

100 PLANS

VERTICAL DATUM

NGVD 29

TARA 20 FORCE MAIN PARALLEL TO LENA ROAD 60 9881

APRIL 2016

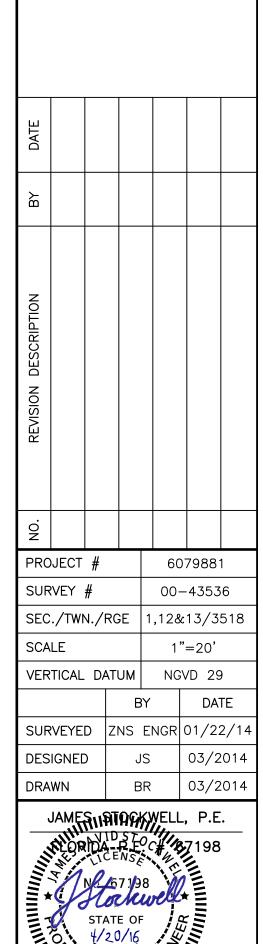


INSTALL APPROXIMATELY 8,400LF OF 20" FORCEMAIN.

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TARA 20 FORCE MAIN ARALLEL TO LENA ROAD



<u>GENERAL</u>

- 1. ALL CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH THE PROJECT MANAGEMENT DIVISION THE PROJECT MANAGER IS: BRIAN BATES
- AND CAN BE REACHED AT (941) 708-7450; EXT. 7329
- ALL CONSTRUCTION ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF MANATEE COUNTY UTILITY AND TRANSPORTATION STANDARDS AND/OR FDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" UNLESS OTHERWISE INDICATED ON THE PLANS.

2. SITE VISITS ARE MANDATORY FOR ALL BIDDERS. THESE SITE VISITS CAN BE ARRANGED THROUGH THE PROJECT MANAGER

- 4. VERTICAL CONTROL FOR THIS PROJECT WAS ESTABLISHED BY A MINIMUM OF TWO REFERENCE BENCHMARKS DESCRIBED ON THE "THE NATIONAL GEODETIC VERTICAL DATUM OF 1929", (NGVD '29).
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL CONDITIONS AND REQUIREMENTS OF ALL PERMITS AND ALL GOVERNING FEDERAL, STATE, AND LOCAL AGENCIES. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS THAT ARE NOT PROVIDED IN THE BID DOCUMENTS, AT NO ADDITIONAL COST TO THE OWNER.
- 6. THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF WORK, ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING. TO CONDUCT WHATEVER INVESTIGATION THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED.
- 7. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS ON THE PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN THE ENGINEER'S CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
- 8. AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA AT 1-800-432-4770 OR THE NATIONAL 811 ONE CALL NUMBER WHEN APPLICABLE FOR UTILITY LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL UTILITIES FOR THE POSSIBLE RELOCATION OR THE TEMPORARY MOVEMENT OF ANY EXISTING UTILITIES WITHIN THE RIGHTS-OF-WAY.
- 9. NO WORK, EXCEPT FOR EMERGENCY TYPE, SHALL BE PERFORMED AFTER 7:00 PM AND BEFORE 7:00 AM. FOR ADDITIONAL PROJECT RESTRAINTS, REFER TO SECTION 01310 OF THE SPECIFICATIONS.

- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE FLORIDA TRENCH SAFETY ACT. 90-96. LAWS OF FLORIDA EFFECTIVE OCTOBER 1, 1990 AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION EXCAVATION SAFETY STANDARDS, 29 CFR 1926.650, SUBPART P, AS AMENDED. THE CONTRACTOR SHALL INCLUDE IN THE TOTAL BID PRICE ALL COSTS FOR COMPLIANCE WITH THESE REGULATIONS.
- 11. THE CONTRACTOR SHALL USE SHEET PILING, SHEETING, BRACING, ETC., AS REQUIRED IN ALL EXCAVATION AREAS AND CONFORM TO ALL OSHA REQUIREMENTS.
- 12. THE CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND UTILITIES, POWER LINES, ETC.
- 13. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THIS EXCLUSION DOES NOT ALLEVIATE THE CONTRACTOR FOR PROVIDING A CONTINUOUS SAFE WORKSPACE.

ENVIRONMENTAL

- 14. WHEN A BENTONITE SPILL OR FRACK-OUT OCCURS OR THERE IS A LOSS OF RETURN INDICATING EXCESSIVE SEEPAGE OR LOSS OF DRILLING FLUID, DRILLING MUST BE STOPPED UNTIL THE LOCATION OF THE SPILL IS IDENTIFIED. UNDER NO CIRCUMSTANCES WILL DRILLING CONTINUE WHEN A SPILL IS APPARENT
- 15. ONCE LOCATED, THE BENTONITE SPILL MUST BE ISOLATED AND SEEPAGE INTO ANY NEARBY WATER BODIES WILL BE BLOCKED DEPENDING ON THE DEGREE OF THE SPILL, THE ISOLATED BENTONITE MUST BE REMOVED MANUALLY OR MECHANICALLY AND DISPOSED OF BY APPROPRIATE MEANS OR REUSED.
- 16. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY STORM WATER, EROSION, AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH THE FDEP "FLORIDA STORM WATER, EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL". IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTROL AND PREVENT EROSION AND TRANSPORT OF SEDIMENT TO SURFACE DRAINS AND TO DITCHES DURING CONSTRUCTION.
- 17. STOCKPILES SHALL BE PROTECTED AT ALL TIMES BY ON-SITE DRAINAGE CONTROLS WHICH PREVENT EROSION OF THE STOCKPILED MATERIAL. CONTROL OF DUST FROM SUCH STOCKPILES IS REQUIRED, DEPENDING UPON THEIR LOCATION AND THE EXPECTED LENGTH OF TIME THE STOCKPILES WILL BE PRESENT. IN NO CASE SHALL ANY STOCKPILED MATERIAL REMAIN AFTER THIRTY (30) CALENDAR DAYS.
- 18. STORM WATER INLETS IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY SEDIMENT TRAPS SUCH AS SECURED HAY BALES, SOD, STONE, ETC., WHICH SHALL BE MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS, AND WHICH MUST BE APPROVED BY THE ENGINEER BEFORE INSTALLATION. THIS WILL BE MAINTAINED TO PREVENT DEGRADATION OF THE WATERS OF THE COUNTY AND STATE.
- 19. SEDIMENT BASINS AND TRAPS, PERIMETER BERMS, SEDIMENT BARRIERS, VEGETATIVE BUFFERS, AND OTHER MEASURES INTENDED TO TRAP SEDIMENT AND/OR PREVENT THE TRANSPORT OF SEDIMENT ONTO ADJACENT PROPERTIES, OR INTO EXISTING BODIES OF WATER, MUST BE INSTALLED, CONSTRUCTED, OR IN THE CASE OF VEGETATIVE BUFFERS, PROTECTED FROM DISTURBANCE, AS A FIRST STEP IN THE LAND ALTERATION PROCESS. SUCH SYSTEMS SHALL BE FULLY OPERATIVE BEFORE ANY OTHER DISTURBANCE OF THE SITE BEGINS. EARTHEN STRUCTURES INCLUDING BUT NOT LIMITED TO BERMS. EARTH FILTERS. DAMS OR DIKES SHALL BE STABILIZED AND PROTECTED FROM DRAINAGE DAMAGE OR EROSION WITHIN ONE (1) WEEK OF INSTALLATION.
- 20. ALL SWALES, DITCHES, AND CHANNELS LEADING FROM THE SITE SHALL BE PROTECTED FROM SILTATION AND EROSION DURING CONSTRUCTION AND BE SODDED WITHIN THREE (3) DAYS OF EXCAVATION.
- 21. SOIL DISPLACED BY CONSTRUCTION WILL BE REMOVED. EROSION CONTROL SHALL BE IMPLEMENTED IN AREAS WHICH ARE CONSIDERED ENVIRONMENTALLY SENSITIVE. EROSION CONTROL SYSTEMS SHALL BE REQUIRED FOR ALL WORK WITHIN JURISDICTIONAL AREAS. THESE SYSTEMS MAY INCLUDE STAKED HAY BALES, SILT SCREENS, FILTER FABRIC, AND TURBIDITY SCREENS.
- 22. ALL EROSION AND POLLUTION CONTROL DEVICES SHALL BE CHECKED REGULARLY, ESPECIALLY AFTER EACH RAINFALL AND SHALL BE CLEANED OUT AND/OR REPAIRED AS REQUIRED.
- 23. THE CONTRACTOR SHALL NOT ENTER UPON OR IN ANY WAY ALTER WETLAND AREAS THAT MAY BE ON OR NEAR THE CONSTRUCTION SITE. ALL WORK IN THE VICINITY OF OPEN WATER AND/OR WETLANDS IS TO BE PERFORMED IN COMPLIANCE WITH THE ENVIRONMENTAL REGULATIONS AND/OR PERMITS FOR THE SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY FINES RESULTING FROM HIS VIOLATION OF ANY REGULATIONS OR PERMIT CONDITIONS.
- 24. FOR MORE INFORMATION, SEE THE EROSION CONTROL DETAIL SHEET INCLUDED IN THE PLANS.

RIGHT-OF-WAY

- 25. ALL CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO WITHIN THE MANATEE COUNTY/FDOT RIGHT-OF-WAY AND/OR EASEMENTS SHOWN ON THE DRAWINGS.
- 26. THE CONTRACTOR SHALL EMPLOY A LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA TO REFERENCE AND RESTORE PROPERTY CORNER MONUMENTS, PINS, AND LANDMARKS THAT MAY BE DISTURBED BY CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
- 27. THE CONTRACTOR, PRIOR TO CONSTRUCTION AND RESTRICTING ANY TRAFFIC, MUST OBTAIN A RIGHTS-OF-WAY USE PERMIT AND A TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FROM OTHER GOVERNMENTAL AGENCIES HAVING RELEVANT JURISDICTION. ALL MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE CURRENT FLORIDA DEPARTMENT OF TRANSPORTATION "MANUAL OF TRAFFIC CONTROL AND SAFE PRACTICES". A TRAFFIC CONTROL PLAN SHALL BE SUPPLIED BY THE CONTRACTOR AT THE PRE-CONSTRUCTION MEETING.
- 28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL DAMAGED STORM WATER STRUCTURES, PIPING, ENTRANCE PIPE AND HEADWALLS WHETHER SHOWN ON THE PLANS OR NOT. THE HEADWALLS SHALL BE REPLACED IN ACCORDANCE WITH F.D.O.T. STANDARDS.
- 29. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH IN THE FIELD THE RIGHT-OF-WAY LINES, BASE LINES, BENCH MARKS (ELEV.), CENTER LINES, AND STATIONING AS REQUIRED TO CONSTRUCT THIS PROJECT.
- 30. THE CONTRACTOR SHALL COORDINATE THE CUTTING OF DRIVEWAYS WITH THE PROPERTY OWNER PRIOR TO CUT. ALL DRIVEWAYS WILL BE IN PASSABLE CONDITION AT THE END OF THE WORK DAY AND FULLY RESTORED PER SECTION 02575.
- 31. A RIGHT OF ENTRY AGREEMENT SHALL BE OBTAINED BY THE PROJECT MANAGER FROM THE PROPERTY OWNER BEFORE ANY DRIVEWAY CONSTRUCTION WORK IS DONE OUTSIDE OF THE RIGHT-OF-WAY OR EASEMENT.

<u>UTILITIES</u>

- 32. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. THERE MAY BE OTHER IMPROVEMENTS, UTILITIES, ETC. WHICH ARE WITHIN THE PROJECT AREA AND WHICH HAVE NOT BEEN LOCATED OR IDENTIFIED, MAY NOT BE IN THE EXACT LOCATION SHOWN OR RELOCATED SINCE THE PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY, PRIOR TO CONSTRUCTION, THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES STRUCTURES AND OTHER FEATURES (WHETHER OR NOT SHOWN ON THE PLANS) THAT MAY EFFECT HIS WORK. ALL EXISTING UTILITIES TO BE EXTENDED, CROSSED OR CONNECTION POINTS SHALL BE EXPOSED PRIOR TO CONSTRUCTION TO VERIFY LOCATION AND ELEVATION. ANY DISCREPANCIES OR CONFLICTS FOUND SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR RESOLUTION.
- 33. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, WATER AND SEWER LINES, STORM DRAINS, UTILITIES, DRIVEWAYS, SIDEWALKS, SIGNS, MAIL BOXES, FENCES, TREES, LANDSCAPING, AND ANY OTHER IMPROVEMENT OR FACILITY IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DAMAGED ITEM DUE TO HIS CONSTRUCTION ACTIVITIES TO EQUAL OR BETTER THAN PRE-CONSTRUCTION CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
- 34. THE CONTRACTOR SHALL USE APPROPRIATE TECHNIQUES, AS APPROVED, RECOMMENDED OR OFFERED BY FLORIDA POWER AND LIGHT TO PREVENT UNDERMINING OF POWER POLES DURING CONSTRUCTION. IF HOLDING OF POWER POLES IS RECOMMENDED OR REQUIRED BY THE UTILITY, THE CONTRACTOR SHALL COORDINATE THIS ACTIVITY WITH THE UTILITY AND BEAR ALL RELATED COSTS.
- 35. ANY TEMPORARY SHUTDOWNS FOR MODIFICATIONS OF EXISTING UTILITY SYSTEMS THAT MUST REMAIN IN SERVICE DURING CONSTRUCTIONS SHALL BE KEPT TO A MINIMUM AND SHALL BE COORDINATED WITH AND APPROVED BY THE MANATEE COUNTY UTILITY OPERATIONS DEPARTMENT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. IT IS NOTED THAT TEMPORARY SHUTDOWNS MAY BE RESTRICTED TO CERTAIN HOURS AT ANY TIME OF THE DAY OR NIGHT AND WILL BE COMPLETED AT NO ADDITIONAL COST TO THE OWNER.
- 36. FOR WORK BEING DONE ON EXISTING SANITARY SEWER LINES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE FLOW OF ALL SEWAGE DURING CONSTRUCTION, WHICH MAY REQUIRE BY-PASS PUMPING AND/OR PUMPER TRUCKS. THE CONTRACTOR SHALL SUBMIT A DETAILED BY-PASS PUMPING PLAN PER SECTION 02720

<u>RESTORATION</u>

- 37. ALL RESTORATION WORK PERFORMED THROUGHOUT THE PROJECT SHALL CONFORM TO EXISTING LINES AND GRADES UNLESS SHOWN OTHERWISE.
- 38. ALL DISTURBED GRASSED AREAS SHALL BE SODDED OR SEEDED UNLESS OTHERWISE INDICATED. THE TYPE OF SOD USED TO REPLACE OWNER MAINTAINED AREAS IN RIGHT-OF-WAY SHALL BE COORDINATED WITH THE PROPERTY OWNER.
- 39. ALL CONCRETE THRUST BLOCKS INSTALLED FOR TESTING PURPOSES AND NOT REQUIRED FOR THE OPERATION OF THE PIPELINE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR, PRIOR TO FINAL ACCEPTANCE, AT NO ADDITIONAL COST TO THE OWNER.
- 40. ASPHALT DRIVES THAT ARE CUT SHALL BE RESTORED PER SECTION 02513.
- 41. CONCRETE DRIVEWAYS OR SIDEWALKS THAT ARE CUT SHALL BE RESTORED TO MATCH EXISTING ACCORDING TO THE CURRENT EDITIONS OF THE F.D.O.T. SPECIFICATIONS FOR ROAD AND BRIDGE DESIGN, SECTION 522, AND SECTION 310 OF THE F.D.O.T. DESIGN STANDARDS.
- 42. WHENEVER A PERMANENT ROADWAY SURFACE IS NOT PLACED IMMEDIATELY AFTER BACKFILLING AND COMPACTION OF THE NEWLY INSTALLED PIPE LINE IN AREAS WHERE TRAFFIC MUST PASS, THE CONTRACTOR SHALL INSTALL A TEMPORARY SURFACE CONSISTING OF NINE INCHES OF COMPACTED LIME ROCK BASE AND A COAT OF ASPHALT EMULSION. PERMANENT ROADWAY REPAIR SHALL BE PERFORMED A MAXIMUM OF TWENTY-ONE CALENDAR DAYS AFTER THE INITIAL OPEN CUTTING.
- 43. RESTORATION OF CURBS, DRIVEWAYS, SIDEWALKS, AND PLACEMENT OF SOD SHALL BE COMPLETED WITHIN FORTY-FIVE CALENDAR DAYS OF INITIAL DISTURBANCE, OR TWENTY-ONE CALENDAR DAYS OF SUBSTANTIAL COMPLETION, WHICHEVER OCCURS FIRST.

CONSTRUCTION

- 44. THE EXHAUST SYSTEM OF ALL GASOLINE AND DIESEL ENGINES SHALL BE EQUIPPED WITH MUFFLERS THAT MEET THE EQUIPMENT MANUFACTURER'S REQUIREMENTS FOR NOISE SUPPRESSION. THE CONTRACTOR SHALL INSTALL NOISE ABATEMENT BAFFLES POSITIONED TO BREAK LINE-OF-SITE FROM THE NOISE SOURCE TO AFFECTED RESIDENCES, AS APPROVED BY THE ENGINEER.
- 45. NO MATERIAL SHALL BE STOCKPILED IN ROADWAYS. ALL DIRT AND DEBRIS SHALL BE REMOVED FROM THE JOB SITE DAILY ROADS SHALL BE SWEPT DAILY AS PART OF DAILY CLEAN UP.
- 46. THE CONTRACTOR IS TO CONTROL ALL FUGITIVE DUST ORIGINATING ON THIS PROJECT BY WATERING OR OTHER METHODS AS REQUIRED.
- 47. INGRESS AND EGRESS TO ALL THE PROPERTIES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED AT ALL TIMES.
- 48. PRIOR APPROVAL WILL BE REQUIRED FOR REMOVAL OF ANY TREE WITHIN THE CONSTRUCTION AREA
- 49. THE CONTRACTOR SHALL PROVIDE ALL DEWATERING EQUIPMENT NECESSARY TO KEEP ALL EXCAVATIONS DRY. DEWATERING IS REQUIRED TO 18" BELOW TRENCH BOTTOM.
- 50. ALL PIPING AND FITTINGS USED ON THIS PROJECT SHALL BE AS NOTED ON THE PLANS AND IN THE CONTRACT DOCUMENT AND SHALL BE INSTALLED TO THE LINES AND GRADES SHOWN ON THE PLANS AND PROFILES.
- 51. ALL PIPE SHALL BE COLOR CODED TO CONFORM TO MANATEE COUNTY STANDARDS.
- 52. ALL PIPE AND FITTINGS SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER AND ALL PIPE JOINTS SHALL BE RESTRAINED WHERE REQUIRED.
- 53. ALL FITTINGS FOR PRESSURE CLASS-RATED PIPE SHALL BE RESTRAINED DUCTILE IRON. RESTRAINED LENGTHS OF PIPE SHALL ADHERE TO THE REQUIREMENTS AS SHOWN ON THE DETAIL SHEETS.
- 54. WHERE IT IS NECESSARY TO DEFLECT PIPE EITHER HORIZONTALLY OR VERTICALLY, PIPE DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURER'S MAXIMUM ALLOWABLE RECOMMENDED DEFLECTION.
- 55. ALL PIPE LENGTHS ARE PLUS OR MINUS AND MAY BE ADJUSTED IN THE FIELD AS REQUIRED. PIPE MEASUREMENTS ARE TO CENTER OF STRUCTURES OR FITTINGS. 56. ALL ROCKS OR STONES LARGER THAN SIX INCH DIAMETER SHALL BE REMOVED FROM THE BACKFILL MATERIAL. BACKFILL
- MATERIAL PLACED WITHIN ONE FOOT OF PIPING AND APPURTENANCES SHALL NOT CONTAIN ANY STONES LARGER THAN TWO INCH 57. ONLY MANATEE COUNTY UTILITY OPERATIONS STAFF ARE AUTHORIZED TO OPERATE VALVES ON COUNTY OWNED AND MAINTAINED
- UTILITY SYSTEMS.
- 58. ALL PENETRATION OF EXISTING STRUCTURES SHALL BE BY THE MECHANICAL ROTARY CORE BORING METHOD.

59. ALL CONCRETE PENETRATED OR DISTURBED SHALL BE COATED WITH TWO COATS OF EPOXY.

60. THE CONTRACTOR, PRIOR TO ANY TEMPORARY WATER SHUT-OFFS DURING WATER MAIN TIE-IN, ETC., SHALL NOTIFY THE AFFECTED RESIDENTS BY POSTING INFORMATIONAL SIGNS IN THE NEIGHBORHOOD AT LEAST TWO DAYS (48 HRS) PRIOR TO THE WATER SHUT-OFF. REFERENCE SECTION 01580, PARAGRAPH 1.03 OF THE SPECIFICATIONS. WHEN FEASIBLE, "DOOR HANGERS" SHALL BE DELIVERED TO AFFECTED RESIDENCES AT LEAST TWO DAYS (48 HRS) PRIOR TO WATER SHUT-OFF. FOR LARGE PROJECTS WITH HUNDREDS OF HOMES AFFECTED, THE CONTRACTOR SHALL ALSO MAKE EXTENSIVE USE OF THE MEDIA AND SHALL HAVE PRIOR CONTACT WITH HOMEOWNER'S ASSOCIATIONS. WRITTEN NOTIFICATIONS SHALL ALSO BE FAXED TO THE TAMPA

TRIBUNE, BRADENTON HERALD, SARASOTA HERALD TRIBUNE, WBRD RADIO, EMERGENCY COMMUNITY CENTERS, INSPECTIONS, WATER

- TREATMENT PLANT, WATER MANAGER, HELPLINE, CUSTOMER SERVICE, AND THE MANATEE COUNTY UTILITY OPERATIONS DEPARTMENT. 61. ALL NEW PIPE LINES SHALL BE PIG CLEANED (4" AND LARGER), FLUSHED, PRESSURE TESTED, DISINFECTED AND CERTIFIED PRIOR TO TIE-INS TO EXISTING FACILITIES. THE CONTRACTOR WILL BE ALLOWED TO USE TEMPORARY PLUGS FOR PIG CLEANING
- AND PRESSURE TESTING.
- 62. ALL TEST POINT PIPING SHALL BE CUT LOOSE FROM THE CORPORATION STOP AND COMPLETELY REMOVED AND DISPOSED OF BY THE CONTRACTOR PRIOR TO FINAL ACCEPTANCE. A CORPORATION STOP PLUG SHALL BE INSTALLED AND THE CORPORATION STOP SHALL REMAIN IN PLACE.
- 63. ALL EXISTING MAINS THAT ARE BEING REPLACED SHALL BE ABANDONED IN PLACE UPON ACCEPTANCE AND ACTIVATION OF THE NEW MAINS. ABANDONED MAINS SHALL BE CUT, FILLED WITH GROUT, AND CAPPED. REFER TO SECTION 02064 OF THE SPECIFICATIONS FOR GROUTING OF ABANDONED PIPE.
- 64. WATER MAINS CROSSING OVER OR UNDER SANITARY SEWERS, FORCE MAINS, AND RECLAIMED WATER LINES SHALL BE LAID PER CURRENT EDITION OF "10 STATE STANDARDS" AND MANATEE COUNTY UTILITY STANDARDS UNLESS NOTED OTHERWISE ON THE PLANS.

