR EPOXY COMPOUNDS WILL NOT BE ALLOWED.
   H. LAMINATED WEATHERPROOF WIRING SCHEMATICS OF THE PANEL CIRCUITS ALONG WITH A COMPONENT IDENTIFICATION LEGEND SHALL BE FIXED TO THE INSIDE OF THE OUTER DOOR.
3. COMPONENTS:
   A. ALL MOTOR BRANCH CIRCUIT BREAKERS AND MOTOR STARTERS SHALL BE OF HIGHEST INDUSTRIAL QUALITY, AND SECURELY FASTENED TO THE REMOVABLE BACK PANELS WITH SCREWS AND WASHERS. BACK PANEL SHALL BE TAPPED TO ACCEPT ALL MOUNTING SCREWS SELF-TAPPING SCREWS SHALL NOT BE USED TO MOUNT ANY COMPONENT.
   B. AN OPEN FRAME, ACROSS-THE-LINE, NEMA RATED, MAGNETIC MOTOR STARTER, AS MANUFACTURED BY SQUARE D, SHALL BE FURNISHED FOR EACH PUMP MOTOR. ALL MOTOR STARTERS SHALL BE EQUIPPED TO PROVIDE OVERLOAD PROTECTION ON ALL PHASES. MOTOR STARTER CONTACTS SHALL BE EASILY REPLACEABLE WITHOUT REMOVING THE MOTOR STARTER FROM ITS MOUNTED POSITION.
   C. A DUPLEX 15 AMP GFI UTILITY RECEPTACLE PROVIDING 120 VOLT 60 HERTZ, SINGLE PHASE POWER SHALL BE MOUNTED INSIDE OF THE ENCLOSURE ON THE INNER DOOR.
   D. A RECEPTACLE TO MATCH COUNTY STANDARDS SHALL BE PROVIDED FOR CONNECTION OF THE PANEL TO EMERGENCY POWER. A SEPARATE MAIN CIRCUIT BREAKER PROTECTING THE EMERGENCY POWER CIRCUIT SHALL BE PROVIDED AND SHALL BE MECHANICALLY INTERLOCKED TO THE NORMAL POWER MAIN BREAKER TO PREVENT BOTH BREAKERS TO BE IN THE "ON" POSITION AT THE SAME TIME.
   E. FOR ALARM INDICATION, A TOP MOUNTED FLASHING LIGHT AND HORN SHALL BE PROVIDED. AN NEMA 4 SILENCING BUTTON SHALL BE PROVIDED ON THE OUTSIDE OF THE ENCLOSURE TO SILENCE THE ALARM HORN ONLY. IN AN ALARM CONDITION, THE LIGHT WILL CONTINUE TO FLASH INDEPENDENT OF THE HORN. THE ALARM CIRCUIT SHALL AUTOMATICALLY RESET.
   F. A SECONDARY LIGHTNING ARRESTOR SHALL BE PROVIDED.
   G. A PLUG-IN TYPE 0 - 30 SECOND ADJUSTABLE TIMER SHALL BE PROVIDED ON THE LAG PUMP TO PREVENT BOTH PUMPS FROM COMING ON SIMULTANEOUSLY AFTER A POWER FAILURE OR CONNECTION TO EMERGENCY POWER (OPTIONAL).
4. OPERATING CONTROLS AND INSTRUMENTS
   A. ALL OPERATING CONTROLS AND INSTRUMENTS SHALL BE SECURELY MOUNTED ON THE INNER DOOR. ALL CONTROLS AND INSTRUMENTS SHALL BE CLEARLY LABELED TO INDICATE FUNCTION.
   B. PUMP MODE SELECTOR SWITCHES SHALL BE HAND-OFF-AUTO TYPE TO PERMIT OVERRIDE OF AUTOMATIC LEVEL CONTROL AND MANUAL ACTUATION OR SHUTDOWN OF EITHER PUMP MOTOR. OPERATION OF PUMPS IN MANUAL MODE SHALL NOT BYPASS ANY SAFETY SHUTDOWN. SWITCHES SHALL BE MANUFACTURED BY SQUARE D COMPANY, NEMA 4X, PROVIDING THREE SWITCH POSITIONS, EACH OF WHICH SHALL BE CLEARLY LABELED ACCORDING TO FUNCTION.
   C. PUMP RUN INDICATOR LIGHTS SHALL BE PROVIDED AND EQUIPPED TO OPERATE AT 120 VOLT INPUT. BULBS SHALL BE EASILY REPLACEABLE FROM THE FRONT OF THE INNER DOOR WITHOUT THE NEED TO REMOVE LAMP SOCKET BASE FROM ITS MOUNTED POSITION.
   D. A SIX DIGIT, NON-RESETABLE ELAPSED TIME METER SHALL BE CONNECTED TO EACH MOTOR STARTER TO INDICATE THE TOTAL RUNNING TIME OF EACH PUMP IN "HOURS" AND "TENTH OF HOURS".
   E. CONTROL TERMINAL BLOCKS SHALL BE OF THE SCREW CLAMP TYPE, RATED 600 VOLTS AND SHALL BE CLEARLY MARKED AS TO FUNCTION.
   F. PHASE MONITORS: 230 VOLT, 3 PHASE STATIONS SHALL BE EQUIPPED WITH AN EIGHT PIN BASE COMBINATION VOLTAGE AND PHASE MONITOR AS MANUFACTURED BY DIVERSIFIED ELECTRONICS. 480 VOLT 1 PHASE STATIONS SHALL BE EQUIPPED WITH A SURFACE MOUNT UNIT AS MANUFACTURED BY DIVERSIFIED ELECTRONICS.
   G. ONE "SEAL FAIL" INDICATING LIGHT PER PUMP OF THE "PUSH TO TEST" TYPE, SHALL BE INSTALLED ON THE INNER DOOR TO PROVIDE INDICATION OF THE PRESENCE OF WATER IN THE PUMP. A PLUG-IN THRESHOLD RELAY AS MANUFACTURED BY SYRELEC MODEL PNR110 SHALL BE PROVIDED FOR EACH PUMP TO MONITOR THE SEAL PROBE IN THE PUMP.

PART 3 EXECUTION
3.01 INSTALLATION
1. INSTALLATION SHALL BE BY OTHERS IN STRICT ACCORDANCE WITH THE CONTRACTOR'S INSTRUCTIONS AND RECOMMENDATIONS IN THE LOCATIONS SHOWN ON THE DRAWINGS. ANCHOR BOLTS SHALL BE SET BY OTHERS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. UPON COMPLETION OF EACH STATION, THE PUMP MANUFACTURER SHALL INSPECT THE INSTALLATION AND SUBMIT A CERTIFICATE STATING THAT THE INSTALLATION OF THE EQUIPMENT IS SATISFACTORY, AND THAT THE EQUIPMENT IS READY FOR OPERATION.

3.03 TESTING
1. AFTER ALL PUMPS HAVE BEEN COMPLETELY INSTALLED, THE CONTRACTOR ALONG WITH THE PUMP SUPPLIER SHALL CONDUCT IN THE PRESENCE OF THE OWNER AND THE ENGINEER SUCH TESTS AS ARE NECESSARY TO INDICATE THAT THE PUMP STATION CONFORMS TO THE SPECIFICATIONS. FIELD TESTS SHALL INCLUDE ALL PUMPS INCLUDED UNDER THIS SECTION. THE CONTRACTOR SHALL SUPPLY ALL ELECTRIC POWER, WATER OR WASTEWATER, LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO COMPLETE THE FIELD TESTS.
2. PRIOR TO THE FINAL TEST, THE CONTRACTOR SHALL FLUSH ALL INFLUENT LINES TO THE STATION AND THEN SHALL REMOVE ALL DEBRIS AND SEDIMENT THAT HAS ACCUMULATED IN THE STATION BOTTOM.
3. THE FINAL ACCEPTANCE TEST SHALL DEMONSTRATE THAT ALL ITEMS OF THESE SPECIFICATIONS HAVE BEEN MET BY THE EQUIPMENT AS INSTALLED AND SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING TESTS:
   A. THAT THE QUICK RELEASE LIFT OUT FEATURE FUNCTIONS PROPERLY AND ALLOWS THE PUMP TO BE RAISED AND LOWERED PROPERLY.
   B. THAT ALL UNITS HAVE BEEN PROPERLY INSTALLED AND ARE IN CORRECT ALIGNMENT.
   C. THAT THE UNITS OPERATE WITHOUT OVERHEATING OR OVERLOADING ANY PARTS AND WITHOUT OBJECTIONABLE VIBRATION.
   D. THAT THERE ARE NO MECHANICAL DEFECTS IN ANY OF THE PARTS.
   E. THAT THE PUMPS CAN DELIVER THE SPECIFIED PRESSURE AND QUANTITY OF RAW, UNSCREENED SEWAGE.
   F. THAT THE PUMP SENSORS AND CONTROLS PERFORM SATISFACTORILY AS TO CONTROL SEQUENCE; I.E.,CORRECT START AND STOP ELEVATIONS, AND PROPER ALARM LEVEL FUNCTIONS.
4. IF THE PUMP PERFORMANCE DOES NOT MEET THE SPECIFICATIONS, CORRECTIVE MEASURES SHALL BE TAKEN OR THE PUMPS SHALL BE REMOVED AND REPLACED WITH PUMPS WHICH SATISFY THE CONDITIONS SPECIFIED. A 24-HOUR OPERATING PERIOD OF THE PUMPS WILL BE REQUIRED BEFORE ACCEPTANCE. IF A PUMPING STATION CAN NOT BE PUT INTO REGULAR SERVICE BECAUSE OF THE LACK OF WASTEWATER OR DISCHARGE FORCE MAINS, THE STATION SHALL BE "EXERCISED" AT A MINIMUM OF TWO TIMES A MONTH BY THE CONTRACTOR.

