

CONSTRUCTION PLANS FOR SAN REMO SHORES WATER MAIN REPLACEMENT

MANATEE COUNTY, FLORIDA

MAY 2019

MANATEE COUNTY PROJECTS #6091970



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UTILITY CONTACTS:

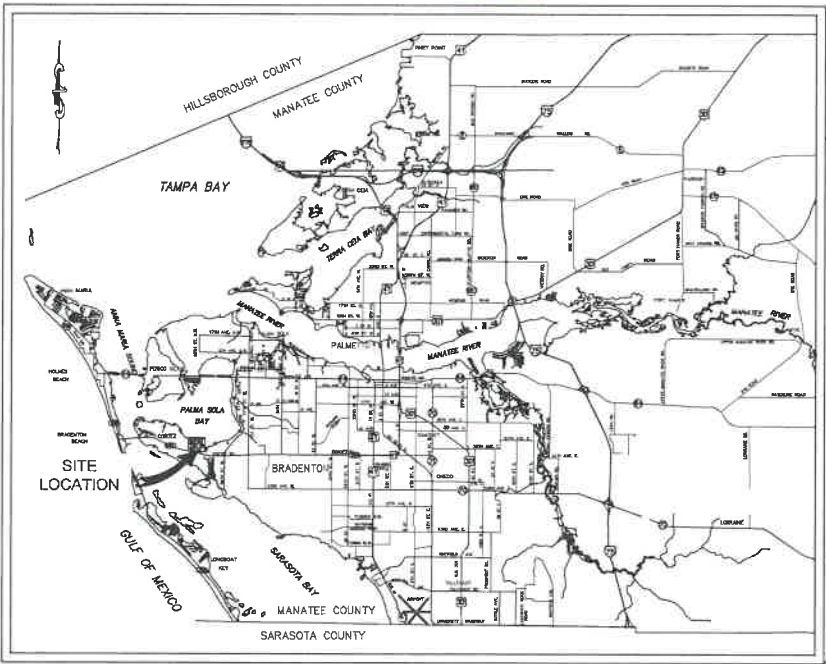
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PROJECT VICINITY MAP
N.T.S.

100% PLANS

PREPARED BY
KimleyHorn

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THE SITE CONSTRUCTION STAKEOUT SHALL BE PERFORMED UNDER THE DIRECTION OF A FLORIDA REGISTERED SURVEYOR. ANY DISCREPANCIES FOUND BETWEEN AUTOCAD FILES AND SITE CONSTRUCTION PLANS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR CLARIFICATION PRIOR TO THE STAKEOUT.

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W. WADE WOOD, P.E.
60051
DATE
May 2019
KHA PROJECT NO.
148400075
SHEET NUMBER
60051
PROFESSIONAL ENGINEER

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GENERAL

1. ALL CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH THE PROJECT MANAGEMENT DIVISION. THE PROJECT MANAGER IS: ALEX GONZALEZ, P.E. AND CAN BE REACHED AT (941) 708-7450 X7338
2. IF THE CONTRACTOR WANTS A SITE VISIT PRIOR TO BIDDING, THESE SHALL BE ARRANGED THROUGH THE COUNTY'S PURCHASING DIVISION.
3. ALL CONSTRUCTION ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF MANATEE COUNTY UTILITY AND TRANSPORTATION STANDARDS AND/OR FDOT "STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION" UNLESS OTHERWISE INDICATED ON THE PLANS.
4. 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.
5. 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.
6. 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.
7. THE CONTRACTOR SHALL NOTIFY SUNSHINE 811 (1-800-432-4770) AT LEAST 2 FULL BUSINESS DAYS PRIOR TO CONSTRUCTION OPERATIONS. 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. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT EXISTING UTILITIES FROM DAMAGE. EXPLORATORY EXCAVATION MAY BE REQUIRED PRIOR TO CONNECTION TO EXISTING UTILITIES.
8. 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.
9. THE CONTRACTOR SHALL PROVIDE CERTIFIED RECORD DRAWINGS AS OUTLINED IN THE SPECIFICATIONS. RED-LINE DRAWINGS SHALL BE CURRENT WITH EACH PAY APPLICATION SUBMITTED AND WILL BE CHECKED AS PART OF THE PAY APPLICATION REVIEW PROCESS. PAYMENT WILL NOT BE MADE TO CONTRACTOR WITHOUT APPROVED RED-LINE DRAWINGS. THE MOST CURRENT SET OF RED-LINE DRAWINGS SHALL ALSO BE BROUGHT TO EACH MONTHLY PROGRESS MEETING.
10. THE CONTRACTOR SHALL INCLUDE IN HIS BID-BY-PASS PUMPING FACILITIES, PUMPS, FITTINGS, LABOR, ETC. AS NECESSARY, BASED ON METHOD AND SEQUENCE OF CONSTRUCTION TO COMPLETE ALL WORK WHILE MAINTAINING SERVICE OPERATION.
11. ALL PROPOSED WORK SHALL BE COORDINATED WITH MANATEE COUNTY UTILITIES DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE OF PROPOSED CONSTRUCTION.
12. THE CONTRACTOR SHALL FURNISH SHOP DRAWINGS TO THE ENGINEER FOR REVIEW OF ALL PIPE CONNECTIONS, TRANSITIONS, AND SPECIAL APPURTENANCES PRIOR TO FABRICATION OR DELIVERY TO THE JOB SITE.
13. UNLESS OTHERWISE INDICATED OR APPROVED, ALL BELOW GROUND PVC PIPE SHALL HAVE PUSH-ON OR MECHANICAL JOINTS, AND ALL ABOVE GROUND PVC PIPE SHALL HAVE FLANGED JOINTS. ALL JOINTS SHALL BE FULLY RESTRAINED PER THE DETAILS IN THESE PLANS.
14. ALL BELOW-GRADE FITTINGS 4-INCHES AND GREATER IN DIAMETER SHALL BE MECHANICAL JOINT DUCTILE IRON WITH PROTECTED 401 LINING FOR THEIR INTERIOR SURFACES AND COAL TAR ENAMEL COATING ON EXTERIOR SURFACES, AS NOTED IN SECTION 02615 OF SPECIFICATIONS.
15. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SECURE PROPERTY FOR STAGING MATERIALS AND EQUIPMENT.
16. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO ACQUIRE, OR ENTER INTO AGREEMENTS, FOR LANDS FOR LAY DOWN AREAS AND STAGING. THE COUNTY WILL COORDINATE AND ADVISE, TO HELP IDENTIFY POSSIBLE PARCELS. IT IS FINALLY THE CONTRACTOR'S RESPONSIBILITY TO SECURE THE NEEDED AREAS, AND THE COUNTY TAKE NO RESPONSIBILITY FOR DELAYS IN THIS REGARD.
17. COORDINATION AND PUBLIC INFORMATION FOR AND WITH AREA RESIDENTS ARE OF THE UTMOST IMPORTANCE. CONTRACTOR WILL INSURE ADHERENCE TO THE COUNTY'S NOISE ORDINANCE, HAZARD AND SAFETY, AND NUISANCE ABATEMENT DIRECTIONS, PLANS, OBJECTIONS AND ORDINANCES. THE ENGINEER WILL HAVE THE FINAL DISCRETION IN THIS REGARD, AS REPRESENTED ONSITE BY THE COUNTY INSPECTOR AND ENGINEER'S STAFF.

SAFETY

18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE FLORIDA TRENCH SAFETY ACT, 90-98, 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.
19. THE CONTRACTOR SHALL USE SHEET PILING, SHEETING, BRACING, ETC., AS REQUIRED IN ALL EXCAVATION AREAS AND CONFORM TO ALL OSHA REQUIREMENTS.
20. THE CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND UTILITIES, POWER LINES, ETC.
21. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THIS EXCLUSION DOES NOT ALLEVATE THE CONTRACTOR FOR PROVIDING A CONTINUOUS SAFE WORKSPACE.

ENVIRONMENTAL

22. 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.
23. 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.
24. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY STORM WATER, EROSION, AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH THE FDP "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.
25. 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.
26. STORM WATER INLETS IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY SEDIMENT TRAPS SUCH AS SECURED HAY BALES, SOD, STONES, ETC. EROSION CONTROL SHALL BE MAINTAINED AND MONITORED 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.
27. SEDIMENT BASINS AND TRAPS, PERIMETER BERMS, SEDIMENT BARRIERS, VEGETATIVE BUFFERS, AND OTHER MEASURES INTENDED TO TRAP SEDIMENT AND/OR PREVENT THE TRANSPORT OF SEDIMENT ON 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.
28. 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.
29. 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.
30. ALL EROSION AND POLLUTION CONTROL DEVICES SHALL BE CHECKED REGULARLY, ESPECIALLY AFTER EACH RAINFALL AND SHALL BE CLEANED OUT AND/OR REPAIRED AS REQUIRED.
31. 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.

32. CONTRACTOR SHALL PROVIDE PROTECTIVE MATTING, FUEL CONTAINMENT AND ALL OTHER MATERIALS, EQUIPMENT AND LABOR TO PROTECT THE STAGING AREA DURING CONSTRUCTION.
33. CONTRACTOR SHALL, PRIOR TO BEGINNING CONSTRUCTION, SUBMIT A "FUELING SPILL PREVENTION PLAN" THAT SHALL CLEARLY INDICATE HOW FUEL SPILLS WILL BE PREVENTED WHEN FUELING BOTH WITHIN AND OUTSIDE OF THE STAGING AREA.
- RIGHT-OF-WAY
34. ALL CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO WITHIN THE MANATEE COUNTY RIGHT-OF-WAY, OTHER PUBLIC RIGHT-OF-WAYS OR EASEMENTS SHOWN ON THE DRAWINGS.
35. 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.
36. THE CONTRACTOR, PRIOR TO CONSTRUCTION AND RESTRICTING ANY TRAFFIC, MUST OBTAIN ANY REQUIRED RIGHTS-OF-WAY USE PERMITS 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, PER SPECIFICATIONS 01570.
37. 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, OR THE APPLICABLE JURISDICTION.
38. 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.
39. THE CONTRACTOR SHALL COORDINATE THE CUTTING OF DRIVEWAYS WITH THE PROPERTY OWNER PRIOR. ALL DRIVEWAYS MUST BE IN PASSABLE CONDITION AT THE END OF THE WORK DAY AND FULLY RESTORED.
40. A RIGHT OF ENTRY AGREEMENT SHALL BE OBTAINED BY THE CONSTRUCTION MANAGER FROM THE PROPERTY OWNER BEFORE ANY DRIVEWAY CONSTRUCTION WORK IS DONE OUTSIDE OF THE RIGHT-OF-WAY OR EASEMENT.

UTILITIES

41. 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 CONNECTED 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.
42. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, WATER AND SEWER LINES, STORM DRAINS, UTILITIES, DRIVEWAYS, SIDEWALKS, STOPS, 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.
43. 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.
44. 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.
45. THE ELEVATIONS OF THE UTILITY SERVICES AND LATERALS HAVE BEEN ASSUMED ON THE BASIS OF TYPICAL ANTICIPATED SOIL COVERAGE. CONTRACTOR SHALL NOT RELY ON THIS INFORMATION FOR CONSTRUCTION, BUT SHALL BE RESPONSIBLE FOR FIELD LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL UTILITIES CROSSING THE PROPOSED FORCE MAIN. CONTRACTOR SHALL INCLUDE IN THE UNIT COST OF THE SUBJECT FORCE MAIN CONSTRUCTION, THE COST OF UTILITY ADJUSTMENTS NECESSARY TO ATTAIN DESIGN MINIMUM SEPARATION FOR UTILITIES CONFLICTING WITH THE CONSTRUCTION OF THE PROPOSED FORCE MAIN/WATER MAIN. INTERRUPTIONS OF ANY EXISTING UTILITY SERVICES SHALL BE NOTICED TO EFFECTED CUSTOMERS A MINIMUM OF 48 HOURS IN ADVANCE AND SHALL NOT EXCEED 4 HOURS IN DURATION.

RESTORATION

46. ALL RESTORATION WORK PERFORMED THROUGHOUT THE PROJECT SHALL CONFORM TO EXISTING LINES AND GRADES UNLESS SHOWN OTHERWISE.
47. ALL DISTURBED GRASSED AREAS SHALL BE SODDED UNLESS OTHERWISE INDICATED. THE TYPE OF SOD USED TO REPLACE OWNER MAINTAINED AREAS IN RIGHT-OF-WAY SHALL BE COORDINATED WITH THE PROPERTY OWNER.
48. 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.
49. ASPHALT DRIVES THAT ARE CUT SHALL BE RESTORED PER SECTION 02513.
50. 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 OF THE F.D.O.T. DESIGN STANDARDS.
51. WHENEVER A PERMANENT ROADWAY SURFACE IS NOT REPLACED 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.
52. 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.
53. ALL EXISTING FENCES DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AND REINSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER UNLESS SHOWN TO BE REMOVED ON CONSTRUCTION PLANS.
54. WHERE CONCRETE REPAIRS ARE NECESSARY AND EXPANSION OR CONTRACTION JOINTS ARE PRESENT, CONTRACTOR SHALL REMOVE AND REPLACE CONCRETE UP TO THE NEXT EXPANSION OR CONTRACTION JOINT.

