

INDIAN RIVER COUNTY FIRE RESCUE FIRE STATION #7

CITY OF FELLSMERE FINAL DEVELOPMENT & SITE CONSTRUCTION PLAN

9700 26TH PLACE
SECTION 34, TOWNSHIP 32S, RANGE 38E
CITY OF FELLSMERE, FLORIDA 32966

JUNE 2022 - CoF PRE-DEVELOPMENT APPLICATION
SEPTEMBER 2022 - CITY OF FELLSMERE FINAL DEVELOPMENT & SITE CONSTRUCTION PLAN
REVISED: MAY 2023
REVISED: JULY 2023
REVISED: AUGUST 2023

OWNER / APPLICANT
EMERGENCY SERVICES DISTRICT
OF INDIAN RIVER COUNTY

1801 27TH STREET
VERO BEACH, FL 32960
PH: (772) 226-3900

ENGINEER



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

ARCHITECT

EDLUND, DRITENBAS, BINKLEY
ARCHITECTS AND ASSOCIATES, P.A.

65 ROYAL PALM POINTE, "D"
VERO BEACH, FL 32960
PH: (772) 569-4320

GOVERNMENT CONTACTS

PLANNING & ZONING:
ROBERT LORING
PHONE: (772) 646-6322
EMAIL: PLANNER@CITYOFFELLSMERE.COM

BUILDING DIVISION:
KEN BAUER
PHONE: (772) 646-6313
EMAIL: K.BAUER@SAFEBUILT.COM

IRC PUBLIC WORKS (ROW):
LAURA YONKERS, P.E.
PHONE: (772) 226-1891
EMAIL: LYONKERS@IRCGOV.COM

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:
PERRY JENNINGS
PHONE: (321) 409-2185
EMAIL: PJENNING@SJRWMD.COM

INDIAN RIVER FARMS WATER CONTROL DISTRICT:
DAVID GUNTER
PHONE: (772) 569-2141
EMAIL: DGUNTER@FLBB.COM

INDIAN RIVER FARMS WATER CONTROL DISTRICT:
GEORGE SIMONS
PHONE: (772) 562-4191
EMAIL: GEORGES@CARTERASSOC.COM
SEBASTIAN RIVER DRAINAGE DISTRICT:
FRANK SAKUMA
PHONE: (772) 345-5119
EMAIL: BSAKUMA@SDSINC.ORG

INDEX OF DRAWINGS

- C1 COVER SHEET
- C2 GENERAL NOTES
- C3 EXISTING CONDITIONS & DEMOLITION PLAN
- C4 EROSION CONTROL PLAN
- C5 SITE PLAN - FINAL DEVELOPMENT PLAN
- C6 PAVING, GRADING AND DRAINAGE PLAN
- C7 CROSS SECTIONS
- C8 UTILITY PLAN
- C9 98TH AVE ROADWAY EXTENSION PLAN
- C10 22ND ST. FORCE MAIN EXTENSION PLAN
- C11 97TH RD UTILITIES EXTENSION PLAN
- C12 LIFT STATION PLAN
- C13 LIFT STATION DETAILS
- C14 UTILITY DETAILS
- C15 UTILITY DETAILS
- C16 UTILITY DETAILS
- C17 GENERAL DETAILS
- C18 EROSION CONTROL DETAILS
- C19 LANDSCAPE PLAN
- C20 LANDSCAPE DETAILS
- C21 LANDSCAPE SPECIFICATIONS
- EX1 TRUCK TURN PLAN - HYDRANT FLOW TEST

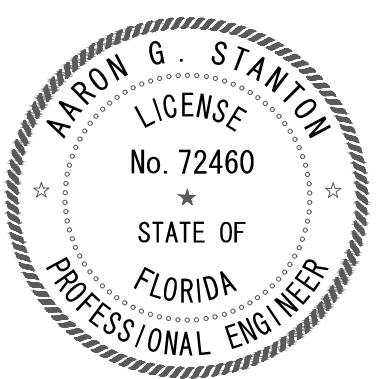
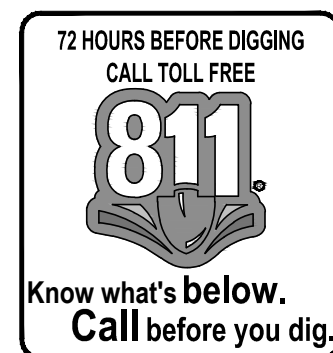
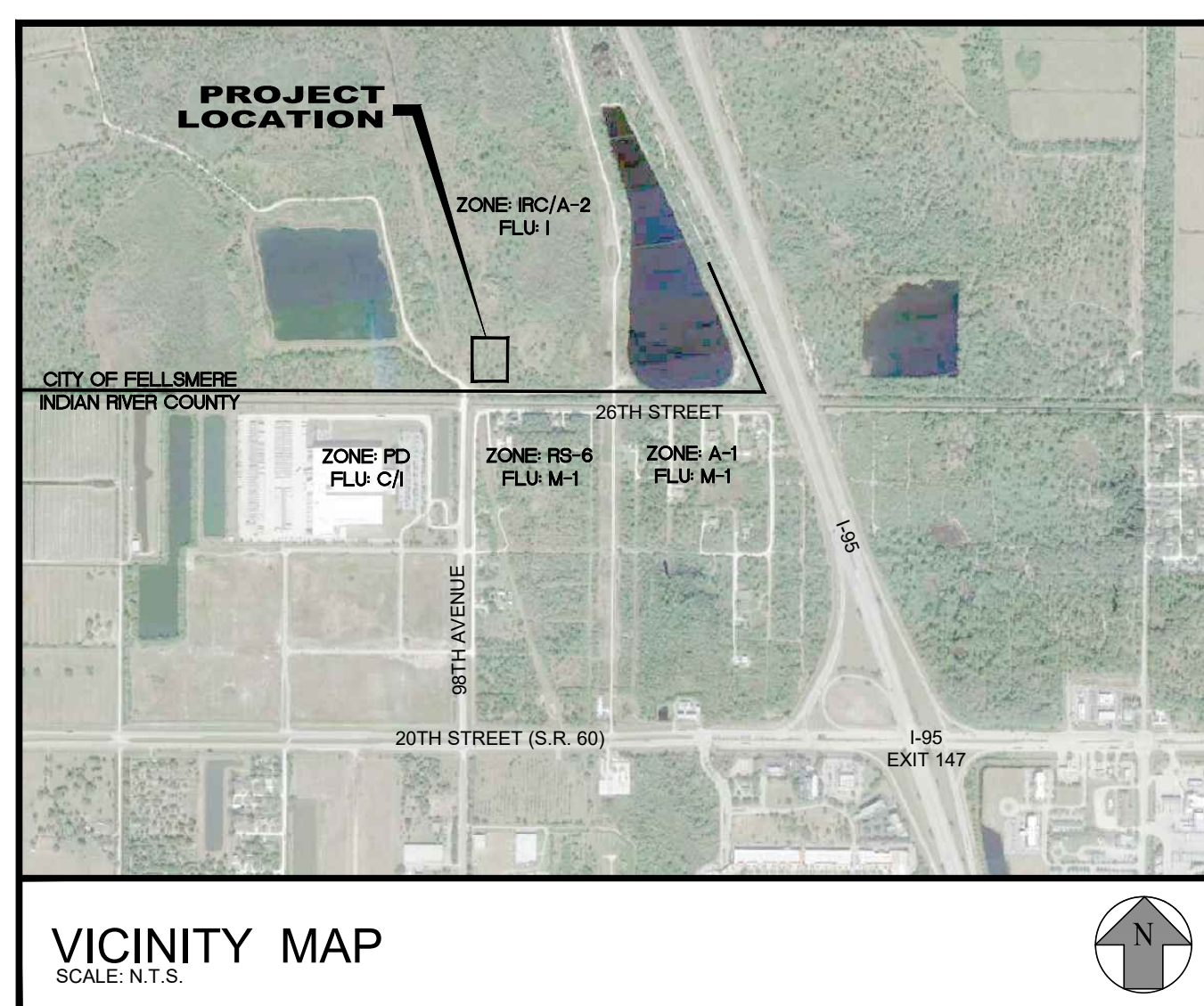
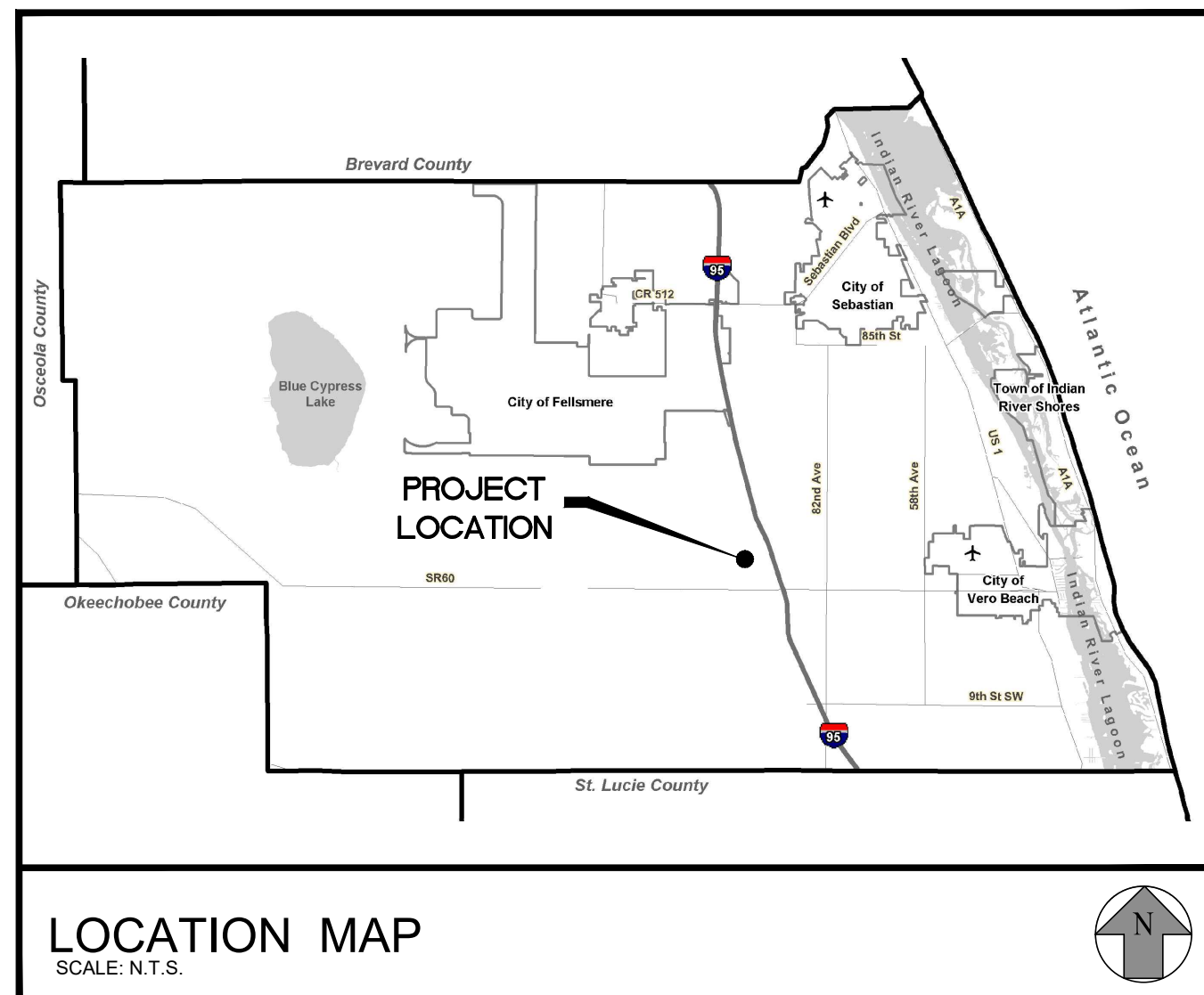
PERMITS REQUIRED

- CITY OF FELLSMERE PD FINAL DEVELOPMENT PLAN
- CITY OF FELLSMERE SITE CONSTRUCTION PLAN
- IRFWCD SITE PLAN REVIEW (98th AVE ONLY)
- IRFWCD UTILITY CONSTRUCTION PERMIT
- SEBASTIAN RIVER DRAINAGE DISTRICT
- INDIAN RIVER COUNTY RIGHT-OF WAY PERMIT
- INDIAN RIVER COUNTY UTILITY PERMIT
- INDIAN RIVER COUNTY FIRE DEPT. APPROVAL
- SJRWMD / ERP PERMIT
- FDEP DOMESTIC WASTEWATER COLLECTION PERMIT
- FDEP POTABLE WATER PERMIT
- FDEP NPDES NOI PERMIT
- FLORIDA GAS TRANSMISSION ENCROACHMENT AGREEMENT

CONSTRUCTION SCHEDULE

START CONSTRUCTION : SEPTEMBER 2023
END CONSTRUCTION : SEPTEMBER 2024

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



AARON G. STANTON
FL. P.E. #72460
DATE: 8/16/23
PROJECT: 21-0492

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

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

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 SP-12.5 ACSC SHALL BE CONSTRUCTED FOR THE DEPTH AND LIMITS SHOWN ON THE PLAN, IN ACCORDANCE WITH FDOT 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.

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

CLEAN-UP

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

CONSTRUCTION IN STREETS AND ROAD RIGHT-OF-WAYS

- 1. OPEN ROAD CUTS REQUIRES PRIOR APPROVAL OF THE CITY, COUNTY, STATE OR ANY OTHER AGENCY WHICH MAY HAVE JURISDICTION.
- 2. ALL CONSTRUCTION, MATERIALS AND WORKMANSHIP ARE TO BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND STANDARDS.
- 3. ALL AREAS IN EXISTING RIGHT-OF-WAYS DISTURBED BY CONSTRUCTION SHALL RECEIVE SOLID SOD.
- 4. STREET RESTORATION TO BE DONE AS PER INDIAN RIVER COUNTY AND CITY OF FELLSMERE STANDARDS WHERE APPLICABLE.
- 5. THE CONTRACTOR SHALL COMPLY WITH ALL RULES AND REGULATIONS OF THE STATE, COUNTY AND CITY AUTHORITIES REGARDING CLOSING OR RESTRICTING THE USE OF PUBLIC STREETS OR HIGHWAYS.
- 6. TRAFFIC CONTROL ON ALL COUNTY AND STATE HIGHWAY RIGHT-OF-WAYS SHALL MEET THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (U.S. DOT/FHA) AND THE REQUIREMENTS OF THE STATE AND ANY LOCAL AGENCY HAVING JURISDICTION.

DRAINAGE SPECIFICATIONS

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

CONCRETE SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 3000 PSI.
ALL REINFORCING STEEL TO BE ASTM A 615-72 GRADE 40, FYP = 40,000 PSI, AND SHALL BE HANDLED AND PLACED IN ACCORDANCE WITH ACI 318-71.

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

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

CONCRETE

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

PRECAST CONCRETE DRAINAGE PRODUCTS

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

GROUNDWATER

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

RECORD DRAWINGS

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

INSPECTION

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

GENERAL NOTES

- 1. CONTRACTOR IS RESPONSIBLE FOR CHECKING ACTUAL SITE CONDITIONS BEFORE STARTING CONSTRUCTION.
- 2. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK.
- 3. ALL WORK SHALL BE IN WORKMANLIKE MANNER AND SHALL CONFORM WITH ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL REGULATIONS AND/OR CODES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND LICENSES REQUIRED TO BEGIN WORK.
- 4. ALL MATERIALS AND LABOR UNDER THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH REQUIREMENTS OF THE CITY OF FELLSMERE, WATER MANAGEMENT DISTRICT, FDEP AND THESE PLANS AND SPECIFICATIONS.
- 5. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST 48 HOURS IN ADVANCE FOR CONSTRUCTION OPERATIONS.
- 6. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN TO BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- 7. CONTRACTOR SHALL SUPPLY DENSITY TESTS TO ENGINEER ON ALL SUB-GRADE AND BASE. TESTS SHALL BE PREPARED PER AASHTO T-180 METHOD.
- 8. SLOPE GRADES FROM ELEVATIONS SHOWN TO EXISTING GRADE AT PROPERTY LINE. MAXIMUM SLOPE 4:1.
- 9. ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE FOR ANY INSPECTION.
- 10. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH M.U.T.C.D. STANDARDS, CITY OF FELLSMERE, INDIAN RIVER COUNTY AND F.D.O.T. AS APPLICABLE.
- 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. EROSION CONTROL FENCING MUST BE IN PLACE PRIOR TO GRADING.
- 14. PIPE LENGTHS AND SLOPES SHOWN ARE APPROXIMATE.
- 15. 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.
- 16. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
- 17. 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.
- 18. THIS PLAN CONTEMPLATES ACCESS CONNECTIONS TO ADJACENT ROADS AS SHOWN.
- 19. FILL MATERIAL MAY NOT BE STOCKPILED HIGHER THAN TWENTY FIVE (25) VERTICAL FEET ON SITE PER CITY OF FELLSMERE CODE.
- 20. DIMENSIONS SHOWN ARE TO EDGE OF GUTTER OR PAVEMENT. RADII SHOWN ARE TO FACE OF CURB.
- 21. ALL SIGNS SHALL BE PER M.U.T.C.D. STANDARDS.
- 22. ALL PAVEMENT MARKINGS, EXCEPT PARKING STALL STRIPING, SHALL BE THERMOPLASTIC PER INDIAN RIVER COUNTY AND CITY OF FELLSMERE REQUIREMENTS WHERE APPLICABLE.
- 23. 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.
- 24. 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.
- 25. 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.
- 26. 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.
- 27. ANY STATE AND FEDERAL PERMITS THAT MAY BE REQUIRED AS A RESULT OF LAND CLEARING AND LANDSCAPING ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- 28. CONTRACTOR IS RESPONSIBLE TO PROTECT AND/OR REPLACE ALL SURVEY MONUMENTATION BY A LICENSED SURVEYOR IN THE STATE OF FLORIDA.
- 29. 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.
- 30. ALL HANDICAPPED PARKING SPACES SHALL BE PROPERLY SIGNED AND STRIPED IN ACCORDANCE WITH FDOT STANDARD INDEX 711-001, LATEST EDITION.
- 31. BUILDINGS USING VERTICAL OR HORIZONTAL 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. REQUIRED SIGN MUST BE 8 INCHES BY 8 INCHES.
- 32. 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 EDGE OF PAVEMENT.
- 33. ALL SUBDIVISION CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE APPLICABLE CITY OF FELLSMERE ORDINANCES.
- 34. ALL NUISANCE EXOTIC VEGETATION EXISTING WITHIN DEVELOPMENT PROJECT SITE PROPERTY MUST BE REMOVED IN CONJUNCTION WITH SITE DEVELOPMENT.

PRIMARY BENCHMARK:
DESIGNATION: T 431
PID: AE6137
STATE COUNTY: FL/INDIAN RIVER
USGS QUAD: SOUTH OF FELLSMERE (2018)
NAVD 88 ORTHO HEIGHT: 7.141 (METERS)
23.43 (FEET)
GEOID HEIGHT: -27.498 (METERS)
DYNAMIC HEIGHT: 7.131 (METERS) 23.40 (FEET)
DESCRIPTION: A VERTICAL CONTROL DISK SET IN TOP OF A CONCRETE MONUMENT STAMPED "NGS T-431-1994"
LOCATION: TO REACH THE MARK FROM THE INTERSECTION OF STATE HIGHWAY 60 (20TH AVENUE) AND INTERSTATE 95 (EXIT 147) SOUTHBOUND LANES ON THE WEST SIDE OF VERO BEACH, GO WEST ON STATE HIGHWAY 60 (20TH AVENUE) FOR 0.65 MILES TO THE INTERSECTION OF 98TH AVENUE AND THE MARK ON THE LEFT. LOCATED 158.5 FEET SOUTH OF THE CENTERLINE OF STATE HIGHWAY 60 EASTBOUND LANES, 32.7 FEET WEST OF THE CENTERLINE OF 98TH AVENUE, 10.5 FEET EAST OF A BARBWARE FENCE AND 10.0 FEET EAST OF A CARSONITE WITNESS POST.

| REV. NO. | REV. PER SJRWMD ENV. COMMENTS | DATE |
|----------|-------------------------------------|------------|
| 1 | REV. PER SJRWMD ENV. COMMENTS | 08-14-2023 |
| 2 | REV. PER FDEP WATER COMMENTS | 08-09-2023 |
| 3 | REV. PER IRCD, GAS CO. COF COMMENTS | 08-07-2023 |
| 4 | REV. PER IRCD, IRCD COMMENTS | 07-27-2023 |
| 5 | REV. PER SJRWMD COMMENTS | 07-19-2023 |
| 6 | REV. PER COF FINAL SP COMMENTS | 06-20-2023 |
| 7 | REV. PER COF AND IRCD COMMENTS | 06-20-2023 |

| JOB NO. | TH | DATE |
|---------|----|-----------|
| 21-0492 | SS | JUNE 2022 |

MBV ENGINEERING, INC.
MOHA. BONILES-VILLALBAZAR & ASSOCIATES
CIVIL & MECHANICAL ENGINEERING CA #3728
VERO BEACH, FL 33409
1500 W. STATE STREET
SUITE 201A
VERO BEACH, FL 33409
TEL: (772) 774-1111
FAX: (772) 774-1111

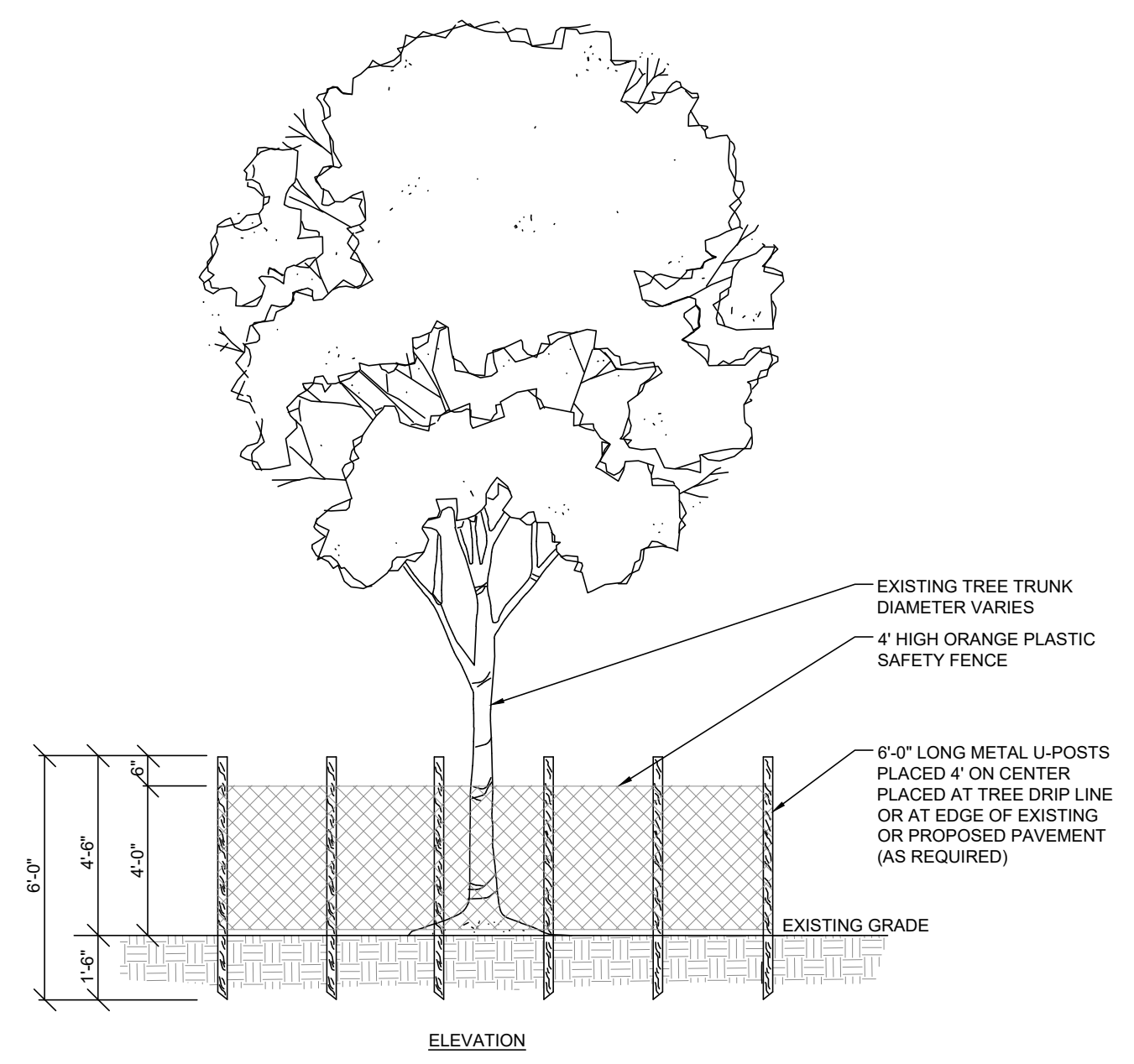
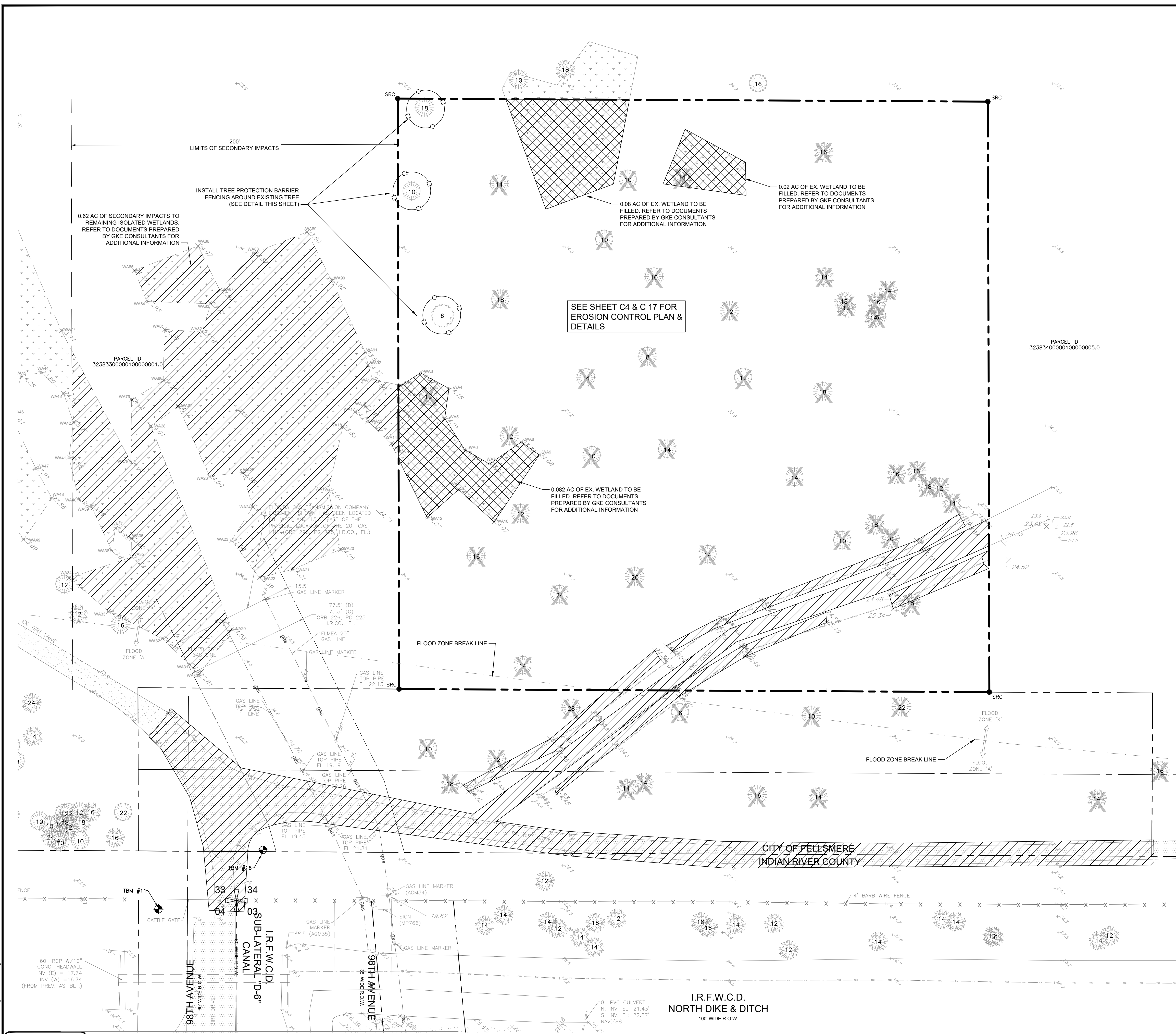
GENERAL NOTES

**IRC FIRE RESCUE FIRE STATION #7
CITY OF FELLSMERE
FINAL DEVELOPMENT PLAN**

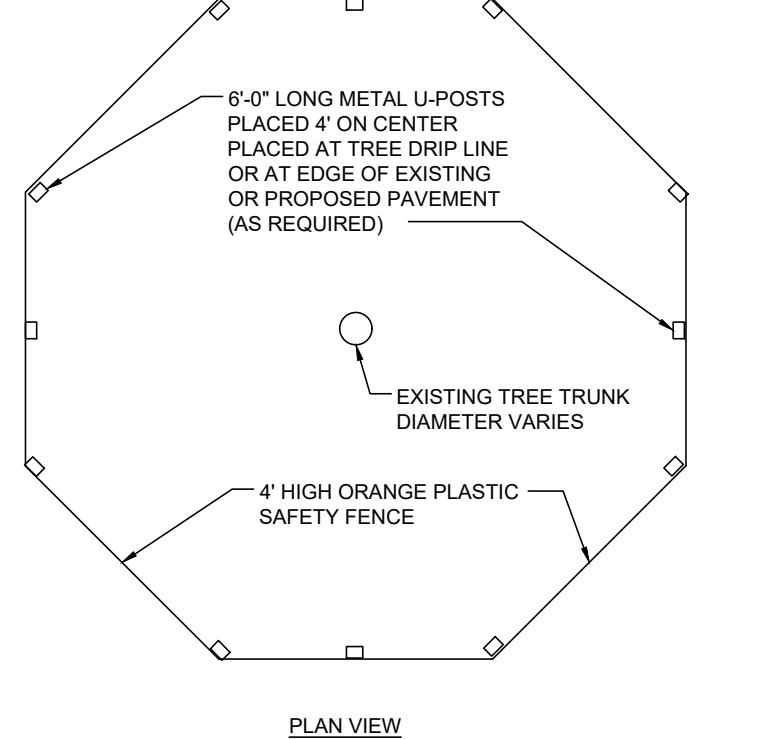
AARON G. STANTON
LICENSE
No. 72460
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

C:\DRAWINGS\2023\0492\0492_IRC_Fire_Station_7_MDP_4110-imp-21-0492_COVER_DETAILS.dwg PLT:2023.10.31 AM





- 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 DRIP LINE 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

LEGEND

- EXISTING PALM TREE TO BE REMOVED
- EXISTING PINE TO BE REMOVED
- EXISTING DIRT DRIVES TO BE REMOVED AND DITCHES TO BE FILLED
- EXISTING WETLANDS TO BE FILLED (TOTAL = 0.182 AC), SEE MITIGATION PLAN PREPARED BY GKE CONSULTANTS
- SECONDARY IMPACTS TO REMAINING ISOLATED WETLANDS (TOTAL 0.62 AC), SEE MITIGATION PLAN PREPARED BY GKE CONSULTANTS

| NO. | REVISIONS | DATE |
|-----|-----------------------------|------------|
| 8 | REV PER SRWARD ENV COMMENTS | 06-14-2023 |
| 7 | REV PER SRWARD ENV COMMENTS | 06-14-2023 |
| 6 | REV PER SRWARD ENV COMMENTS | 08-07-2023 |
| 5 | REV PER SRWARD ENV COMMENTS | 07-27-2023 |
| 4 | REV PER SRWARD ENV COMMENTS | 07-27-2023 |
| 3 | REV PER SRWARD ENV COMMENTS | 07-19-2023 |
| 2 | REV PER SRWARD ENV COMMENTS | 06-20-2023 |
| 1 | REV PER SRWARD ENV COMMENTS | 06-20-2023 |

| | | | | | |
|-------------|----|----|-----------|----|------------|
| 21-0492 | TH | SS | JUNE 2022 | AS | 05/12/2023 |
| DESIGNED | | | | | |
| DRAWN | | | | | |
| CHECKED | | | | | |
| DATE ISSUED | | | | | |

MBV ENGINEERING, INC.
MOA, BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1845 S. 30TH STREET
MIAMI, FL 33130
PH: (772) 644-8310
FX: (772) 644-8317
WWW.MBV-ENG.COM

EXISTING CONDITIONS & DEMOLITION PLAN

**IRC FIRE RESCUE FIRE STATION #7
CITY OF FELLSMERE
FINAL DEVELOPMENT PLAN**

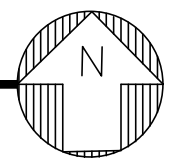
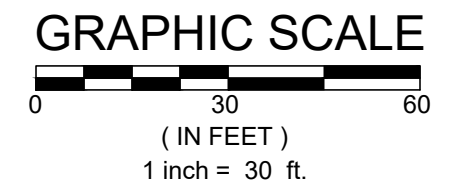
AARON G. STANTON
LICENSE No. 72460
STATE OF FLORIDA
PROFESSIONAL ENGINEER
AARON G. STANTON
FL P.E. #72460 8/16/23

C3

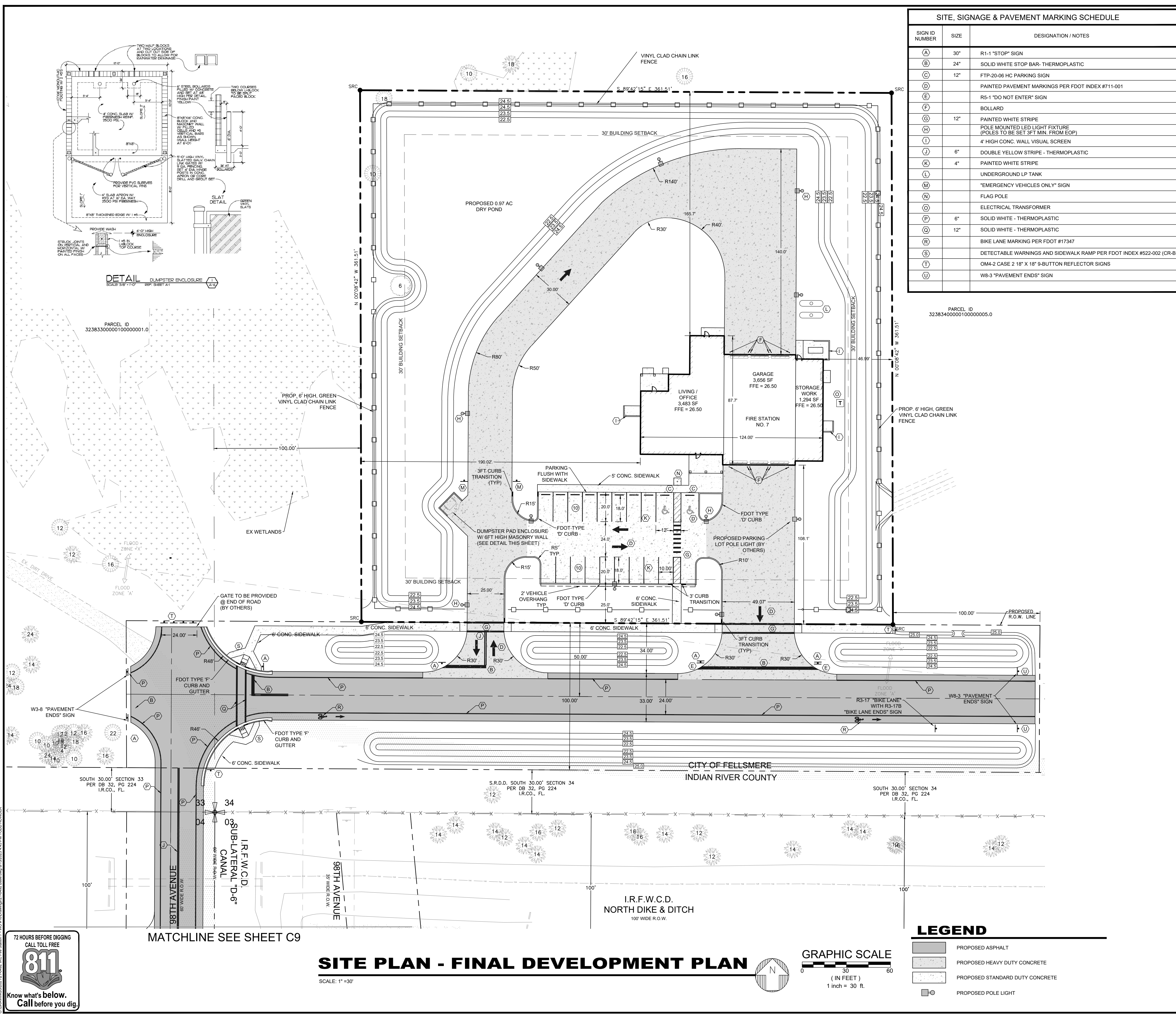
72 HOURS BEFORE DIGGING
CALL TOLL FREE
811
Know what's below.
Call before you dig.

EXISTING CONDITIONS & DEMOLITION PLAN

SCALE: 1" = 30'



C:\DRAWINGS\2023\12\14\IRC Fire Station #7 - V03.dwg (8/16/23) 4:45 PM TUDOR HOVDEB



SITE, SIGNAGE & PAVEMENT MARKING SCHEDULE

| SIGN ID NUMBER | SIZE | DESIGNATION / NOTES |
|----------------|------|----------------------------------------------------------------------|
| (A) | 30" | R1-1 "STOP" SIGN |
| (B) | 24" | SOLID WHITE STOP BAR- THERMOPLASTIC |
| (C) | 12" | FTP-20-06 HC PARKING SIGN |
| (D) | | PAINTED PAVEMENT MARKINGS PER FDOT INDEX #711-001 |
| (E) | | R5-1 "DO NOT ENTER" SIGN |
| (F) | | BOLLARD |
| (G) | 12" | PAINTED WHITE STRIPE |
| (H) | | POLE MOUNTED LED LIGHT FIXTURE (POLES TO BE SET 3FT MIN. FROM EOP) |
| (I) | | 4" HIGH CONC. WALL VISUAL SCREEN |
| (J) | 6" | DOUBLE YELLOW STRIPE - THERMOPLASTIC |
| (K) | 4" | PAINTED WHITE STRIPE |
| (L) | | UNDERGROUND LP TANK |
| (M) | | "EMERGENCY VEHICLES ONLY" SIGN |
| (N) | | FLAG POLE |
| (O) | | ELECTRICAL TRANSFORMER |
| (P) | 6" | SOLID WHITE - THERMOPLASTIC |
| (Q) | 12" | SOLID WHITE - THERMOPLASTIC |
| (R) | | BIKE LANE MARKING PER FDOT #17347 |
| (S) | | DETECTABLE WARNINGS AND SIDEWALK RAMP PER FDOT INDEX #522-002 (CR-B) |
| (T) | | OM4-2 CASE 2 18" X 18" 9-BUTTON REFLECTOR SIGNS |
| (U) | | WB-3 "PAVEMENT ENDS" SIGN |

PROJECT INFORMATION

SITE ADDRESS
9700 26TH PLACE
FELLSMERE, FL 32966-3044

OWNER/APPLICANT
EMERGENCY SERVICES DISTRICT OF INDIAN RIVER COUNTY
1801 27TH STREET
VERO BEACH, FL 32960
PH: (772) 226-3953

ENGINEER
MBV ENGINEERING, INC.
1835 20TH STREET
VERO BEACH, FL 32960
PH: (772) 569-0035

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

SURVEYOR
CARTER ASSOCIATES, INC.
1708 21ST STREET
VERO BEACH, FL 32960
PH: (772) 562-4191

TAX PARCEL I.D. NUMBER(S)
32-38-34-00000-1000-00005.0

ZONING PD
LAND USE REAC

LATITUDE 27°38'49.09"
LONGITUDE 80°31'40.77"

LEGAL DESCRIPTION
BEING A PARCEL OF LAND LYING IN THE SOUTHWEST ONE-QUARTER OF SECTION 34, TOWNSHIP 32 SOUTH, RANGE 38 EAST, INDIAN RIVER COUNTY, FLORIDA, SAID PARCEL ALSO BEING A PORTION OF THOSE LANDS AS DESCRIBED IN OFFICIAL RECORD BOOK 1612, PAGE 1824, PUBLIC RECORDS OF INDIAN RIVER COUNTY, FLORIDA, SAID PARCEL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
THE NORTH 361.50 FEET, OF THE SOUTH 491.50 FEET, OF THE EAST 361.50 FEET, OF THE WEST 461.50 FEET OF THE SOUTHWEST ONE-QUARTER OF SAID SECTION 34, TOWNSHIP 32 SOUTH, RANGE 38 EAST.
CONTAINING 130,680 SQUARE FEET, (3.00 ACRES) MORE OR LESS.

PROJECT DESCRIPTION
THIS PROJECT IS TO SUPPORT THE INDIAN RIVER COUNTY EMERGENCY SERVICES DEPARTMENT TO CONSTRUCT A NEW FIRE STATION #7, INCLUDING ALL REQUIRED SITE IMPROVEMENTS, DRAINAGE AND UTILITIES, ALONG WITH THE REQUIRED IMPROVEMENTS FOR THE EXTENSION OF 98TH AVENUE AND A PROPOSED EAST-WEST RIGHT OF WAY WITH IMPROVEMENTS.

SITE DATA

| EXISTING SITE DATA (ON-SITE) | SF | AC | % |
|------------------------------|------------|---------|-------|
| SITE AREA | 130,686 SF | 3.0 AC | 100% |
| IMPERVIOUS AREA | 2,453 SF | 0.06 AC | 1.9% |
| EXISTING STABILIZED DRIVE | 2,453 SF | 0.06 AC | 1.9% |
| PERVIOUS AREA | 128,233 SF | 2.94 AC | 98.1% |

PROPOSED SITE DATA (ON-SITE)

| SITE AREA | SF | AC | % |
|---------------------------------|---------------|---------|--------|
| SITE AREA | 130,686 SF | 3.00 AC | 100% |
| IMPERVIOUS AREA | 39,838 SF | 0.92 AC | 30.48% |
| PROPOSED BUILDING | 8,433 SF | 0.20 AC | 6.53% |
| PROPOSED STANDARD DUTY CONCRETE | 7,050 SF | 0.16 AC | 5.39% |
| PROPOSED HEAVY DUTY CONCRETE | 24,258 SF | 0.56 AC | 18.56% |
| PERVIOUS AREA | 90,848 SF | 2.08 AC | 69.52% |
| NET NEW IMPERVIOUS | (+) 39,838 SF | 0.92 AC | |

EXISTING SITE DATA (OFF-SITE)

| SITE AREA | SF | AC | % |
|---------------------------|-----------|---------|-------|
| SITE AREA | 62,036 SF | 1.42 AC | 100% |
| IMPERVIOUS AREA | 8,587 SF | 0.20 AC | 13.8% |
| EXISTING STABILIZED DRIVE | 8,587 SF | 0.20 AC | 13.8% |
| PERVIOUS AREA | 53,449 SF | 1.22 AC | 86.2% |

PROPOSED SITE DATA (OFF-SITE)

| SITE AREA | SF | AC | % |
|----------------------------|---------------|---------|-------|
| SITE AREA | 62,036 SF | 1.42 AC | 100% |
| IMPERVIOUS AREA | 23,973 SF | 0.55 AC | 38.6% |
| PROPOSED PAVEMENT | 21,340 SF | 0.49 AC | 34.4% |
| PROPOSED CONCRETE SIDEWALK | 2,633 SF | 0.06 AC | 4.2% |
| PERVIOUS AREA | 38,063 SF | 0.87 AC | 61.4% |
| NET NEW IMPERVIOUS | (+) 15,386 SF | 0.35 AC | |

ZONING DATA

| PD ZONING | EXISTING | PROPOSED |
|-------------------|------------|------------|
| LOT SIZE | 130,689 SF | 130,689 SF |
| LOT WIDTH | 361.51' | 361.51' |
| BUILDING SETBACKS | | |
| FRONT | 0' | 108.10' |
| SIDE (E) | 0' | 46.99' |
| SIDE (W) | 0' | 190.02' |
| REAR | 0' | 165.70' |
| BUILDING COVERAGE | 0.0% | 6.53% |
| OPEN SPACE | 100% | 69.52% |
| BUILDING HEIGHT | 0' MAX. | 30' |

PARKING DATA

PARKING REQUIRED (GEN. INDUSTR.) = 2 SP / 1,000 SF
8,530 / 1,000 x 2 = 17.06 SPACES or 18 SPACES

PARKING PROVIDED = 20 SPACES TOTAL
2 HANDICAPPED SPACES
18 STANDARD SPACES

TRAFFIC STATEMENT

PER ITE, 10TH EDITION:
(575) FIRE AND RESCUE STATION
8,530 / 1,000 SF BLDG = 8.53 X 0.48 (KSF) = 4 TRIPS (TOTAL), 1 (ENTRY), 3 (EXIT)

DRAINAGE STATEMENT

THE FIRE STATION PARCEL WILL COLLECT THE ONSITE STORMWATER RUNOFF VIA THE PROPOSED CATCH BASIN AND STORM PIPING SYSTEM WHERE IT WILL BE ROUTED TO THE PROPOSED DRY DETENTION POND. THE DRY POND WILL BE DESIGNED TO ACCOUNT FOR THE REQUIRED WATER QUALITY / QUANTITY TREATMENT IN ACCORDANCE WITH THE SJRWMD AND CITY OF FELLSMERE REGULATIONS PRIOR TO OUTFALL.

FLOOD ZONE

THE HEREON DESCRIBED PROPERTY APPEARS TO LIE WITHIN FLOOD ZONE "X". AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AND FLOOD ZONE "X", SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD, NO BASE FLOOD ELEVATIONS DETERMINED, AS SHOWN ON FLOOD INSURANCE RATE MAP (FIRM) NUMBER 12061C0220H, COMMUNITY NUMBER 12019, PANEL 0220, SUFFIX "H" MAP REVISOR DATE DECEMBER 4, 2012, MAP INDEX DATE DECEMBER 4, 2012. NO ADDITIONAL SEARCH OF THE PUBLIC RECORDS HAS BEEN PERFORMED. THERE MAY BE ADDITIONAL MAP AMENDMENTS AFFECTING THIS PROPERTY.

WASTEWATER SOURCE
INDIAN RIVER COUNTY UTILITIES

POTABLE WATER SOURCE
INDIAN RIVER COUNTY UTILITIES

PERMITS REQUIRED

CITY OF FELLSMERE PD FINAL DEVELOPMENT PLAN
CITY OF FELLSMERE SITE CONSTRUCTION PLAN
IRFWCD SITE PLAN REVIEW (98th AVE ONLY)
IRFWCD UTILITY CONSTRUCTION PERMIT
SEBASTIAN RIVER DRAINAGE DISTRICT
INDIAN RIVER COUNTY RIGHT-OF-WAY PERMIT
INDIAN RIVER COUNTY UTILITY PERMIT
INDIAN RIVER COUNTY FIRE DEPT. APPROVAL
SJRWMD / FDEP 10-2 CERTIFICATION
SJRWMD MODIFICATION - (93135-1)
FDEP DOMESTIC WASTEWATER COLLECTION PERMIT
FDEP POTABLE WATER PERMIT
FDEP NPDES NOI PERMIT
FLORIDA GAS TRANSMISSION ENCROACHMENT AGREEMENT

REVISIONS

| NO. | DATE | DESCRIPTION | BY | DATE |
|-----|------------|---------------------------|----|------------|
| 1 | 06-14-2023 | REV PER SURVIVOR COMMENTS | AS | 06-14-2023 |
| 2 | 06-14-2023 | REV PER SURVIVOR COMMENTS | AS | 06-14-2023 |
| 3 | 06-14-2023 | REV PER SURVIVOR COMMENTS | AS | 06-14-2023 |
| 4 | 06-14-2023 | REV PER SURVIVOR COMMENTS | AS | 06-14-2023 |
| 5 | 06-14-2023 | REV PER SURVIVOR COMMENTS | AS | 06-14-2023 |
| 6 | 06-14-2023 | REV PER SURVIVOR COMMENTS | AS | 06-14-2023 |
| 7 | 06-14-2023 | REV PER SURVIVOR COMMENTS | AS | 06-14-2023 |
| 8 | 06-14-2023 | REV PER SURVIVOR COMMENTS | AS | 06-14-2023 |

MBV ENGINEERING, INC.
MOIA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1835 20TH STREET
VERO BEACH, FL 32960
PH: (772) 569-0035
FELLSMERE, FL - PH: (772) 569-4320

SITE PLAN
FINAL DEVELOPMENT PLAN

IRC FIRE RESCUE FIRE STATION #7
CITY OF FELLSMERE
FINAL DEVELOPMENT PLAN

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

ARON G. STANTON
FL. P.E. #72460
8/16/23

C5

21-0492

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

SITE PLAN - FINAL DEVELOPMENT PLAN

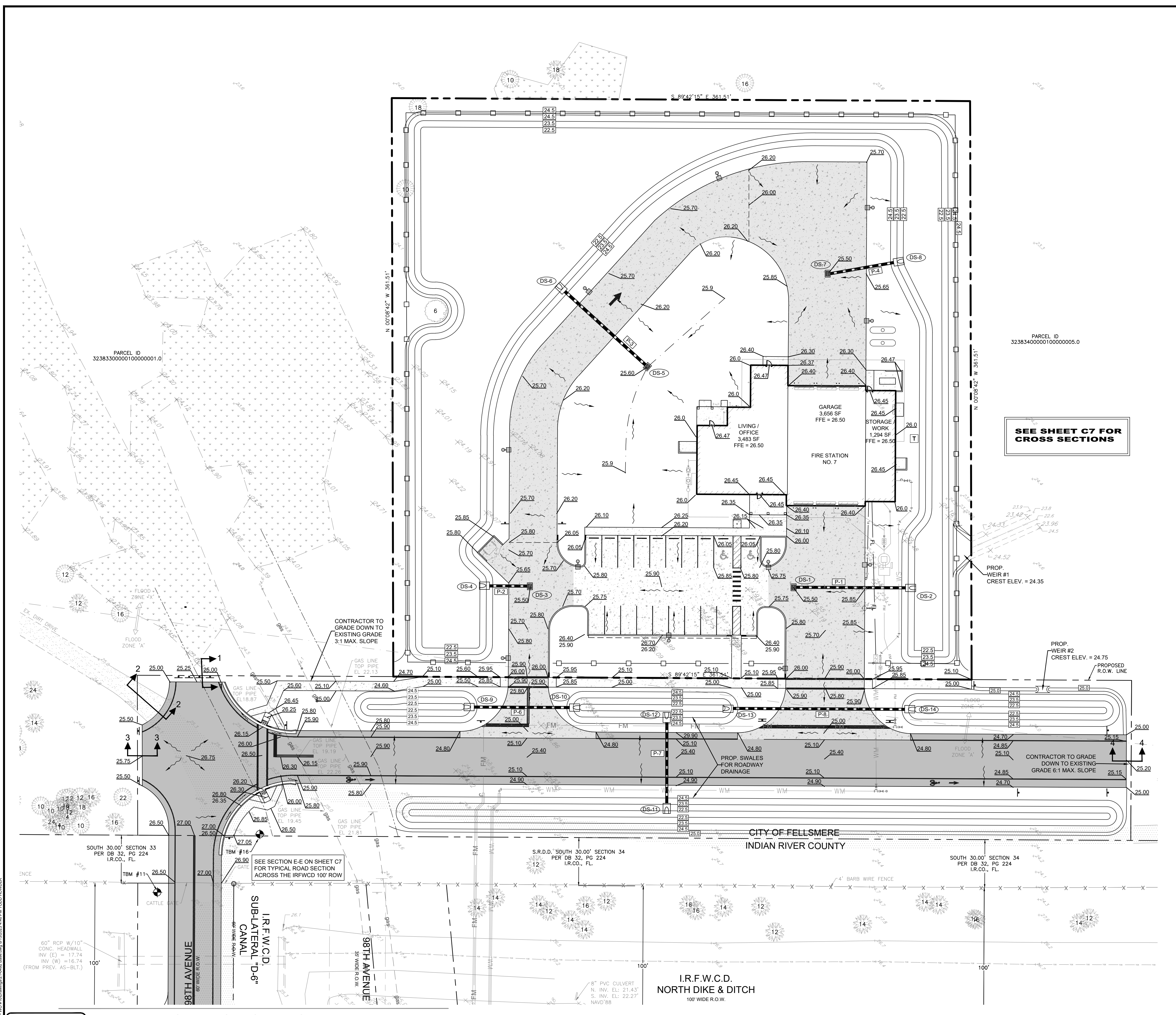
SCALE: 1" = 30'

LEGEND

- PROPOSED ASPHALT
- PROPOSED HEAVY DUTY CONCRETE
- PROPOSED STANDARD DUTY CONCRETE
- PROPOSED POLE LIGHT

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

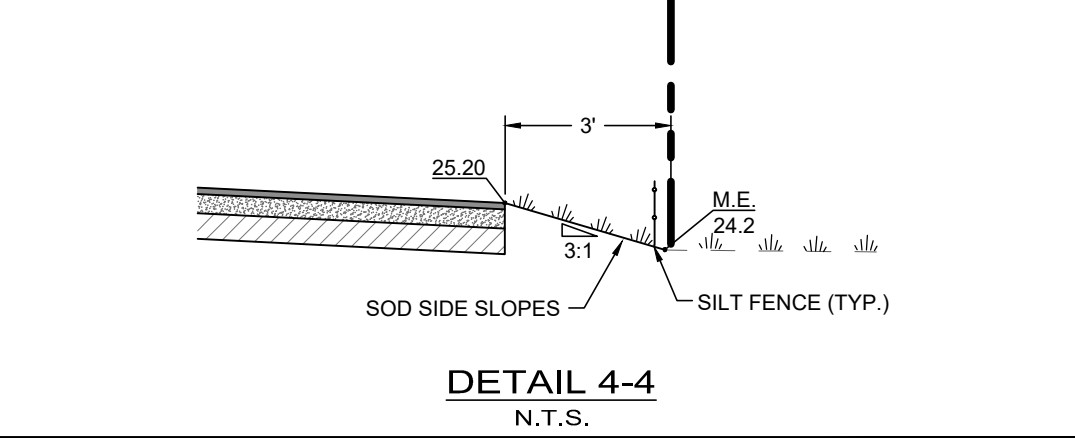
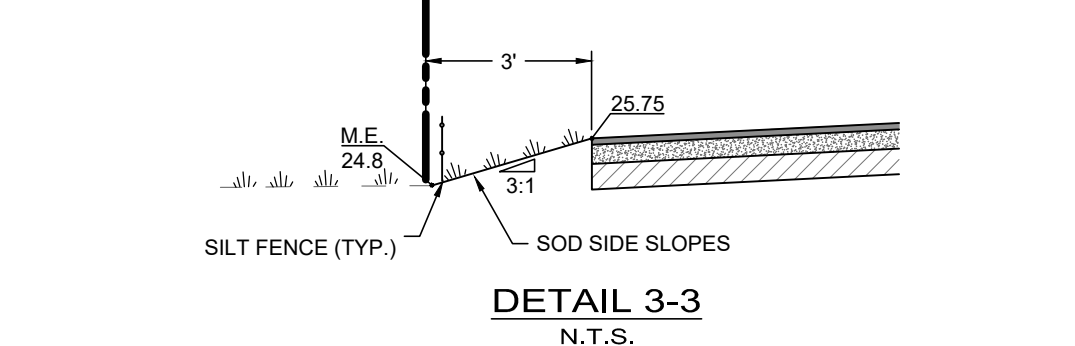
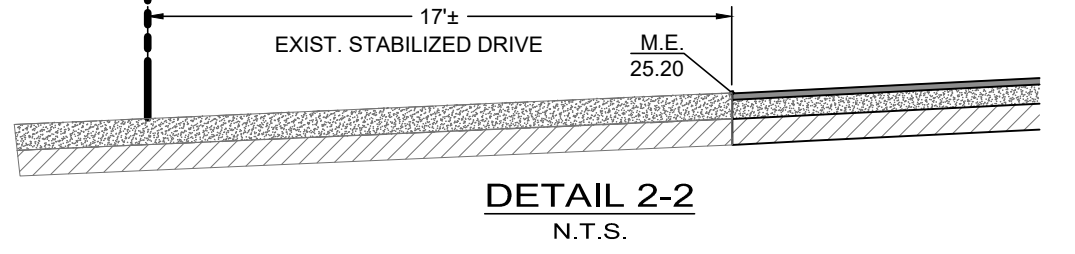
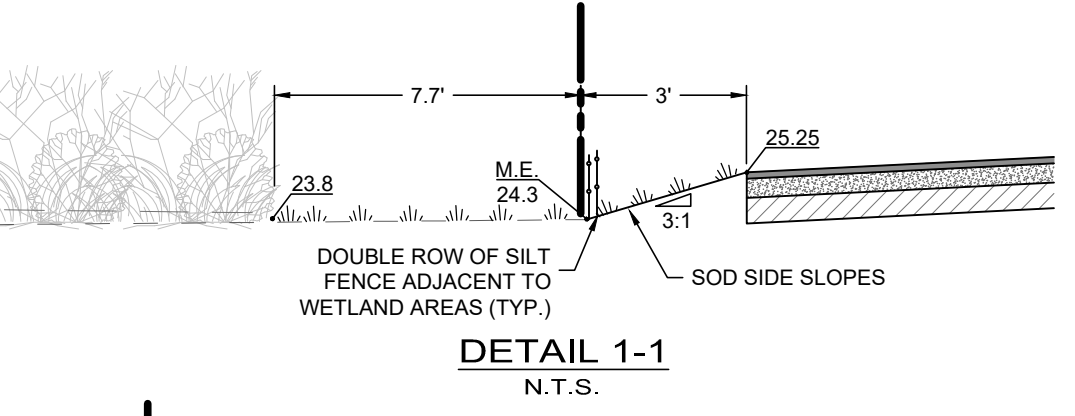
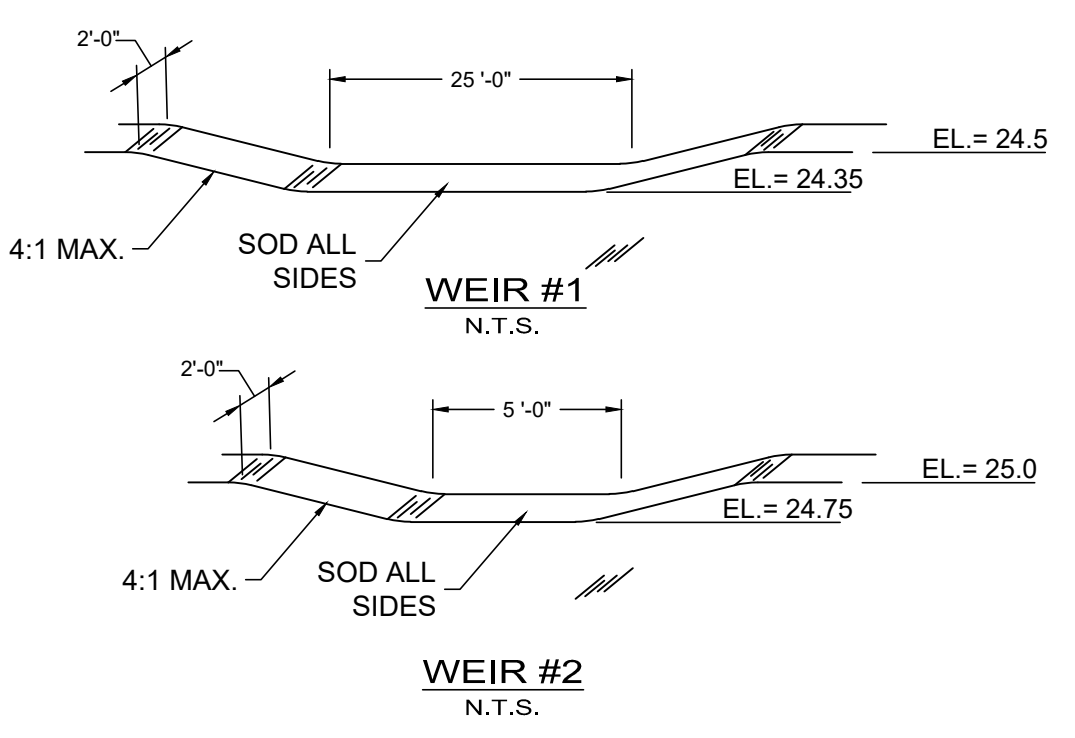
C:\DRAWINGS\2023\12\16852-IRC Fire Station #7 - V03-16852.dwg 05/12/2023 1:45 PM TUDU\HOWARD



| STRUCTURE NUMBER | RIM ELEV. | INVERT ELEVATION | | | BOTTOM ELEV. | DESCRIPTION |
|------------------|-----------|------------------|----------|-------|--------------|---------------------|
| | | N | S | W | | |
| DS-1 | 25.50 | | | 23.10 | 23.10 | TYPE "F" INLET |
| DS-2 | MES | | | | 22.50 | 14" x 23" MES |
| DS-3 | 25.50 | | | | 23.10 | TYPE "F" INLET |
| DS-4 | MES | | | 22.50 | | 14" x 23" MES |
| DS-5 | 25.60 | 23.20 NE | | | 23.20 | TYPE "C" INLET |
| DS-6 | MES | | 22.50 SE | | 22.50 | 14" x 23" MES |
| DS-7 | 25.50 | | | 23.10 | 23.10 | TYPE "F" INLET |
| DS-8 | MES | | | | 22.50 | 14" x 23" MES |
| DS-9 | MES | | | 22.50 | 22.50 | 14" x 23" MES |
| DS-10 | MES | | | | 22.50 | 14" x 23" MES |
| DS-11 | MES | 22.50 | | | 22.50 | 14" x 23" MES |
| DS-12 | MES | | 22.50 | | 22.50 | 14" x 23" MES |
| DS-13 | MES | | | 22.50 | 22.50 | 14" x 23" MES |
| DS-14 | MES | | | | 22.50 | 14" x 23" MES |
| DS-15 | MES | | | 22.50 | 22.50 | 14" x 23" MES |
| DS-16 | MES | | 22.50 | | 22.50 | 14" x 23" MES |
| DS-17 | 24.46 | | | 22.60 | 22.60 | MOB. TYPE "G" INLET |
| DS-18 | 24.50 | | | 22.60 | 22.60 | MOB. TYPE "G" INLET |

| PIPE NUMBER | SIZE | LENGTH | DESCRIPTION |
|-------------|-----------|--------|-------------|
| P-1 | 14" x 23" | 75 LF | ERCP |
| P-2 | 14" x 23" | 32 LF | ERCP |
| P-3 | 14" x 23" | 75 LF | ERCP |
| P-4 | 14" x 23" | 47 LF | ERCP |
| P-5 | 10" | 29 LF | ABC M12 |
| P-6 | 14" x 23" | 73 LF | ERCP |
| P-7 | 14" x 23" | 69 LF | ERCP |
| P-8 | 14" x 23" | 120 LF | ERCP |
| P-9 | 10" | 36 LF | ABC M12 |

- LEGEND**
- PROPOSED ASPHALT
 - PROPOSED CONCRETE
 - PROPOSED HEAVY DUTY CONCRETE
 - PROPOSED DRAINAGE PIPE (P-#)
 - PROPOSED DRAINAGE STRUCTURE (DS-#)
 - PROPOSED GRADE ELEVATION
 - EXISTING GRADE ELEVATION
 - PROPOSED SURFACE FLOW DIRECTION



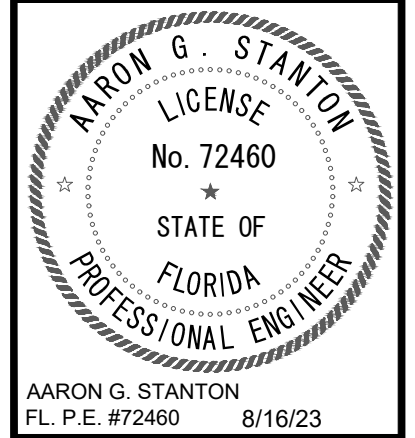
ALL STRUCTURES PER FOOT STANDARD SPECIFICATIONS AND DETAILS.