- 65. FIELD CONDITIONS MAY NECESSITATE MINOR ALIGNMENT AND GRADE DEVIATION OF THE PROPOSED UTILITIES TO AVOID OBSTACLES, AS ORDERED BY THE ENGINEER
- 66. CONTRACTOR SHALL PROVIDE RECORD DRAWINGS IN ACCORDANCE WITH SECTION 14 IN THE CURRENT MANATEE COUNTY UTILITY STANDARDS AT NO COST TO THE OWNER. RECORD DRAWINGS SHALL BE SIGNED & SEALED BY A SURVEYOR CURRENTLY LICENSED BY THE STATE OF FLORIDA. ALL RECORD DRAWING INFORMATION REQUIREMENTS IN SECTION 14 SHALL BE STRICTLY ENFORCED. A COPY OF SECTION 14 WILL BE PROVIDED UPON REQUEST.



EMERGENCY CONTACTS

FLORIDA POWER & LIGHT

1253 12TH AVENUE EAST

EMERGENCY: 1-800-4-OUTAGE

PALMETTO, FL 34221

Greq_Coker@fpl.com

FAX: (941) 723-4444

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GREG COKER

MANATEE COUNTY PUBLIC WORKS DEPT. SCOTT MAY, P.E. 1022 26TH AVENUE EAST BRADENTON, FL. 34208 (941) 708-7450 EXT. 7650 FAX: (941) 708-7415

TECO/PEOPLES GAS CO. DAN SHANAHAN HANS ROESE 8261 VICO COURT 410 6th AVENUE EAST SARASOTA, FL. 34240 BRADENTON, FL. 34208 (941) 342-4030 FAX: (941) 342-4011 EMERĜENCÝ: 1-877-832-6911 FAX: (941) 750-9364

SOUTHWEST FLORIDA WATER VERIZON FLORIDA INC. MANAGEMENT DISTRICT JOHN PLOTT SARASOTA SERVICE OFFICE 1701 RINGLING BLVD. STEVE LOPES, P.E. SARASOTA, FL. 34236 6750 FRUITVILLE ROAD (941) 906-6707 SARASOTA, FL. 34240 FAX: (941) 906-6706 (941) 377-3722 John.Plott@verizon.com FAX: (941) 373-7660

FLORIDA GAS TRANSMISSION CHAD HARRELL 7804 ANDERSON RD. TAMPA FL 33634 PHONE: (813) 466-3327 E-mail: chad.harrell@sug.com

FDEP. SOUTHWEST DISTRICT

ED WATSON MANATEE COUNTY HEALTH DEPT. 13051 N. TELECOM PKWY TEMPLE TERRACE, FL 33637 (813) 470-5875 FAX: (813) 470-5993 (941) 748-0747 EXT. 1355 BRIGHT HOUSE NETWORKS

> TOM WRIGHT 5413 E. STATE ROAD 64 BRADENTON, FL. 34208-5535 (941) 748-3816 EXT. 21348 Tom.Wright@mybrighthouse.com SUNSHINE STATE ONE CALL OF

> > FLORIDA 1-(800) 432-4770

PEACE RIVER ELECTRIC COOPERATIVE, INC. P.O. BOX 1310 WACHULA, FL 33873 KENDELL COKER (863) 767-4660 kendell.coker@preco.coop

MANATEE COUNTY PUBLIC WORKS DEPT./TRAFFIC ENGINEERING/ ATMS 2101 47TH TERRACE EAST BRADENTON, FL 34203 VISHAL KAKAAD, P.E. (941) 749-3500 EXT. 7812 FAX: (941) 749-3571 vishal.kakkad@mymanatee.org.

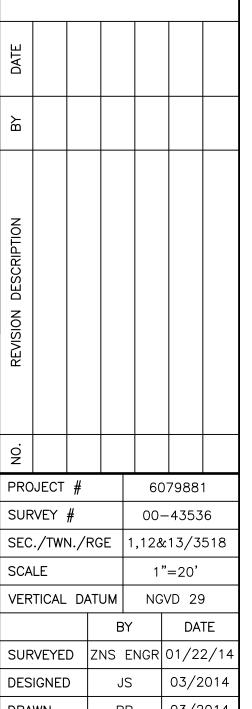
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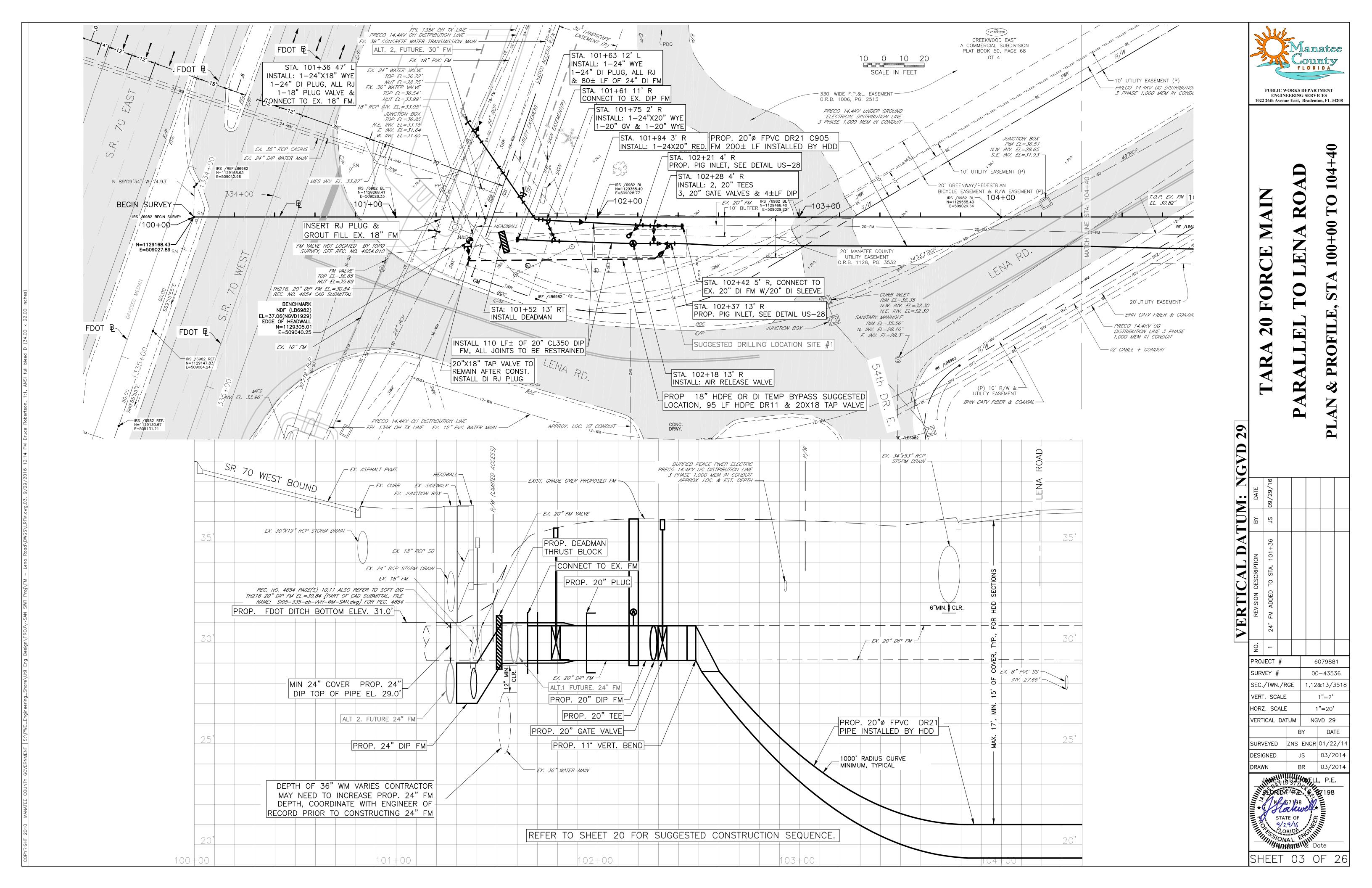
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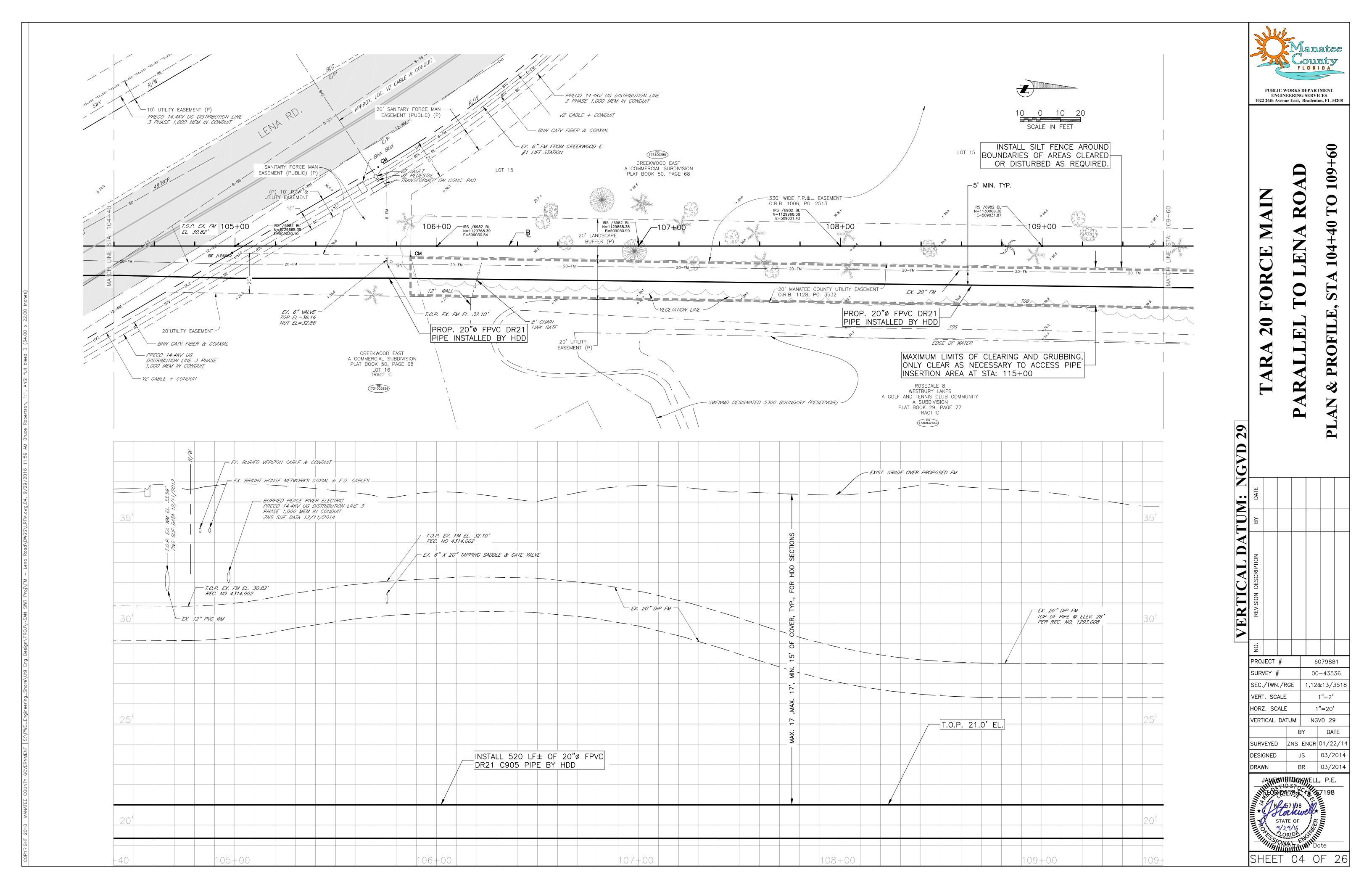
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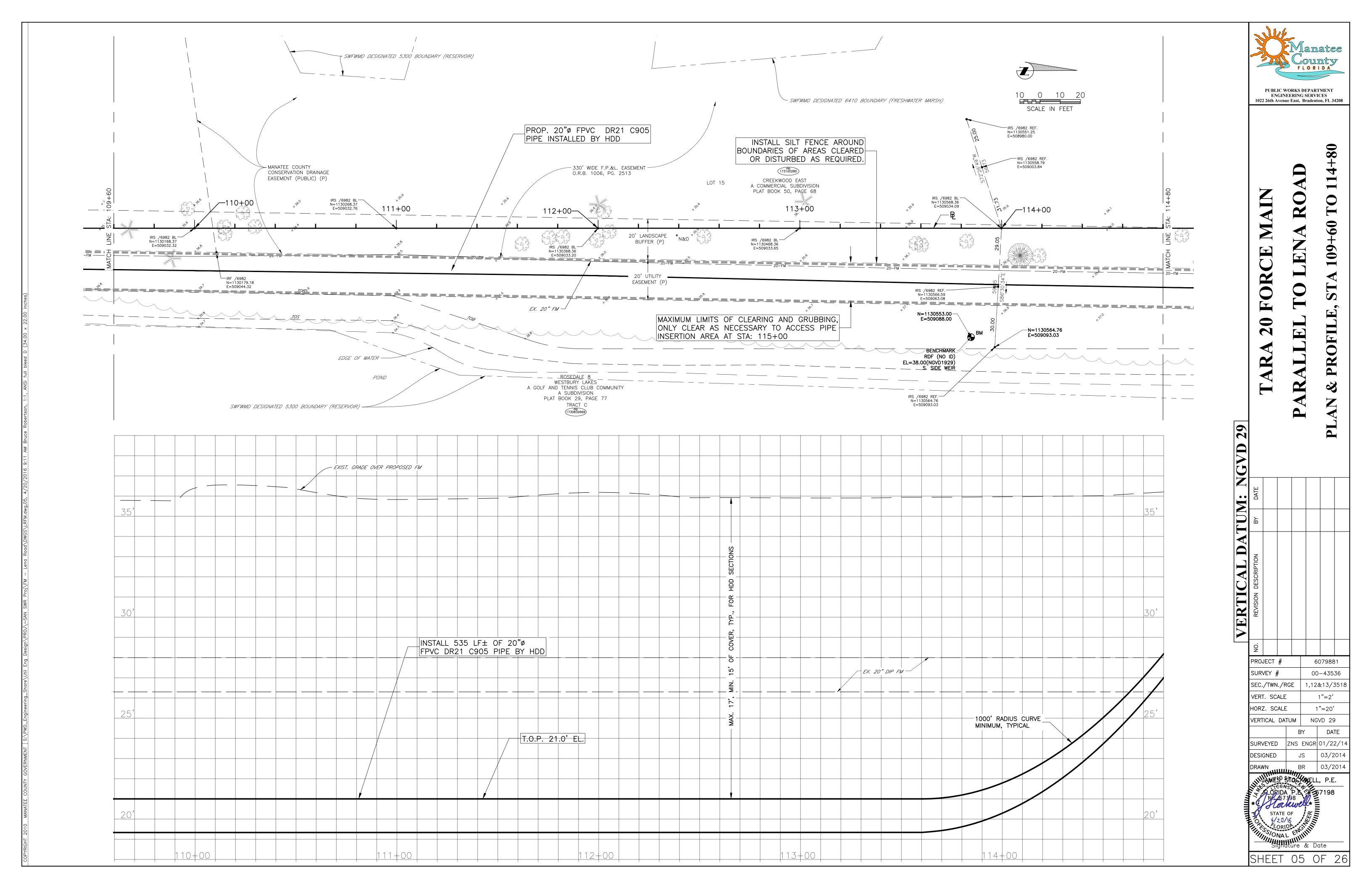
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WM		WATER METER	——— OH ———	OVERHEAD UTILITY		REDUCER
SMH	S	SANITARY SEWER MANHOLE		-RAIL ROAD TRACKS	·	TEE
CO	0	SANITARY SEWER CLEAN OUT		-EDGE OF CONCRETE	l I	HORIZONTAL BEND
SB#1	♦	SOIL BORING LOCATION		-EDGE OF ROAD	,	VERTICAL BEND
TEL (TED	TELEPHONE SERVICE BOX		TOE OF SLOPE	f	PLUG
\triangleleft	(FLOW DIRECTION		TOP OF BANK	0 1	MASTER METER ASSEMBLY
GI		GRATE INLET		PROPERTY LINE	= :	SERVICE LINE & METER
		MITERED END SECTION		RIGHT OF WAY ——C	_ [DOUBLE SERVICE