GENERAL UTILITY NOTES
- ALL UTILITY CONSTRUCTION TO BE IN ACCORDANCE WITH "LOCAL JURISDICTION AND STATE UTILITY STANDARDS AS APPLICABLE."
- UTILITY CONSTRUCTION IS SUBJECT TO INDIAN RIVER COUNTY UTILITY PERMIT AND F.D.E.P. PERMIT CONDITIONS.
- SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL TO THE ENGINEER PRIOR TO CONSTRUCTION.
- THE FOLLOWING SPECIFICATIONS ARE AN ABBREVIATED VERSION OF THE STANDARDS." WHERE MATERIAL OR INSTALLATION SPECIFICATIONS ARE NOT INCLUDED ON THIS SHEET, OR ARE NOT CLEARLY UNDERSTOOD, THEN THE INDIAN RIVER COUNTY UTILITY STANDARDS SHALL BE REFERENCED.
- THE CONTRACTOR SHALL NOTIFY APPLICABLE UTILITIES, AND ANY OTHER UTILITY PROVIDERS 48 HOURS PRIOR TO CONSTRUCTION AND SHALL HAVE ALL EXISTING UTILITIES LOCATED IN THE FIELD.
- ALL REQUIRED TESTING (PRESSURE TESTS, DISINFECTION/ BACTERIOLOGICAL,EXFILTRATION/ INFILTRATION, LAMPING, T.V. INSPECTION, AND OTHER TESTS OR INSPECTIONS REQUIRED IN THE ADOPTED SPECIFICATIONS) SHALL BE PROVIDED AND PAID FOR BY THE CONTRACTOR. THE ENGINEER SHALL BE PRESENT FOR ALL TESTING/INSPECTIONS, AND GIVEN 24 HOUR PRIOR NOTICE. THE ENGINEER SHALL BE GIVEN COPIES OF ALL TEST/INSPECTION RESULTS PRIOR TO ANY REQUEST FOR PAYMENT.

SEWER AND FORCE MAIN NOTES:
GENERAL
- POLYVINYL CHLORIDE (P.V.C.) GRAVITY SEWER PIPE CAN BE USED TO A DEPTH OF SIXTEEN FEET.

GRAVITY SEWER PIPE AND FITTINGS
- GRAVITY SEWER LINES AND LATERALS SHALL BE EXTRA STRENGTH POLYVINYL CHLORIDE PIPE AND SHALL CONFORM TO THE LATEST ASTM DESIGNATION D 3034-SDR 35.
- FITTINGS INSTALLED IN POLYVINYL CHLORIDE PIPE SHALL CONFORM TO THE SAME SPECIFICATIONS AS THE PIPE IN WHICH THEY ARE INSTALLED.
- POLYVINYL CHLORIDE PIPE SHALL BE A MAXIMUM OF 20 FEET IN LENGTH AND FURNISHED BY JM, OR INDIAN RIVER COUNTY UTILITIES DEPARTMENT APPROVED EQUAL.
- MATERIAL SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM DESIGNATION 1784, TYPE 1, GRADE 1 (12454-B).
- ALL WYES, FITTINGS, LATERALS AND MANHOLE COUPLINGS SHALL BE MANUFACTURED BY JM, OR APPROVED EQUAL.
- THE PIPE SHALL BE GREEN IN COLOR.
- JOINT SEALS IN POLYVINYL CHLORIDE PIPE AND FITTINGS SHALL COMPLY WITH ASTM DESIGNATION D3212 TESTING
- EXFILTRATION OR INFILTRATION TESTS WILL BE REQUIRED ON ALL PIPE, AS DETERMINED BY UTILITY DEPARTMENT OR BUILDING DEPARTMENT PERSONNEL.

INSTALLATION
- PIPE MUST BE LAID IN A TRENCH FREE OF STONES, ROCKS, OR OTHER DELETERIOUS MATERIALS TO A DEPTH OF 6" BELOW THE BOTTOM OF THE PIPE. BACKFILL SHALL BE TAMPED IN 12" LIFTS UP TO THE SURFACE TO ACHIEVE A MINIMUM COMPACTION OF 95% OF THE MAXIMUM DRY DENSITY. DENSITY TESTS SHALL BE PERFORMED ON THE BACKFILL AT A MAXIMUM OF 200 FT. INTERVALS.
- ALL PIPE TO BE INSTALLED WITH A MINIMUM GROUND COVER OF 36".

PIPE MATERIALS - PRESSURE FORCE MAIN (4" OR LARGER)
- POLYVINYL CHLORIDE PRESSURE PIPE SHALL CONFORM TO THE LATEST AWWA STANDARDS C900 AND ASTM D1784 AND D2241, LATEST REVISION. P.V.C. PRESSURE PIPE SHALL BE MADE FROM CLASS 12454-A OR CLASS 12454-B MATERIAL AND CONFORM WITH THE OUTSIDE DIAMETER OF CAST IRON PIPE WITH A MINIMUM WALL THICKNESS OF DR18.
- PVC PIPE SHALL BE GREEN IN COLOR (FORCE MAIN).

4" OFF-SITE FORCE MAIN AND FITTINGS
- FORCE MAIN SHALL BE BROWN, GREEN OR WHITE AND CONSTRUCTED OF:
  1. POLYVINYL CHLORIDE (PVC) PIPE PER ASTM D2241, SDR-21, 200 PSI WITH PUSH ON TYPE JOINTS WITH INTEGRAL WALL BELL. FITTINGS SHALL BE PVC-ASTMO-1784, CLASS 200 WITH GASKETED BELL JOINT PER ASTM-D-3139/F477, DIP PUSH ON OR MECH JOINT FITTINGS PER AWWA C153 MAY ALTERNATIVELY BE USED.
  2. POLYETHYLENE PIPE (PE-3408 PER AWWA C-901-88 CLASS 200, DR), AND SHALL HAVE A WORKING PRESSURE OF 200 PSI. DIMENSIONAL TOLERANCES SHALL CORRESPOND WITH ASTM D-2239, SDROF 9. JOINTS SHALL BE EITHER BY BUTT FUSION OR BY COMPRESSION TYPE, W/ A TOTALLY CONFINED GRIP SEAL AND COUPLING NUT. STAINLESS STEEL TUBE STIFFENER INSERTS SHALL BE USED. WHEN SPECIFIED, SERVICE SADDLES AT TAP SHALL BE STAINLESS STEEL DOUBLE STRAP SERVICE SADDLE W/ CORP STOP.
- FORCE MAIN SHALL HAVE A MIN OF 36" COVER, EXCEPT 42" COVER UNDER TRAFFIC AREAS.

4" ON-SITE FORCE MAIN:
- SCH 80 PVC WITH GLUED JOINTS OR PIPE AS SPECIFIED ABOVE.

VALVES
GATE VALVES:
- ALL BURIED VALVES SHALL BE RESILIENT SEATED GATE VALVES WITH BRONZE BODY, BRONZE-MOUNTED, RESILIENT SEATED, NON-RISING STEM TYPE FITTED WITH "O-RING" SEALS. VALVES SHALL BE MECHANICAL JOINT, ANSI STANDARD 21.11.