CONSTRUCTION

55. 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.
56. NO MATERIAL SHALL BE STOCKPILED IN ROADWAYS. ALL DIRT AND DEBRIS SHALL BE REMOVED FROM THE JOB SITE DAILY. ROADS SHALL BE SWEEP DAILY AS PART OF DAILY CLEAN UP.
57. THE CONTRACTOR IS TO CONTROL ALL FUGITIVE DUST ORIGINATING ON THIS PROJECT BY WATERING OR OTHER METHODS AS REQUIRED.
58. INGRESS AND EGRESS TO ALL THE PROPERTIES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED AT ALL TIMES.
59. PRIOR APPROVAL WILL BE REQUIRED FOR REMOVAL OR TRIMMING OF ANY TREE WITHIN THE CONSTRUCTION AREA.
60. THE CONTRACTOR SHALL PROVIDE ALL DEWATERING EQUIPMENT NECESSARY TO KEEP ALL EXCAVATIONS DRY. DEWATERING IS REQUIRED TO 18" BELOW TRENCH BOTTOM.
61. 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.
62. ALL PIPE SHALL BE COLOR CODED TO CONFORM TO MANATEE COUNTY STANDARDS.

63. 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.
64. 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.
65. 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 DIAMETER.
66. ONLY MANATEE COUNTY UTILITY OPERATIONS STAFF ARE AUTHORIZED TO OPERATE VALVES AND PUMP STATIONS ON COUNTY OWNED AND MAINTAINED UTILITY SYSTEMS.
67. 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 AND THE RESPECTIVE CITY'S. WRITTEN NOTIFICATIONS SHALL ALSO BE FAXED TO THE TAMPA TRIBUNE, BRADENTON HERALD, AMI SUN, ISLANDER, SARASOTA HERALD TRIBUNE, WBRD RADIO, EMERGENCY COMMUNITY CENTERS, INSPECTIONS, WATER TREATMENT PLANT, WATER MANAGER, HELPLINE, CUSTOMER SERVICE, AND THE MANATEE COUNTY UTILITY OPERATIONS DEPARTMENT.
68. 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.
69. ALL EXISTING WATER MAINS THAT ARE BEING REPLACED SHALL BE ABANDONED IN PLACE UPON ACCEPTANCE AND ACTIVATION OF THE NEW MAINS. ABANDONED MAINS SHALL BE CUT AND CAPPED. REFER TO SECTION 02064 OF THE SPECIFICATIONS FOR CUT AND CAPPING ABANDONED PIPE.
70. FIELD CONDITIONS MAY NECESSITATE MINOR ALIGNMENT AND GRADE DEVIATION OF THE PROPOSED UTILITIES TO AVOID OBSTACLES, AS ORDERED BY THE ENGINEER.
71. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION FROM THE MANATEE COUNTY UTILITIES DEPARTMENT (MCUD) OFFICE OF INDUSTRIAL COMPLIANCE PRIOR TO DEWATERING. COMPLETION OF A CONSTRUCTION DEWATERING AUTHORIZATION TO DISCHARGE APPLICATION IS REQUIRED. FILL OUT FORM AS COMPLETELY AS POSSIBLE AS MISSING INFORMATION DELAYS THE APPROVAL PROCESS.
72. THE MCUD OFFICE OF INDUSTRIAL COMPLIANCE WILL DETERMINE WHETHER A LETTER OF APPROVAL, A DISCHARGE AUTHORIZATION, OR A DISCHARGE PERMIT IS REQUIRED.
73. FOR SITES SUSPECTED OF CONTAMINATED GROUNDWATER MANATEE COUNTY WILL REQUIRE AN APPLICANT TO DEMONSTRATE THAT THE DISCHARGE MEETS THE MANATEE COUNTY SEWER USE ORDINANCE.
74. IF ANY CLAIMED OR WATER MAINS INCLUDING SERVICE LINES ARE DAMAGED DURING CONSTRUCTION, THEY SHALL BE REPLACED FROM THE VALVE TO THE OTHER POINT OF CONNECTION OUTSIDE OF THE ROADWAY PER MANATEE COUNTY'S STANDARDS. SERVICES SHALL BE REPLACED FROM THE COLD STOP TO THE METER.

TRAFFIC CONTROL NOTES

75. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH F.D.O.T. STANDARD PLAN INDICES NO. 600, 601, 602 603, 604, 605, AND 660 DEPENDING ON THE OPERATION BEING PERFORMED.
FOR ALL TWO-LANE WORK, TWO-WAY, WORK OUTSIDE OF SHOULDER UTILIZE INDEX 102-601.
FOR ALL TWO-LANE WORK, TWO-WAY, WORK ON SHOULDER UTILIZE INDEX 102-602.
FOR ALL TWO-LANE WORK, TWO-WAY, WORK WITHIN TRAVEL LANE UTILIZE INDEX 102-603.
FOR ALL TWO-LANE WORK, TWO-WAY, WORK WITH IN INTERSECTION UTILIZE INDEX 102-604.
FOR ALL TWO-LANE WORK, TWO-WAY, WORK NEAR INTERSECTION UTILIZE INDEX 102-605.
FOR PEDESTRIAN CONTROL FOR CLOSURE OF SIDEWALK, UTILIZE INDEX 102-660.
76. CONTRACTOR TO COORDINATE WITH ED HERNDON (941) 708-4436 AT FDOT FOR ALL WORK DONE ON A STATE FACILITY.
77. TO AVOID DISRUPTION DUE TO INCLEMENT WEATHER, THE CONTRACTOR SHOULD PERFORM ANY MILLING AND PAVING OPERATIONS DURING THE SAME WORK PERIOD.
78. ALL EXISTING PAVEMENT MARKINGS OUTSIDE THE CONSTRUCTION LIMITS THAT HAVE BEEN ALTERED BECAUSE OF CONSTRUCTION OPERATIONS SHALL BE REPLACED UPON THE COMPLETION OF THE PROJECT AT THE CONTRACTORS EXPENSE.
79. LANE CLOSURES SHALL OCCUR BETWEEN 9:00 P.M. AND 5:00 A.M., UNLESS LANE CLOSURE CALCULATIONS ARE PROVIDED AND APPROVED OR APPROVAL IS GRANTED BY THE DISTRICT PERMIT ENGINEER.

THE CONTRACTOR SHALL SCHEDULE WORK OPERATIONS SO THAT ALL LANES CAN BE RE-OPENED TO TRAFFIC WITHIN A PERIOD OF 24 HOURS IN CASE OF AN EMERGENCY.
80. PEDESTRIANS, BICYCLES, AND WHEELCHAIRS:
AT THE END OF EACH WORKDAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE, ANY DROP-OFF ADJACENT TO A SIDEWALK SHALL BE BACKFILLED AT A SLOPE NOT TO EXCEED 1:4, OR SHALL BE PROTECTED IN ACCORDANCE WITH STANDARD INDEX 600.
81. PEDESTRIAN AND WHEELCHAIR TRAFFIC SHALL BE ACCOMMODATED UTILIZING STANDARD INDEX 660.
82. ONE PORTABLE VARIABLE MESSAGE SIGN SHALL BE USED IN ADVANCE OF EACH LANE CLOSURE. THE FOLLOWING ARE SUGGESTED MESSAGES TO USE IN THE APPROPRIATE SITUATIONS:

MESSAGE 1
"RIGHT" OR "CENTER" OR "LEFT"
"LANE" "LANE" "LANE"
"CLOSED" "CLOSED" "CLOSED"

83. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REMOVAL OF STORMWATER FROM ROADWAYS UTILIZED FOR TRAFFIC CONTROL IN A MANNER APPROVED BY THE ENGINEER.
84. AT THE END OF EACH WORKING DAY'S ACTIVITY, TEMPORARY PAVEMENT MARKINGS AND TEMPORARY RPM'S SHALL BE INSTALLED PRIOR TO OPENING THE LANES UP FOR TRAFFIC.
85. ALL PAVEMENT MARKINGS, SIGNS, MARKERS, CHANNELIZATION REQUIRED TO PHASE WORK OR SHIFT TRAFFIC, SHALL UTILIZE INDICES FOR PLACEMENT.
89. THE CONTRACTOR SHALL RESTRICT THE OPERATIONS SO THAT THE FIRST LIFT OF ASPHALT IS PLACED ON THE SAME DAY THAT THE LANES ARE MILLED, BEFORE OPENING THE LANES TO TRAFFIC. INSTALL TEMPORARY PAVEMENT MARKINGS AFTER THE FIRST LIFT AND PRIOR TO OPENING.
90. MILLING AND RESURFACING SHALL BE ACCOMPLISHED DURING THE OFF-PEAK HOURS.
91. THE CONTRACTOR IS RESPONSIBLE TO RETIME THE TRAFFIC SIGNALS WITHIN THE PROJECT LIMITS (INCLUDING LIMITS OF WORK ZONE TRAFFIC CONTROL) THAT ARE POTENTIALLY AFFECTED DURING VARIOUS PHASES OF CONSTRUCTION. COORDINATE ALL SIGNAL RETIME EFFORTS MUKUNDA GOPALAKRISHNA, P.E., PTOE, COUNTY TRAFFIC ENGINEER, AT 941-749-3500, EXT. 7813.
92. CONTRACTOR TO MAINTAIN VEHICLE DETECTION IN OPERATION DURING TIMES THAT WILL REMAIN OPEN. CONTRACTOR TO COORDINATE ALL VEHICLE DETECTION ISSUES WITH CLARKE DAVIS AT MANATEE COUNTY AT 941-708-7450, EXT. 7272 OR CLARKE.DAVIS@MANATEE.ORG
93. MAINTENANCE OF TRAFFIC AND ANY SIGNAL RETIMING WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
94. ANY SIGNAL RETIMING REQUIRED FOR THE INTERSECTIONS MAPS BY THE PROJECT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. SIGNAL TIMING MODIFICATIONS TO BE SUBMITTED TO MANATEE COUNTY TRAFFIC DESIGN, ATTENTION MR. MUKUNDA GOPALAKRISHNA FOR REVIEW AND APPROVAL AT LEAST 15 WORKING DAYS BEFORE PROPOSED CHANGES. THIS DOES NOT APPLY TO EMERGENCY SITUATIONS, REQUIRING THE APPROVAL OF THE ENGINEER.
95. A DETAILED MAINTENANCE OF TRAFFIC PLANS ARE TO BE SUBMITTED TO MANATEE COUNTY AND THE ENGINEER, BY THE CONTRACTOR, FOR REVIEW AND APPROVAL A MINIMUM OF 30 CALENDAR DAYS PRIOR TO PROPOSED IMPLEMENTATION.

FDOT NOTES

ALL WORK PERFORMED WITHIN THE FDOT R/W SHALL CONFORM TO:

1. FDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION (2016) (A.K.A. STANDARD SPECS).
2. FDOT STANDARD PLANS FOR ROAD CONSTRUCTION 2019, (A.K.A. STANDARD PLANS). COMPLIANCE WITH ALL APPLICABLE INDICES IS REQUIRED.
3. FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY PLANS PREPARATION MANUAL, VOLUME 1, CHAPTERS 2 AND 25, (REVISED 2013).
4. FLORIDA DEPARTMENT OF TRANSPORTATION FLEXIBLE PAVEMENT DESIGN MANUAL FOR NEW CONSTRUCTION AND PAVEMENT REHABILITATION, JANUARY 2015.
5. ALL TRAFFIC STRIPES AND MARKINGS ARE TO BE LEAD FREE, NON-SOLVENT BASED THERMOPLASTIC. THE PERMITTEE SHALL FURNISH THE DEPARTMENT WITH THE MANUFACTURER'S CERTIFICATION THAT THE THERMOPLASTIC IS LEAD FREE.
6. LANE CLOSURE MAY NEED TO BE ALTERED DEPENDING ON THE AREA THE WORK IS TAKING PLACE.
7. THE FOLLOWING ASPHALT REPAIRS WITHIN FDOT R/W SHOULD BE AS FOLLOWS:
COMPACTED AND DENSITY TESTED SOIL IN 6 INCH LIFTS WITH A 100% DENSITY UP TO A DEPTH OF 10 INCHES, THEN PLACE 10 INCHES OF SP 12.5 STRUCTURAL ASPHALT IN 2 INCH LIFTS, AND THEN MILL THE WIDTH OF THE NORTHSOUND LANE TO A DEPTH OF 1.5 INCHES AND RESURFACE WITH 1.5 INCHES OF FC 12.5 FRICTION COURSE.








SURVEYOR NOTES

1. THE FOLLOWING NGS VERTICAL CONTROL MONUMENTS WERE RECOVERED AND UTILIZED FOR THE ELEVATIONS INDICATED HEREIN: "BROADVIEW PARK" NAVD 1988 ELEVATION 4.06' "BROWDALE NAVD 1988 ELEVATION 4.83" A VALUE OF +0.89' SHOULD BE APPLIED TO ALL ELEVATIONS FOR A CONVERSION TO NAVD 1929.
2. THIS SURVEY IS REFERENCED TO A GRID PROJECTION OF THE FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE NAD 1983/2011 ADJUSTMENT).
3. SURVEYED AREA LIES WITHIN ZONES "AE 10, 11 & 12 & VE 13" PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD MAP NUMBERS 12081C0283 E AND 12081C0281 E EFFECTIVE MARCH 17, 2014.
4. THIS IS NOT A BOUNDARY SURVEY. TITLE WORK WAS NOT PROVIDED.
5. THE SURVEY IS SUBJECT TO PERTINENT EASEMENTS, RIGHTS-OF-WAY AND RESTRICTIONS OF RECORD, IF ANY.