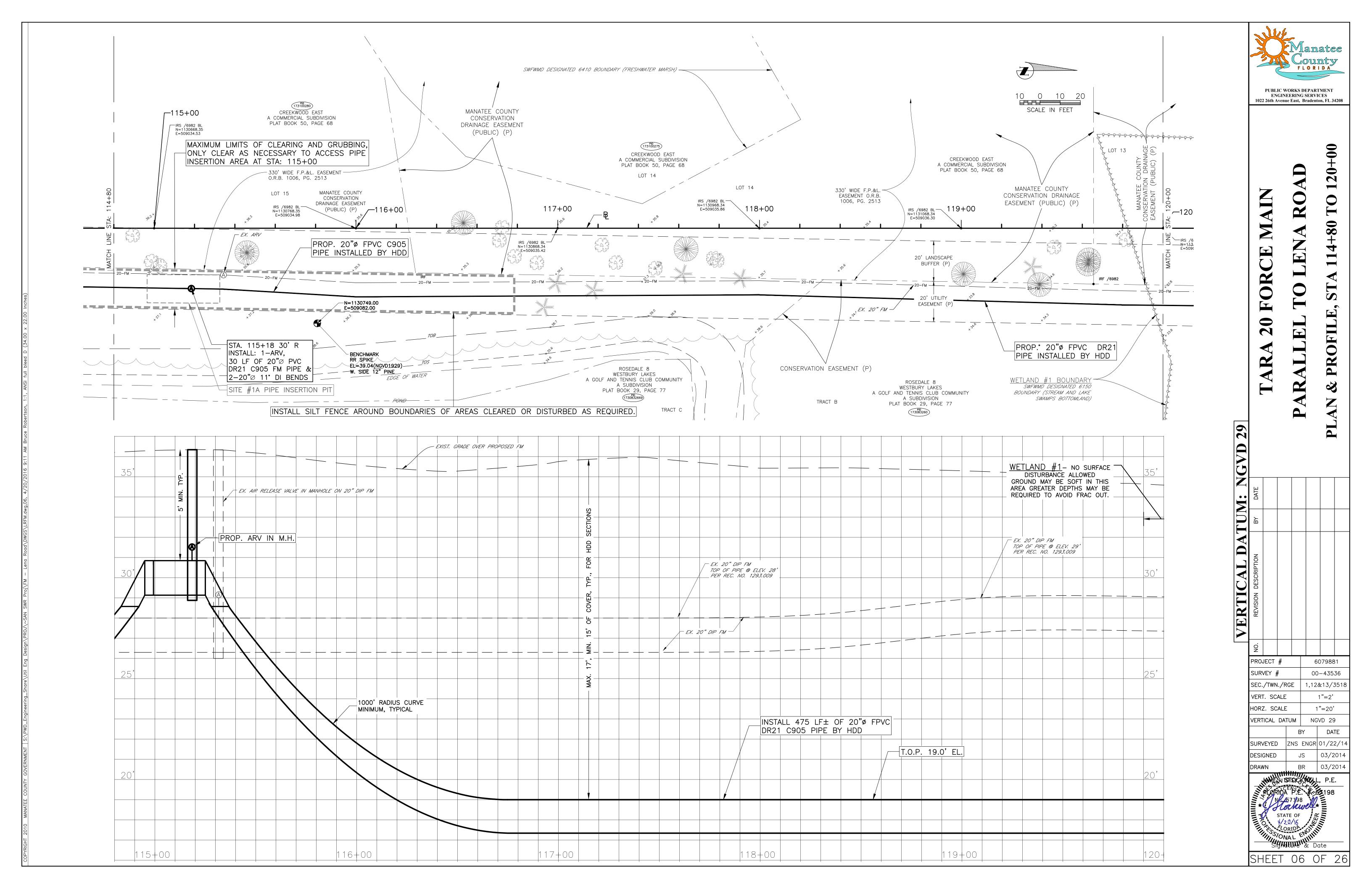


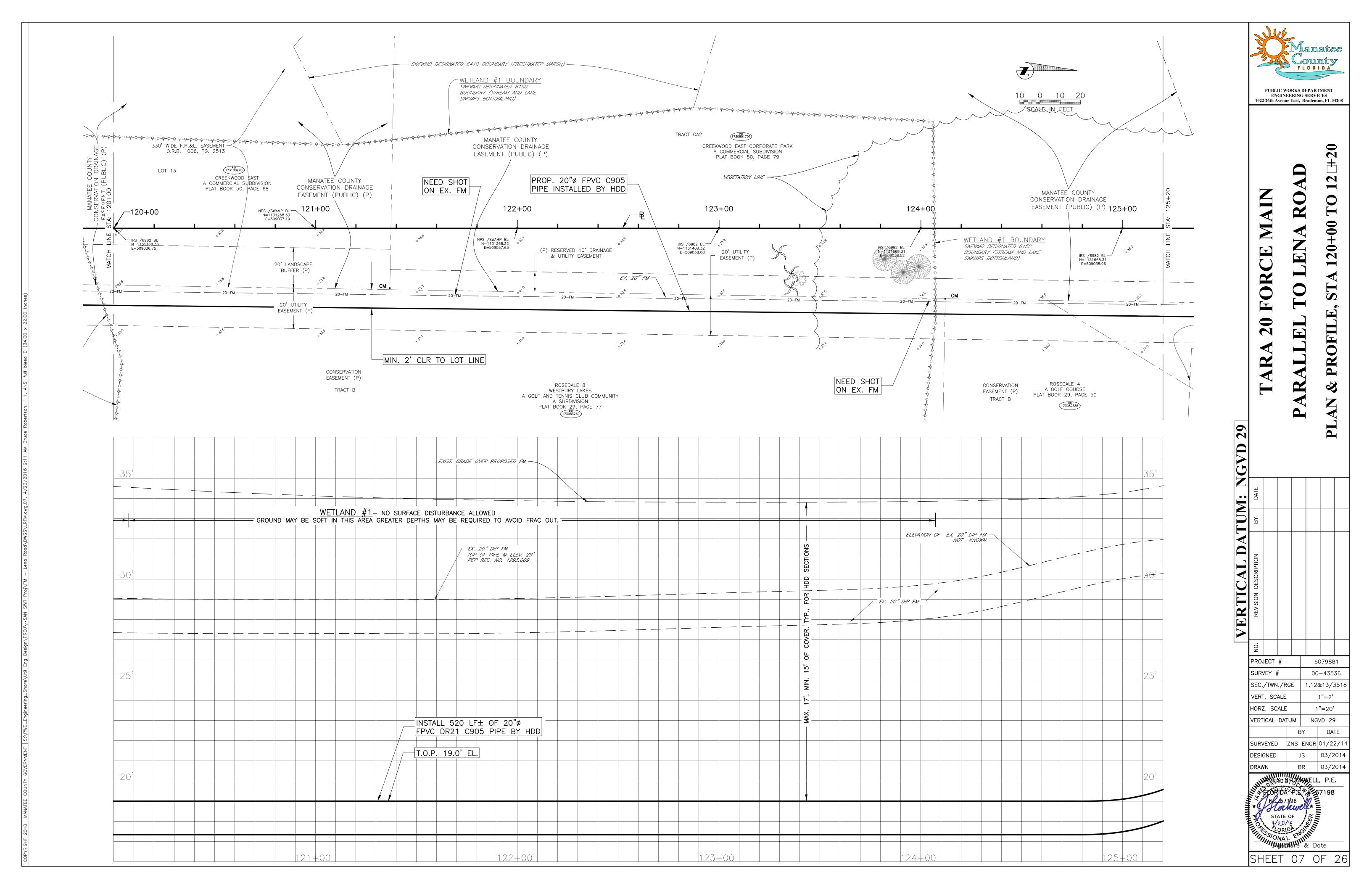
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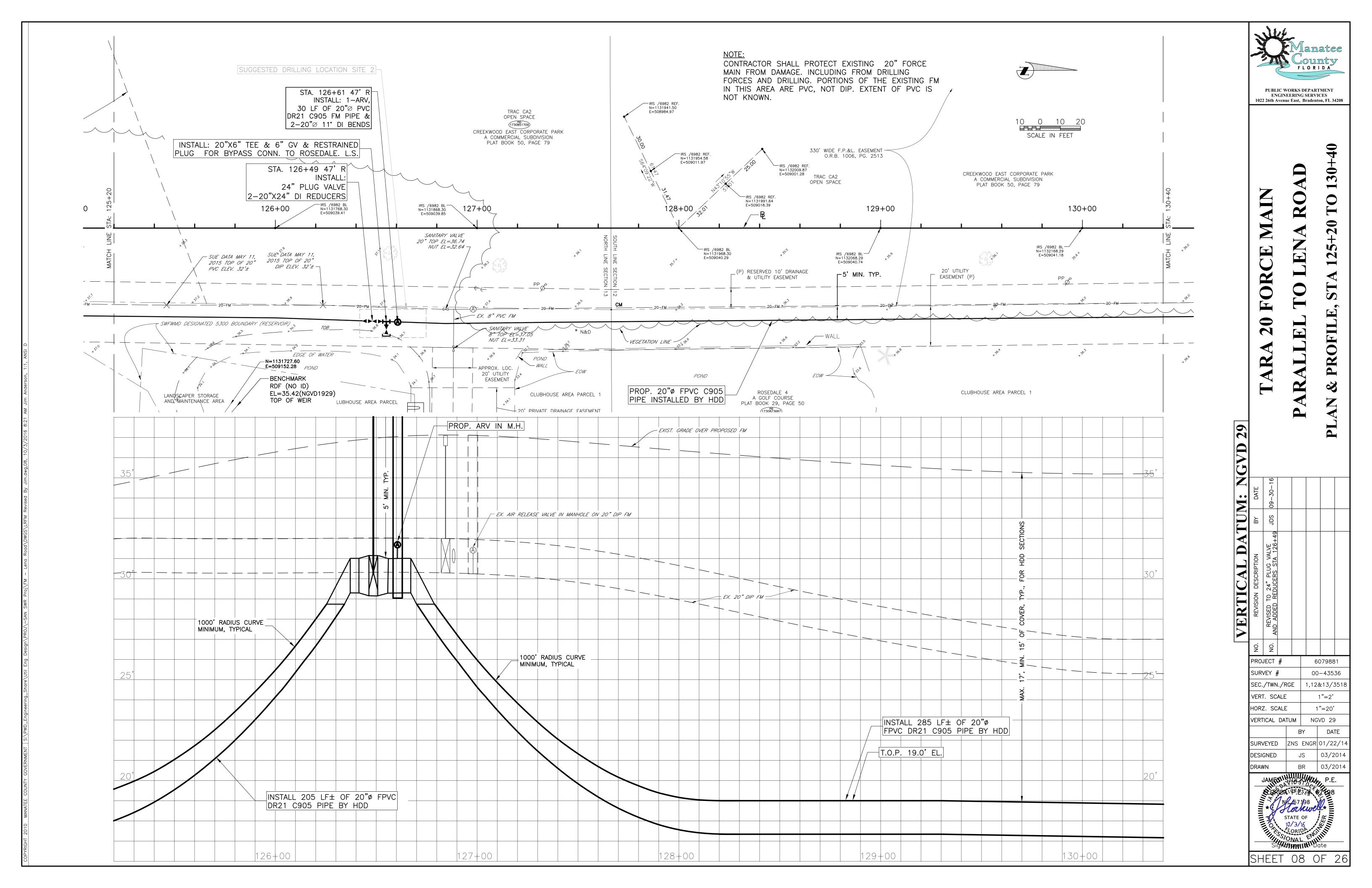