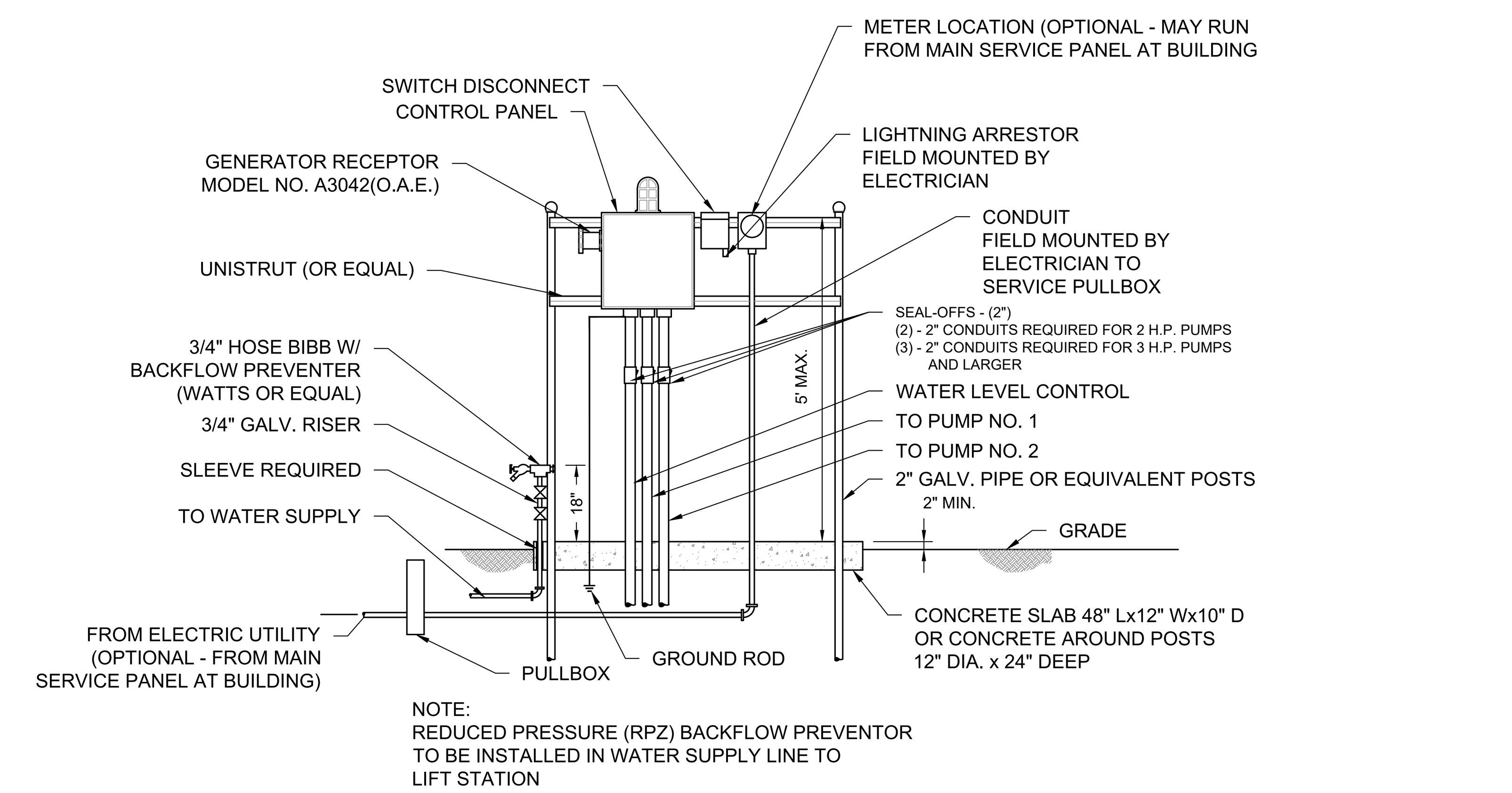
PLUG VALVES:
- CAST IRON BODY NON-LUBRICATED, ECCENTRIC TYPE, WITH RESILIENT SEATED PLUGS. VALVE SURFACES SHALL BE 90% NICKEL. GEAR ACTIVATORS SHALL BE WITH SEALED ENCLOSURES. VALVES SHALL HAVE 2" ACTUATING NUTS. VALVES SHALL BE RATED FOR 150 P.S.I.

MARKING:
- TWO-INCH WIDE IDENTIFICATION TAPE SHALL BE SPIRAL-WRAPPED OR AFFIXED TO THE TOP OF THE PIPE. TAPE SHALL HAVE THE WORDS "WATER MAIN" OR "FORCE MAIN" IN 3/4" HIGH LETTERS APPEARING ONE OR MORE TIMES EVERY 24 INCHES.
- PIPING SHALL BE INSTALLED WITH #10 GA. THWA INSUL. STRANDED COPPER WIRE ATTACHED FOR LOCATING PURPOSES.

INSTALLATION:
- MAINS SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE A.W.W.A. STANDARD C600, C900, ASTM D-2774 AND A.W.W.A. MANUAL M23 AND THE MANUFACTURERS RECOMMENDED PROCEDURES.
- WATER MAINS SHALL CROSS ABOVE SANITARY SEWER, STORM SEWERS, FORCE MAINS, OR RECLAIMED WATER LINES WITH A MINIMUM OF 18" VERTICAL SEPARATION, OR CONSTRUCT DUCTILE IRON PIPE AT THE CROSSING SUCH THAT ALL PIPE JOINTS ARE EQUAL DISTANCE FROM THE CROSSING WITH NO LESS THAN 10 FEET BETWEEN ANY TWO (2) JOINTS.
- WATER MAIN SHALL BE LOCATED AT LEAST 10-FEET HORIZONTALLY FROM ALL SANITARY SEWERS, STORM SEWERS, FORCE MAINS AND RECLAIMED WATER MAINS.
- WHEN THE MINIMUM HORIZONTAL AND VERTICAL CLEARANCES HEREIN SPECIFIED CAN NOT BE OBTAINED, ONLY THOSE ALTERNATE SOLUTIONS ACCORDING TO THE "RECOMMENDED STANDARDS FOR WATER WORKS" (LATEST REVISION) SHALL BE USED.
- PIPE MUST BE LAID IN A TRENCH FREE OF STONES, ROCKS OR OTHER DELETERIOUS MATERIAL TO A DEPTH OF 6" BELOW THE BOTTOM OF THE PIPE. PIPE SHALL BE LAID ON A CONTINUOUS UNIFORM BEDDING. BACKFIELD SHALL BE TAMPED IN 6" LIFTS TO ADEQUATELY PROTECT AND SUPPORT THE PIPE. REFERENCE THE TRENCH DETAILS WITHIN THE CONSTRUCTION PLANS.
- MAINS MUST BE INSTALLED WITH A MINIMUM OF 36" OF GROUND COVER AND 42" BELOW ROADS,DRIVEWAY OR PARKING LOTS IN ACCORDANCE WITH DETAILS AND SPECIFICATIONS IN THESE PLANS.

TAPPING SLEEVES/VALVES
- TAPPING SLEEVES SHALL BE MECHANICAL JOINT TYPE WITH DUCTILE IRON OR STAINLESS STEEL BODIES AND HARDWARE. THE TAPPING VALVE SHALL BE GATE VALVE SPECIFICALLY DESIGNED FOR THE PURPOSE OF TAPPING PRESSURIZED MAINS, AND SHALL BE COMPATIBLE WITH THE TAPPING SLEEVE. THE SLEEVE OUTLET SHALL CONFORM TO ANSI B16.1, CLASS 125.
- TAPPING SADDLE TO BE STAINLESS STEEL DOUBLE STRAP SERVICE SADDLE WITH CORP. STOP

TESTING
- HYDROSTATIC PRESSURE AND LEAKAGE TESTS SHALL BE PERFORMED IN ACCORDANCE WITH A.W.W.A. STANDARD C600, C900, C905 AND A.W.W.A MANUAL M23. CONTRACTOR SHALL FURNISH ALL GAUGES, METERS, PRESSURE PUMPS AND OTHER EQUIPMENT NECESSARY TO TEST THE LINE. THE ENGINEER SHALL BE PRESENT FOR ALL REQUIRED TESTING AND FINAL INSPECTIONS.