ABBREVIATIONS

RJ	- RESTRAINED JOINT	ST	- STORM DRAIN
R/W	- RIGHT-OF-WAY	EX	- EXISTING
HDD	- HORIZONTAL DIRECTIONAL DRILL	BT	- BURIED TELEPHONE
RCP	- REINFORCED CONCRETE PIPE	UC	- UNDERGROUND CONDUIT
ARV	- AIR RELEASE VALVE	DBC	- DIRECT BURIED CABLE
HDPE	- HIGH DENSITY POLYETHYLENE	FOC	- FIBER OPTIC CABLE
PVC	- POLYVINYL CHLORIDE	SS	- SANITARY SEWER
NG	- NATURAL GROUND	FW	- FORCE MAIN
		WM	- WATER MAIN
		RM	- RECLAIM WATER MAIN
		ECP	- ELLIPTICAL CONCRETE PIPE

KIMLEY HORN LEGEND

EX. FORCEMAIN	-----FM-----FM-----FM-----FM-----
PROPOSED WATER MAIN	-----WM-----WM-----WM-----WM-----
EX. WATERMAIN	-----WM-----WM-----WM-----WM-----
EX. SANITARY SEWER	-----SS-----SS-----SS-----SS-----
EX. STORM	-----STM-----STM-----STM-----STM-----
EX. BURIED TELEPHONE/FIBER	-----BT-----BT-----BT-----BT-----
EX. FIBER OPTIC CABLE	-----FOC-----FOC-----FOC-----FOC-----
EX. DIRECT BURIED CABLE	-----DBC-----DBC-----DBC-----DBC-----
EX. UNDERGROUND CONDUIT	-----UC-----UC-----UC-----UC-----
EX. BURIED ELECTRIC	-----BE-----BE-----BE-----BE-----
EX. GAS	-----GAS-----GAS-----GAS-----GAS-----
EX. RECLAIM WATER	-----RW-----RW-----RW-----RW-----
EX. OVERHEAD UTILITIES	-----OU-----OU-----OU-----OU-----
FULL ROADWAY RESTORATION	
ASPHALT DRIVEWAY REPAIR	
SIDEWALK/ CONCRETE DRIVEWAY REPAIR	
BRICK DRIVEWAY RESTORATION	
SHELL DRIVEWAY RESTORATION	
CURB REPAIR	
MILLING AND RESURFACING	

EX. CONCRETE DRIVEWAY	
EX. ASPHALT DRIVEWAY	
EX. BRICK DRIVEWAY	
EX. SHELL DRIVEWAY	

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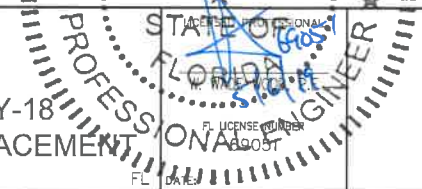
MANATEE COUNTY

GENERAL NOTES

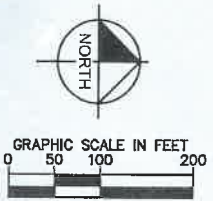
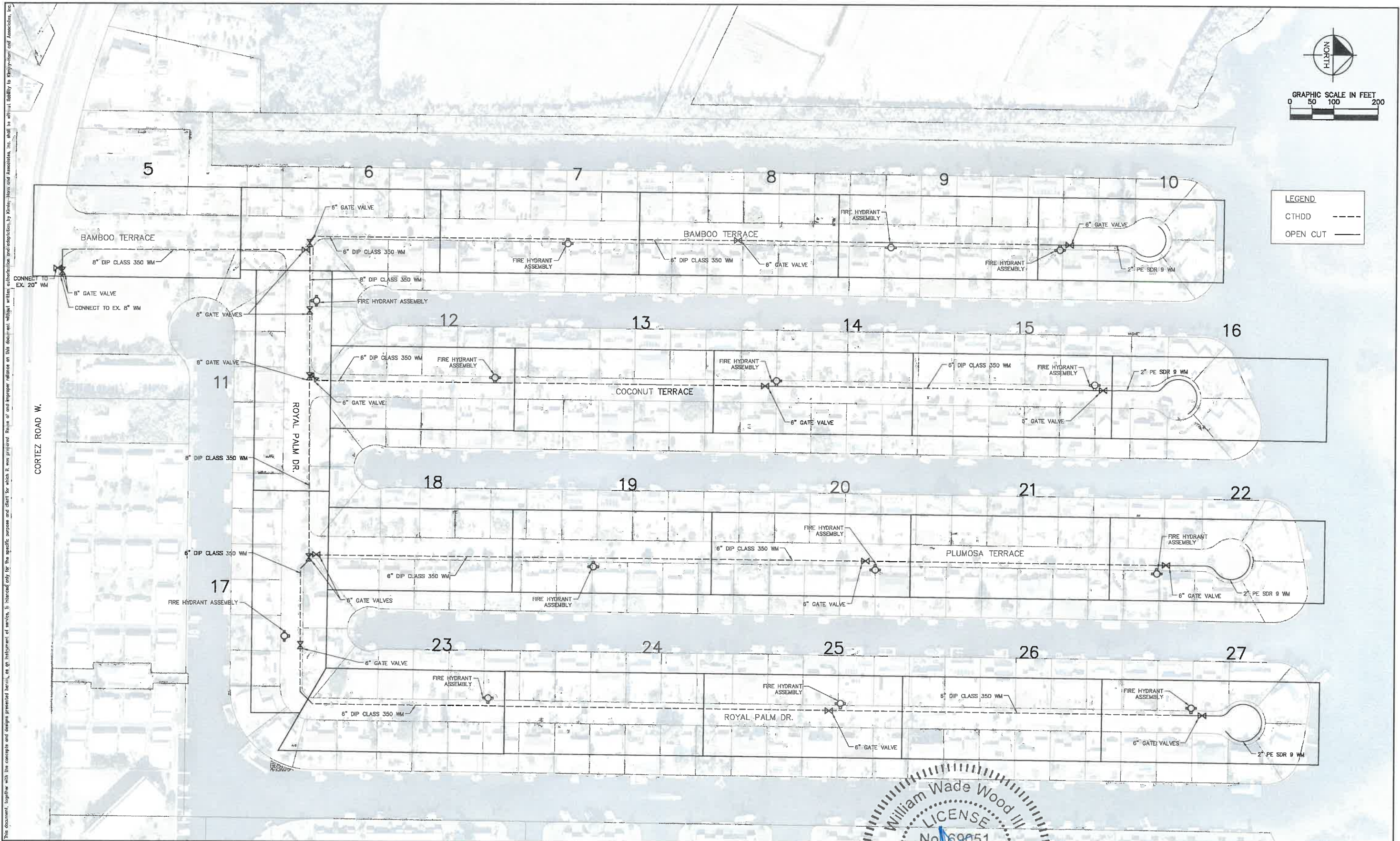
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DATE 5/3/2019
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SHEET NUMBER



LEGEND	
CTHDD	---
OPEN CUT	---

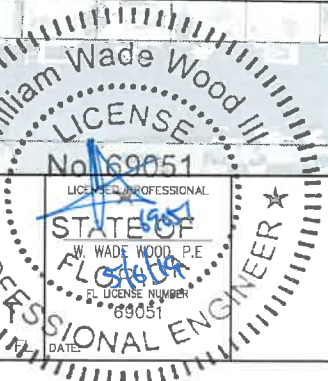
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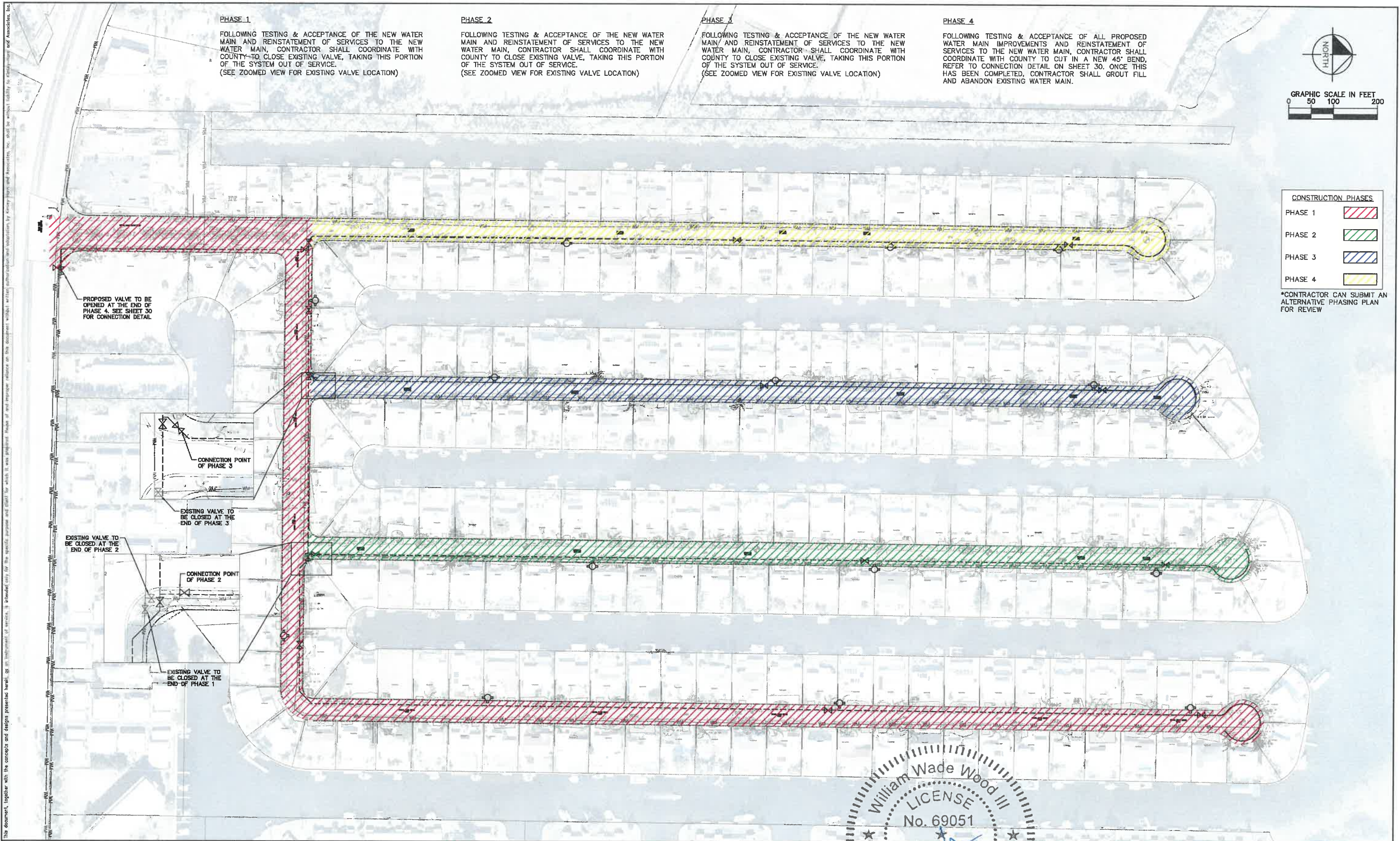
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KEY SHEET

SHEET NUMBER
3

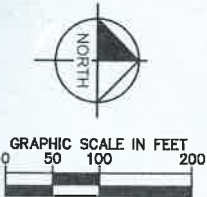


PHASE 1
FOLLOWING TESTING & ACCEPTANCE OF THE NEW WATER MAIN AND REINSTATEMENT OF SERVICES TO THE NEW WATER MAIN, CONTRACTOR SHALL COORDINATE WITH COUNTY TO CLOSE EXISTING VALVE, TAKING THIS PORTION OF THE SYSTEM OUT OF SERVICE.
(SEE ZOOMED VIEW FOR EXISTING VALVE LOCATION)

PHASE 2
FOLLOWING TESTING & ACCEPTANCE OF THE NEW WATER MAIN AND REINSTATEMENT OF SERVICES TO THE NEW WATER MAIN, CONTRACTOR SHALL COORDINATE WITH COUNTY TO CLOSE EXISTING VALVE, TAKING THIS PORTION OF THE SYSTEM OUT OF SERVICE.
(SEE ZOOMED VIEW FOR EXISTING VALVE LOCATION)

PHASE 3
FOLLOWING TESTING & ACCEPTANCE OF THE NEW WATER MAIN AND REINSTATEMENT OF SERVICES TO THE NEW WATER MAIN, CONTRACTOR SHALL COORDINATE WITH COUNTY TO CLOSE EXISTING VALVE, TAKING THIS PORTION OF THE SYSTEM OUT OF SERVICE.
(SEE ZOOMED VIEW FOR EXISTING VALVE LOCATION)

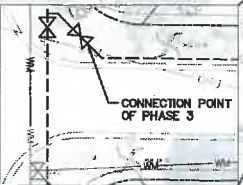
PHASE 4
FOLLOWING TESTING & ACCEPTANCE OF ALL PROPOSED WATER MAIN IMPROVEMENTS AND REINSTATEMENT OF SERVICES TO THE NEW WATER MAIN, CONTRACTOR SHALL COORDINATE WITH COUNTY TO CUT IN A NEW 45° BEND, REFER TO CONNECTION DETAIL ON SHEET 30. ONCE THIS HAS BEEN COMPLETED, CONTRACTOR SHALL GROUT FILL AND ABANDON EXISTING WATER MAIN.



- CONSTRUCTION PHASES**
- PHASE 1
 - PHASE 2
 - PHASE 3
 - PHASE 4

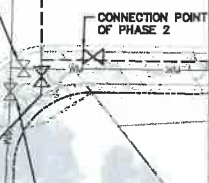
*CONTRACTOR CAN SUBMIT AN ALTERNATIVE PHASING PLAN FOR REVIEW

PROPOSED VALVE TO BE OPENED AT THE END OF PHASE 4. SEE SHEET 30 FOR CONNECTION DETAIL.