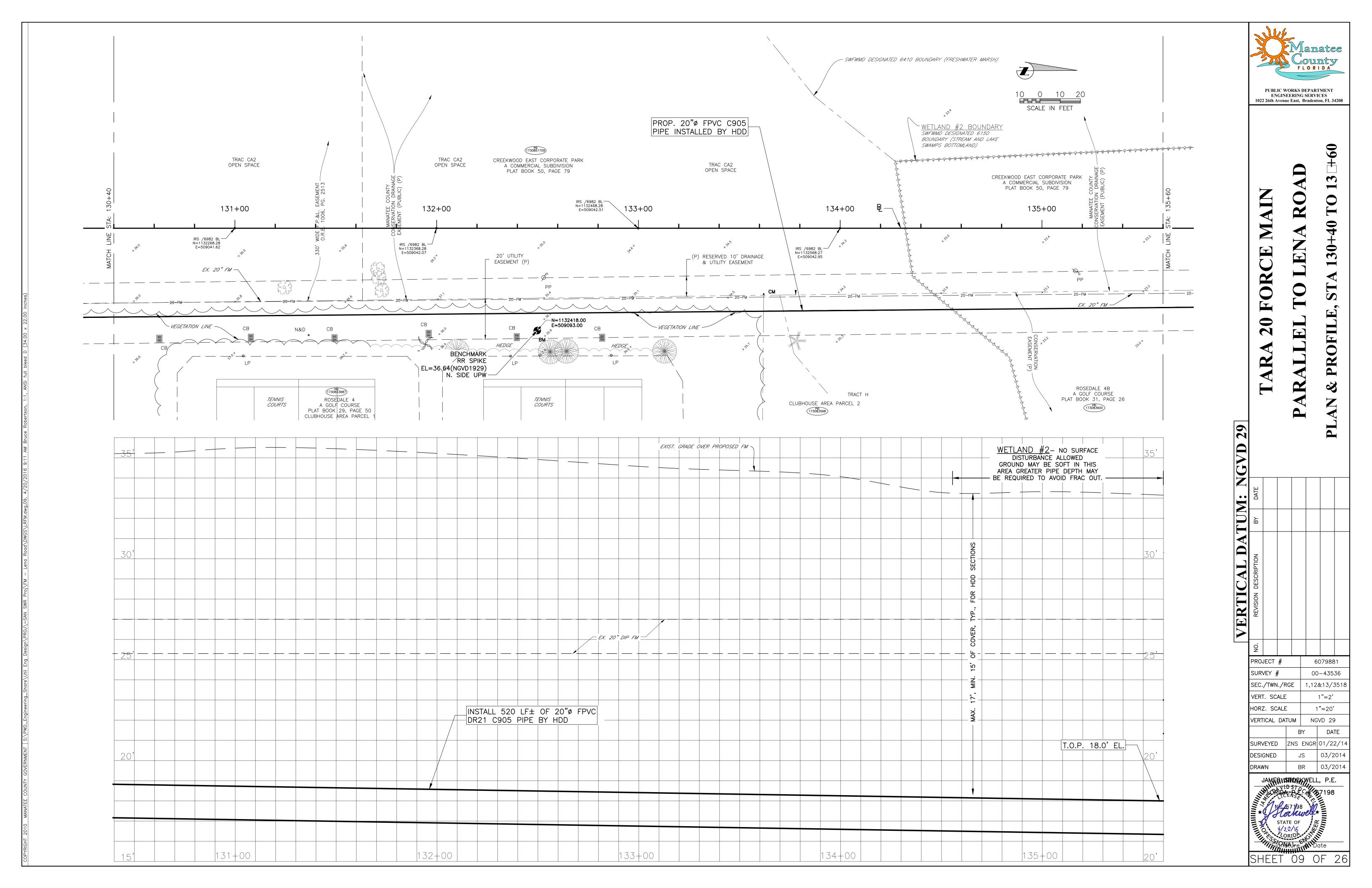


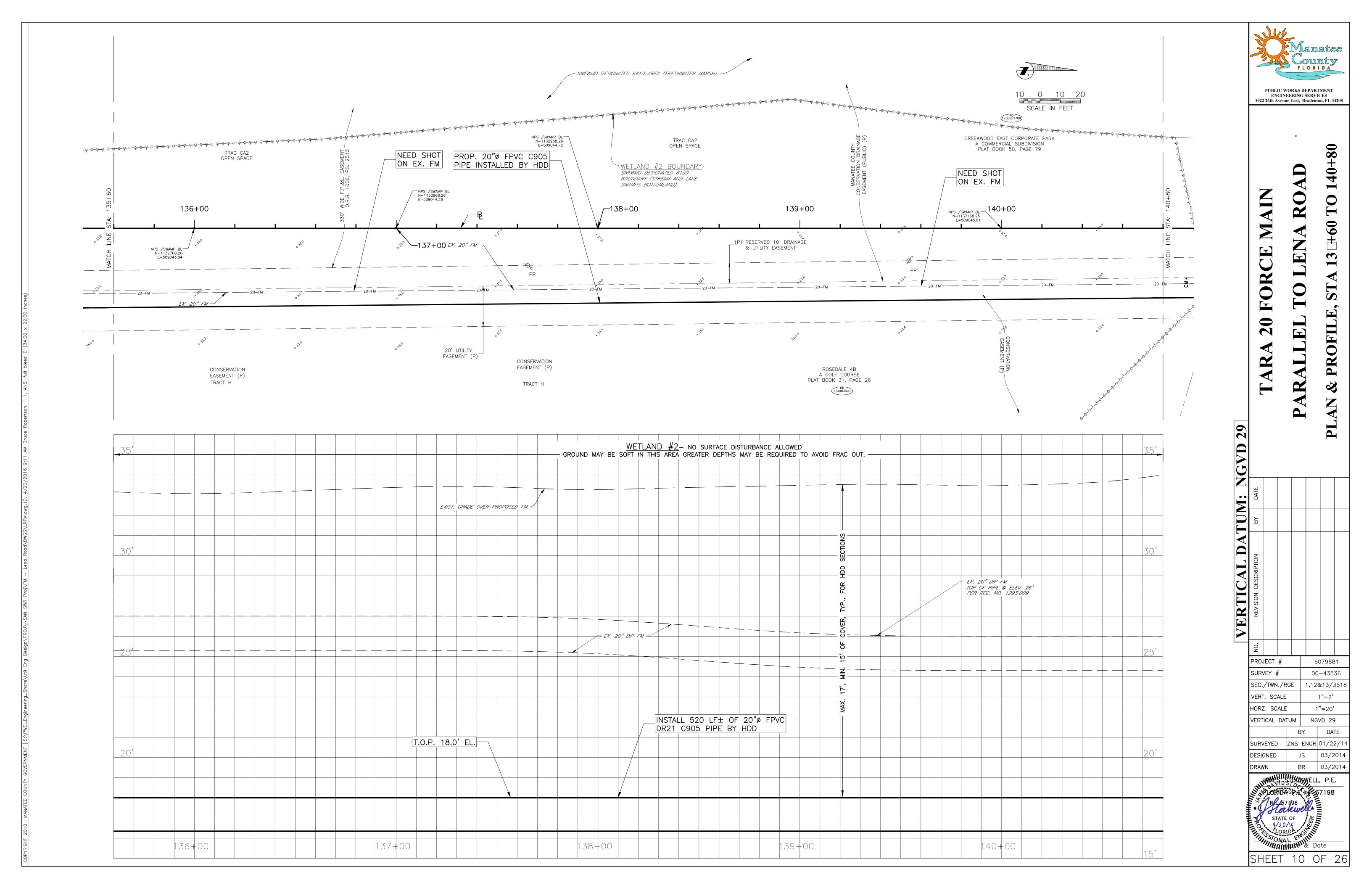


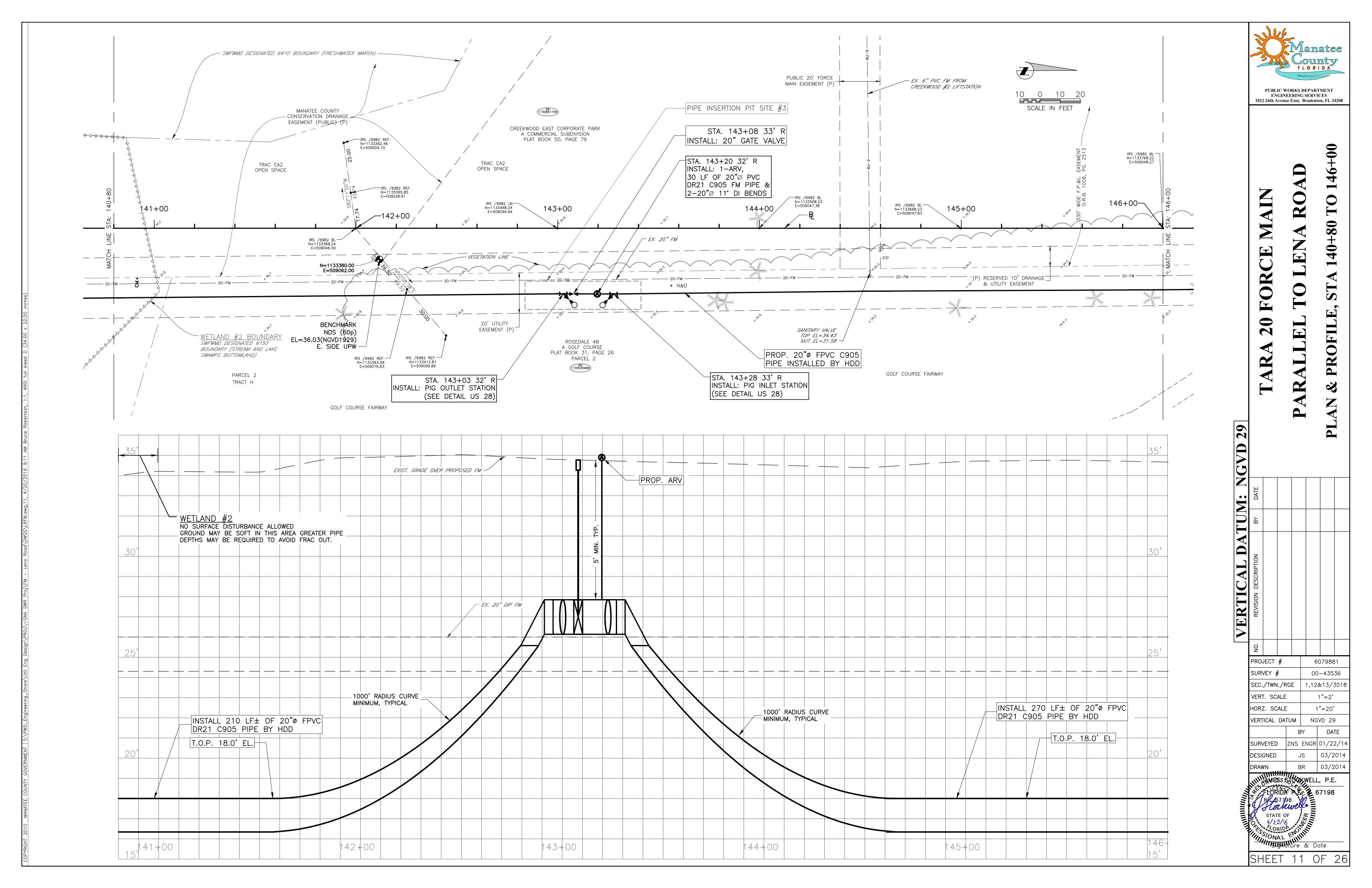


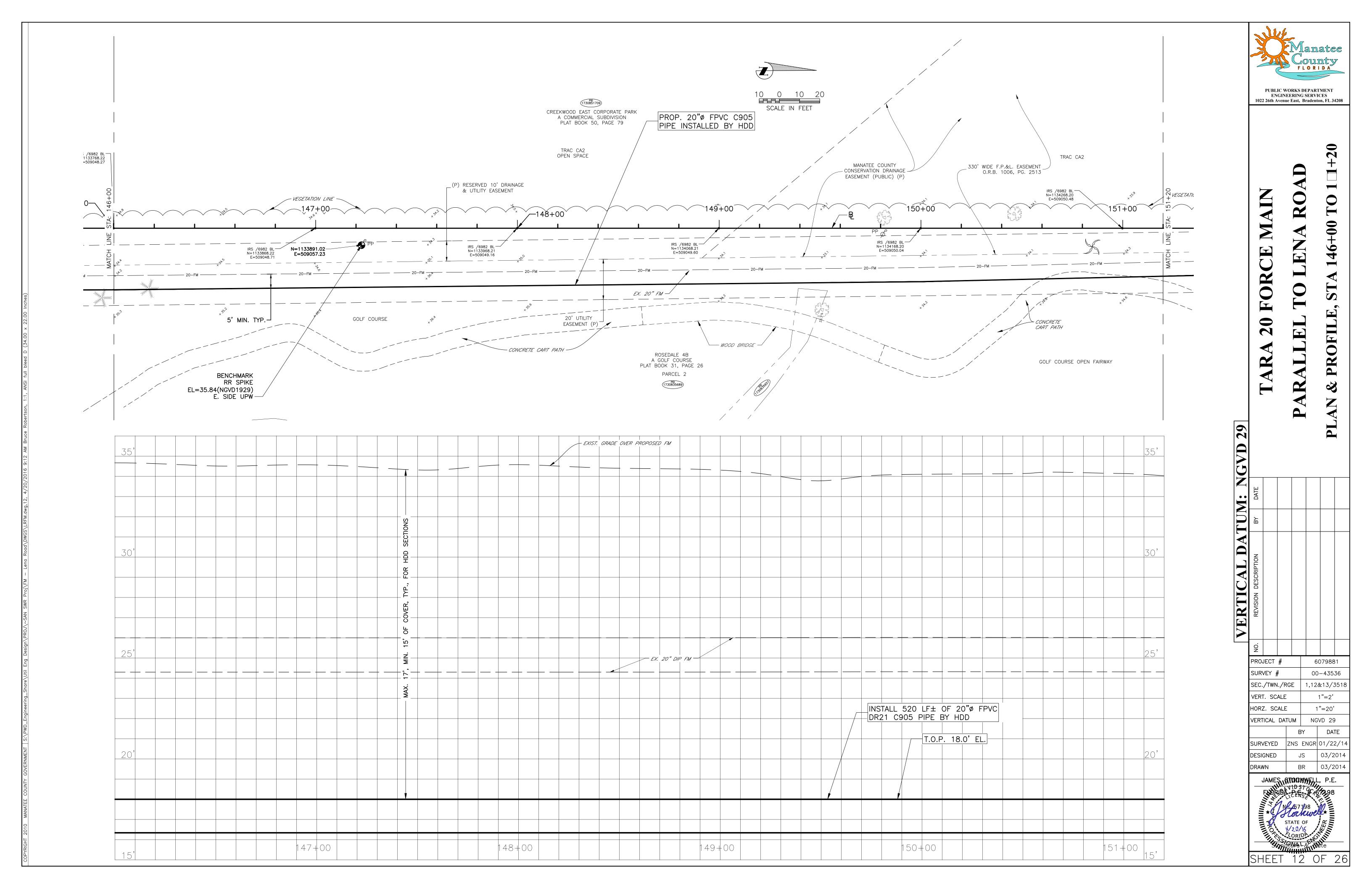


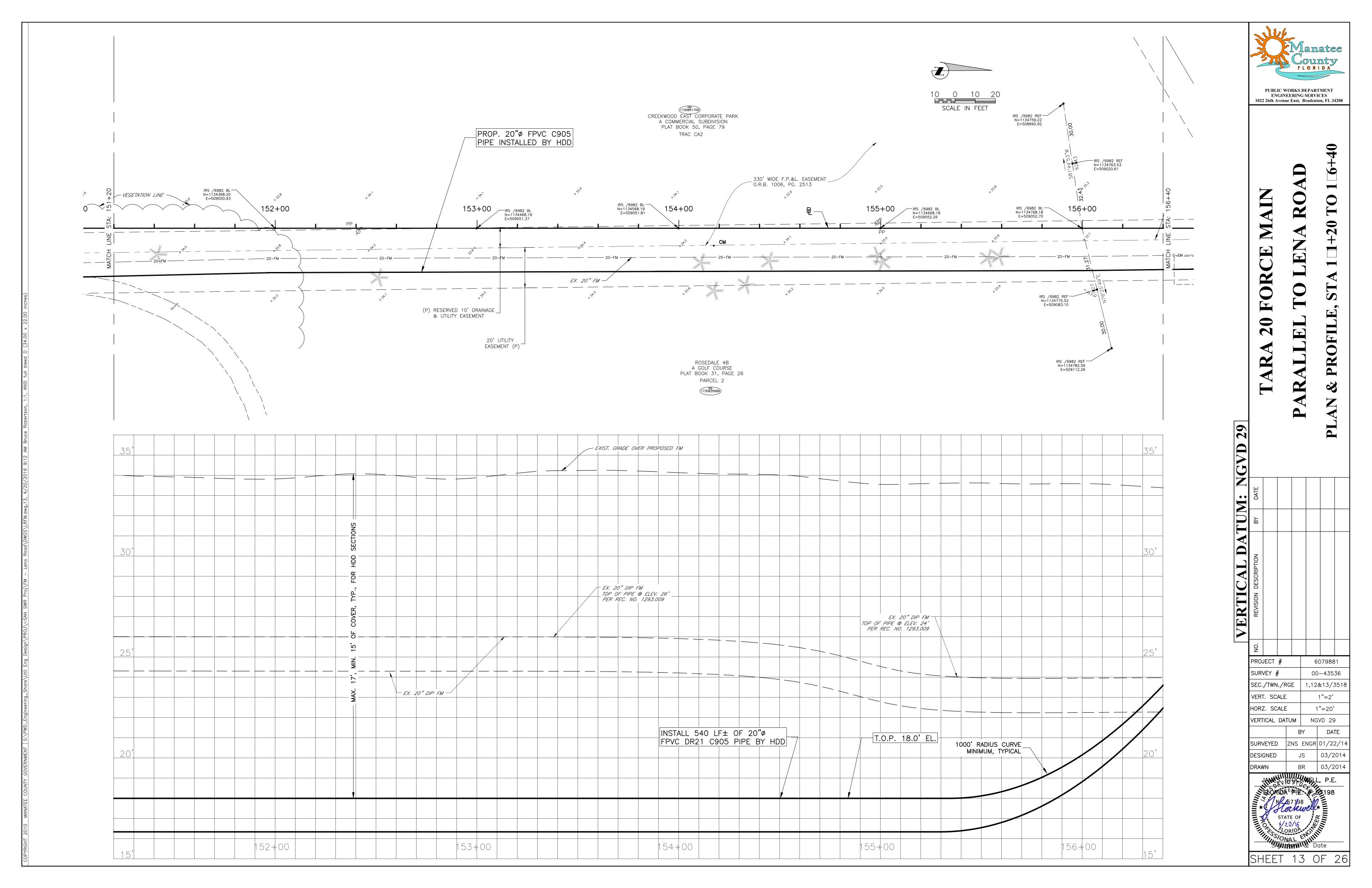


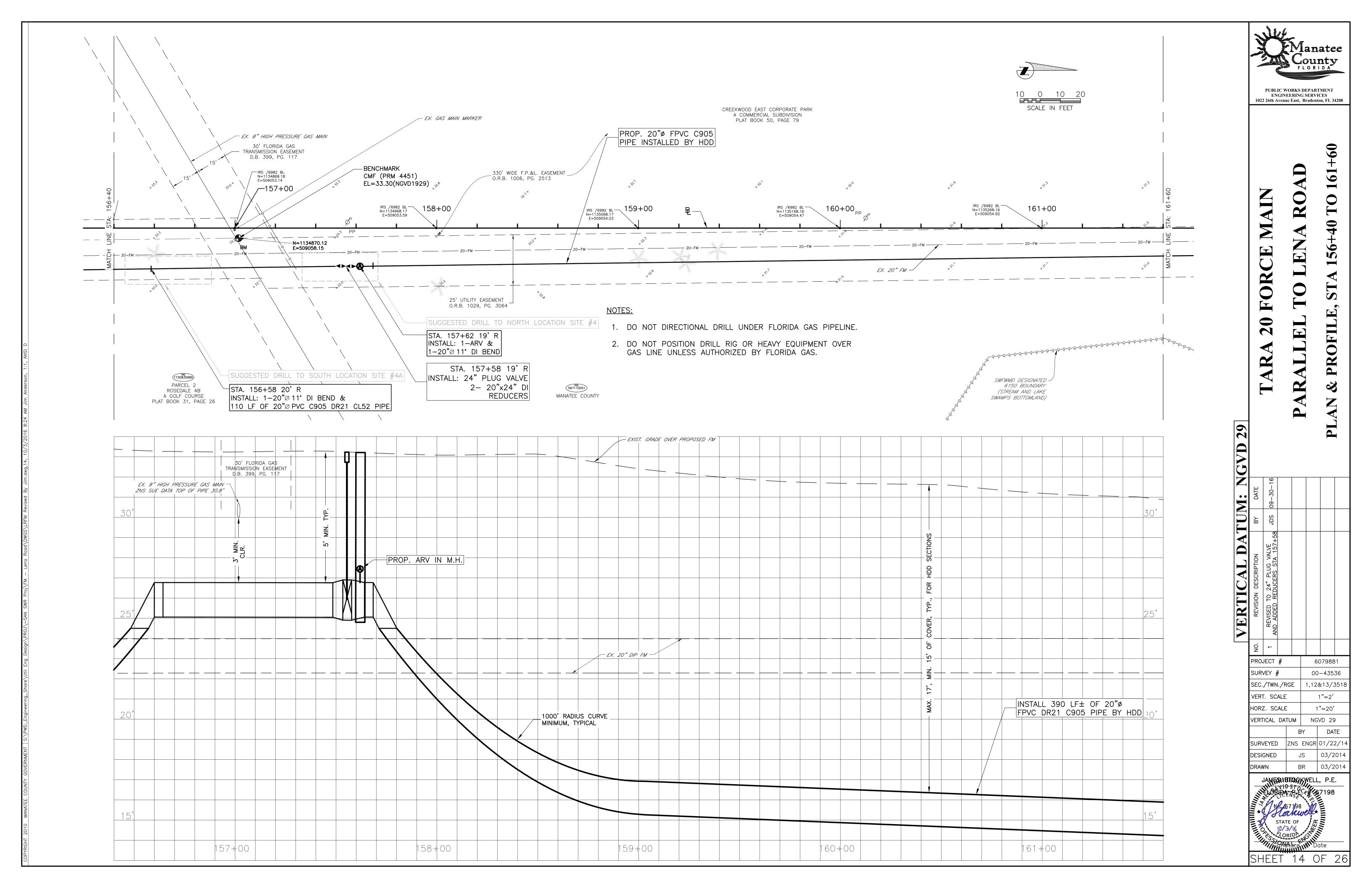


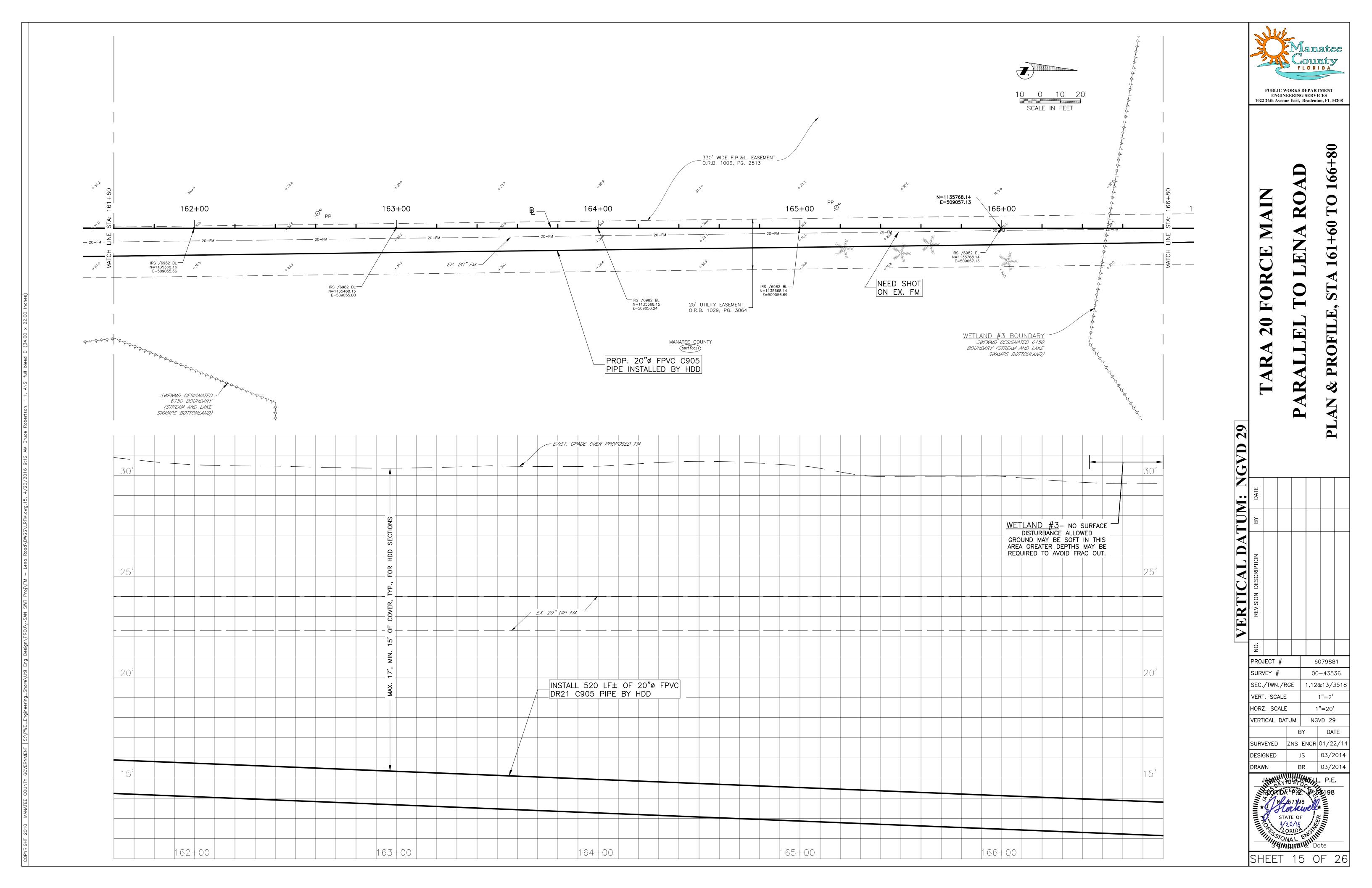


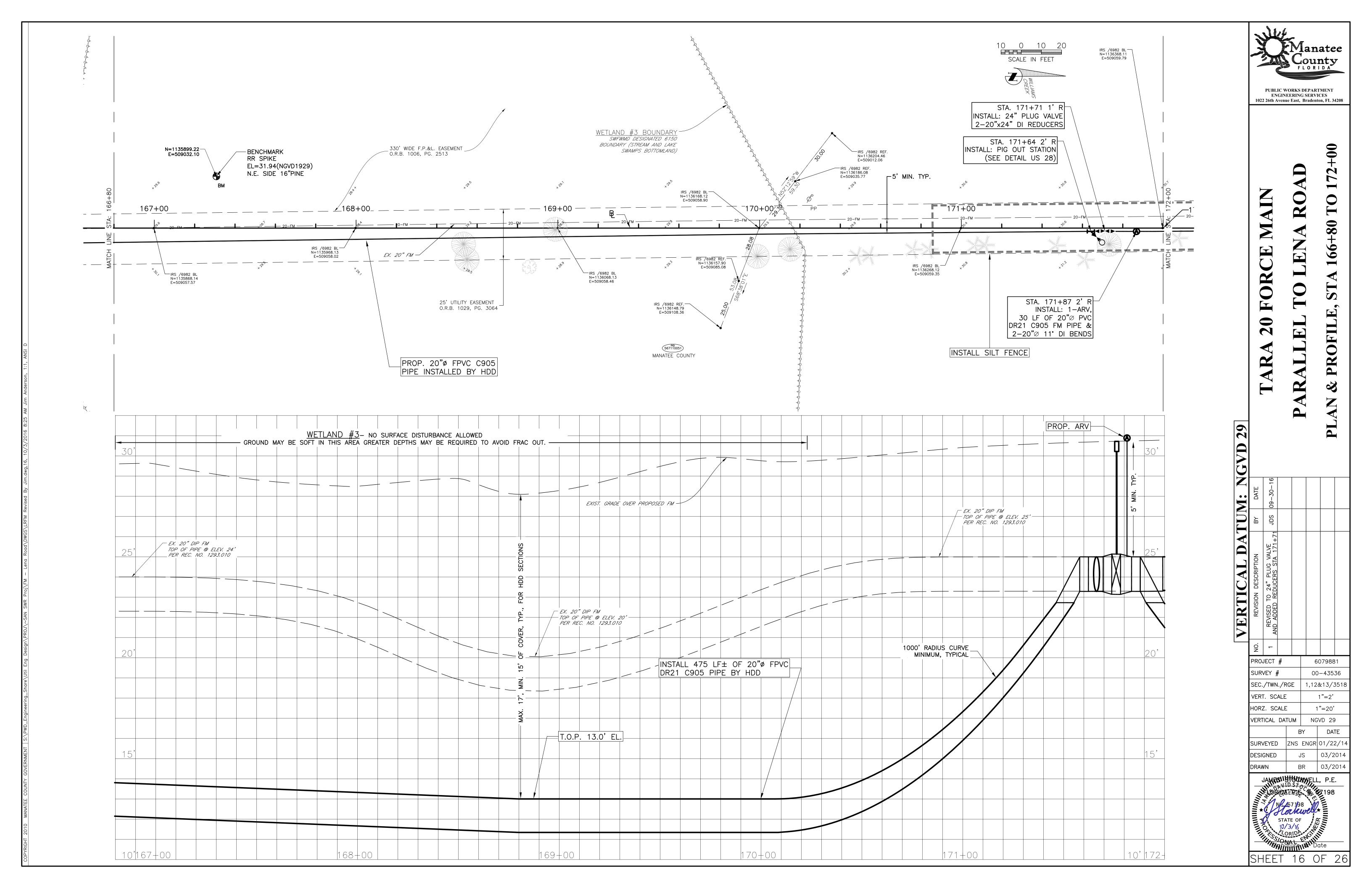


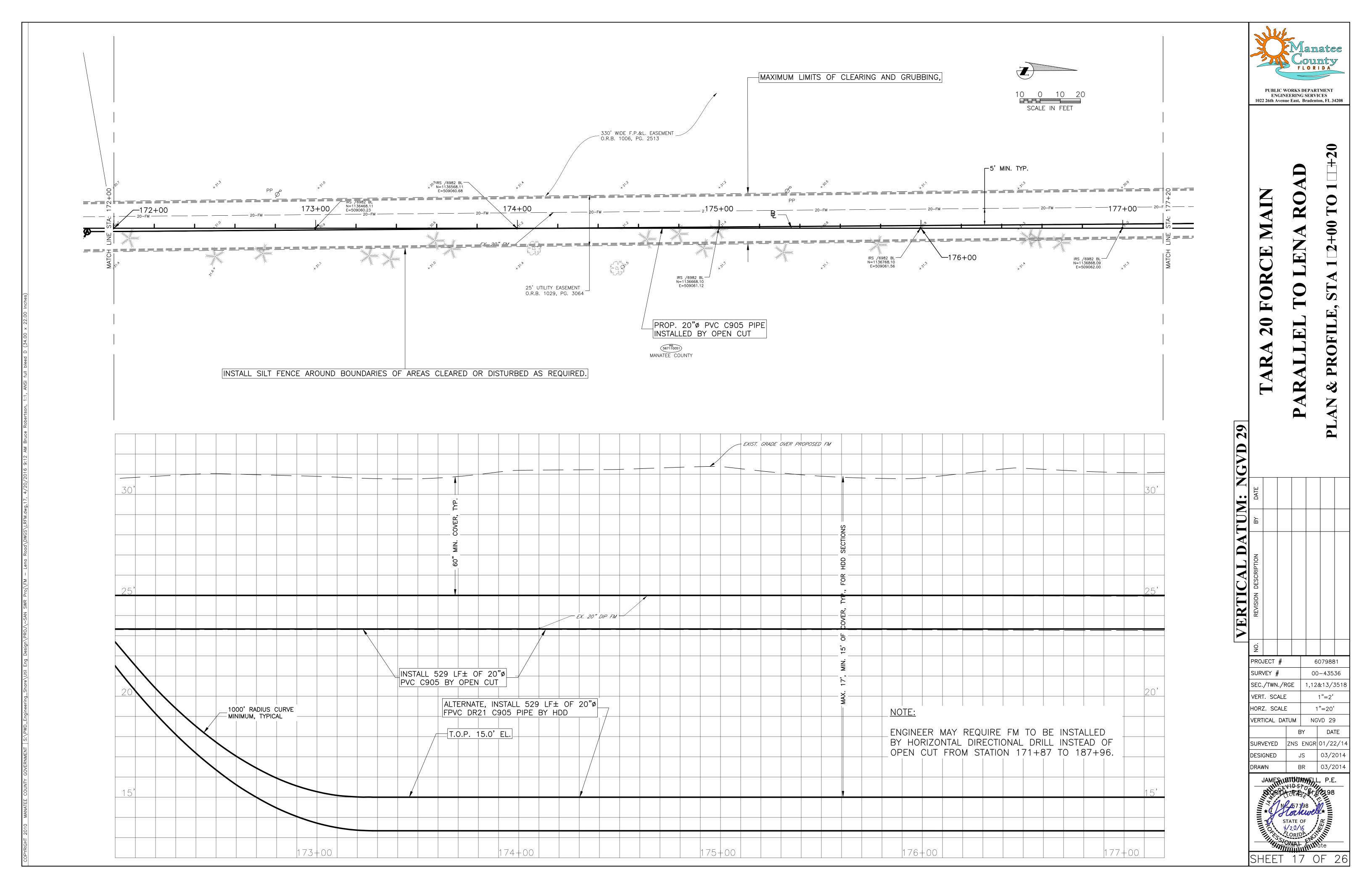


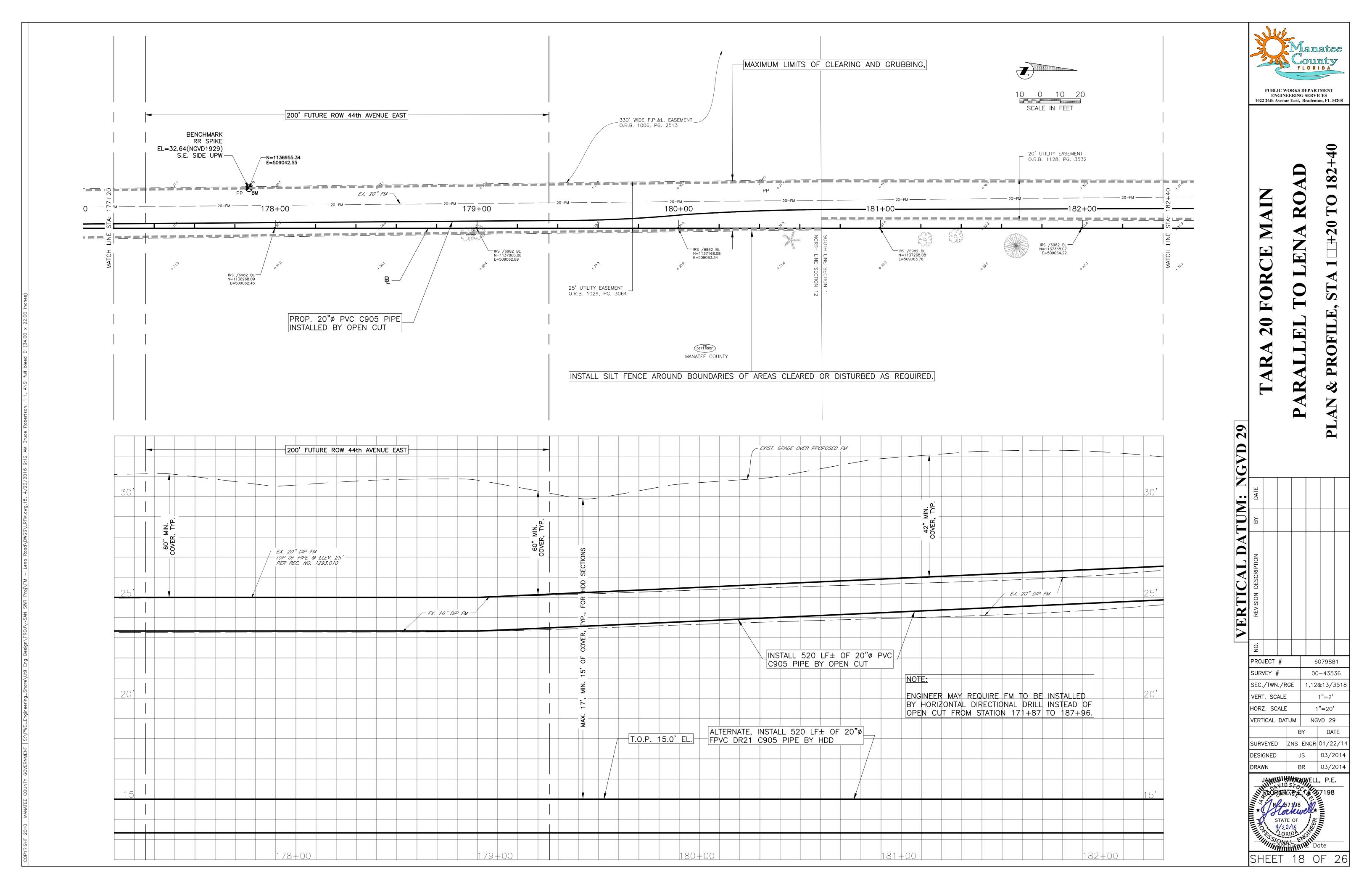


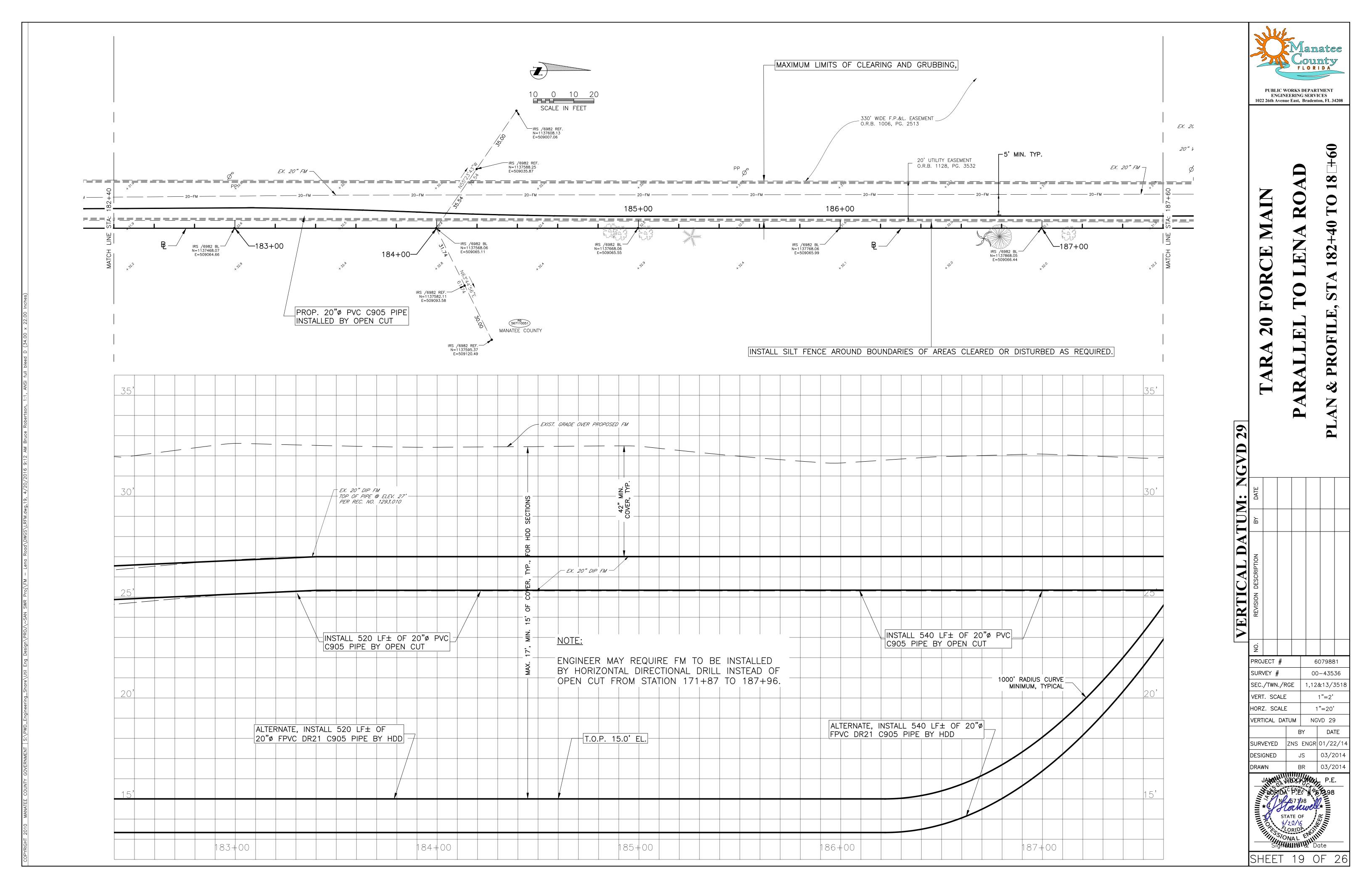


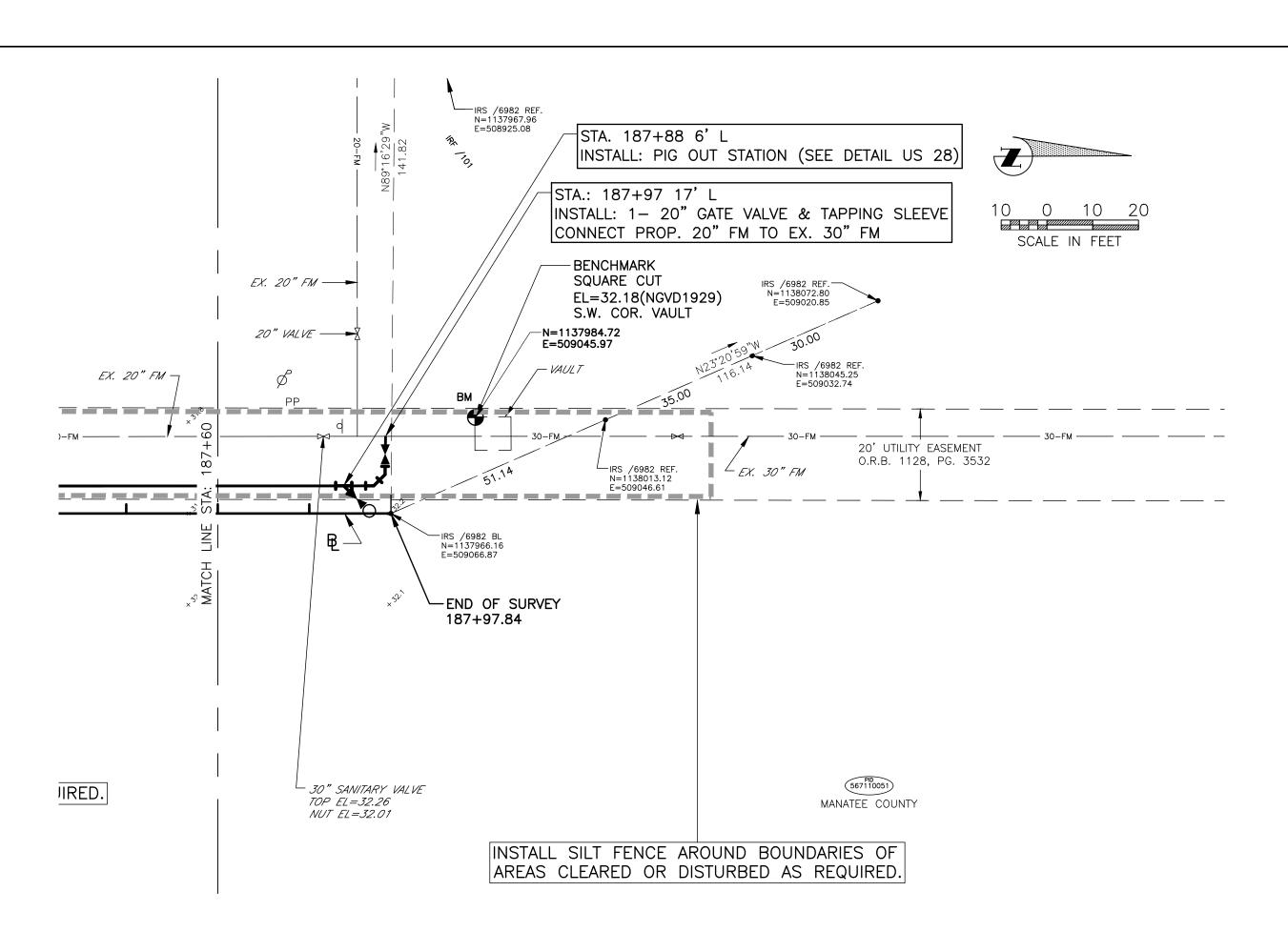


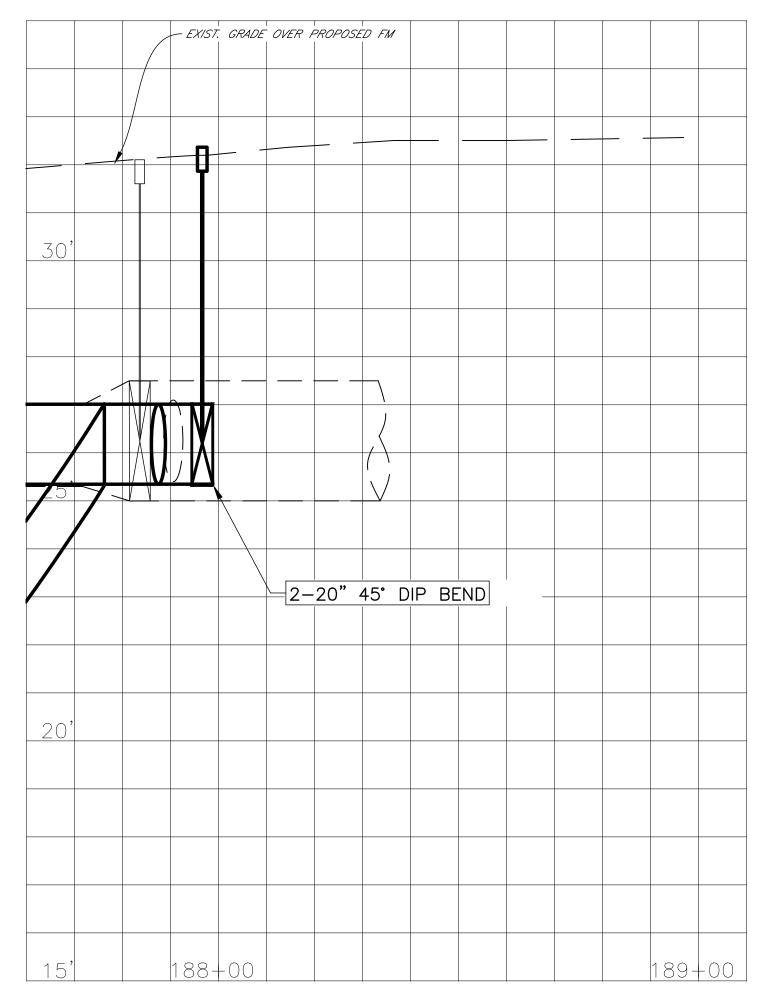












SUGGESTED CONSTRUCTION SEQUENCE:

- 1. PREPARE STORM WATER POLLUTION PREVENTION PLAN & APPLY AND PAY FOR AND OBTAIN NPDES PERMIT. PREPARE FORCE MAIN BYPASS PLAN & SUBMIT TO COUNTY FOR REVIEW.
- 2. INSTALL EROSION & SEDIMENT CONTROL MEASURES. COMMENCE CLEARING & GRUBBING FOR ACCESS TO SITE & CONSTRUCTION SITE AREAS(S) AS NECESSARY, IN ACCORDANCE WITH CONTRACTORS SCHEDULE.
- 3. CONTRACTOR MAY NEGOTIATE ALTERNATIVE ACCESS ROUTES WITH LANDOWNERS AT NO COST TO COUNTY, SUBJECT TO PERMIT CONDITIONS & COUNTY APPROVAL.
- 4. INSTALL PROPOSED 20" PVC FORCE MAIN HDD AND TRENCH SECTION IN ACCORDANCE WITH CONTRACTORS SCHEDULE. INSTALL THRUST BLOCKING & RESTRAIN EXISTING PIPING AS NECESSARY. PIG & PRESSURE TEST PIPING AS REQUIRED.
- 5. CONNECT PROPOSED 20" FORCE MAIN TO EXISTING 30" FORCE MAIN AT STATION 187+97 (NORTH END OF PROJECT).
- 6. INSTALL FORCE MAIN BYPASS FACILITIES & COORDINATE LIFT STATION SHUT DOWNS WITH COUNTY STAFF. SHUTDOWN CREEKWOOD EAST 1 & 2, (OPER. POINTS 350GPM & 300 GPM), AND ROSEDALE (700 GPM) LIFT STATIONS. CONTRACTOR TO PROVIDE AT LEAST ONE TANKER TRUCK FOR DURATION OF SHUTDOWNS TO TRANSPORT WASTEWATER TO DISPOSAL.
- 7. CONNECT PROPOSED 20" FORCE MAINS TO EXISTING 20" FORCE MAINS AT STATION 101+61 & 102+42 (SOUTH END OF PROJECT).
- 8. REMOVE BYPASS PIPING AND RESTORE WASTEWATER FLOWS TO FORCE MAINS.
- 9. RESTORE ALL DISTURBED AREAS WITH HYDRO SEED OR SOD AS DIRECTED.

NOTES:

- 1. THE COUNTY WILL PROVIDE ONE LIFT STATION SHUTDOWN AT ROSEDALE, CREEKWOOD EAST #1 & #2, AT NO COST TO THE CONTRACTOR. THE COUNTY SHALL CHARGE THE CONTRACTOR \$3,500 EACH FOR ADDITIONAL SHUTDOWNS, IF NEEDED. SHUT DOWN TIME ALLOWED IS 11PM TO 6AM UNLESS APPROVED OTHERWISE IN WRITING BY THE COUNTY, FOR A MAXIMUM OF TWO NIGHTS.
- 2. THE CONTRACTOR SHALL SUBMIT A FORCE MAIN BYPASS PLAN FOR REVIEW A MIN. 28 DAYS PRIOR TO IMPLEMENTATION.
- 3. ALL JOINTS ON PROPOSED PIPE SHALL BE RESTRAINED BY THE CONTRACTOR, EXCEPT FOR TRENCHED SECTION STA. 187+70 TO 172+20, RESTRAIN JOINTS ONLY AS NECESSARY PER DETAIL UG-8. CONTRACTOR SHALL PROVIDE ALL PERMANENT AND TEMPORARY THRUST BLOCKS AND RESTRAINTS ON EXISTING PIPING AS NECESSARY TO ENSURE BLOWOUTS DO NOT OCCUR DURING OPERATION TESTING, AND WARRANTY PERIOD.
- 4. CONTRACTOR IS REQUIRED TO COORDINATE HIS WORK AND ACCESS TO THE SITE WITH FPL, OWNER OF PROPERTIES ON THE WEST (CREEKWOOD E. CORP. PARK) AND THE EAST (ROSEDALE), FLORIDA GAS TRANSMISSION, COUNTY ROADS AND UTILITY OPERATIONS STAFF. ALL COST RELATED TO ACCESS AND COORDINATION AND FOR COMPLIANCE WITH REQUIREMENTS SHALL BE INCLUDED IN THE CONTRACTORS BID PRICES. REFER TO CONTRACT DOCUMENTS FOR INFORMATION.



PARALLEL TO LENA ROAD

VERTICAL DATUM: NGVD 29

PROJECT # 6079881 SURVEY # 00-43536 SEC./TWN./RGE 1,12&13/3518 VERT. SCALE 1"=2' HORZ. SCALE 1"=20' NGVD 29 VERTICAL DATUM BY DATE SURVEYED | ZNS ENGR | 01/22/1 DESIGNED JS 03/2014 BR 03/2014

SHEFT 20 OF 2

STORMWATER POLLUTION PREVENTION NOTES LENA ROAD FORCE MAIN FROM: SR 70 TO: 41ST AVE. E. MANATEE COUNTY

I. SITE DESCRIPTION:

- (1) NATURE OF CONSTRUCTION ACTIVITY THE PROPOSED FORCE MAIN IS TO BE INSTALLED FROM SR 70 TO 41st AVE. E. IN MANATEE COUNTY. THE COUNTY PROPOSES TO INSTALL MOST OF THE PIPE BY DIRECTIONAL DRILLING.
- (2) SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:

(a) THE CONTRACTOR SHALL BE REQUIRED TO PREPARE A SITE SPECIFIC EROSION AND SEDIMENT CONTROL PLAN ALONG WITH A DETAILED CONSTRUCTION SCHEDULE TO INDICATE DATES OF MAJOR ACTIVITIES AND DETERMINE SEQUENCES OF TEMPORARY AND PERMANENT SOIL DISTURBING ACTIVITIES ON ALL PORTIONS OF THE PROJECT.

(b) THE CONTRACTOR WILL BE REQUIRED TO MODIFY THE PLAN OR MATERIALS TO ADAPT TÓ SEASONAL VARIATIONS. CONSTRUCTION ACTIVITY VARIATIONS. OR AS DIRECTED BY THE ENGINEER.

(c) APPLICABLE EROSION AND SEDIMENT CONTROL DEVICES AND IMPLEMENTATION PROCEDURES ARE SUPPLIED IN THE STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEW MANUAL (E&SC MANUAL).

(d) THE ENGINEER MAY DETERMINE IF ANY MODIFICATIONS OR ADDITIONAL CONTROLS ARE REQUIRED AND OBTAIN DEPLOYMENT SCHEDULES FOR THE IMPLEMENTATION OF ALL ADDITIONAL EROSION AND SEDIMENT CONTROL DEVICES FROM THE CONTRACTOR.

(3) GENERAL STORM WATER POLLUTION PREVENTION NOTES:

(a) ALL EROSION AND SEDIMENT CONTROL DEVICES FOR EACH PHASE OF WORK ARE TO BE INSTALLED PRIOR TO BEGINNING WORK ON THAT PHASE.

(b) INSTALL EROSION AND SEDIMENT CONTROL DEVICES WHERE LISTED IN THE CONTRACTOR"S APPROVED EROSION AND SEDIMENT CONTROL PLAN FOR PERIMETER CONTROLS BEFORE THE LAND IS DISTURBED.

(c) PROVIDE SEDIMENT BARRIERS WHERE LISTED IN THE CONTRACTOR'S APPROVED EROSION AND SEDIMENT CONTROL PLAN DURING CONSTRUCTION.

- (d) PROVIDE INLET PROTECTION SYSTEMS AT INLET OPENINGS.
- (e) COVER OR STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE
- (f) DO NOT DISTURB AN AREA UNTIL IT IS NECESSARY FOR CONSTRUCTION TO PROCEED.
- (q) TIME CONSTRUCTION ACTIVITIES TO LIMIT IMPACT FROM SEASONAL CLIMATE CHANGES OR WEATHER EVENTS.
- (h) DO NOT REMOVE PERIMETER CONTROLS UNTIL ALL UPSTREAM AREAS ARE FULLY STABILIZED AND PERMANENT VEGETATION IS ESTABLISHED.

(4) PROJECT AREAS:

THE ESTIMATED TOTAL PROJECT AREA IS 5.6 ACRES. THE ESTIMATED AREA BE DISTURBED DURING CONSTRUCTION ACTIVITIES IS 2.7 ACRES.

(5) RUNOFF COEFFICIENTS BEFORE Cw(B). DURING Cw(D) AND AFTER Cw(A) CONSTRUCTION:

RUNOFF COEFFICIENT FOR: GRASSED & TREED AREAS: C=0.20 DISTURBED AREAS, EXPOSED SOIL, ETC., DURING CONSTRUCTION: C=0.30

WEIGHTED RUN-OFF COEFFICIENT: BEFORE: Cw(B)=0.20, DURING: Cw(D)=0.25 AFTER: Cw(A)=0.20

THE RUN-OFF COEFFICIENT DURING CONSTRUCTION. Cw (D). IS CALCULATED ASSUMING THAT THE MAXIMUM ALLOWABLE AREA OF DISTURBED DURING CONSTRUCTION AND THE REMAINING AMOUNT IS THE EXISTING GRASSED & TREED AREAS.

0.0-1.5

0.0 - 1.5

(6) DESCRIPTION OF SOIL WITHIN THE LENA ROAD FORCE MAIN PROJECT:

SOIL TYPE <u>HYDROLOGIC GROUP</u> DEPTH TO SHWE

20-EAUGALLIE FINE SAND (66%) AID

38-PALMETTO FINE SAND (34%)

REFERENCE: USDA SOIL SURVEY OF MANATEE COUNTY. FLORIDA

(7) ESTIMATED DRAINAGE FLOW DIRECTION AND AVERAGE SLOPE OF DRAINAGE AREA FOR

(a) SITE MAP: INCLUDED ON KEY SHEET IN THE CONSTRUCTION PLANS

- EACH OUTFALL:
- (b) DRAINAGE MAPS OR MAPS WITH APPROPRIATE CONTOURS: N/A
- (8) RECEIVING WATERS: ULTIMATE DRAINAGE TO BRADEN RIVER
- (9) THE OUTFALLS ARE NOT 303(d) LISTED. IMPAIRED WATERS FOR PARAMETERS SUCH AS TOTAL SUSPENDED SOLIDS (TSS), TURBIDITY, NUTRIENTS, DISSOLVED OXYGEN, FECAL COLIFORM. ETC.
- (10) OUTFALL LOCATIONS TO BE PROVIDED BY CONTRACTOR.
- (11) THERE ARE NO WETLAND IMPACTS ON THIS PROJECT.
- (12) DESCRIPTION OF STORMWATER MANAGEMENT: (EXISTING/PROPOSED)

(a) EXISTING DRAINAGE FLOWS ARE TYPICALLY SHEET FLOWS TO THEIR RESPECTIVE CREEK. EXISTING DRAINAGE WILL NOT BE ALTERED.

(b) OFF-SITE RUNOFF SHOULD BE DIVERTED AWAY OR THROUGH THE CONSTRUCTION AREA. IF POSSIBLE, THIS ADDITIONAL FLOW, IF NOT DIVERTED, CAN ADD VOLUME AND SIZE TO STRUCTURAL PRACTICES. REQUIRING MORE FREQUENT MAINTENANCE AND LIMITING EFFECTIVENESS OF EROSION AND SEDIMENT CONTROLS.

(c) THE CONTRACTOR WILL PROVIDE POLLUTION CONTROL BY IMPLEMENTING DUST CONTROL DURING ALL PHASES OF CONSTRUCTION. SEDIMENT CONTROL WILL BE ACCOMPLISHED BY USING STREET OR VACUUM SWEEPERS.