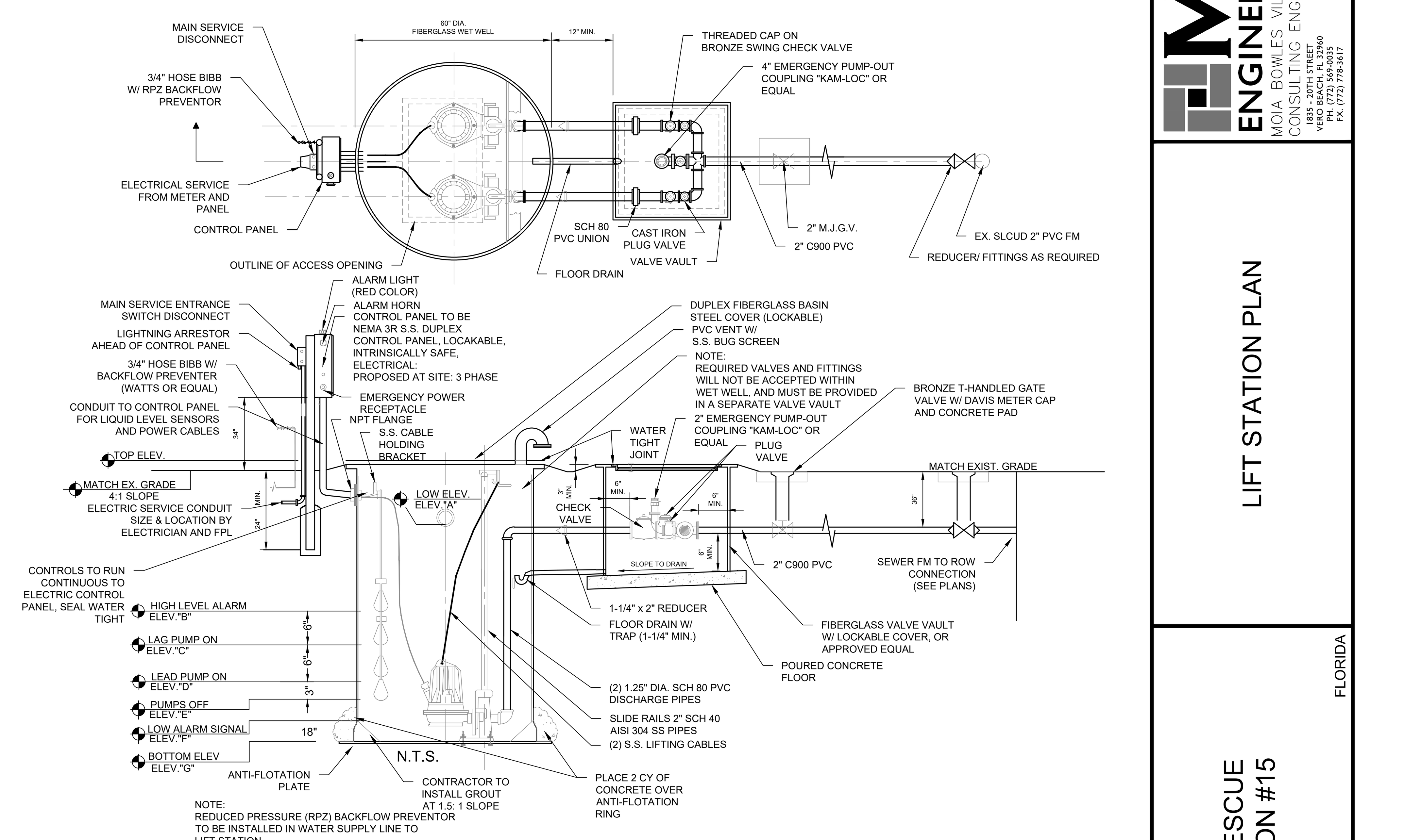


NOTE:
REDUCED PRESSURE (RPZ) BACKFLOW PREVENTOR TO BE INSTALLED IN WATER SUPPLY LINE TO LIFT STATION

ELECTRICAL PANEL / RISER DETAIL (WITHOUT R.T.U.)

*BACKFLOW PREVENTOR TO BE THE REDUCED PRESSURE ZONE ASSEMBLY TYPE.

NOTE:
1. THE PUMP REQUIRES 3 PHASE ELECTRIC.



NOTE:
REDUCED PRESSURE (RPZ) BACKFLOW PREVENTOR TO BE INSTALLED IN WATER SUPPLY LINE TO LIFT STATION

LIFT STATION DETAIL (PRIVATE)
N.T.S.

PUMPING STATION DATA TABLE		
LIFT STATION NUMBER		
MIN. SOLIDS PASS. IMPELLER	INCHES	1.25"
PUMP MODEL NUMBER	NO.	SULZER PIR PE45/2-C-60Hz
PUMP IMPELLER	in.	6.31"
PUMP SPEED (DESIGN)	R.P.M.	3500
MOTOR NAMEPLATE H.P.	H.P.	6.7143
MAX. MOTOR SPEED	R.P.M.	
INITIAL INFLUENT PEAK FLOW RATE	G.P.M.	78.3
MIN. PUMP CYCLE TIME	MINS.	15.00
TOP ELEV.		19.50
INFLUENT PIPE INV. ELEV.	ELEV."A"	14.30
ALARM SIGNAL ON ELEV.	ELEV."B"	13.80
LAG PUMP ON ELEV.	ELEV."C"	13.30
LEAD PUMP ON ELEV. (+)	ELEV."D"	12.80
PUMPS OFF ELEVATION	ELEV."E"	12.55
ALARM SIGNAL ON ELEV.	ELEV."F"	--
BOTTOM OF WET WELL	ELEV."G"	11.05
PUMP MANUFACTURER		SULZER
(*) PUMP WILL OPERATE BETWEEN PRIMARY AND SECONDARY POINTS.		

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

BID SET

VERTICAL DATUM REFERENCES NAVD 88

	REVISIONS	DATE
8		
7	PER IRC COMMENTS	03-18-2026
6	PER FDEP WATER COMMENTS	03-10-2026
5	PER IRC COMMENTS	02-26-2026
4	ROOF DRAIN TIE-IN	02-20-2026
3	PER IRC COMMENTS	02-11-2026
2	PER CLIENT COMMENTS	01-06-2026
1	IRC TRC COMMENTS (RAI #1)	10-10-2025

JOB NO.	24-0399
DESIGNED	TH
DRAWN	SS
DATE	MAY 2025
CHECKED	AS
DATE ISSUED	

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

LIFT STATION PLAN

IRC FIRE RESCUE
FIRE STATION #15

INDIAN RIVER COUNTY FLORIDA

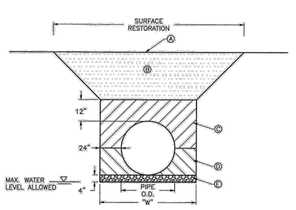
AARON G. STANTON LICENSE No. 72460 STATE OF FLORIDA PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460 4/28/2026

SHEET
C11

24-0399

O:\DRAWINGS\2024\24-0399 IRC Fire Station #15\7 - Construction\4 - Bid Sets\2026-04-28 Plans to EDB\24-0399 COVER-DETAILS.dwg 4/28/2026 6:59 AM TODD HOWDER



STORMWATER/UTILITY PIPE INSTALLATION

NOTES:
1. UTILITY CONSTRUCTION WITHIN THE RIGHT-OF-WAY SHALL COMPLY WITH COUNTY CODE CHAPTER 312.
2. WHERE SOIL CONDITIONS CANNOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE METHOD OF CONSTRUCTION FOR APPROVAL BY COUNTY ENGINEER OR DESIGNEE PRIOR TO INSTALLATION.
3. SHORING MAY BE REQUIRED IN ACCORDANCE WITH ALL INDUSTRY STANDARDS.
4. MINIMUM TRENCH WIDTH "W" = PIPE O.D. PLUS 2'-0" ON EACH SIDE.

Ⓐ MATCH EXISTING GROUND WITH SMOOTH, LEVEL TRANSITION.

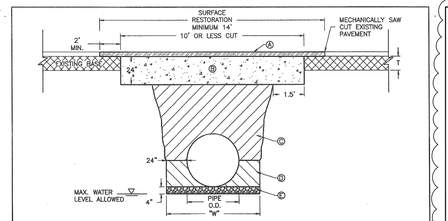
Ⓑ UNPAVED ROADS IN ROW SHALL CONSIST OF 8" LIMEROCK BASE OR COQUINA SHELL IN A MINIMUM OF (2) 4" LIFTS WITH A MINIMUM LBR OF 100 COMPACTED TO 98% MAXIMUM DENSITY PER A.A.S.H.T.O. T-180. WHEN INSTALLATION IS NOT LOCATED IN A TRAVEL LANE, RESTORATION SHALL BE ACCORDING TO Ⓒ BELOW WITH SOD LAID WITHIN THREE DAYS OF FINAL GRADING.

Ⓒ A.A.S.H.T.O. TYPE A-3 MATERIAL IN MAXIMUM 6" LIFTS COMPACTED AT 98% A.A.S.H.T.O. T-180.

Ⓓ A.A.S.H.T.O. TYPE A-3 MATERIAL IN MAXIMUM 4" LIFTS COMPACTED AT 98% A.A.S.H.T.O. T-180. EXCAVATABLE FLOWABLE FILL IS ALLOWED WITH PRIOR APPROVAL OF PROPOSED MATERIAL STRENGTH BY COUNTY ENGINEER OR DESIGNEE.

Ⓔ ¾" DIAMETER, WASHED BEDDING ROCK OR PEA ROCK WHERE UNSUITABLE BEDDING MATERIAL EXISTS OR DEWATERING IS REQUIRED. SUITABLE MATERIAL IS DEFINED AS STABLE GRANULAR MATERIAL FREE OF ROCK FORMATION, OTHER FOREIGN FORMATIONS AND CONSTRUCTED TO UNIFORM GRADE AND LINE.