SEE SHEET C7 FOR CROSS SECTIONS

| JOB NO. | DESIGNED | DRAWN | DATE | CHECKED | DATE ISSUED |
|---------|----------|-------|-----------|---------|-------------|
| 21-0492 | TH | SS | JUNE 2022 | AS | 05/12/2023 |

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

IRC FIRE RESCUE FIRE STATION #7
 CITY OF FELLSMERE
 FINAL DEVELOPMENT PLAN



C6

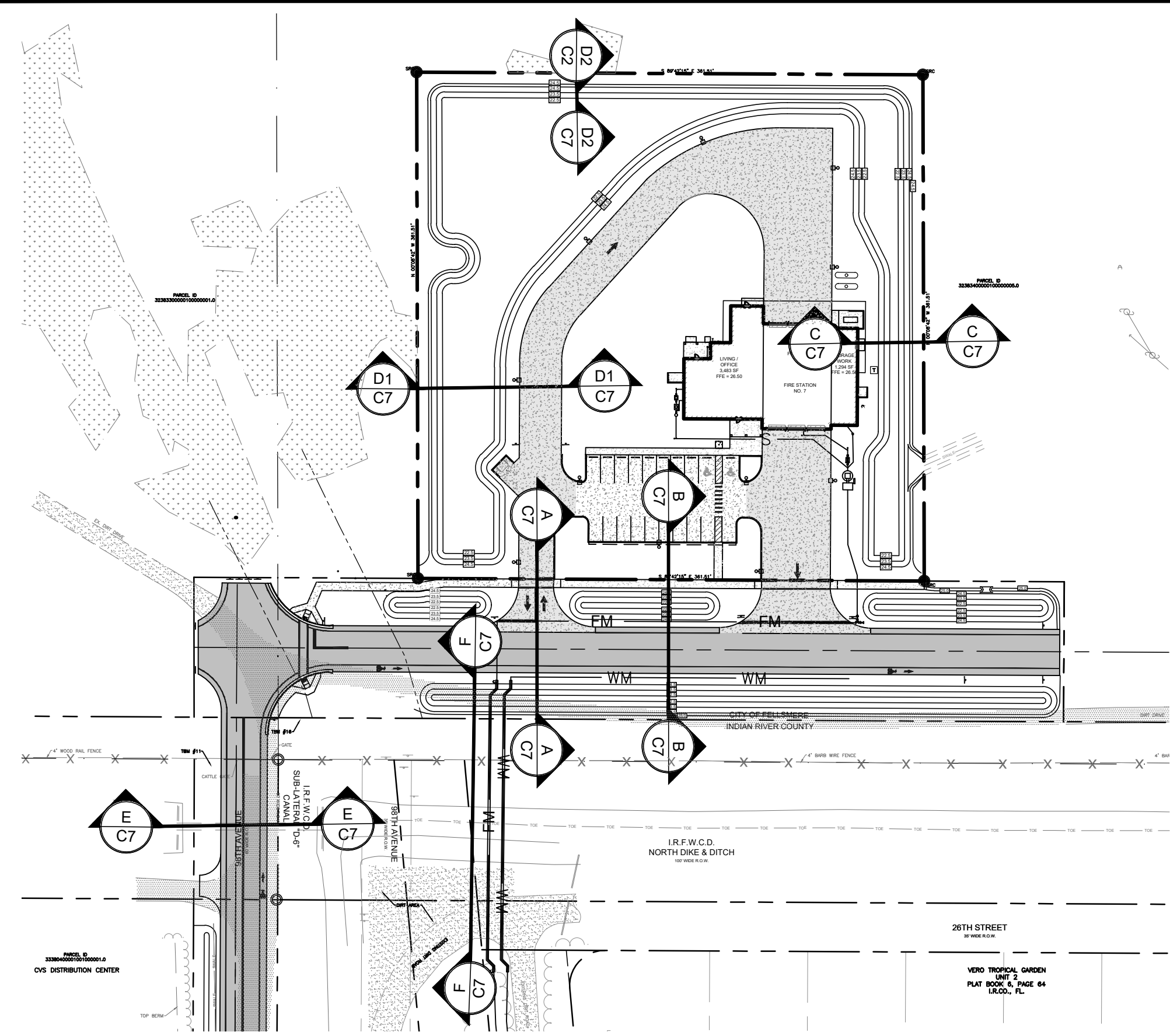


PAVING, GRADING AND DRAINAGE PLAN

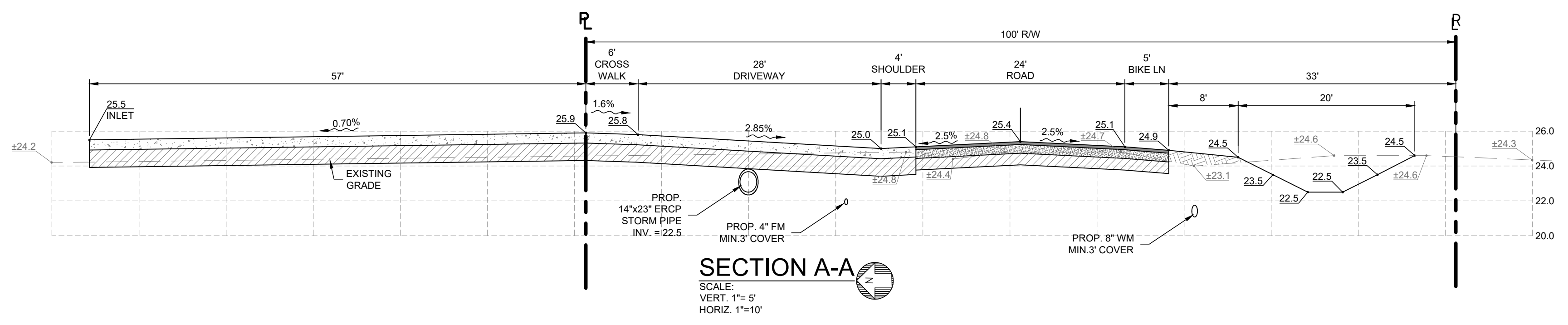
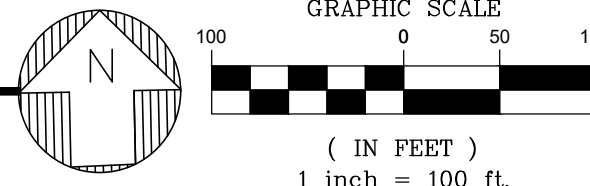
SCALE: 1" = 30'

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

MATCHLINE SEE SHEET C6

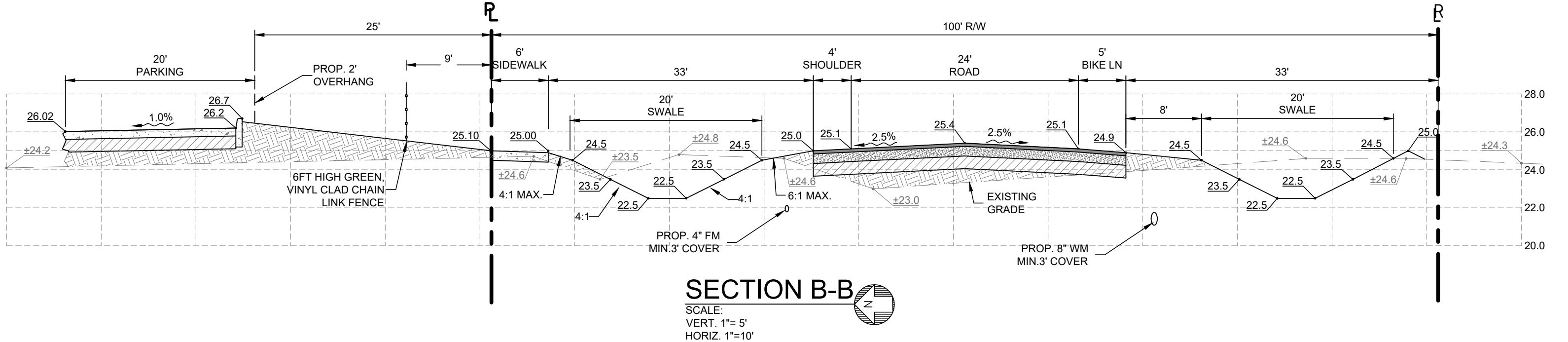


SECTION KEY MAP



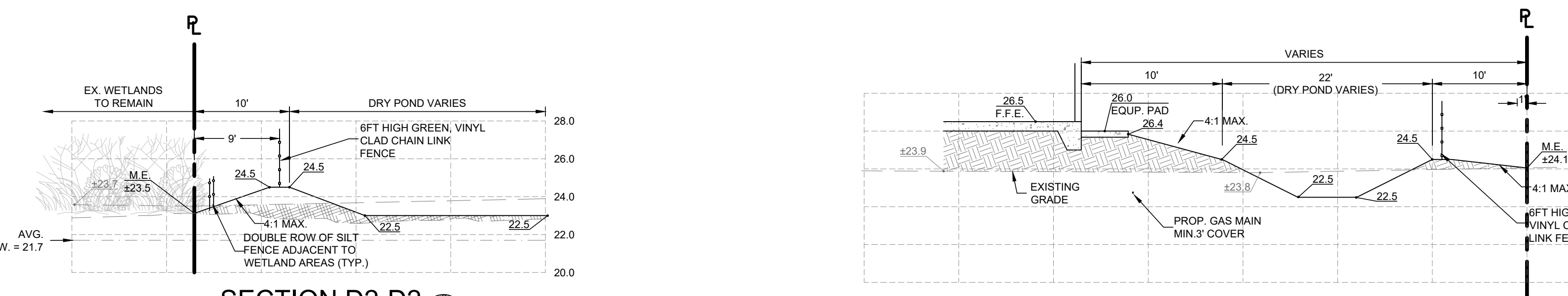
SECTION A-A

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



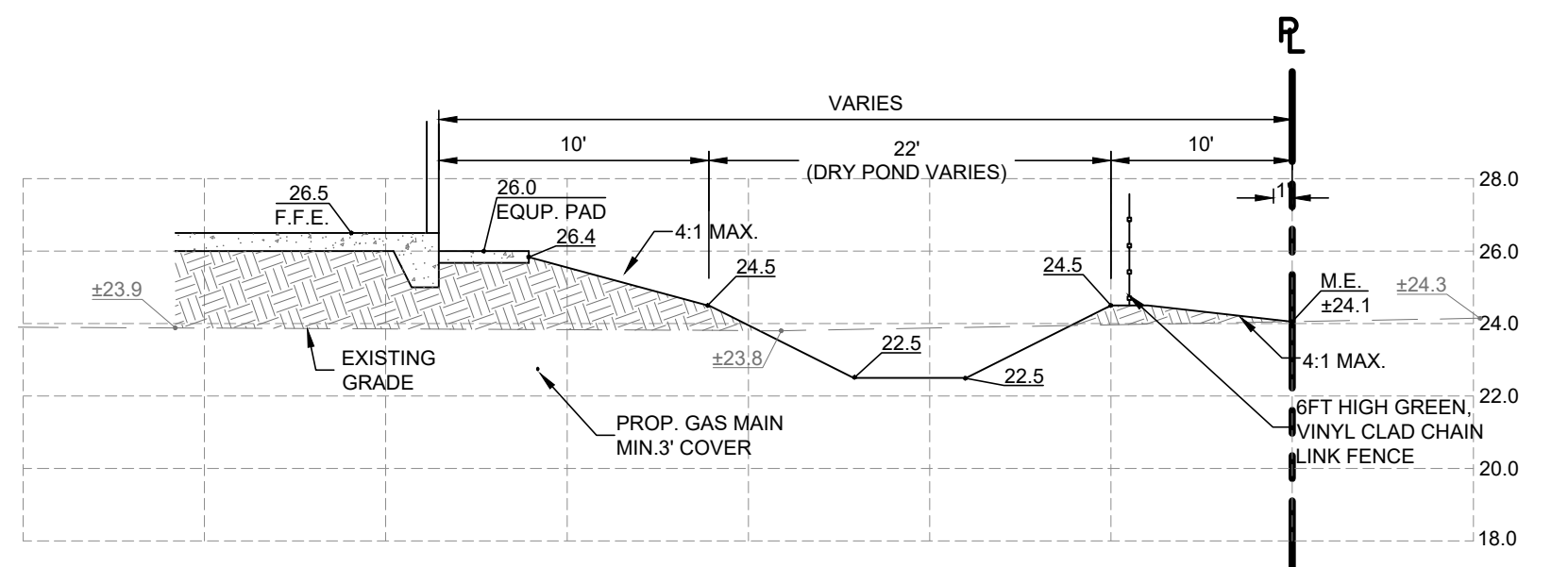
SECTION B-B

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



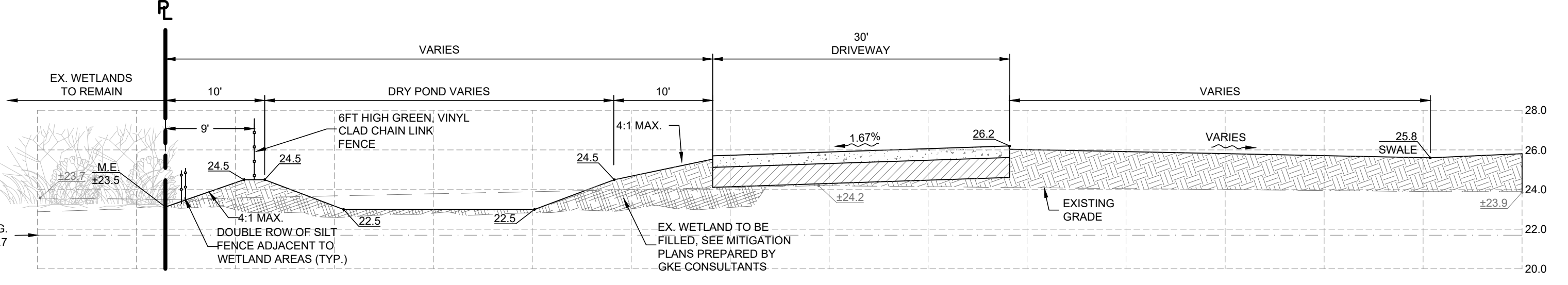
SECTION D2-D2

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



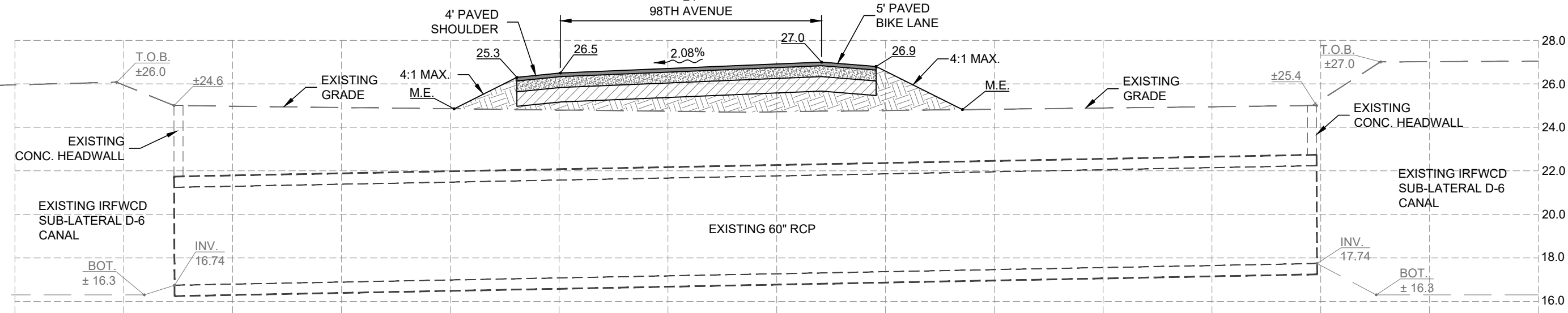
SECTION C-C

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



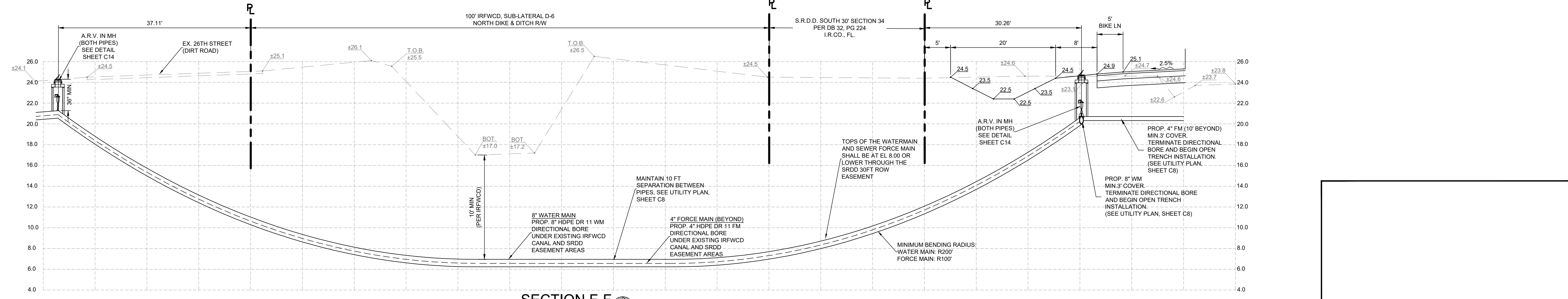
SECTION D1-D1

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'

| NO. | REVISIONS | DATE |
|-----|---------------------------|------------|
| 1 | REV PER SRWD ENV COMMENTS | 06-14-2023 |
| 2 | REV PER SRWD ENV COMMENTS | 07-07-2023 |
| 3 | REV PER SRWD ENV COMMENTS | 07-07-2023 |
| 4 | REV PER SRWD ENV COMMENTS | 07-07-2023 |
| 5 | REV PER SRWD ENV COMMENTS | 07-19-2023 |
| 6 | REV PER SRWD ENV COMMENTS | 06-20-2023 |
| 7 | REV PER SRWD ENV COMMENTS | 06-20-2023 |
| 8 | REV PER SRWD ENV COMMENTS | 06-20-2023 |

| JOB NO. | TH | SS | DATE | CHECKED | DATE ISSUED |
|---------|----|----|-----------|---------|-------------|
| 21-0492 | | | JUNE 2022 | AS | 05/12/2023 |

MBV ENGINEERING, INC.
MOA, BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1405 S. 30TH STREET
MIAMI, FL 33133
TEL: (772) 664-8310
FAX: (772) 784-8317
MELBOURNE, FL - PH: (321) 251-1510
FT. WALTER, FL - PH: (772) 468-8805

CROSS SECTIONS

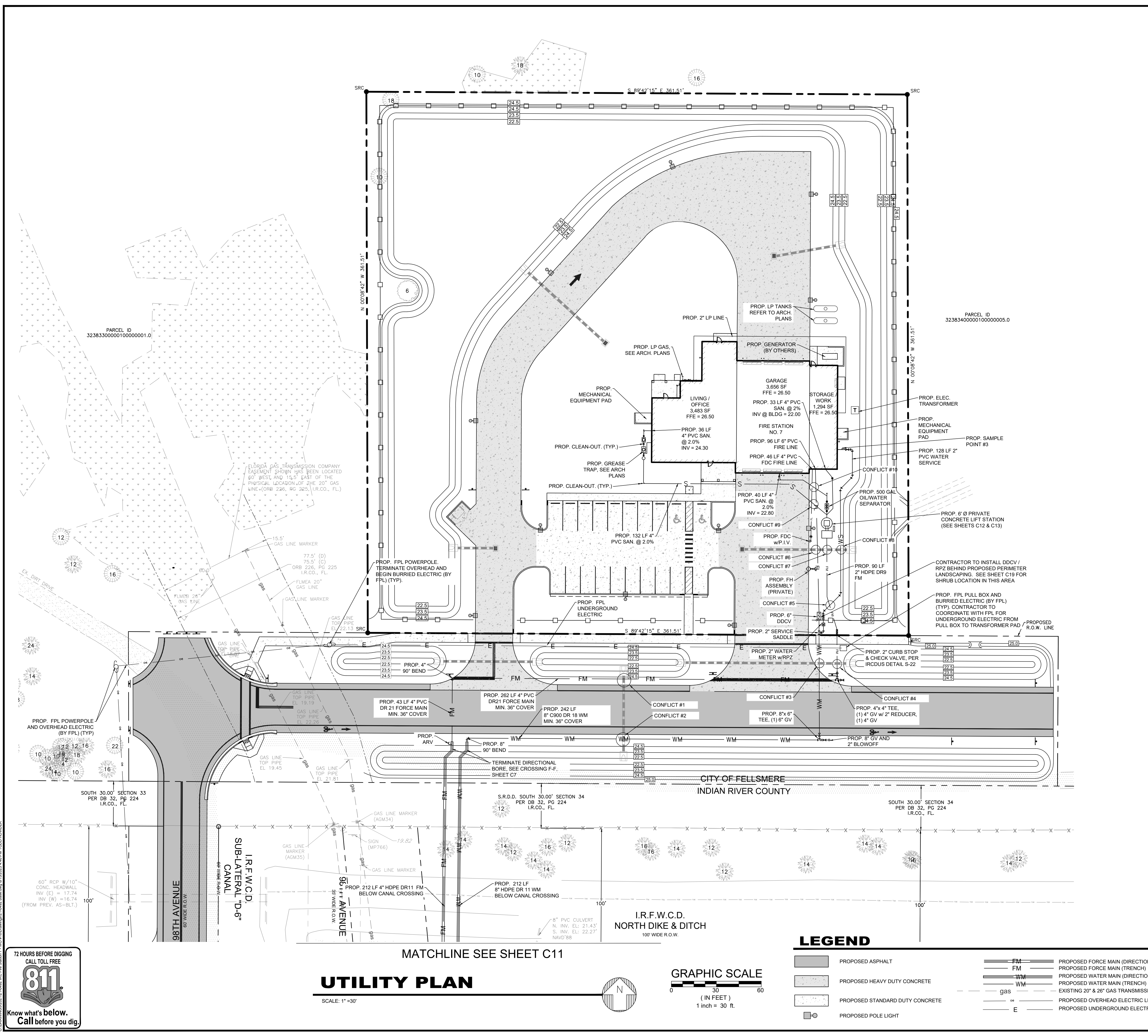
**IRC FIRE RESCUE FIRE STATION #7
CITY OF FELLSMERE
FINAL DEVELOPMENT PLAN**

AARON G. STANTON
LICENSE
No. 72460
STATE OF
FLORIDA
PROFESSIONAL ENG'G
AARON G. STANTON
FL P.E. #72460 8/16/23

C7

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

C:\DRAWINGS\2023\12\14882_IRC Fire Station #7 - V03.dwg (12/14/2023 4:46 PM) TUDOR HUNTER



- FDEP SEPARATION CRITERIA:**
- 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.**
 - 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.
 - 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 VACUUM-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.
 - 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.
 - VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.**
 - NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY OR VACUUM-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.
 - 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.
 - 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.
 - SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES**
 - NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A SANITARY SEWER MANHOLE.
 - 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.
 - 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.

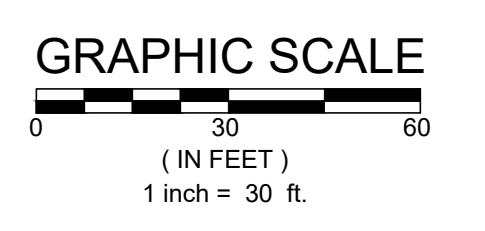
SEE SHEETS C14 - C16 FOR UTILITY DETAILS

UTILITIES INFRASTRUCTURE NOTE
 ALL UTILITY INFRASTRUCTURE (WATER, SEWER, ELECTRIC, TELECOMMUNICATIONS) WILL BE CONSTRUCTED AS PART OF THE PROJECT AND ROUTED TO THE SITE FROM THE 97TH AND 98TH AVENUE CORRIDORS LOCATED TO THE SOUTH. UTILITIES WILL BE LOCATED UNDERGROUND WITH THE EXCEPTION OF A PORTION OF THE ONE AND TELECOMMUNICATIONS AS NOTED ACCORDINGLY ON THE PLANS.

| CONFLICT TABLE | | | | | |
|-----------------|--------------|--------------|-------------------|------------|-----------------|
| CONFLICT NUMBER | GROUND ELEV. | UPPER PIPE | UPPER PIPE BOTTOM | LOWER PIPE | SEPARATION (FT) |
| 1 | 24.80 | 14"x23" ERCP | 22.50 | 4" HDPE FM | 1.00 |
| 2 | 24.80 | 14"x23" ERCP | 22.50 | 8" WM | 1.00 |
| 3 | 25.30 | 14"x23" ERCP | 22.27 | 8" WM | 1.00 |
| 4 | 25.20 | 14"x23" ERCP | 22.27 | 4" HDPE FM | 1.00 |
| 5 | 25.45 | 8" WM | 21.78 | 4" HDPE FM | 1.00 |
| 6 | 25.60 | 14"x23" ERCP | 22.85 | FIRE LINE | 1.00 |
| 7 | 25.35 | 14"x23" ERCP | 22.93 | 2" HDPE FM | 1.00 |
| 8 | 25.06 | 14"x23" ERCP | 22.91 | 6" PVC WS | 1.00 |
| 9 | 26.35 | FL | 22.48 | 4" SS | 1.00 |
| 10 | 26.35 | FL | 23.53 | 4" SS | 1.00 |

LEGEND

| | | | |
|--|---------------------------------|--|----------------------------------------|
| | PROPOSED ASPHALT | | PROPOSED FORCE MAIN (DIRECTIONAL BORE) |
| | PROPOSED HEAVY DUTY CONCRETE | | PROPOSED WATER MAIN (DIRECTIONAL BORE) |
| | PROPOSED STANDARD DUTY CONCRETE | | PROPOSED OVERHEAD ELECTRIC LINES |
| | PROPOSED POLE LIGHT | | PROPOSED UNDERGROUND ELECTRIC LINES |



UTILITY PLAN

SCALE: 1" = 30'

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

| | | | | | | | |
|-------------|---------|----|------|------------|----------|-----------|------|
| JOB NO. | 21-0492 | TH | DATE | 06-14-2023 | COMMENTS | REVISIONS | DATE |
| DESIGNED | SS | SS | DATE | 08-07-2023 | COMMENTS | | |
| DRAWN | AS | AS | DATE | 07-27-2023 | COMMENTS | | |
| CHECKED | AS | AS | DATE | 07-19-2023 | COMMENTS | | |
| DATE ISSUED | AS | AS | DATE | 06-20-2023 | COMMENTS | | |

MBV ENGINEERING, INC.
 MOIA BOWLES VILLAMIZAR & ASSOCIATES
 CONSULTING ENGINEERING CA #3728
 1800 S. 30TH STREET
 FT. WORTH, TX 76103
 TEL: (817) 644-8330
 FAX: (817) 644-8337

UTILITY PLAN

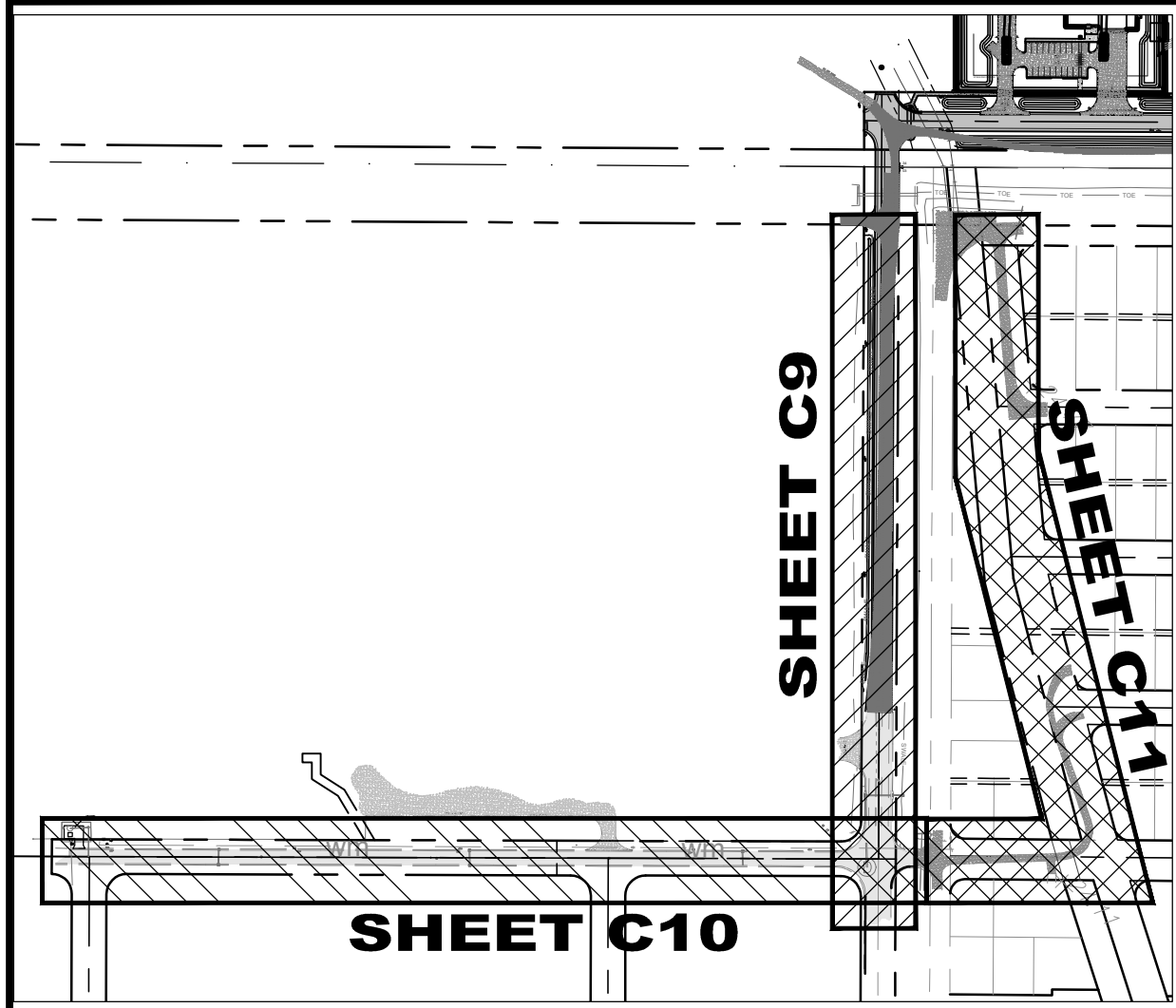
**IRC FIRE RESCUE FIRE STATION #7
 CITY OF FELLSMERE
 FINAL DEVELOPMENT PLAN**

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

AARON G. STANTON
 FL P.E. #72460 8/16/23

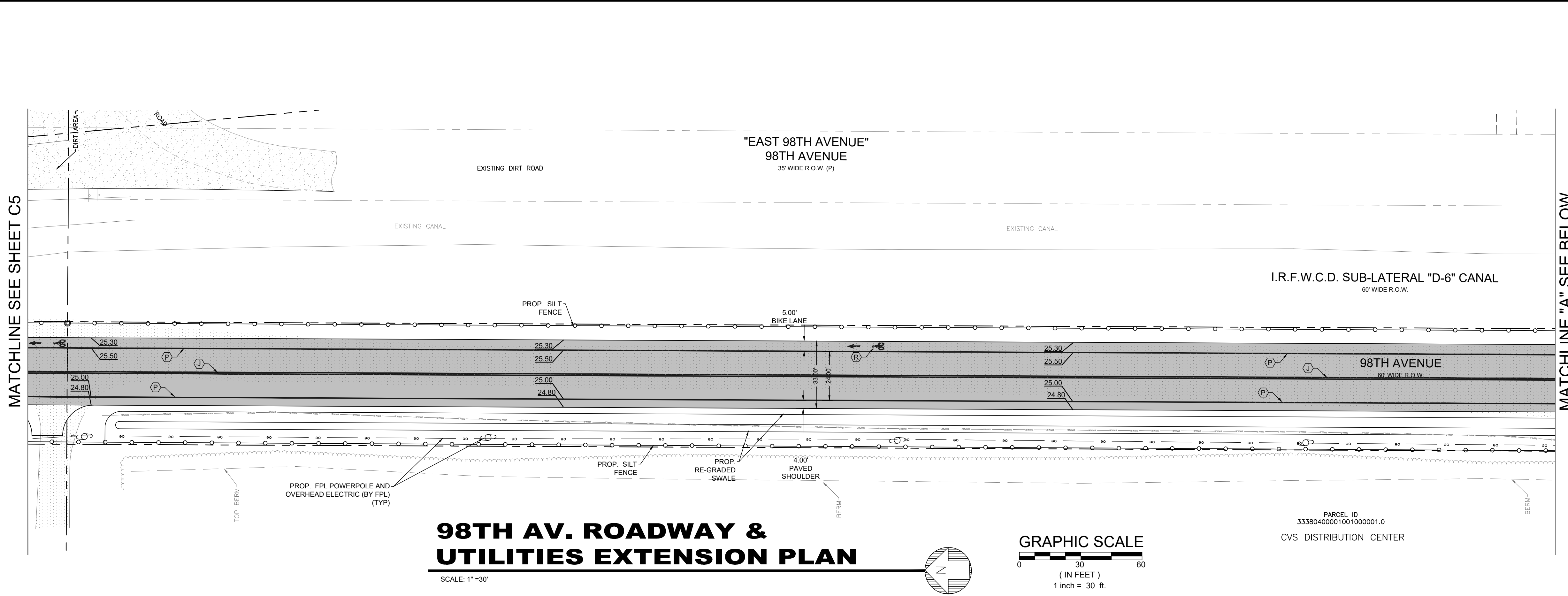
C8

21-0492



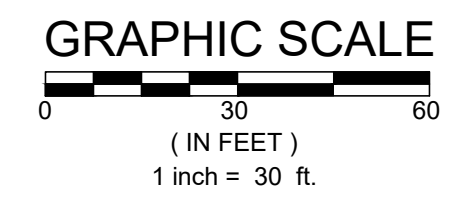
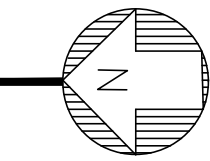
ROADWAY SHEET KEY MAP

SCALE: N.T.S.



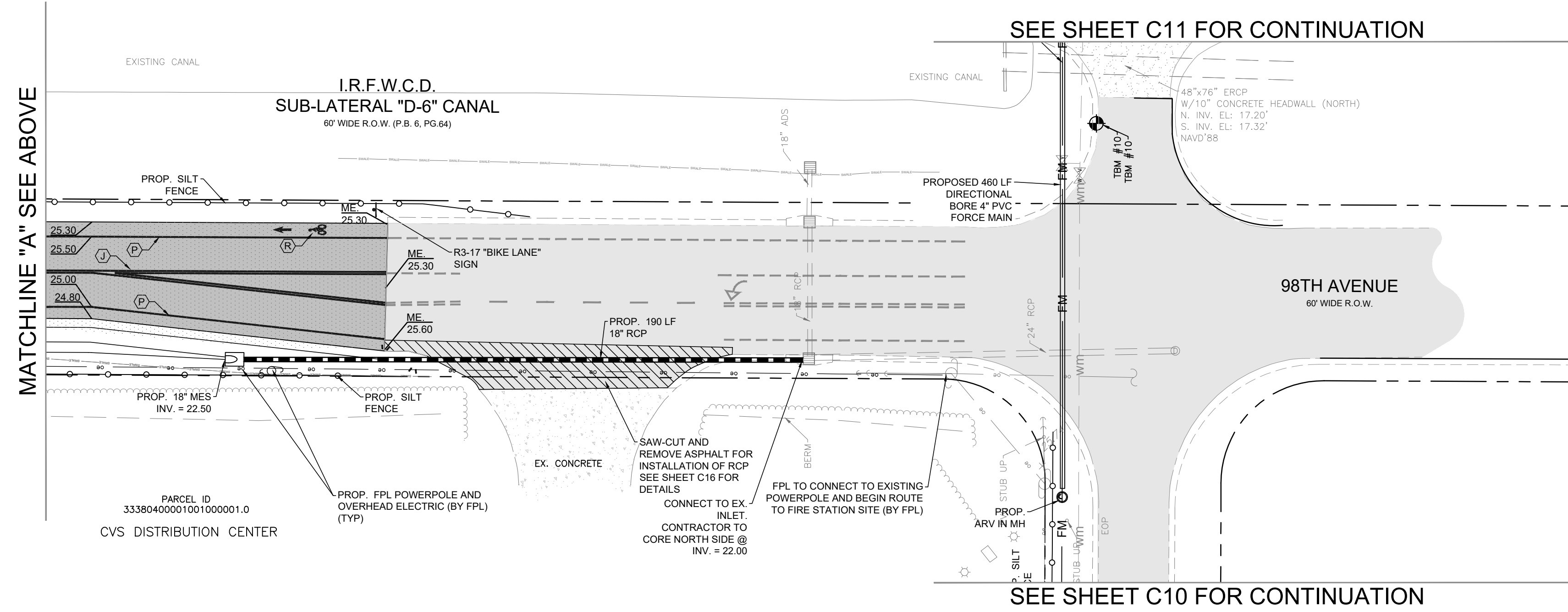
98TH AV. ROADWAY & UTILITIES EXTENSION PLAN

SCALE: 1" = 30'



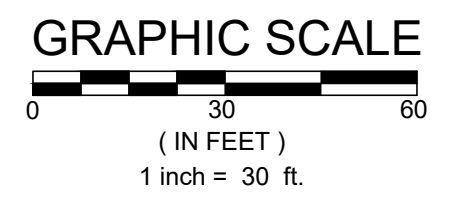
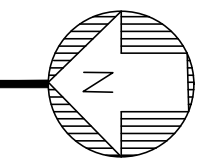
PARCEL ID
33380400001001000001.0
CVS DISTRIBUTION CENTER

MATCHLINE "A" SEE BELOW



98TH AV. ROADWAY & UTILITIES EXTENSION PLAN

SCALE: 1" = 30'

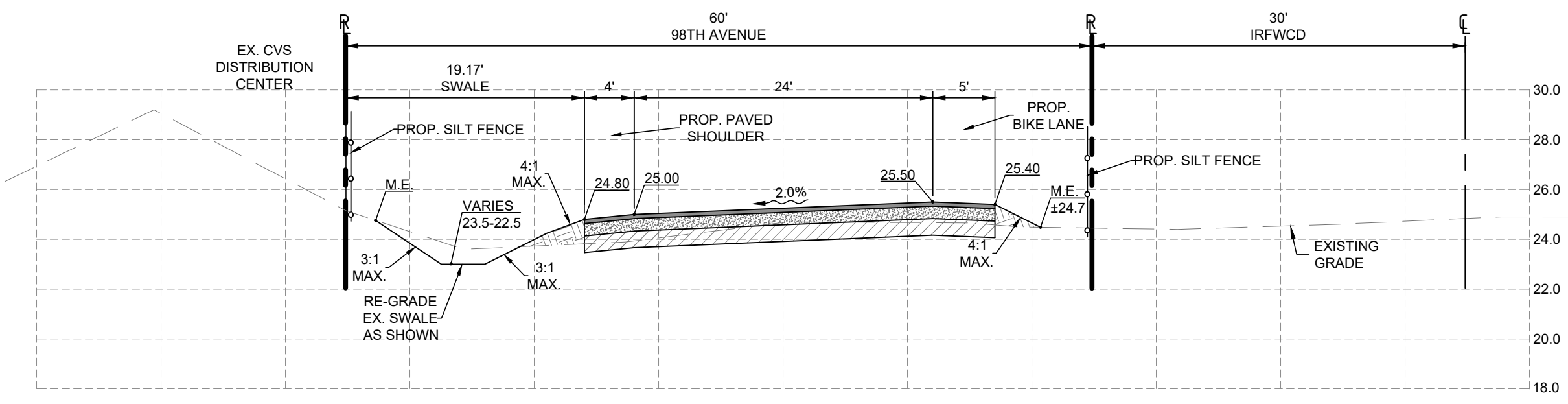


| SITE, SIGNAGE & PAVEMENT MARKING SCHEDULE | | |
|-------------------------------------------|------|--------------------------------------|
| SIGN ID NUMBER | SIZE | DESIGNATION / NOTES |
| J | 6" | DOUBLE YELLOW STRIPE - THERMOPLASTIC |
| P | 6" | SOLID WHITE - THERMOPLASTIC |
| R | | BIKE LANE MARKING PER DOT #17347 |

SEE SHEETS C14 - C16 FOR UTILITY DETAILS

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT PAVEMENT
- EXISTING CONCRETE PAVEMENT
- EXISTING CONCRETE PAVEMENT TO BE REMOVED
- PROPOSED FORCE MAIN (DIRECTIONAL BORE)
- PROPOSED FORCE MAIN (TRENCH)
- EXISTING WATER MAIN
- PROPOSED OVERHEAD ELECTRIC AND POWER POLES (BY FPL)
- PROPOSED SILT FENCE



TYPICAL ROAD SECTION

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

SEE SHEETS C17 FOR PAVEMENT SECTION

| JOB NO. | DESIGNED | TH | DATE | CHECKED | AS | DATE ISSUED | COMMENTS | REVISIONS | DATE |
|---------|----------|----|-----------|---------|----|-------------|----------|-----------|------|
| 21-0492 | | | JUNE 2022 | | | 05/12/2023 | | | |

MBV ENGINEERING, INC.
MOYA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1885 SOUTH STREET
FELLSMERE, FL 32936
TEL: (772) 844-8310
FAX: (772) 784-8317

98TH AVE ROADWAY EXTENSION PLAN

IRC FIRE RESCUE FIRE STATION #7
CITY OF FELLOSMERE
FINAL DEVELOPMENT PLAN

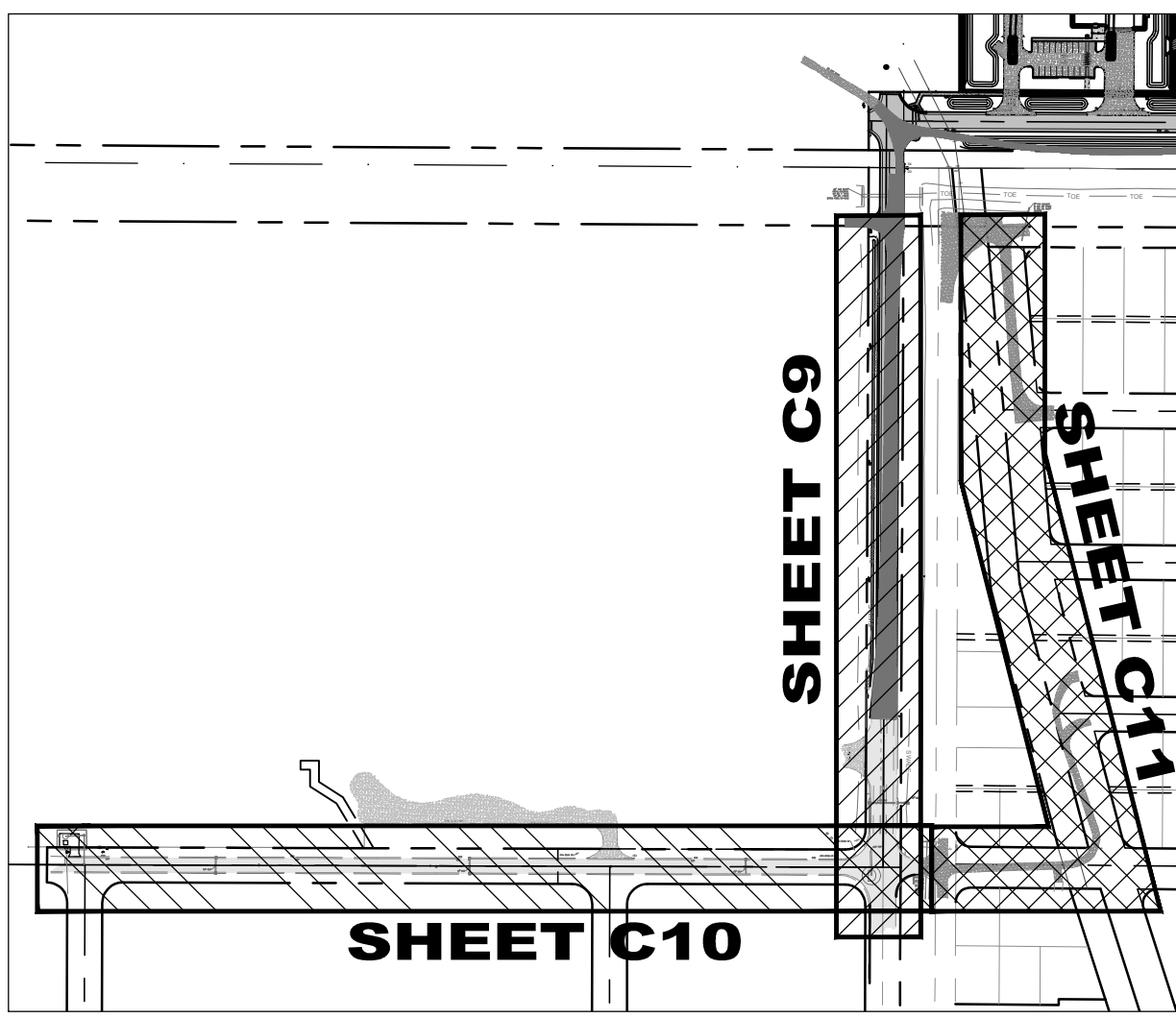
AARON G. STANTON
LICENSE No. 72460
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AARON G. STANTON
FL P.E. #72460 8/16/23
SHEET
C9

C:\DRAWINGS\2021\16852 - IRC Fire Station #7 - V03 - 16852.dwg 01/20/2023 10:17 AM T0001.HOWARD

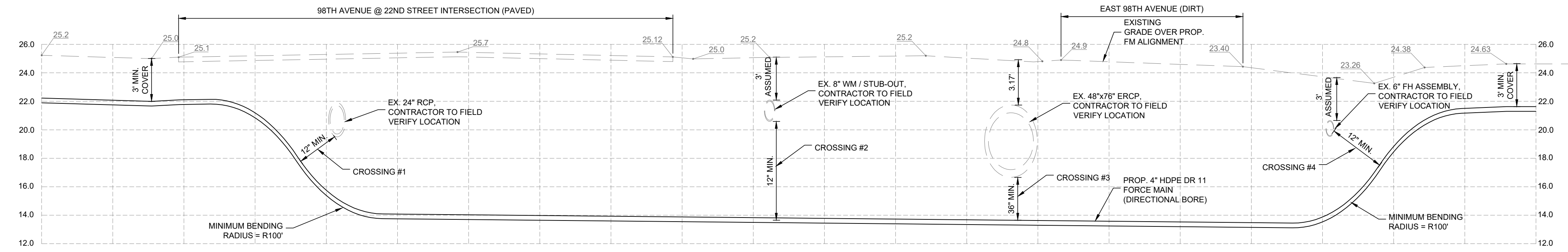
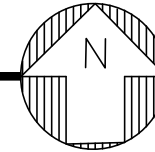
72 HOURS BEFORE DIGGING
CALL TOLL FREE
811
Know what's below.
Call before you dig.

FLORIDA CITY OF FELLOSMERE



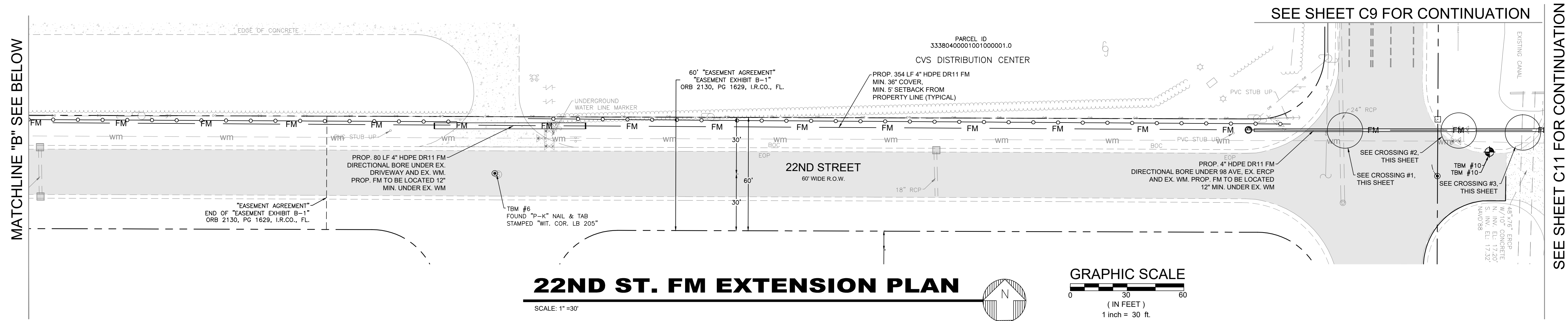
ROADWAY SHEET KEY MAP

SCALE: N.T.S.