(d) STORMWATER RUNOFF SHALL BE CONVEYED TO EITHER TEMPORARY SEDIMENT BASINS OR CONTAINMENT SYSTEMS. THE PROPOSED SEDIMENT BASINS, CONTAINMENT SYSTEMS AND/OR STORMWATER MANAGEMENT FACILITIES SHALL BE CONSTRUCTED DURING THE

- INITIAL PHASE OF CONSTRUCTION AND USED DURING CONSTRUCTION.
- (e) THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO PREVENT UNAUTHORIZED MATERIALS FROM ENTERING WETLANDS, WATERWAYS, OTHER SURFACE WATERS OR WATERS OF THE U.S.
- II. CONTROLS: SEDIMENT AND EROSION CONTROLS

(1) WATER QUALITY MONITORING:

(a) WATER QUALITY MONITORING SHALL BE CONDUCTED IN ACCORDANCE WITH THE SPECIAL CONDITIONS OF ANY ENVIRONMENTAL PERMIT OR BY THE CONTRACTOR UPON THE OBSERVATION THAT WATER QUALITY STANDARDS MAY BE VIOLATED BY THE CONTRACTOR"S ACTIVITIES. MONITORING LOCATIONS MAY BE SPECIFIED IN THE ENVIRONMENTAL PERMIT OR MAY BE DESIGNATED BY THE CONTRACTOR AND APPROVED BY THE PROJECT ENGINEER.

(b) THE CONTRACTOR WILL BE RESPONSIBLE FOR MONITORING ANY ACTIVITIES FOR VIOLATION OF WATER QUALITY STANDARDS AS THEY RELATE TO TURBIDITY (NO GREATER THAN 29 NTU"S ABOVE BACKGROUND OR GREATER THAN O NTU'S ABOVE BACKGROUND FOR DIRECT DISCHARGES TO OFW'S).

(c) IF WATER QUALITY STANDARDS ARE VIOLATED. CONSTRUCTION SHALL BE STOPPED IMMEDIATELY, THE ENVIRONMENTAL PERMIT CONDITIONS FOLLOWED AND EROSION AND SEDIMENT CONTROL DEVICES REEVALUATED AND APPROVED BY THE ENGINEER PRIOR TO ANY CONTINUATION OF ACTIVITY. MONITORING ACTIVITIES AND TURBIDITY READINGS SHALL BE RECORDED ON THE CONSTRUCTION INSPECTION REPORT AND CONTINUED UNTIL TURBIDITY READINGS FALL BELOW AN ACCEPTABLE LEVEL (LESS THAN 29 NTU"S ABOVE BACKGROUND OR LESS THAN O NTU"S ABOVE BACKGROUND FOR DIRECT DISCHARGES TO

(d) WATER QUALITY MONITORING MAY BE CONDUCTED DURING ANY PHASE OF CONSTRUCTION AS DIRECTED BY THE PROJECT ENGINEER.

(2) STABILIZATION PRACTICES:

(a) STABILIZATION MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO MAINTAINING, ESTABLISHING AND USING VEGETATION, APPLYING MULCHES, SODDING, SEEDING, BMP'S AND THE USE OF ROLLED EROSION CONTROLLED PRODUCTS. WHEN CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, SIDE SLOPES SHALL BE STABILIZED WITH PERFORMANCE SODDING OR SEEDING OR ANY OTHER APPROVED METHOD OF STABILIZATION INCLUDED IN THE STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEW MANUAL (E&SC MANUAL)

(b) STABILIZATION SHALL TAKE PLACE AS SOON AS PRACTICAL IN PORTIONS OF THE PROJECT WHERE CONSTRUCTION ACTIVITIES HAVE CEASED, BUT NO LATER THAN 7 DAYS AFTER ANY CONSTRUCTION ACTIVITY CEASES EITHER TEMPORARILY OR PERMANENTLY.

(c) ALL EROSION CONTROL DEVICES SHALL BE INSTALLED ACCORDING TO THE CONTRACT DOCUMENTS, AND THE CONTRACTOR'S APPROVED EROSION CONTROL PLAN.

(d) ANY TEMPORARY MATERIAL USED FOR POLLUTION OR EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT AND FINAL STABILIZATION OF THE PROJECT HAS BEEN ACHIEVED.

(e) SEDIMENT BARRIERS SHOULD BE USED ALONG THE LENGTH OF THE PROJECT WHERE THE GROUND SLOPES AWAY FROM THE SITE OR WHERE THERE IS POTENTIAL FOR SEDIMENT TO BE DIRECTED OFF-SITE. PARTICULAR CARE SHOULD BE USED WHEN THERE ARE WETLANDS OR WATERS OF THE U.S. ARE INVOLVED. SEDIMENT BARRIERS SHOULD BE USED AROUND THE PERIMETER OF STOCKPILE AREAS.

(f) SPACING OF SEDIMENT BARRIERS USED AS DITCH OR SWALE CHECKS/DAMS SHOULD BE BASED UPON THE HEIGHT OF THE BARRIER AND THE SLOPE OF THE DITCH OR

(g) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MODIFYING SOIL TRACKING PREVENTION SYSTEMS OR PROCEDURES AS NEEDED.

(3) STRUCTURAL PRACTICES FOR EROSION AND SEDIMENT CONTROL

(a) not used

(b) not used

(c) SEDIMENT BASIN (CONTAINMENT SYSTEM) PURPOSE: A CONTAINMENT SYSTEM IS DESIGNED TO DETAIN AN ADEQUATE VOLUME OF RUNOFF, REDUCE THE VELOCITY OF FLOW THROUGH THE SYSTEM, ALLOW FOR SETTLEMENT OF SUSPENDED SOLIDS AND REGULATE THE DISCHARGE RATE FROM THE SEDIMENT BASIN.

(1) SEDIMENT BASINS MUST BE PLACED IN STRATEGIC LOCATIONS WITHIN THE ACTIVE AREAS OF CONSTRUCTION. CONTRIBUTING AREA AND SIZE OF TARGET SOIL PARTICLE WILL DICTATE WHETHER THE SEDIMENT BASIN WILL BE TYPE 1, TYPE 2 OR TYPE 3

(2) THE USE OF SMALLER PRE-SEDIMENTATION BASINS USED IN CONJUNCTION WITH LARGER PERMANENT RETENTION/DETENTION PONDS ARE EFFECTIVE IN CAPTURING LARGER VOLUMES OF SEDIMENTS. THIS TECHNIQUE REQUIRES PERIODICALLY SCHEDULED REMOVAL OF THE ACCUMULATED SEDIMENTS.

(d) SEDIMENT BARRIERS (TEMPORARY CONSTRUCTION SITE BMP'S)

PURPOSE: SEDIMENT BARRIERS EITHER OBSTRUCT FLOW DR PREVENT THE PASSAGE OF WATER WHILE CONSTRUCTION ACTIVITIES OCCUR. SMALLER SEDIMENT BARRIERS MAY FUNCTION AS A SMALL SEDIMENT CONTAINMENT SYSTEM OR AS A METHOD TO REDUCE FLOW VELOCITY.

(1) THESE CONSTRUCTION BMP'S CAN INCLUDE SYNTHETIC BALES, STAKED SILT FENCE, TURBIDITY BARRIER, STORM SEWER INLET BARRIERS, ROCK BARRIERS, GEOSYNTHETIC BARRIERS, ETC.

(2) APPROPRIATE LOCATIONS INCLUDE SITE PERIMETER, BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION, BELOW THE TOE OF EXPOSED AND ERODIBLE SLOPES, ALONG THE TOE OF STREAM AND CHANNEL BANKS, AROUND DRAINS AND INLETS LOCATED IN LOWPOINTS OR THE DOWNSTREAM EDGE OF AREAS UNDERGOING VERTICAL OR BOX CULVERT CONSTRUCTION ACTIVITIES.

(3) INAPPROPRIATE LOCATIONS FOR THESE SAME MEASURES INCLUDE PARALLEL TO A HILLSIDE CONTOUR,

IN CHANNELS WITH CONCENTRATED FLOW (UNLESS PROPERLY REINFORCED), UPSTREAM OR DOWNSTREAM OF CULVERTS WITH CONCENTRATED FLOW, IN FRONT OF OR AROUND INLETS ON A GRADE WITH CONCENTRATED FLOW OR IN FLOWING STREAMS.

(e) FLOATING TURBIDITY BARRIER:

PURPOSE: USED IN PERMANENT BODIES OF WATER TO RETAIN SEDIMENT AND FLOATING DEBRIS FROM A CONSTRUCTION AREA 50 THAT REMOVAL OR CONTAINMENT OF THE MATERIAL IS POSSIBLE. THEY ARE ALSO USED TO CONTROL MIGRATION OF SUSPENDED SEDIMENTS.

- (1) TYPE I, LIGHT DUTY, IS USED WHERE THERE IS LITTLE OR NO CURRENT, NO WIND AND NO WAVE ACTION.
- (2) TYPE II, MODERATE DUTY, IS USED WITH SOME CURRENT (<3.5 FT. PER SECOND) AND SOME EXPOSURE TO WIND.

(3) TYPE III, HEAVY DUTY, IS USED WITH GREATER CURRENT (3.5-5.0 FT. PER SECOND), MODERATE WIND AND WAVE ACTION.

- (4) BARRIER MUST BE ATTACHED AT BOTH ENDS AND WEIGHTED ON THE BOTTOM.
- (5) MULTIPLE LINES OF BARRIER MAY BE USED IN SOME CIRCUMSTANCES FOR
- ADDITIONAL PROTECTION.
- (6) STANDARD PANELS FOR WATER DEPTHS ARE 5.0'. ADDITIONAL PANELS CAN BE USED FOR WATER DEPTHS > 5.0'.

(f) STAKED TURBIDITY BARRIER:

PURPOSE: THIS ITEM IS COMMONLY USED IN AREAS WHERE CONTINUOUS CONSTRUCTION ACTIVITIES CHANGE THE NATURAL CONTOURS AND DRAINAGE RUNOFF PATTERNS.

(1) COMMONLY USED IN LAKES AND STREAMS AS A SEDIMENT CONTAINMENT SYSTEM. SHOULD NOT BE USED WHERE WATER CURRENTS MOVE THE CURTAIN AND DISLODGE COLLECTED SEDIMENTS.

- (2) MAXIMUM DEPTH OF PANEL IS 3'-8".
- (3) POST MUST BE A MINIMUM LENGTH OF 5.0' AND A MINIMUM OF 10" OF FABRIC MUST BE IMBEDDED IN THE GROUND.

(g) INLET PROTECTION SYSTEM

PURPOSE: ANY OF A NUMBER OF SEDIMENT BARRIERS THAT EITHER PREVENT SEDIMENT FROM ENTERING AN INLET OR TRAP THE SEDIMENTS ONCE THEY ENTER THE INLET.

(I) TYPICAL APPLICATIONS INCLUDE ROCK BARRIERS, FRAME AND FILTER BARRIERS, CURB INLET "SUMP" BARRIER. CURB INLET DIVERSION BERM. CURB AND GUTTER SEDIMENT CONTAINMENT SYSTEM OR CURB INLET INSET.

(2) SHOULD BE INSTALLED ONLY WHEN CONSTRUCTION ACTIVITIES ARE ONGOING AND ONLY WHERE SUMP CONDITIONS EXIST.

(3) SHOULD NOT BE USED WHEN CONSTRUCTION IS COMPLETE AND SHOULD NOT BE USED IN AREAS WHERE FLOODING COULD ENCROACH INTO THE TRAVEL LANES.

(h) SOIL TRACKING PREVENTION DEVICE

PURPOSE: TEMPORARY STRUCTURES TO ASSIST WITH THE REMOVAL OF SOIL MATERIAL CAPTURED ON VEHICLE TIRES BEFORE THE VEHICLES ENTER THE ROADWAY.

(2) USE ADDITIONAL DEVICES FOR CONSTRUCTION AREAS THAT ARE NOT ADJACENT TO THE ROAD RIGHT OF WAY AND NO ACCESS IS PROVIDED THROUGH A SOIL TRACKING PREVENTION DEVICE.

III. OTHER CONTROLS:

(1) WASTE DISPOSAL

(a) THE CONTRACTOR WILL PROVIDE LITTER CONTROL AND COLLECTION WITHIN THE PROJECT BOUNDARIES DURING CONSTRUCTION ACTIVITIES.

(b) ALL FERTILIZER AND CHEMICAL CONTAINERS SHALL BE DISPOSED OF BY THE CONTRACTOR ACCORDING TO EPA'S STANDARD PRACTICES AS DETAILED BY THE MANUFACTURER.

(c) NO SOLID MATERIALS, INCLUDING BUILDING AND CONSTRUCTION MATERIALS. SHALL BE DISCHARGED TO WETLANDS OR BURIED ON SITE.

(d) ALL SANITARY WASTE WILL BE COLLECTED FROM PORTABLE UNITS BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY STATE REGULATIONS.

(a) LOADED HAUL TRUCKS ARE TO BE COVERED BY A TARPAULIN AT ALL TIMES.

(2) OFF-SITE VEHICLE TRACKING - WILL BE CONTROLLED BY THE FOLLOWING METHODS:

(b) EXCESS DIRT ON ROAD WILL BE REMOVED DAILY.

(3) NON-STORMWATER (INCLUDING SPILL REPORTING)

THE CONTRACTOR WILL PROVIDE THE COUNTY WITH AN EROSION AND SEDIMENT CONTROL PLAN THAT WILL INCLUDE SPILL CONTAINMENT, REPORTING AND RESPONSES. THE PLAN SHALL SPECIFY WHAT MANAGEMENT PRACTICES AND CONTAINMENT METHODS WILL BE USED TO PREVENT POTENTIAL POLLUTANTS (FUEL, DRILLING MUD, LUBRICANTS, HERBICIDES, ETC.) FROM SPILLING ONTO THE SOIL OR INTO THE SURFACE WATERS. IF A SPILL DOES OCCUR, OR IF CONTAMINATED SOIL OR GROUNDWATER IS ENCOUNTERED, CONTACT ROB BROWN, ENVIRONMENTAL PROTECTION 7. PAYMENT FOR ALL WORK NECESSARY TO REMOVE AND RELOCATE HOG WIRE/CHAIN DIVISION MANAGER AT (941) 742-5980.

IV. MAINTENANCE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIRS OF ALL EROSION AND SEDIMENT CONTROL DEVICES AND REMOVAL OF EROSION AND SEDIMENT CONTROL DEVICES WHEN NOTICE OF TERMINATION IS MAILED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND PROPER DISPOSAL OF SEDIMENT BUILDUP THROUGH THE LIFE OF THE INSTALLED EROSION AND SEDIMENT CONTROL DEVICES.

- (1) ALL CONTROL MEASURES WILL BE MAINTAINED DAILY BY THE CONTRACTOR AND ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF NOTICE.
- (2) SODDING & HYDROSEED AREAS WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS AND HEALTHY GROWTH.
- (3) SYNTHETIC BALES SHALL BE MAINTAINED TO ENSURE THEIR USEFULNESS AND NOT BLOCK OR IMPEDE STORMWATER FLOW OR DRAINAGE.
- (4) STABILIZED CONSTRUCTION ENTRANCES SHALL BE MAINTAINED TO PREVENT CLOGGING OF ROCK BEDDING WHICH MAY IMPEDE THE USEFULNESS OF THE STRUCTURE.

V. INSPECTION:

(1) THE CONTRACTOR SHALL INSTALL AND MAINTAIN RAIN GAUGES ON THE PROJECT SITE AND RECORD WEEKLY RAINFALL IN ACCORDANCE WITH THE NPDES PERMIT.

- (2) ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSPECTED DAILY BY CONTRACTOR'S PERSONNEL WHO ARE F.D.E.P. CERTIFIED STORMWATER MANAGEMENT INSPECTORS.
- (3) THE CONTRACTOR SHALL COMPLETE ALL SWPPP INSPECTION REPORT FORMS REQUIRED FOR THE NPDES PERMIT.

VI. TRACKING AND REPORTING:

- (1) THE CONTRACTOR SHALL SUBMIT A WEEKLY REPORT TO THE COUNTY DOCUMENTING THE DAILY INSPECTIONS AND MAINTENANCE OR REPAIRS TO THE EROSION AND SEDIMENT CONTROL DEVICES. THE CONTRACTOR SHALL MAINTAIN ALL REQUIRED REPORTS AND COMPLETE ALL SWPPP INSPECTION FORMS.
- (2) PREPARATION OF ALL THE CONTRACTOR'S REPORTS OF INSPECTION, MAINTENANCE AND REPAIRS REQUIRED FOR THE CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION, SHALL BE INCLUDED IN THE INDIVIDUAL COSTS OF THE EROSION AND SEDIMENT CONTROL DEVICES OR LUMP SUM COST OF THE PROJECT.
- (3) THE CONTRACTOR SHALL USE THE SWPPP CONSTRUCTION INSPECTION REPORT FORM # 650-040-03, FOR DAILY INSPECTIONS.

ENVIRONMENTAL

CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ALL SEDIMENT AND EROSION CONTROL (SEC) DEVICES (E.G., BARRIERS, SEDIMENT TRAPS/BASINS, VEGETATIVE BUFFERS, ETC.) AS SPECIFIED IN THE FINAL APPROVED PLANS FOR THE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL SEC DEVICES UTILIZED DURING THE PROJECT, AS WELL AS INSTALLATION & MAINTENANCE OF ANY ADDITIONAL MEASURES DEEMED NECESSARY DURING PROJECT IMPLEMENTATION, TO PREVENT EROSION AND OFF-SITE SEDIMENT MIGRATION. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF ALL SEC DEVICES UPON CONCLUSION OF THE PROJECT, AND UPON ADEQUATE STABILIZATION OF DISTURBED SOILS.

DRAINAGE AND GRADING

- 2. TO PREVENT SEDIMENTARY RUNOFF DURING CONSTRUCTION, STAKED HAY BALES, STAKED SILT SCREENS OR INLET DEBRIS CONTROL SCREENS ARE TO BE PLACED AT STORM INLETS, OUTFALL LOCATIONS AND ADJACENT PROPERTY LINES AS REQUIRED PRIOR TO ANY CONSTRUCTION ACTIVITIES. SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSTALLED AND THEN VERIFIED/INSPECTED BY MANATEE COUNTY INFRASTRUCTURE INSPECTIONS RESOURCES DIVISION (708-7450) PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE SEDIMENTATION BARRIERS IN A WORKING MANNER FOR THE DURATION OF CONSTRUCTION AND SHOULD BE CHECKED DAILY. SILTATION ACCUMULATIONS GREATER THAN THE LESSER OF 12 INCHES OR ONE-HALF OF THE DEPTH OF THE SEDIMENTATION BARRIER SHALL BE IMMEDIATELY REMOVED AND REPLACED IN UPLAND AREAS. IN ADDITION TO SPECIFIED EROSION CONTROL LOCATIONS, THE CONTRACTOR SHALL PERFORM DAILY SITE INSPECTIONS FOR POTENTIAL EROSION PROBLEMS. IF PROBLEMS OCCUR, THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING APPROPRIATE EROSION CONTROL IMMEDIATELY. AN INSPECTION LOG SHALL BE MAINTAINED AND AVAILABLE ONSITE AT ALL TIMES. STORMWATER TREATMENT FACILITIES INCLUDING OUTFALL ARE TO BE CONSTRUCTED EARLY IN SITE DEVELOPMENT, WITH NO OFF-SITE UNTREATED RUN-OFF OCCURRING DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING TEMPORARY EROSION CONTROL DEVICES FOLLOWING COMPLETION OF ALL CONSTRUCTION AND FINAL STABILIZATION.
- 3. TOPOGRAPHIC AND PROPERTY SURVEYS GIVING LOT SIZE, GROUND ELEVATIONS, OBSTRUCTIONS ON SITE, LOCATIONS AND DEPTHS OF SEWERS, CONDUITS, PIPES, EXISTING STRUCTURES, CURBS, PAVEMENTS, TRACTS, AND SOIL BORING DATA GIVING THE NATURE OF GROUND AND SUBSURFACE CONDITIONS HAVE BEEN OBTAINED FROM RELIABLE SOURCES. THE ACCURACY OF THIS DATA IS NOT GUARANTEED, AND IS FURNISHED SOLELY AS AN ACCOMMODATION TO THE CONTRACTOR. USE OF THIS DATA SHALL BE MADE AT THE CONTRACTOR'S DISCRETION. NO ADDITIONAL COMPENSATION WILL BE GRANTED DUE TO THE CONTRACTOR'S LACK OF KNOWLEDGE OF SITE CONDITIONS. PRIOR TO BID SUBMISSION, THE CONTRACTOR SHALL CONDUCT ANY ADDITIONAL SURVEYS AND SOILS TESTS HE MAY DEEM NECESSARY TO VERIFY THE ACCURACY OF THE INFORMATION PROVIDED.
- DURING DEWATERING OPERATIONS, THE CONTRACTOR SHALL NOT DISCHARGE DIRECTLY TO RECEIVING WATERS, EXISTING CONVEYANCES TO RECEIVING WATERS, OR WETLAND SYSTEMS. TEMPORARY SEDIMENT BASINS, TRAPS, OR SILTATION REDUCTION DEVICES SHALL BE UTILIZED TO COLLECT THE DISCHARGE FROM DEWATERING ACTIVITIES TO ELIMINATE THE POTENTIAL FOR OFFSITE SEDIMENT TRANSPORT AND TO ENSURE THAT DIRECT DISCHARGE DOES NOT OCCUR.