LAND DEVELOPMENT DESIGN STANDARDS AND SPECIFICATIONS		TRENCH (UNPAVED AREAS)
DATE: 11/1/2016	James William Ennis, P.E.	
INDEX: 2	Florida Reg. No. 71938 Public Works – County Engineer	



STORMWATER/UTILITY PIPE INSTALLATION

NOTES:
1. UTILITY CONSTRUCTION WITHIN THE RIGHT-OF-WAY SHALL COMPLY WITH COUNTY CODE CHAPTER 312.
1.1. ALL INSTALLATIONS LESS THAN 12" DIAMETER AND NON GRAVITY UTILITIES SHALL BE BY DIRECTIONAL BORE.
2. PARTIAL LANE CUTS REQUIRE A MINIMUM OF SINGLE LANE RESTORATION.
2. WHERE SOIL CONDITIONS CANNOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION FOR APPROVAL BY THE COUNTY ENGINEER OR DESIGNEE PRIOR TO INSTALLATION.
3. SHORING MAY BE REQUIRED IN ACCORDANCE WITH ALL INDUSTRY STANDARDS.
4. NEW SURFACING MATERIALS SHALL BE CONSISTENT OR BETTER THAN EXISTING CONDITIONS AND SHALL HAVE BUTT JOINTS (2.5 INCH MINIMUM THICKNESS).
5. ALL ROADWAY RESTORATION SHALL COMPLY WITH INDIAN RIVER COUNTY PUBLIC WORKS AND FDOT STANDARDS (LATEST EDITION).
6. MINIMUM TRENCH WIDTH "W" = PIPE O.D. PLUS 2'-0" ON EACH SIDE.

Ⓐ MINIMUM EXISTING PAVEMENT DEPTH OR PER COUNTY ROADWAY DESIGN CRITERIA DETAIL, WHICHEVER IS GREATER.

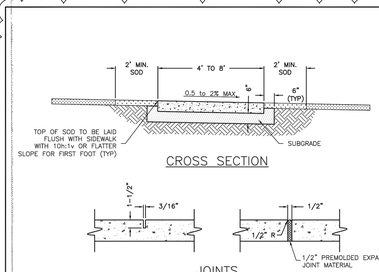
Ⓑ FLOWABLE FILL AS DEFINED AS NON-EXCAVATABLE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 121, WITH STRENGTH OF 125-300 PSI.

Ⓒ A.A.S.H.T.O. TYPE A-3 MATERIAL IN MAXIMUM 6" LIFTS COMPACTED AT 98% A.A.S.H.T.O. T-180.

Ⓓ A.A.S.H.T.O. TYPE A-3 MATERIAL IN MAXIMUM 4" LIFTS COMPACTED AT 98% A.A.S.H.T.O. T-180. EXCAVATABLE FLOWABLE FILL IS ALLOWED WITH PRIOR APPROVAL OF PROPOSED MATERIAL STRENGTH BY THE COUNTY ENGINEER OR DESIGNEE.

Ⓔ ¾" DIAMETER, WASHED BEDDING ROCK OR PEA ROCK WHERE UNSUITABLE BEDDING MATERIAL EXISTS OR IF DEWATERING IS REQUIRED. SUITABLE MATERIAL IS DEFINED AS STABLE GRANULAR MATERIAL FREE OF ROCK FORMATION, OTHER FOREIGN FORMATIONS AND CONSTRUCTED TO UNIFORM GRADE AND LINE.

LAND DEVELOPMENT DESIGN STANDARDS AND SPECIFICATIONS		TRENCH (PAVED AREAS) 10' OR LESS CUT
DATE: 11/1/2016	James William Ennis, P.E.	
INDEX: 1B	Florida Reg. No. 71938 Public Works – County Engineer	



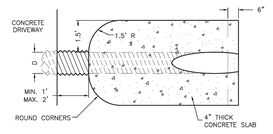
CROSS SECTION

JOINTS

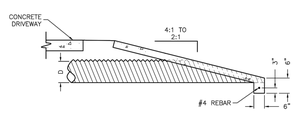
NOTES:
1. SIDEWALK MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH APPLICABLE FDOT STANDARD SPECIFICATIONS SECTION 522 AND FDOT STANDARD PLANS INDEX 522 (LATEST EDITION).
2. ONLY FIBER REINFORCEMENT SHALL BE USED WITHIN THE COUNTY RIGHT-OF-WAY, STEEL IS NOT PERMITTED. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
3. ALL SIDEWALKS WITHIN COUNTY RIGHT-OF-WAY SHALL BE SIX INCHES (6") THICK, WIDTH SHALL MATCH EXISTING.
4. A MINIMUM OF ONE (1) COMPRESSIVE STRENGTH CYLINDER SAMPLE PER 50 CY OR ONE PER LOT, WHICHEVER IS GREATER, SHALL BE TESTED AND COMPRESSIVE STRENGTH REPORTED AT 28 DAYS.
5. SLUMP SHALL BE THREE (3) TO FIVE (5) INCHES PER ASTM C143.
6. TESTING REQUIREMENTS MAY BE WAIVED UPON SUBMITTAL AND COUNTY APPROVAL OF THE CONCRETE MANUFACTURER'S MIX DESIGN.
7. ALL DELETERIOUS MATERIALS SHALL BE REMOVED 6" BELOW THE BOTTOM OF THE SIDEWALK AND 6" BEYOND SIDEWALK EDGES.
8. SIDEWALK SHALL BE CONSTRUCTED ON PROPERLY GRADED AND STABILIZED SUBGRADE COMPACTED TO 98% MAXIMUM DRY DENSITY PER AASHTO T-180.
9. ALL ROOTS OVER 1" IN DIAMETER SHALL BE CUT 6" BELOW THE BOTTOM OF THE SIDEWALK.
10. CONCRETE SIDEWALK JOINTS SHALL BE PROVIDED AS FOLLOWS:
   A. CONTRACTION JOINTS SHALL BE CUT TO 1-1/2" DEPTH AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK WITH A MAXIMUM SPACING OF 5'.
   B. AN EXPANSION JOINT WILL BE PLACED AT THE END OF ALL RETURNS, AT FIXED OBJECTS (DRIVEWAYS, CURBS, ETC.) AND AT INTERVALS NOT TO EXCEED 20'.
   C. EXPANSION JOINTS SHALL BE CONSTRUCTED WITH 1/2" PREMOLDED EXPANSION JOINT MATERIAL.
11. SOD 2' MINIMUM BEYOND SIDEWALK EDGES AND ALL DISTURBED AREAS. SOD TO BE LAID WITHIN 3 DAYS OF FINAL GRADING.

DATE: OCTOBER 2025		DRAWING NO.
INDIAN RIVER COUNTY DEPARTMENT OF PUBLIC WORKS	CONCRETE SIDEWALK	PW-5

7



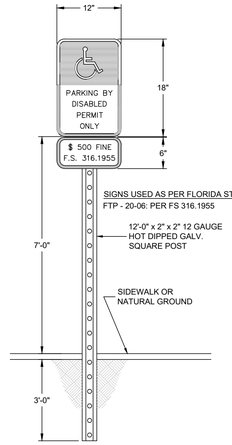
MITERED END PLAN



MITERED END ELEVATION

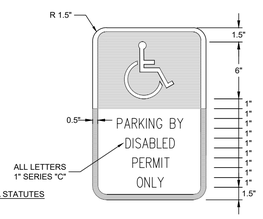
NOTES:
1. THE CONCRETE SHALL BE A MINIMUM OF 4", 3,000 PSI WITH FIBER MESH REINFORCEMENT. WELDED WIRE IS NOT PERMITTED IN THE RIGHT-OF-WAY.
2. THE CULVERT PIPE, REGARDLESS OF MATERIAL, SHALL BE CUT FLUSH WITH THE SLOPE OF THE MITERED END.
3. THE TOP OF THE MITERED END SHALL BEGIN NO LESS THAN 1' AND NO MORE THAN 2' FROM THE EDGE OF THE DRIVEWAY. THIS AREA SHALL NOT BE ASPHALT, CONCRETE OR PAVERS.
4. THE TOP OF THE MITERED END SHALL HAVE ROUNDED CORNERS, 1.5" RADIUS.
5. A THICKENED EDGE WITH #4 REBAR SHALL BE PROVIDED.
6. D=PIPE DIAMETER
7. A PRE-POUR INSPECTION IS REQUIRED.

DATE: OCTOBER 2025		DRAWING NO.
INDIAN RIVER COUNTY DEPARTMENT OF PUBLIC WORKS	MITERED END SECTION	PW-8

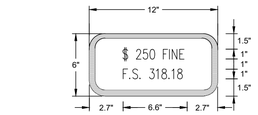


SIGNS USED AS PER FLORIDA STATUTES
FTP - 20-06: PER FS 316.1955

12'-0" x 2" x 2" 12 GAUGE HOT DIPPED GALV. SQUARE POST



FTP - 20-06

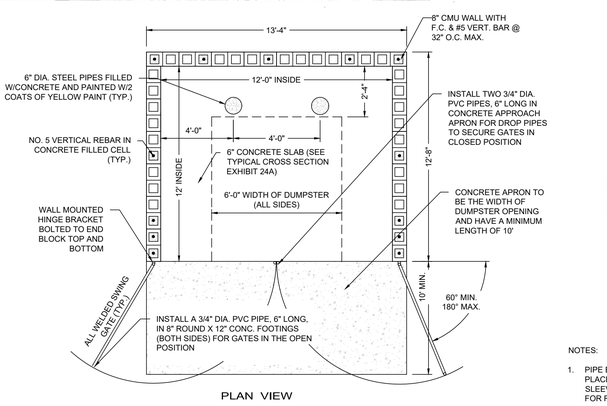


FTP - 22-06

1' x 6"
1-1/2" RADII
3/4" BORDER
1" SERIES C LETTERS
WHITE BACKGROUND
BLACK LEGEND & BORDER

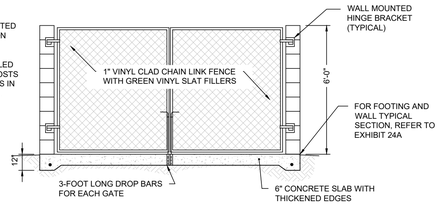
GENERAL NOTES
1. TOP PORTION OF FTP-20-06 SHALL HAVE A REFLECTIVE BLUE BACKGROUND WITH WHITE REFLECTIVE SYMBOL AND BORDER.
2. BOTTOM PORTION OF FTP-20-06 SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
3. THE SIGN SHALL BE PLACED A MINIMUM OF 3' FROM THE WHEEL STOP OR THE BACK OF CURB (WHERE APPLICABLE).