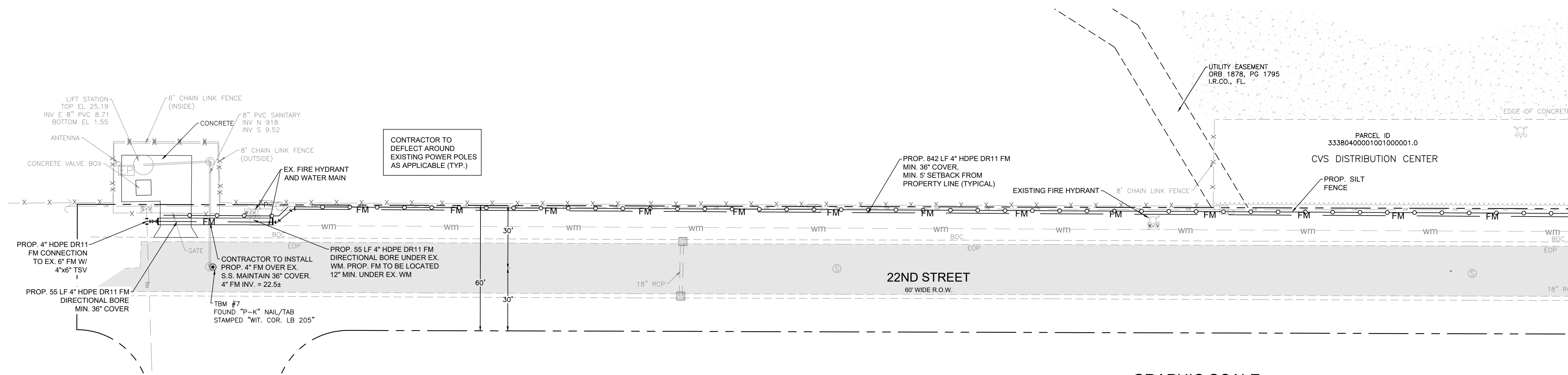
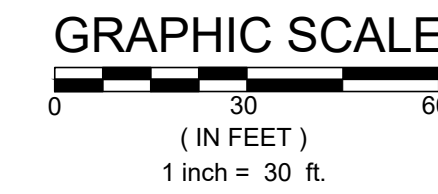
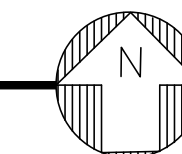
FM CROSSINGS #1, 2, 3 & 4

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



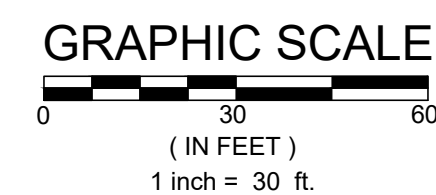
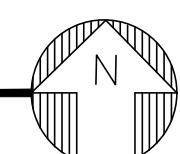
22ND ST. FM EXTENSION PLAN

SCALE: 1"=30'



22ND ST. FM EXTENSION PLAN

SCALE: 1"=30'



LEGEND

- EXISTING ASPHALT PAVEMENT
- EXISTING CONCRETE PAVEMENT
- PROPOSED FORCE MAIN (DIRECTIONAL BORE)
- PROPOSED FORCE MAIN (TRENCH)
- EXISTING WATER MAIN

SEE SHEETS C14 - C16 FOR UTILITY DETAILS



| NO. | REVISIONS | DATE |
|-----|-----------------------------|------------|
| 8 | REV. PER SRVAD ENV COMMENTS | 06-14-2023 |
| 7 | REV. PER SRVAD ENV COMMENTS | 06-14-2023 |
| 6 | REV. PER SRVAD ENV COMMENTS | 06-14-2023 |
| 5 | REV. PER SRVAD ENV COMMENTS | 06-14-2023 |
| 4 | REV. PER SRVAD ENV COMMENTS | 06-14-2023 |
| 3 | REV. PER SRVAD ENV COMMENTS | 06-14-2023 |
| 2 | REV. PER SRVAD ENV COMMENTS | 06-14-2023 |
| 1 | REV. PER SRVAD ENV COMMENTS | 06-14-2023 |

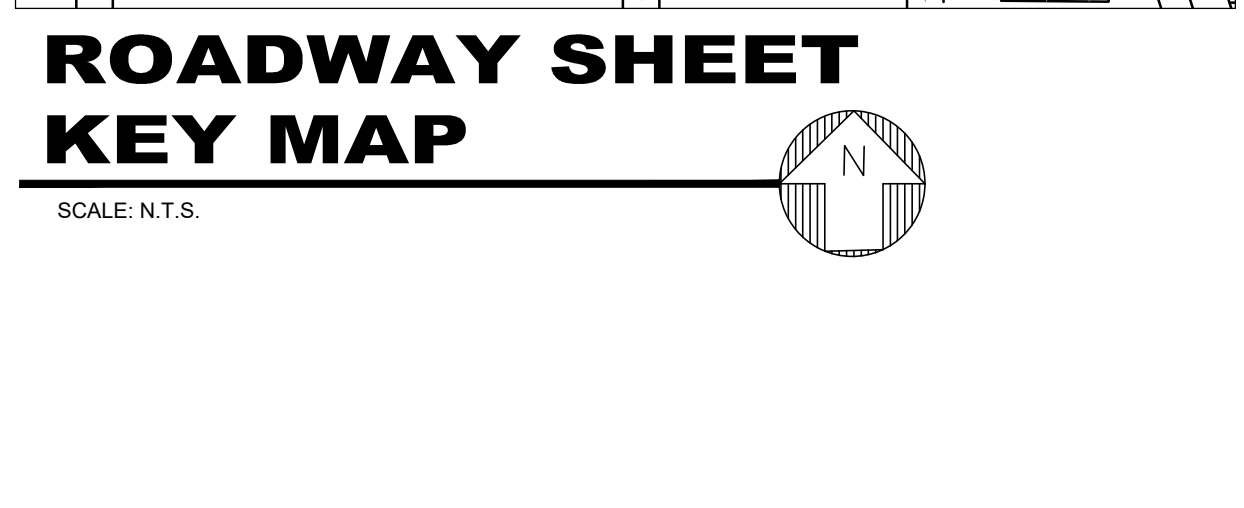
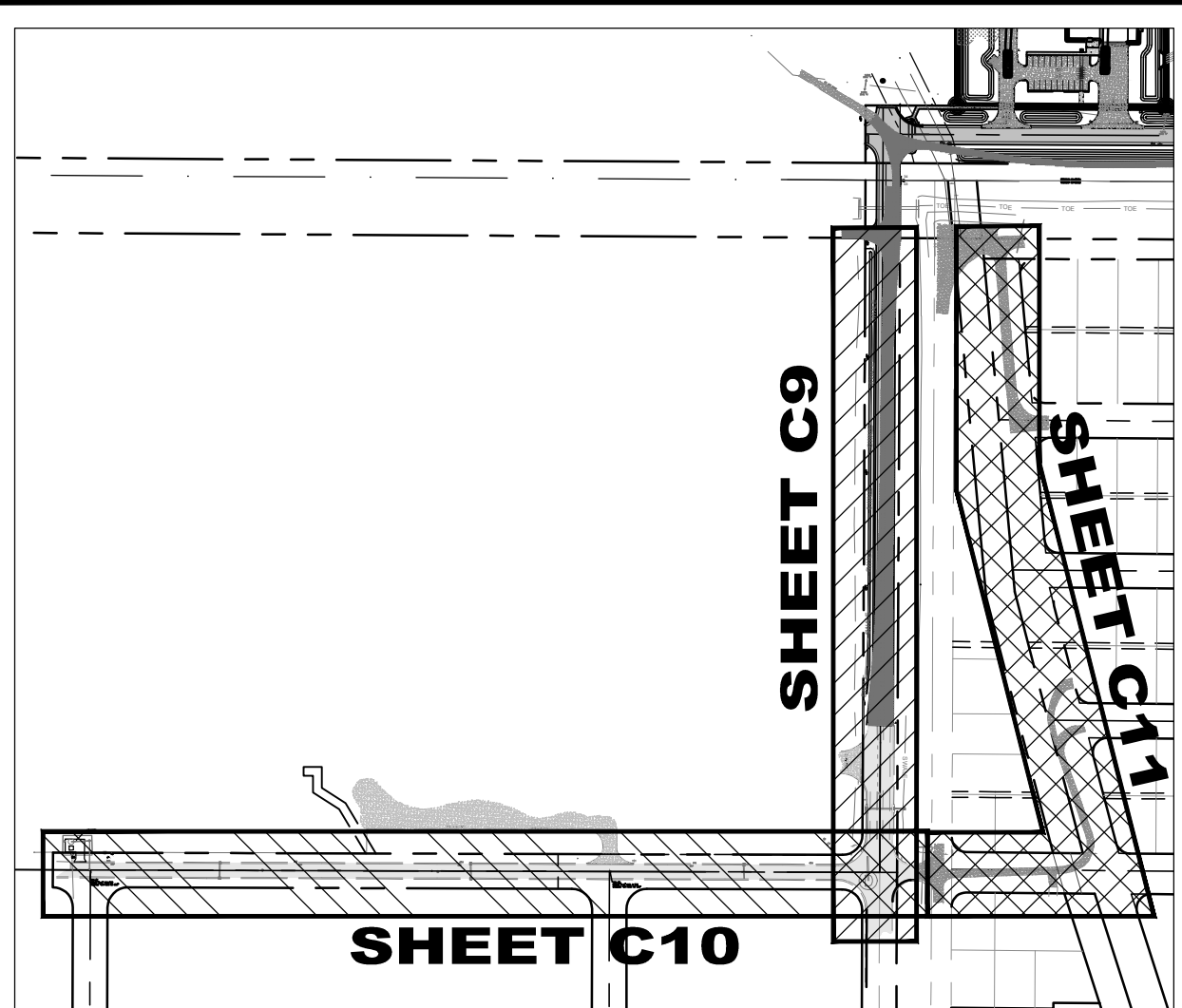
| JOB NO. | TH | SS | AS | DATE ISSUED | DATE |
|-------------|----|----|----|-------------|------|
| 21-0492 | | | | 05/12/2023 | |
| DESIGNED | | | | | |
| DRAWN | | | | | |
| DATE | | | | | |
| CHECKED | | | | | |
| DATE ISSUED | | | | | |

MBV ENGINEERING, INC.
 MOIA BOWLES VILLAMIZAR & ASSOCIATES
 CONSULTING ENGINEERING CA #3728
 1801 S. 10TH STREET
 FT. MYERS, FL. 33901
 TEL: (888) 444-4444
 FAX: (888) 444-4444

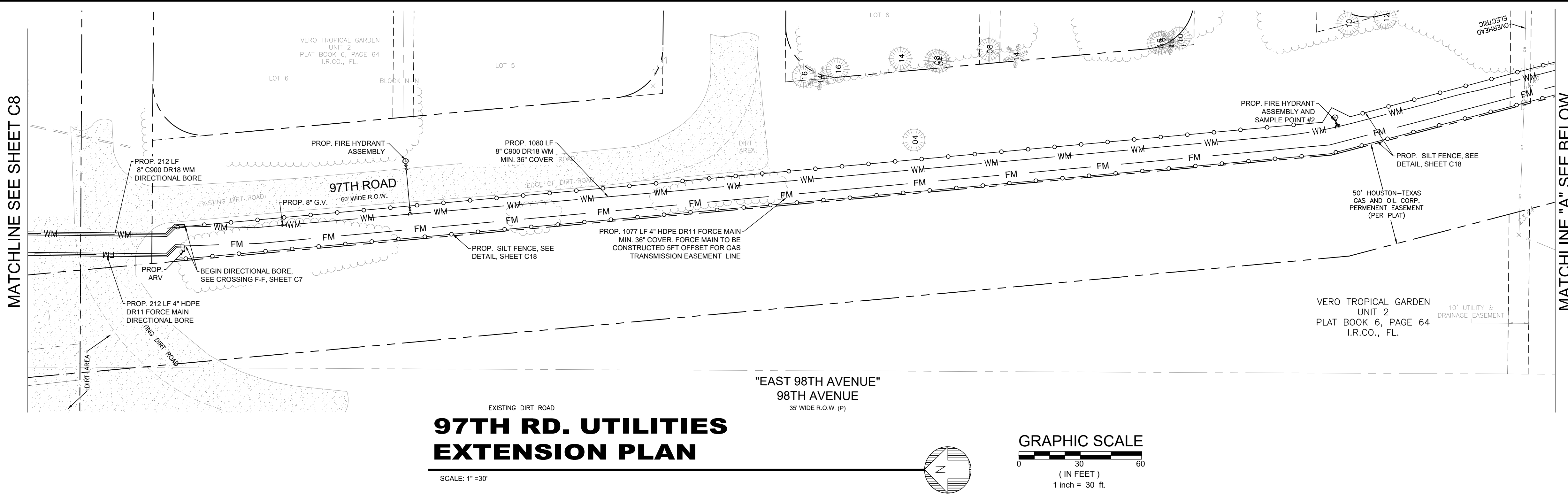
22ND STREET FORCE MAIN EXTENSION PLAN

IRC FIRE RESCUE FIRE STATION #7 CITY OF FELLSMERE FINAL DEVELOPMENT PLAN

AARON G. STANTON
 LICENSE No. 72460
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER
 AARON G. STANTON
 FL. P.E. #72460 8/16/23
 SHEET
C10
 21-0492

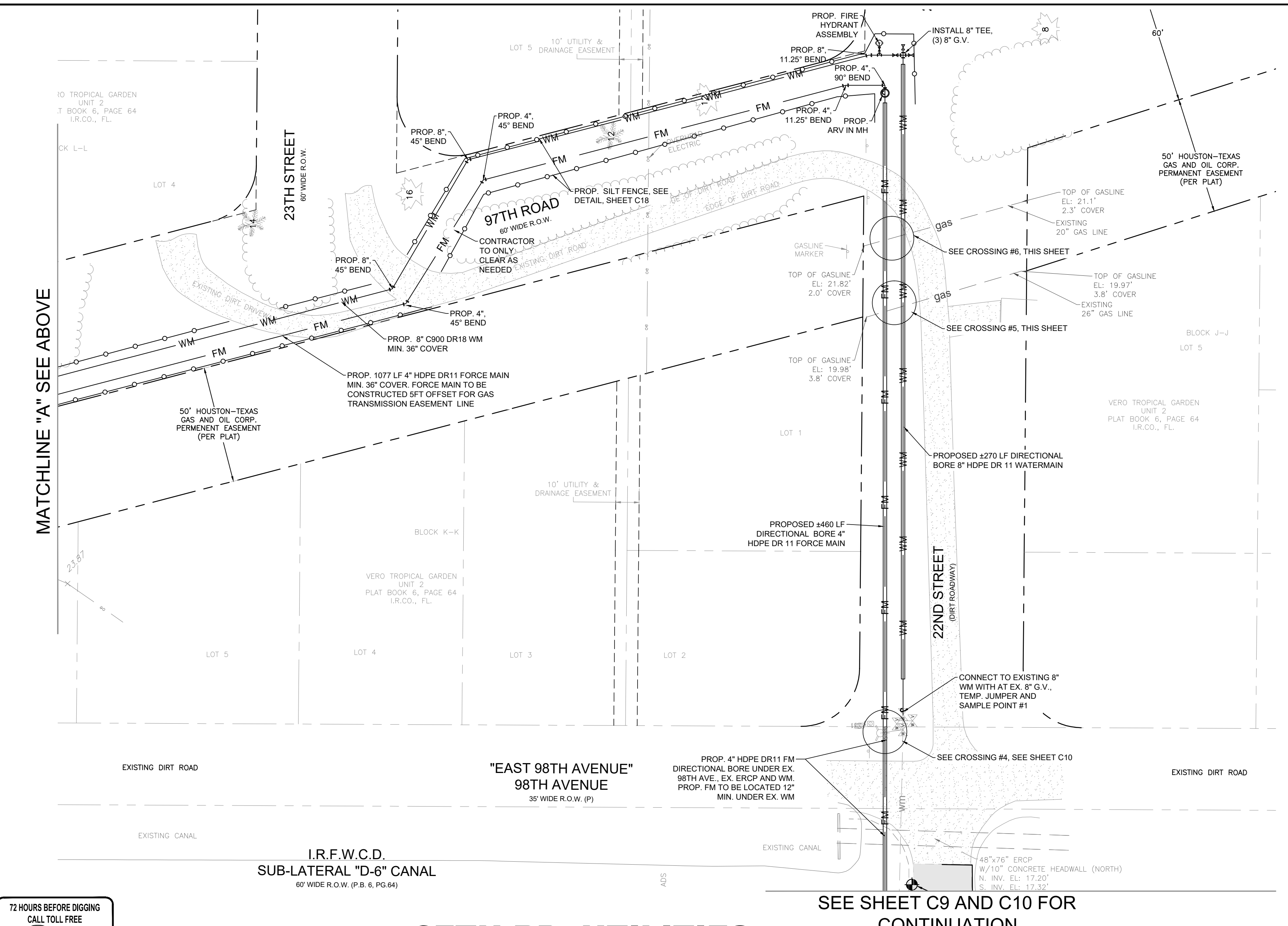
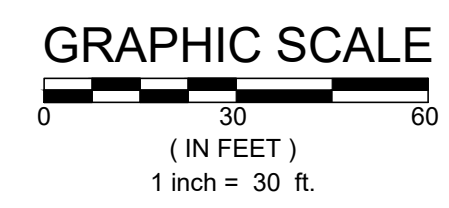


SCALE: N.T.S.



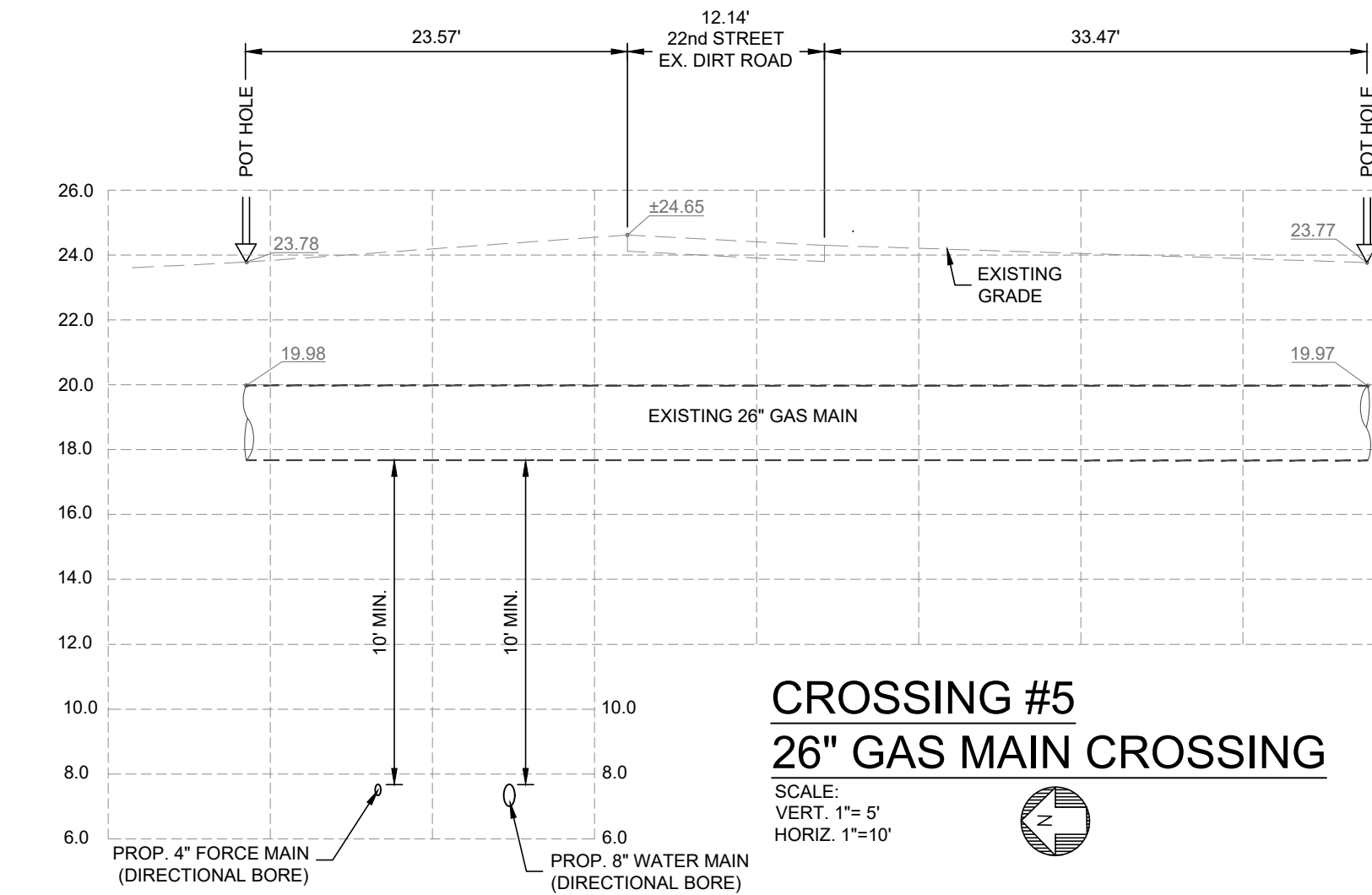
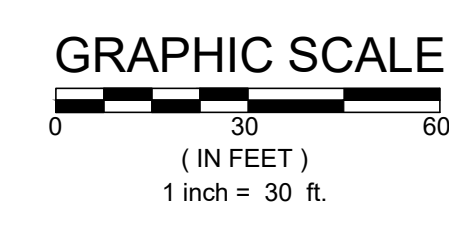
97TH RD. UTILITIES EXTENSION PLAN

SCALE: 1" = 30'



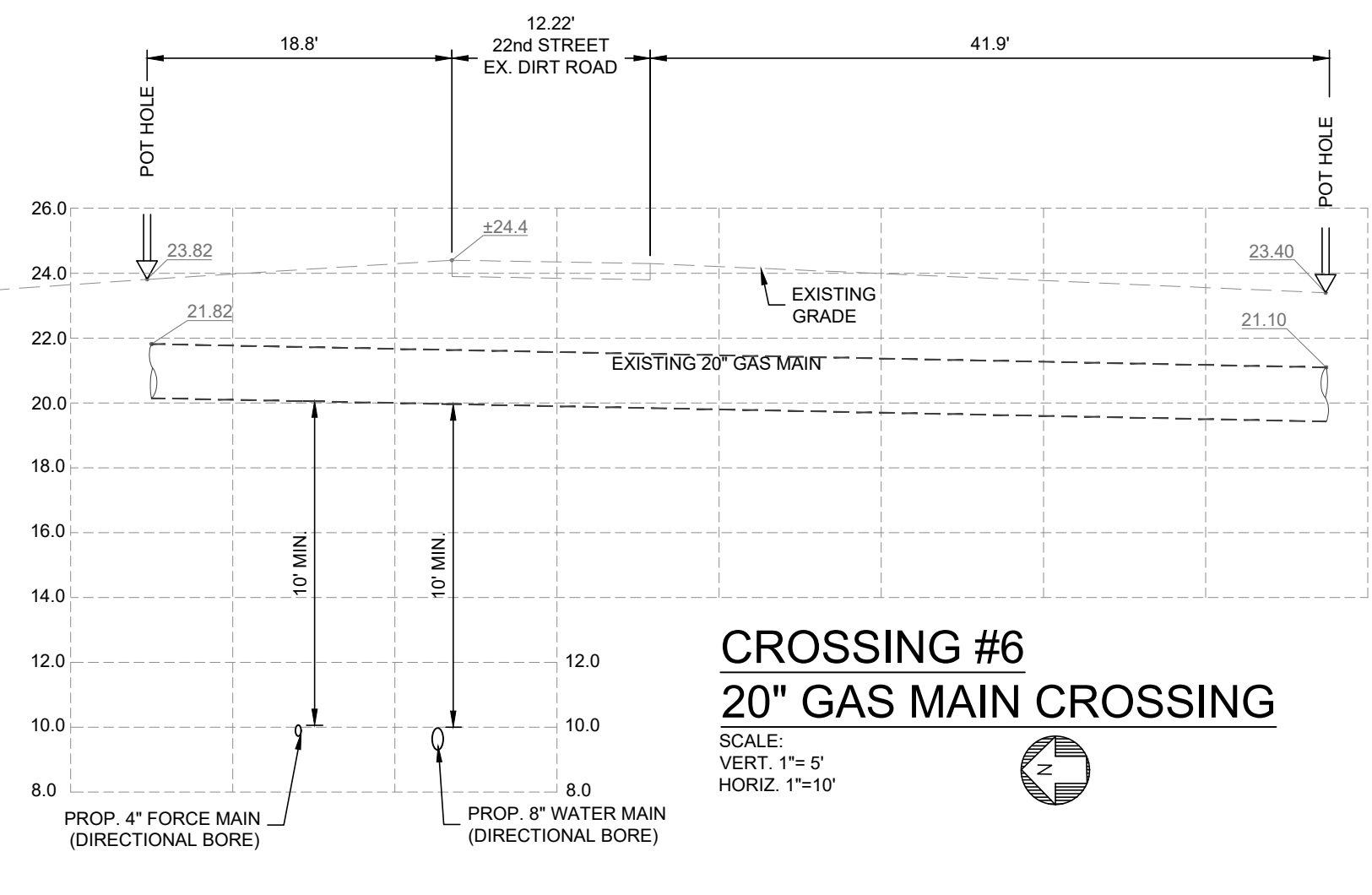
97TH RD. UTILITIES EXTENSION PLAN

SCALE: 1" = 30'



CROSSING #5 26" GAS MAIN CROSSING

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



CROSSING #6 20" GAS MAIN CROSSING

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

LEGEND

- EXISTING ASPHALT PAVEMENT
- EXISTING DIRT ROAD
- PROPOSED FORCE MAIN (DIRECTIONAL BORE)
- PROPOSED FORCE MAIN (TRENCH)
- EXISTING WATER MAIN
- PROPOSED WATER MAIN (DIRECTIONAL BORE)
- PROPOSED WATER MAIN (TRENCH)
- EXISTING 20" & 26" GAS TRANSMISSION LINES
- PROPOSED SILT FENCE

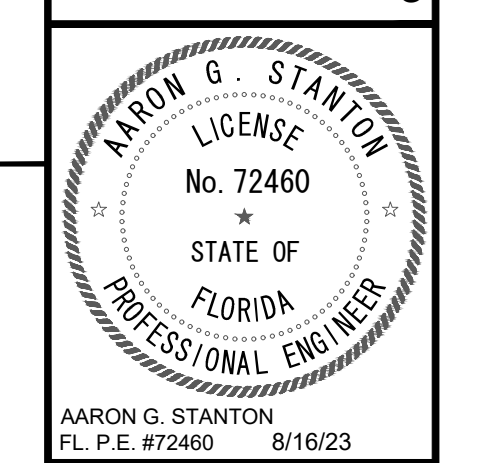
SEE SHEETS C14 - C16 FOR UTILITY DETAILS

| NO. | REVISIONS | DATE |
|-----|----------------------------|------------|
| 1 | REV. PER SURVIVOR COMMENTS | 06-14-2023 |
| 2 | REV. PER SURVIVOR COMMENTS | 06-14-2023 |
| 3 | REV. PER SURVIVOR COMMENTS | 06-14-2023 |
| 4 | REV. PER SURVIVOR COMMENTS | 06-14-2023 |
| 5 | REV. PER SURVIVOR COMMENTS | 06-14-2023 |
| 6 | REV. PER SURVIVOR COMMENTS | 06-14-2023 |
| 7 | REV. PER SURVIVOR COMMENTS | 06-14-2023 |
| 8 | REV. PER SURVIVOR COMMENTS | 06-14-2023 |

| DESIGNED | TH | SS | DATE | CHECKED | AS | DATE ISSUED |
|----------|----|----|-----------|---------|----|-------------|
| | | | JUNE 2022 | | | 05/12/2023 |

97TH RD. UTILITIES EXTENSION PLAN

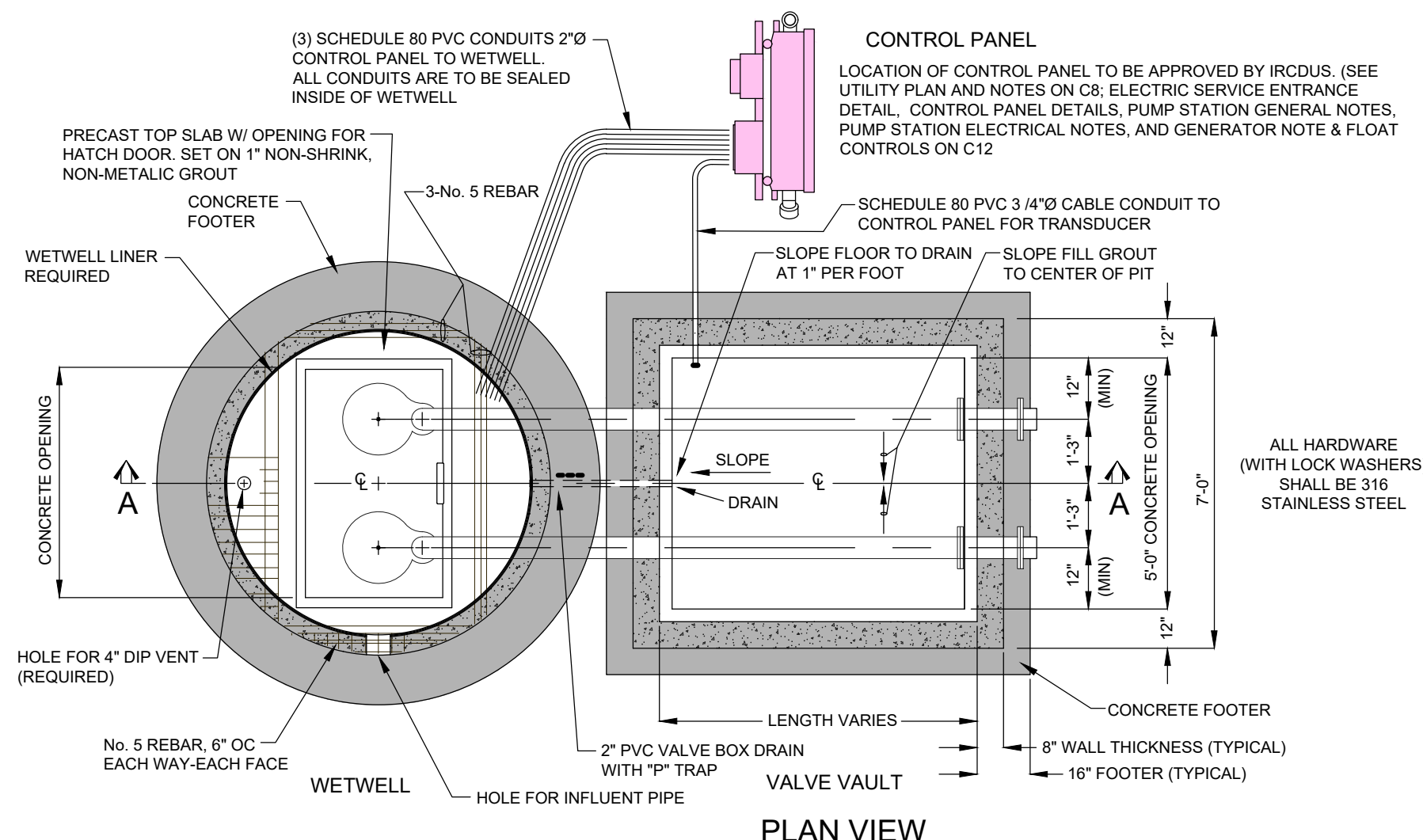
**IRC FIRE RESCUE FIRE STATION #7
CITY OF FELLSMERE
FINAL DEVELOPMENT PLAN**



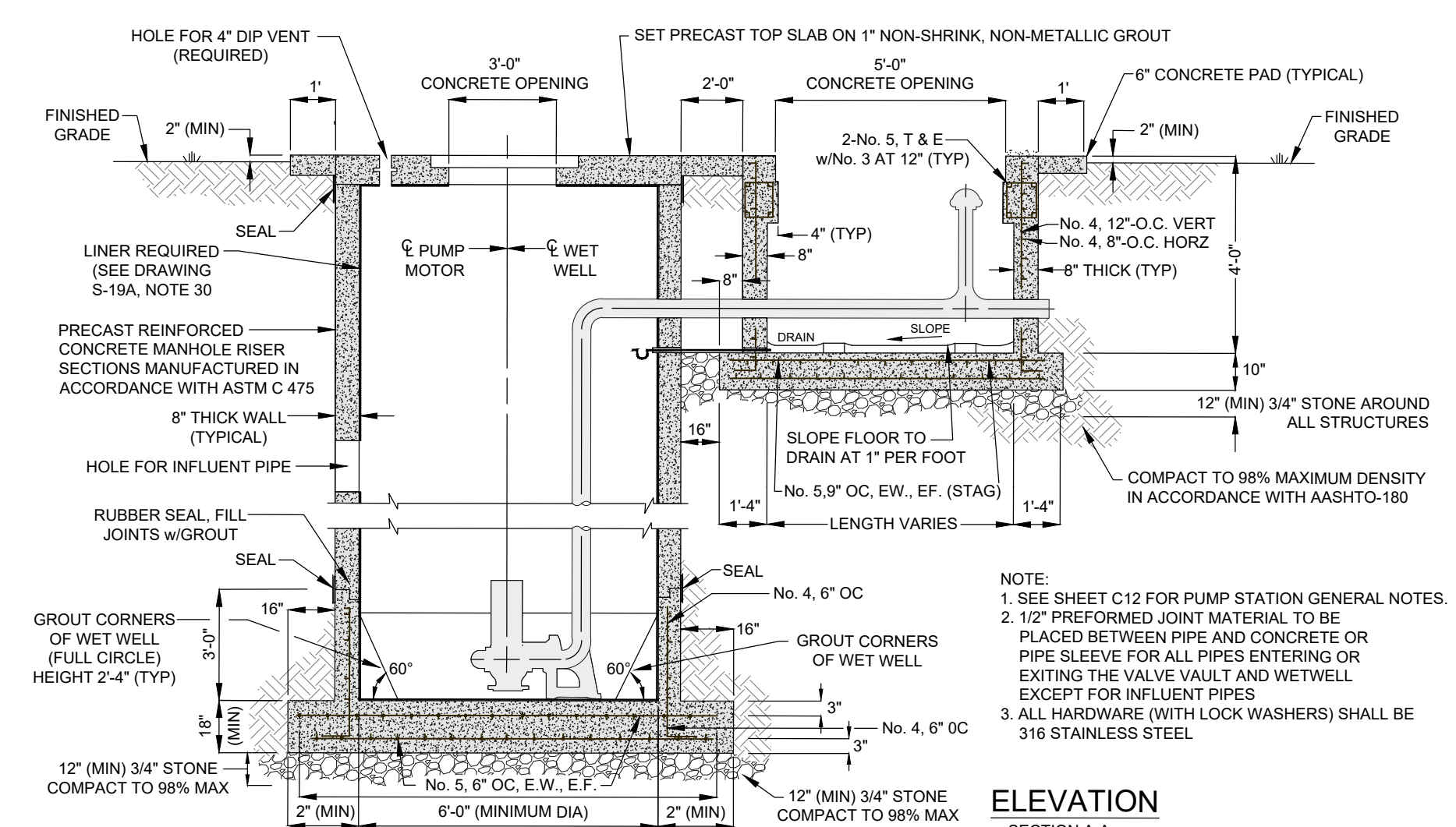
C11



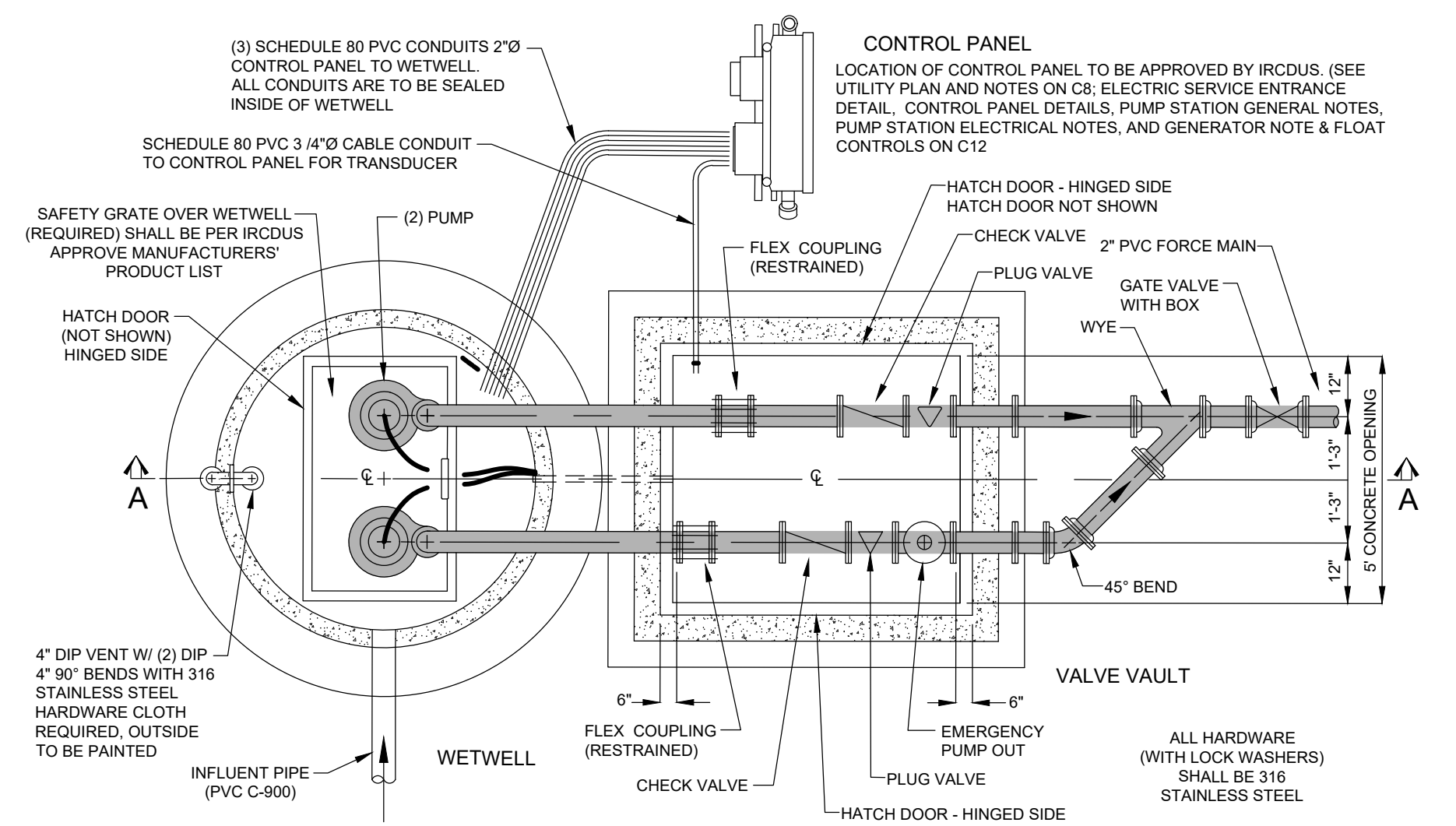
C:\DRAWINGS\2023\13\13082 - IRC Fire Station #7 - V03.dwg 05/12/2023 10:11 AM T:\D001\HOWARD



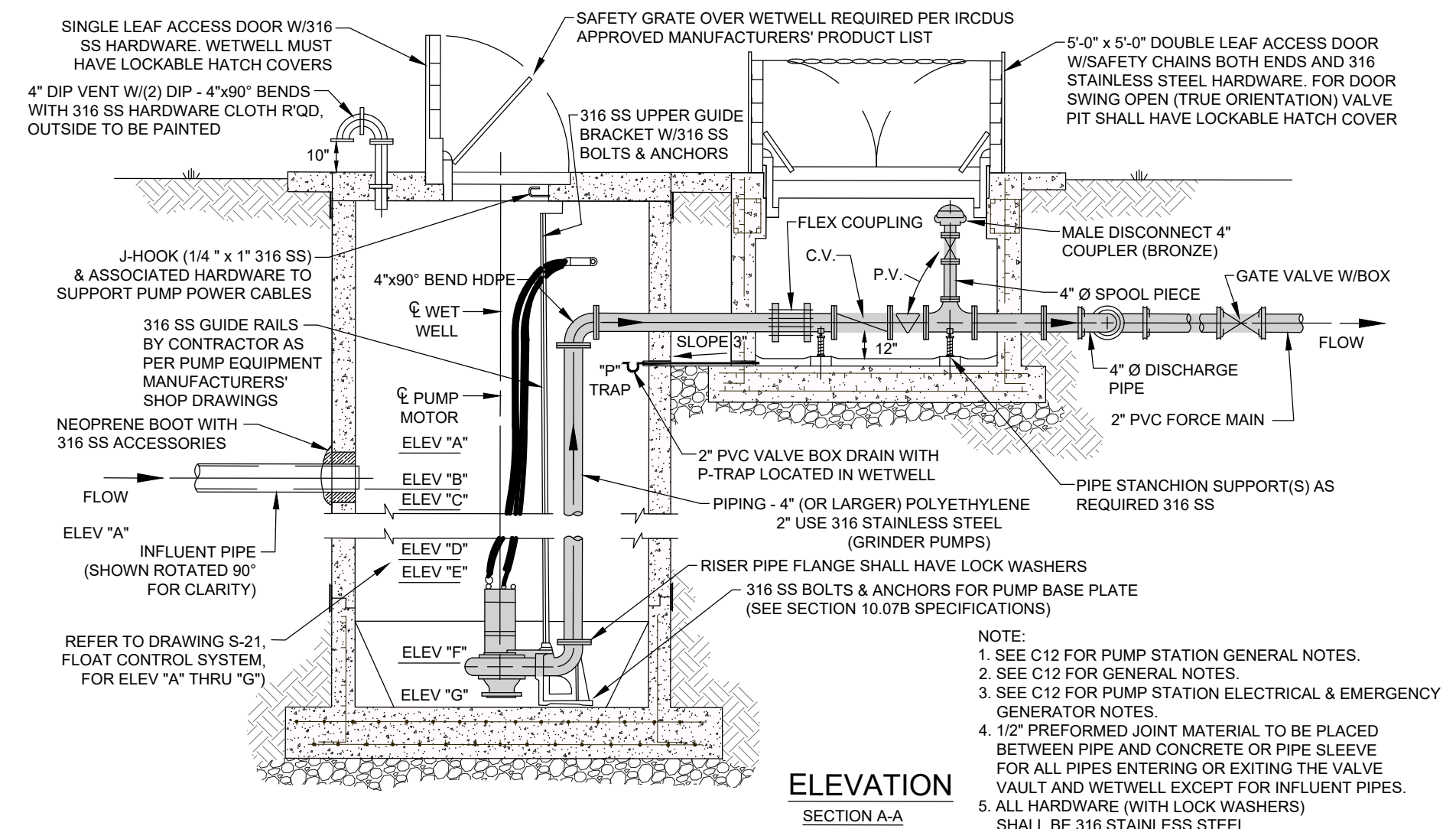
WET WELL/VALVE VAULT
CONCRETE STRUCTURE
DETAILS - PLAN VIEW
TYPICAL WASTEWATER PUMPING STATION



WET WELL/VALVE VAULT CROSS SECTION
CONCRETE STRUCTURE
DETAILS - SECTION VIEW
TYPICAL WASTEWATER PUMPING STATION



WET WELL/VALVE VAULT
PUMP, PIPING & MECHANICAL
DETAILS - PLAN VIEW
TYPICAL WASTEWATER PUMPING STATION



WET WELL/VALVE VAULT CROSS SECTION
PUMP, PIPING & MECHANICAL
DETAILS - SECTION VIEW
TYPICAL WASTEWATER PUMPING STATION

- NOTES:
1. REINFORCED CONCRETE SLAB 6" THICK (MINIMUM), SHALL HAVE A FINISHED PAD ELEVATION 4" ABOVE FINISHED GRADE ELEVATION.
 2. EXPANSION AND CONTRACTION JOINTS SHALL BE REQUIRED AT WETWELL, VALVE VAULT AND MANHOLE AS APPLICABLE.
 3. CONCRETE SLAB CONSTRUCTION TO CONFORM TO ACI 318 STANDARD.
 4. NATURAL GAS TO BE USED TO POWER GENERATOR IF AVAILABLE.
 5. CONTROL PANEL TO MEET NEC CODE 1.10.26A STANDARD. SEE C12 FOR ELECTRICAL NOTES.
 6. THREE SCHEDULE 80 PVC CABLE CONDUITS (2"Ø) REQUIRED FROM WETWELL TO CONTROL PANEL FOR POWER/INSTRUMENTATION. ONE CONDUIT (3/4"Ø) REQUIRED FROM VALVE VAULT TO CONTROL PANEL FOR TRANSDUCER. ONE CONDUIT (1"Ø) FOR TELEMETRY EQUIPMENT. ONE SCHEDULE 80 PVC CABLE CONDUIT (2"Ø) REQUIRED FOR ELECTRICAL SERVICE. TOTAL OF FIVE (5) CONDUITS.

LIFT STATION - NOTES
TYPICAL WASTEWATER PUMPING STATION

| PUMPING STATION DATA TABLE | |
|-------------------------------------------------------------|-----------------------|
| LIFT STATION NUMBER | |
| MIN. SOLIDS PASS. IMPELLER | INCHES - |
| PUMP MODEL NUMBER | NO. PWR PE452-C 60 HZ |
| PUMP IMPELLER | IN. 6.3" |
| PUMP SPEED (DESIGN) | R.P.M. 3525 |
| MOTOR NAMEPLATE H.P. | H.P. 6.7 |
| MAX. MOTOR SPEED | R.P.M. 3525 |
| INITIAL INFLUENT PEAK FLOW RATE | G.P.M. 78.3 |
| MIN. PUMP CYCLE TIME | MINS. 20.06 |
| TOP ELEV. | 25.50 |
| ALARM SIGNAL ON ELEV. (HIGH) | ELEV."A" 20.49 |
| INFLUENT PIPE INV. ELEV. | ELEV."B" 20.99 |
| LAG PUMP ON ELEV. | ELEV."C" 19.99 |
| LEAD PUMP ON ELEV. (+) | ELEV."D" 19.49 |
| PUMPS OFF ELEVATION | ELEV."E" 19.35 |
| ALARM SIGNAL ON ELEV. (LOW) | ELEV."F" - |
| BOTTOM OF WET WELL | ELEV."G" 17.59 |
| PUMP MANUFACTURER | SULZER |
| (*) PUMP WILL OPERATE BETWEEN PRIMARY AND SECONDARY POINTS. | |

REVISIONS

| NO. | DATE | DESCRIPTION |
|-----|------------|--------------------------------|
| 1 | 08-14-2023 | REV PER SURVIVOR COMMENTS |
| 2 | 08-09-2023 | REV PER DEEP WATER COMMENTS |
| 3 | 08-07-2023 | REV PER IROUD GAS CO. COMMENTS |
| 4 | 07-27-2023 | REV PER IROUD COMMENTS |
| 5 | 07-19-2023 | REV PER SURVIVOR COMMENTS |
| 6 | 06-20-2023 | REV PER COF AND RCT COMMENTS |
| 7 | 06-20-2023 | REV PER COF AND RCT COMMENTS |
| 8 | 05-12-2023 | REV PER COF AND RCT COMMENTS |

DATE ISSUED 05/12/2023

DESIGNED TH SS
DRAWN SS
DATE JUNE 2022
CHECKED AS
DATE ISSUED 05/12/2023

COMMENTS

XX-XX-XXXX

EMBV ENGINEERING, INC.
MOHA BOWLES-VILLAMIZAR & ASSOCIATES
CIVIL ENGINEERING CA #3728
1085 20TH STREET
MIRAMONTE, CA 94548
TEL: (925) 774-1111
FAX: (925) 774-1111

LIFT STATION PLAN

IRC FIRE RESCUE FIRE STATION #7
CITY OF FELLSMERE
FINAL DEVELOPMENT PLAN

FLORIDA

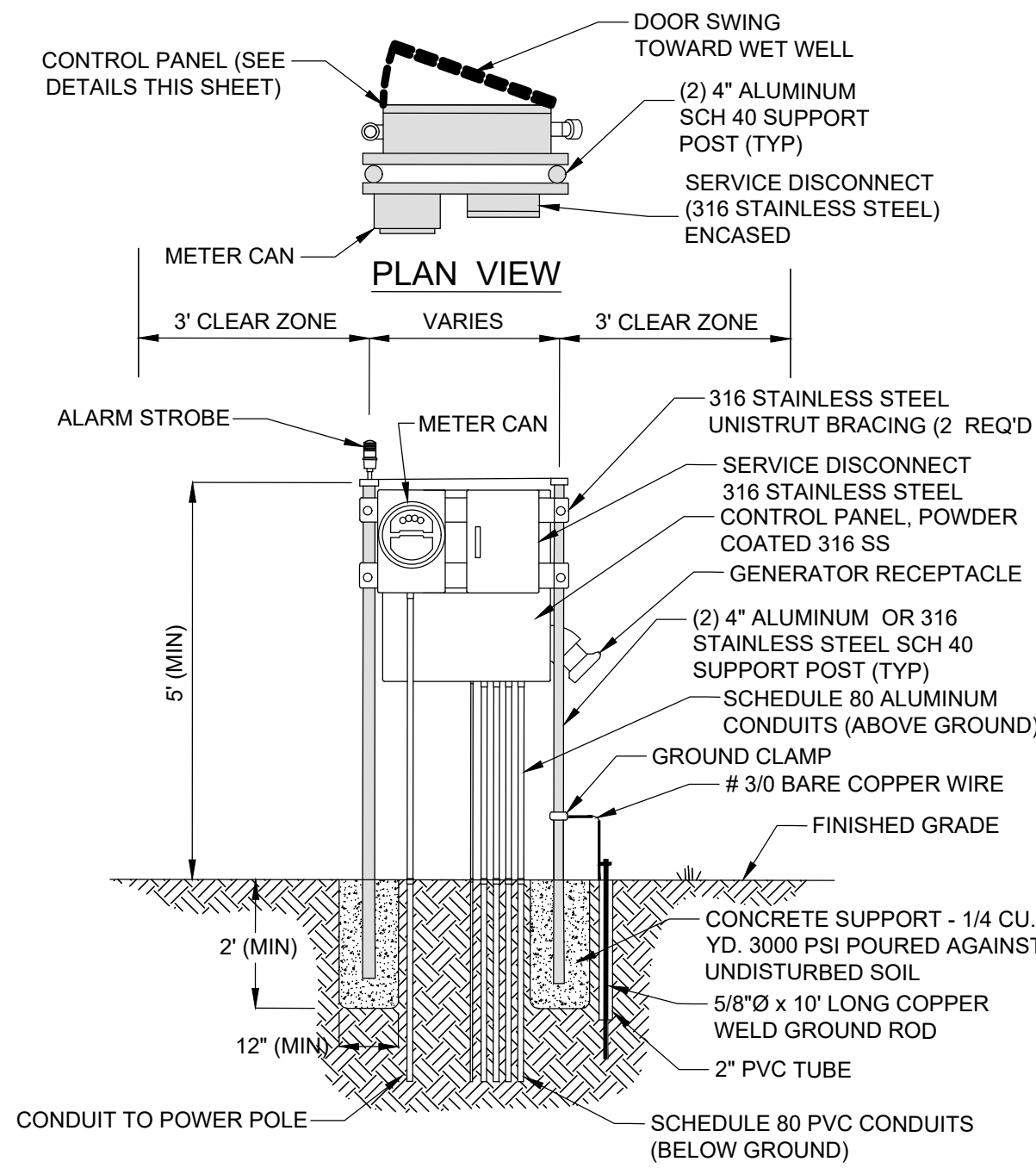
AARON G. STANTON
LICENSE
No. 72460
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