EXISTING VALVE TO BE CLOSED AT THE END OF PHASE 3

EXISTING VALVE TO BE CLOSED AT THE END OF PHASE 2



EXISTING VALVE TO BE CLOSED AT THE END OF PHASE 1



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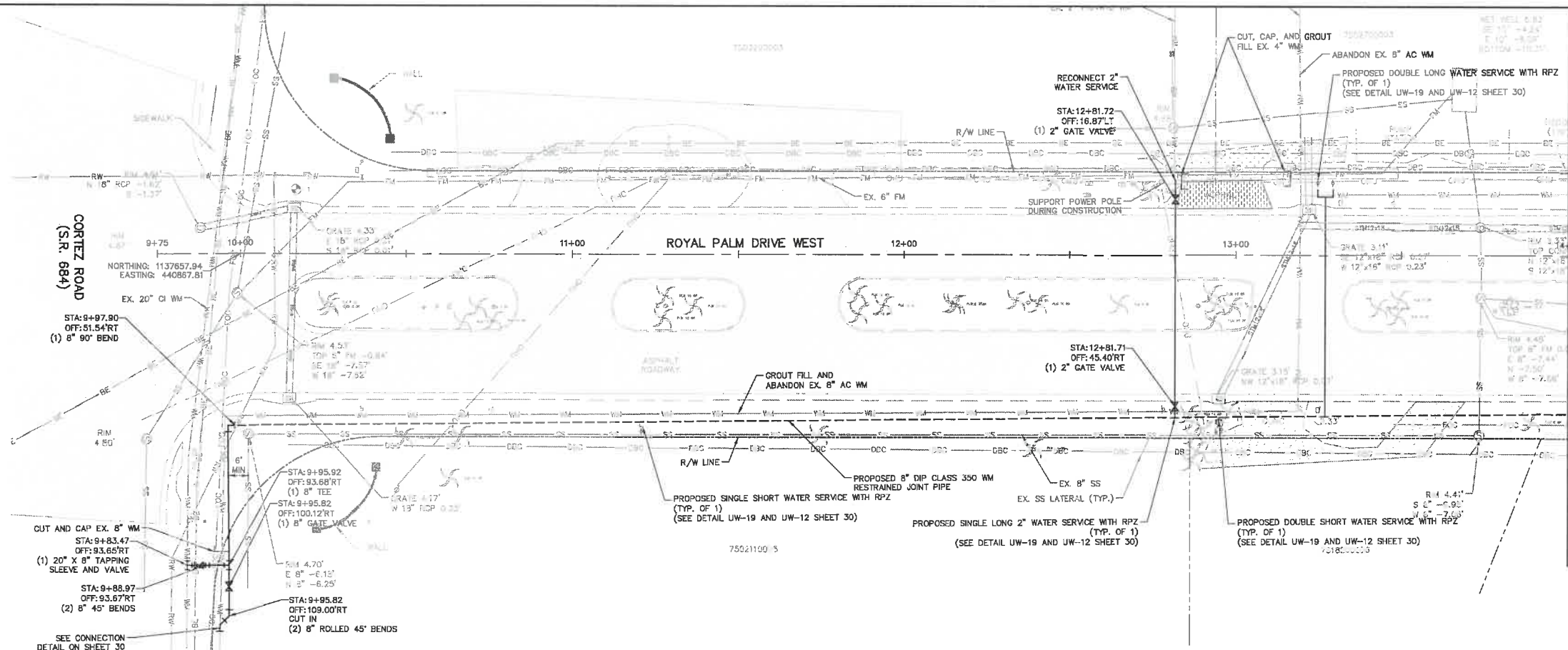
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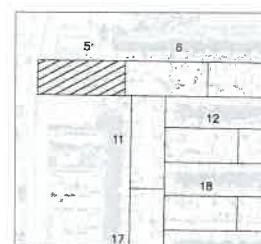
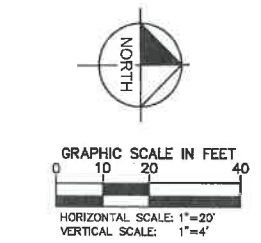
PHASING PLAN

SHEET NUMBER
4

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MATCH LINE STA 14+00
SEE SHEET 6 FOR CONTINUATION

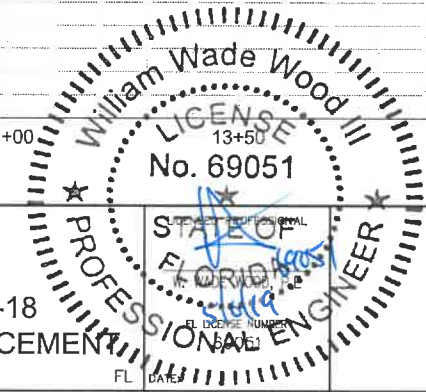
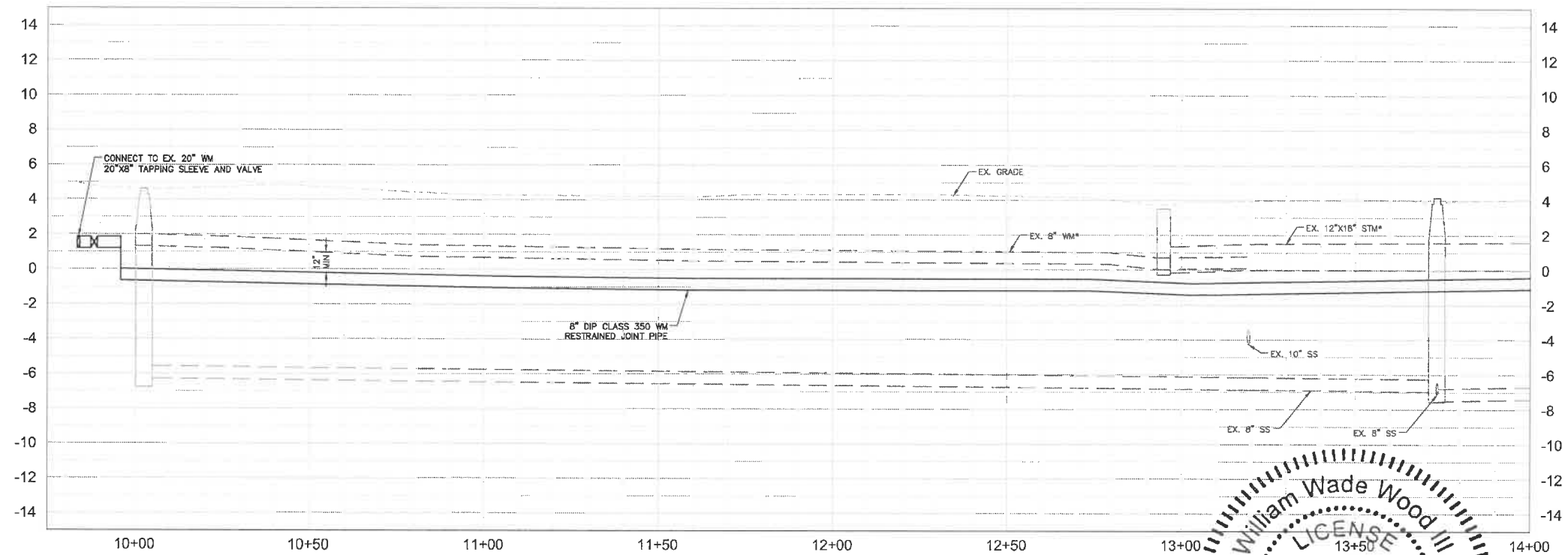


- NOTES:
- CONTRACTOR TO FOLLOW RESTRAINED LENGTHS SET IN RESTRAIN LENGTH DETAILS ON SHEET 29.
 - CONSTRUCTION DEWATERING SHALL BE CONDUCTED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS INCLUDING BUT NOT LIMITED TO CHAPTERS 62-521.300 AND 62-520 OF THE FLORIDA ADMINISTRATIVE CODE (FAC).
 - CTHDD SITE HOLES (CALIBRATION BORE HOLES) TO BE PERFORMED IN SOFT SOILS WITH A 2' MIN CLEARANCE FROM CURB.
 - REFER TO DETAIL UG-12 SHEET 28 FOR COUNTY ROADWAY REPAIR REQUIREMENTS.

*NOTES:
THE ELEVATIONS OF THE UTILITIES MARKED WITH AN ASTERISK (*) HAVE BEEN ASSUMED ON THE BASIS OF TYPICAL ANTICIPATED SOIL COVERAGE. CONTRACTOR SHALL NOT RELY ON THIS INFORMATION FOR CONSTRUCTION, BUT SHALL BE RESPONSIBLE FOR FIELD LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL UTILITIES CROSSING THE PROPOSED FORCE MAIN. CONTRACTOR SHALL INCLUDE IN THE UNIT COST OF THE SUBJECT FORCE MAIN CONSTRUCTION, THE COST OF UTILITY ADJUSTMENTS NECESSARY TO ACHIEVE DESIGN MINIMUM SEPARATION FOR UTILITIES CONFLICTING WITH THE CONSTRUCTION OF THE PROPOSED FORCE MAIN. INTERRUPTIONS OF ANY EXISTING UTILITY SERVICES SHALL BE NOTICED TO EFFECTED CUSTOMERS A MINIMUM OF 48 HOURS IN ADVANCE AND SHALL NOT EXCEED 4 HOURS IN DURATION.

WHERE CONCRETE REPAIRS ARE NECESSARY AND EXPANSION JOINTS ARE PRESENT, CONTRACTOR TO REMOVE AND REPLACE CONCRETE UP TO THE NEXT EXPANSION JOINT; OTHERWISE, REPLACE CONCRETE AS NECESSARY.

GROUNDWATER / DEWATERING NOTE:
THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR THIS ISSUE. WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DEWATERING, DRAINAGE AND GROUND WATER MANAGEMENT TO CONTROL MOISTURE OF SOILS.



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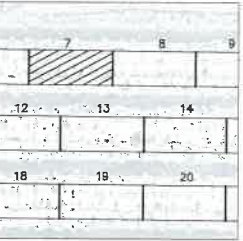
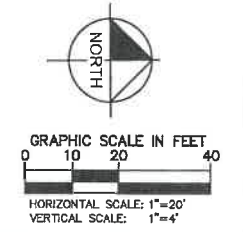
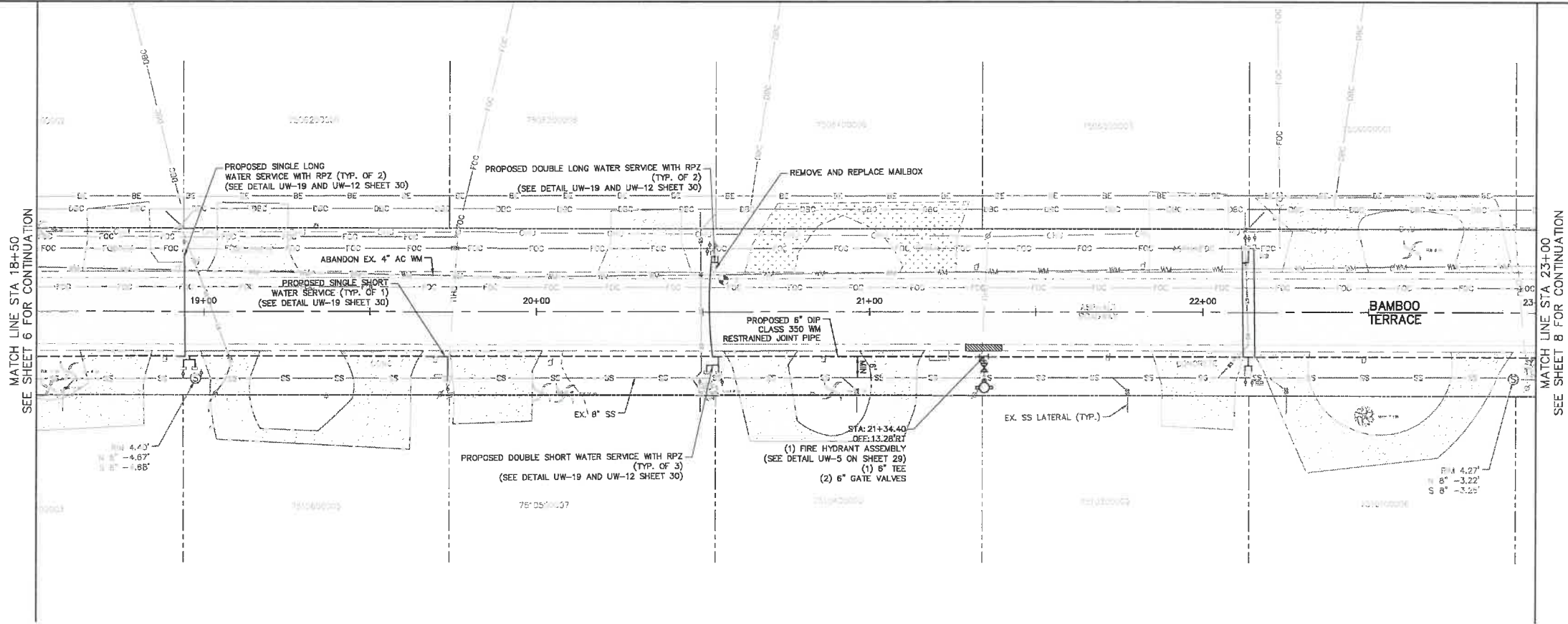
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SHEET NUMBER
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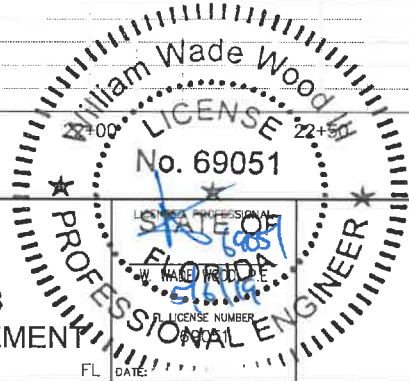
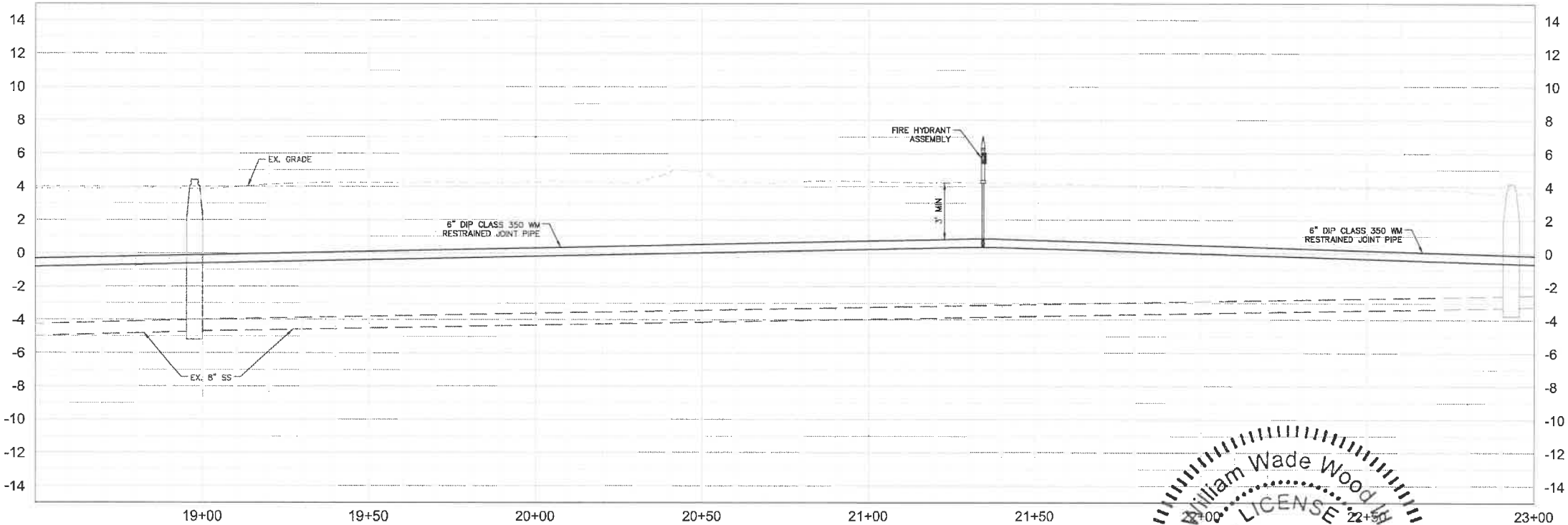
- LEGEND
- CTHDD
- OPEN CUT
- ASPHALT DRIVEWAY RESTORATION
- SIDEWALK/CONCRETE DRIVEWAY RESTORATION
- BRICK DRIVEWAY RESTORATION
- SHELL DRIVEWAY RESTORATION
- FULL ROADWAY RESTORATION
- MILLING AND RESURFACING
- REMOVE & REPLACE CURB