HANDICAPPED SIGN DETAIL
N.T.S.

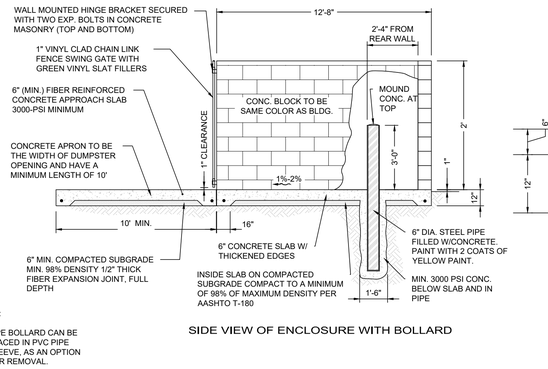


PLAN VIEW

NOTES:
1. OTHER TYPES OF ENCLOSURES AND/OR GATES MAY BE SUBMITTED TO LOCAL JURISDICTION FOR REVIEW.
2. GATES MAY BE INSTALLED INDEPENDENTLY ON POSTS SET AWAY FROM WALLS IN 12" ROUND X 30" CONC. FOOTINGS



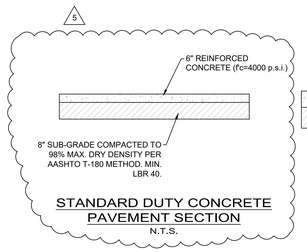
FRONT ELEVATION



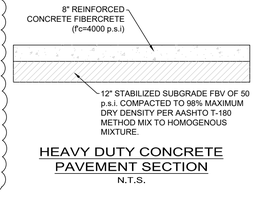
SIDE VIEW OF ENCLOSURE WITH BOLLARD

NOTES:
1. PIPE BOLLARD CAN BE PLACED IN PVC PIPE SLEEVE, AS AN OPTION FOR REMOVAL.
2. TIE ALL STEEL REBARS

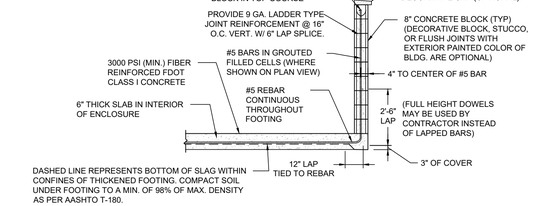
DUMPSTER PAD DETAIL
N.T.S.



STANDARD DUTY CONCRETE PAVEMENT SECTION
N.T.S.



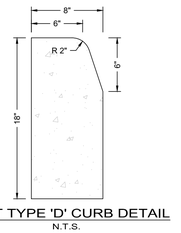
HEAVY DUTY CONCRETE PAVEMENT SECTION
N.T.S.



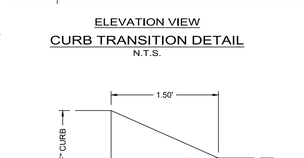
SECTION VIEW

GENERAL NOTES:
1. WIND DESIGN CRITERIA:
-WIND SPEED (MPH): V(ASD)=116 V(ULT)=150
-RISK CATEGORY: I
-EXPOSURE CATEGORY: D

2. THE DESIGN AND CONSTRUCTION OF THIS PRODUCT IS GOVERNED AND COMPLIES WITH THE "FLORIDA BUILDING CODE (FBC)" EIGHTH EDITION, AS ADOPTED AND MODIFIED BY THE AUTHORITY HAVING JURISDICTION (AHJ)

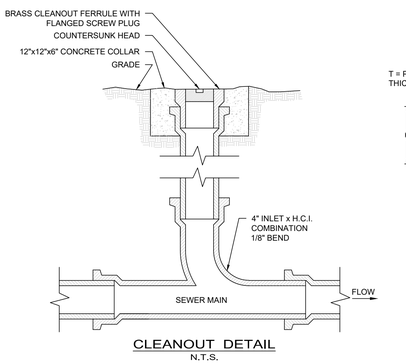


FDOT TYPE 'D' CURB DETAIL
N.T.S.

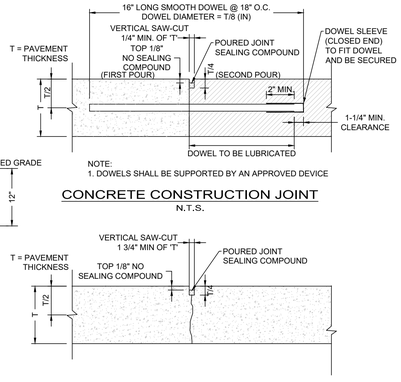


ELEVATION VIEW
CURB TRANSITION DETAIL
N.T.S.

PLAN VIEW
"F" TO "D" CURB TRANSITION DETAIL
N.T.S.



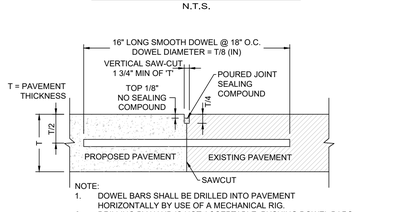
CLEANOUT DETAIL
N.T.S.



NOTE:
1. DOWELS SHALL BE SUPPORTED BY AN APPROVED DEVICE

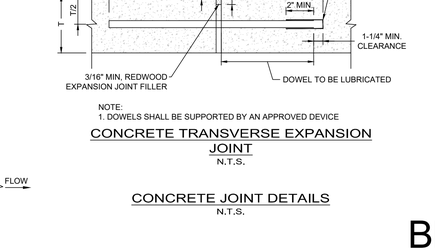
CONCRETE CONSTRUCTION JOINT
N.T.S.

CONCRETE CONTROL JOINT
N.T.S.



NOTE:
1. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL RIG.
2. DRILLING BY HAND IS NOT ACCEPTABLE, PUSHING DOWEL BARS INTO GREEN CONCRETE IS NOT ACCEPTABLE.

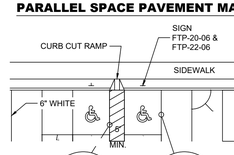
CONCRETE BUTT JOINT
N.T.S.



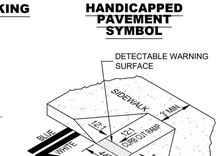
NOTE:
1. DOWELS SHALL BE SUPPORTED BY AN APPROVED DEVICE

CONCRETE TRANSVERSE EXPANSION JOINT
N.T.S.

CONCRETE JOINT DETAILS
N.T.S.



PARALLEL SPACE PAVEMENT MARKING

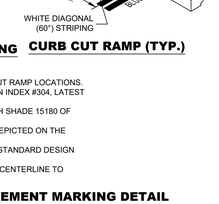


NOTE:
USE OF PAVEMENT SYMBOL IN HANDICAPPED PARKING SPACES IS OPTIONAL. WHEN USED THE SYMBOL SHALL BE 3' OR 5' HIGH AND WHITE IN COLOR.

HANDICAPPED PAVEMENT SYMBOL



STANDARD SPACE PAVEMENT MARKING



CURB CUT RAMP (TYP.)

GENERAL NOTES
1. CRITERIA FOR PAVEMENT MARKING ONLY, NOT CURB CUT RAMP LOCATIONS. FOR RAMP CRITERIA REFER TO FDOT STANDARD DESIGN INDEX #304, LATEST EDITION.
2. BLUE PAVEMENT MARKINGS SHALL BE TINTED TO MATCH SHADE 15180 OF FEDERAL STANDARD 595a.
3. CURB AND WHEELSTOP LOCATIONS SHALL BE AS PER DEPICTED ON THE PLANS.
4. FOR ANGLED PARKING APPLICATIONS, REFER TO FDOT STANDARD DESIGN INDEX #17346, LATEST EDITION.
5. PARKING STALL WIDTHS SHALL BE DIMENSIONED FROM CENTERLINE TO CENTERLINE OF THE WHITE STRIPES.