AARON G. STANTON
FL. P.E. #72460 8/16/23

SHEET
C12

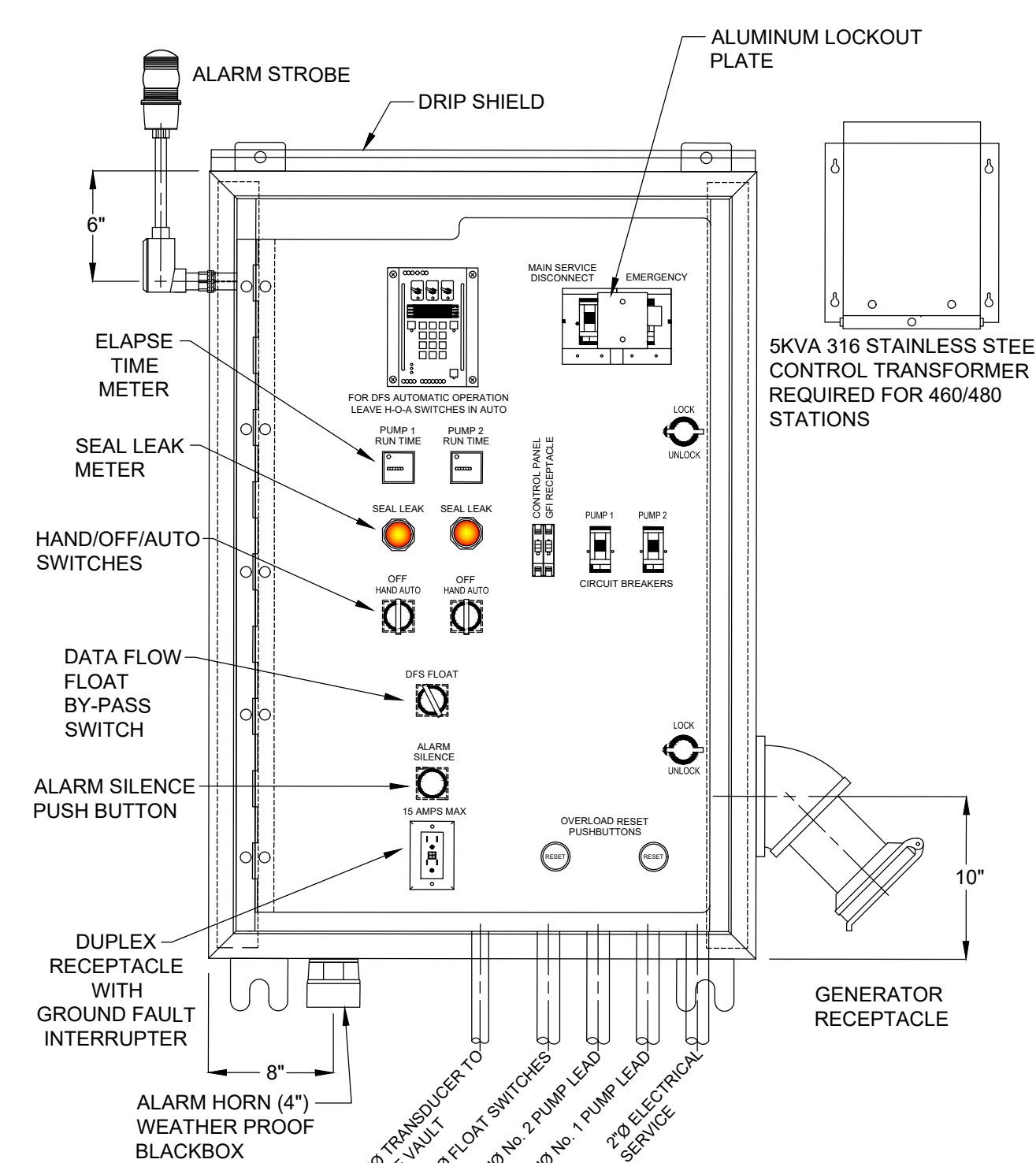
21-0492

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



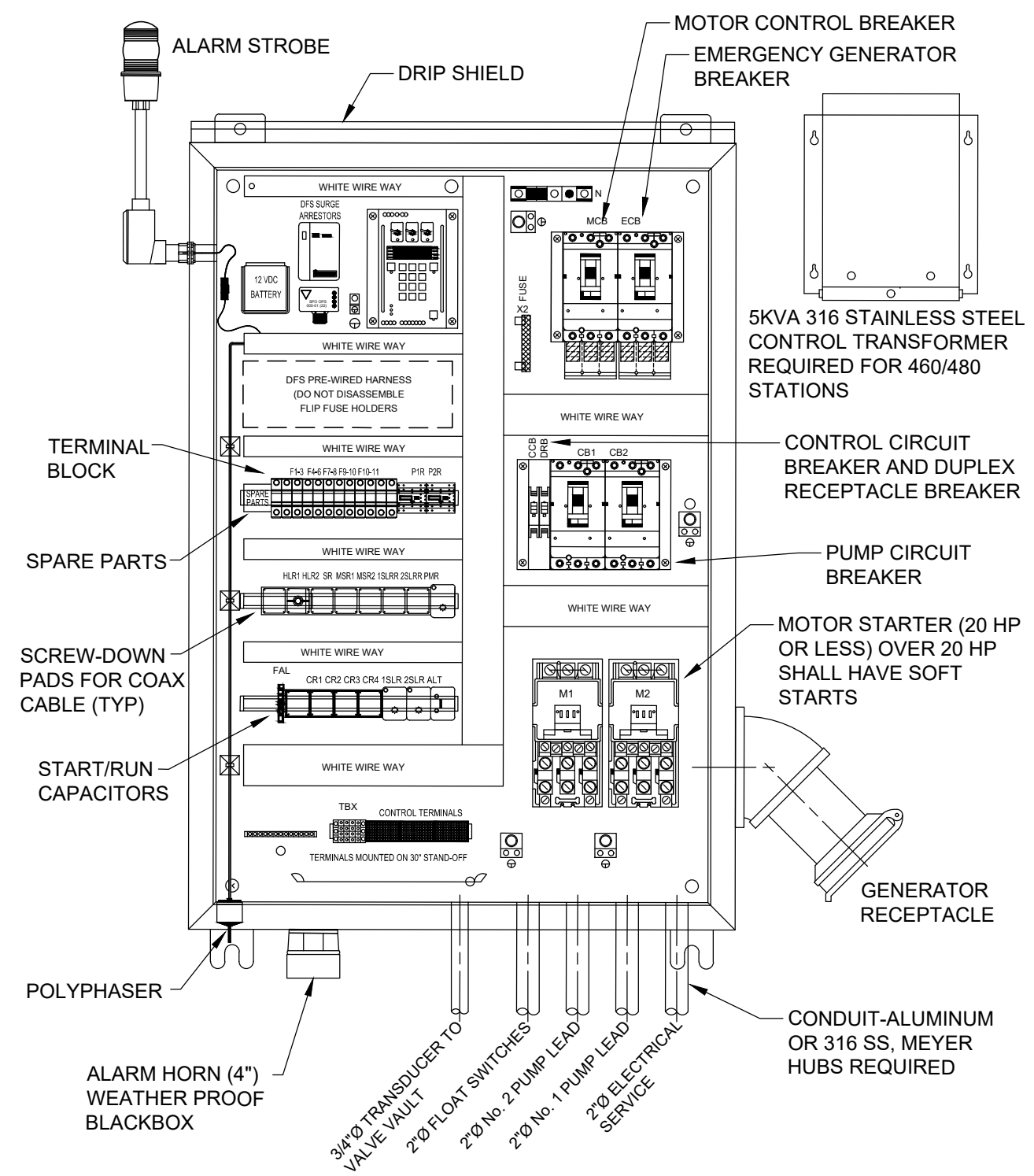
SEE TYPICAL WASTEWATER PUMP STATION ELECTRICAL NOTES THIS SHEET

ELECTRIC SERVICE ENTRANCE METER/PANEL BOX TYPICAL WASTEWATER PUMPING STATION



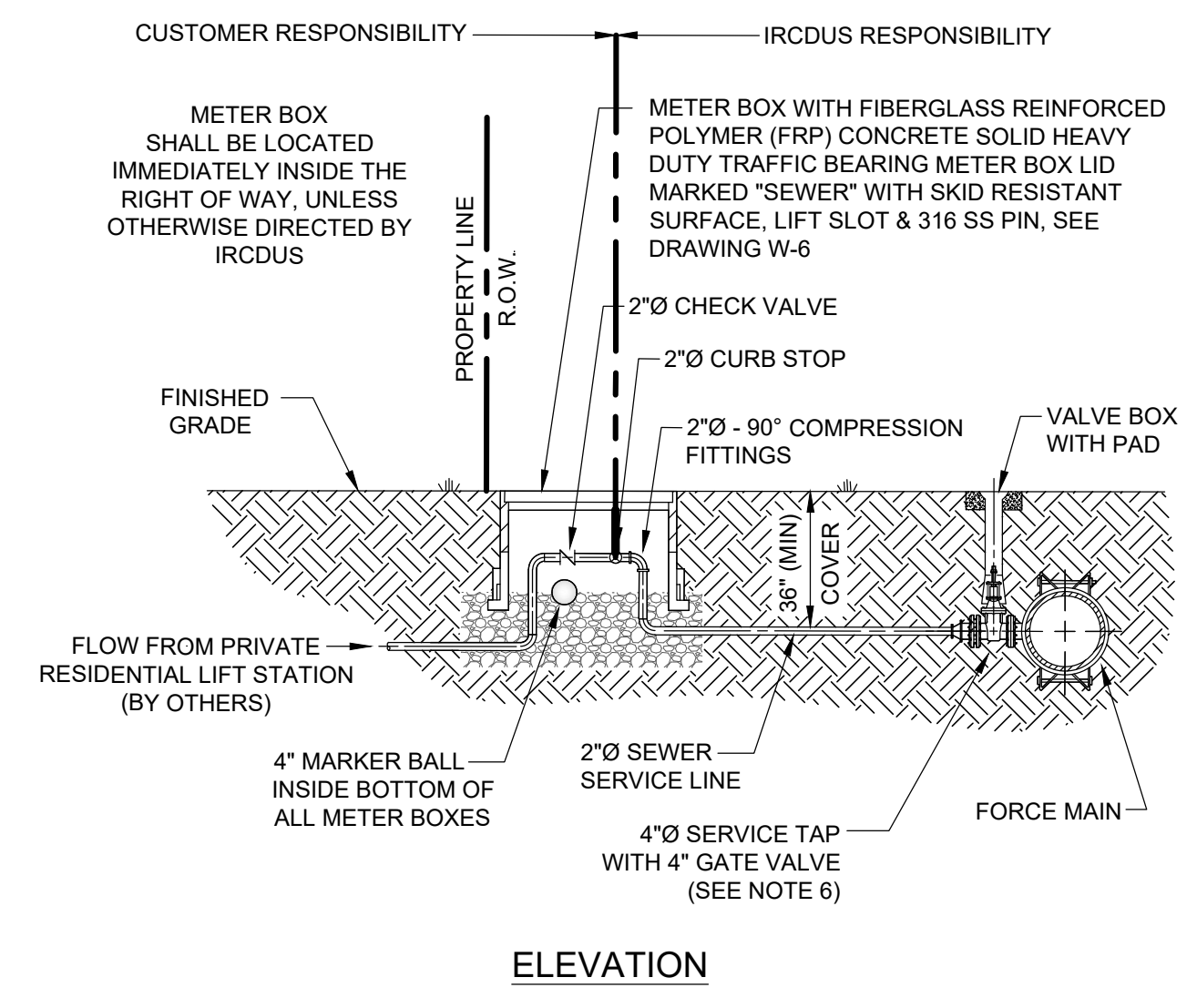
SEE TYPICAL WASTEWATER PUMP STATION ELECTRICAL NOTES THIS SHEET

DUPLUX PUMPING STATION CONTROL PANEL INNER DOOR LAYOUT TYPICAL WASTEWATER PUMPING STATION



SEE TYPICAL WASTEWATER PUMP STATION ELECTRICAL NOTES THIS SHEET

DUPLUX PUMPING STATION CONTROL PANEL BACK PANEL LAYOUT TYPICAL WASTEWATER PUMPING STATION



- NOTES:
- PRIVATE PUMPING STATIONS SHALL BE APPROVED BY IRCUDS.
 - PRIVATE PUMPING STATION, INCLUDING PUMP, ALL PIPING TO THE SEWER METER BOX, CONTROLS AND ELECTRICAL CONTROL PANEL SHALL BE CONSTRUCTED BY THE OWNER AT NO EXPENSE TO IRCUDS.
 - OWNER SHALL BE RESPONSIBLE FOR ALL COST ASSOCIATED WITH THE OPERATION AND MAINTENANCE OF A PRIVATE PUMPING STATION.
 - OWNER OF PROPOSED PRIVATE PUMPING STATION SHALL SIGN AN AGREEMENT ACKNOWLEDGING PUMPING STATION IS TO REMAIN PRIVATE.
 - ALL PRIVATE PUMPING STATION EQUIPMENT SHALL BE PER IRCUDS APPROVED MANUFACTURERS' PRODUCT LIST.
 - COMMERCIAL PRIVATE PUMPING STATIONS SHALL HAVE A 4" SERVICE TAP CONNECTION TO THE FORCE MAIN WITH A 4" GATE VALVE. RESIDENTIAL PRIVATE PUMPING STATIONS SHALL HAVE A 2" SERVICE TAP CONNECTION WITH A 2" CORP STOP.

FORCE MAIN SERVICE FOR TYPICAL PRIVATE PUMPING STATION

PUMP STATION GENERAL NOTES

- CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS AGAINST FLOATATION OF WET WELL UNTIL ALL BACKFILL IS IN PLACE.
- ALL CONCRETE SHALL BE CLASS A-A (4,000 PSI FOR PRECAST AND 3,000 PSI FOR CAST-IN-PLACE) UNLESS OTHERWISE SPECIFIED.
- REINFORCING STEEL SHALL BE GRADE 60 FABRICATED AND PLACED IN ACCORDANCE WITH ACI CODE SPLICES AND SHALL BE SIX (6) TIMES THE BAR DIAMETER NUMBER SIZE OR 18" MINIMUM UNLESS OTHERWISE NOTED (STAG. SPL., TYP).
- ALL BACKFILL AROUND THE PUMP STATION SITE SHALL BE COMPACTED @ 98% OF MAXIMUM DENSITY, PER AASHTO-T-180.
- CHAMFER EXPOSED CONCRETE EDGES 3/4" (TYP).
- WETWELL WALL SHALL CONTAIN A MINIMUM OF .022 SQ IN/LINEAR FOOT REINFORCEMENT, EACH WAY TOP TO BOTTOM.
- ALL PIPING AT THE PUMP STATION SITE SHALL BE RESTRAINED.
- ALL PUMPS AND PUMPING EQUIPMENT - SEE IRCUDS APPROVED MANUFACTURERS' PRODUCT LIST.
- STAINLESS STEEL (316) CABLE HOLDER SHALL BE LOCATED ON OPPOSITE SIDE OF WETWELL FROM THE INFLUENT PIPE.
- BUOYANCY CALCULATIONS SHALL BE REQUIRED FOR ALL PUMP STATIONS ALONG WITH THE REQUIRED PUMP STATION CALCULATIONS.
- NO UNI-FLANGE PIPE CONNECTIONS ALLOWED.
- MAINTAIN MINIMUM OF 6" BETWEEN ANY PIPING, FITTINGS ETC. AND PRECAST CONCRETE. FIBERGLASS LINERS SHALL BE INSTALLED ON ALL PUMP STATION WETWELLS AND MANHOLES RECEIVING PUMPED SEWAGE, PLUS 5 MANHOLES IN EACH DIRECTION.
- ALL NEW MANHOLES SHALL BE COATED PER IRCUDS APPROVED MANUFACTURERS' PRODUCT LIST.
- PUMP STATION CONTROL PANEL SHALL BE PROVIDED WITH APPROPRIATE LIGHTNING ARRESTOR. VERIFY ALL DRIVEN GROUNDING GRIDS PER N.E.C. 250.56 AND SCADA (LATEST STANDARDS).
- AN ACCESS DRIVE SHALL BE PROVIDED TO ALL IRCUDS MAINTAINED LIFT STATIONS. ALL ACCESS DRIVES SHALL BE A MINIMUM OF 12' WIDE, 45' LONG. IF FENCE IS INSTALLED, SWING GATE SHALL HAVE A 12' OPENING.
- ALL PROPOSED PRIVATE STATION OWNERS ARE TO SIGN AN AGREEMENT ACKNOWLEDGING STATION IS TO REMAIN PRIVATE UNLESS SUBJECT STATION IS CONSTRUCTED TO IRCUDS STANDARDS.
- PUMPS SHALL BE DESIGNED TO PROVIDE A MINIMUM PUMP RUN TIME EQUAL TO HALF THE CYCLE TIME.
- PUMPS SHALL BE DESIGNED TO PROVIDE A MAXIMUM CLEARANCE OF TEN FEET OUTSIDE OF LIFT STATION WETWELL FOR FUTURE MAINTENANCE.
- ALL RE-PUMP STATIONS SHALL HAVE BIO-CUBE ODOR CONTROL SYSTEMS AS REQUIRED BY MANUFACTURER, AND APPROVED BY IRCUDS.
- LIFT STATIONS IS TO BE LOCATED IN A DEDICATED UTILITY EASEMENT, 50' AWAY FROM HOMES, CUL-DE-SACS AND SURFACE BODY WATER.
- A SAFETY GRATE WITH STAINLESS STEEL (316) HARDWARE IS REQUIRED FOR ALL WETWELLS. CONTRACTOR TO INSTALL PERMANENT SIGNAGE WITH CONTACT INFORMATION AND PHONE NUMBER AT ALL IRCUDS AND PRIVATE LIFT STATIONS. CONTRACTOR TO PROVIDE SECURITY FOR PRIVATE LIFT STATIONS PER IRCUDS PLANS REVIEW. SECURITY TO INCLUDE, BUT NOT LIMITED TO, LOCKABLE HATCH COVER LIDS FOR THE WETWELL AND VALVE PIT.
- CONTRACTOR TO CONTACT IRCUDS INSPECTOR PRIOR TO PUMP STATION CONSTRUCTION.
- SEE TYPICAL WASTEWATER PUMPING STATION DRAWINGS, S-14 & S-14A PLAN VIEW AND DRAWINGS, S-15 & S-15A CROSS SECTION FOR GENERAL LAYOUT OF WETWELL AND VALVE VAULT. SEE DRAWING S-16, S-16A AND S-16B FOR TYPICAL PUMPING STATION SITE PLAN GENERAL LAYOUT. SEE DRAWINGS S-17, S-18, S-18A, S-19 AND S-19A FOR ELECTRICAL DETAILS.
- STRUCTURE DIMENSIONS MAY VARY UPON APPROVAL BY THE IRCUDS DUE TO BUOYANCY COMPENSATION OR OTHER REQUIREMENTS.
- GATE VALVE TO BE LOCATED AT FORCE MAIN JUNCTION.
- STAINLESS STEEL (316) LIFTING BAILS SHALL BE USED FOR PUMPS IN LIFT STATIONS. GRINDER PUMPS SHALL BE A MAXIMUM OF 5.0 HP UNLESS OTHERWISE APPROVED BY IRCUDS.
- ELECTRICAL CONTROL PANEL (NEMA 4X, POWDER COATED 316 STAINLESS STEEL) SHALL CONFORM TO PUMP MANUFACTURERS' & SCADA SYSTEM REQUIREMENTS.
- ALL WET WELLS SHALL BE LINED. SEE SPECIFICATIONS SECTION 10.
- ALL WET WELLS 15' DEEP OR GREATER THAN 10' DIAMETER MUST BE APPROVED BY IRCUDS ENGINEERING.
- OUTSIDE WALLS AND UNDERSIDE OF WETWELL TOP SLAB AND VALVE BOX SHALL BE PAINTED WITH (2) TWO COATS OF WATER BASE EPOXY.
- ALL HARDWARE TO BE 316 STAINLESS STEEL.
- PUMP STATION POWER SUPPLY FROM FLORIDA POWER & LIGHT ELECTRIC POWER POLE OR TRANSFORMER TO THE PUMP STATION ELECTRIC PANEL SHALL BE INCLUDED ON THE RECORD DRAWING.
- PAINT OUTSIDE OF WALLS, UNDERSIDE OF WETWELL TOP SLAB AND VALVE VAULT WITH TWO COATS OF WATER BASE EPOXY.

PUMPING STATION GENERAL NOTES
TYPICAL WASTEWATER PUMPING STATION

PUMP STATION ELECTRICAL NOTES

- A MINIMUM 3' CLEAR ZONE IS REQUIRED AROUND THE ELECTRICAL AREA. THE MINIMUM WORKSPACE REQUIREMENTS SHALL ADHERE TO THE NATIONAL ELECTRICAL CODE (NEC), SECTION 110.26(A).
- A 3/4" CONDUIT SHALL BE INSTALLED BETWEEN THE CONTROL PANEL AND THE VALVE VAULT FOR THE TRANSFORMER.
- THREE (3) SCHEDULE 80, 2" CONDUITS SHALL BE INSTALLED BETWEEN THE CONTROL PANEL AND THE WET WELL FOR NO. 1 PUMP LEAD, NO. 2 PUMP LEAD AND THE FLOAT SWITCHES.
- ALL BURIED CONDUIT SHALL BE SCHEDULE 80 PVC. ALL EXPOSED CONDUIT SHALL BE STAINLESS STEEL (316) OR ALUMINUM. CONDUIT TO BE SEALED.
- A MASTIC COATING IS REQUIRED WHERE PANEL POST AND ALUMINUM OR STAINLESS STEEL (316) CONDUIT IS IN DIRECT CONTACT WITH CONCRETE.
- THE CONTROL PANEL DOOR MUST OPEN TOWARD THE WET WELL.
- ELECTRIC SERVICE SHALL BE 3 PHASE.
- ALARM HORN SHALL BE SEALED TO PREVENT LEAKAGE.
- CONTROL PANEL SHALL BE APPROVED BY IRCUDS BEFORE INSTALLATION.
- REFER TO SECTION 10 FOR PUMPING STATION SPECIFICATIONS.
- BOTTOM OF CONTROL PANEL TO BE 28" TO 34" ABOVE GROUND.
- ALL HARDWARE TO BE STAINLESS STEEL (316).
- TOOLS AND SPARE PARTS ARE REQUIRED (SEE SECTION 10.05).
- CONTROL PANEL SHALL MEET THE REQUIREMENTS OF SERVICE ENTRANCE BY PROPERLY BONDING OR SHALL BE UL SERVICE ENTRANCE RATED.
- CONTROL PANEL SHALL HAVE A DATA FLOW, FLOAT BY-PASS SWITCH.
- THE MAXIMUM HORSEPOWER RATING FOR A 120/240 VOLT WASTEWATER PUMPING STATION PANEL IS 20 HP. ANY PUMP SIZE GREATER THAN 20 HP SHALL HAVE 480 VOLT SERVICE AND BE DESIGNED BY AN ELECTRICAL ENGINEER.
- THE CONTROL PANEL SHALL BE 4X NEMA, WHITE POWDER COATED STAINLESS STEEL.
- A WATER SERVICE LINE (1") WITH REDUCED PRESSURE BACKFLOW PREVENTER, WATER METER AND HOSE BIBB IS REQUIRED.
- ALL PENETRATIONS INTO ELECTRIC CONTROL PANEL REQUIRE MEYER HUBS. CORROSIVE MATERIALS WILL NOT BE ALLOWED.
- DISCONNECT BETWEEN METER AND PANEL TO BE 316 STAINLESS STEEL, NON-FUSABLE. STATIONS WITH GENERATORS SHALL BE FUSED.
- PUMP STATION CONTROL PANEL SHALL BE PROVIDED WITH APPROPRIATE LIGHTNING ARRESTOR. VERIFY ALL DRIVEN GROUNDING GRIDS PER N.E.C. 250.56 AND SCADA (LATEST STANDARDS).

PUMPING STATION ELECTRICAL NOTES
TYPICAL WASTEWATER PUMPING STATION

| REV | DATE | DESCRIPTION | DATE |
|-----|------------|----------------------------------------|------------|
| 1 | 08-14-2023 | REV PER SURVIVOR COMMENTS | 08-14-2023 |
| 2 | 08-09-2023 | REV PER PER DEP WATER COMMENTS | 08-09-2023 |
| 3 | 08-07-2023 | REV PER PER IROUD GAS CO. COF COMMENTS | 08-07-2023 |
| 4 | 07-27-2023 | REV PER PER IROUD INCLUD COMMENTS | 07-27-2023 |
| 5 | 07-19-2023 | REV PER PER IROUD COMMENTS | 07-19-2023 |
| 6 | 06-20-2023 | REV PER COF FINAL SP COMMENTS | 06-20-2023 |
| 7 | 06-20-2023 | REV PER COF AND IRCT COMMENTS | 06-20-2023 |
| 8 | 05-12-2023 | COMMENTS | 05-12-2023 |

| JOB NO. | TH | SS | DATE | CHECKED | AS | DATE ISSUED |
|---------|----|----|-----------|---------|----|-------------|
| 21-0492 | | | JUNE 2022 | | | 05/12/2023 |

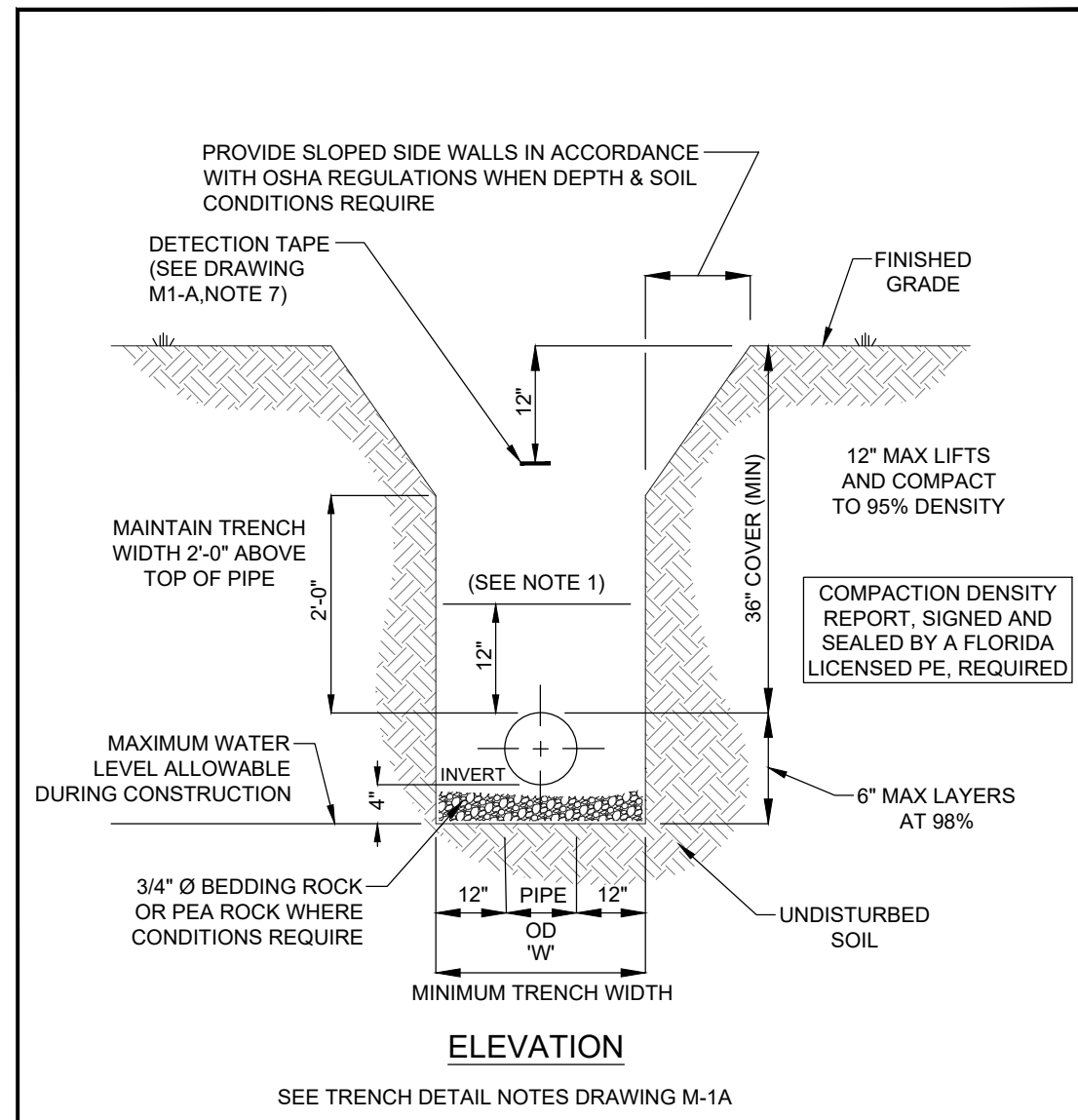
MBV ENGINEERING, INC.
MOHA BOHLES VILLAMIZAR & ASSOCIATES
CIVIL & ELECTRICAL ENGINEERING CA #37226
VIBO MARCH 4, 2016
4000 W. BIRCH ST. SUITE 100
FT. WORTH, TX 76117
TEL: (817) 774-3411
FAX: (817) 774-3411

LIFT STATION DETAILS

**IRC FIRE RESCUE FIRE STATION #7
CITY OF FELLSMERE
FINAL DEVELOPMENT PLAN**

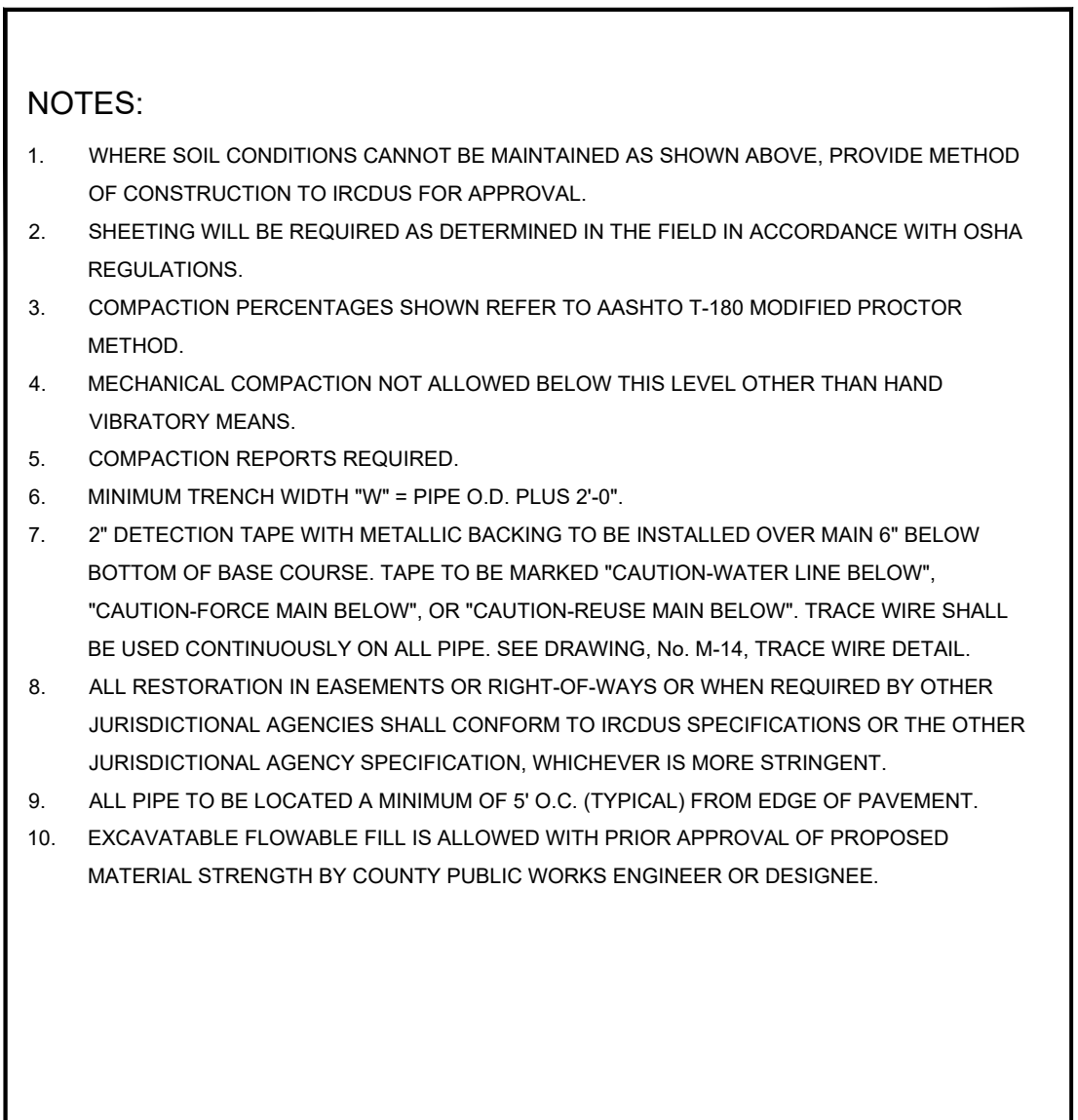
AARON G. STANTON
LICENSE No. 72460
STATE OF FLORIDA
PROFESSIONAL ENGINEER
AARON G. STANTON
FL. P.E. #72460 8/16/23

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



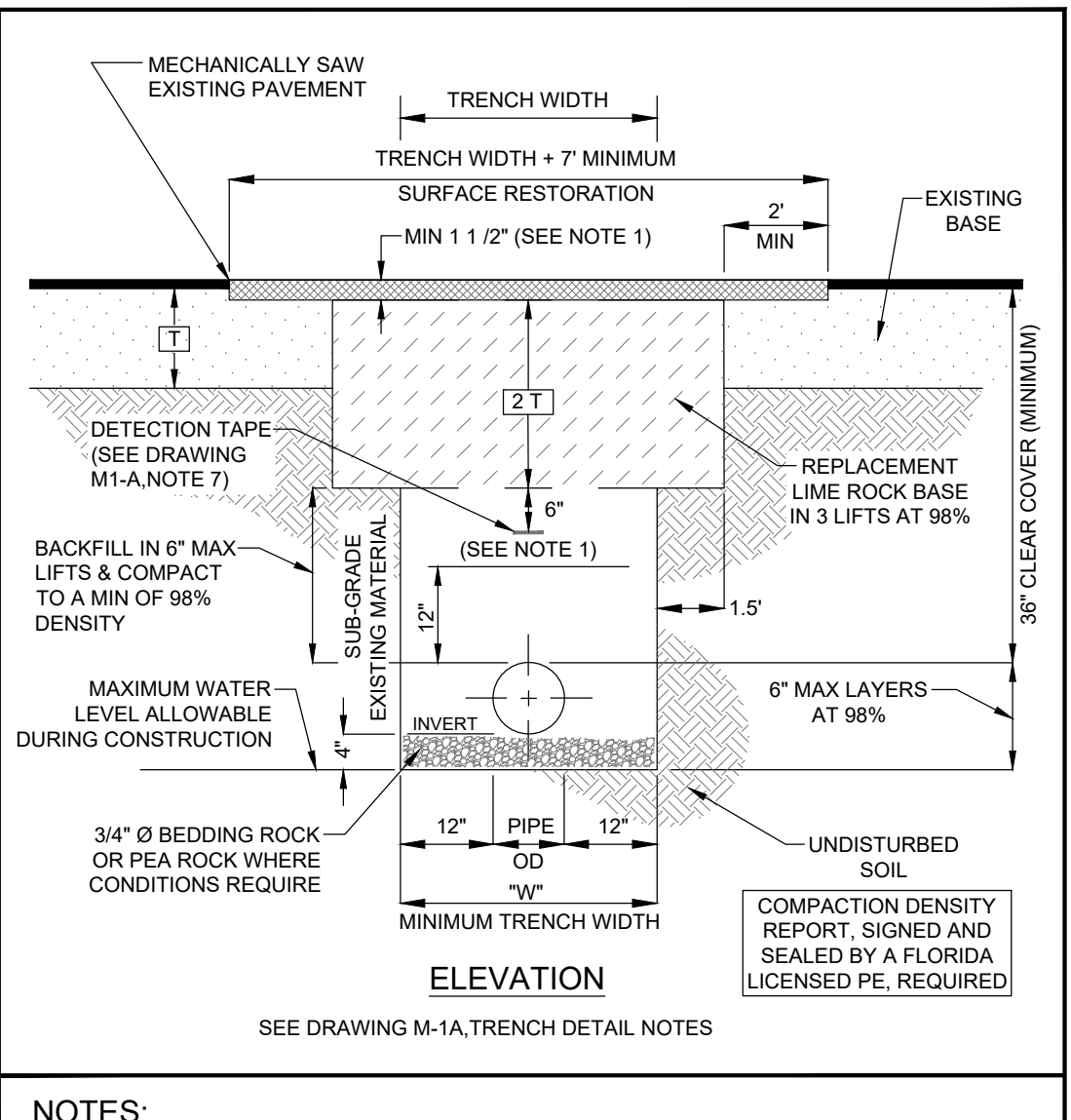
- NOTES:**
- MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL OTHER THAN HAND VIBRATORY MEANS.
 - ALL RESTORATION IN EASEMENTS OR RIGHT-OF-WAYS OR WHEN REQUIRED BY OTHER JURISDICTIONAL AGENCIES SHALL CONFORM TO IRCUDS SPECIFICATIONS OR THE OTHER JURISDICTIONAL AGENCY SPECIFICATION, WHICHEVER IS MORE STRINGENT.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
TRENCH DETAIL (UNPAVED EASEMENT)
 DRAWING NO. M-1



- NOTES:**
- WHERE SOIL CONDITIONS CANNOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE METHOD OF CONSTRUCTION TO IRCUDS FOR APPROVAL.
 - SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD IN ACCORDANCE WITH OSHA REGULATIONS.
 - COMPACTION PERCENTAGES SHOWN REFER TO AASHTO T-180 MODIFIED PROCTOR METHOD.
 - MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL OTHER THAN HAND VIBRATORY MEANS.
 - COMPACTION REPORTS REQUIRED.
 - MINIMUM TRENCH WIDTH "W" = PIPE O.D. PLUS 2'-0".
 - 2" DETECTION TAPE WITH METALLIC BACKING TO BE INSTALLED OVER MAIN 6" BELOW BOTTOM OF BASE COURSE. TAPE TO BE MARKED "CAUTION-WATER LINE BELOW".
 - ALL RESTORATION IN EASEMENTS OR RIGHT-OF-WAYS OR WHEN REQUIRED BY OTHER JURISDICTIONAL AGENCIES SHALL CONFORM TO IRCUDS SPECIFICATIONS OR THE OTHER JURISDICTIONAL AGENCY SPECIFICATION, WHICHEVER IS MORE STRINGENT.
 - ALL PIPE TO BE LOCATED A MINIMUM OF 5' O.C. (TYPICAL) FROM EDGE OF PAVEMENT.
 - EXCAVATABLE FLOWABLE FILL IS ALLOWED WITH PRIOR APPROVAL OF PROPOSED MATERIAL STRENGTH BY COUNTY PUBLIC WORKS ENGINEER OR DESIGNER.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
TRENCH DETAIL NOTES
 DRAWING NO. M-1 A



- NOTES:**
- MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL OTHER THAN HAND VIBRATORY MEANS.
 - NEW SURFACE MATERIALS SHALL BE CONSISTENT IN DEPTH WITH EXISTING MATERIALS AND SHALL HAVE LAPPED JOINTS, (1 1/2" MINIMUM THICKNESS). PAVEMENT MATERIAL TO BE SPECIFIED.
 - MINIMUM TRENCH WIDTH "W" = PIPE O.D. PLUS 2'-0".
 - EXCAVATABLE FLOWABLE FILL IS ALLOWED WITH PRIOR APPROVAL OF PROPOSED MATERIAL STRENGTH BY COUNTY PUBLIC WORKS ENGINEER OR DESIGNER.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
TRENCH DETAIL (PAVED AREAS & SHOULDERS)
 DRAWING NO. M-2

RESTRAINED LENGTH IN FEET EACH SIDE OF BEND

| PIPE DIAMETER (INCHES) | D.I.P. | | | | P.V.C. | | | |
|------------------------|--------|------|---------|---------|--------|------|---------|---------|
| | 90° | 45° | 22 1/2° | 11 1/4° | 90° | 45° | 22 1/2° | 11 1/4° |
| 3" | 30' | 15' | 10' | 5' | 40' | 20' | 10' | 5' |
| 4" | 35' | 15' | 10' | 5' | 55' | 25' | 15' | 10' |
| 6" | 55' | 25' | 10' | 5' | 80' | 35' | 20' | 10' |
| 8" | 65' | 30' | 15' | 10' | 90' | 40' | 20' | 10' |
| 10" | 80' | 35' | 20' | 10' | 110' | 50' | 25' | 15' |
| 12" | 95' | 40' | 20' | 10' | 130' | 55' | 30' | 15' |
| 16" | 120' | 50' | 25' | 15' | 165' | 70' | 35' | 20' |
| 20" | 150' | 65' | 30' | 15' | 200' | 85' | 40' | 20' |
| 24" | 180' | 70' | 35' | 20' | 210' | 90' | 45' | 25' |
| 30" | 190' | 80' | 40' | 20' | 250' | 105' | 50' | 25' |
| 36" | 220' | 95' | 45' | 25' | 0 | 0 | 0 | 0 |
| 42" | 245' | 105' | 50' | 25' | 0 | 0 | 0 | 0 |
| 48" | 260' | 120' | 60' | 30' | 0 | 0 | 0 | 0 |

RESTRAINED LENGTHS FOR DEAD ENDS AND BRANCHES FROM TEES SHALL BE THE SAME AS FOR 90° BENDS

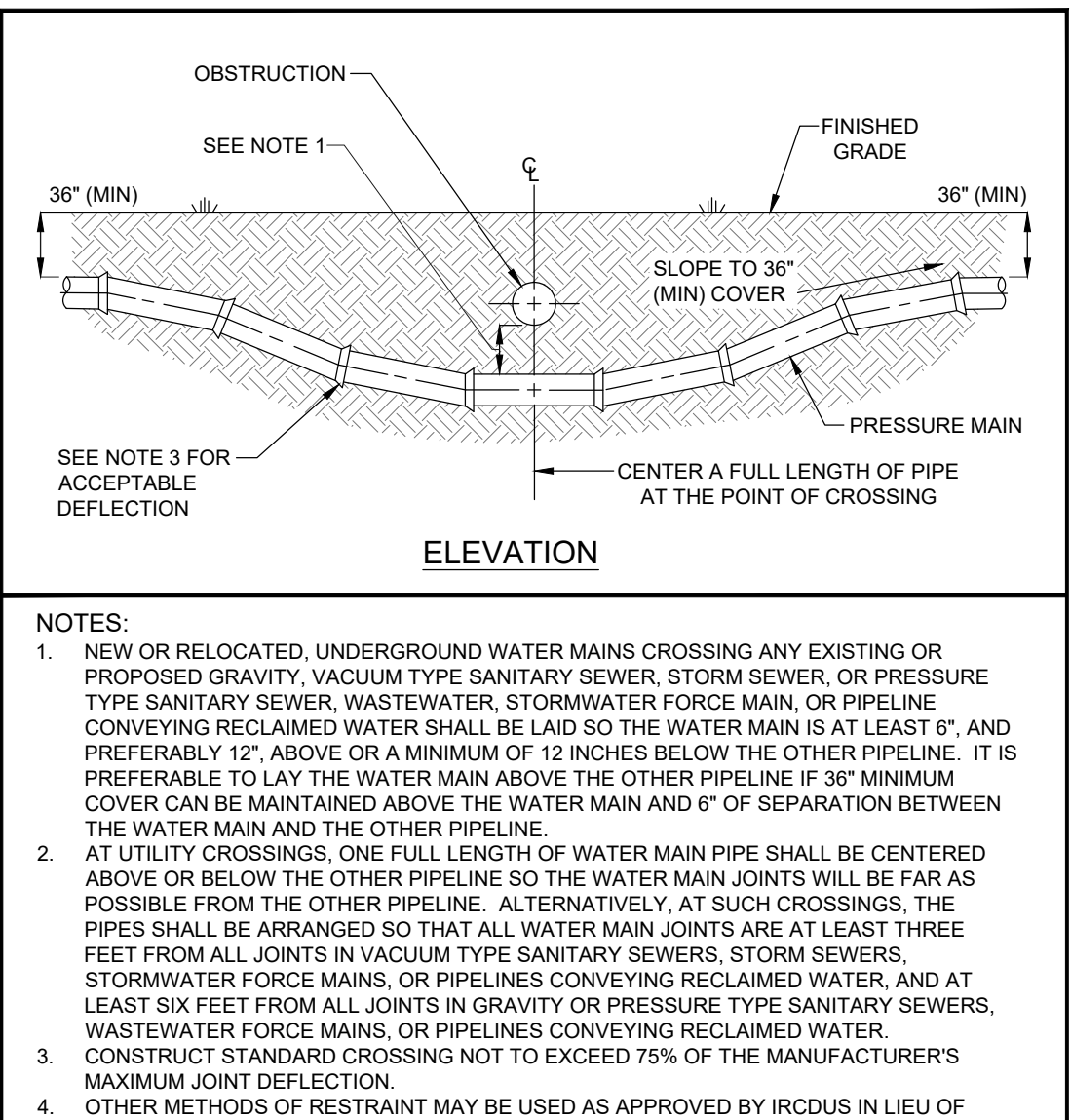
RESTRAINED LENGTH IN FEET EACH SIDE FOR REDUCER

| PIPE DIAMETER (INCHES) | 3" | 4" | 6" | 8" | 10" | 12" | 16" | 20" | 24" | 30" |
|------------------------|------|------|------|------|------|------|------|------|------|------|
| 3" | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4" | 40' | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6" | 50' | 45' | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8" | 75' | 70' | 40' | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10" | 95' | 90' | 70' | 40' | 0 | 0 | 0 | 0 | 0 | 0 |
| 12" | 120' | 115' | 100' | 75' | 40' | 0 | 0 | 0 | 0 | 0 |
| 16" | 160' | 155' | 140' | 125' | 100' | 70' | 0 | 0 | 0 | 0 |
| 20" | 200' | 195' | 185' | 170' | 150' | 130' | 75' | 0 | 0 | 0 |
| 24" | 160' | 155' | 150' | 140' | 135' | 120' | 90' | 50' | 0 | 0 |
| 30" | 195' | 190' | 185' | 180' | 170' | 160' | 120' | 105' | 70' | 0 |
| 36" | 225' | 220' | 215' | 210' | 205' | 195' | 180' | 150' | 125' | 70' |
| 42" | 245' | 240' | 235' | 230' | 225' | 220' | 205' | 180' | 155' | 105' |
| 48" | 255' | 250' | 245' | 240' | 235' | 230' | 215' | 195' | 175' | 125' |

RESTRAINED LENGTHS FOR LARGER DIAMETER PIPES

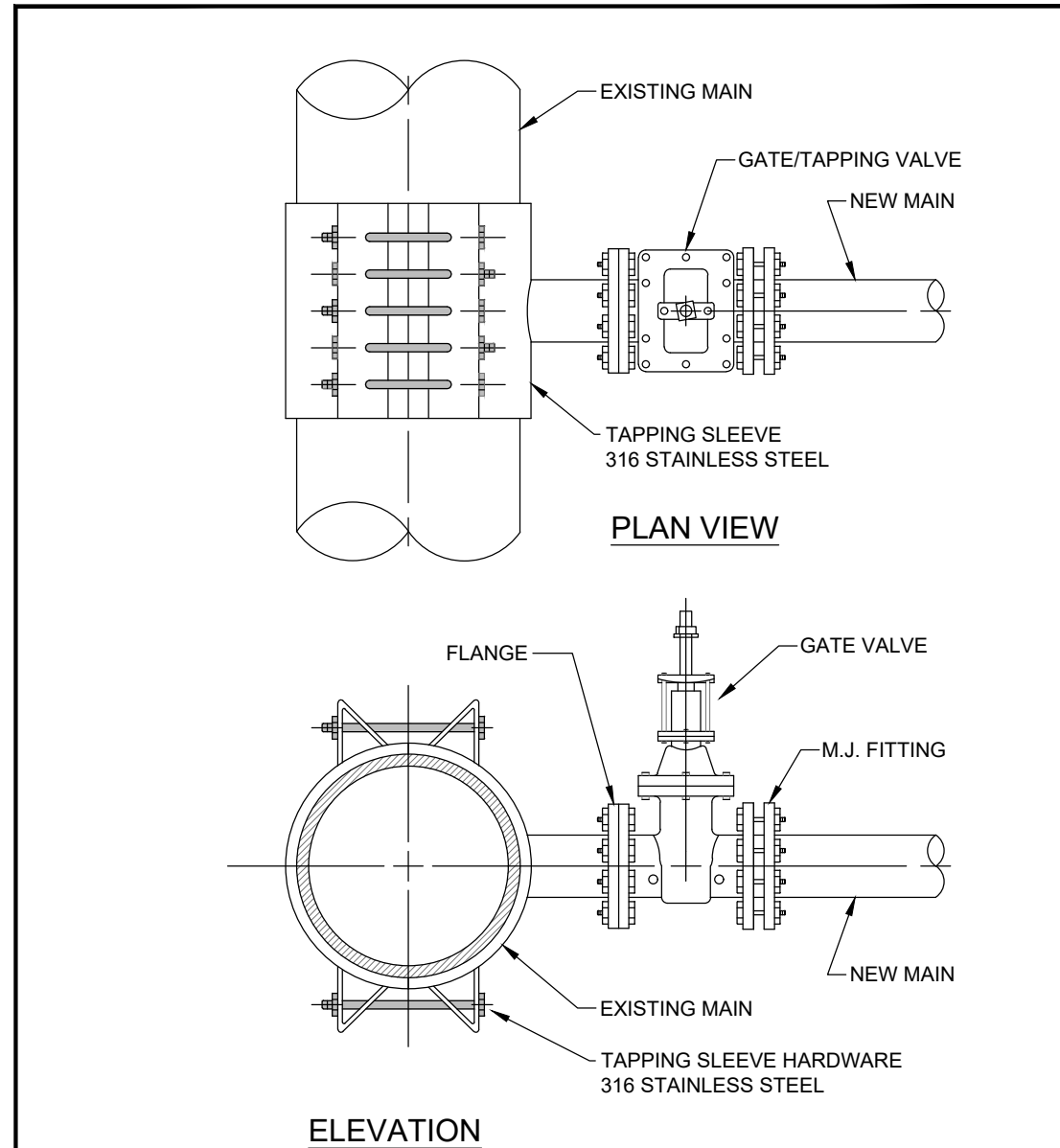
ALL IN-LINE VALVES SHALL BE TREATED AS DEAD END WITH RESTRAINED PIPE JOINTS UP AND DOWN

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
RESTRAINED PIPE LENGTHS AND SCHEDULE NOTES
 DRAWING NO. M-3



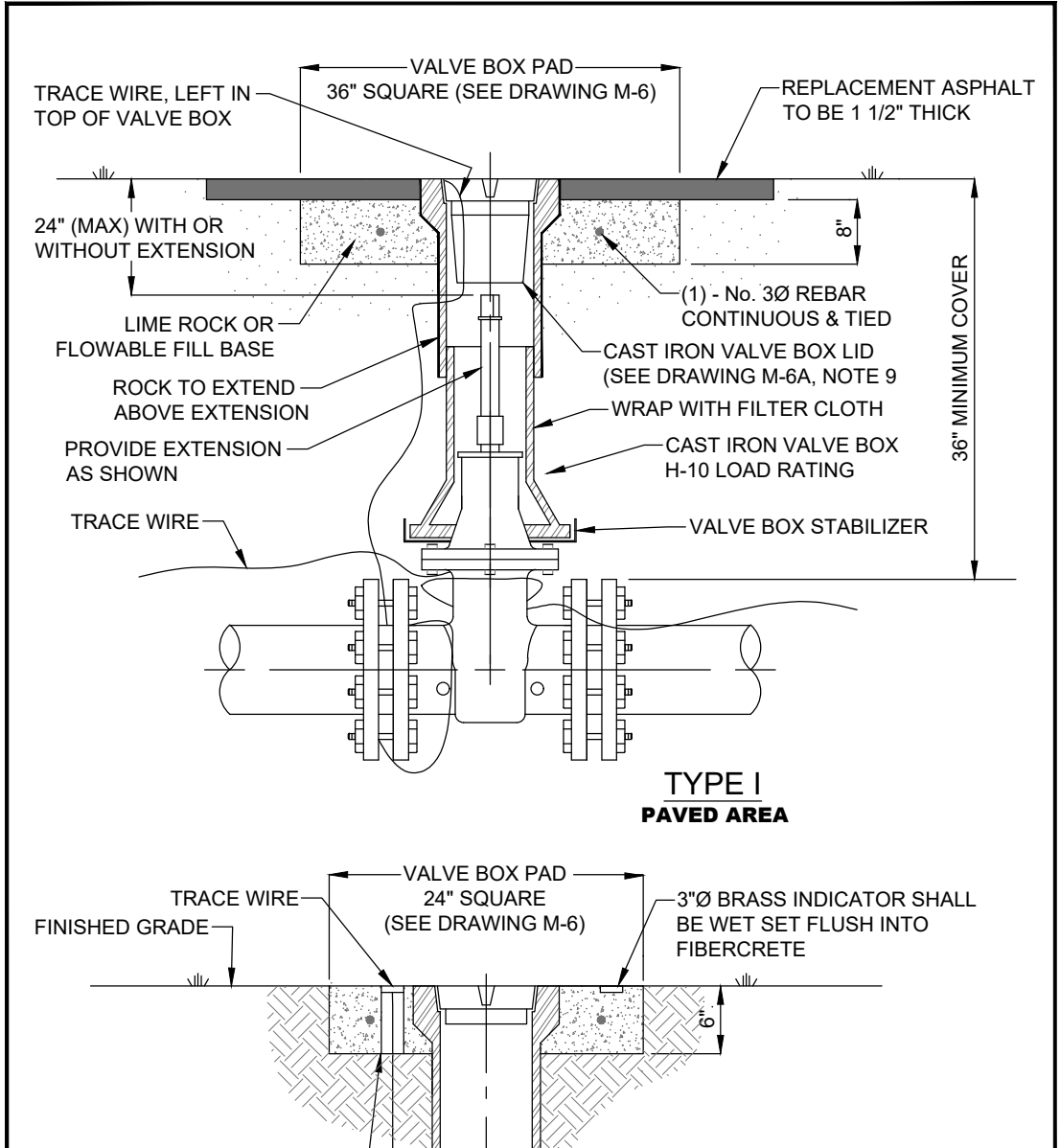
- NOTES:**
- NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY, VACUUM TYPE SANITARY SEWER, STORM SEWER, OR PRESSURE TYPE SANITARY SEWER, WASTEWATER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE WATER MAIN IS AT LEAST 6", AND PREFERABLY 12", ABOVE OR A MINIMUM OF 12 INCHES BELOW THE OTHER PIPELINE. IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE IF 36" MINIMUM COVER CAN BE MAINTAINED ABOVE THE WATER MAIN AND 6" OF SEPARATION BETWEEN THE WATER MAIN AND THE OTHER PIPELINE.
 - AT UTILITY CROSSINGS, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER, AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER.
 - CONSTRUCT STANDARD CROSSING NOT TO EXCEED 75% OF THE MANUFACTURER'S MAXIMUM JOINT DEFLECTION.
 - OTHER METHODS OF RESTRAINT MAY BE USED AS APPROVED BY IRCUDS IN LIEU OF DEFLECTING THE PIPE AS SHOWN ABOVE.
 - TRACER WIRE SHALL BE INSTALLED ABOVE THE PIPE. (SEE DRAWING, No. M-14)
 - ALL WATER AND SEWER PIPING SHALL BE LOCATED A MINIMUM HORIZONTAL SEPARATION EQUAL TO THE DEPTH OF THE PIPE PLUS THE DIAMETER OF THE PIPE FROM ANY PERMANENT ABOVE GROUND STRUCTURES (I.E. WALLS, TREES, TRANSFORMER PADS, ETC.) AND A MINIMUM HORIZONTAL SEPARATION EQUAL TO FOUR (4) FEET FROM ANY UNDERGROUND UTILITIES (I.E. GAS MAINS, TELEPHONE LINES, CABLE LINES, IRRIGATION MAINS, ETC.)
 - IRCUDS WILL REQUIRE AIR RELEASE VALVES ON EACH SIDE OF A UTILITY CROSSING.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
UTILITY CROSSINGS
 DRAWING NO. M-4



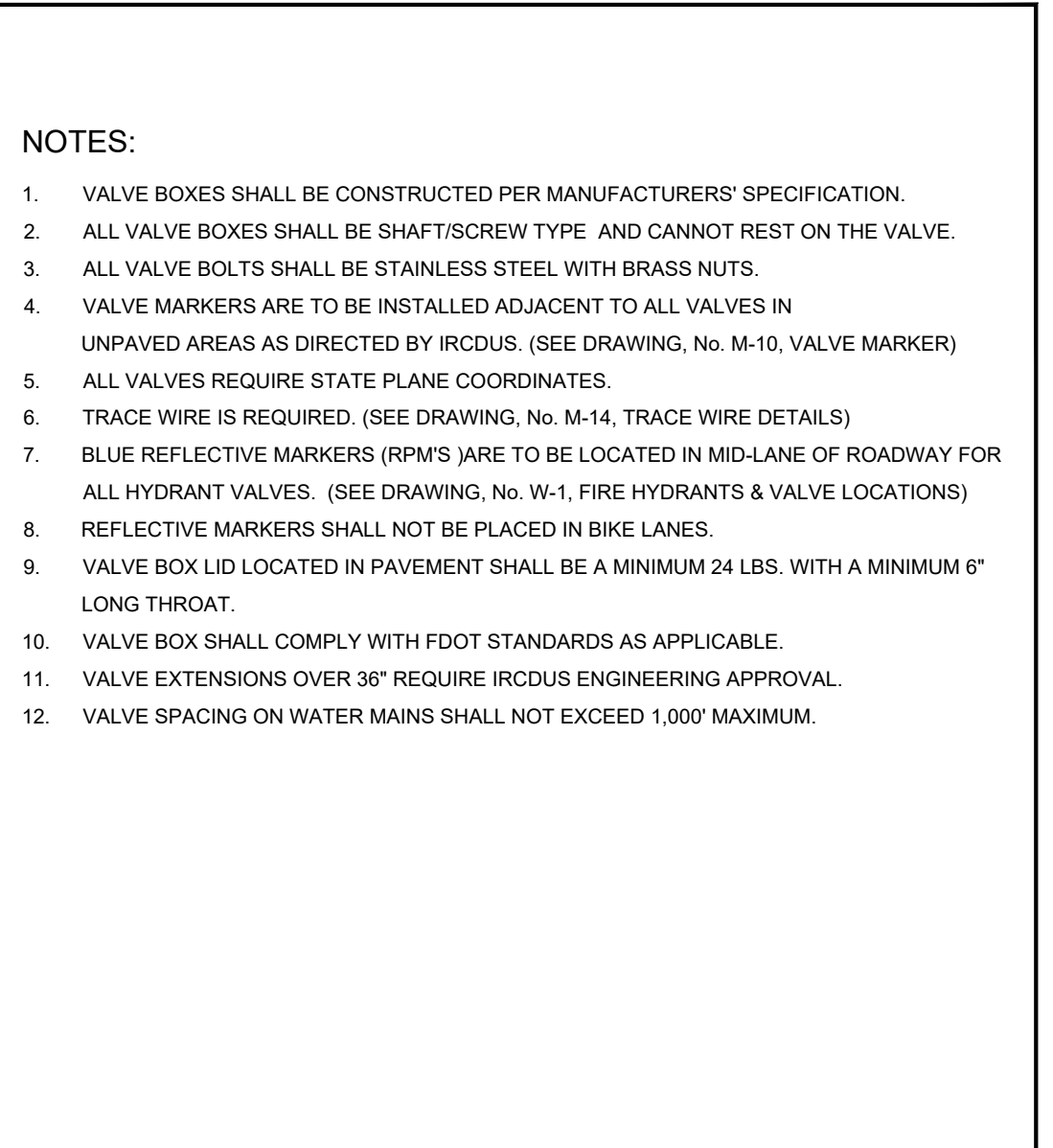
- NOTES:**
- NEW MAIN SHALL BE RESTRAINED PER IRCUDS ENGINEERING. THRUST BLOCK ON EXISTING MAIN AT TAPPING SLEEVE LOCATION MAY BE REQUIRED.
 - ALL MATERIALS SHALL BE PER IRCUDS APPROVED MANUFACTURERS' PRODUCT LIST.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
TAPPING SLEEVE AND VALVE ASSEMBLY
 DRAWING NO. M-5