<u>CONSTRUCTION</u>

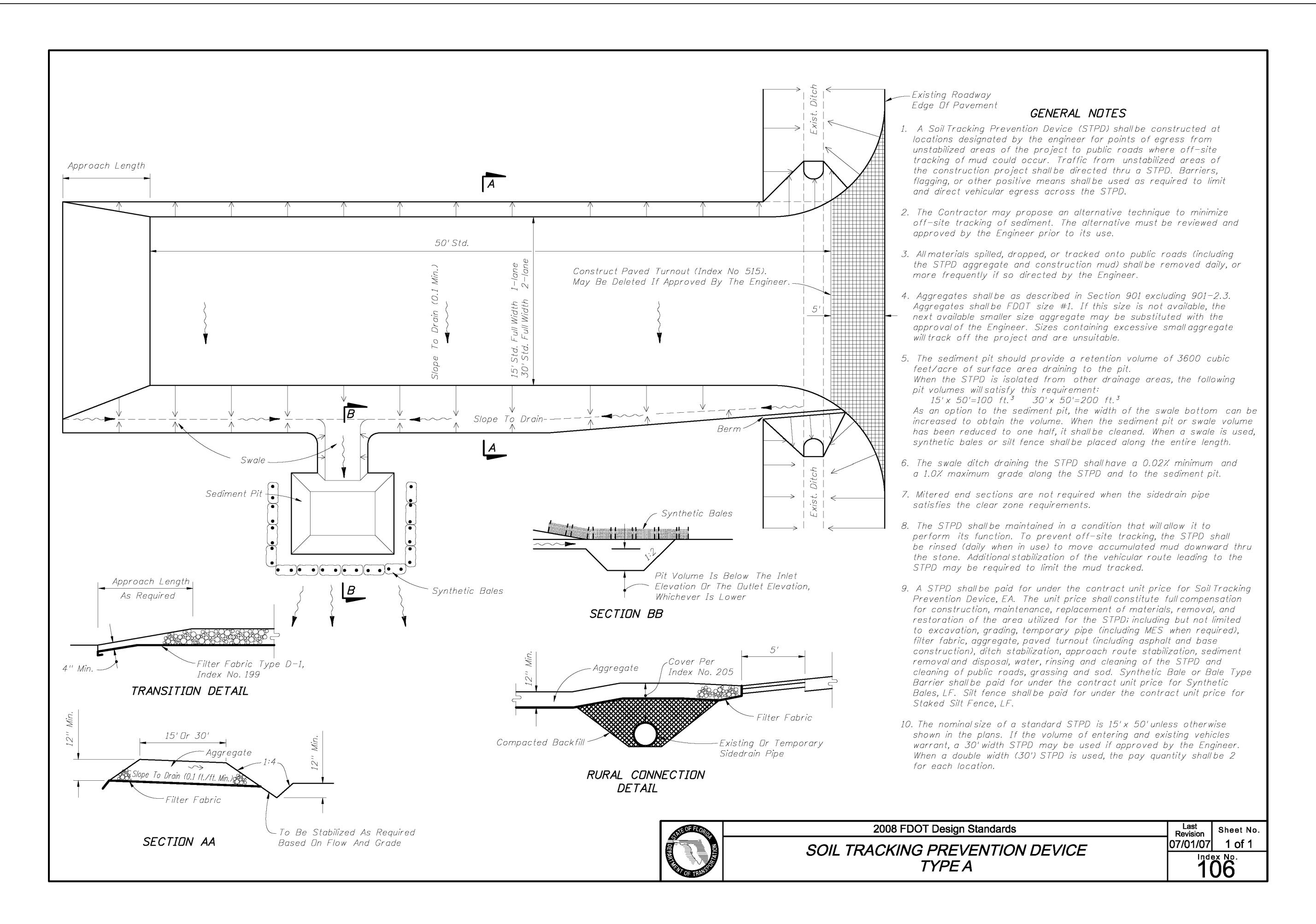
- 5. ALL MATERIALS NOT CLAIMED BY THE COUNTY SHALL BECOME PROPERTY OF THE CONTRACTOR, AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN AREAS PROVIDED BY THE CONTRACTOR. THIS WORK SHALL BE INCLUDED IN AND PAID UNDER THE PAY ITEM CLEARING AND GRUBBING.
- 6. ALL EXISTING FENCES DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AND REINSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST.
- LINK FENCE SHALL BE INCLUDED IN CLEARING AND GRUBBING.



 \square N TE

PROJECT # 6079881 SURVEY # 00-43536 SEC./TWN./RGE ,12&13/3518 VERT. SCALE NA HORZ. SCALE NA /ERTICAL DATUM NGVD 29 DATE BY SURVEYED |ZNS ENGR|01/22/1 DESIGNED 03/2014 JS DRAWN BR 03/2014

JAMES' STOCKWELL, P.E. SLOPHOR THE \$481198 STATE OF 4/20/16



PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

NOTES

PREVENTION

ATER

TARA 20 FORCE MAIN
PARALLEL TO LENA ROAD

PROJECT # 6079881
SURVEY # 00−43536
SEC./TWN./RGE 1,12&13/3518

PROJECT # 6079881

SURVEY # 00-43536

SEC./TWN./RGE 1,12&13/351

VERT. SCALE NA

HORZ. SCALE NA

VERTICAL DATUM NGVD 29

BY DATE

SURVEYED ZNS ENGR 01/22/1

SURVEYED ZNS ENGR 01/22/14

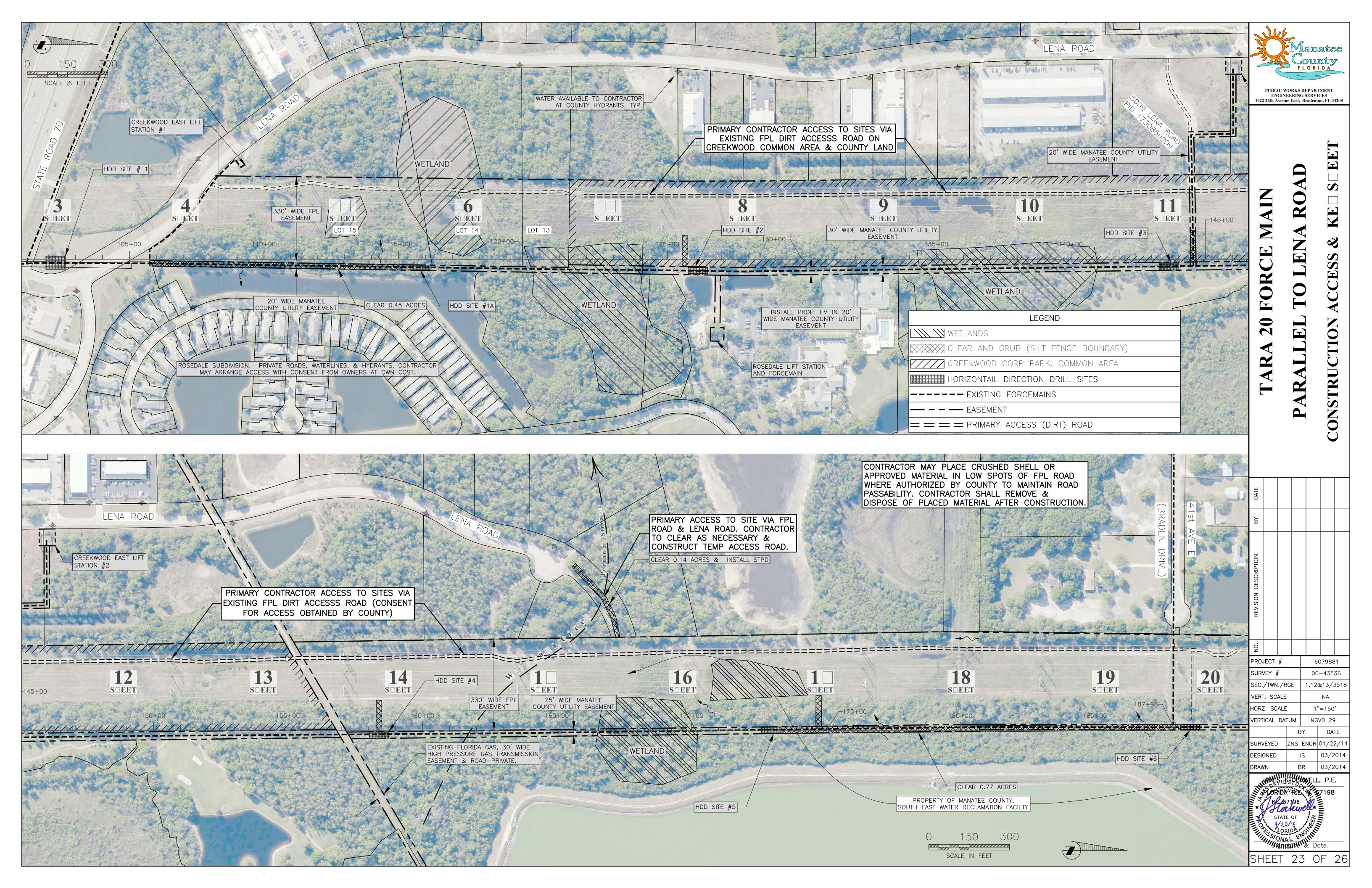
DESIGNED JS 03/2014

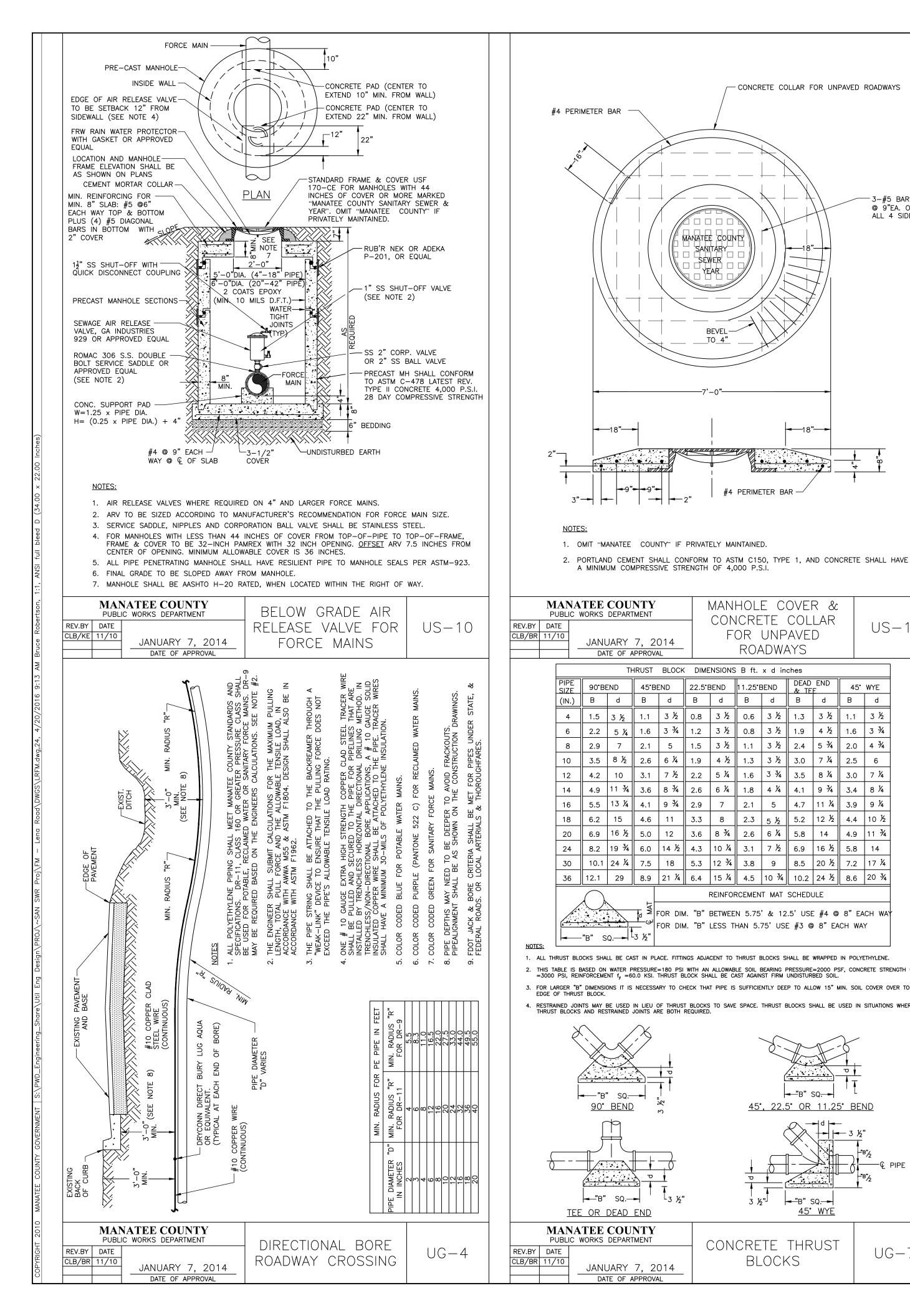
DRAWN BR 03/2014

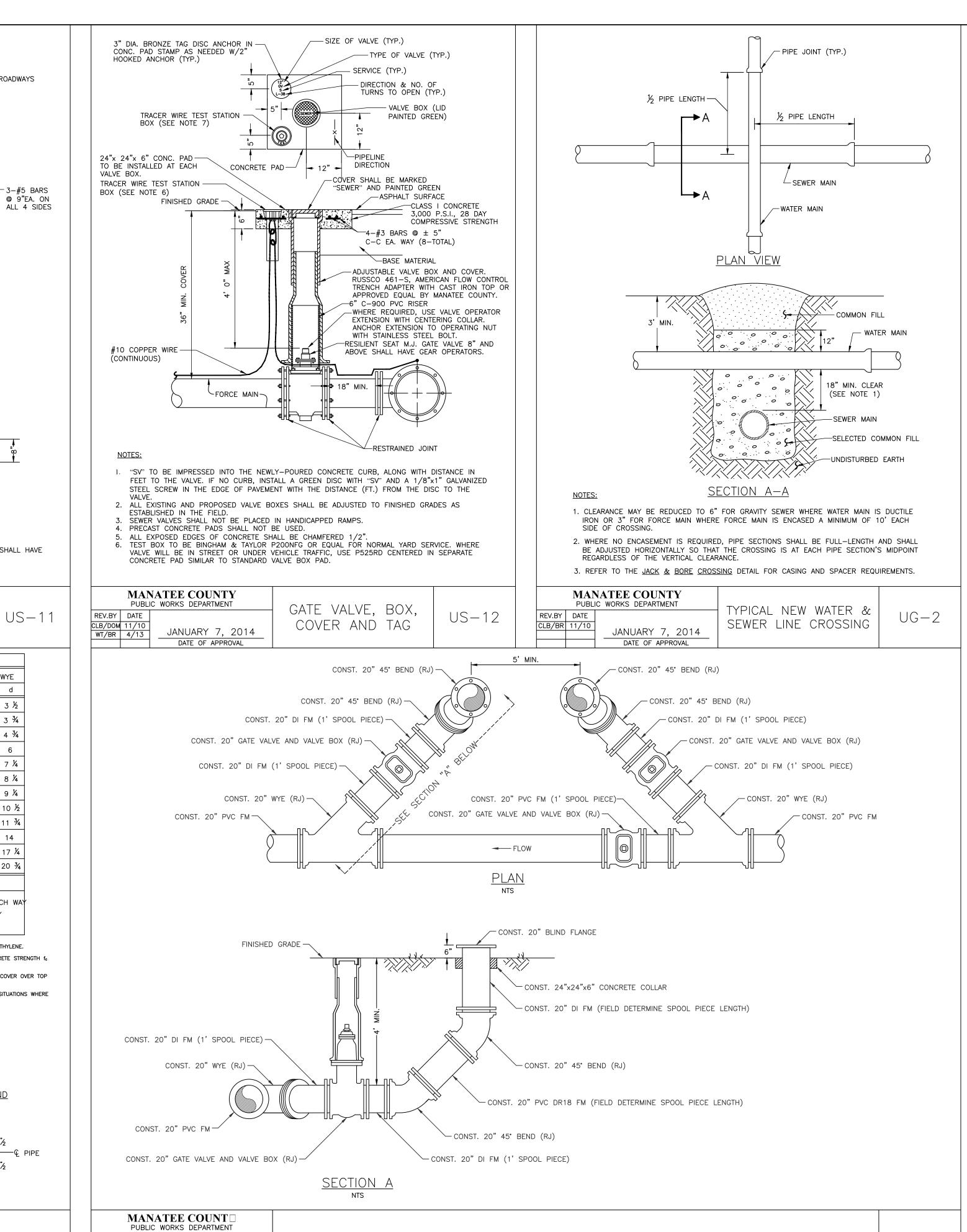
JAMES BTOCKWELL, P.E.

STATE OF 1/2 0/16

SHEET 22 OF 26







PIPE PIGGING STATION, INLET/OUTLET DETAIL

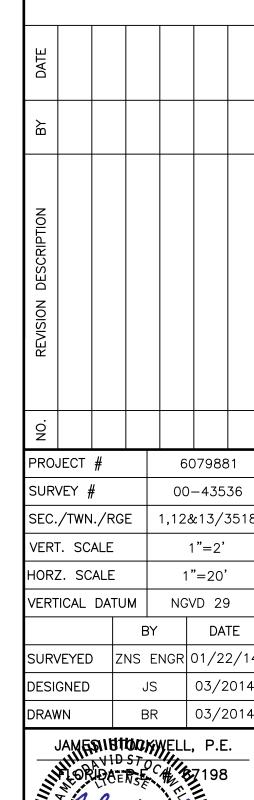
UG-7

REV.BY DATE

JS 04/16



N



US-28

RE UIRED LENGT OF RESTRAINED OINT PIPE FOR DR 18 PVC PIPE

MAIN PIPE	HORIZ. BENDS			TEES					R	EDUCER	:S	PLUGS & VALVES
SIZE	90°	45°	22.5°		SIZE LENGTH			S	IZE LEN	IGTH		
24	90	38	18	X24 169	X20 132	X16 90	X12 38	X10 ₆	X20 64	X16 117	X12 158	214
20	78	32	16	X20 141	X16 101	X12 53	X10 24	X8 ₁	X16 65	X12 115	X10 149	184
16	66	27	13	X16 111	X12 67	X10 41	X8 12		X12 64	X10 107	X8 111	151
12	52	22	10	X12 80	X10 56	X8 31	X6 ₁		X10 58	X8 62	X6 86	118
10	44	18	9	X10 63	X8 40	X6 ₇			X8 33	X6 61	X4 81	100
8	37	15	7	X8 49	X6 18	X4 ₁			X6 35	X4 60		83
6	29	12	6	X6 29	X4 1				X4 33			63
4	21	8	4	X4 12								45

- 1. RESTRAIN 11.25° BENDS 50% OF LENGTH FOR 22.5° BENDS.
- 2. ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTINGSECTIONS OF PIPE.
- 3. ALL ISOLATIONVALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 180 PSI TEST PRESSURE IN EITHER DIRECTION.
- 4. PIPE SIZES ARE GIVEN IN INCHES.
- 5. RESTRAINED PIPE LENGTHS ARE GIVEN IN FEET.
- 6. LENGTHS SHOWN ARE FOR A TEST PRESURE OF 180 PSI.
- 7. THE RESTRAINED LENGTHS SHOWN IN THESE TABLES ARE BASED ON SOIL CLASSIFICATION SP WITH AWWA TYPE 3 TRENCH CONDITIONS, 180 PSI TEST PRESSURE, 3 FEET OF COVER AND 1.5 FACTOR OF SAFTEY. ACTUAL BURY CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY.
- 8. RESTRAINED LENGTHS TO BE APPLIED TO PIPELINES PER DETAIL RESTRAINED LENGTHS FOR PIPE.

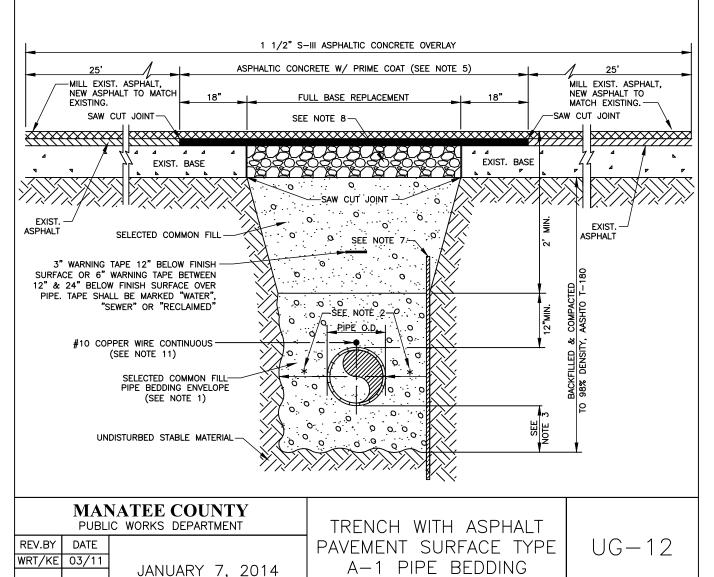
		NATEE COUNTY C WORKS DEPARTMENT	RESTRAINED	
REV.BY	DATE		I FNGTHS FOR PVC	UG-8
CLB/BR	11/10	14 NULLA DV 7 00 1 4		
		JANUARY_7, 2014	PIPE	
		DATE OF APPROVAL		

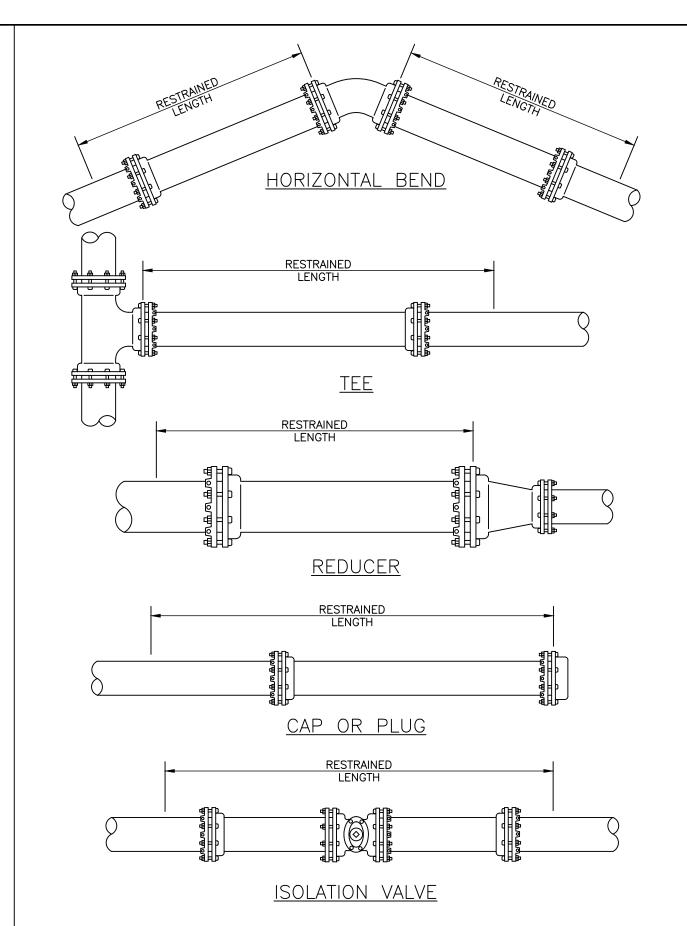
NOTES:

- 1. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER. 2. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA
- BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- 3. TYPICALLY 4" TO 6".
- 4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- ASPHALTIC CONCRETE STRUCTURE COURSE WITH PRIME COAT SHALL BE THE SAME DEPTH AND TYPE AS EXISTING OR A MINIMUM OF 1 1/4 INCH, WHICHEVER IS GREATER.
- 6. MILL 25' BACK FROM TRENCH SAW CUT. ADJUST MILLING PER INDIVIDUAL SITE TO NOT IMPACT BASE. BUTT JOINT TO EXIST ASPHALT. FINAL OVERLAY LIMITS ARE FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT. FINAL OVERLAY TO MATCH EXISTING WITH NO DISCERNABLE "BUMP" AT JOINT. MILLING LIMITS THAT IMPACT INTERSECTION SHALL BE ADDRESSED ON A CASE BY CASE BASIS AND APPROVED
- 7. SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
- 8. BASE SHALL BE 8" MINIMUM THICKNESS CRUSHED CONCRETE.