HANDICAPPED RAMP AND PAVEMENT MARKING DETAIL
N.T.S.

REVISIONS	DATE
8	03-18-2026
7 PER IRC COMMENTS	03-10-2026
6 PER FDEP WATER COMMENTS	02-26-2026
5 PER IRC COMMENTS	02-20-2026
4 ROOF DRAIN TIE-IN	02-11-2026
3 PER IRC COMMENTS	01-06-2026
2 PER CLIENT COMMENTS	10-10-2025
1 IRC TRC COMMENTS (RAI #1)	

JOB NO.	24-0399
DESIGNED	TH
DRAWN	SS
DATE	MAY 2025
CHECKED	AS
DATE ISSUED	

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
MELBOURNE, FL - PH (321) 233-3310
VERO BEACH, FL - PH (772) 794-3317
FX: (772) 778-3417

GENERAL DETAILS

IRC FIRE RESCUE
FIRE STATION #15

FLORIDA
INDIAN RIVER COUNTY

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

AARON G. STANTON
FL. P.E. #72460
4/28/2026

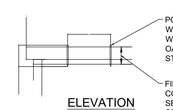
SHEET
C12

24-0399

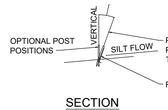
BID SET
VERTICAL DATUM REFERENCES NAVD 88

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

O:\DRAWINGS\2024\24-0399 IRC Fire Station #15\7 - Construction\4 - Bid Set\2026-04-28 Plans to EDB\24-0399 GENERAL & SITE DETAILS & SIGNAGE & PAVEMENT MARKING.dwg



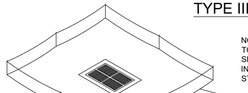
ELEVATION



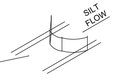
SECTION

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

TYPE III SILT FENCE



NOTE: SPACING FOR TYPE III FENCE TO BE IN ACCORDANCE WITH CHART I, SHEET 1 OF 3 AND DITCH INSTALLATIONS AT DRAINAGE STRUCTURES SHEET 2 OF 3



TYPE III SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS

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

SILT FENCE APPLICATIONS

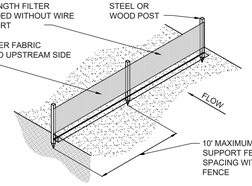
N.T.S.

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

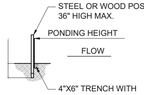
EXTRA STRENGTH FILTER FABRIC NEEDED WITHOUT WIRE MESH SUPPORT

ATTACH FILTER FABRIC SECURELY TO UPSTREAM SIDE OF POST

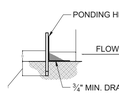
STEEL OR WOOD POST



10' MAXIMUM SPACING WITH WIRE SUPPORT FENCE, 6' MAXIMUM SPACING WITHOUT WIRE SUPPORT FENCE



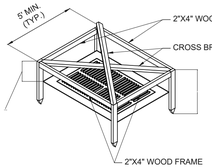
TRENCH DETAIL



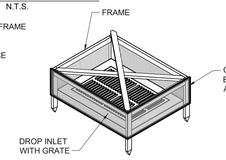
INSTALLATION WITHOUT TRENCHING

TYPE IV SILT FENCE

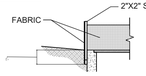
N.T.S.



VIEW OF FRAME WITHOUT SILT FENCE

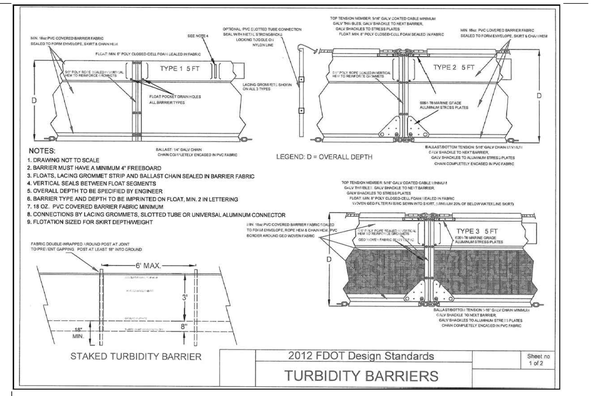


VIEW OF FRAME WITH SILT FENCE



SILT FENCE INLET PROTECTION

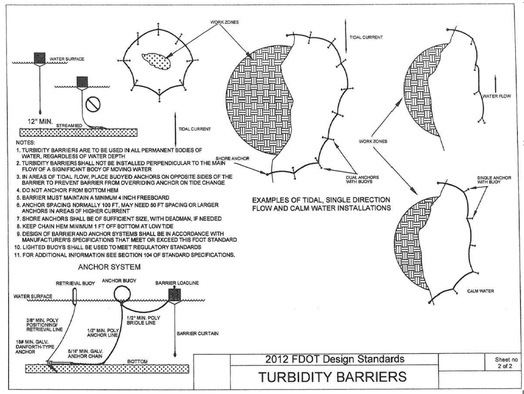
N.T.S.



2012 FDOT Design Standards

TURBIDITY BARRIERS

Sheet no 1 of 2



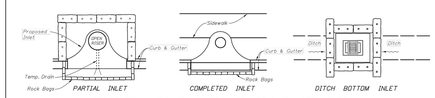
2012 FDOT Design Standards

TURBIDITY BARRIERS

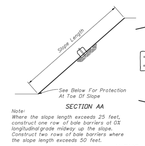
Sheet no 2 of 2

TURBIDITY BARRIER APPLICATIONS

N.T.S.

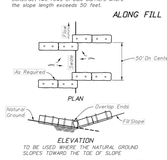


PROTECTION AROUND INLETS OR SIMILAR STRUCTURES

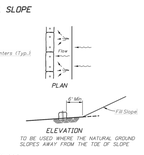


Note: Where the slope length exceeds 25 feet, construct one row of bale barriers at C8 length/grade midway up the slope. Construct two rows of bale barriers where the slope length exceeds 50 feet.

ALONG FILL SLOPE



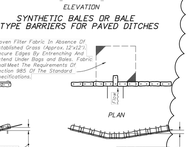
TO BE USED WHERE THE NATURAL GROUND SLOPES TOWARD THE TOE OF SLOPE



TO BE USED WHERE THE NATURAL GROUND SLOPES AWAY FROM THE TOE OF SLOPE

AT TOE OF SLOPE

BARRIERS FOR FILL SLOPES

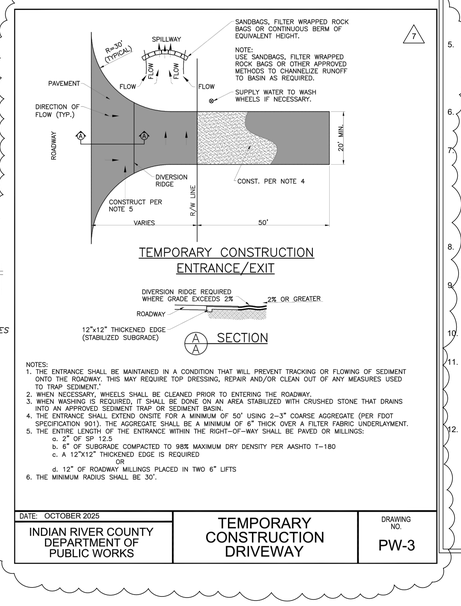


SYNTHETIC BALES OR BALE TYPE BARRIERS FOR PAVED DITCHES

SYNTHETIC BALES OR BALE TYPE BARRIERS FOR UNPAVED DITCHES

NOTES FOR SYNTHETIC BALES OR BALE TYPE BARRIERS

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



TEMPORARY CONSTRUCTION ENTRANCE/EXIT

NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO THE ROADWAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTERING THE ROADWAY.
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.
4. THE ENTRANCE SHALL EXTEND ONSITE FOR A MINIMUM OF 50' USING 2–3" COARSE AGGREGATE (PER FDOT SPECIFICATION 901). THE AGGREGATE SHALL BE A MINIMUM OF 6" THICK OVER A FILTER FABRIC UNDERLAYMENT.
5. THE ENTIRE LENGTH OF THE ENTRANCE WITHIN THE RIGHT–OF–WAY SHALL BE PAVED OR MILLINGS:
   a. 2" OF SP- 12.5
   b. 6" OF SUBGRADE COMPACTED TO 98% MAXIMUM DRY DENSITY PER AASHTO T–180
   c. A 12"x12" THICKENED EDGE IS REQUIRED
   OR
   d. 12" OF ROADWAY MILLINGS PLACED IN TWO 6" LIFTS
6. THE MINIMUM RADIUS SHALL BE 30'.