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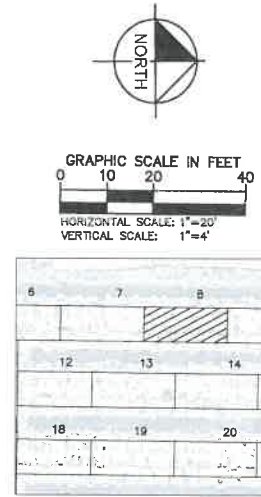
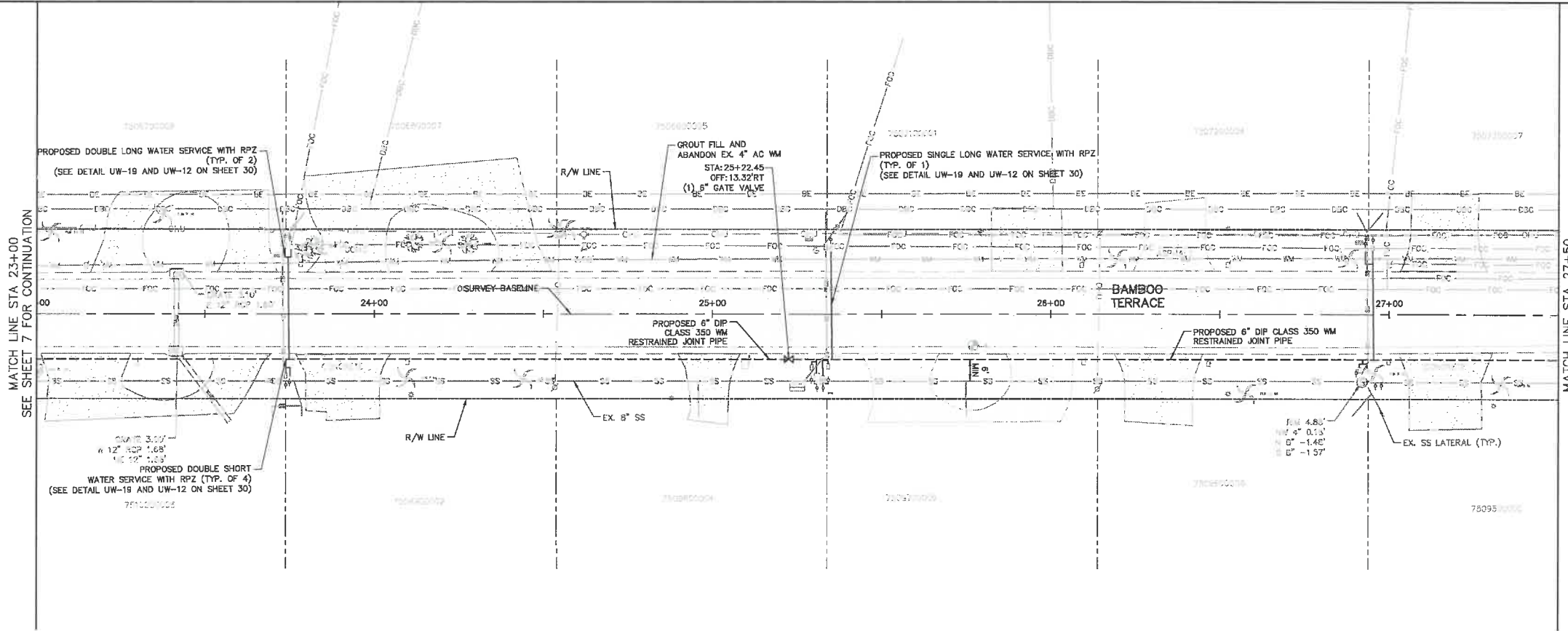
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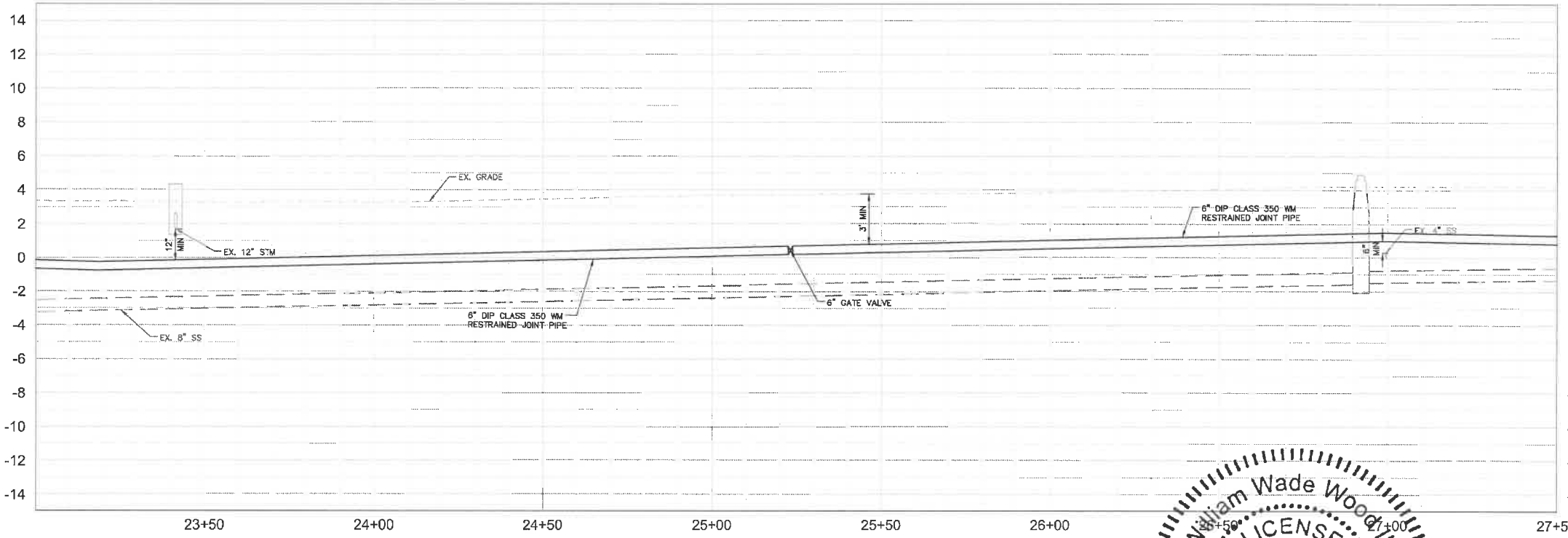
- LEGEND
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- OPEN CUT
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- SIDEWALK/CONCRETE DRIVEWAY RESTORATION
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100 2ND AVENUE SOUTH, SUITE 300S, ST. PETERSBURG, FL 33701
PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT 148400025
DATE 5/3/2019
SCALE AS SHOWN
DESIGNED BY WWW
DRAWN BY LMB
CHECKED BY SNR

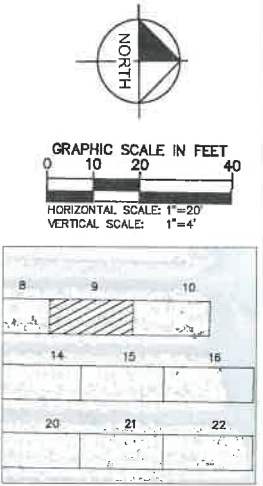
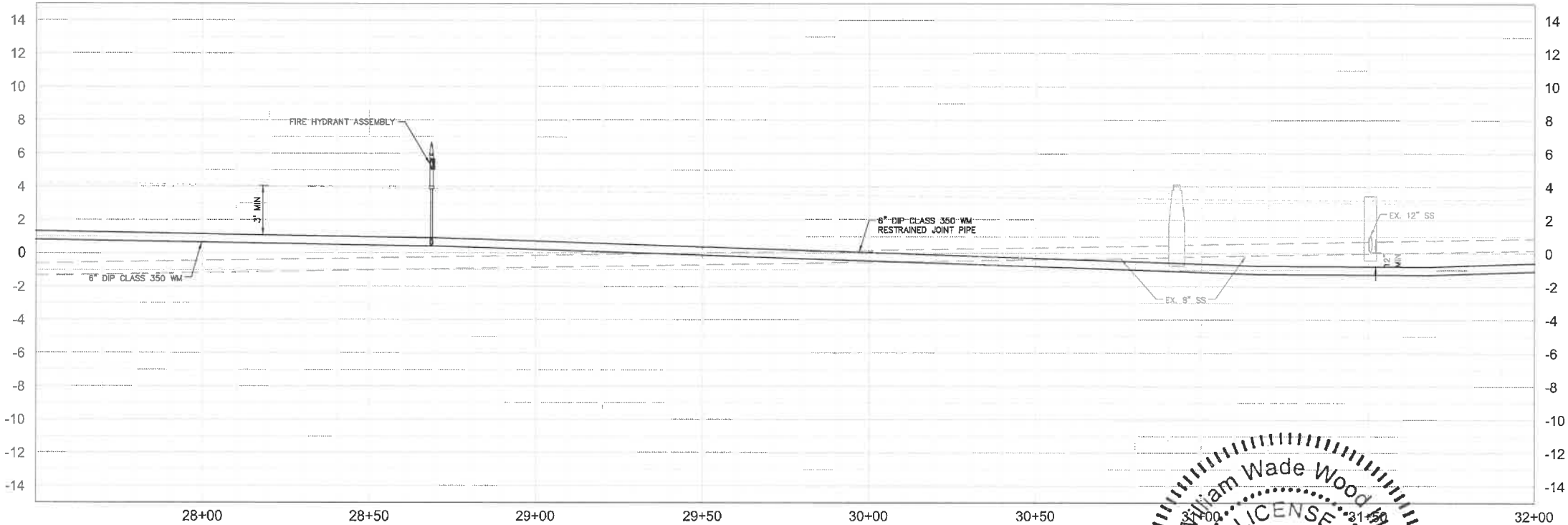
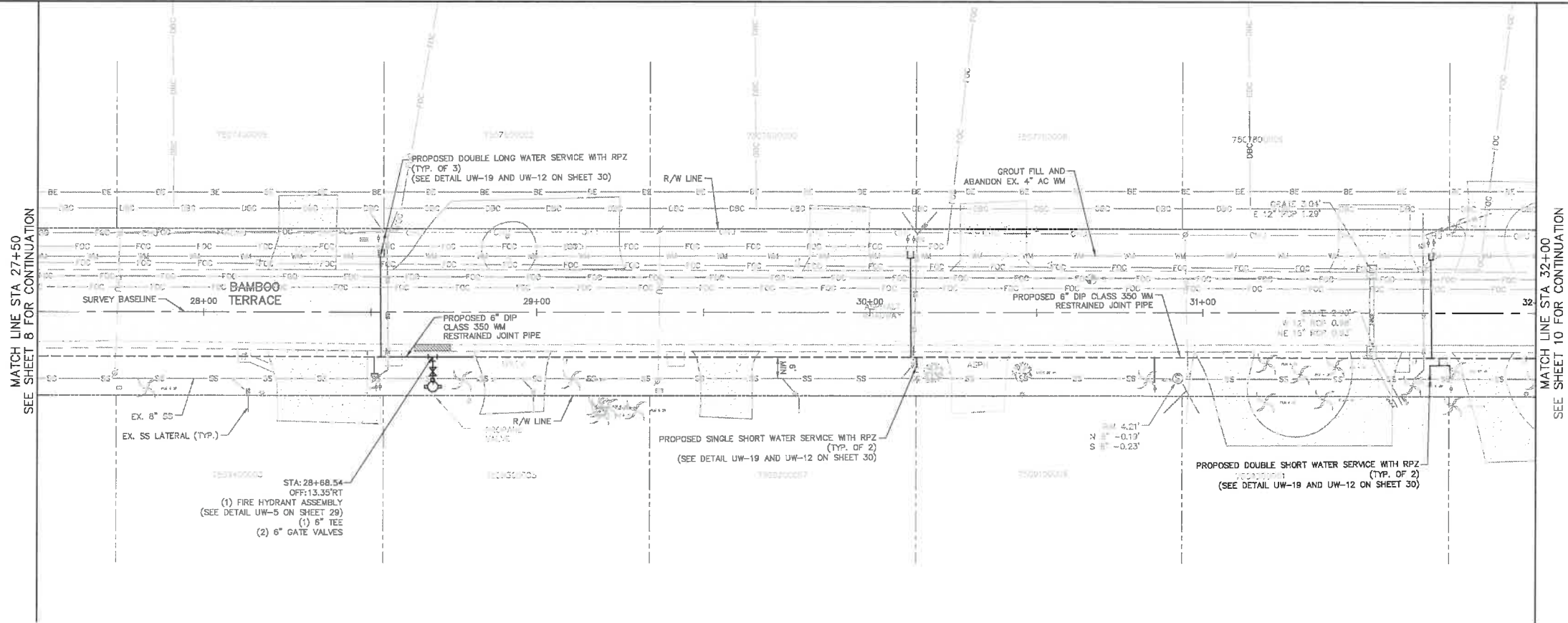
END OF SERVICE LIFE: FY-18
SAN REMO SHORES WM REPLACEMENT
MANATEE COUNTY