DATE OF APPROVAL

- 9. TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
- 10. RESTORE SIGNAGE & MARKING WITH THERMOPLASTIC PER FDOT STANDARDS, LATEST EDITION.
- 11. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
- 12. NOTES 5. THRU 10. ARE MINIMUM REQUIREMENTS FOR A TRENCH IN A ROAD. REFER TO LATEST
- EDITION OF MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.





		NATEE COUNTY IC WORKS DEPARTMENT	RESTRAINED			
REV.BY	DATE		1 1 1 2 3 1 1 1 1 1 1 2 2	UG-10		
CLB/BR	11/10	JANUARY 7, 2014	LENGTHS FOR PIPE			
		DATE OF APPROVAL				

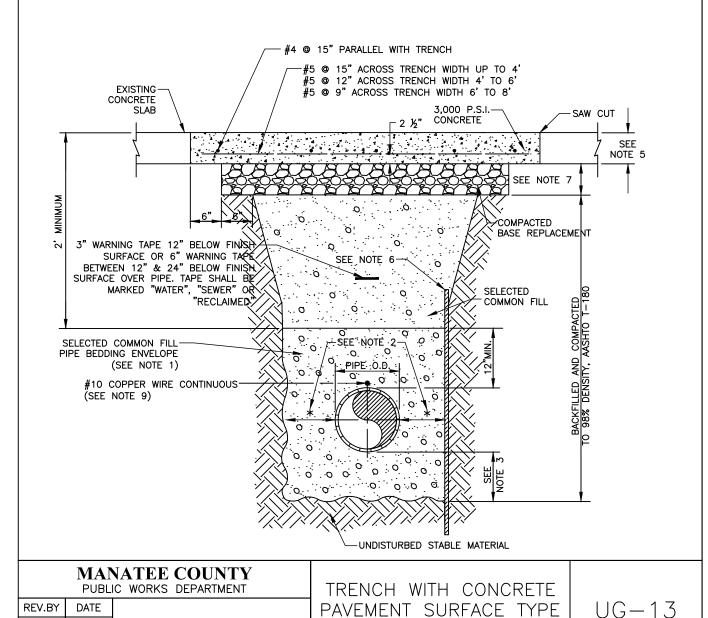
CLB/BR 11/10

- 1. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- 3. TYPICALLY 4" TO 6".
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- 5. THICKNESS TO MATCH EXISTING OR BE 8" MINIMUM, WHICHEVER IS GREATER.
- 6. SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW
- 7. BASE SHALL BE 8" MINIMUM THICKNESS CRUSHED CONCRETE.
- 8. TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
- 9. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.

JANUARY 7, 2014

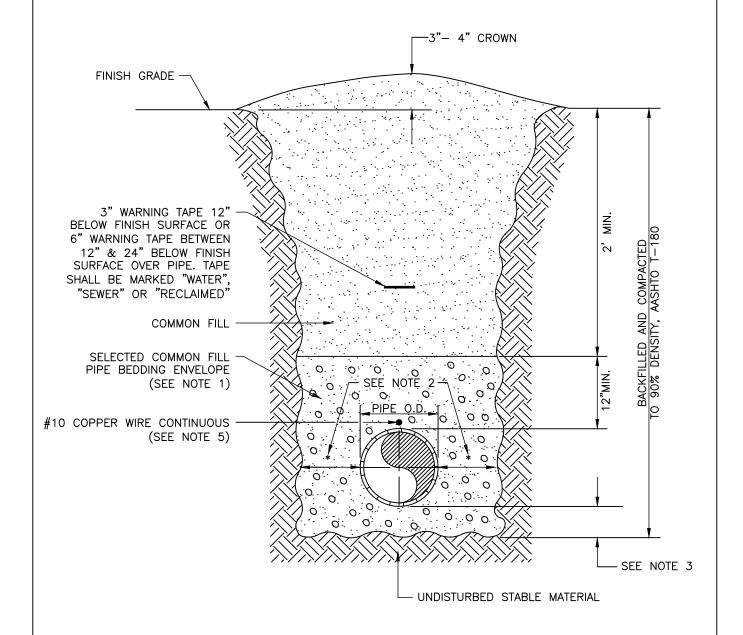
DATE OF APPROVAL

10. NOTES 5. THRU 8. ARE MINIMUM REQUIREMENTS. REFER TO MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.



A-1 PIPE BEDDING

- 1. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE
- 2. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- 3. TYPICALLY 4" TO 6".
- 4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN
- 5. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



REV.BY DATE

WRT/KE 03/11

I. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.

TRENCH WITH

UNIMPROVED SURFACE

TYPE A-1 PIPE BEDDING

3. TYPICALLY 4" TO 6".

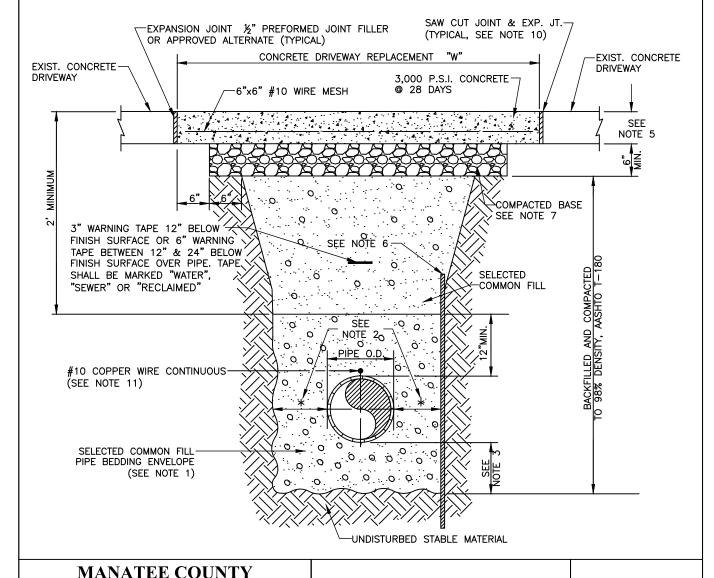
MANATEE COUNTY PUBLIC WORKS DEPARTMENT

JANUARY 7, 2014

DATE OF APPROVAL

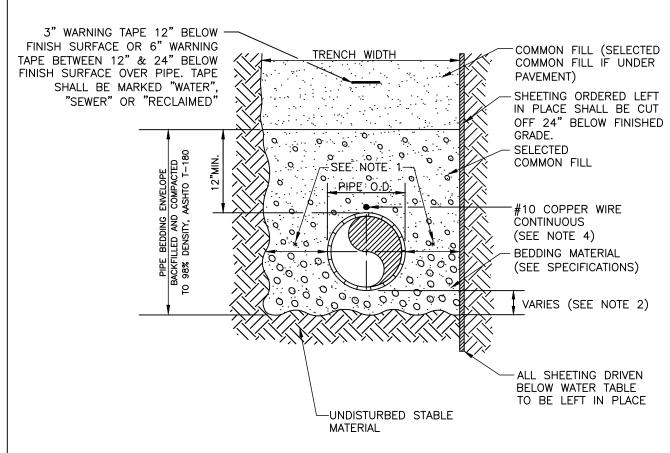
- 4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- 5. THICKNESS TO MATCH EXISTING OR BE 6" MINIMUM, WHICHEVER IS GREATER.
- 6. SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISH GRADE OR 12" BELOW SUBGRADE. 7. BASE SHALL BE COMPACTED 6" MINIMUM THICKNESS OF APPROVED MATERIAL.
- 8. DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST ADOPTED CONSTRUCTION STANDARDS OF THE MANATEE COUNTY TRANSPORTATION DEPARTMENT.
- 9. IF THE DRIVEWAY IS 12' OR WIDER, SAWCUT AN EXPANSION JOINT ALONG THE CENTER OF THE DRIVEWAY
- 10. IF THERE IS AN EXISTING EXPANSION JOINT WITHIN 3' OF THE PROPOSED JOINT, EXTEND DRIVEWAY REPLACEMENT TO THE EXISTING JOINT.
- 11. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.

(3/6" WIDE AND 11/2" DEEP) AFTER THE CONCRETE HAS SET.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT TRENCH WITH CONCRETE REV.BY DATE DRIVEWAY SURFACE TYPE UG-14A-1 PIPE BEDDING JANUARY 7, 2014 DATE OF APPROVAL

- 1. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- 3. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- 4. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS

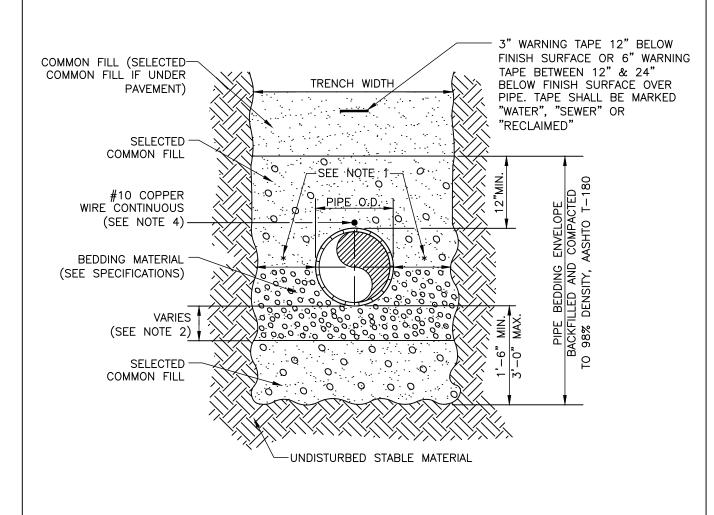


MANATEE COUNTY PUBLIC WORKS DEPARTMENT						
REV.BY	DATE					
CLB/BR	11/10	JANUARY 7, 2014				
		DATE OF APPROVAL				

TRENCH WITH TYPE A-2 PIPE BEDDING

UG-11

- 2. PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- 3. TYPICALLY 4" TO 6".
- 4. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- 5. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



		NATEE COUNTY IC WORKS DEPARTMENT	
REV.BY	DATE]
CLB/BR	11/10	JANUARY 7, 2014	/
		DATE OF APPROVAL	

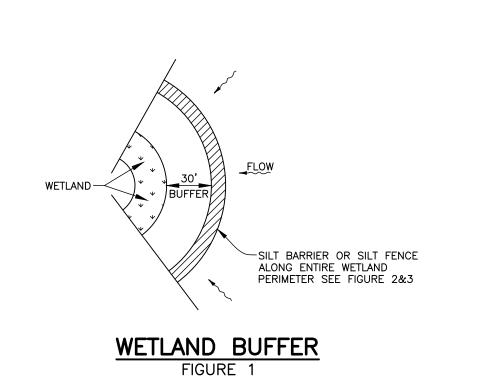
RENCH WITH TYPE 4-3 PIPE BEDDING

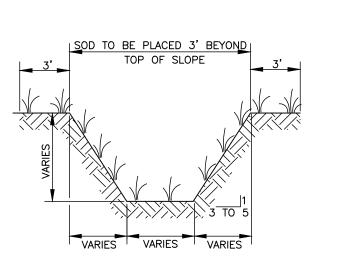
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lylanatee AL County FLORIDA PUBLIC WORKS DEPARTMENT ENGINEERING SERVICES 1022 26th Avenue East, Bradenton, FL 34208

PROJECT # 6079881 SURVEY # 00-43536 SEC./TWN./RGE ,12&13/3518 VERT. SCALE 1"=2" HORZ. SCALE 1"=20' NGVD 29 VERTICAL DATUM DATE BY SURVEYED |ZNS ENGR|01/22/1 DESIGNED 03/2014 JS 03/2014 DRAWN BR JAMERI GTOCKWELL, P.E. 1671/98 Lakwel

STATE OF





TYPICAL SWALE SECTION FIGURE 5

TURBIDITY BARRIER AT CONNECTION OF

STORM PIPE TO EXISTING LAKE

FIGURE 9

SOD ALONG CURB

AND AROUND INLET

FIGURE 14

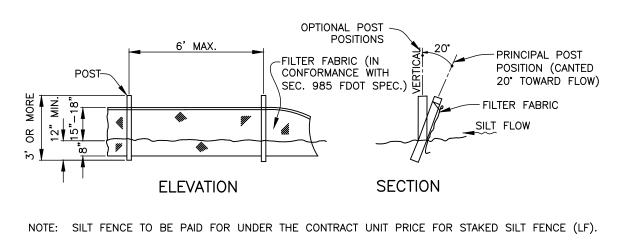
WHERE A DAM IS REQUIRED

WITHIN EXISTING LAKE FOR CONSTRUCTION OF STORM PIPE, TURBIDITY BARRIER SHALL BE PLACED BEYOND THE DAM

TURBIDITY BARRIER SEE FIGURE 4

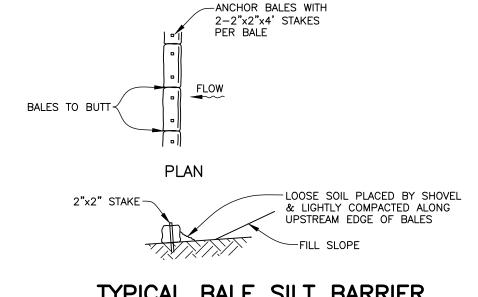
EDGE OF WATER -

EXISTING LAKE

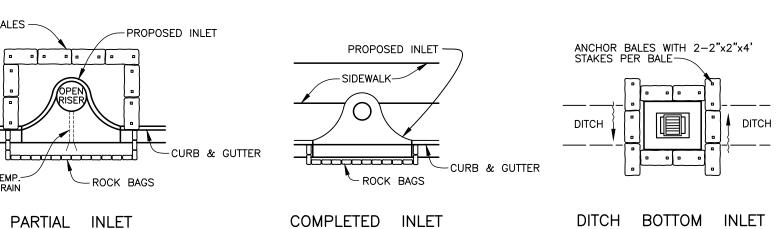


TYPICAL SILT FENCE FIGURE 2

SOD TO BE PLACED 3'-BEYOND TOP OF BANK



TYPICAL BALE SILT BARRIER



TYPICAL RETENTION/DETENTION POND SECTION FIGURE 6

-SILT BARRIER SEE FIGURE 2&3

- EXISTING SWALE

SILT BARRIER AT CONNECTION OF

STORM PIPE TO EXISTING SWALE

FIGURE 10

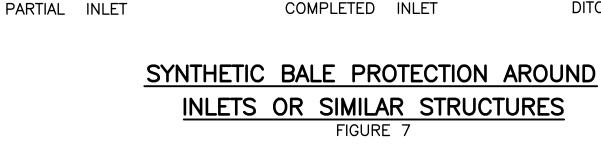
GRASS SLOPES

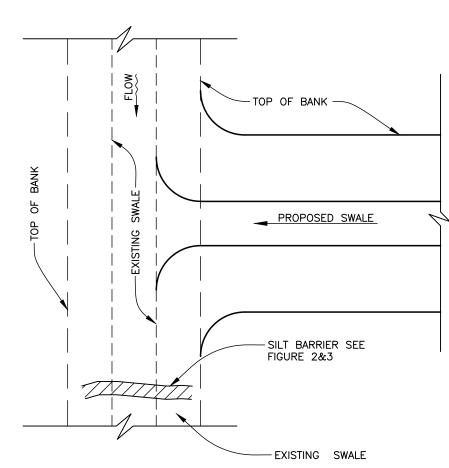
FIGURE 13

-PROPOSED STORM PIPE

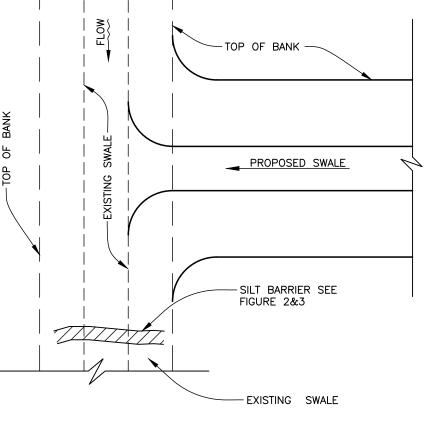
SYNTHETIC BALES -

-PROPOSED INLET

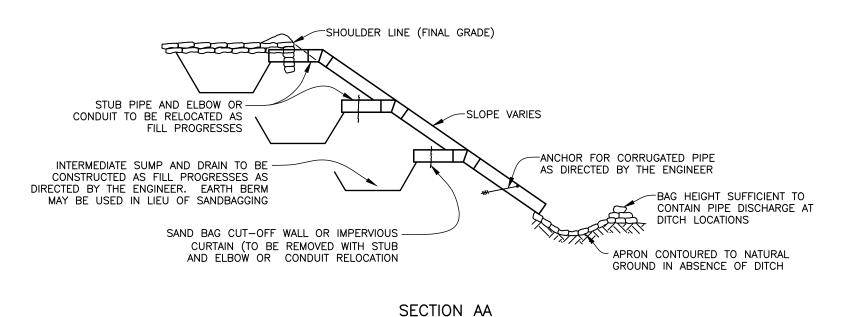




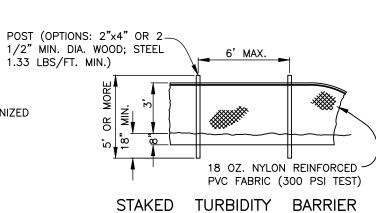
SILT BARRIER AT CONNECTION FIGURE 11



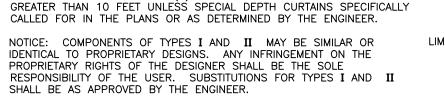
OF SWALE TO EXISTING SWALE



TEMPORARY SLOPE DRAIN FIGURE 15



 $D_1 = 5$ ' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS). $D_2 = 5$ ' STD. (ADDITIONAL PANEL FOR DEPTHS > 5'). CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET. TWO(2) PANELS TO BE USED FOR DEPTHS



-5/8" POLYPRO ROPE (600 LB.

BREAKING STRENGTH)

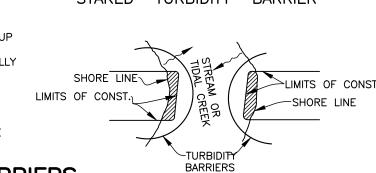
CLOSED CELL PLASTIC FOAM FLOTATION (6"-

FLOATING TURBIDITY BARRIERS

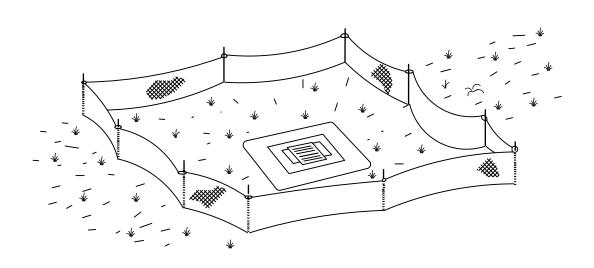
DIA. EQUIV.)(12 LBS. PER FT. BUOYANCY)

18 07. NYLON REINFORCED

PVC FABRIC (300 PSI TEST) WITH LACING GROMMETS

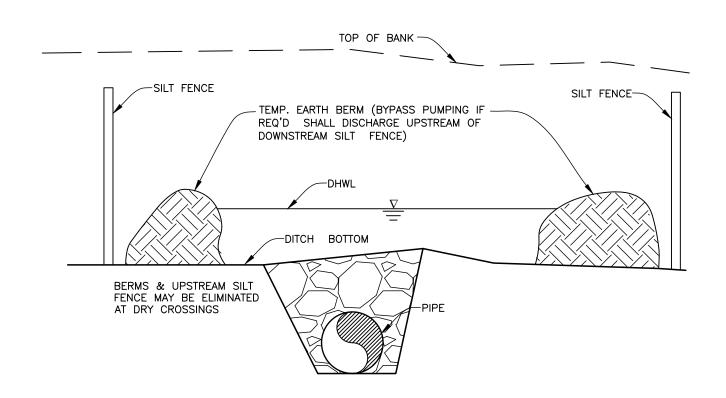


TURBIDITY BARRIERS

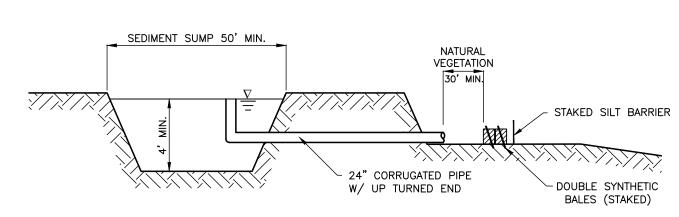


TYPE III SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS

STAKED SILT BARRIER OR SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS



UNDERGROUND PIPE CROSSING FIGURE 12



SEDIMENT SUMP SECTION FIGURE 16

MAIN N

OIS

FLORIDA

PUBLIC WORKS DEPARTMENT

ENGINEERING SERVICES

1022 26th Avenue East, Bradenton, FL 34208

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ROJECT #						6079881				
JRVEY #						00-43536				
.C./TWN./RGE					1,12&13/3518				3	
IRT. SCALE					1"=2'					
RZ. SCALE					1"=20'					
RT	TCAL	DA	TU	М	NGVD 29					
В					Y			DA	ΓΕ	

ZNS ENGR 01/22/1 JS 03/2014 BR 03/2014

SHEET 26 OF 26

NOTE:

REFERENCE THE FDOT DESIGN STANDARDS LATEST EDITION FOR ALL TEMPORARY EROSION CONTROL MEASURES.