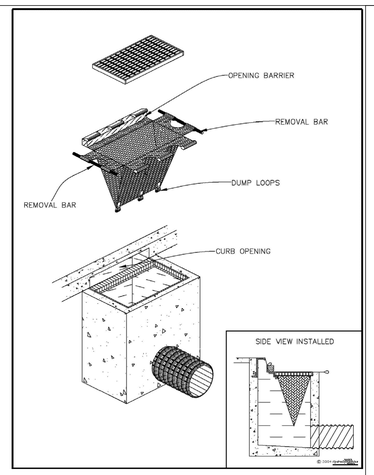
DATE: OCTOBER 2025	TEMPORARY CONSTRUCTION DRIVEWAY	DRAWING NO.
INDIAN RIVER COUNTY DEPARTMENT OF PUBLIC WORKS		PW-3

EROSION AND SEDIMENTATION CONTROL NOTES

CONSTRUCTION ACTIVITIES CAN RESULT IN THE GENERATION OF SIGNIFICANT AMOUNTS OF POLLUTANTS WHICH MAY REACH SURFACE OR GROUND WATERS. ONE OF THE PRIMARY POLLUTANTS OF SURFACE WATERS IS SEDIMENT DUE TO EROSION. EXCESSIVE QUANTITIES OF SEDIMENT WHICH REACH WATER BODIES OF FLOOD PLAINS HAVE BEEN SHOWN TO ADVERSELY AFFECT THEIR PHYSICAL, BIOLOGICAL AND CHEMICAL PROPERTIES. TRANSPORTED SEDIMENT CAN OBSTRUCT STREAM CHANNELS, REDUCE HYDRAULIC CAPACITY OF WATER BODIES OF FLOOD PLAINS, REDUCE THE DESIGN CAPACITY OF CULVERTS AND OTHER WORKS, AND ELIMINATE BENTHIC INVERTEBRATES AND FISH SPAWNING SUBSTRATES BY SILTATION. EXCESSIVE SUSPENDED SEDIMENTS REDUCE LIGHT PENETRATION AND THEREFORE, REDUCE PRIMARY PRODUCTIVITY.

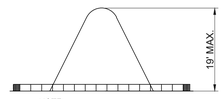
MINIMUM STANDARDS

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



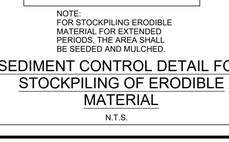
INLET INSERT SEDIMENT CONTAINMENT SYSTEM

N.T.S.



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

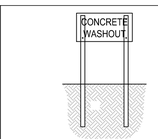
SECTION A-A



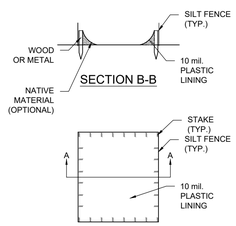
NOTE: FOR STOCKPILING ERODIBLE MATERIAL FOR EXTENDED PERIODS, THE AREA SHALL BE SEEDED AND MULCHED.

SEDIMENT CONTROL DETAIL FOR STOCKPILING OF ERODIBLE MATERIAL

N.T.S.



CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT)

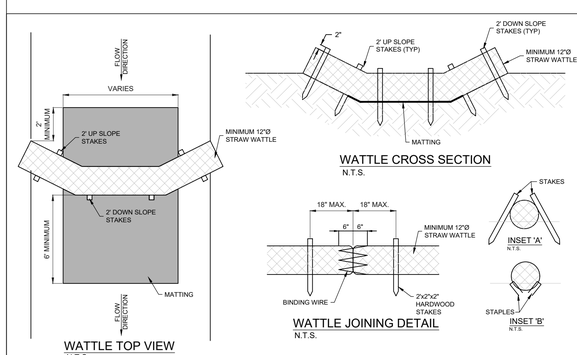


NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

TYPE "ABOVE GRADE" WITH SILT FENCE

CONCRETE & STUCCO WASTE MANAGEMENT

N.T.S.



N.T.S.

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

WATTLE DETAILS

N.T.S.

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

O:\DRAWINGS\2024\24-0399 IRC Fire Station #15\7 - Construction\4 - Bid Sets\2025-04-28 Plans to E2R\24-0399 - IRC Fire Station #15 - Erosion Control Details.dwg, 4/28/2026 10:44:57 AM, EDWARD

BID SET

VERTICAL DATUM REFERENCES NAVD 88

NO.	REVISIONS	DATE
8	PER IRC COMMENTS	03-18-2026
7	PER FDEP WATER COMMENTS	03-10-2026
6	PER IRC COMMENTS	02-26-2026
5	ROOF DRAIN TIE-IN	02-20-2026
4	PER IRC COMMENTS	02-11-2026
3	PER CLIENT COMMENTS	01-06-2026
2	PER IRC COMMENTS (RAI #1)	10-10-2025
1		

JOB NO. 24-0399
DESIGNED TH
DRAWN SS
DATE MAY 2025
CHECKED AS
DATE ISSUED

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
MELBOURNE, FL - PH (321) 233-3310
VERO BEACH, FL - PH (772) 299-3417
VERO BEACH, FL 32960
PH: (772) 299-3417

EROSION CONTROL DETAILS

IRC FIRE RESCUE
FIRE STATION #15

FLORIDA

INDIAN RIVER COUNTY

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

AARON G. STANTON
FL. P.E. #72460 4/28/2026

SHEET
C13

24-0399

SEE SHEET C6 FOR OVERALL DEVELOPMENT AREA

91ST AVENUE
(35' RIGHT OF WAY PB 4, PG 70)
S87°17'(S) – 1293.02'(P)
1293.47'(S) –

15' NON-EXCLUSIVE WATER RETENTION & DRAINAGE EASEMENT (ORB 1406, PG 2689)

PROPOSED 15' LAKE MAINTENANCE AREA
TOB = 18.5
NWL = 16.0
14.0
6.0

DRAINAGE BASIN = 1.25 AC
PROPOSED WET POND AT CONTROL = 0.66 AC

LIVING / OFFICE
F.F.E. = 20.50
(10,085 SF TOTAL)

TRUCK BAY

FIRE STATION NO. 15
F.F.E. = 20.25

BAY 1 | BAY 2 | BAY 3 | BAY 4

STORAGE / WORK
F.F.E. = 20.50

PROP. FDC

15' DRAINAGE EASEMENT DEDICATED TO IRC

FIRE HYDRANT ASSEMBLY, PER IRCDUS DETAIL W-2

2" CONDUIT FOR PREEMPTION SIGNAL CABLE

87TH STREET

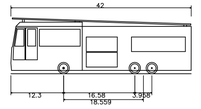
RADIUS=4946.00'
ANGLE=2°35'06"
LENGTH=179.99'

(OVERALL) – S00°12'15"E
EAST LINE OF THE SE 1/4 OF SECTION
(OVERALL –
SURVEY BASELINE – FDOT MAP S

135.35'
53.26'
272.09'
40.06'

77.89'
23.00'
73.87'
76.46'
23.15'
S83°22'43"E 154.35'(S)
N83°23'41"W 154.26'(D)
S83°22'43"E 264.25'(S)
S82°08'55"E 258.15'(P)
249.12'

90TH AVENUE (CR 510)



Indian River County Fire Dept. Ladder Truck

Overall Length	42.000ft
Overall Width	8.000ft
Overall Body Height	13.000ft
Min Body Ground Clearance	0.782ft
Track Width	7.540ft
Lock-to-lock time	6.00s
Max Wheel Angle	40.00°

LEGEND

- PROPOSED ASPHALT
- PROPOSED HEAVY DUTY CONCRETE
- PROPOSED STANDARD DUTY CONCRETE
- PROPOSED LITTORAL PLANTING ZONE

FIRE DEPARTMENT PLAN

SCALE: 1" =30'

GRAPHIC SCALE
0 30 60
(IN FEET)
1 inch = 30 ft.

BID SET

VERTICAL DATUM REFERENCES NAVD 88

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

D:\DRAWINGS\2023\24-0399 IRC Fire Station #15\7 - Construction\4 - Bid Set\2026-04-28 Phase III EDR\24-0399 BASE.dwg

	DATE
8	
7 PER IRC COMMENTS	03-18-2026
6 PER FDEP WATER COMMENTS	03-10-2026
5 PER IRC COMMENTS	02-26-2026
4 ROOF DRAIN TIE-IN	02-20-2026
3 PER IRC COMMENTS	02-11-2026
2 PER CLIENT COMMENTS	01-06-2026
1 IRC TRC COMMENTS (RAI #1)	10-10-2025
△ REVISIONS	DATE

JOB NO.	24-0399
DESIGNED	TH
DRAWN	SS
DATE	MAY 2025
CHECKED	AS
DATE ISSUED	

MBV ENGINEERING, INC.
MOA BOWLES VILLAMIZAR & ASSOCIATES CONSULTING ENGINEERING CA #3728
1893 - 28TH STREET
VERO BEACH, FL 32960
PH. (772) 794-3414
FX. (772) 778-3417
MELBOURNE, FL - PH (321) 253-1510
FT. PIERCE, FL - PH (772) 468-9905

FIRE DEPARTMENT PLAN

IRC FIRE RESCUE
FIRE STATION #15

INDIAN RIVER COUNTY FLORIDA

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

AARON G. STANTON
FL. P.E. #72460 4/28/2026

SHEET
C14

24-0399