Manatee County
FLORIDA

William Wade Wood
LICENSE
No. 69051
PROFESSIONAL ENGINEER

PLAN & PROFILE
BAMBOO TERRACE

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- LEGEND
- CTHDD
 - OPEN CUT
 - ASPHALT DRIVEWAY RESTORATION
 - SIDEWALK/CONCRETE DRIVEWAY RESTORATION
 - BRICK DRIVEWAY RESTORATION
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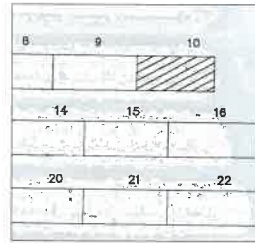
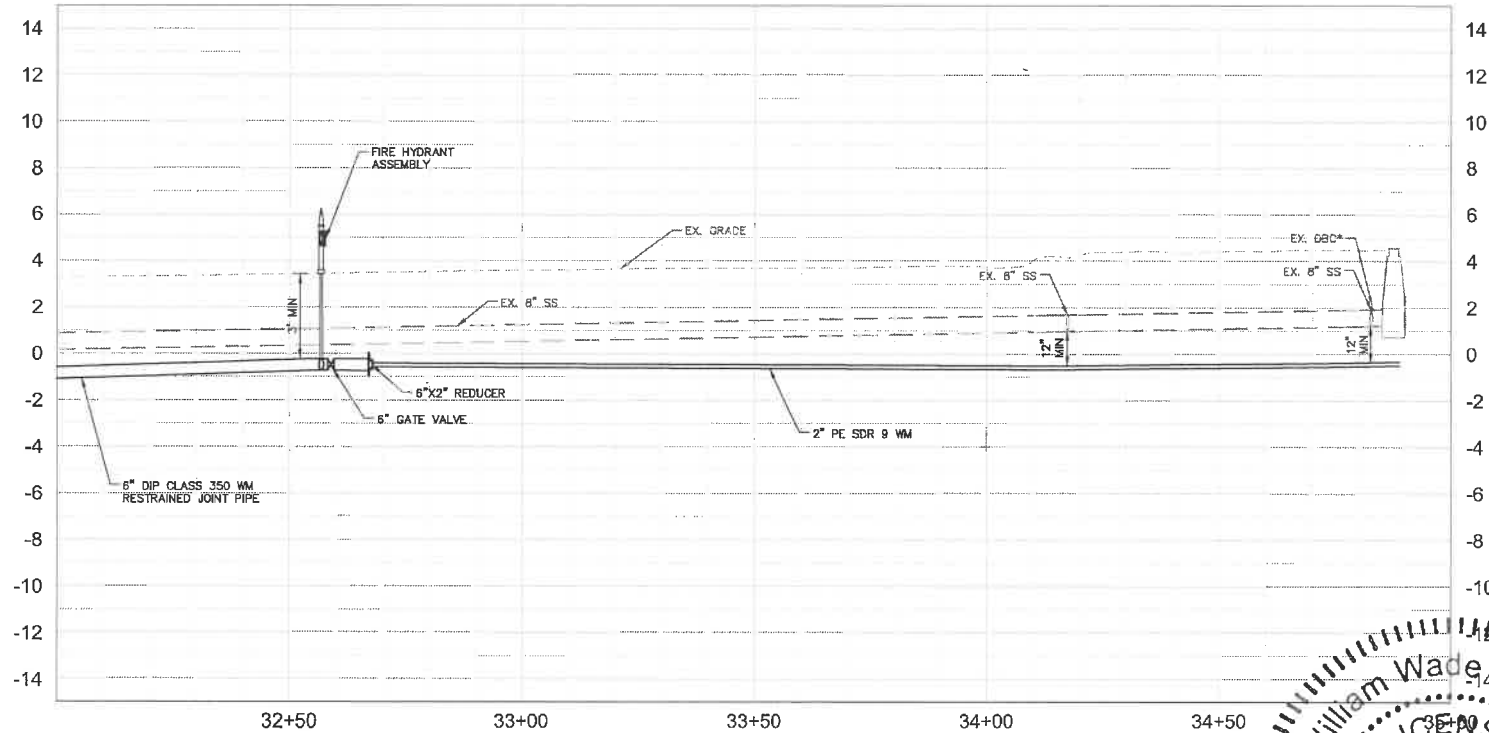
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PLAN & PROFILE BAMBOO TERRACE

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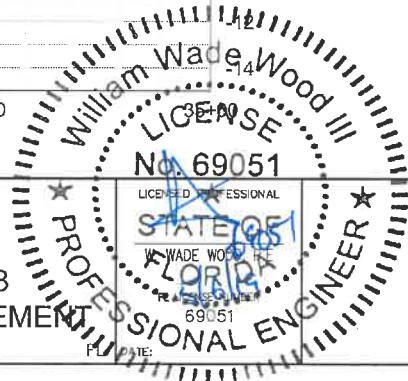
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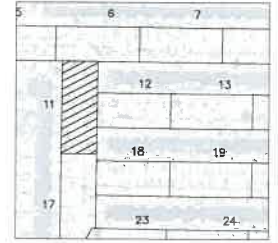
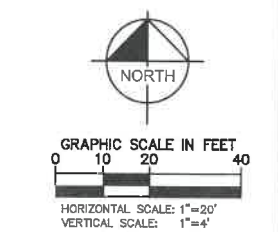
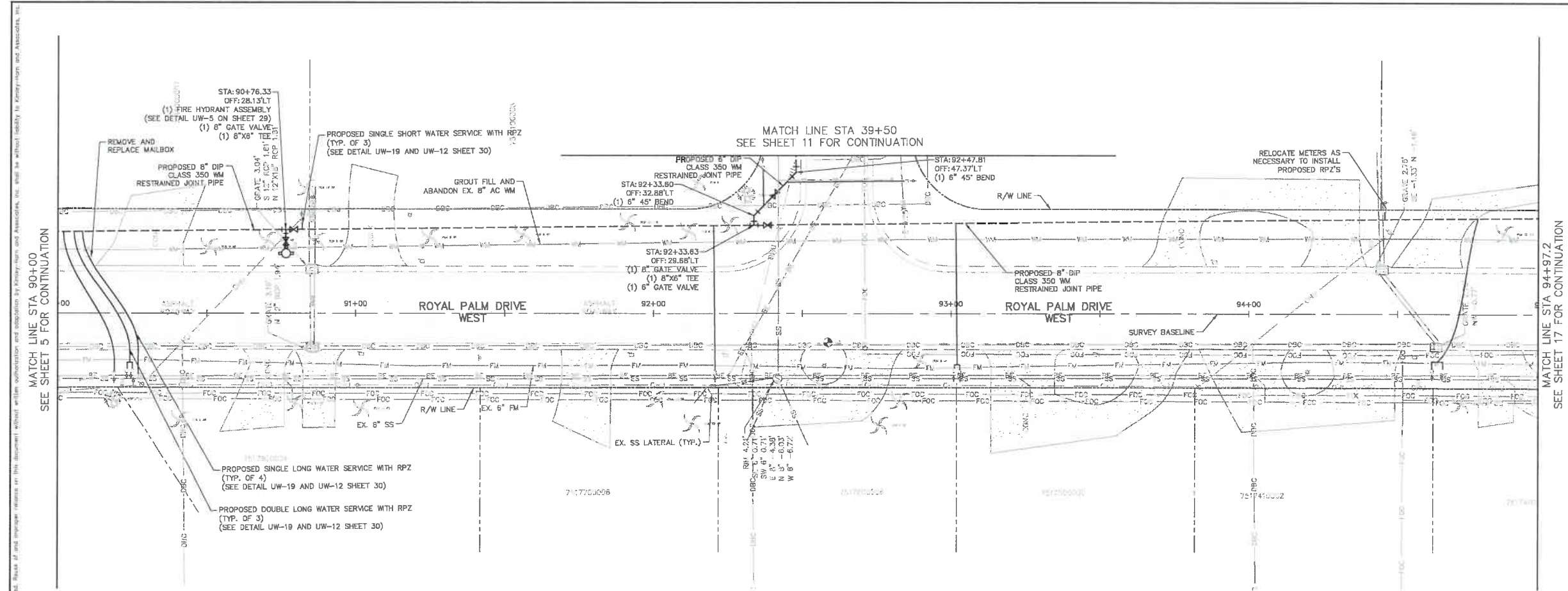
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SANATEE COUNTY