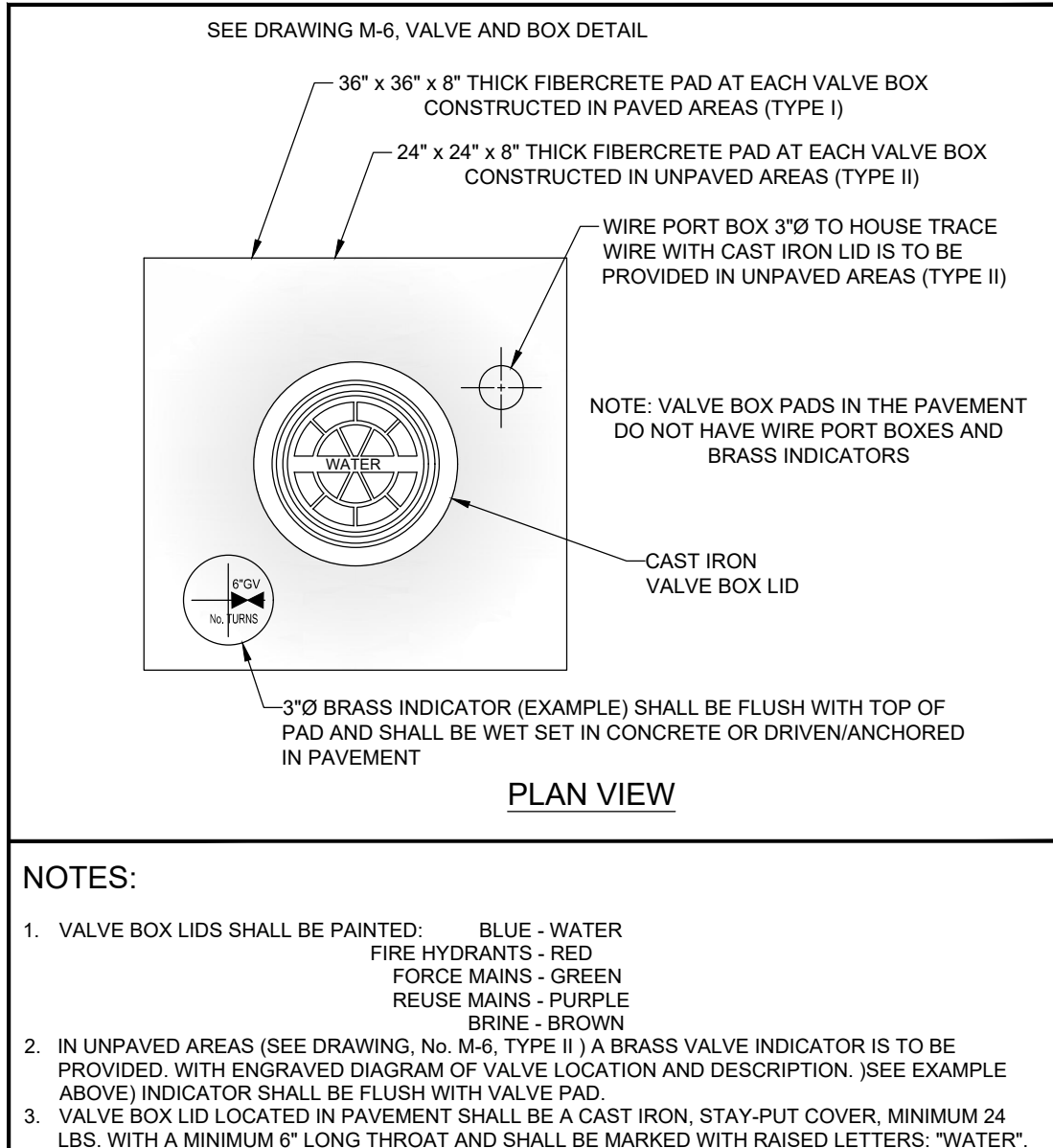
- NOTES:**
- VALVE BOXES SHALL BE CONSTRUCTED PER MANUFACTURERS' SPECIFICATION.
 - ALL VALVE BOXES SHALL BE SHAFT/SCREW TYPE AND CANNOT REST ON THE VALVE.
 - ALL VALVE BOLTS SHALL BE STAINLESS STEEL WITH BRASS NUTS.
 - VALVE MARKERS ARE TO BE INSTALLED ADJACENT TO ALL VALVES IN UNPAVED AREAS AS DIRECTED BY IRCUDS. (SEE DRAWING, No. M-10, VALVE MARKER)
 - ALL VALVES REQUIRE STATE PLANE COORDINATES.
 - TRACE WIRE IS REQUIRED. (SEE DRAWING, No. M-14, TRACE WIRE DETAILS)
 - BLUE REFLECTIVE MARKERS (RPM'S) ARE TO BE LOCATED IN MID-LANE OF ROADWAY FOR ALL HYDRANT VALVES. (SEE DRAWING, No. W-1, FIRE HYDRANTS & VALVE LOCATIONS)
 - REFLECTIVE MARKERS SHALL NOT BE PLACED IN BIKE LANES.
 - VALVE BOX LID LOCATED IN PAVEMENT SHALL BE A MINIMUM 24 LBS. WITH A MINIMUM 6" LONG THROAT.
 - VALVE BOX SHALL COMPLY WITH FDOT STANDARDS AS APPLICABLE.
 - VALVE EXTENSIONS OVER 36" REQUIRE IRCUDS ENGINEERING APPROVAL.
 - VALVE SPACING ON WATER MAINS SHALL NOT EXCEED 1,000' MAXIMUM.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
VALVE AND BOX DETAIL
 DRAWING NO. M-6



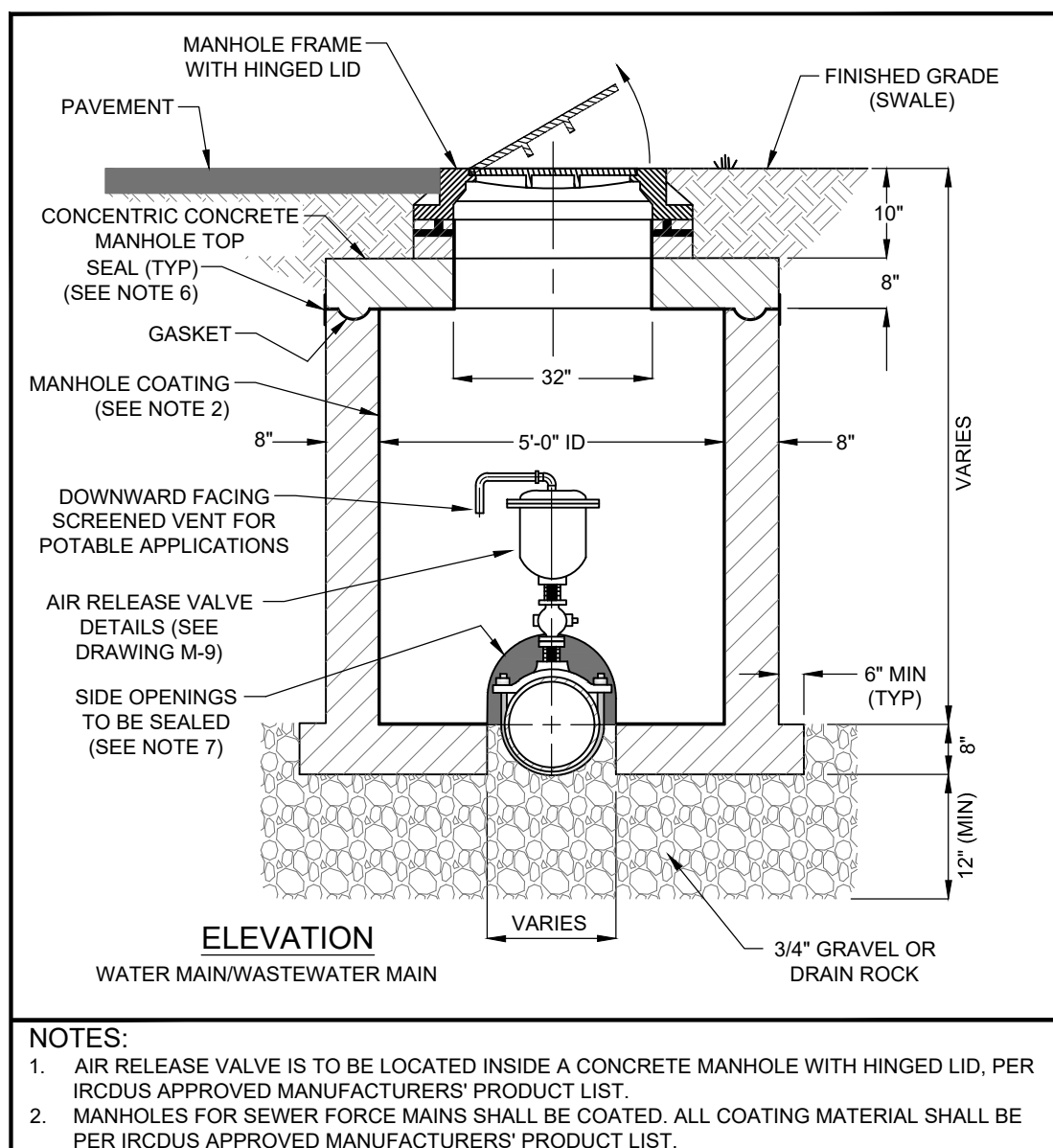
- NOTES:**
- VALVE BOX LIDS SHALL BE PAINTED: BLUE - WATER, FIRE HYDRANTS - RED, FORCE MAINS - GREEN, REUSE MAINS - PURPLE, BRINE - BROWN
 - IN UNPAVED AREAS (SEE DRAWING, No. M-6, TYPE I) A BRASS VALVE INDICATOR IS TO BE PROVIDED, WITH ENGRAVED DIAGRAM OF VALVE LOCATION AND DESCRIPTION. (SEE EXAMPLE ABOVE) INDICATOR SHALL BE FLUSH WITH VALVE PAD.
 - VALVE BOX LID LOCATED IN PAVEMENT SHALL BE A CAST IRON, STAY-PUT COVER, MINIMUM 24 LBS. WITH A MINIMUM 6" LONG THROAT AND SHALL BE MARKED WITH RAISED LETTERS: "WATER", "SEWER", "BRINE", OR "REUSE WATER" AS APPLICABLE.
 - VALVE BOX SHALL COMPLY WITH FDOT STANDARDS AS APPLICABLE.
 - NO VALVE RINGS ARE TO BE USED.
 - IN TYPE I PAVED AREAS, THE VALVE BOX PAD TOP ELEVATION SHALL BE EVEN WITH THE ROCK GRADE TO ALLOW BOTH LAYERS OF ASPHALT TO COVER THE VALVE BOX PAD WITH THE FINAL ASPHALT LAYER FLUSH WITH THE TOP OF THE VALVE BOX. (SEE DRAWING, No. M-6, VALVE AND BOX DETAIL)

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
VALVE AND BOX DETAIL NOTES
 DRAWING NO. M-6 A



- NOTES:**
- VALVE BOX LIDS SHALL BE PAINTED: BLUE - WATER, FIRE HYDRANTS - RED, FORCE MAINS - GREEN, REUSE MAINS - PURPLE, BRINE - BROWN
 - IN UNPAVED AREAS (SEE DRAWING, No. M-6, TYPE I) A BRASS VALVE INDICATOR IS TO BE PROVIDED, WITH ENGRAVED DIAGRAM OF VALVE LOCATION AND DESCRIPTION. (SEE EXAMPLE ABOVE) INDICATOR SHALL BE FLUSH WITH VALVE PAD.
 - VALVE BOX LID LOCATED IN PAVEMENT SHALL BE A CAST IRON, STAY-PUT COVER, MINIMUM 24 LBS. WITH A MINIMUM 6" LONG THROAT AND SHALL BE MARKED WITH RAISED LETTERS: "WATER", "SEWER", "BRINE", OR "REUSE WATER" AS APPLICABLE.
 - VALVE BOX SHALL COMPLY WITH FDOT STANDARDS AS APPLICABLE.
 - NO VALVE RINGS ARE TO BE USED.
 - IN TYPE I PAVED AREAS, THE VALVE BOX PAD TOP ELEVATION SHALL BE EVEN WITH THE ROCK GRADE TO ALLOW BOTH LAYERS OF ASPHALT TO COVER THE VALVE BOX PAD WITH THE FINAL ASPHALT LAYER FLUSH WITH THE TOP OF THE VALVE BOX. (SEE DRAWING, No. M-6, VALVE AND BOX DETAIL)

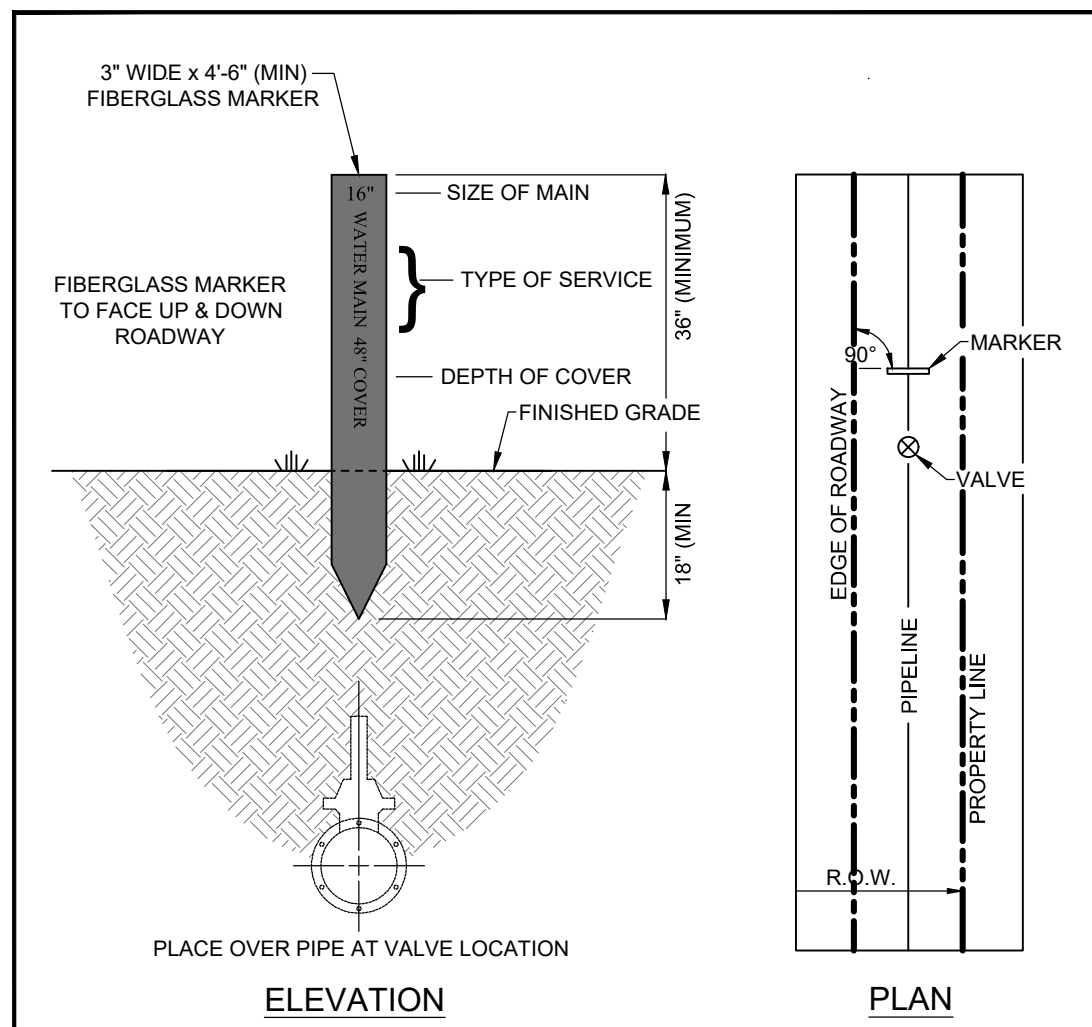
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
VALVE BOX PAD
 DRAWING NO. M-7



- NOTES:**
- AIR RELEASE VALVE IS TO BE LOCATED INSIDE A CONCRETE MANHOLE WITH HINGED LID, PER IRCUDS APPROVED MANUFACTURERS' PRODUCT LIST.
 - MANHOLES FOR SEWER FORCE MAINS SHALL BE COATED. ALL COATING MATERIAL SHALL BE PER IRCUDS APPROVED MANUFACTURERS' PRODUCT LIST.
 - SEE DRAWING, No. M-9, AIR RELEASE VALVE ABOVE GROUND (AUTOMATIC WATER/WASTEWATER).
 - SEE DRAWING, No. M-14, TRACER WIRE DETAILS.
 - WASTEWATER LIDS SHALL BE VENTED.
 - SEAL SHALL BE USED AT ALL JOINTS. SEE DRAWING, No. S-5, MANHOLE NOTES.
 - OPENINGS AT BOTH SIDES OF THE MANHOLE TO BE SEALED WITH MATERIALS PER IRCUDS APPROVED MANUFACTURERS' PRODUCT LIST.

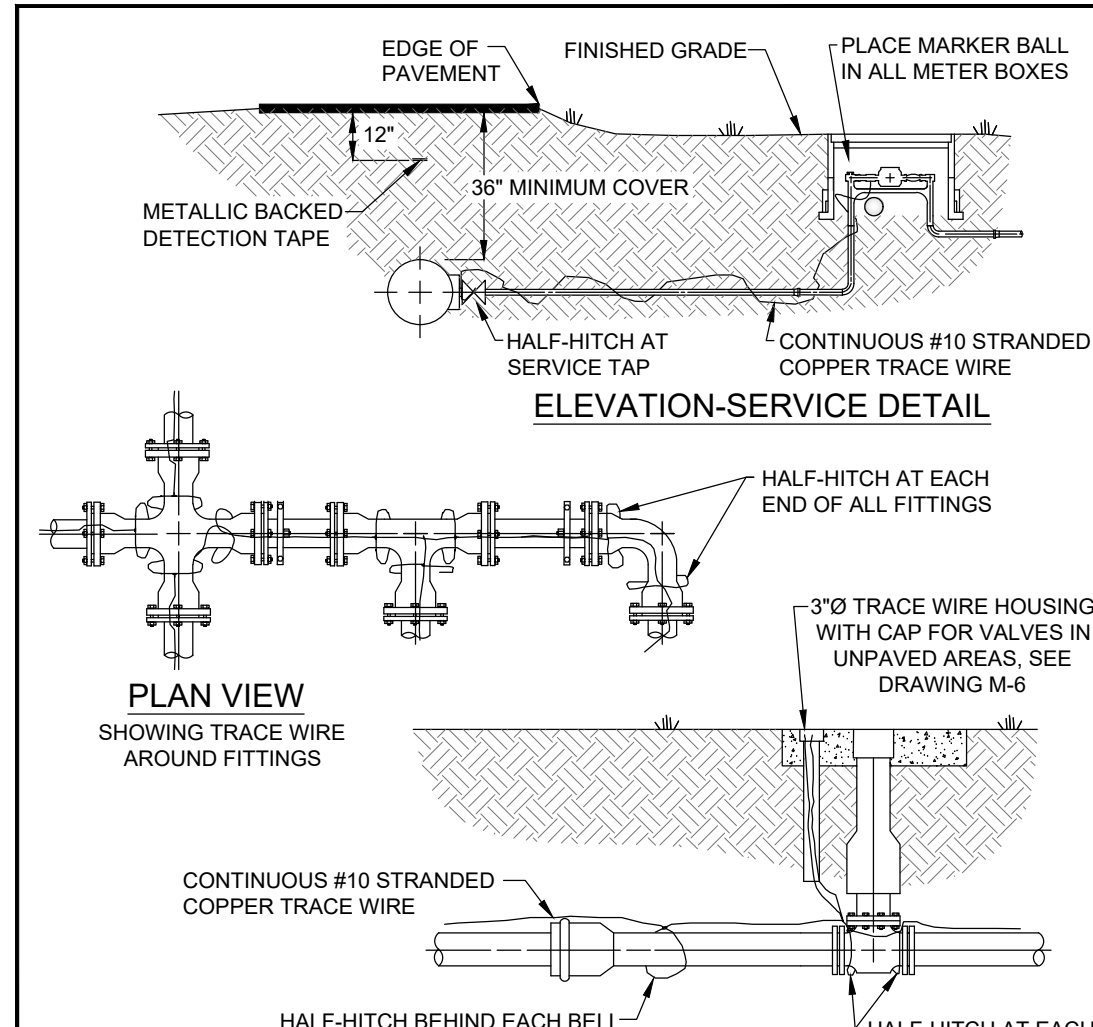
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
AIR RELEASE VALVE MANHOLE BELOW GROUND (AUTOMATIC WATER/WASTEWATER)
 DRAWING NO. M-8

| JOB NO. | DESIGNED | DRAWN | DATE | CHECKED | DATE ISSUED | REVISIONS | DATE |
|---------|--------------------------------------|------------|-----------|---------|-------------|-----------|------|
| 21-0492 | TH | SS | JUNE 2022 | AS | 05/12/2023 | | |
| 8 | REV. PER SURVIVED ENV. COMMENTS | 08-14-2023 | | | | | |
| 9 | REV. PER FDEP WATER COMMENTS | 08-09-2023 | | | | | |
| 10 | REV. PER IRCUDS GAS CO. COF COMMENTS | 08-07-2023 | | | | | |
| 11 | REV. PER PERMITS/IRCU COMMENTS | 07-27-2023 | | | | | |
| 12 | REV. PER SURVIVED ENV. COMMENTS | 07-19-2023 | | | | | |
| 13 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 14 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 15 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 16 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 17 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 18 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 19 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 20 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 21 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 22 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 23 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 24 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 25 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 26 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 27 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 28 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 29 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 30 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 31 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 32 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 33 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 34 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 35 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 36 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 37 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 38 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 39 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 40 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 41 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 42 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 43 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 44 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 45 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 46 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 47 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 48 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 49 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 50 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 51 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 52 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 53 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 54 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 55 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 56 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 57 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 58 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 59 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 60 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 61 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 62 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 63 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 64 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 65 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 66 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 67 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 68 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 69 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 70 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 71 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 72 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 73 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 74 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 75 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 76 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 77 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 78 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 79 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 80 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 81 | REV. PER COF AND RPT COMMENTS | 06-20-2023 | | | | | |
| 82 | | | | | | | |



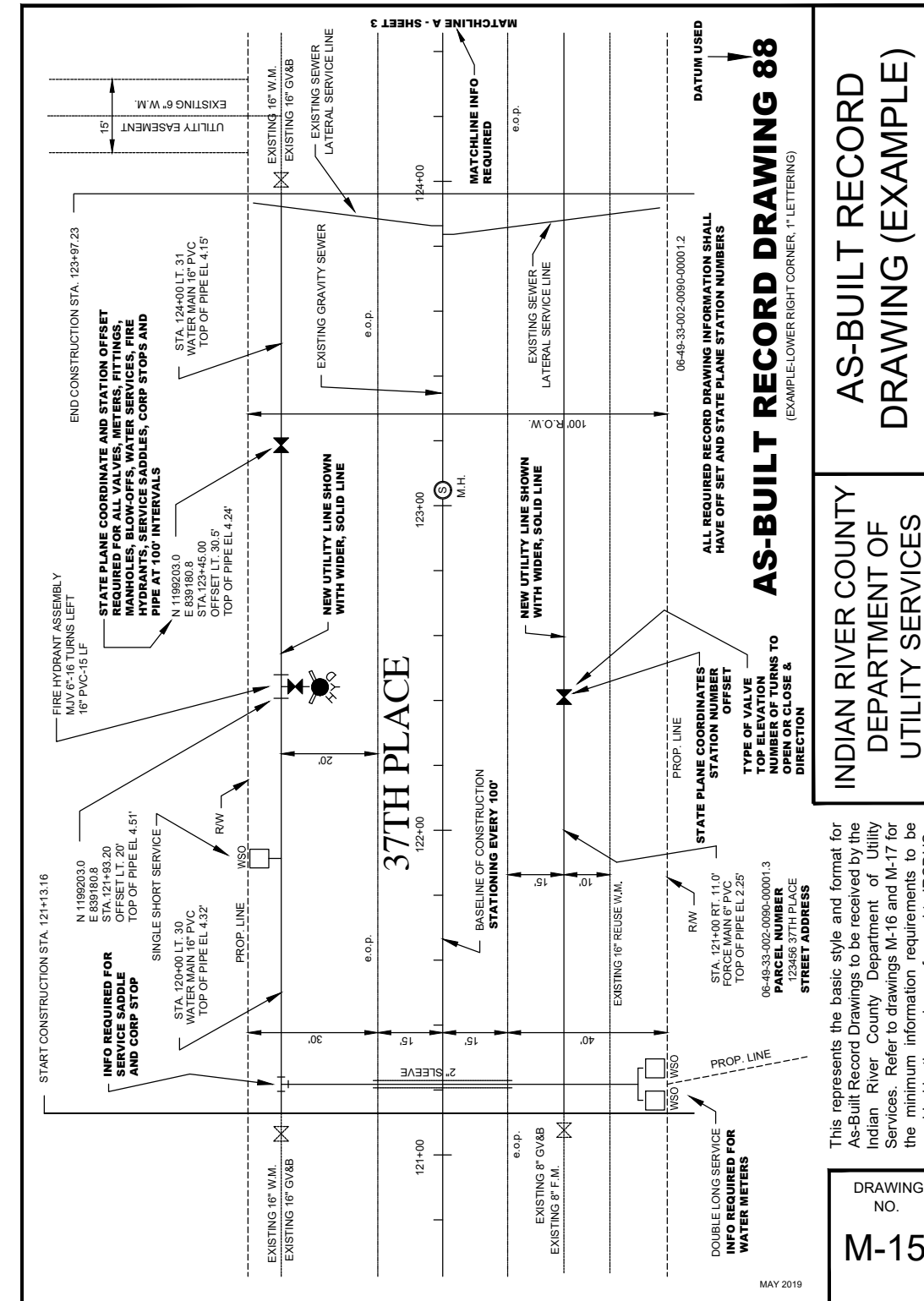
- NOTES:**
- MARKER TO BE PLACED PERPENDICULAR, AT A 90° ANGLE, TO ROADWAY AND DIRECTLY OVER PIPE, ADJACENT TO VALVE, AS DIRECTED BY IRCDCS.
 - MARKER TO BE USED AT ALL CANAL CROSSINGS AND AS DIRECTED BY IRCDCS.
 - MARKER TO BE PLACED ADJACENT TO WATER MAIN VALVES, FORCE MAIN VALVES RE-USE MAIN VALVES AND BRINE VALVES AS DIRECTED BY IRCDCS.
 - ALL MATERIAL TO BE PER IRCDCS APPROVED MANUFACTURERS' PRODUCT LIST.
 - MARKERS SHALL BE PAINTED:
 - BLUE - WATER
 - RED - FIRE HYDRANTS
 - GREEN - FORCE MAINS
 - PURPLE - RE-USE MAINS
 - BROWN - BRINE

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
VALVE MARKER
 DRAWING NO. **M-10**



- NOTES:**
- TRACE WIRE IS REQUIRED ON ALL PIPES REGARDLESS OF MATERIAL.
 - INCLUDE ALL COST OF MATERIAL AND LABOR TO INSTALL TRACE WIRE IN PRICE OF PIPE.
 - CONTRACTOR IS RESPONSIBLE FOR CONTINUITY THROUGHOUT ENTIRE PROJECT OF ALL TRACE WIRE.
 - ALL CONNECTIONS SHALL BE MADE WITH DIRECT BURY CONNECTORS.
 - ALL MATERIALS ARE TO BE PER IRCDCS APPROVED MANUFACTURERS' PRODUCT LIST.
 - COLOR OF TRACE WIRE SHALL BE: BLUE FOR WATER, GREEN FOR SEWER, AND PURPLE FOR RECLAIMED WATER.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
TRACE WIRE DETAILS
 DRAWING NO. **M-14**



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
AS-BUILT RECORD DRAWING 88
 DRAWING NO. **M-15**

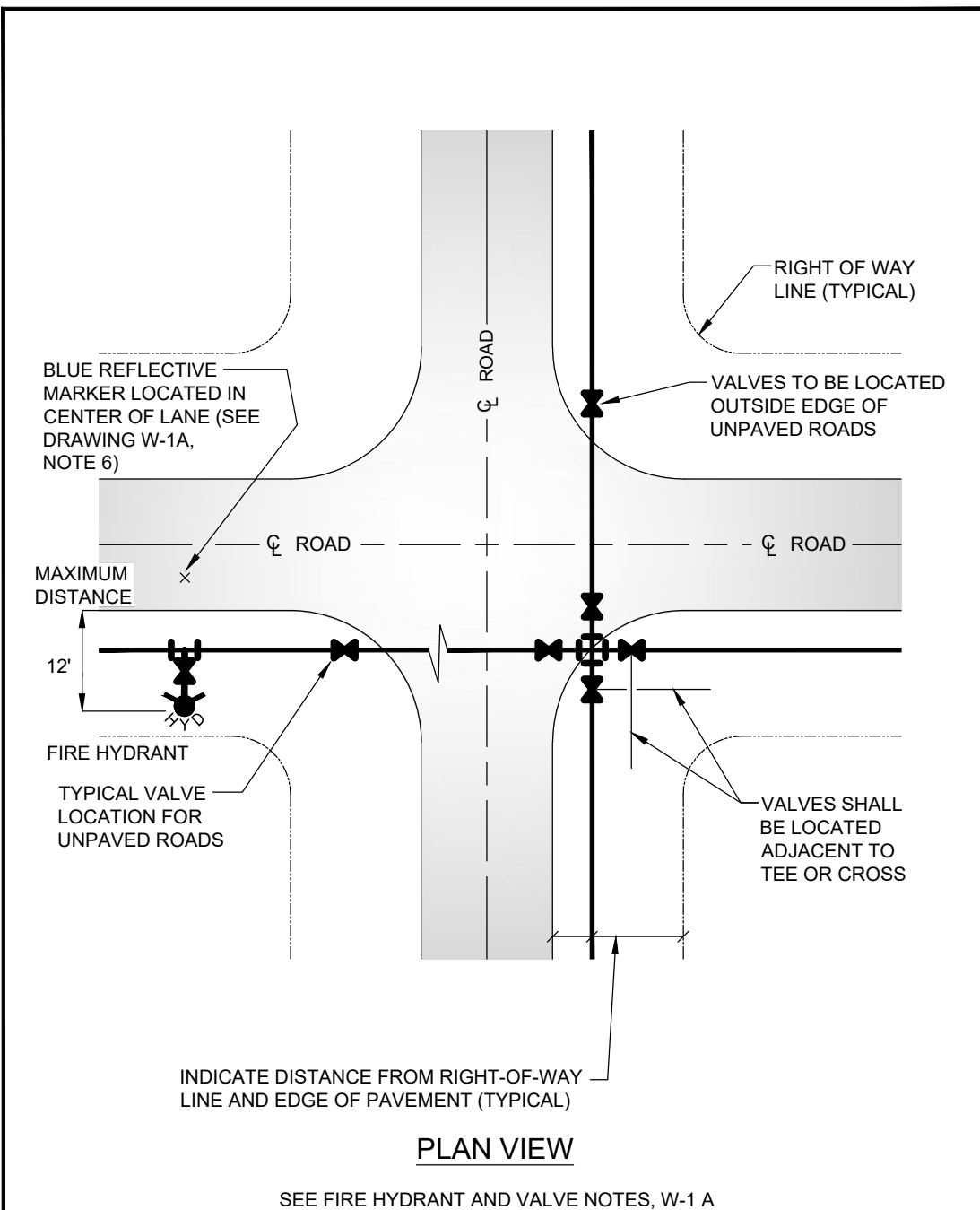
- GENERAL NOTES**
- ALL AS-BUILT RECORD DRAWINGS SHALL MEET THE MINIMUM REQUIREMENTS OF THE CHAPTER A-17, FLORIDA ADMINISTRATION CODE PURSUANT TO SECTION 472 OF THE FLORIDA STATUTES.
 - ALL AS-BUILT RECORD DRAWINGS SHALL BE IN STATE PLANE COORDINATES. STATE PLANE COORDINATES SHALL BE BASED ON THE FLORIDA STATE PLANE HORIZONTAL DATA (EAST ZONE), OR FLORIDA HIGH PRECISION GEODETIC NETWORK (SUPERSTATION) AND NAD 83/1999 FINAL ADJUSTMENT, OR THE MOST CURRENT DATUM ADOPTED BY INDIAN RIVER COUNTY.
 - FLORIDA STATE PLANE HORIZONTAL DATA AND STATION OFF-SET SHALL BE TIED TO VALVES, METERS, FITTINGS, MANHOLES, BLOW-OFFS, WATER SERVICES, FIRE HYDRANTS, SERVICE SADDLES, CORP STOPS AND PIPE (PIPE AT 200' INTERVALS).
 - ALL ELEVATIONS SHOWN SHALL BE BASED ON 1988 NAVD (NORTH AMERICAN VERTICAL DATUM).
 - ALL AS-BUILT RECORD DRAWINGS SHALL BE TIED TO A MINIMUM OF ONE (1) PERMANENT REFERENCE MONUMENT (P.R.M.) AT THE END OF EACH PROJECT. ONE P.R.M. SHALL BE TIED TO A MINIMUM OF ONE (1) SECTION CORNER OR ONE-QUARTER (1/4) SECTION CORNER WHICHEVER IS CLOSEST TO THE PROJECT. STATE PLANE COORDINATES SHALL BE PHYSICALLY SHOWN ON THE DRAWING NEXT TO THE P.R.M. USED.
 - HORIZONTAL CONTROL MONUMENTATION FOR UTILITY LINES SHALL BE A MINIMUM OF TWO (2) POINTS AT A MAXIMUM OF 1,400 FEET BETWEEN POINTS AND SHOWN ON ALL PLANS.
 - VERTICAL CONTROL (WHEN REQUIRED) FOR LINEAR UTILITY LINES, SUCH AS WATER AND SEWER, SHALL HAVE A MAXIMUM OF 1,100 FEET BETWEEN EXISTING CONSTRUCTION OR ESTABLISHED BENCHMARKS.
 - AFTER ALL APPROVALS, ALL INCOMING RECORD DRAWINGS SHALL BE RECEIVED ON A CD AS AN ELECTRONIC COPY, AUTOCAD 2015 OR LATEST VERSION, WITH A TIE TO A MINIMUM OF TWO (2) STATE PLANE COORDINATES. (1) ONE (24"x36") SIGNED AND SEALED COPY OF EACH AS-BUILT SHALL BE SUBMITTED. ALL RECORD DRAWINGS SHALL STATE IN 1/2" LETTERING "RECORD DRAWING" AND THE DATUM USED (1/2" LETTERING) IN THE LOWER RIGHT HAND SIDE OF THE ORIGINAL DRAWING OR COPY ALONG WITH THE AS-BUILT DATE. ALL RECORD DRAWINGS SHALL BE IN A MINIMUM SCALE OF 1"=40'. MINIMUM TEXT SHALL BE 1/8".
 - ELECTRONIC COPY OF RECORD DRAWINGS SHALL BE FORMATTED WITH ALL NEWLY CONSTRUCTED IRCDCS UTILITIES IN THE FOLLOWING LAYER STATES:

| AUTOCAD LAYER NAME | DATA TO BE CONTAINED IN LAYER |
|--------------------|----------------------------------------------------------|
| WATER MAIN | WATER MAIN ONLY |
| WATER FITTINGS | WATER FITTINGS, METERS, VALVES, SERVICES LATERALS, ETC. |
| GRAVITY SEWER | GRAVITY SEWER MAIN ONLY |
| SEWER FORCE MAINS | SEWER FORCE MAIN ONLY |
| SEWER FITTINGS | SEWER FITTINGS, MANHOLES, SERVICE LATERALS, VALVES, ETC. |
| R/O CONCRETE | MANHOLE FITTINGS, VALVES, ETC. |
| RECLAIMED WATER | MANHOLE FITTINGS, VALVES, ETC. |

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
AS-BUILT RECORD DRAWING GENERAL NOTES
 DRAWING NO. **M-16**

- GENERAL NOTES**
(continued)
- A MINIMUM TEXT SIZE OF 1/8" IS REQUIRED ON ALL CONSTRUCTION/ROUTE SURVEY AND RECORD DRAWINGS.
 - ALL AS-BUILT RECORD DRAWINGS SHALL BE CERTIFIED BY THE PROJECT ENGINEER OR CONTRACTING SURVEYOR.
 - ALL AS-BUILT RECORD DRAWINGS SHALL CLEARLY DEPICT UTILITY LINES THAT WERE CONSTRUCTED ALONG THEIR RESPECTIVE EASEMENT (IF REQUIRED). AS-BUILT RECORD DRAWINGS WILL NOT BE ACCEPTED UNLESS THE VERBAGE "PROPOSED" AND/OR "TO BE CONSTRUCTED" HAVE BEEN DELETED ON THE DRAWING. AS-BUILT RECORD DRAWINGS WITH "PROPOSED" OR "TO BE CONSTRUCTED" TERMINOLOGY WILL NOT BE ACCEPTED.
 - ALL NEW UTILITY CONSTRUCTION LOCATED WITHIN THE RIGHTS-OF-WAY, EASEMENTS AND ALIKE SHALL BE TIED TO THE RESPECTIVE RIGHTS-OF-WAY, EASEMENTS, ETC. EVERY 1,000 FEET AND CHANGE OF DIRECTION.
 - ALL AS-BUILT RECORD DRAWINGS SHALL BE COMPLETE AND APPROVED BEFORE COMMENCEMENT OF FIELD TEST.
 - BASELINE OF CONSTRUCTION AND STATION OF ITEMS TO BE LOCATED ON THE CENTER OF THE ROADWAY, UNLESS CONDITIONS WARRANT AND APPROVED BY IRCDCS. BASELINE STATIONING SHALL BE EVERY 100' FEET BETWEEN POINTS SET AT EVERY 500' AND ANGLE CHANGE OF DIRECTION.
 - ALL NEW UTILITY CONSTRUCTION LINES ON ALL AS-BUILT RECORD DRAWINGS SHALL BE SHOWN WITH A WIDER, SOLID LINE. EXISTING UTILITY LINES SHALL BE SHOWN WITH A THINNER, DASHED LINE.
 - TOP OF PIPE ELEVATIONS & STATIONING TO BE TYPED, LISTED, SEALED & SUBMITTED BY THE ENGINEER FOR LOCATING THE AIR RELEASE VALVES AS CONSTRUCTION PROCEEDS.
 - SHOW TOP ELEVATION OF THE UTILITY LINES THAT WERE CONSTRUCTED AND SHOW EXISTING UTILITY LINES FOR ALL UTILITY CROSSINGS.
 - PUMP STATION POWER SUPPLY FROM FP&L OR COVB ELECTRIC POWER POLE OR TRANSFORMER TO THE PUMP STATION ELECTRIC PANEL SHALL BE INCLUDED ON THE AS-BUILT RECORD DRAWING.
 - ALL FIRE HYDRANTS AND FIRE HYDRANT VALVES SHALL BE LOCATED BY STATE PLANE COORDINATES, STATION NUMBER AND OFFSET AND SHALL BE CLEARLY IDENTIFIED ON AS-BUILT RECORD DRAWING.
 - ALL NEWLY CONSTRUCTED VALVES SHALL BE CLEARLY IDENTIFIED BY SIZE, TYPE, TOP ELEVATION AND DIRECTION/NUMBER OF TURNS TO OPEN OR CLOSE VALVE.

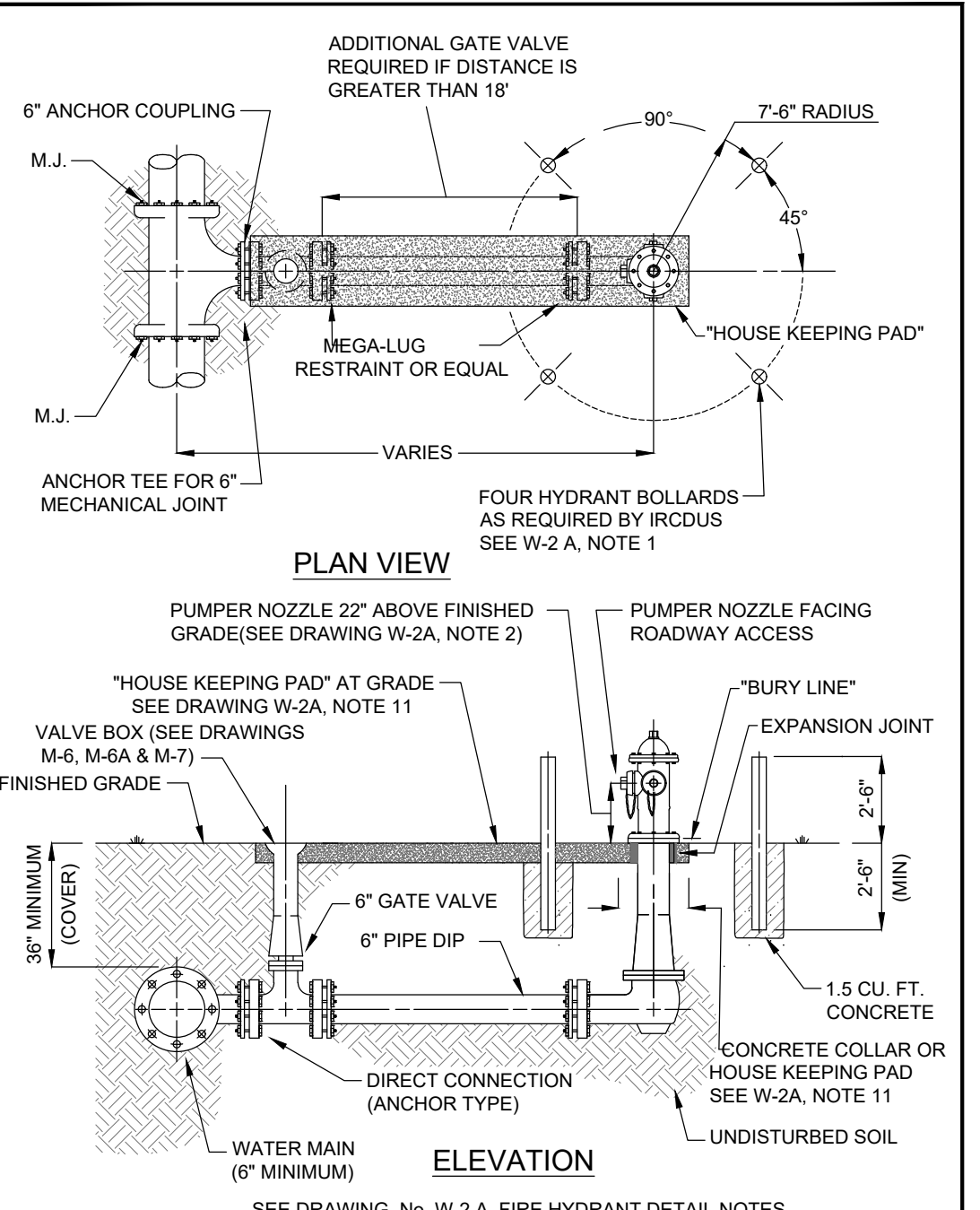
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
AS-BUILT RECORD DRAWING GENERAL NOTES
 CONTINUED
 DRAWING NO. **M-16 A**



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
FIRE HYDRANT AND VALVE LOCATIONS
 DRAWING NO. **W-1**

- NOTES:**
- VALVE SPACING ON WATER MAINS SHALL NOT EXCEED 1000'.
 - A MINIMUM COVER OF 36" IS REQUIRED ABOVE THE TOP OF ALL PIPE BELLS.
 - CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF BLUE REFLECTIVE MARKERS (RPM) INDICATING A FIRE HYDRANT. BLUE REFLECTIVE MARKER SHALL BE LOCATED IN THE CENTERLINE OF THE LANE CLOSEST TO THE HYDRANT.
 - DEAD END LINES, VALVES, AND HYDRANTS SHALL BE RESTRAINED.
 - ALL LINES SHALL BE A MINIMUM 10' OFFSET FROM BUILDINGS.
 - REFLECTIVE MARKER (RPM'S) FOR FIRE HYDRANTS SHALL BE BLUE.
 - REFLECTIVE MARKERS SHALL BE AFFIXED TO PAVEMENT WITH A FDOT APPROVED PRODUCT.
 - SEE DRAWINGS, No. M-6, VALVE AND BOX & M-7, VALVE BOX PAD.
 - ALL FIRE HYDRANT VALVE COVERS SHALL BE PAINTED RED. ALL IN-LINE VALVE COVERS SHALL BE PAINTED BLUE.

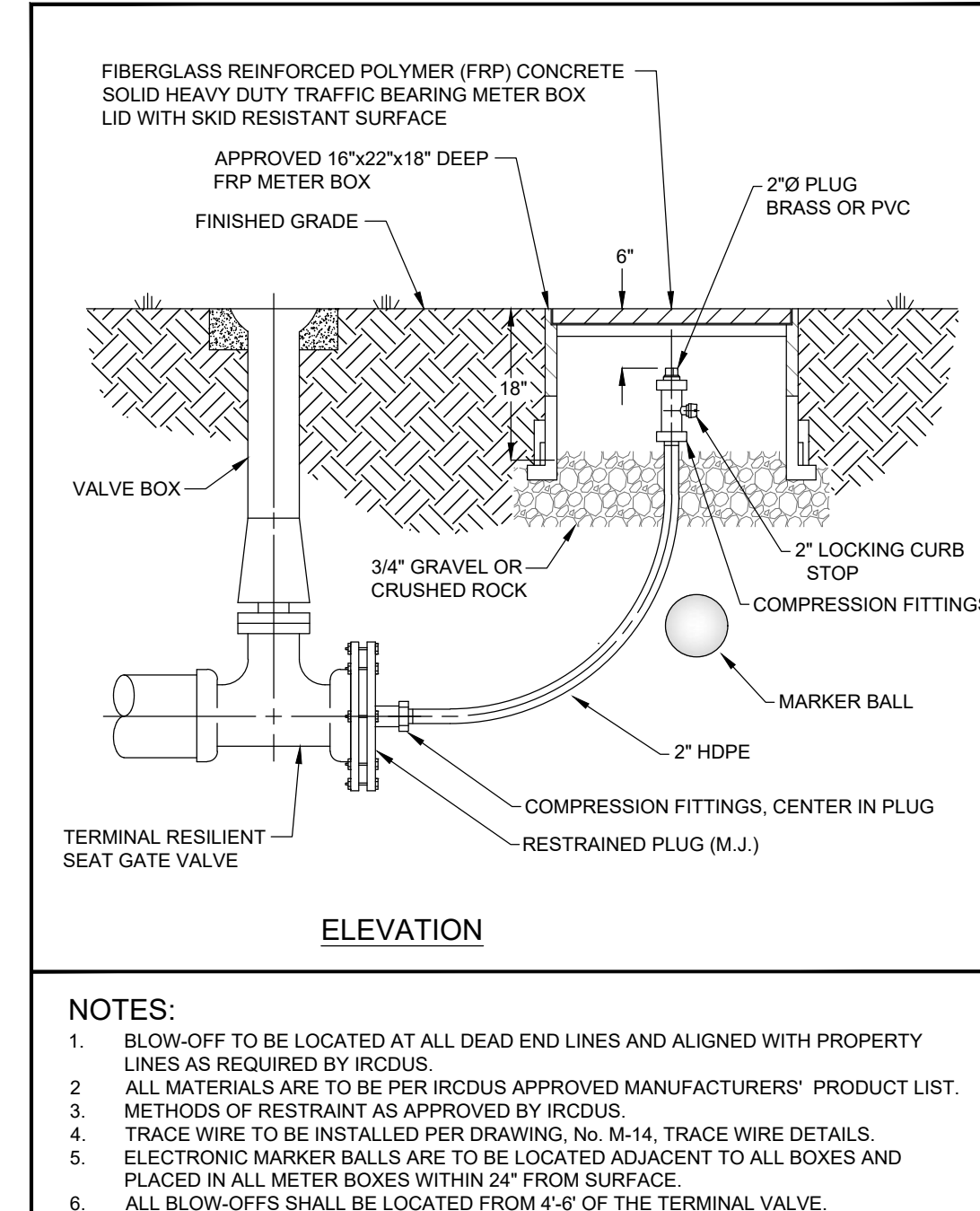
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
FIRE HYDRANT AND VALVE NOTES
 DRAWING NO. **W-1 A**



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
FIRE HYDRANT DETAIL
 DRAWING NO. **W-2**

- NOTES:**
- HYDRANT BOLLARD TO BE 4" DIAMETER GALVANIZED STEEL OR DUCTILE IRON PIPE FILLED WITH CONCRETE WHEN REQUIRED BY IRCDCS. GUARDS TO BE PAINTED RED, SAME AS HYDRANTS AND VALVE COVER.
 - THE HYDRANT SHOULD BE SET SUCH THAT THE "BURY LINE" ON THE HYDRANT BARREL IS SET AT FINISHED GRADE OR THAT THE OPERATING NUT OF THE PUMPER NOZZLE IS A MINIMUM OF 2" ABOVE FINISHED GRADE.
 - ALL HYDRANTS SHALL BE TRAFFIC BREAKAWAY TYPE.
 - COMPLETE (ANCHORED) FIRE HYDRANT ASSEMBLY MAY BE UTILIZED IN LIEU OF ABOVE.
 - FIRE HYDRANT SHOULD BE LOCATED A MINIMUM 3' AND MAXIMUM 12' FROM EDGE OF PAVEMENT WHERE POSSIBLE.
 - ALL MATERIALS ARE TO BE PER IRCDCS APPROVED MANUFACTURERS' PRODUCT LIST. TRACE WIRE TO BE INSTALLED AS PER DRAWING, No. M-14, TRACE WIRE DETAIL, (FOR CLARITY THE TRACE WIRE IS NOT SHOWN IN DRAWING, No. W-2, FIRE HYDRANT DETAILS).
 - MAINTAIN CLEAR ZONE RADIUS OF 7'-6" AROUND HYDRANT PERPENDICULAR TO ROADWAY OR CURB FACE (EXAMPLE MUST BE CLEAR OF SIGNS, TREES, SHRUBS, TRANSFORMERS, UTILITY POLES, ETC.).
 - HYDRANTS AND PROTECTION DEVICES SHALL HAVE CLEARANCES OF 7'-6" IN FRONT AND THE SIDES OF THE FIRE HYDRANT, WITH A 4' MINIMUM CLEARANCE TO THE REAR OF THE HYDRANT UNLESS THE AHJ (AUTHORITY HAVING JURISDICTION) REQUIRES A LARGER CLEAR ZONE.
 - SEE DRAWINGS, No. M-6 VALVE AND BOX DETAIL, M-6A VALVE AND BOX DETAIL NOTES AND M-7 VALVE BOX PAD.
 - HOUSE KEEPING PAD IS REQUIRED. HOUSE KEEPING PAD SHALL BE 6" THICK X 2' WIDE (MINIMUM) AND LOCATED AT FINISHED GRADE. BREAKAWAY FLANGES SHALL BE 2" ABOVE HOUSEKEEPING PAD. (SEE DRAWING, No. W-2, FIRE HYDRANT DETAIL).

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
FIRE HYDRANT DETAIL NOTES
 DRAWING NO. **W-2 A**



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
**MANUAL 2\"/>
 DRAWING NO. **W-3****

| DATE | REVISIONS | COMMENTS |
|------------|-----------|-------------------------------------|
| 08-14-2023 | 1 | REV PER SURVIMD ENV. COMMENTS |
| 08-09-2023 | 2 | REV PER PDEP WATER COMMENTS |
| 08-07-2023 | 3 | REV PER IRCDCS GAS CO. COF COMMENTS |
| 07-27-2023 | 4 | REV PER PERICD INC. COMMENTS |
| 07-19-2023 | 5 | REV PER SURVIMD COMMENTS |
| 06-20-2023 | 6 | REV PER COF FINAL SP COMMENTS |
| 06-20-2023 | 7 | REV PER COF AND RPT COMMENTS |
| 06-20-2023 | 8 | REV PER SURVIMD ENV. COMMENTS |

JOB NO. 21-0492
 DESIGNED TH
 DRAWN SS
 DATE JUNE 2022
 CHECKED AS
 DATE ISSUED 05/12/2023

MBV ENGINEERING, INC.
 MOHA BOWLES VILLALBAZAR & ASSOCIATES
 CIVIL & MECHANICAL ENGINEERING CA #3728
 4085 20TH STREET
 VERO BEACH, FL 33460
 TEL: (772) 774-3141
 FAX: (772) 774-3141

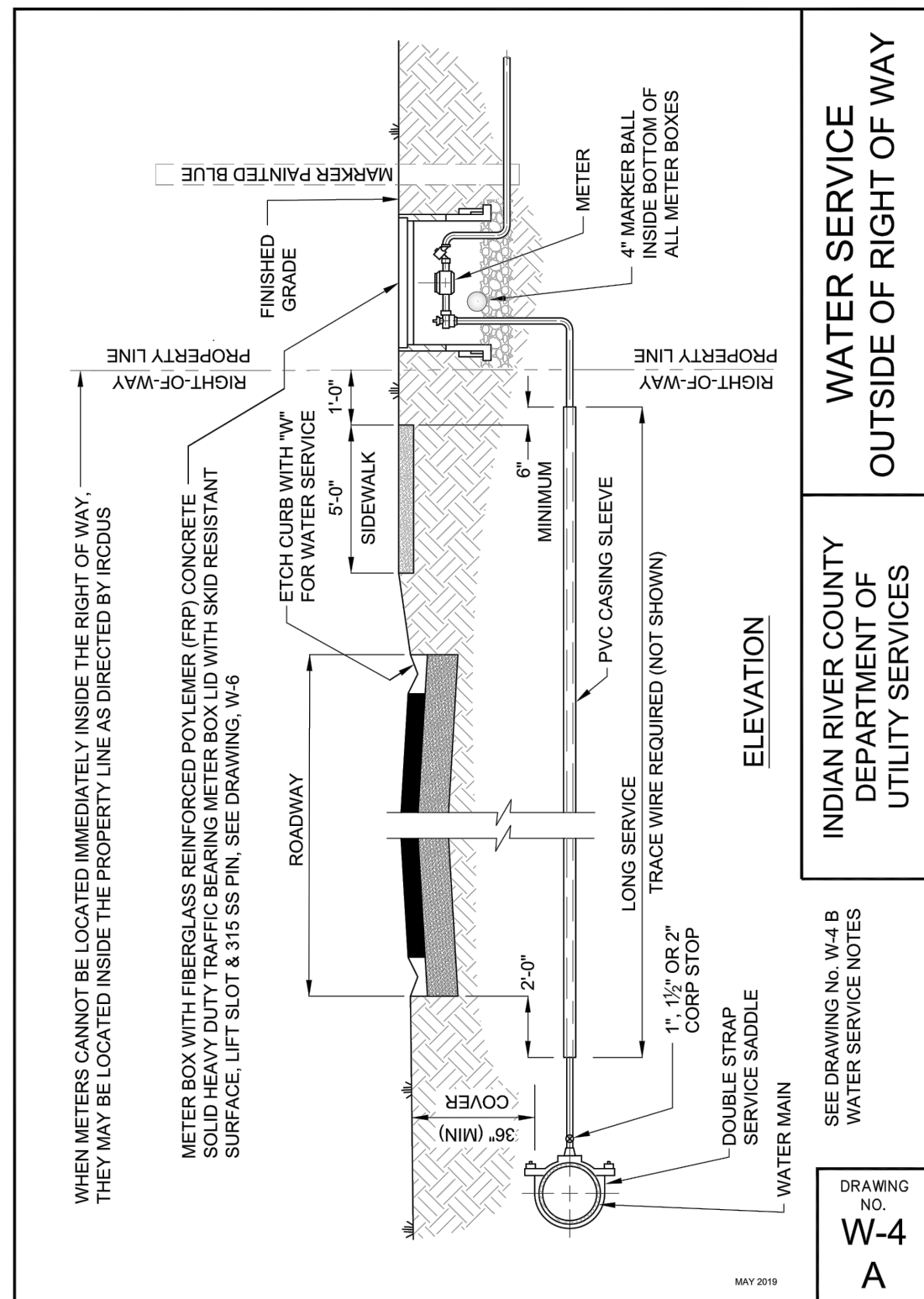
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
UTILITY DETAILS
 IRC FIRE RESCUE FIRE STATION #7
 CITY OF FELLSMERE
 FINAL DEVELOPMENT PLAN
 FLORIDA
 CITY OF FELLSMERE

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

AARON G. STANTON
 FL. P.E. #72460 8/16/23

SHEET
C15
 21-0492

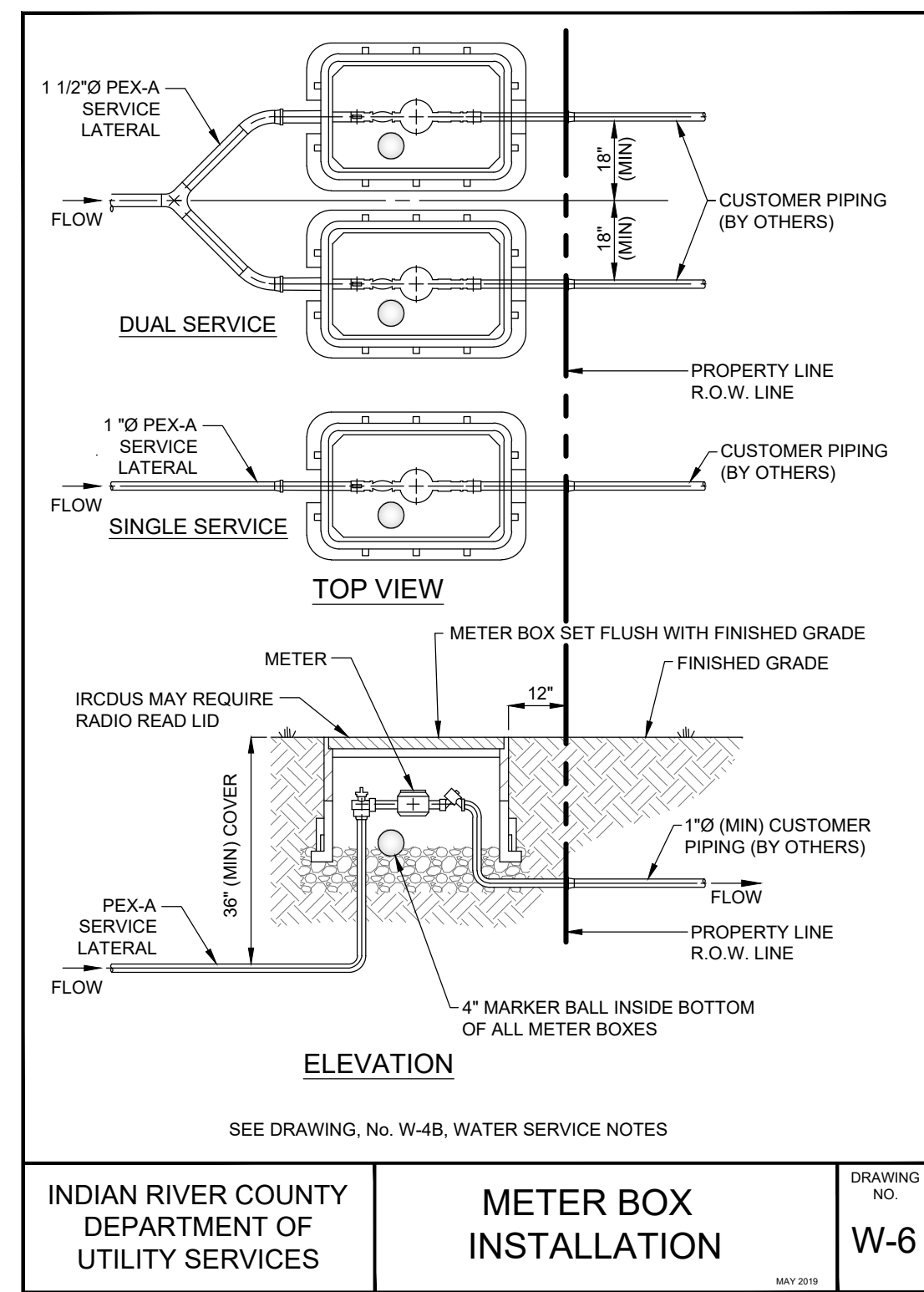
72 HOURS BEFORE DIGGING
 CALL TOLL FREE
811
 Know what's below.
 Call before you dig.