PLAN & PROFILE BAMBOO TERRACE



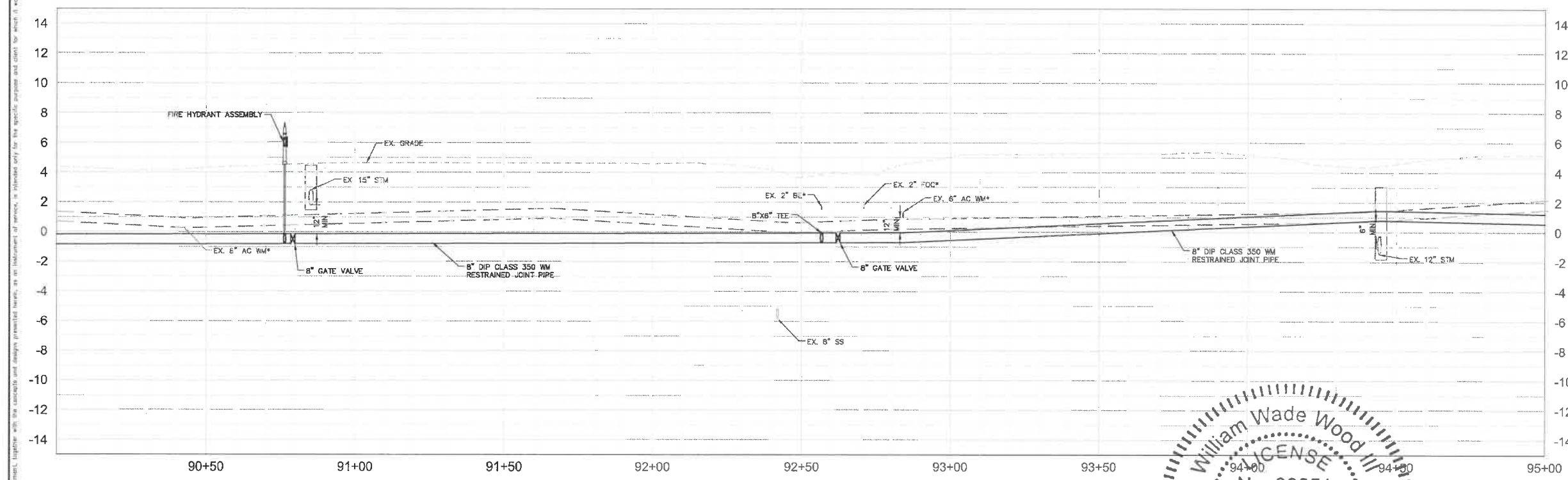
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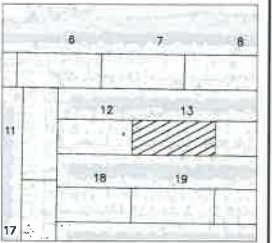
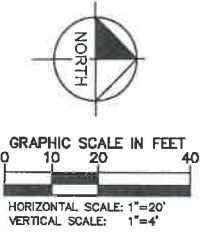
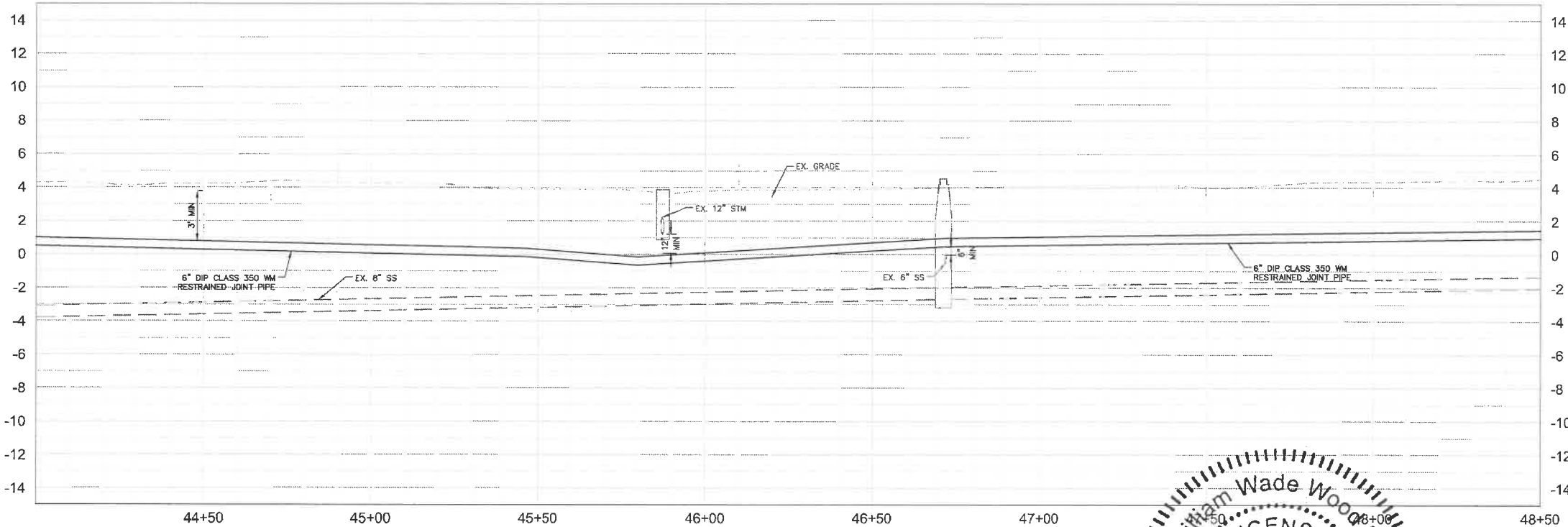
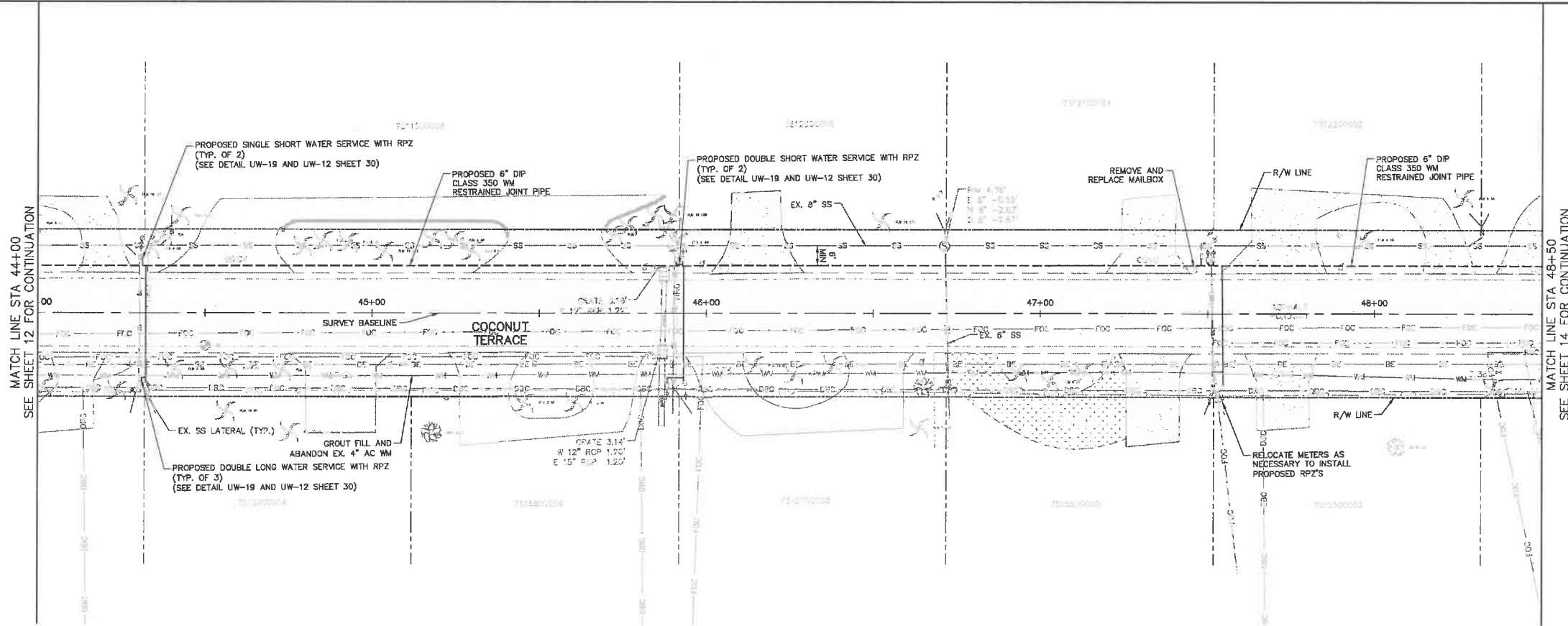
Professional Engineer
William Wade Wood
LICENSE No. 69051
FLORIDA
DATE: 5/3/2019

PLAN & PROFILE ROYAL PALM DRIVE

11

SHEET NUMBER

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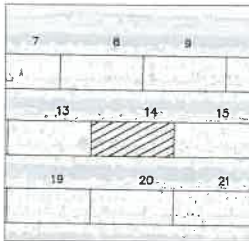
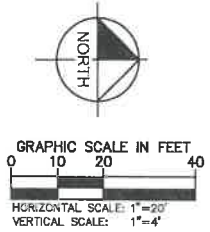
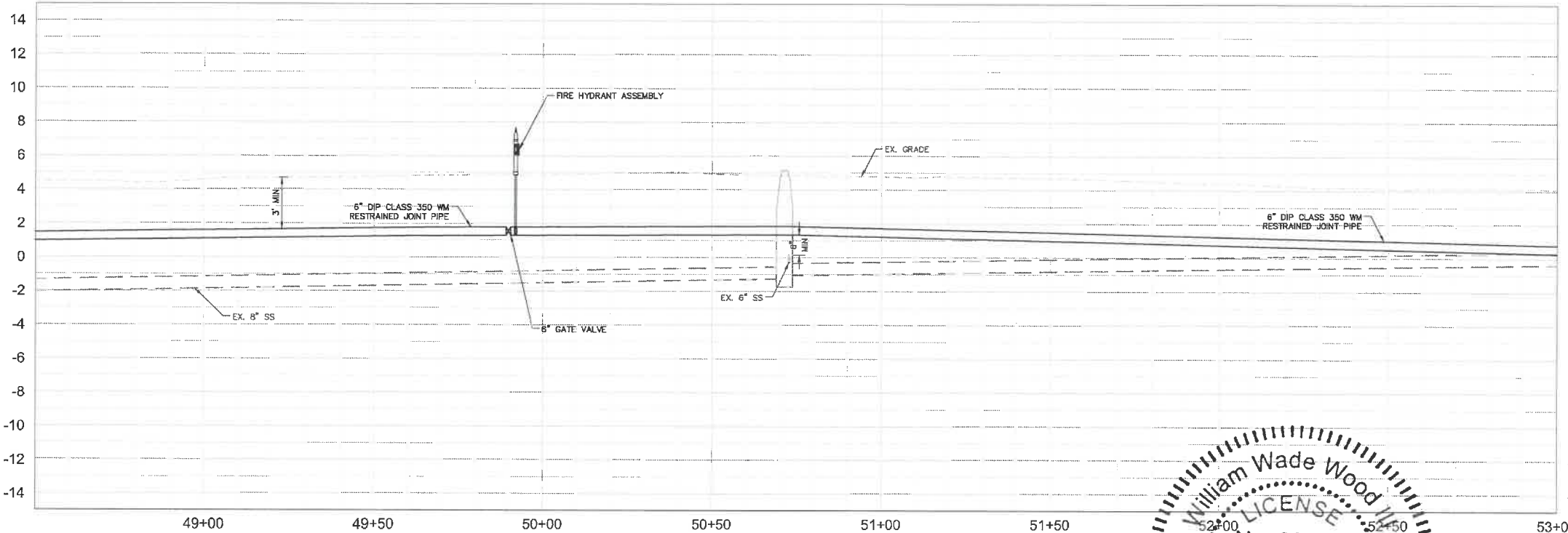
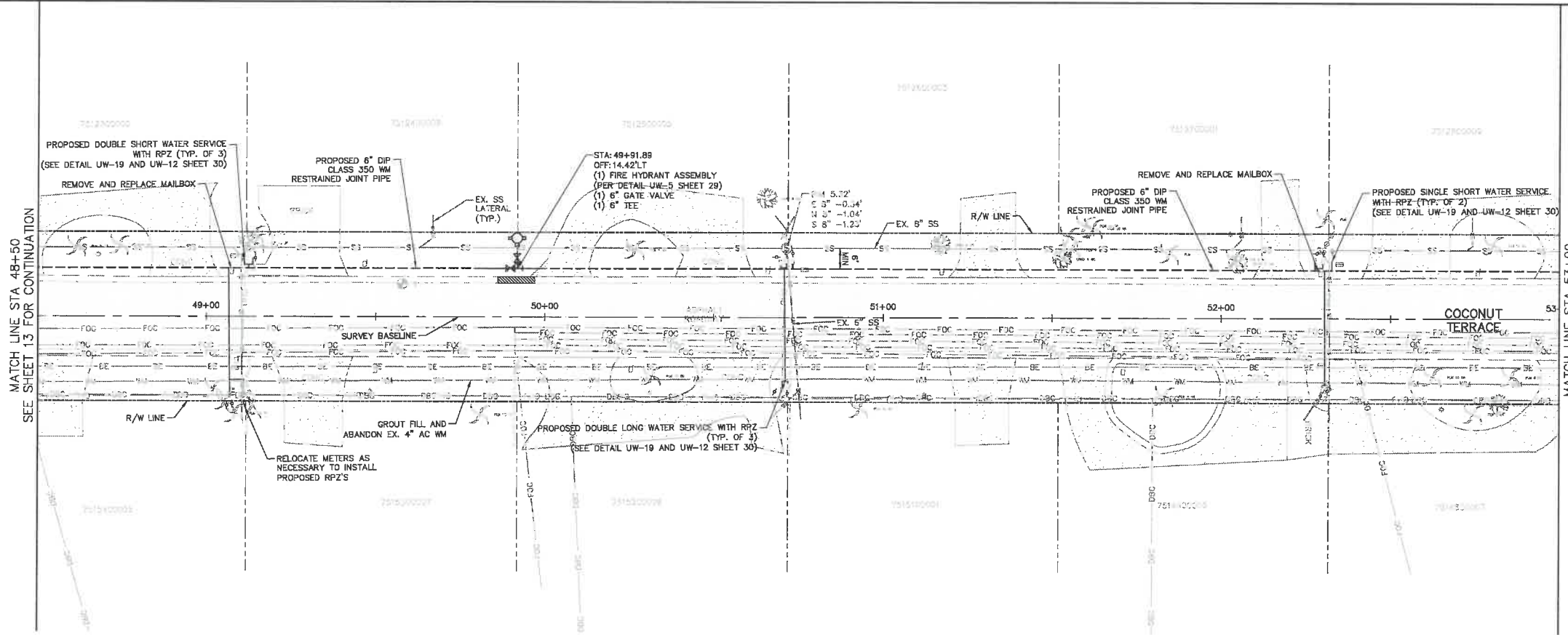
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PLAN & PROFILE
COCONUT TERRACE