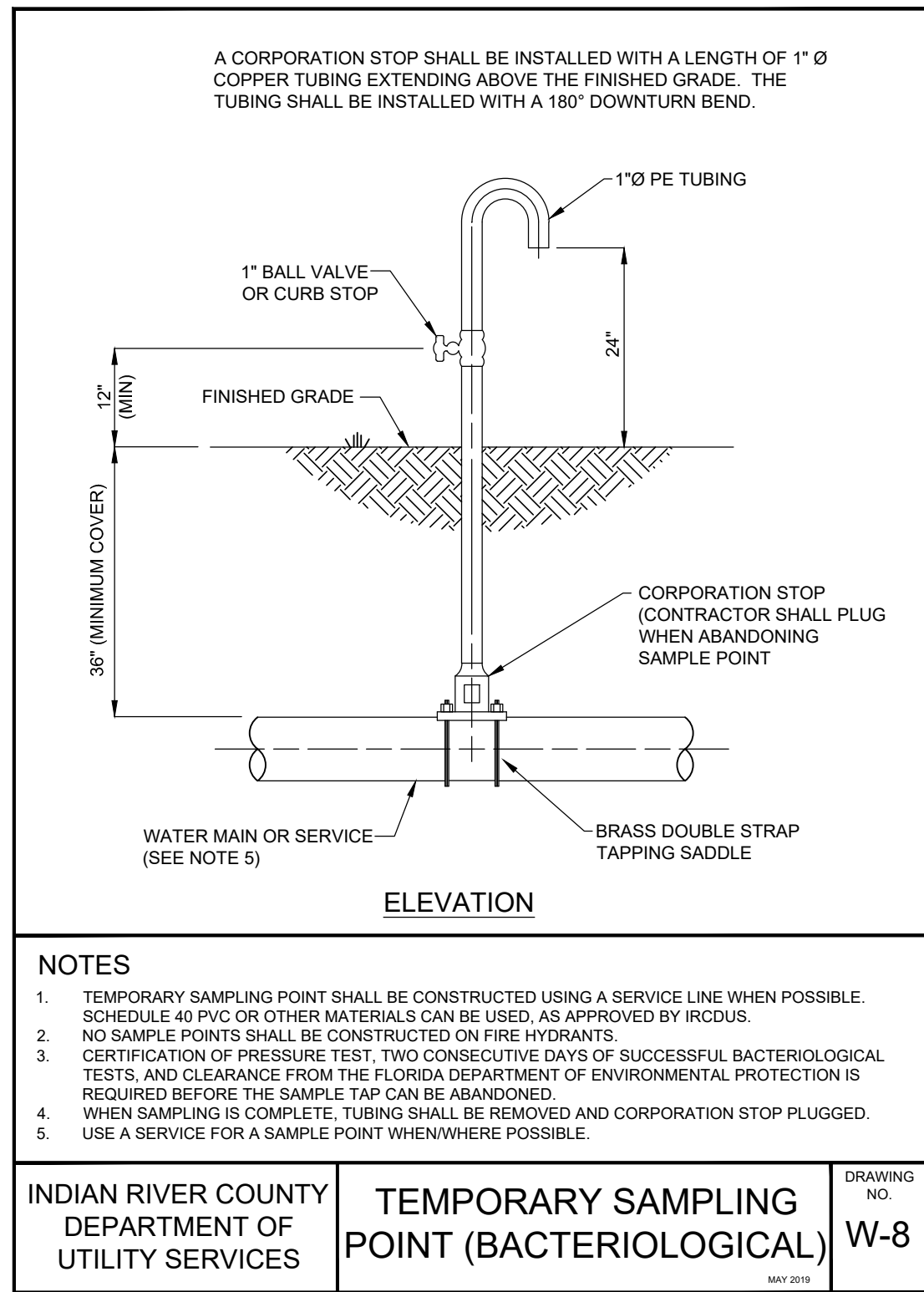
WATER SERVICE OUTSIDE OF RIGHT OF WAY

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES

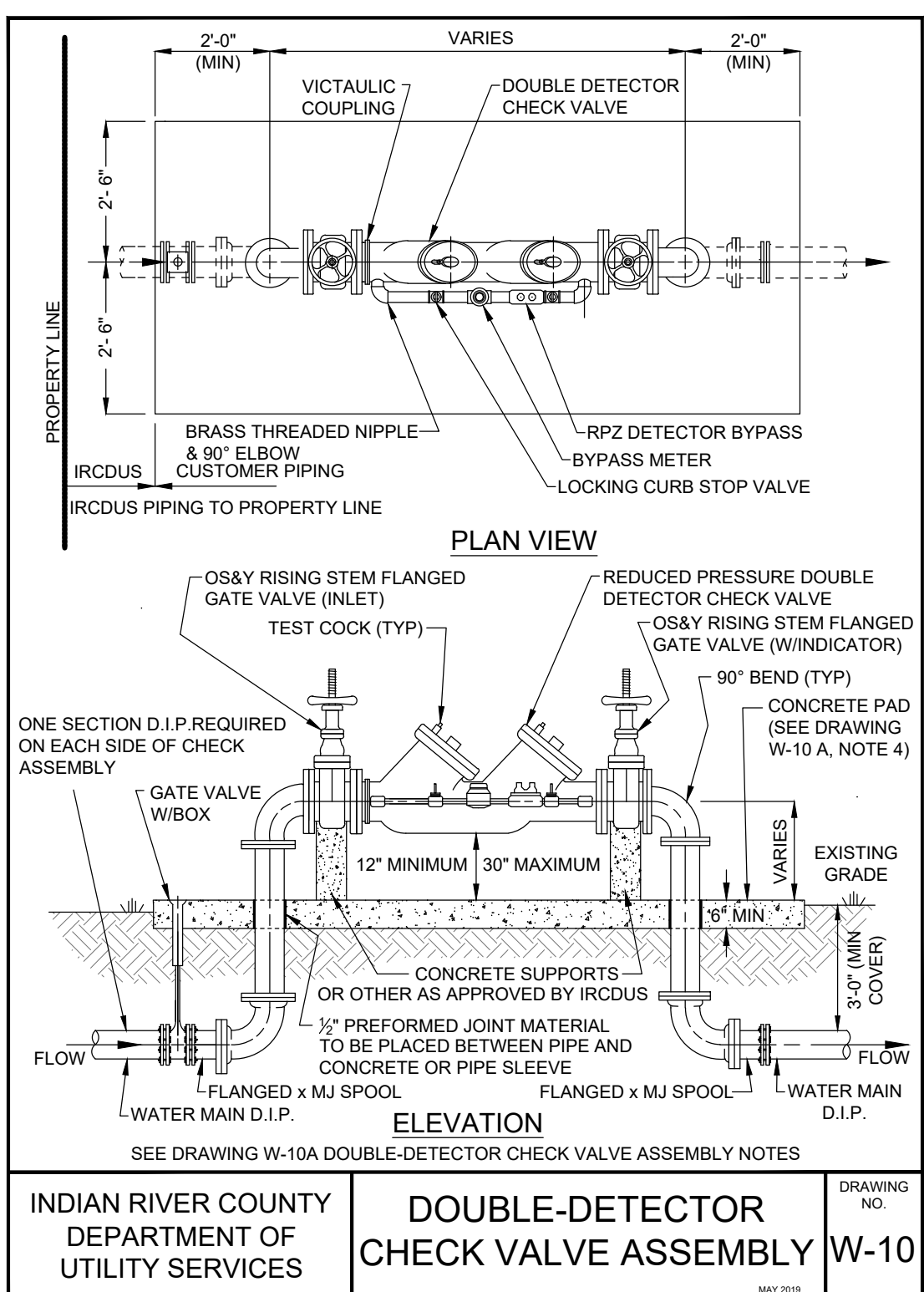
SEE DRAWING No. W-4 B WATER SERVICE NOTES
DRAWING NO. **W-4**
A



METER BOX INSTALLATION
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
DRAWING NO. **W-6**
A



TEMPORARY SAMPLING POINT (BACTERIOLOGICAL)
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
DRAWING NO. **W-8**
A

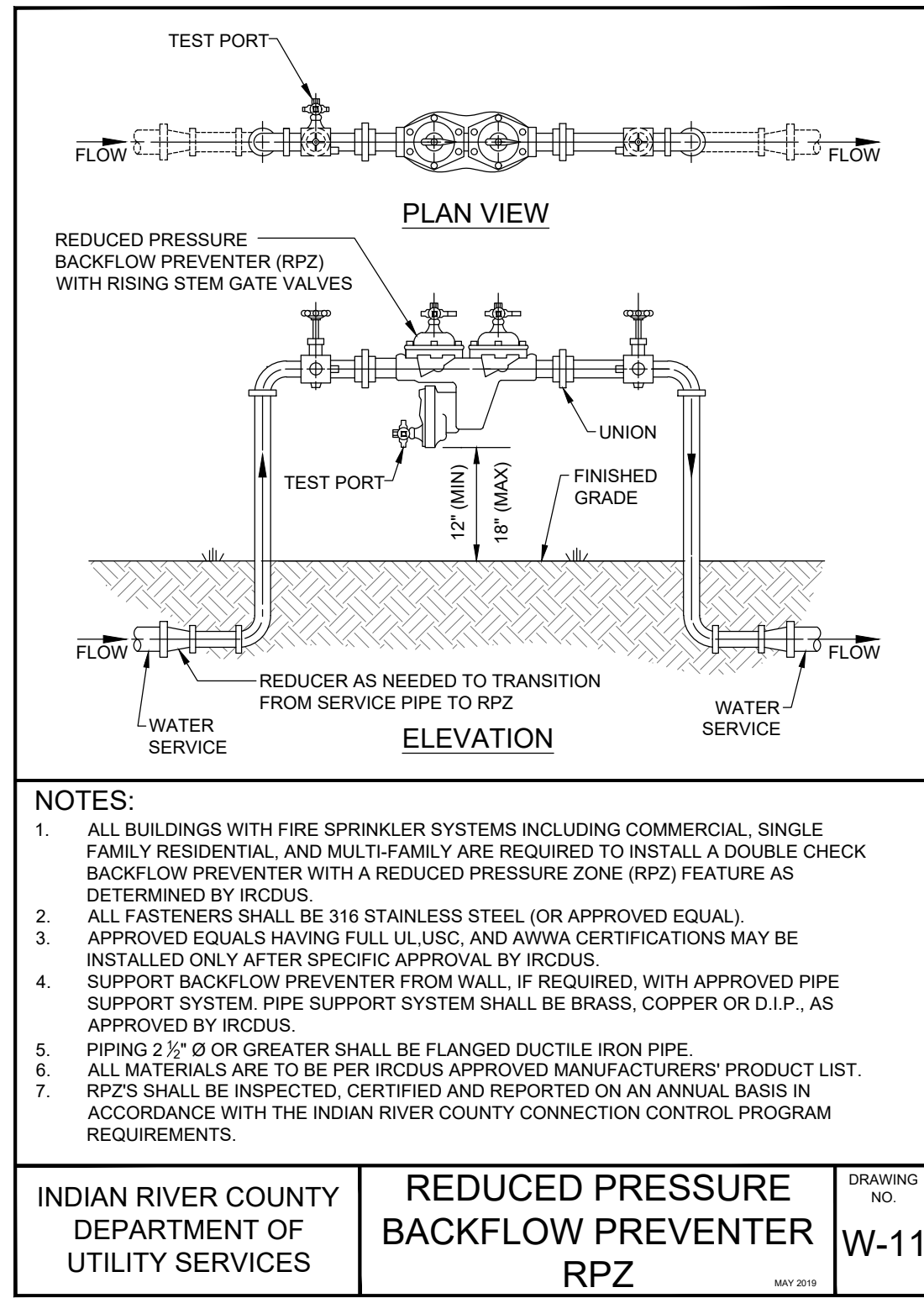


DOUBLE-DETECTOR CHECK VALVE ASSEMBLY
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
DRAWING NO. **W-10**
A

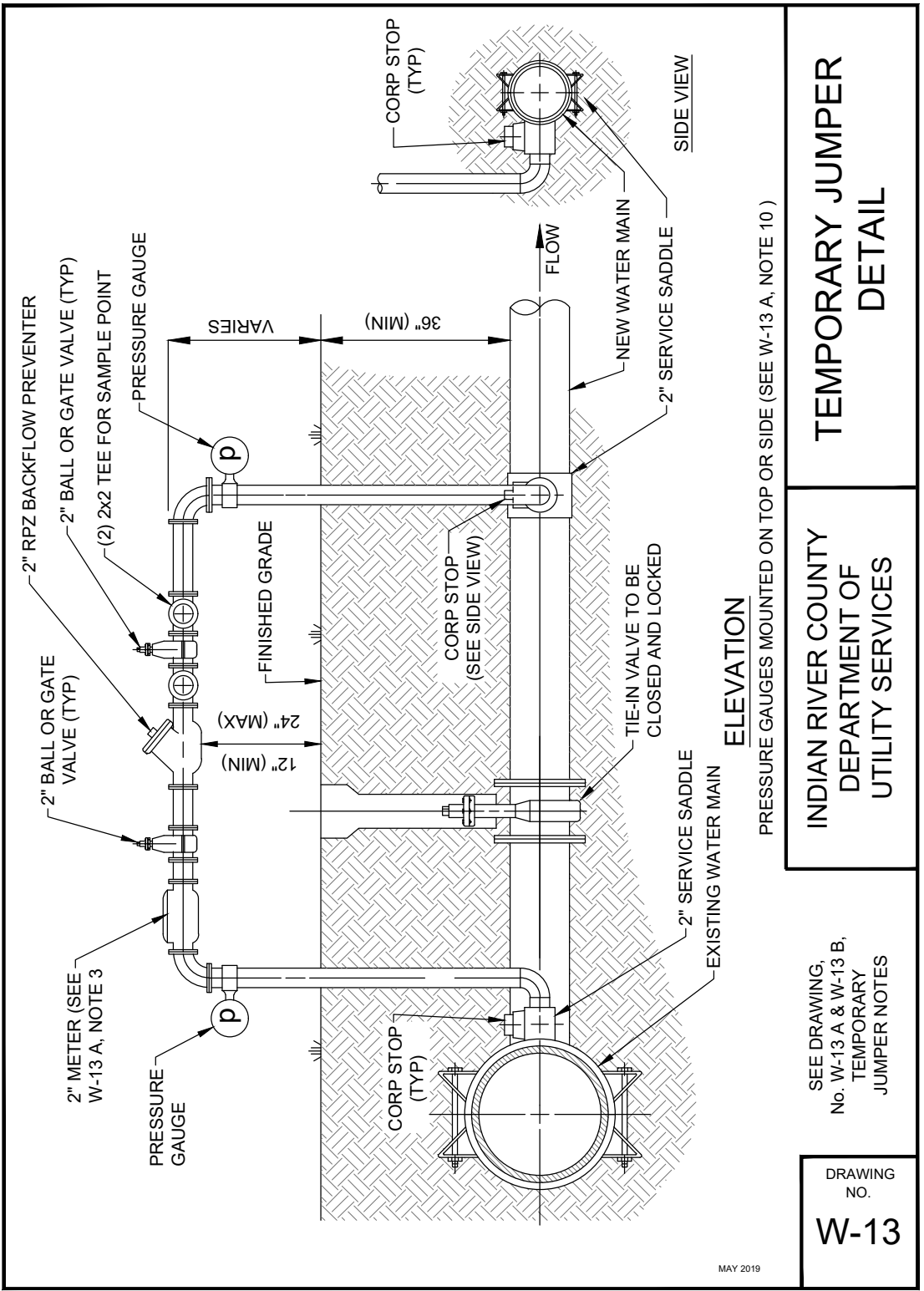
NOTES:

- ALL BUILDINGS WITH FIRE PROTECTION SYSTEMS MUST HAVE AN IRCUDS APPROVED DETECTOR CHECK VALVE AND METER INSTALLED ON THEIR PROPERTY. DETECTOR CHECKS SHALL BE INSTALLED IN ACCORDANCE WITH STATE FIRE MARSHALL CODE AND IRCUDS STANDARDS. CHECK VALVE AND METER SHALL BE MOUNTED ABOVE GROUND. CERTIFIED AND REPORTED ON AN ANNUAL BASIS IN ACCORDANCE WITH THE INDIAN RIVER COUNTY CROSS CONNECTION CONTROL PROGRAM REQUIREMENTS. CAN BE FOUND AT: www.ircutilities.com/cccp.htm
- CONCRETE PAD SHALL BE CONSTRUCTED WITH 3,000 P.S.I. COMMERCIAL GRADE FIBER MESH CONCRETE AND SHALL BE A MINIMUM 6\"/>

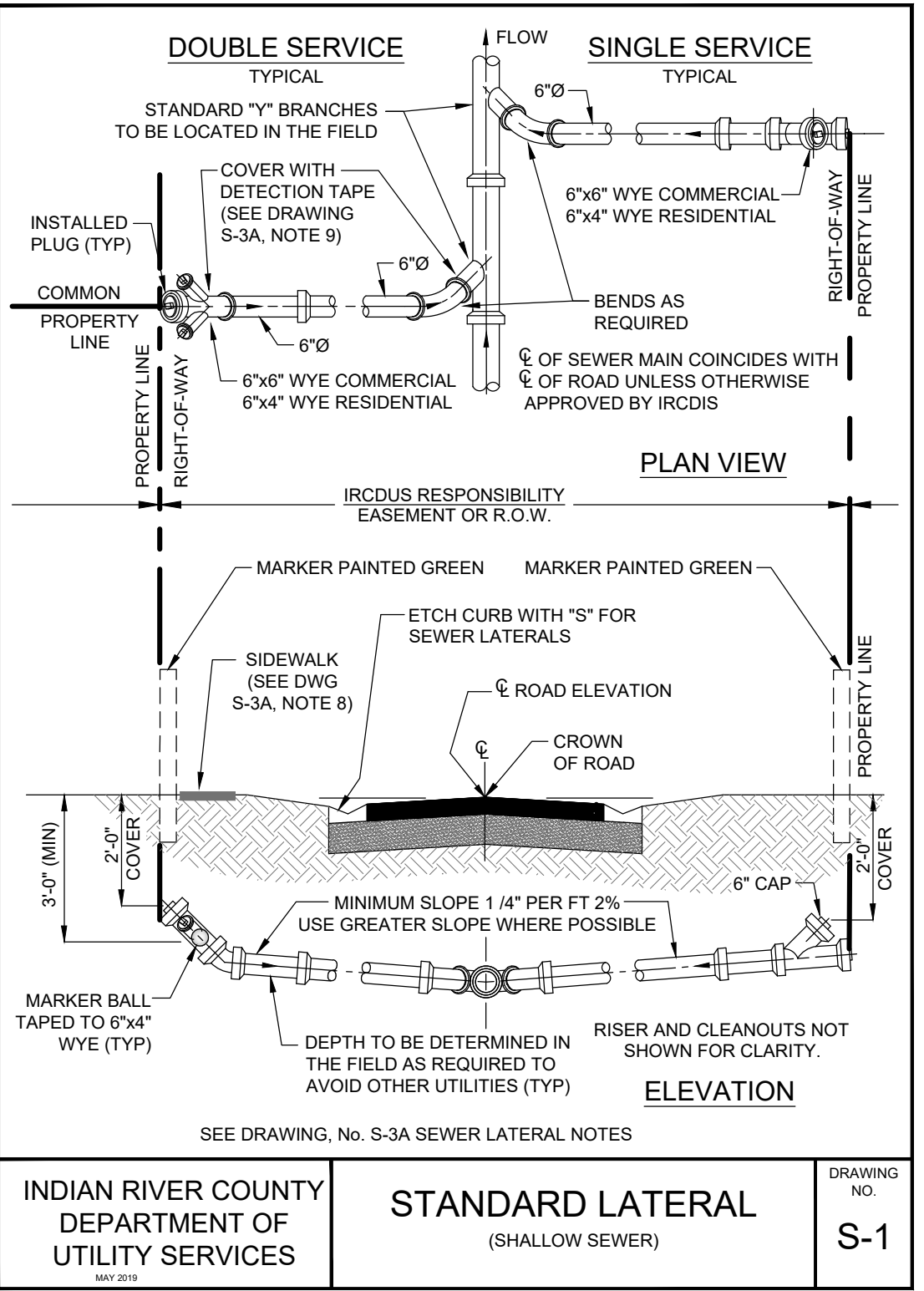
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
DOUBLE-DETECTOR CHECK VALVE ASSEMBLY NOTES
DRAWING NO. **W-10**
A



REDUCED PRESSURE BACKFLOW PREVENTER RPZ
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
DRAWING NO. **W-11**
A



TEMPORARY JUMPER DETAIL
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
SEE DRAWING No. W-12 A & W-13 B JUMPER NOTES
DRAWING NO. **W-13**
A

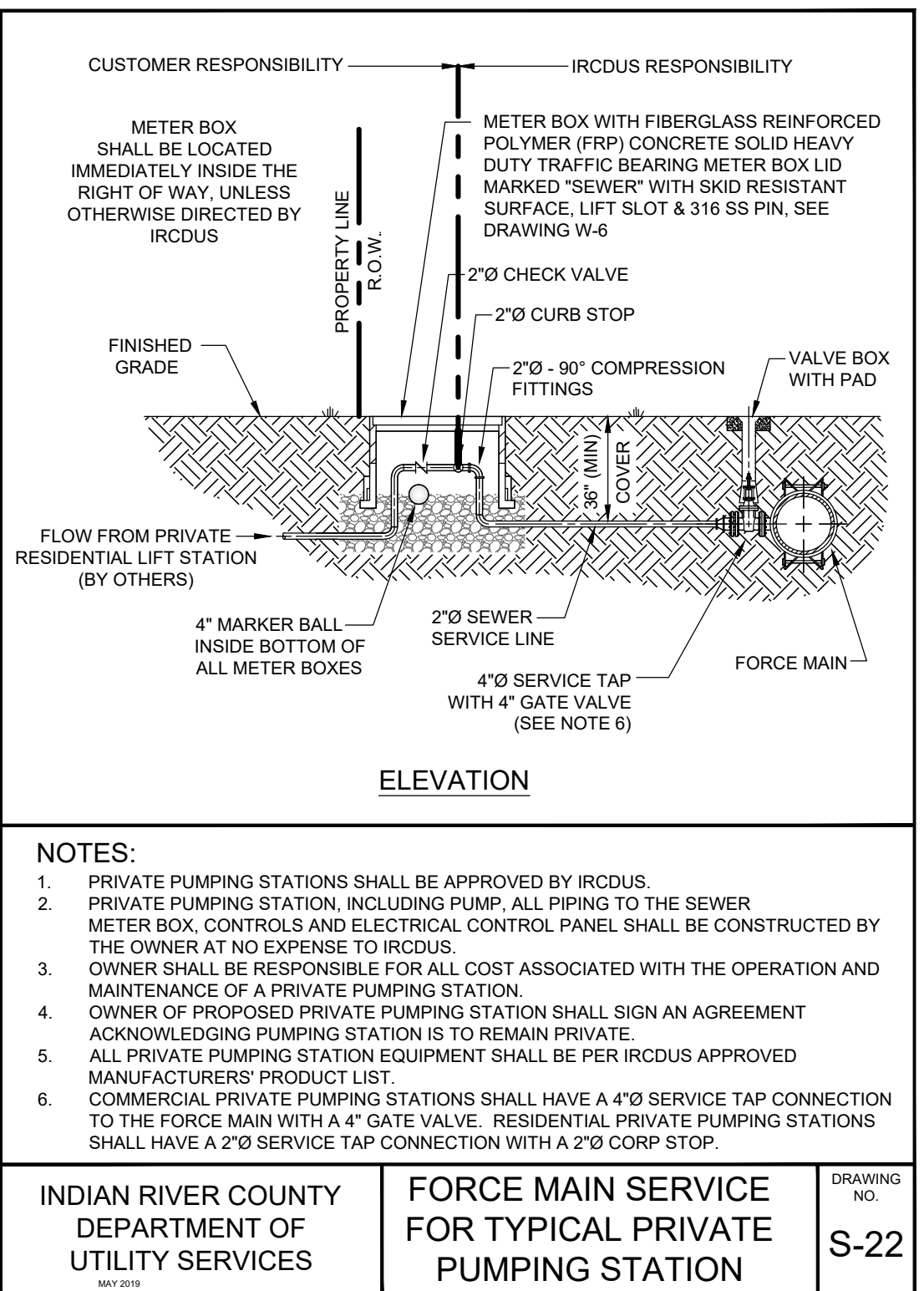


STANDARD LATERAL (SHALLOW SEWER)
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
DRAWING NO. **S-1**
A

NOTES:

- ALL SEWER LATERALS (SINGLE OR DOUBLE) SHALL HAVE A RISER PIPE WITH BENDS AS REQUIRED FOR SERVICE CONNECTIONS AND WITH A 4\"/>

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
STANDARD LATERAL NOTES
DRAWING NO. **S-3**
A



FORCE MAIN SERVICE FOR TYPICAL PRIVATE PUMPING STATION
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
DRAWING NO. **S-22**
A

| REV | DATE | DESCRIPTION | BY | DATE |
|-----|------------|--------------------------------------|----|------------|
| 1 | 08-14-2023 | REV. PER SURVIVED ENV. COMMENTS | TH | 08-14-2023 |
| 2 | 08-09-2023 | REV. PER FDEP WATER COMMENTS | SS | 08-09-2023 |
| 3 | 08-07-2023 | REV. PER IRCDUS GAS CO. CCF COMMENTS | SS | 08-07-2023 |
| 4 | 07-27-2023 | REV. PER IRCDUS IRCDUS COMMENTS | SS | 07-27-2023 |
| 5 | 07-19-2023 | REV. PER IRCDUS COMMENTS | SS | 07-19-2023 |
| 6 | 06-20-2023 | REV. PER IRCDUS COMMENTS | SS | 06-20-2023 |
| 7 | 06-20-2023 | REV. PER IRCDUS COMMENTS | SS | 06-20-2023 |
| 8 | 05-12-2023 | REV. PER IRCDUS COMMENTS | SS | 05-12-2023 |

21-0492
DESIGNED
DRAWN
DATE
CHECKED
DATE ISSUED

UTILITY DETAILS

IRC FIRE RESCUE FIRE STATION #7
CITY OF FELLSMERE
FINAL DEVELOPMENT PLAN

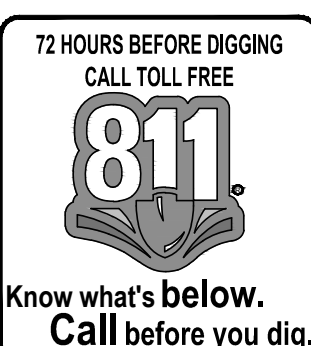
FLORIDA

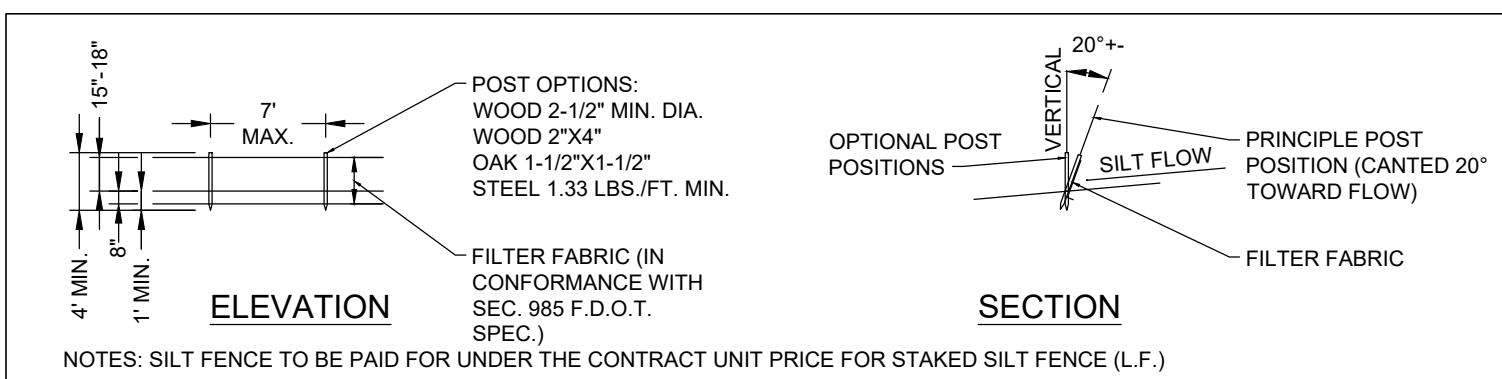
AARON G. STANTON
LICENSE No. 72460
STATE OF FLORIDA
PROFESSIONAL ENGINEER

8/16/23

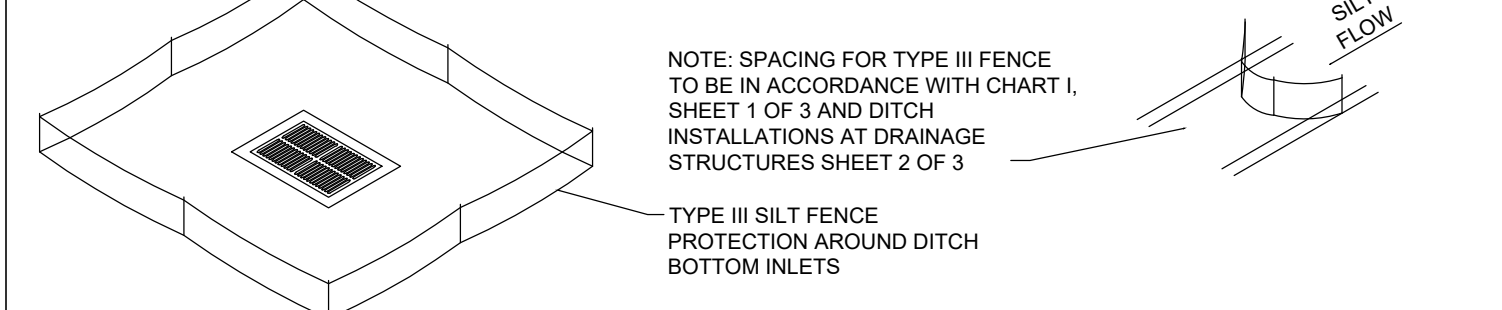
SHEET
C16
21-0492

C:\DRAWINGS\2023\10492-IRC-Fire-Station-7-MD-4160-imp\21-0492-DETAILS.dwg (1/2023) 10:30 AM





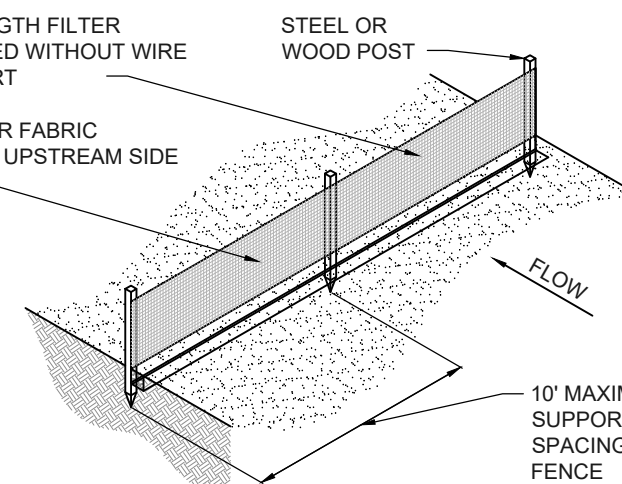
TYPE III SILT FENCE



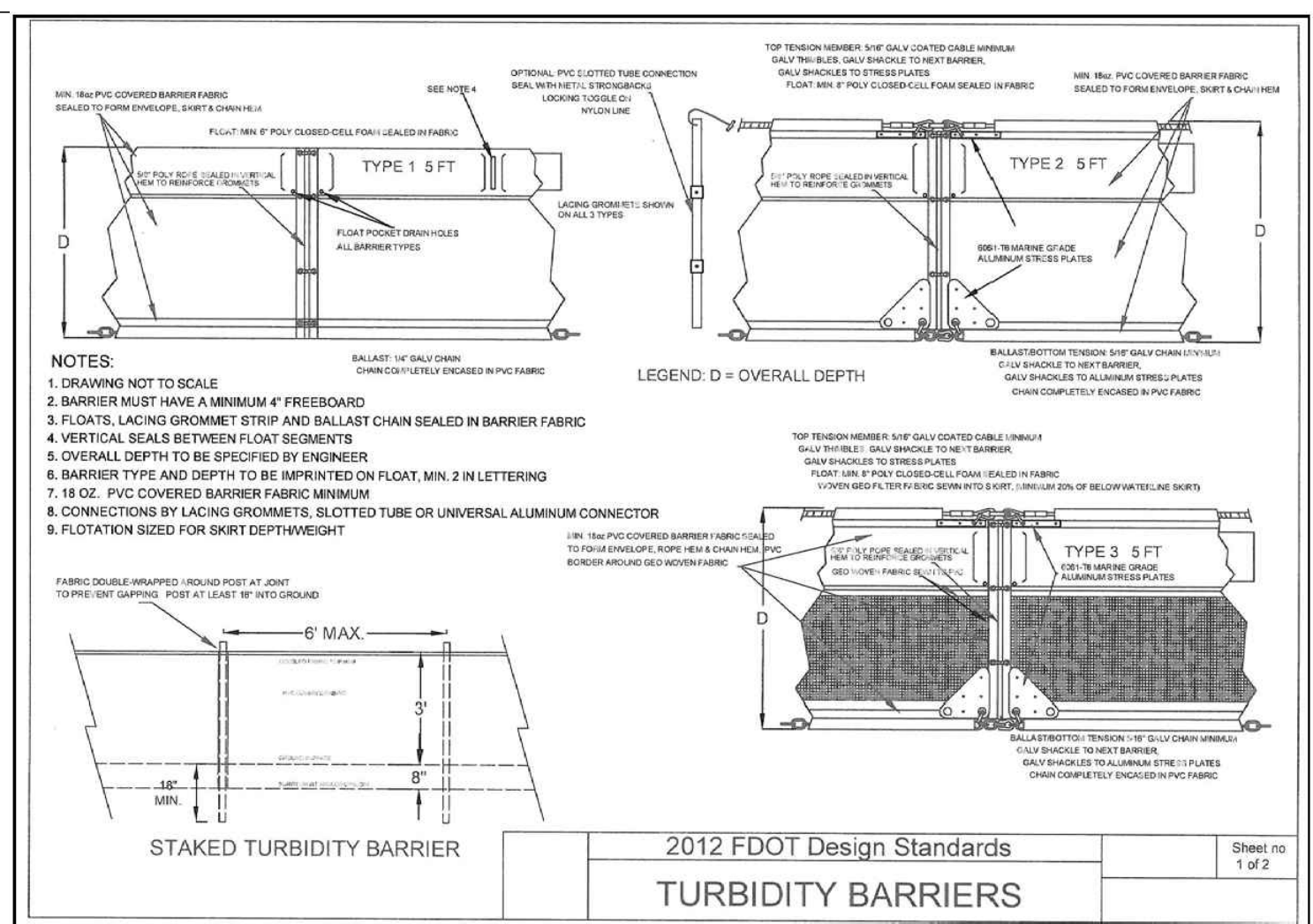
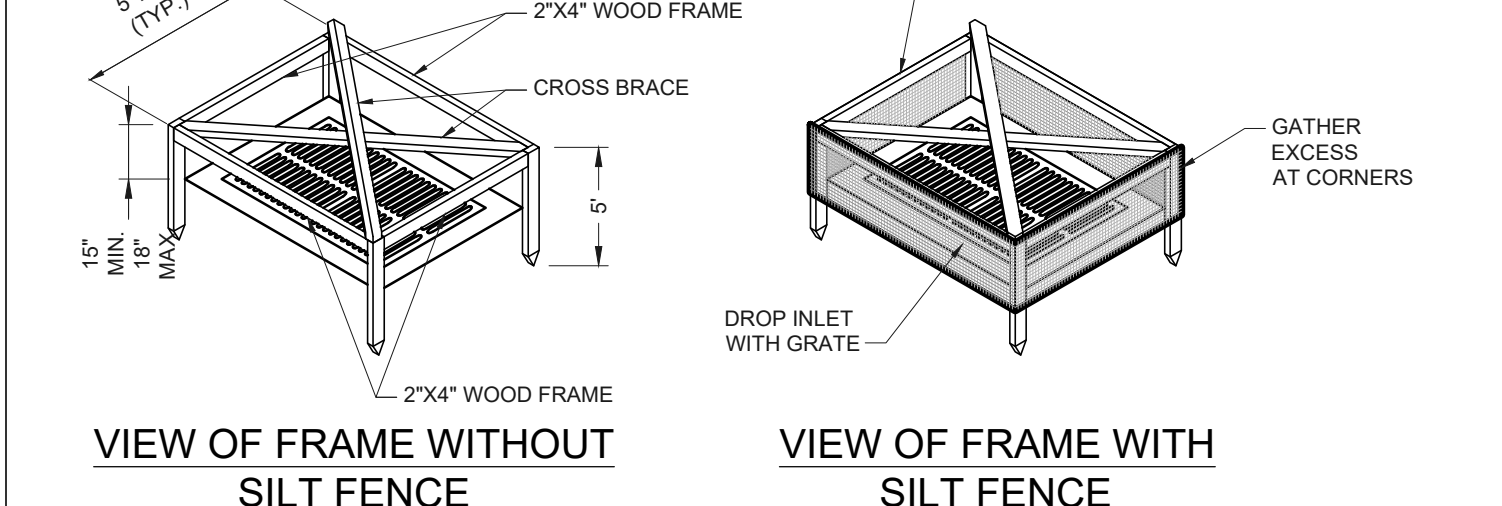
DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

SILT FENCE APPLICATIONS

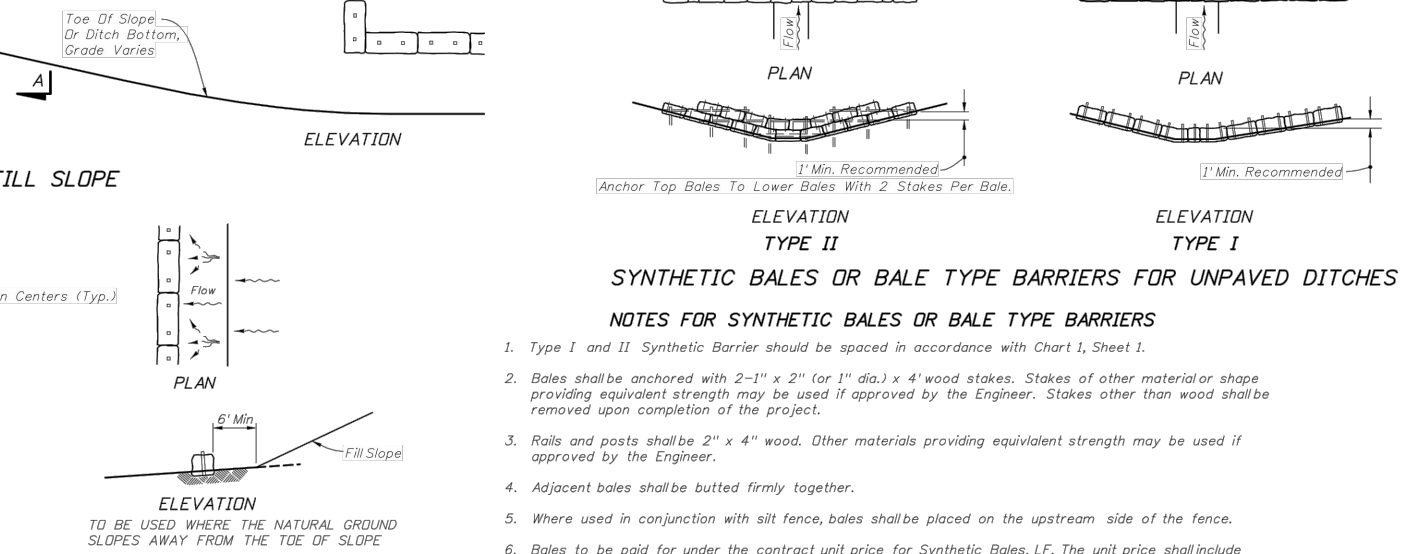
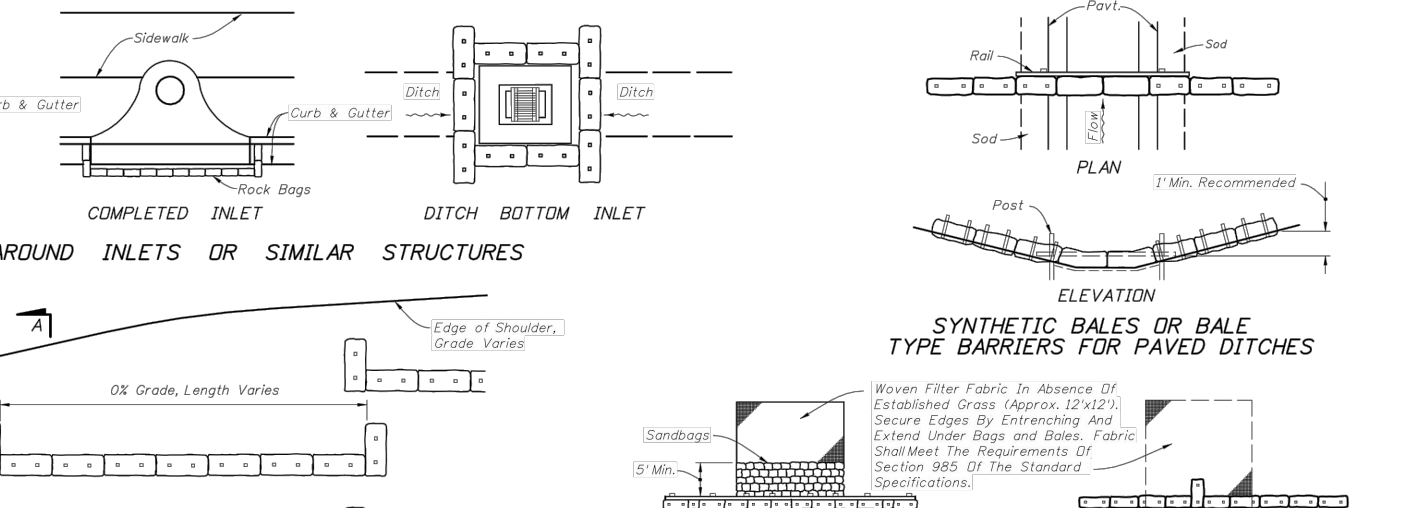
- SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
- INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9' MAXIMUM RECOMMENDED STORAGE HEIGHT.
- REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN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



TYPE IV SILT FENCE



TURBIDITY BARRIER APPLICATIONS

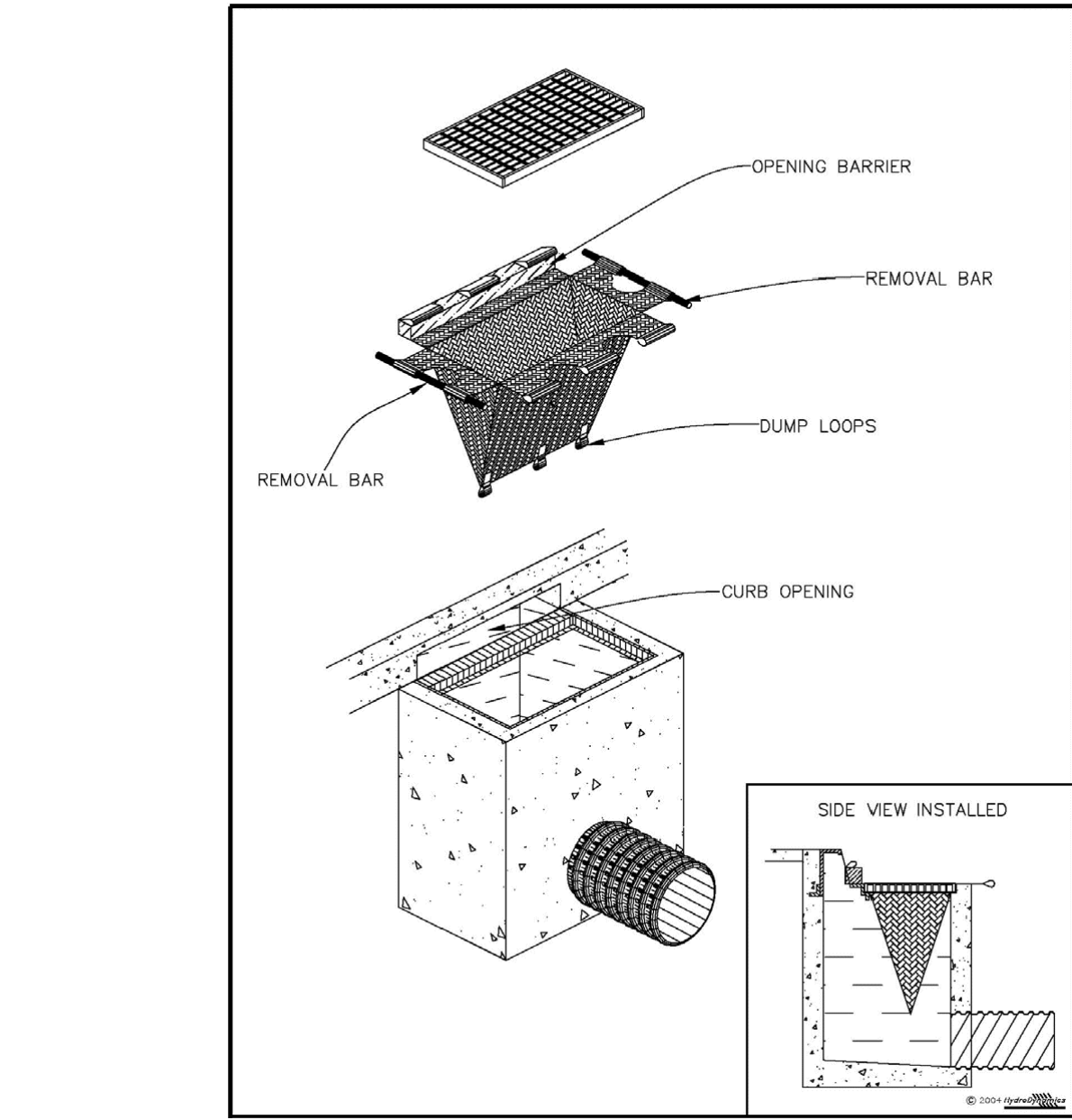


EROSION AND SEDIMENTATION CONTROL NOTES

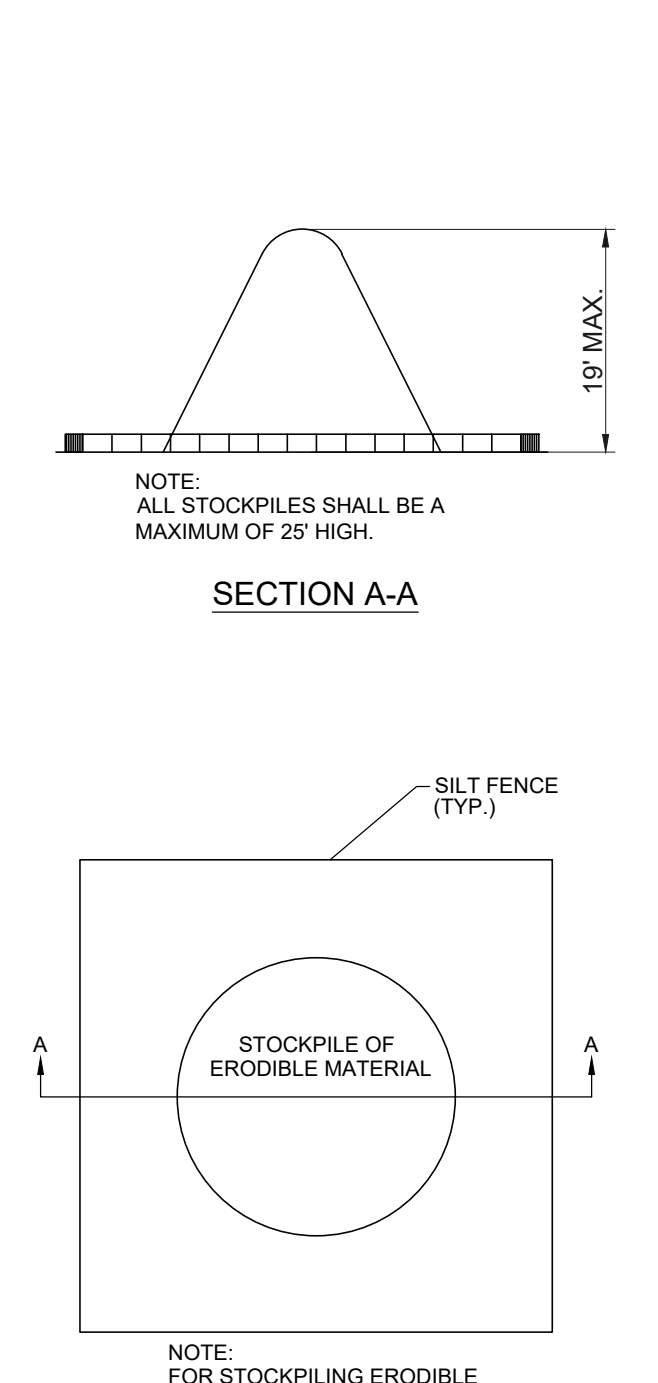
CONSTRUCTION ACTIVITIES CAN RESULT IN THE GENERATION OF SIGNIFICANT AMOUNTS OF POLLUTANTS WHICH MAY REACH SURFACE OR GROUND WATERS. ONE OF THE PRIMARY POLLUTANTS OF SURFACE WATERS IS SEDIMENT DUE TO EROSION. EXCESSIVE QUANTITIES OF SEDIMENT WHICH REACH WATER BODIES OF FLOOD PLAINS HAVE BEEN SHOWN TO 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

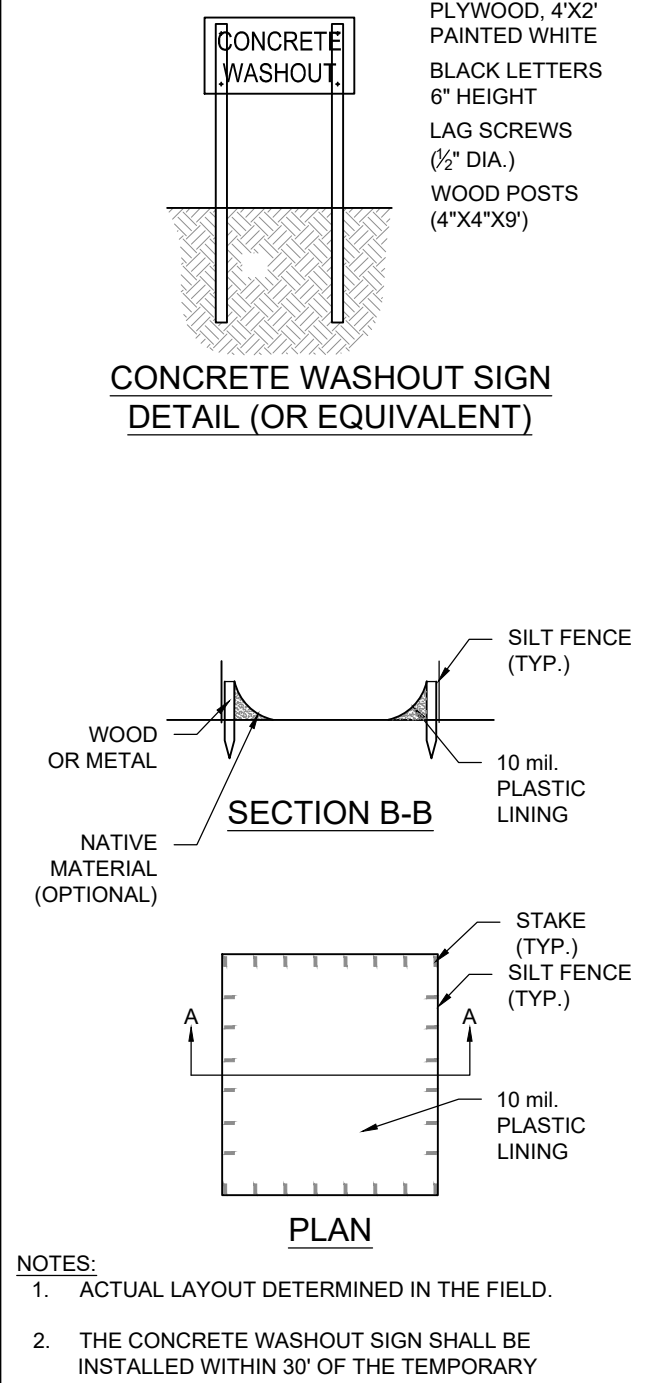
- SEDIMENT BASIN AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UNSLOPE LAND DISTURBANCE TAKES PLACE.
- ALL SEDIMENT CONTROL MEASURES ARE TO BE ADJUSTED 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.
- 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.
- 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.
- 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.
- STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
- 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.
- AFTER ANY SIGNIFICANT RAINFALL, SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED FOR INTEGRITY, ANY DAMAGED DEVICES SHALL BE CORRECTED IMMEDIATELY.
- CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.
- WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
- 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.
- BEFORE TEMPORARY OR NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS ARE MADE OPERATIONAL, ADEQUATE OUTFALL PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
- 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.
- WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES, A TEMPORARY STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.
- THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.
- 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.
- UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
 - NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
 - EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
 - 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.
 - RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
- 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 PAVED 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.
- 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.
- PROPERTIES AND WATERWAYS DOWNSTREAM FROM CONSTRUCTION SITE SHALL BE PROTECTED FROM SEDIMENT DISPOSITION AND EROSION.
- PHASED PROJECTS SHOULD BE CLEARED IN CONJUNCTION WITH CONSTRUCTION OF EACH PHASE.
- EROSION CONTROL, DESIGN AND CONSTRUCTION SHALL FOLLOW THE REQUIREMENTS IN INDEX NOS. 104 AND 105 OF FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS.
- THE REVIEWER MAY APPROVE MODIFICATIONS OR ALTER PLANS TO THESE EROSION CONTROL CRITERIA DUE TO SITE SPECIFIC CONDITIONS.



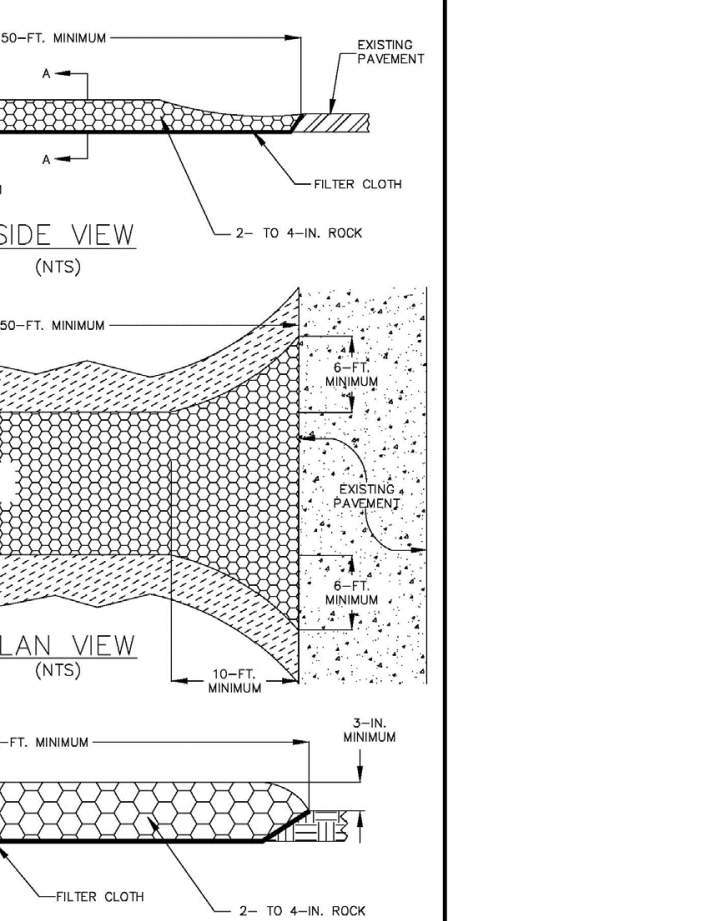
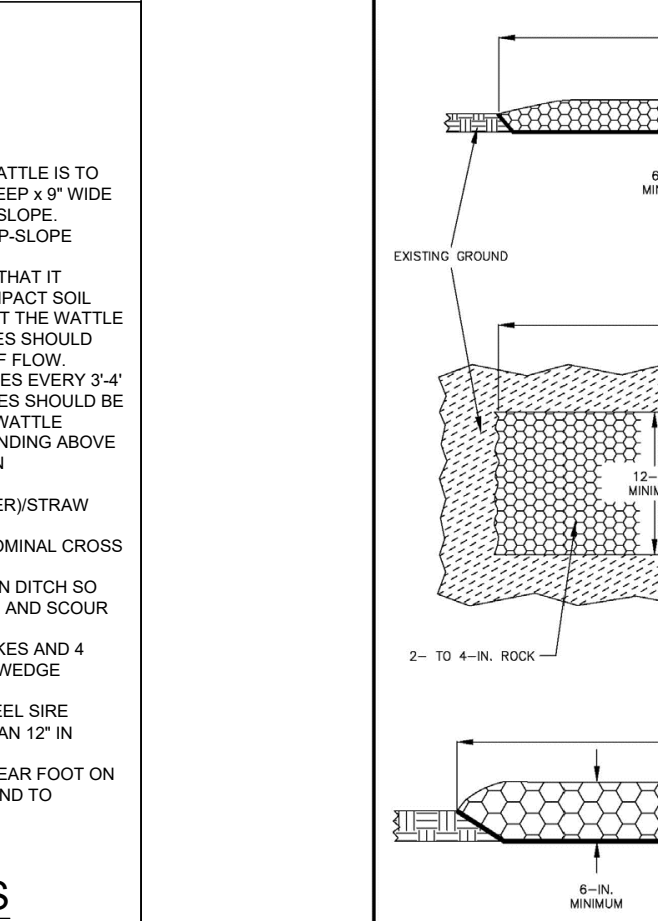
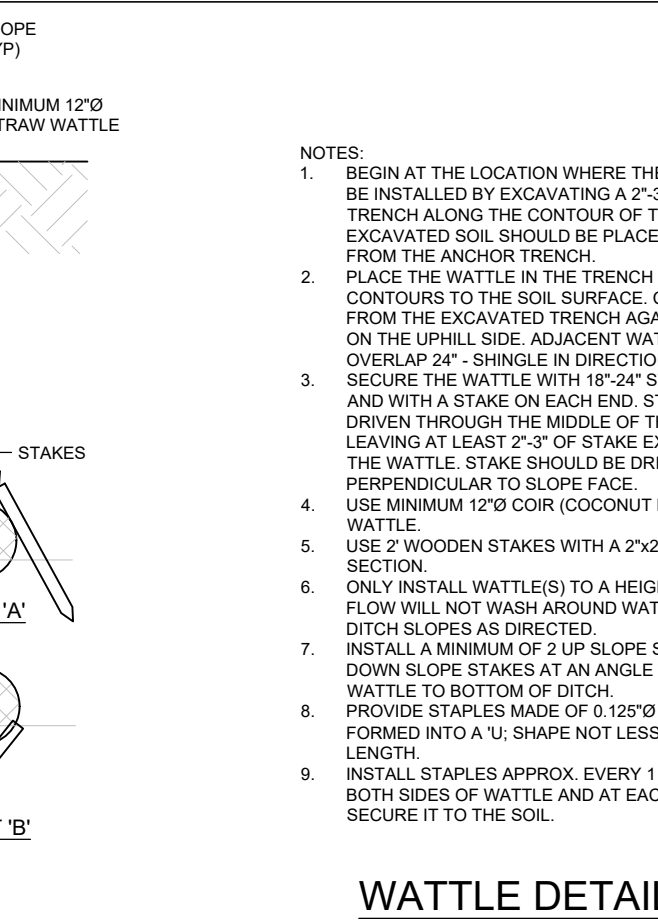
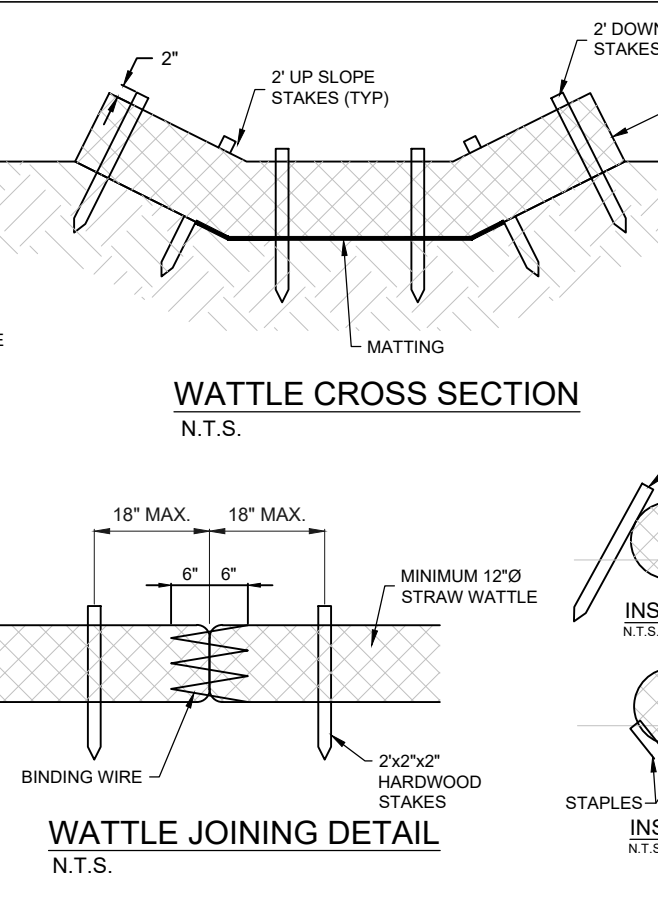
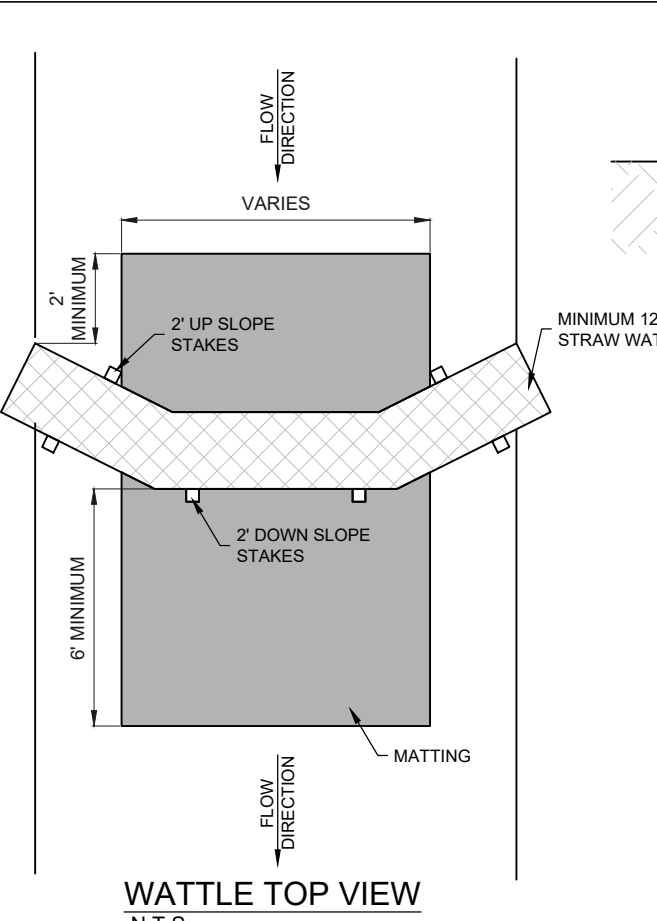
INLET INSERT SEDIMENT CONTAINMENT SYSTEM



SEDIMENT CONTROL DETAIL FOR STOCKPILING OF ERODIBLE MATERIAL



CONCRETE & STUCCO WASTE MANAGEMENT



SOIL TRACKING PREVENTION DEVICE DETAIL



| REV. | PER SURVIVED ENV. COMMENTS | DATE |
|------|---------------------------------|------------|
| 8 | REV. PER SURVIVED ENV. COMMENTS | 08-14-2023 |
| 7 | REV. PER SURVIVED ENV. COMMENTS | 08-09-2023 |
| 6 | REV. PER SURVIVED ENV. COMMENTS | 08-07-2023 |
| 5 | REV. PER SURVIVED ENV. COMMENTS | 07-19-2023 |
| 4 | REV. PER SURVIVED ENV. COMMENTS | 06-20-2023 |
| 3 | REV. PER SURVIVED ENV. COMMENTS | 06-20-2023 |
| 2 | REV. PER SURVIVED ENV. COMMENTS | 06-20-2023 |
| 1 | REV. PER SURVIVED ENV. COMMENTS | 06-20-2023 |

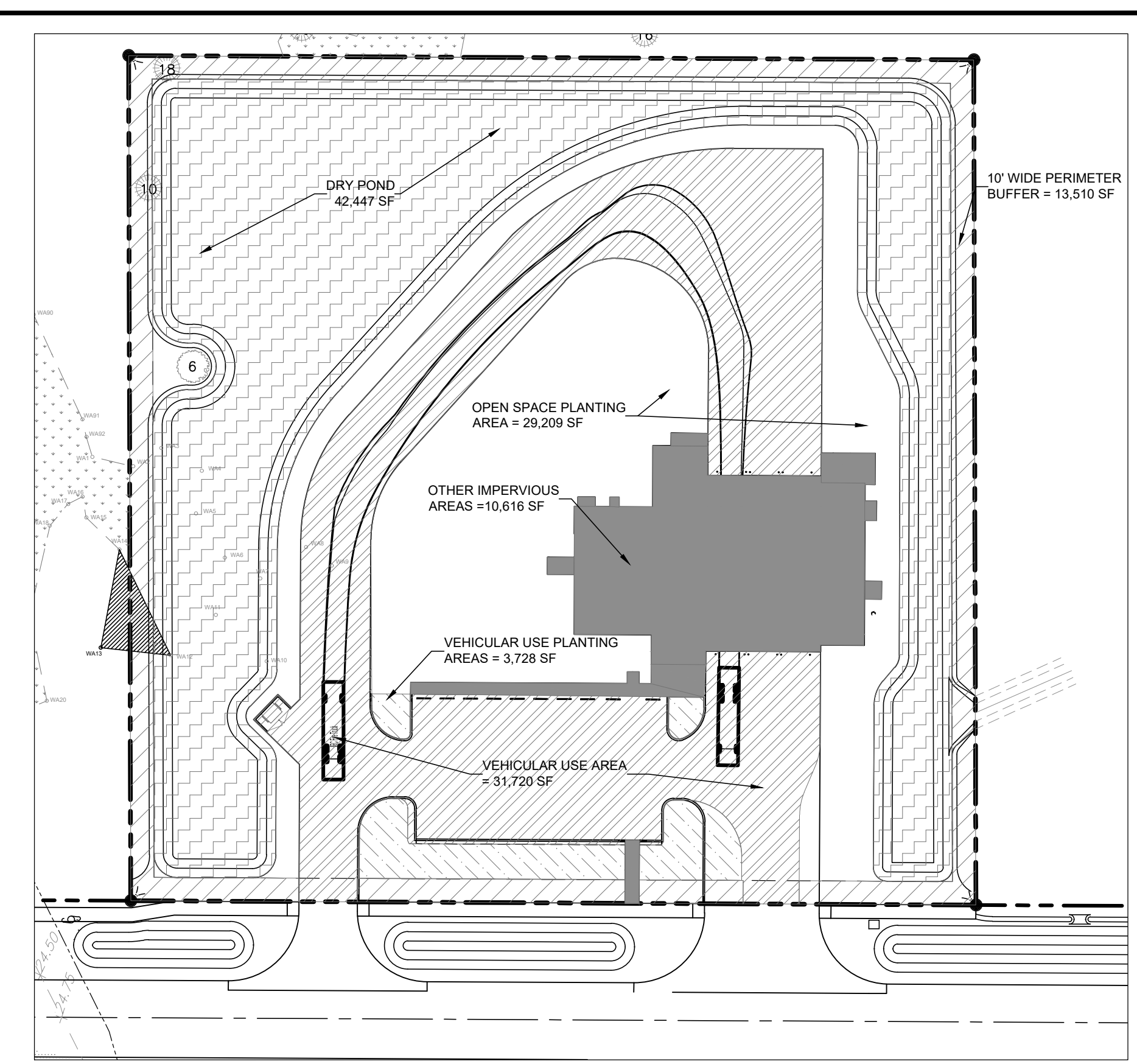
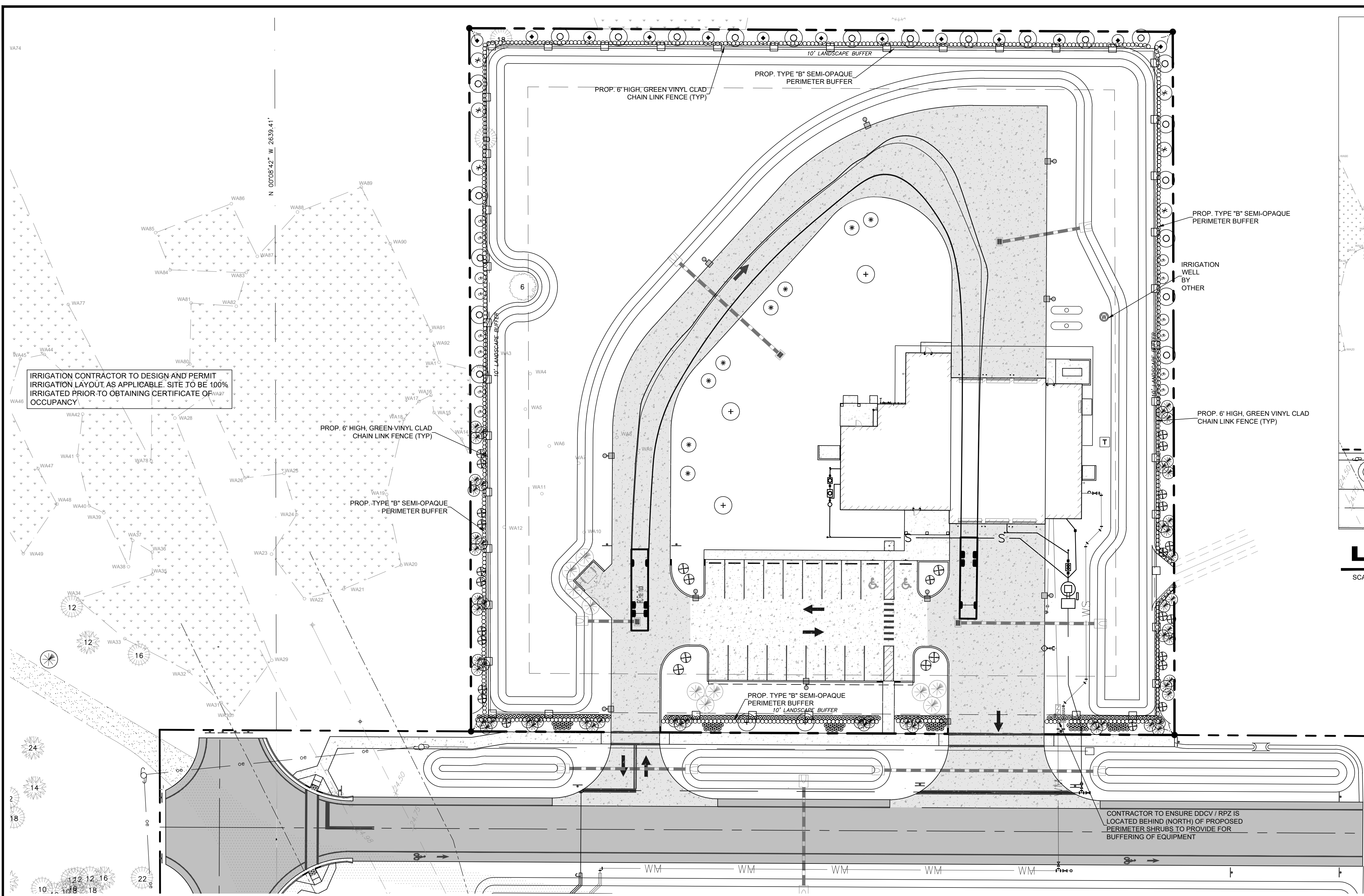
| JOB NO. | DESIGNED | DRAWN | DATE | CHECKED | DATE ISSUED |
|---------|----------|-------|-----------|---------|-------------|
| 21-0492 | TH | SS | JUNE 2022 | AS | 05/12/2023 |

EMBV ENGINEERING, INC.
 MOHA BOWLES VILLALBAZ & ASSOCIATES
 CIVIL & ENVIRONMENTAL ENGINEERING
 3100 W. 13TH AVE., SUITE 100
 DENVER, CO 80202
 TEL: (303) 733-1100
 FAX: (303) 733-1101

EROSION CONTROL DETAILS

**IRC FIRE RESCUE FIRE STATION #7
CITY OF FELLSMERE
FINAL DEVELOPMENT PLAN**

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



LANDSCAPE KEY MAP
SCALE: 1" = 50'

LANDSCAPE PLAN
SCALE: 1" = 30'



LEGEND

- SOUTHERN LIVE OAK
- LAUREL OAK
- CABBAGE PALM
- SAND/SCRUB LIVE OAK
- HOLLY DAHOON
- EAST PALATKA HOLLY
- JAPANESE PRIVET
- CRAPE MYRTLE
- EXISTING PINE TO REMAIN (2)
- EXISTING OAK TO REMAIN (1)
- EXISTING RELOCATED PALM (10)
- DWARF SCHEFFLERA
- WALTER'S VIBURNUM
- PAMPAS GRASS

| LANDSCAPE CALCULATIONS | | | |
|--------------------------------------------------------------------------------------|--------------------|-----------------------------------------|------------|
| 1. Tree Requirements | | | |
| PERIMETER LANDSCAPE STRIP 10' WIDE BUFFER (EXCLUDING DRIVEWAY & ROAD RESERVATION) | CODE REQ. | QUANTITY | REQUIRED |
| CANOPY TREE | 1 PER 30 LF | 1,391 LF. | 47 TREES |
| UNDERSTORY TREES | 1 PER 25 LF | 1,391 LF. | 56 TREES |
| | | TOTAL TREES REQUIRED = | 103 TREES |
| | | TOTAL TREES PROVIDED = | 103 TREES |
| | | (INCLUDES 3 REMAINING TREES) | |
| | | TOTAL SHRUBS PROVIDED = | 874 SHRUBS |
| OPEN SPACE | | | |
| REQUIRED TREES | 1 TREE PER 4000 SF | 29,209 SF. | 7.30 TREES |
| | | OPEN SPACE TREES REQUIRED = | 8 TREES |
| | | TOTAL TREES PROVIDED = | 8 TREES |
| | | (INCLUDES 4 RELOCATED PALMS or 1 TREE) | |
| INTERIOR VEHICULAR USE AREAS | | | |
| | | TOTAL PAVED AREA = 31,728 | |
| REQUIRED TREE AREA = 10% OF TOTAL PAVED AREA | 1 TREE PER 600 SF | 3,173 SF. | 5.29 TREES |
| REQUIRED TREES | | TOTAL TREES REQUIRED = | 6 TREES |
| | | TOTAL TREES PROVIDED = | 6 TREES |
| | | (INCLUDES 6 RELOCATED PALMS or 2 TREES) | |
| PROVIDED LANDSCAPE AREA AND TREES | | | |
| ABUTTING ROW (4,080 SF) | | | |
| 1 OAK AND 2 PINES | | | |
| Trees to Remain = | | 3 TREES | |
| RELOCATED PALMS | | 3 TREES | |
| TREE CREDIT = | | 6 TREES | |
| TOTAL REQUIRED TREES = | | 117 TREES | |
| TOTAL TREES NEEDED = | | 117 TREES | |
| PALM TREES (50% OF TOTAL TREES) = | | 58 TREES | |

*LANDSCAPE AREA IS SEMI-OPAQUE. HEDGES AND FENCING ARE PRESUMED TO SURROUND PROPERTY PERIMETER.

| MASTER LANDSCAPE MATERIAL SCHEDULE | | | | | | | | | |
|------------------------------------|-----|-------------------------|----------------------|----------|------------|--------------------------|--------|-------------------|------------------------------------------|
| CANOPY TREES | | | | | | | | | |
| SYM | QTY | BOTANICAL NAME | COMMON NAME | SIZE | HGT | OTHER | NATIVE | DROUGHT TOLERANCE | MISCELLANEOUS |
| OV | 5 | Quercus virginiana | SOUTHERN LIVE OAK | 2.5" CAL | 12'-0" | 6'CT, SP | YES | HIGH | 45 GAL |
| OL | 22 | Quercus laurifolia | LAUREL OAK | 2.5" CAL | 12'-0" | SP | YES | MODERATE | 45 GAL |
| PALMS | | | | | | | | | |
| SS | 57 | Sabal palmetto | CABBAGE PALM | | 10'-18" CT | SLK,HC,SP | YES | HIGH | PLANT IN GROUPING OF 3 TO EQUAL 1 CANOPY |
| UNDERSTORY TREES | | | | | | | | | |
| QG | 13 | Quercus geminata | SAND/SCRUB LIVE OAK | 2.0" CAL | 6'-0" | 3' CT, F, SP | YES | HIGH | 45 GAL |
| IC | 6 | Ilex cassine | HOLLY DAHOON | 2.0" CAL | 6'-0" | STD, 4" CT, SP | YES | MODERATE | 45 GAL |
| IA | 8 | Ilex x attenuata | "EAST PALATKA" HOLLY | 2.0" CAL | 6'-0" | | YES | HIGH | |
| LJ | 14 | Ligustrum japonicum | JAPANESE PRIVET | 2.0" CAL | 6'-0" | | NO | MODERATE | |
| CM | 315 | Lagerstroemia | CRAPE MYRTLE | 2.0" CAL | 6'-0" | | NO | HIGH | |
| HEDGE/SHRUBS | | | | | | | | | |
| SA | 684 | Schefflera arboricola | DWARF SCHEFFLERA | | 3'-0" | | NO | HIGH | |
| AC | 142 | Adoxaceae | WALTER'S VIBURNUM | | 3'-0" | | YES | HIGH | |
| CS | 36 | Cortaderia selloana | PAMPAS GRASS | | 2'-0" | | YES | HIGH | |
| GROUND COVER | | | | | | | | | |
| MULCH | TBD | "FLORIMULCH" | AS REQUIRED IN BEDS | | | Shredded, Grade B | | | MIN. 3" COVER |
| SOD | TBD | Stenotaphrum secundatum | Floritam Sod | | | 100% Insect/Disease Free | | | |

IRRIGATION CONTRACTOR TO DESIGN AND PERMIT IRRIGATION LAYOUT AS APPLICABLE. SITE TO BE 100% IRRIGATED PRIOR TO OBTAINING CERTIFICATE OF OCCUPANCY.

CONTRACTOR TO ENSURE ODCV / RPZ IS LOCATED BEHIND (NORTH) OF PROPOSED PERIMETER SHRUBS TO PROVIDE FOR BUFFERING OF EQUIPMENT

| REV | DATE | DESCRIPTION | DATE | ISSUED | DATE |
|-----|------------|-------------------------------------|------------|--------|------------|
| 8 | 06-14-2023 | REV PER SURVIVAL ENVY COMMENTS | 06-14-2023 | AS | 05/12/2023 |
| 7 | 06-14-2023 | REV PER SURVIVAL ENVY COMMENTS | 06-14-2023 | AS | 05/12/2023 |
| 6 | 08-07-2023 | REV PER REWCD, GAS CO, C&C COMMENTS | 08-07-2023 | AS | 05/12/2023 |
| 5 | 07-27-2023 | REV PER REWCD, RECD COMMENTS | 07-27-2023 | AS | 05/12/2023 |
| 4 | 07-19-2023 | REV PER REWCD COMMENTS | 07-19-2023 | AS | 05/12/2023 |
| 3 | 06-20-2023 | REV PER SRFWD COMMENTS | 06-20-2023 | AS | 05/12/2023 |
| 2 | 06-20-2023 | REV PER COF AND IRCPD COMMENTS | 06-20-2023 | AS | 05/12/2023 |

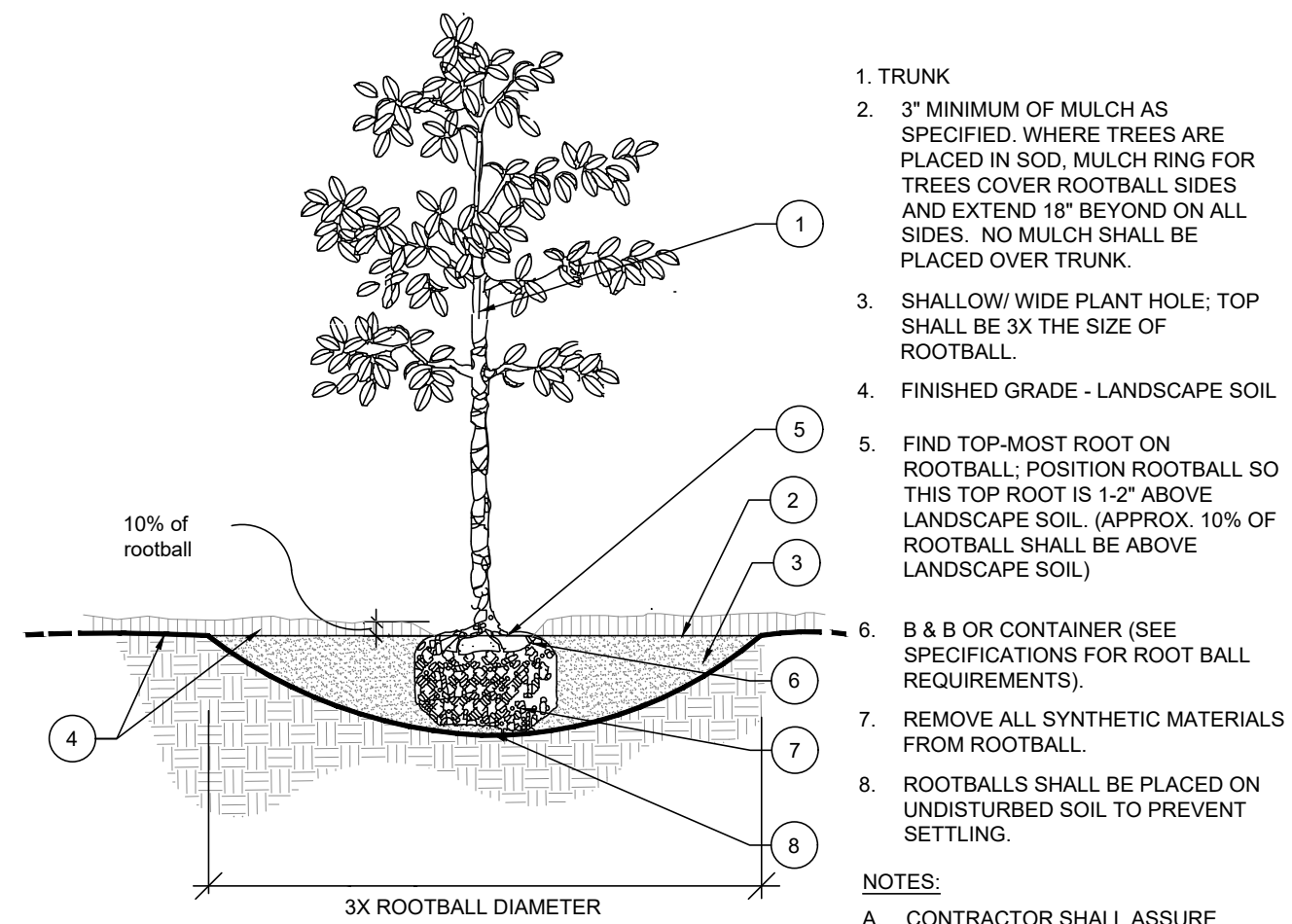
MBV ENGINEERING, INC.
MOYA BOWLES VILLAMIZAR & ASSOCIATES
CONSULTING ENGINEERING CA #3728
1800 S 10TH STREET
PHOENIX, AZ 85043
TEL: (602) 944-3310
FAX: (602) 944-3317

LANDSCAPE PLAN
LANDSCAPE PLAN
LANDSCAPE PLAN

IRC FIRE RESCUE FIRE STATION #7
CITY OF FELLSMERE
FINAL DEVELOPMENT PLAN

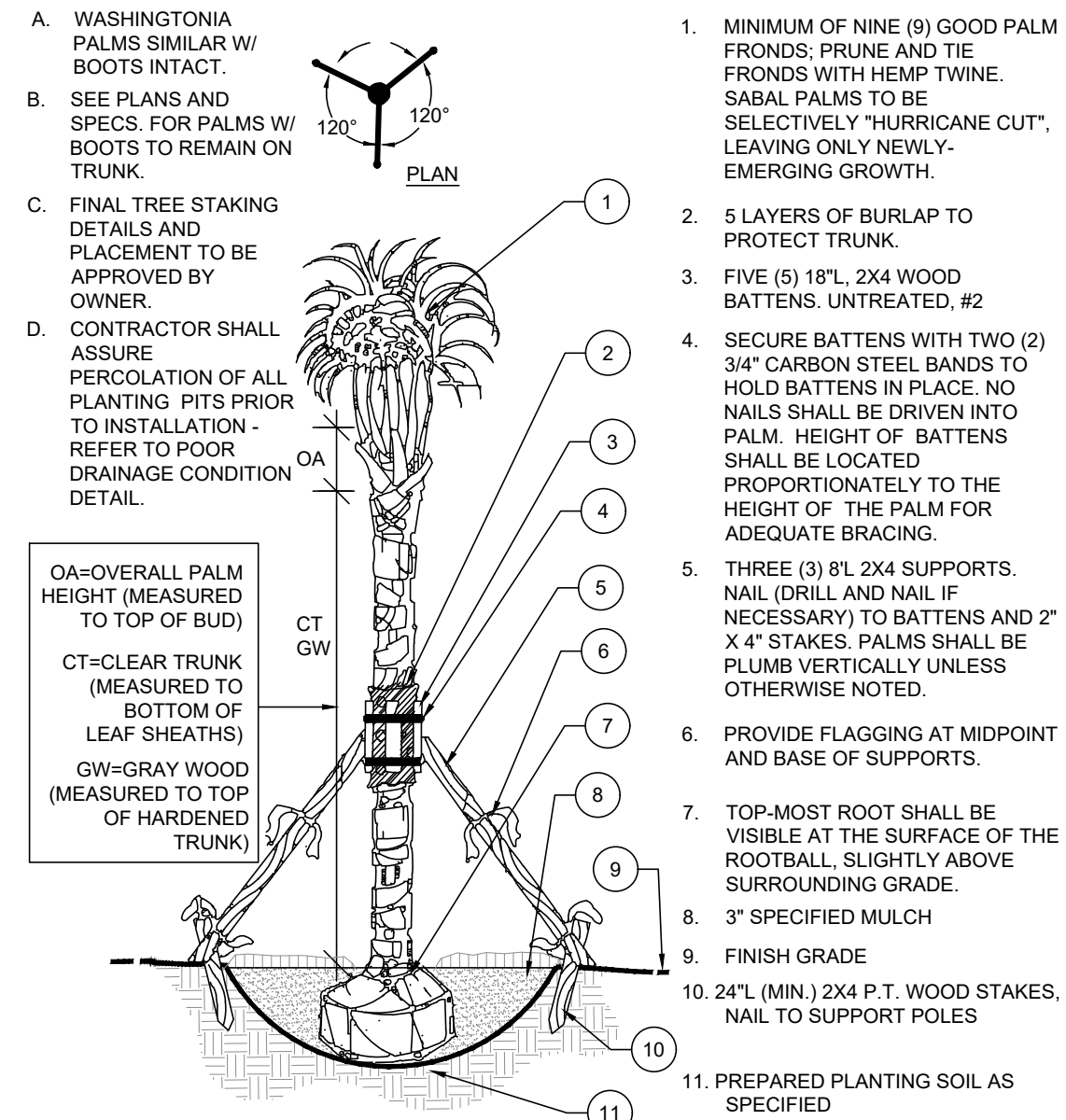
ARON G. STANTON
LICENSE No. 72460
STATE OF FLORIDA
PROFESSIONAL ENGINEER
ARON G. STANTON
FL. P.E. #72460 8/16/23

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



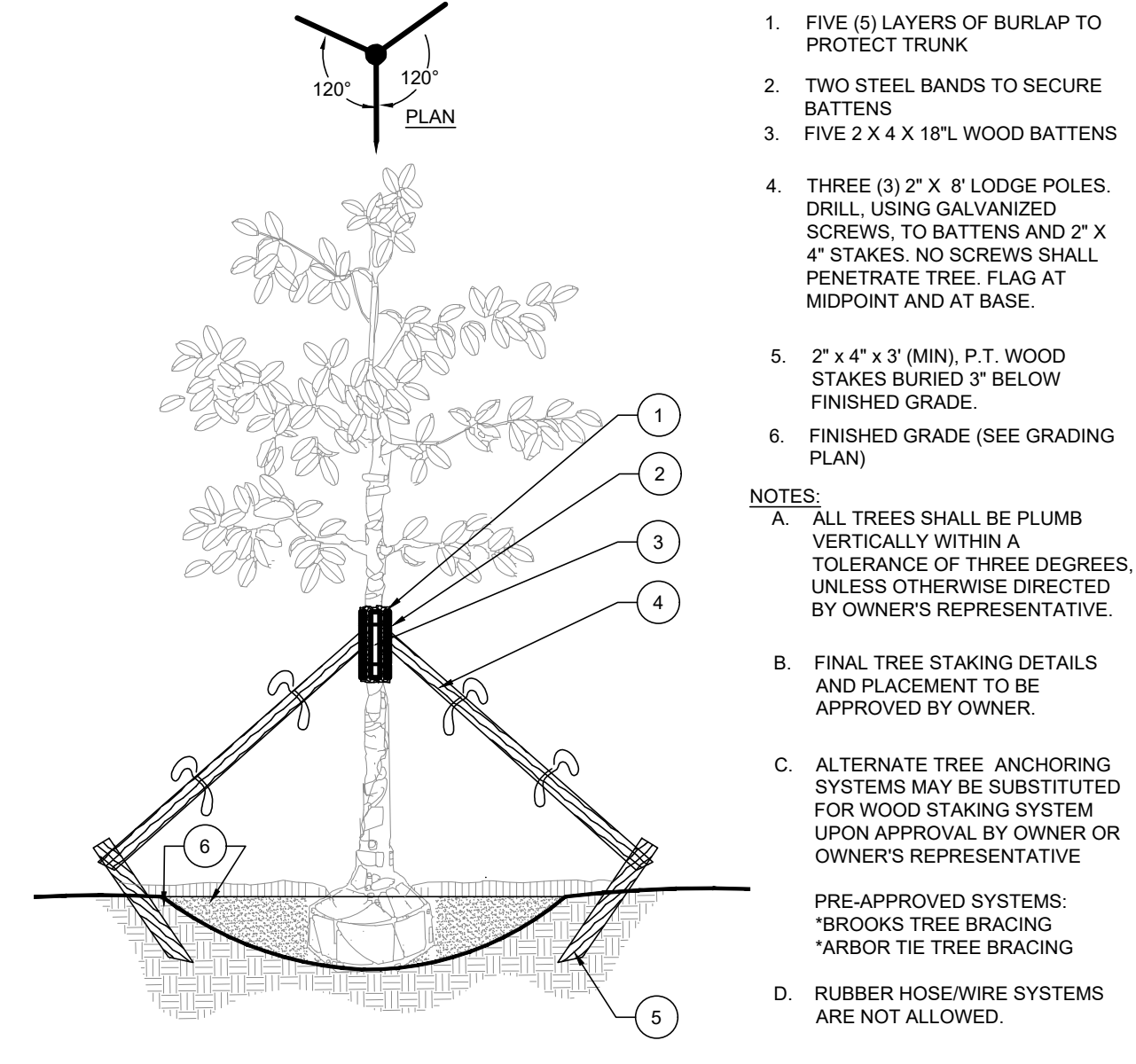
1. TRUNK
 2. 3" MINIMUM OF MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES COVER ROOTBALL SIDES AND EXTEND 18" BEYOND ON ALL SIDES. NO MULCH SHALL BE PLACED OVER TRUNK.
 3. SHALLOW WIDE PLANT HOLE: TOP SHALL BE 3X THE SIZE OF ROOTBALL
 4. FINISHED GRADE - LANDSCAPE SOIL
 5. FIND TOP-MOST ROOT ON ROOTBALL: POSITION ROOTBALL SO THIS TOP ROOT IS 1-2" ABOVE LANDSCAPE SOIL. (APPROX. 10% OF ROOTBALL SHALL BE ABOVE LANDSCAPE SOIL)
 6. B & B OR CONTAINER (SEE SPECIFICATIONS FOR ROOT BALL REQUIREMENTS)
 7. REMOVE ALL SYNTHETIC MATERIALS FROM ROOTBALL
 8. ROOTBALLS SHALL BE PLACED ON UNDISTURBED SOIL TO PREVENT SETTLING.
- NOTES:
- CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
 - FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER'S REPRESENTATIVE.
 - SEE PRE-APPROVED STAKING METHODS, THIS SHEET

TREE PLANTING



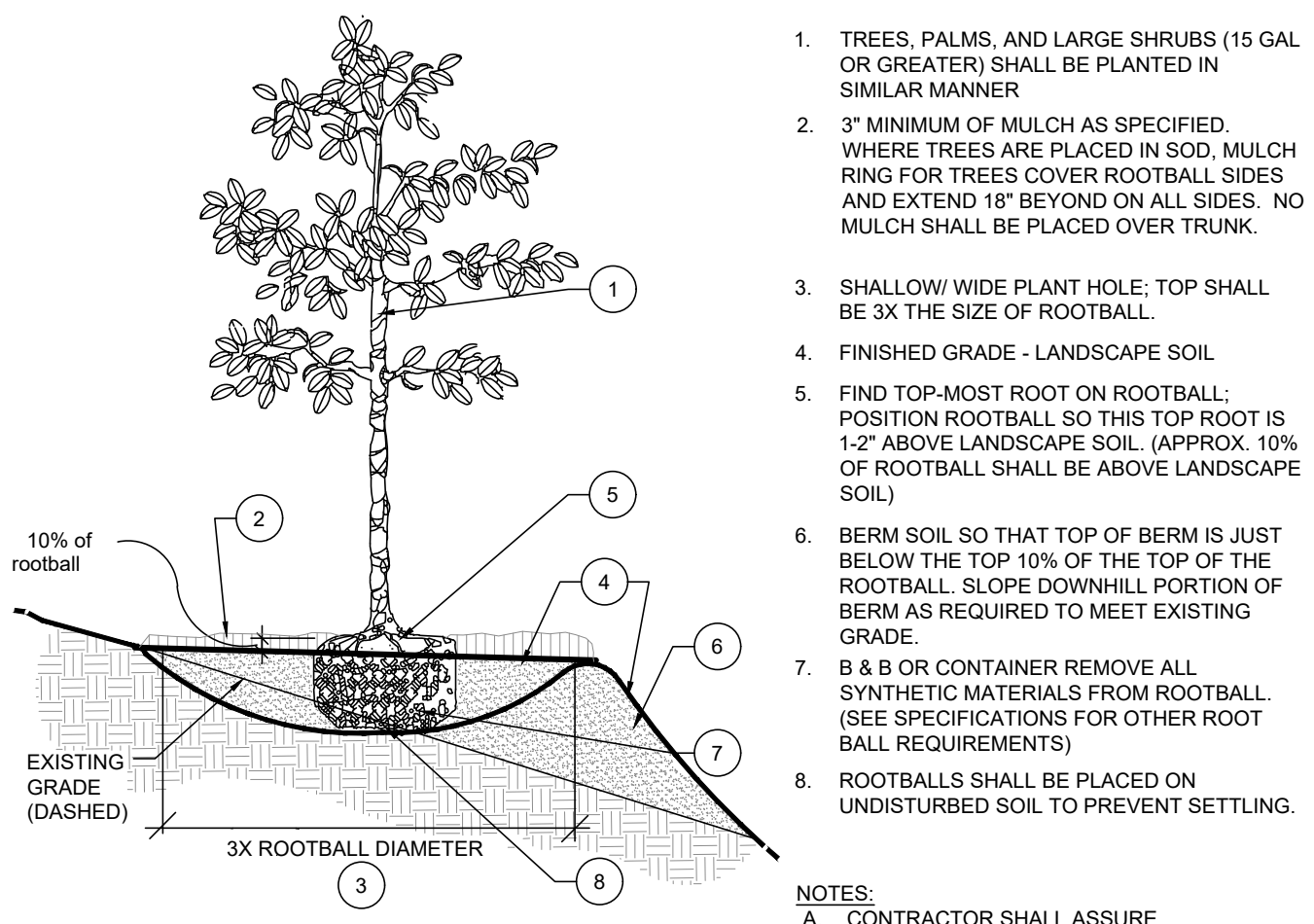
1. MINIMUM OF NINE (9) GOOD PALM FRONDS; PRUNE AND TIE FRONDS WITH HEMP TWINE. SABAL PALMS TO BE SELECTIVELY "HURRICANE CUT", LEAVING ONLY NEWLY-EMERGING GROWTH.
2. 5 LAYERS OF BURLAP TO PROTECT TRUNK.
3. FIVE (5) 18"L. 2X4 WOOD BATTENS. UNTREATED, #2
4. SECURE BATTENS WITH TWO (2) 3/4" CARBON STEEL BANDS TO HOLD BATTENS IN PLACE. NO NAILS SHALL BE DRIVEN INTO PALM. HEIGHT OF BATTENS SHALL BE LOCATED PROPORTIONATELY TO THE HEIGHT OF THE PALM FOR ADEQUATE BRACING.
5. THREE (3) 8L 2X4 SUPPORTS. NAIL (DRILL AND NAIL IF NECESSARY) TO BATTENS AND 2" X 4" STAKES. PALMS SHALL BE PLUMB VERTICALLY UNLESS OTHERWISE NOTED.
6. PROVIDE FLAGGING AT MIDPOINT AND BASE OF SUPPORTS.
7. TOP-MOST ROOT SHALL BE VISIBLE AT THE SURFACE OF THE ROOTBALL, SLIGHTLY ABOVE SURROUNDING GRADE.
8. 3" SPECIFIED MULCH
9. FINISH GRADE
10. 24"L (MIN.) 2X4 P.T. WOOD STAKES, NAIL TO SUPPORT POLES
11. PREPARED PLANTING SOIL AS SPECIFIED

PALM PLANTING AND STAKING



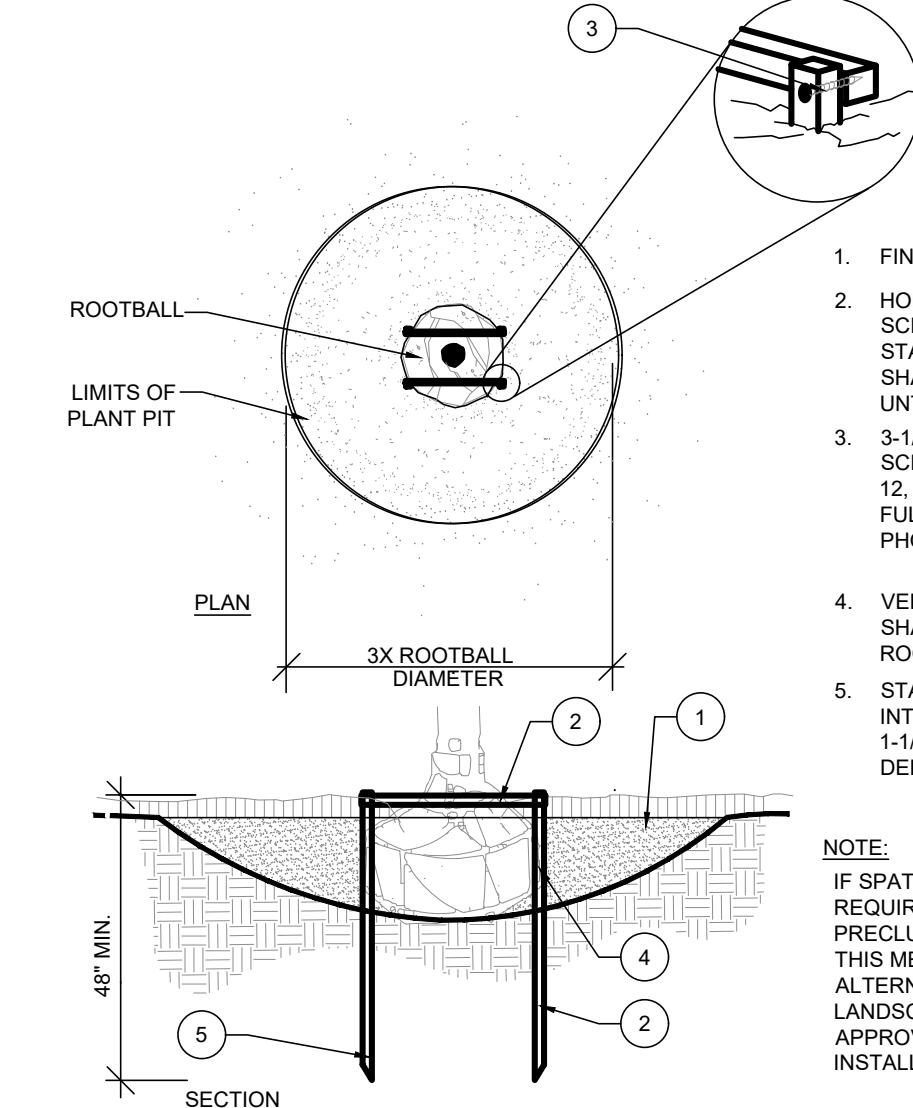
1. FIVE (5) LAYERS OF BURLAP TO PROTECT TRUNK
 2. TWO STEEL BANDS TO SECURE BATTENS
 3. FIVE 2 X 4 X 18" L WOOD BATTENS
 4. THREE (3) 2" X 8" LODGE POLES. DRILL, USING GALVANIZED SCREWS, TO BATTENS AND 2" X 4" STAKES. NO SCREWS SHALL PENETRATE TREE. FLAG AT MIDPOINT AND AT BASE.
 5. 2" X 4" X 3" (MIN), P.T. WOOD STAKES BURIED 3" BELOW FINISHED GRADE.
 6. FINISHED GRADE (SEE GRADING PLAN)
- NOTES:
- ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.
 - FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
 - ALTERNATE TREE ANCHORING SYSTEMS MAY BE SUBSTITUTED FOR WOOD STAKING SYSTEM UPON APPROVAL BY OWNER OR OWNER'S REPRESENTATIVE.
 - RUBBER HOSE/WIRE SYSTEMS ARE NOT ALLOWED.

LARGE TREE STAKING - 100 GAL + OR B&B 4" +



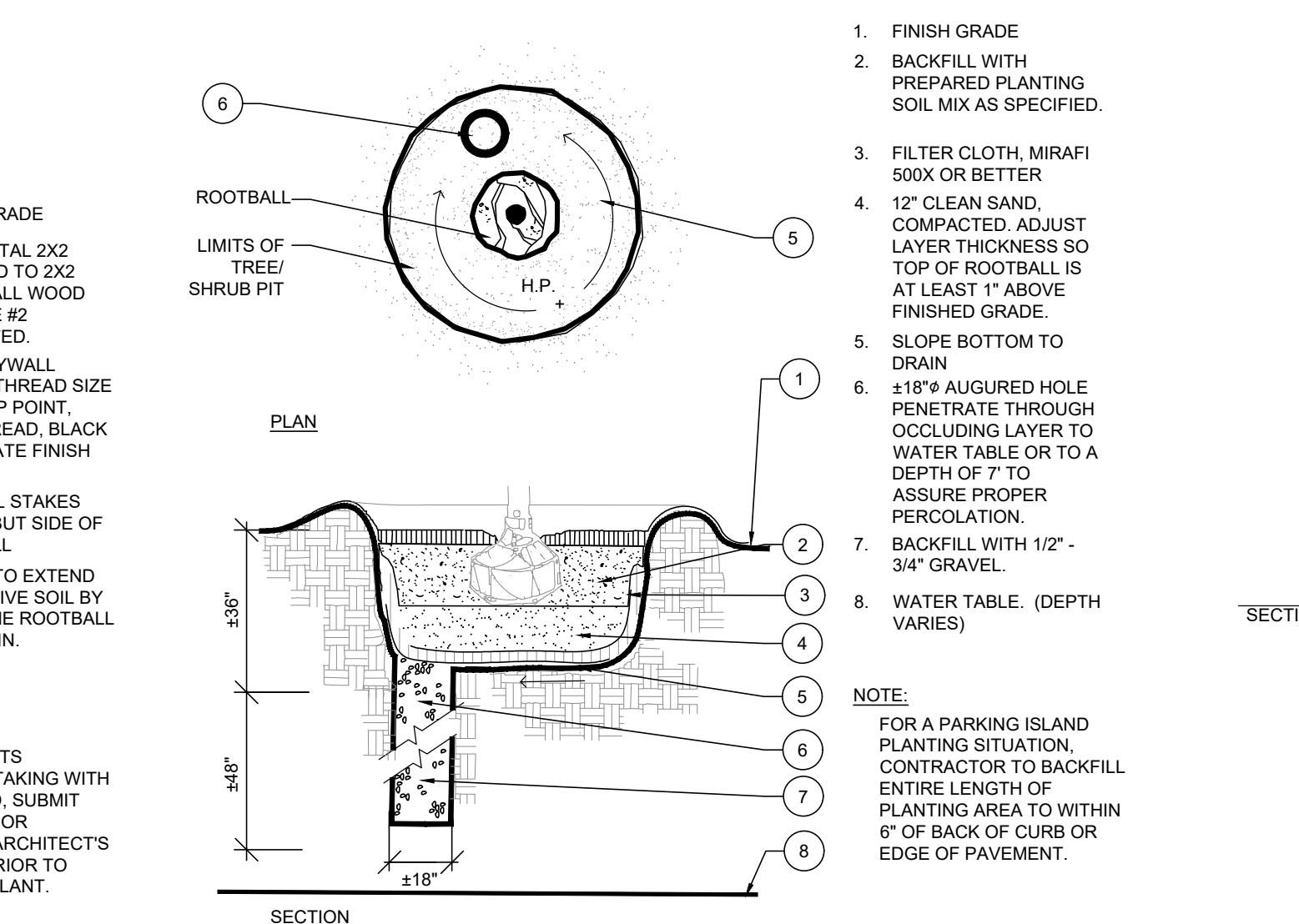
1. TREES, PALMS, AND LARGE SHRUBS (15 GAL OR GREATER) SHALL BE PLANTED IN SIMILAR MANNER
 - 3" MINIMUM OF MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES COVER ROOTBALL SIDES AND EXTEND 18" BEYOND ON ALL SIDES. NO MULCH SHALL BE PLACED OVER TRUNK.
 - SHALLOW WIDE PLANT HOLE. TOP SHALL BE 3X THE SIZE OF ROOTBALL.
 - FINISHED GRADE - LANDSCAPE SOIL
 - FIND TOP-MOST ROOT ON ROOTBALL: POSITION ROOTBALL SO THIS TOP ROOT IS 1-2" ABOVE LANDSCAPE SOIL. (APPROX. 10% OF ROOTBALL SHALL BE ABOVE LANDSCAPE SOIL)
 - BERM SOIL SO THAT TOP OF BERM IS JUST BELOW THE TOP 10% OF THE TOP OF THE ROOTBALL. SLOPE DOWNHILL PORTION OF BERM AS REQUIRED TO MEET EXISTING GRADE.
 - B & B OR CONTAINER REMOVE ALL SYNTHETIC MATERIALS FROM ROOTBALL (SEE SPECIFICATIONS FOR OTHER ROOT BALL REQUIREMENTS)
 - ROOTBALLS SHALL BE PLACED ON UNDISTURBED SOIL TO PREVENT SETTLING.
- NOTES:
- CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
 - FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
 - SEE PRE-APPROVED STAKING METHODS, THIS SHEET

PLANTING ON A SLOPE



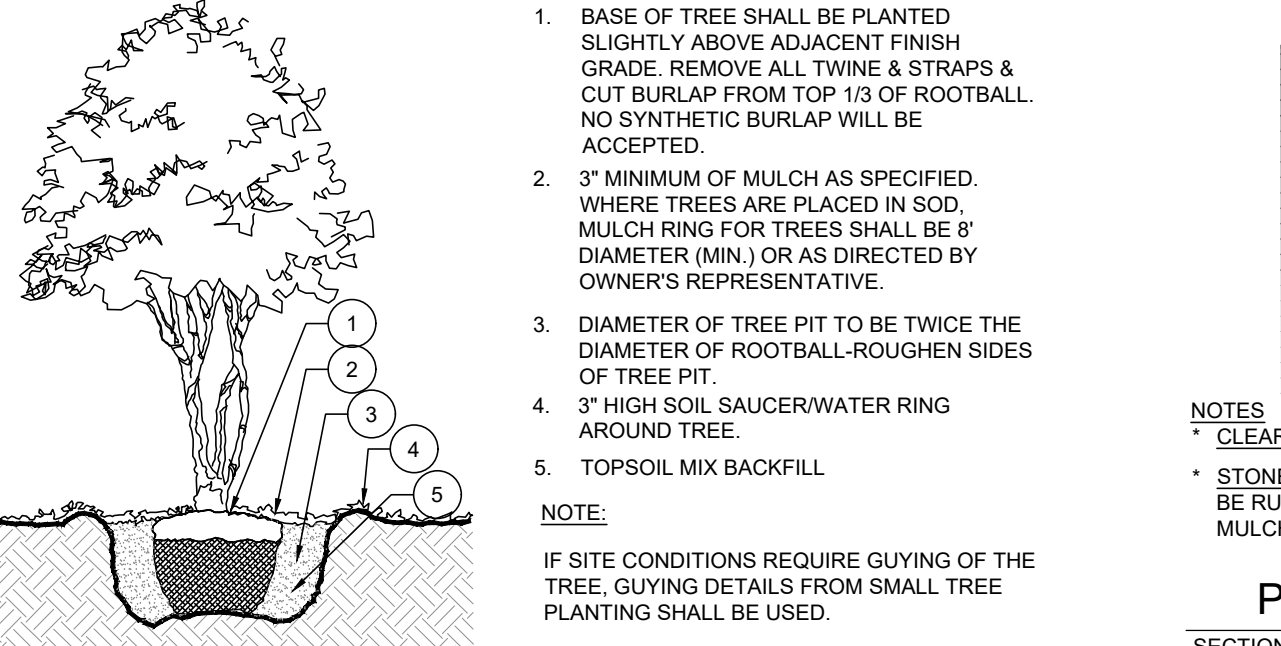
1. FINISH GRADE
 2. HORIZONTAL 2X2 SCREWED TO 2X2 STAKE. ALL WOOD SHALL BE #2 UNTREATED.
 3. 3-1/2" DRYWALL SCREW, THREAD SIZE 12, SHARP POINT, FULL THREAD, BLACK PHOSPHATE FINISH
 4. VERTICAL STAKES SHALL ABUT SIDE OF ROOTBALL
 5. STAKES TO EXTEND INTO NATIVE SOIL BY 1-1/2 X THE ROOTBALL DEPTH MIN.
- NOTE:
- IF SPATIAL REQUIREMENTS PRECLUDE STAKING WITH THIS METHOD, SUBMIT ALTERNATE FOR LANDSCAPE ARCHITECT'S APPROVAL PRIOR TO INSTALLING PLANT.

STAKING - UP TO 65 GAL. OR B&B TO 3-1/2" CAL.



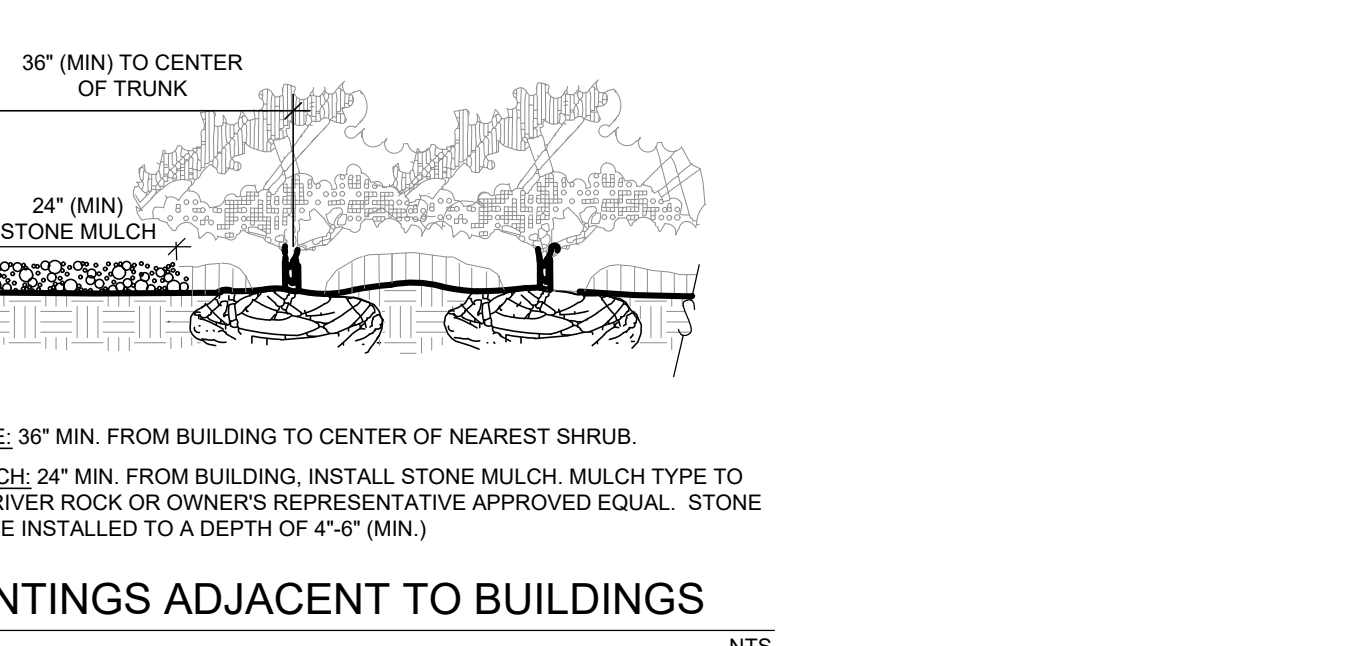
1. FINISH GRADE
 2. BACKFILL WITH PREPARED PLANTING SOIL MIX AS SPECIFIED.
 3. FILTER CLOTH, MIRAFI 500X OR BETTER
 4. 1/2" CLEAN SAND, COMPACTED. ADJUST LAYER THICKNESS SO TOP OF ROOTBALL IS AT LEAST 1" ABOVE FINISHED GRADE.
 5. SLOPE BOTTOM TO DRAIN
 6. ±1/8" AUGURED HOLE PENETRATE THROUGH OCCLUDING LAYER TO WATER TABLE OR TO A DEPTH OF 1' TO ASSURE PROPER PERCOLATION.
 7. BACKFILL WITH 1/2" - 3/4" GRAVEL.
 8. WATER TABLE (DEPTH VARIES)
- NOTE:
- FOR A PARKING ISLAND PLANTING SITUATION, CONTRACTOR TO BACKFILL ENTIRE LENGTH OF PLANTING AREA TO WITHIN 8" OF BACK OF CURB OR EDGE OF PAVEMENT.

POOR DRAINAGE CONDITION



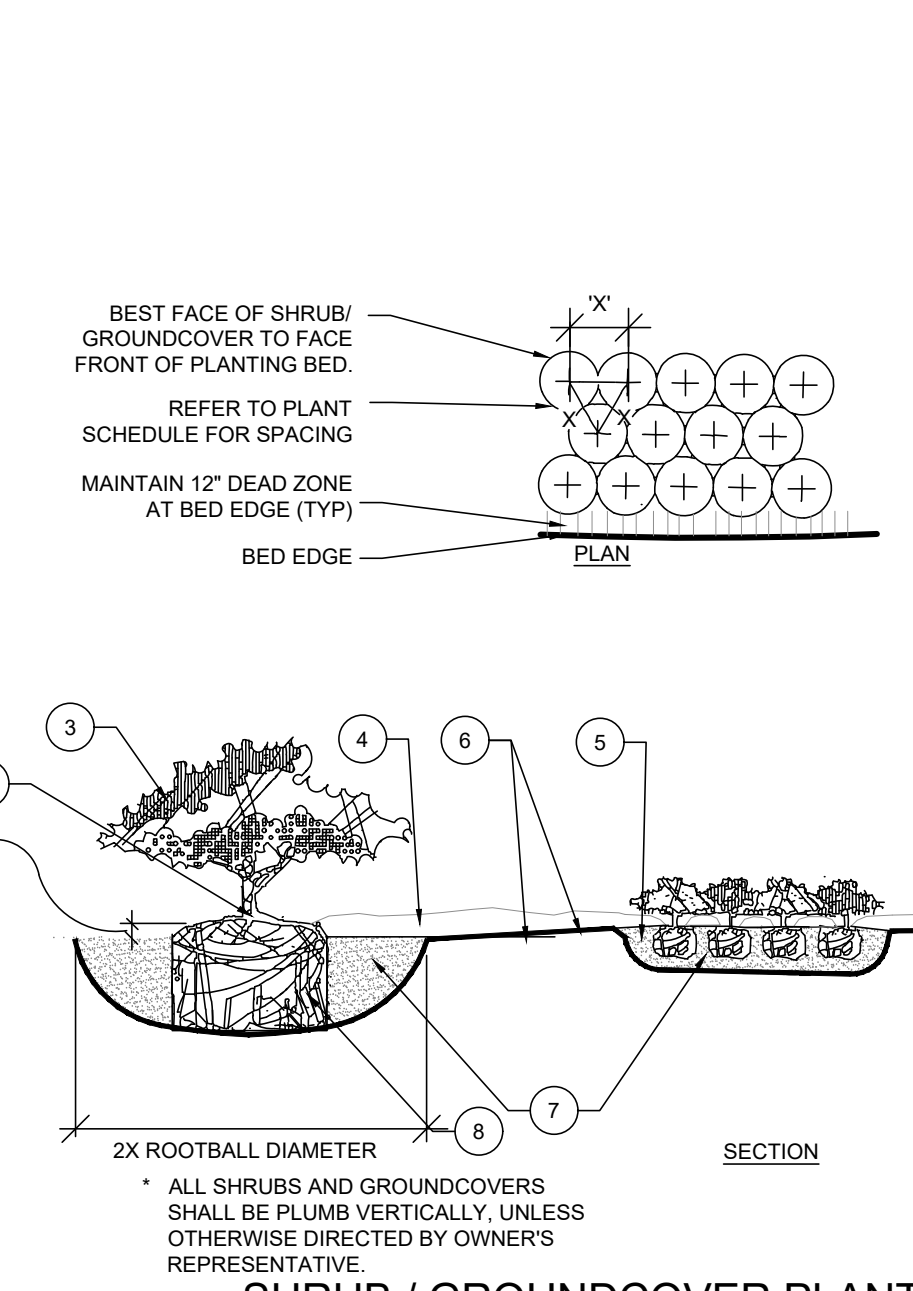
1. BASE OF TREE SHALL BE PLANTED SLIGHTLY ABOVE ADJACENT FINISH GRADE. REMOVE ALL TWINE & STRAPS & CUT BURLAP FROM TOP 1/3 OF ROOTBALL. NO SYNTHETIC BURLAP WILL BE ACCEPTED.
 - 3" MINIMUM OF MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES SHALL BE 8" DIAMETER (MIN.) OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
 - DIAMETER OF TREE PIT TO BE TWICE THE DIAMETER OF ROOTBALL-ROUGHEN SIDES OF TREE PIT.
 - 3" HIGH SOIL SAUCER/WATER RING AROUND TREE.
 - TOPSOIL MIX BACKFILL
- NOTE:
- IF SITE CONDITIONS REQUIRE GUYING OF THE TREE, GUYING DETAILS FROM SMALL TREE PLANTING SHALL BE USED.

MULTI-TRUNK TREE PLANTING DETAIL



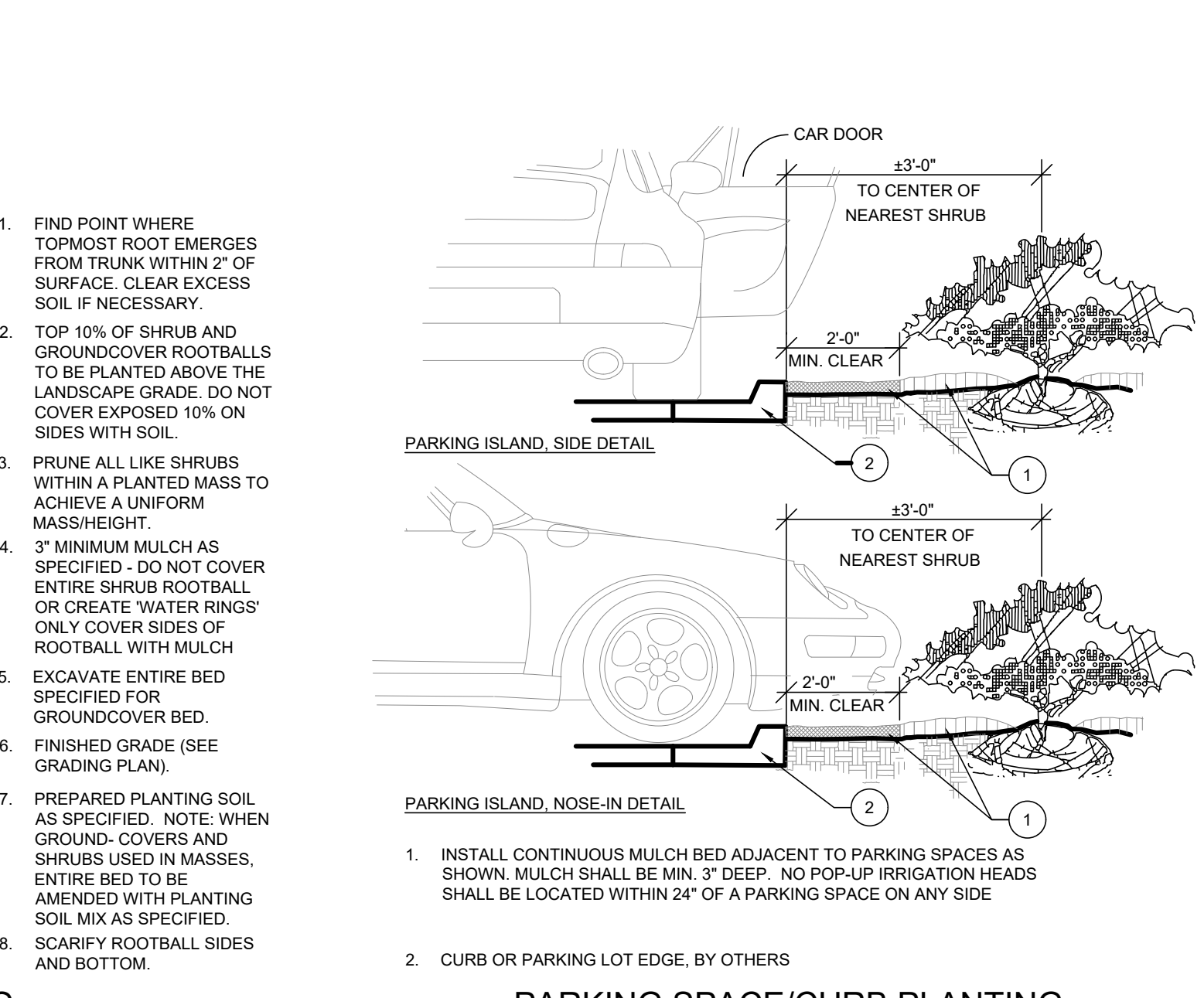
1. CLEAR ZONE: 36" MIN. FROM BUILDING TO CENTER OF NEAREST SHRUB.
- STONE MULCH: 24" MIN. FROM BUILDING, INSTALL STONE MULCH. MULCH TYPE TO BE RUSTIC RIVER ROCK OR OWNER'S REPRESENTATIVE APPROVED EQUAL. STONE MULCH TO BE INSTALLED TO A DEPTH OF 4-6" (MIN.)

PLANTINGS ADJACENT TO BUILDINGS



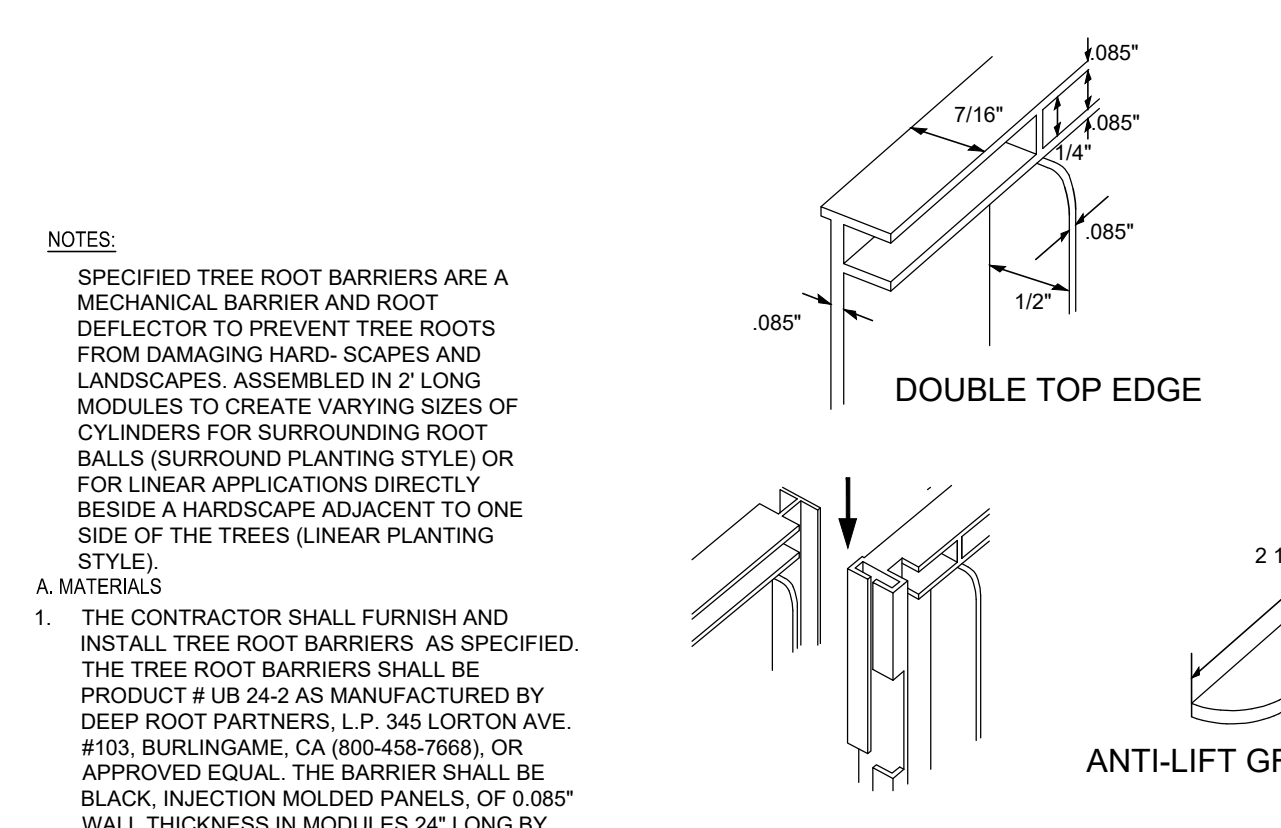
1. FIND POINT WHERE TOPMOST ROOT EMERGES FROM TRUNK WITHIN 2" OF SURFACE. CLEAR EXCESS SOIL IF NECESSARY.
 - TOP 10% OF SHRUB AND GROUND COVER ROOTBALLS TO BE PLANTED ABOVE THE LANDSCAPE GRADE. DO NOT COVER EXPOSED 10% ON SIDES WITH SOIL.
 - PRUNE ALL LIKE SHRUBS WITHIN A PLANTED MASS TO ACHIEVE A UNIFORM MASS HEIGHT.
 - 3" MINIMUM MULCH AS SPECIFIED - DO NOT COVER ENTIRE SHRUB ROOTBALL OR CREATE "WATER RINGS" ONLY COVER SIDES OF ROOTBALL WITH MULCH
 - EXCAVATE ENTIRE BED SPECIFIED FOR GROUND COVER BED.
 - FINISHED GRADE (SEE GRADING PLAN).
 - PREPARED PLANTING SOIL AS SPECIFIED. NOTE: WHEN GROUND-COVERS AND SHRUBS USED IN MASSES, ENTIRE BED TO BE AMENDED WITH PLANTING SOIL MIX AS SPECIFIED.
 - SCARIFY ROOTBALL SIDES AND BOTTOM.
- NOTE:
- ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

SHRUB / GROUNDCOVER PLANTING



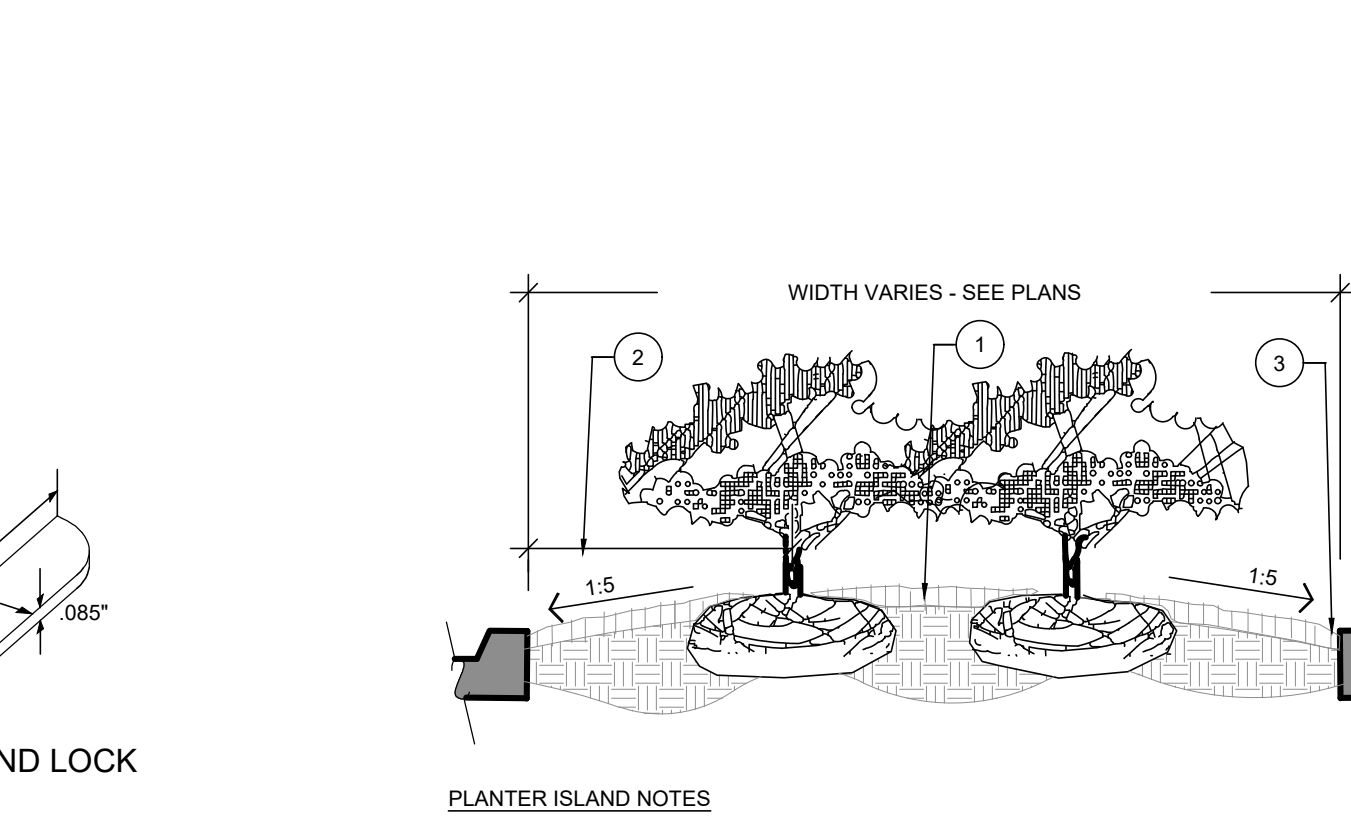
1. INSTALL CONTINUOUS MULCH BED ADJACENT TO PARKING SPACES AS SHOWN. MULCH SHALL BE MIN. 3" DEEP. NO POP-UP IRRIGATION HEADS SHALL BE LOCATED WITHIN 24" OF A PARKING SPACE ON ANY SIDE.
2. CURB OR PARKING LOT EDGE, BY OTHERS

PARKING SPACE/CURB PLANTING



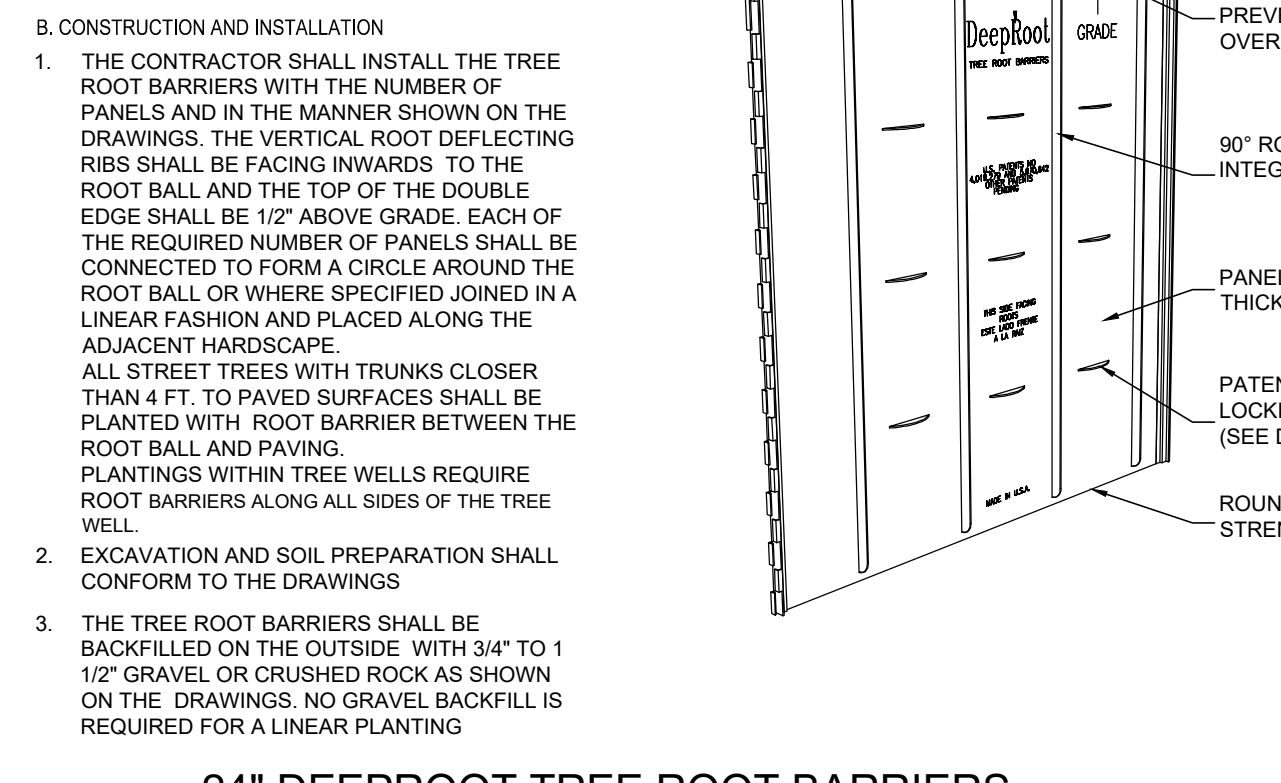
1. THE CONTRACTOR SHALL FURNISH AND INSTALL TREE ROOT BARRIERS AS SPECIFIED. THE TREE ROOT BARRIERS SHALL BE PRODUCT # UB 24-2 AS MANUFACTURED BY DEEP ROOT PARTNERS, L.P. 345 LORTON AVE. #103, BURLINGAME, CA (800-458-7668), OR APPROVED EQUAL. THE BARRIER SHALL BE BLACK, INJECTION MOLDED PANELS, OF 0.085" WALL THICKNESS IN MODULES 24" LONG BY 24" DEEP. MANUFACTURED WITH A MINIMUM 50% POST CONSUMER RECYCLED POLYPROPYLENE PLASTIC WITH ADDED ULTRAVIOLET INHIBITORS; RECYCLABLE. EACH PANEL SHALL HAVE:
- CONSTRUCTION AND INSTALLATION

DOUBLE TOP EDGE



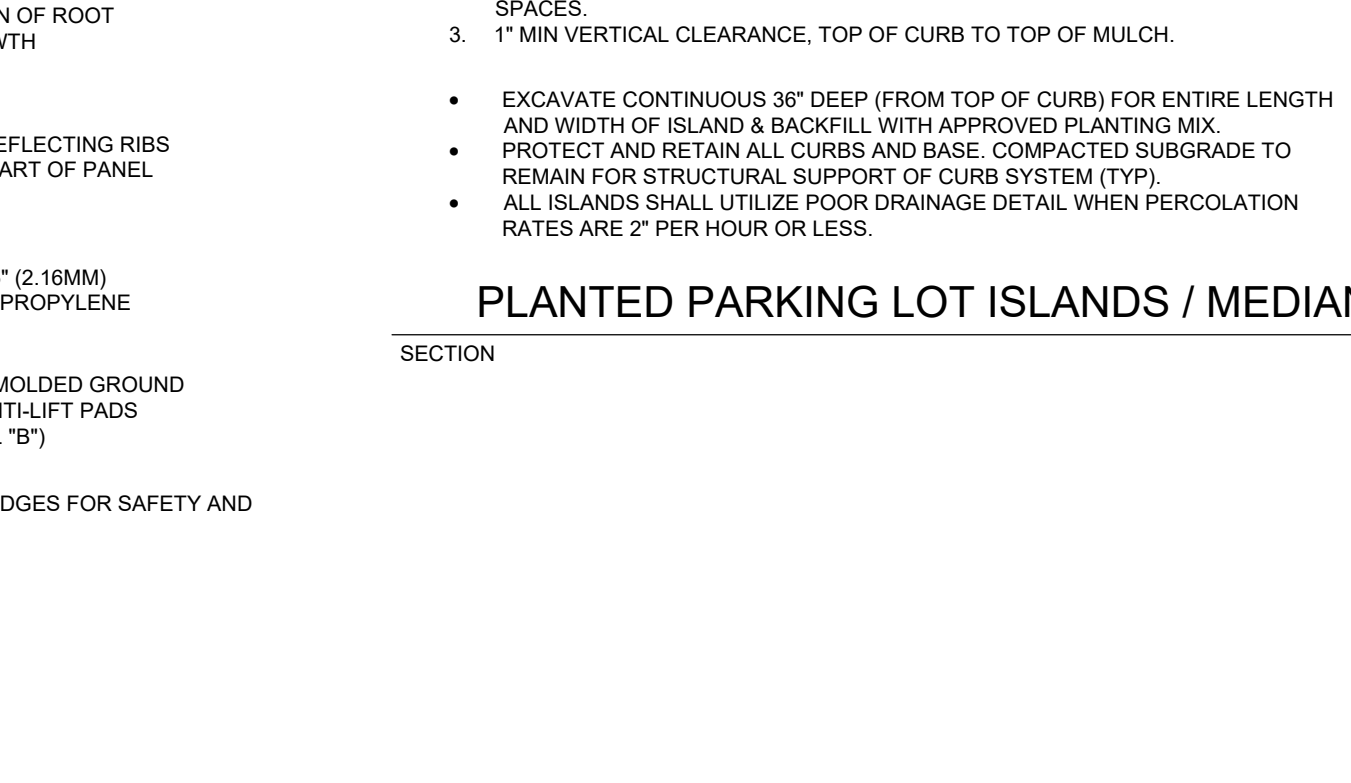
1. THE CONTRACTOR SHALL INSTALL THE TREE ROOT BARRIERS WITH THE NUMBER OF PANELS AND IN THE MANNER SHOWN ON THE DRAWINGS. THE VERTICAL ROOT DEFLECTING RIBS SHALL BE FACING INWARDS TO THE ROOT BALL AND THE TOP OF THE DOUBLE EDGE SHALL BE 12" ABOVE GRADE. EACH OF THE REQUIRED NUMBER OF PANELS SHALL BE CONNECTED TO FORM A CIRCLE AROUND THE ROOT BALL OR WHERE SPECIFIED JOINED IN A LINEAR FASHION AND PLACED ALONG THE ADJACENT HARDSCAPE.
- ALL STREET TREES WITH TRUNKS CLOSER THAN 4 FT. TO PAVED SURFACES SHALL BE PLANTED WITH ROOT BARRIER BETWEEN THE ROOT BALL AND PAVING.
- PLANTINGS WITHIN TREE WELLS REQUIRE ROOT BARRIERS ALONG ALL SIDES OF THE TREE WELL.

ANTI-LIFT GROUND LOCK



1. THE CONTRACTOR SHALL INSTALL THE TREE ROOT BARRIERS WITH THE NUMBER OF PANELS AND IN THE MANNER SHOWN ON THE DRAWINGS. THE VERTICAL ROOT DEFLECTING RIBS SHALL BE FACING INWARDS TO THE ROOT BALL AND THE TOP OF THE DOUBLE EDGE SHALL BE 12" ABOVE GRADE. EACH OF THE REQUIRED NUMBER OF PANELS SHALL BE CONNECTED TO FORM A CIRCLE AROUND THE ROOT BALL OR WHERE SPECIFIED JOINED IN A LINEAR FASHION AND PLACED ALONG THE ADJACENT HARDSCAPE.
- ALL STREET TREES WITH TRUNKS CLOSER THAN 4 FT. TO PAVED SURFACES SHALL BE PLANTED WITH ROOT BARRIER BETWEEN THE ROOT BALL AND PAVING.
- PLANTINGS WITHIN TREE WELLS REQUIRE ROOT BARRIERS ALONG ALL SIDES OF THE TREE WELL.

ZIPPER JOINING SYSTEM



1. CROWN ISLANDS @ 5:1 SLOPES (OR AS SPECIFIED ON THE LANDSCAPE PLANS)
 - CLEAR ZONE: 36" MIN. FROM BACK OF CURB TO CENTER OF NEAREST SHRUB. CLEAR ZONE SHALL CONTAIN 3" CONTINUOUS MULCH OR TURF. SEE PLANS. SEE DETAIL "Y" FOR PLANTER MEDIANS ADJACENT TO PARKING SPACES.
 - 1" MIN VERTICAL CLEARANCE, TOP OF CURB TO TOP OF MULCH.
- EXCAVATE CONTINUOUS 36" DEEP (FROM TOP OF CURB) FOR ENTIRE LENGTH AND WIDTH OF ISLAND & BACKFILL WITH APPROVED PLANTING MIX.
- PROTECT AND RETAIN ALL CURBS AND BASE. COMPACTED SUBGRADE TO REMAIN FOR STRUCTURAL SUPPORT OF CURB SYSTEM (TYP).
- ALL ISLANDS SHALL UTILIZE POOR DRAINAGE DETAIL WHEN PERCOLATION RATES ARE 2" PER HOUR OR LESS.

PLANTED PARKING LOT ISLANDS / MEDIANS



1. THE CONTRACTOR SHALL FURNISH AND INSTALL TREE ROOT BARRIERS AS SPECIFIED. THE TREE ROOT BARRIERS SHALL BE PRODUCT # UB 24-2 AS MANUFACTURED BY DEEP ROOT PARTNERS, L.P. 345 LORTON AVE. #103, BURLINGAME, CA (800-458-7668), OR APPROVED EQUAL. THE BARRIER SHALL BE BLACK, INJECTION MOLDED PANELS, OF 0.085" WALL THICKNESS IN MODULES 24" LONG BY 24" DEEP. MANUFACTURED WITH A MINIMUM 50% POST CONSUMER RECYCLED POLYPROPYLENE PLASTIC WITH ADDED ULTRAVIOLET INHIBITORS; RECYCLABLE. EACH PANEL SHALL HAVE:
- CONSTRUCTION AND INSTALLATION

24" DEEPROOT TREE ROOT BARRIERS

| NO. | REVISIONS | DATE |
|-----|------------------------------|------------|
| 1 | REV PER SWINARD ENV COMMENTS | 06-14-2023 |
| 2 | REV PER SWINARD ENV COMMENTS | 06-14-2023 |
| 3 | REV PER SWINARD ENV COMMENTS | 06-14-2023 |
| 4 | REV PER SWINARD ENV COMMENTS | 06-14-2023 |
| 5 | REV PER SWINARD ENV COMMENTS | 06-14-2023 |
| 6 | REV PER SWINARD ENV COMMENTS | 06-14-2023 |
| 7 | REV PER SWINARD ENV COMMENTS | 06-14-2023 |
| 8 | REV PER SWINARD ENV COMMENTS | 06-14-2023 |

MBV ENGINEERING, INC.
 MOVA BOWLES VILLAMIZAR & ASSOCIATES
 CONSULTING ENGINEERING CA #3728
 1800 S. 10TH STREET
 SUITE 200
 PHOENIX, AZ 85004
 TEL: (602) 944-8330
 FAX: (602) 944-8337

LANDSCAPE DETAILS

IRC FIRE RESCUE FIRE STATION #7
 CITY OF FELLSMERE
 FINAL DEVELOPMENT PLAN

AARON G. STANTON
 FL. P.E. #72460
 8/16/23

C20

21-0492

C:\DRAWINGS\2023\101408-IRC Fire Station #7 - W01-FE-02-LANDSCAPE PLAN.dwg 8/13/2023 10:36 AM

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

GENERAL LANDSCAPE SPECIFICATIONS AND NOTES

A. SCOPE OF WORK

1. THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS, AS INCLUDED IN THE PLANT LIST, AND AS HEREIN SPECIFIED.
2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL CONTRACT PLANTING AREAS UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER.

B. PROTECTION OF EXISTING STRUCTURES

ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, OTHER SITE CONSTRUCTION ITEMS, AND PLANTING ALREADY COMPLETED OR ESTABLISHED SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.

C. PROTECTION OF EXISTING PLANT MATERIALS OUTSIDE LIMIT OF WORK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS EXISTING OR OTHERWISE, CAUSED BY CARELESS EQUIPMENT OPERATION, MATERIAL STOCKPIILING, ETC. THIS SHALL INCLUDE COMPACTON BY DRIVING OR PARKING INSIDE THE DRIP-LINE AND SPILLING OIL, GASOLINE, OR OTHER DELETERIOUS MATERIALS WITHIN THE DRIP-LINE. NO MATERIALS SHALL BE BURNED WHERE HEAT WILL DAMAGE ANY PLANT. EXISTING TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPEN AND/ OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF ONE HUNDRED DOLLARS (\$100) PER CALIPER INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY (20) PERCENT PER INCH OVER FOUR (4) INCHES CALIPER AS FIXED AND AGREED LIQUIDATED DAMAGES. CALIPER SHALL BE MEASURED SIX (6) INCHES ABOVE GROUND LEVEL FOR TREES UP TO AND INCLUDING FOUR (4) INCHES IN CALIPER AND TWELVE (12) INCHES ABOVE GROUND LEVEL FOR TREES OVER FOUR (4) INCHES IN CALIPER.

D. MATERIALS

1. GENERAL MATERIAL SAMPLES LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL, ON THE SITE OR AS OTHERWISE DETERMINED BY THE OWNER, UPON SAMPLES' APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.

| MATERIAL | SAMPLE SIZE |
|-------------|------------------------------------------------|
| MULCH | ONE (1) CUBIC FOOT |
| TOPSOIL MIX | ONE (1) ONE CUBIC FOOT |
| PLANTS | ONE (1) OF EACH VARIETY (OR TAGGED IN NURSERY) |
2. PLANT MATERIALS
 - a. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARDIZED PLANT NAMES, 1942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL PLANTS SHALL BE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS, INSECT EGGS AND LARVAE AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER, WHERE ANY REQUIREMENTS ARE NOT IN THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY WITH APPROVAL FROM OWNER OR OWNER'S REPRESENTATIVE. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE OWNER'S REPRESENTATIVE.
 - b. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.
 - c. INSPECTION: PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER, FOR QUALITY, SIZE, AND VARIETY. SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF ROOT BALLS OR ROOTS, LATENT DEFECTS OR INJURIES. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. NOTICE REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.

E. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, TOPSOIL MIX)

1. SOIL MIXTURE (PLANTING MEDIUM FOR PLANT PITS) SHALL CONSIST OF TWO PARTS OF TOPSOIL AND ONE PART SAND, AS DESCRIBED BELOW.
2. TOPSOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANT PITS SHALL BE FERTILE, FRIABLE, AND OF A LOAMY CHARACTER; REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEEDS AND OTHER LITTER; FREE OF ROOTS, STUMPS, STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER AND A PH BETWEEN 5.5 AND 7.0 - SUBMIT SAMPLE AND PH TESTING RESULTS FOR APPROVAL.
3. SAND SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE SAND. CONTRACTOR SHALL SUBMIT RESULTS OF SOIL TESTS FOR TOPSOIL AND SAND PROPOSED FOR USE UNDER THIS CONTRACT FOR APPROVAL BY THE OWNER.
4. TREES SHALL BE PLANTED IN THE EXISTING NATIVE SOIL ON SITE, UNLESS DETERMINED TO BE UNSUITABLE - AT WHICH POINT THE CONTRACTOR SHALL CONTACT ENGINEER TO DISCUSS ALTERNATE RECOMMENDATION PRIOR TO PLANTING.
5. CONTRACTOR TO SUBMIT SAMPLES OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.

F. WATER

WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN AN ADEQUATE PLANT GROWTH AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC., IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER. ***WATERING/IRRIGATION RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.**

G. FERTILIZER

CONTRACTOR SHALL PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE. SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY-DERIVED. APPLICATION IS TO BE IN ACCORDANCE WITH FLORIDA GREEN INDUSTRIES BEST MANAGEMENT PRACTICES. ***FERTILIZER RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.**

H. MULCH

MULCH MATERIAL SHALL BE MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED AT A MINIMUM DEPTH OF 3 INCHES. CLEAR MULCH FROM EACH PLANT'S CROWN (BASE). SEE PLANT LIST FOR TYPE OF MATERIAL ("FLORIMULCH," EUCALYPTUS MULCH, OR PINE STRAW) AND GRADE.

I. DIGGING AND HANDLING

1. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING. AS NECESSARY UNTIL PLANTING, PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT DAMAGE DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO SITE SHALL BE SPRAYED WITH AN ANTI-TRANSPIRANT PRODUCT ("WILT-PRUF" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.
2. BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A ROOT BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN. PLANTS BALLED AND BURLAPPED OR CONTAINER GROWN SHALL NOT BE HANDLED BY STEMS.
3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS, COMPLYING WITH FLORIDA GRADES AND STANDARDS FOR NURSERY PLANTS, CURRENT EDITION. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT DURING TRANSPORTATION AND PRIOR TO PLANTING.
4. PROTECTION OF PALMS (IF APPLICABLE): ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS SPECIFIED AFTER THE MINIMUM OF FRONDS HAVE BEEN REMOVED. ALL PALMS SHALL BE BRACED PER PALM PLANTING DETAIL.
5. EXCAVATION OF TREE PITS SHALL BE PERFORMED USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB-BASES.

J. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION, FLORIDA GRADE NO. 1 OR BETTER.
2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.
3. PLANT ROOTS BOUND IN CONTAINERS ARE NOT ACCEPTABLE.
4. SUBSTITUTION OF NON-CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE CONTAINER GROWN WILL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL AS OBTAINED FROM THE OWNER OR OWNER'S REPRESENTATIVE.

K. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED BY THE OWNER OR OWNER'S REPRESENTATIVE, THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

L. NATIVE STOCK

PLANTS COLLECTED FROM WILD OR NATIVE STANDS SHALL BE CONSIDERED NURSERY GROWN WHEN THEY HAVE BEEN SUCCESSFULLY RE-ESTABLISHED IN A NURSERY ROW AND GROWN UNDER REGULAR NURSERY CULTURAL PRACTICES FOR A MINIMUM OF TWO (2) GROWING SEASONS AND HAVE ATTAINED ADEQUATE ROOT AND TOP GROWTH TO INDICATE FULL RECOVERY FROM TRANSPANTING INTO THE NURSERY ROW.

M. MATERIALS LIST

QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE ENGINEER OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN THE PLANS AND THE PLANT LIST QUANTITY, THE ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION PRIOR TO BIDDING OR INSTALLATION. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE.

N. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS, BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THE THICKNESS OF SOO AND/OR MULCH DEPTH. THIS CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.
3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS. REFER TO CIVIL ENGINEER'S PLANS FOR FINAL GRADES.

O. PLANTING PROCEDURES

1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE REMOVED FROM THE SURFACE OF ALL PLANT BEDS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL, IN ANY WAY, ADVERSELY AFFECT THE PLANT GROWTH, HE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.
2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER SYSTEMS, CABLE, AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES. CALL NATIONAL ONE CALL - 811 - TO LOCATE UTILITIES.
3. SUBGRADE EXCAVATION: CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36". CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN IDENTIFIED SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY THE CONTRACTOR, AND POSITIVE DRAINAGE CAN NOT BE ACHIEVED, CONTRACTOR SHALL UTILIZE PLANTING DETAIL THAT ADDRESSES POOR DRAINAGE.
4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS HEREIN SPECIFIED AND REQUIRED, INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.
5. GENERAL: COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. UPON ARRIVAL AT THE SITE, PLANTS SHALL BE THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS STORED ON-SITE SHALL NOT REMAIN UNPLANTED FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS. AT ALL TIMES WORKMANLIKE METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.
6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE PLANTING WITH IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION APPURTENANCES AND PLANTS.
7. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD FOR NURSERY STOCK 2601, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACKFILLED WITH THE PREPARED PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER DRAINAGE. IF POOR DRAINAGE EXISTS, UTILIZE "POOR DRAINAGE CONDITION" PLANTING DETAIL. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURES AND UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN. PROPER "JETTING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.
8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.
9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION E OF THESE SPECIFICATIONS.
10. TREES AND SHRUBS SHALL BE SET STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. PLANTING SOIL MIXTURE SHALL BE BACKFILLED, THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).
11. AMEND PINE AND OAK PLANT PITS WITH ECTOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. ALL OTHER PLANT PITS SHALL BE AMENDED WITH ENDOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. PROVIDE PRODUCT INFORMATION SUBMITTAL PRIOR TO INOCULATION.
12. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES, STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET. ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE. ONLY WITH MULCH, ALL BURLAP, ROPE, WIRES, BASKETS, ETC., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS, BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.
13. PRUNING: TREES SHALL BE PRUNED, AT THE DIRECTION OF THE OWNER OR OWNER'S REPRESENTATIVE, TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT. ALL PRUNING TO BE PERFORMED BY LICENSED ARBORIST, IN ACCORDANCE WITH ANSI A-300.
14. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6". REMOVE AND DISPOSE ALL DEBRIS. MIX TOP 4" THE PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.
15. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE CONTRACTOR AND OWNER DECIDE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE ENGINEER IN WRITING AND AGREE TO INDEMNIFY AND HOLD HARMLESS THE ENGINEER IN THE EVENT UNSUPPORTED TREES PLANTED UNDER THIS CONTRACT FALL AND DAMAGE PERSON OR PROPERTY.
16. MULCHING: PROVIDE A THREE INCH (MINIMUM) LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER, VINE BED, AND TREE PIT PLANTED UNDER THIS CONTRACT.
17. HERBICIDE WEED CONTROL: ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "ROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER (AS ALLOWED BY JURISDICTIONAL AUTHORITY).

P. LAWN SODDING

1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.
2. LAWN BED PREPARATION: ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS, AND THE GROUND BROUGHT TO AN EVEN GRADE. THE ENTIRE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE.
3. SOIL PREPARATION: PREPARE LOOSE BED FOUR (4) INCHES DEEP. HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED, WET PREPARED AREA THOROUGHLY.
4. SODDING
 - a. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.
 - b. THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETY TYPE, AND FREE FROM WEEDS, FUNGI, INSECTS AND DISEASES OF ANY KIND.
 - c. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS. ADJACENT TO BUILDINGS, A 24 INCH STONE MULCH STRIP SHALL BE PROVIDED - REFER TO DETAILS. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND, AS APPROVED BY THE OWNER'S REPRESENTATIVE, SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN. FERTILIZE INSTALLED SOD AS ALLOWED BY PROPERTY'S JURISDICTIONAL AUTHORITY.
5. DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.
6. LAWN MAINTENANCE:
 - a. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS (LARGER THAN 12"x12") UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING RE-GRADING IF NECESSARY).
 - b. CONTRACTOR RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SOD/LAWN UNTIL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PRIOR TO AND UPON ACCEPTANCE, CONTRACTOR TO PROVIDE WATERING/IRRIGATION SCHEDULE TO OWNER, OBSERVE AND ENFORCE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.

Q. CLEANUP

UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE BROOM-CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

R. PLANT MATERIAL MAINTENANCE

ALL PLANTS AND PLANTING INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SUPPORTS) NECESSARY TO INSURE A HEALTHY PLANT CONDITION BY THE CONTRACTOR UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. MAINTENANCE AFTER THE CERTIFICATION OF ACCEPTABILITY SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS IN THIS SECTION. CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE TO COVER LANDSCAPE AND IRRIGATION MAINTENANCE FOR A PERIOD OF 90 CALENDAR DAYS COMMENCING AFTER ACCEPTANCE.

S. MAINTENANCE (ALTERNATE BID ITEM)

CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE FOR MAINTENANCE FOLLOWING THE INITIAL 90-DAY MAINTENANCE PERIOD ON A COST-PER-MONTH BASIS.

T. FINAL INSPECTION AND ACCEPTANCE OF WORK

FINAL INSPECTION AT THE END OF THE WARRANTY PERIOD SHALL BE ON PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY REPLACEMENT AT THIS TIME SHALL BE SUBJECT TO THE SAME ONE (1) YEAR WARRANTY (OR AS SPECIFIED BY THE ENGINEER OR OWNER IN WRITING) BEGINNING WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

U. WARRANTY

1. THE LIFE AND SATISFACTORY CONDITION OF ALL 7 GALLON AND LARGER PLANT MATERIAL INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNERS REPRESENTATIVE.
2. THE LIFE AND SATISFACTORY CONDITION OF ALL OTHER PLANT MATERIAL (INCLUDING SOD) INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNERS REPRESENTATIVE.
3. REPLACEMENT: ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED PLANTED AND MULCHED AS SPECIFIED UNDER "PLANTING"; AT NO ADDITIONAL COST TO THE OWNER. WARRANTY IS TO EXCLUDE DAMAGE CAUSED BY FLOODS, LIGHTING STRIKES, FREEZING, WINDS OVER 45 MPH, FIRE, VANDALISM, HERBIVORE ANIMALS, DISEASE, INSECTS, WATER RESTRICTIONS, GOVERNMENT ACTIONS OR ACTS OF NEGLIGENCE BY THE OWNER OR OTHERS.
4. IN THE EVENT THE OWNER DOES NOT CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE (AND IRRIGATION) MAINTENANCE, THE CONTRACTOR IS ENCOURAGED TO VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER, AND SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREATEN VIGOROUS AND HEALTHY PLANT GROWTH. IT IS SUGGESTED SUCH SITE VISITS SHALL BE CONDUCTED A MINIMUM OF ONCE PER MONTH FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF ACCEPTANCE.

V. SUBMITTALS

1. FOR ALL LANDSCAPE INSTALLATIONS, THE CONTRACTOR SHALL SUBMIT PRODUCT DATA IN THE FORM OF MANUFACTURERS' CUT SHEETS AND CATALOG DATA FOR ALL PRODUCTS, MATERIAL AND EQUIPMENT CLEARLY INDICATING THE SPECIFIC PART OR PRODUCT CATALOG NUMBER(S) FOR APPROVAL AND SUBMIT A MATERIALS LIST INDICATING ALL PLANT SPECIES, QUALITY AND SIZE.
2. SUBMIT 6 COPIES OF REQUESTED INFORMATION, NEATLY BOUND AND INDEXED PER CATEGORY.
3. THE CONTRACTOR SHALL SUBMIT A LANDSCAPE COORDINATION DRAWING, INDICATING CONTRACTOR'S PROPOSED LOCATION OF TREES, SHRUBS, GROUNDCOVERS AND MULCH THIS DRAWING SHOULD BE PREPARED ON A COPY OF THE LANDSCAPE PLAN PROVIDED IN THESE DRAWINGS AND SHALL CLEARLY DEPIC ADJUSTMENTS OR CHANGES THE CONTRACTOR PROPOSES TO THE PLANT SPECIES, SIZE OR LOCATION. THE DRAWINGS SHALL INDICATE ALL PROPOSED SUBSTITUTIONS OF SIZE, AND/OR MATERIAL.
4. ALLOW TWO WEEKS FOR THE ENGINEER TO COMPLETE REVIEW AND APPROVAL OF PRODUCT DATA, AND COORDINATION DRAWINGS. ENGINEER WILL NOT BE RESPONSIBLE FOR PROJECT DELAYS RELATED TO DELIVERY AND TRANSMISSION OF THE INFORMATION AND DOCUMENTATION ONCE INFORMATION HAS LEFT ENGINEER'S OFFICE. ITEMS REQUIRING A LONG LEAD TIME SHOULD BE SUBMITTED AS SOON AS POSSIBLE.
5. WARRANTY: CONTRACTOR SHALL SUBMIT A WARRANTY LETTER TO OWNER, INDICATING THE WARRANTY PERIOD, WARRANTY REQUIREMENTS (AS SPECIFIED IN THESE DRAWING AND SPECIFICATIONS), AND DATES OF WARRANTY PERIOD, WHICH SHALL BEGIN AT THE DATE OF ISSUANCE OF PROJECT CERTIFICATE OF OCCUPANCY, AND END TWELVE (12) MONTHS AFTER.
6. CERTIFICATION: CONTRACTOR SHALL SUBMIT CERTIFICATION STATING THAT: PLANT SPECIES AND SIZE CONFORM TO THOSE INDICATED ON THE DRAWINGS; ALL NURSERY STOCK IS IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES; ALL PLANTS ARE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY; ALL PLANTS ARE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS; INSECT EGGS AND LARVAE AND HAVE ADEQUATE ROOT SYSTEMS; TREES FOR PLANTING IN ROWS ARE UNIFORM IN SIZE AND SHAPE; THIS CERTIFICATION IS NECESSARY PRIOR TO ACCEPTANCE OF WORK BY THE OWNER.

| JOB NO. | DESIGNED | DRAWN | DATE | CHECKED | DATE ISSUED |
|---------|----------|-------|-----------|---------|-------------|
| 21-0492 | TH | SS | JUNE 2022 | AS | 05/12/2023 |

| REVISIONS | DATE |
|-----------|------|
| 0 | |

MBV ENGINEERING, INC.
 ENGINEERING, INC. & ASSOCIATES
 MOIA BOWLES VILLAMIZAR & ASSOCIATES
 CONSULTING ENGINEERING CA #3728
 1818 S. 10TH STREET
 MIAMI, FL 33131
 TEL: (305) 684-0310
 FAX: (305) 784-9107
 WELLSBORNE, FL - PH: (904) 351-1510
 W. PALM BEACH, FL - PH: (561) 948-8800

LANDSCAPE SPECIFICATIONS

**IRC FIRE RESCUE FIRE STATION #7
 CITY OF FELLSMERE
 FINAL DEVELOPMENT PLAN**

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

AARON G. STANTON
 FL. P.E. #72460 8/16/23
 SHEET
C21
 21-0492

C:\DRAWINGS\202101\4492 IRC Fire Station #7 - W01 #1612.dwg (13:30:2023) 13:30:21

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