SHEET NUMBER
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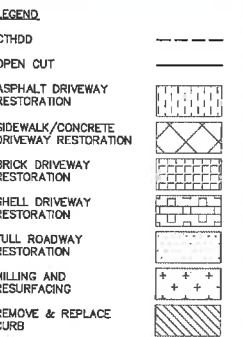
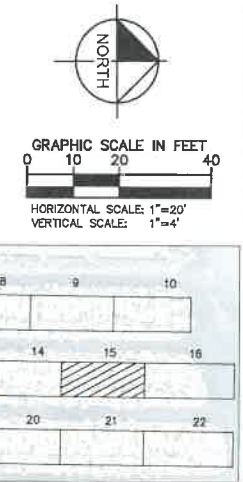
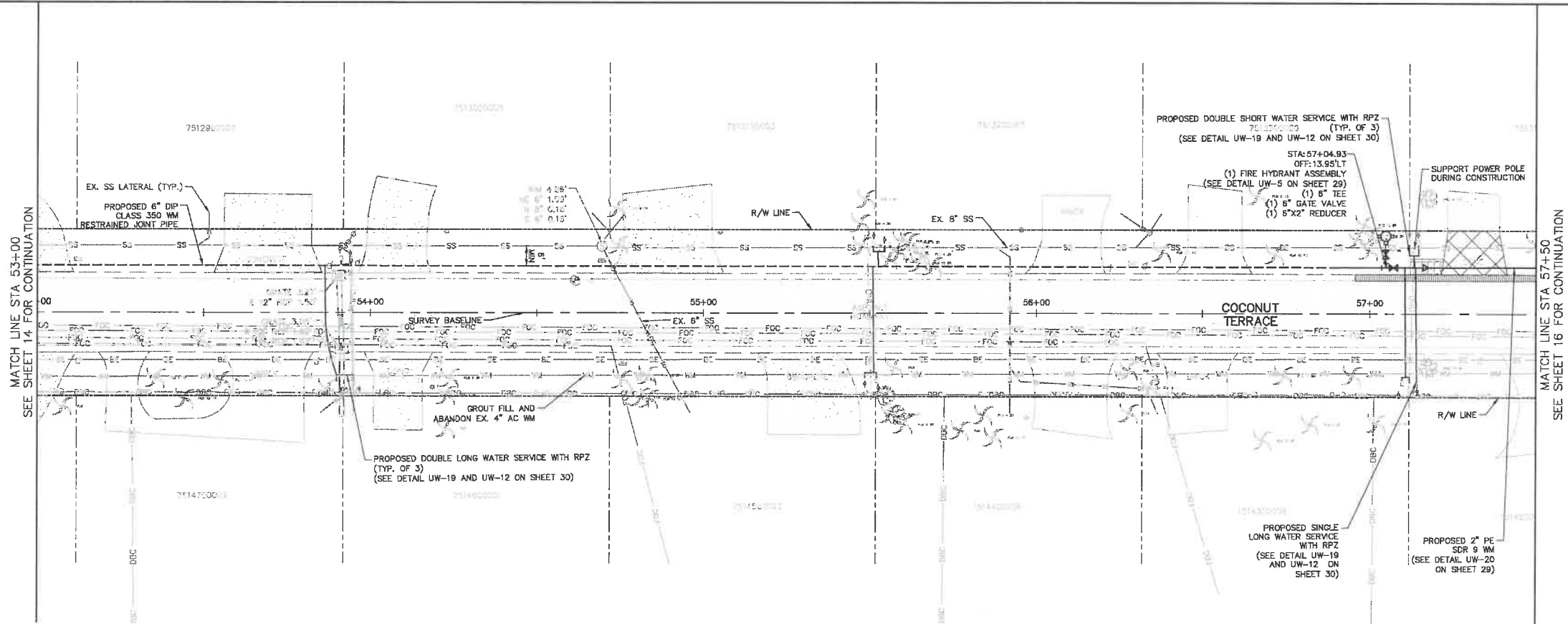
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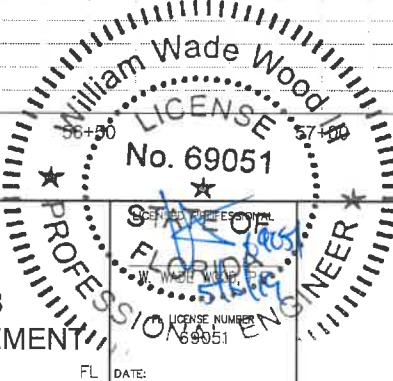
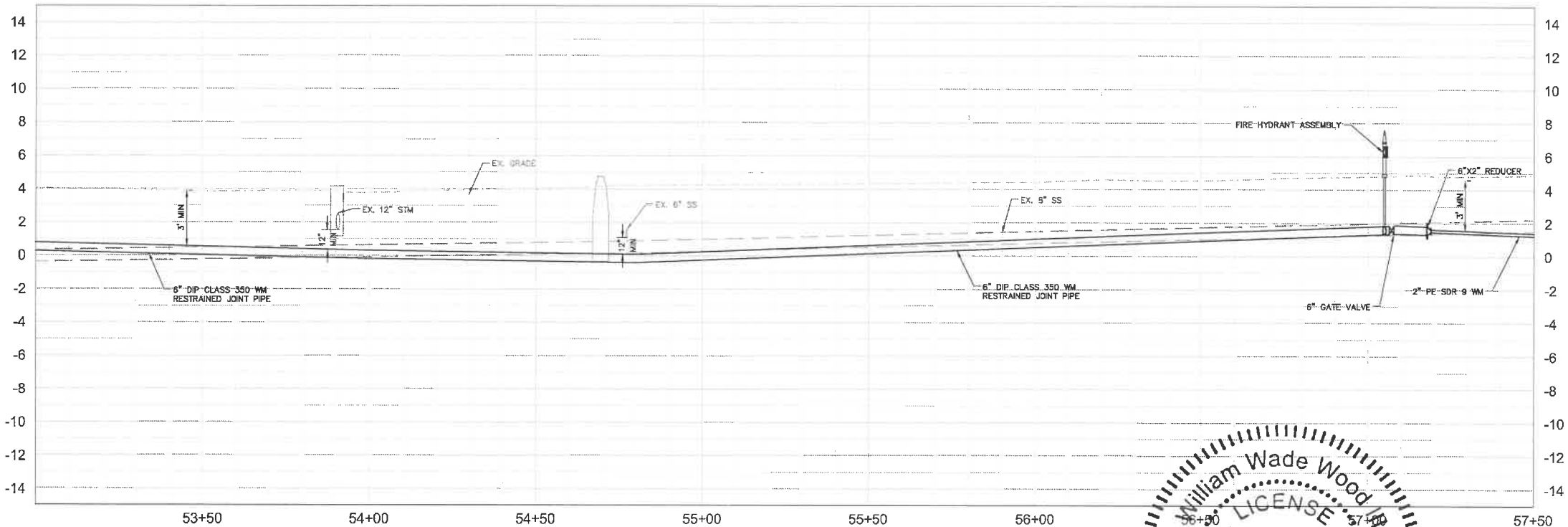


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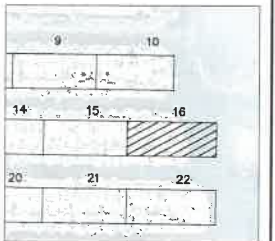
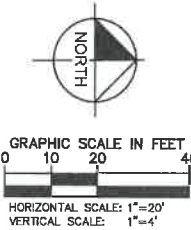
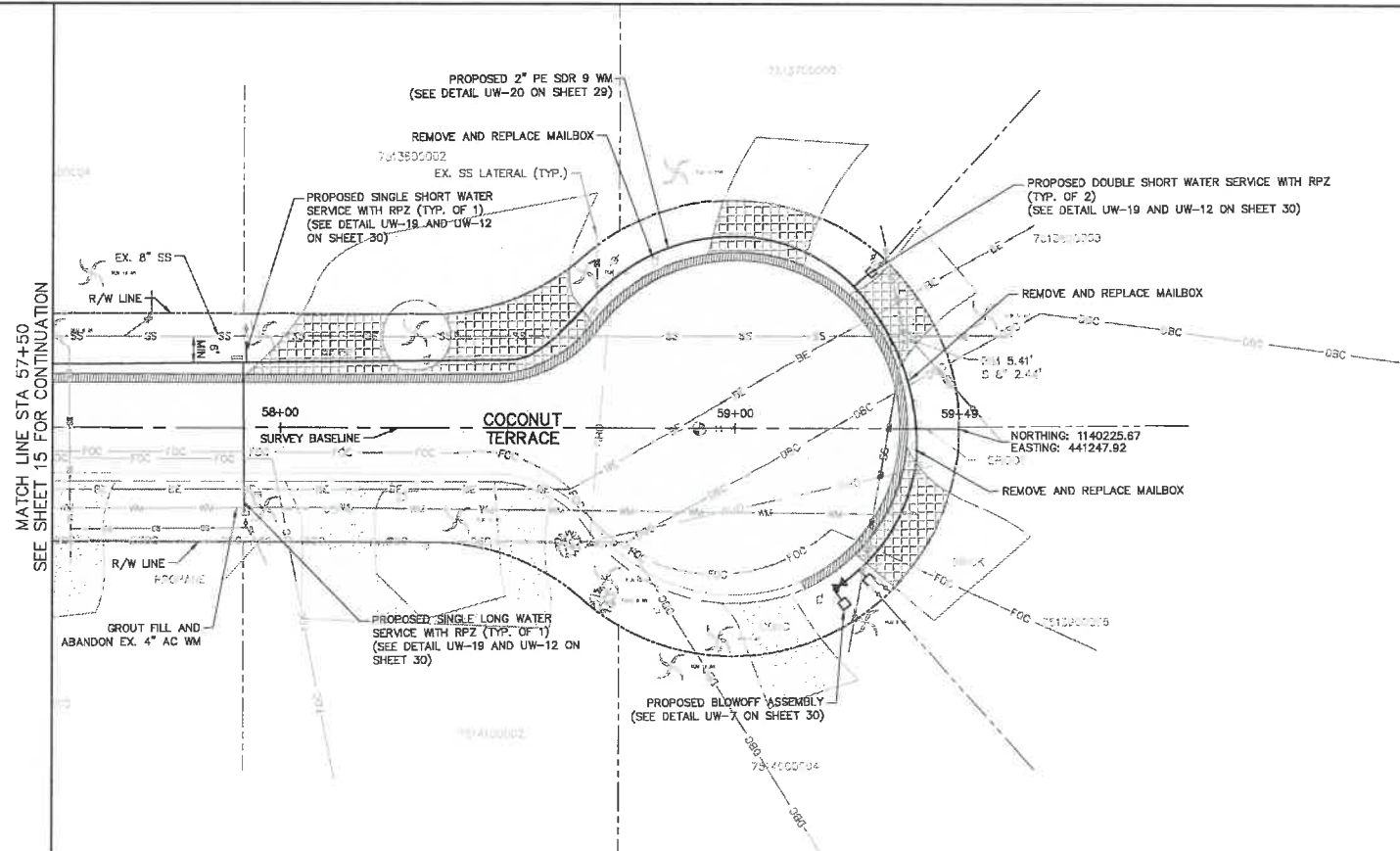
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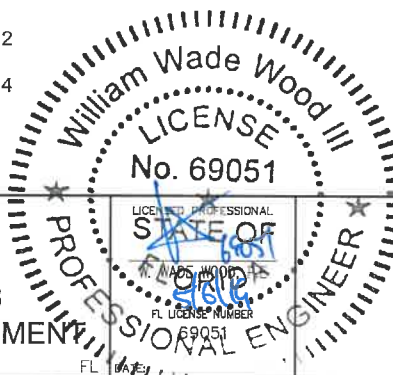
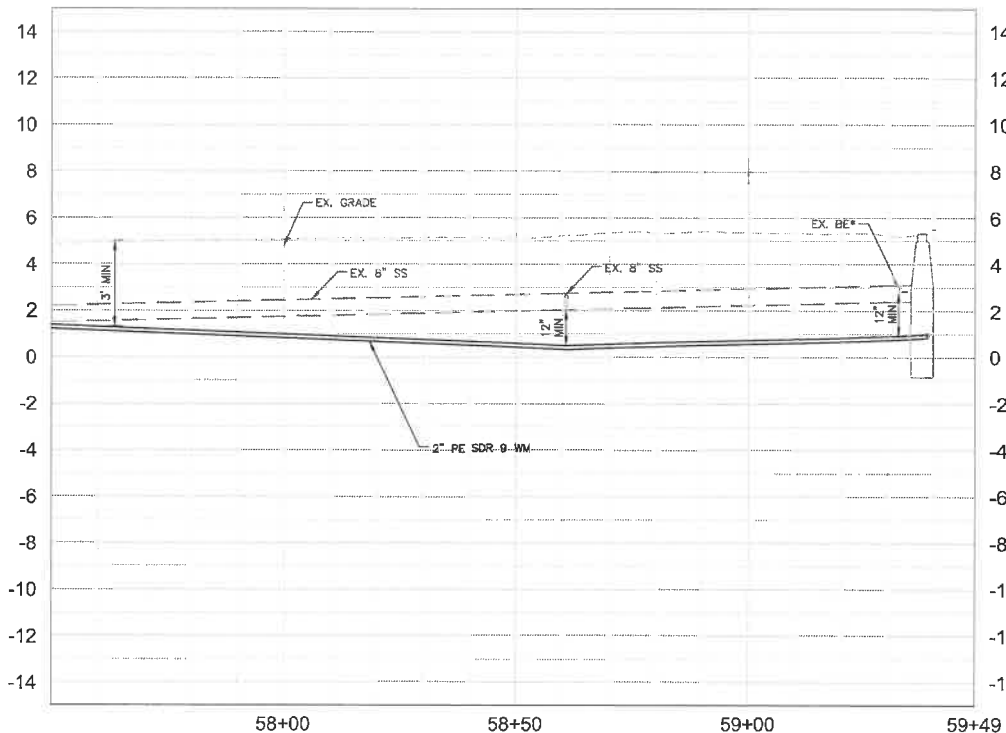
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SIDEWALK/CONCRETE DRIVEWAY RESTORATION	[Pattern]
BRICK DRIVEWAY RESTORATION	[Pattern]
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PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT
148400025
DATE
5/3/2019
SCALE AS SHOWN
DESIGNED BY WWW
DRAWN BY LMB
CHECKED BY SNR



END OF SERVICE LIFE: FY-18
SAN REMO SHORES WM REPLACEMENT
MANATEE COUNTY

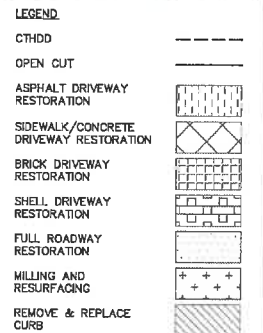
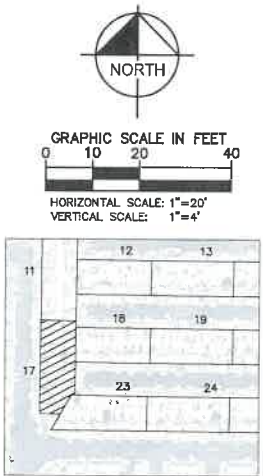
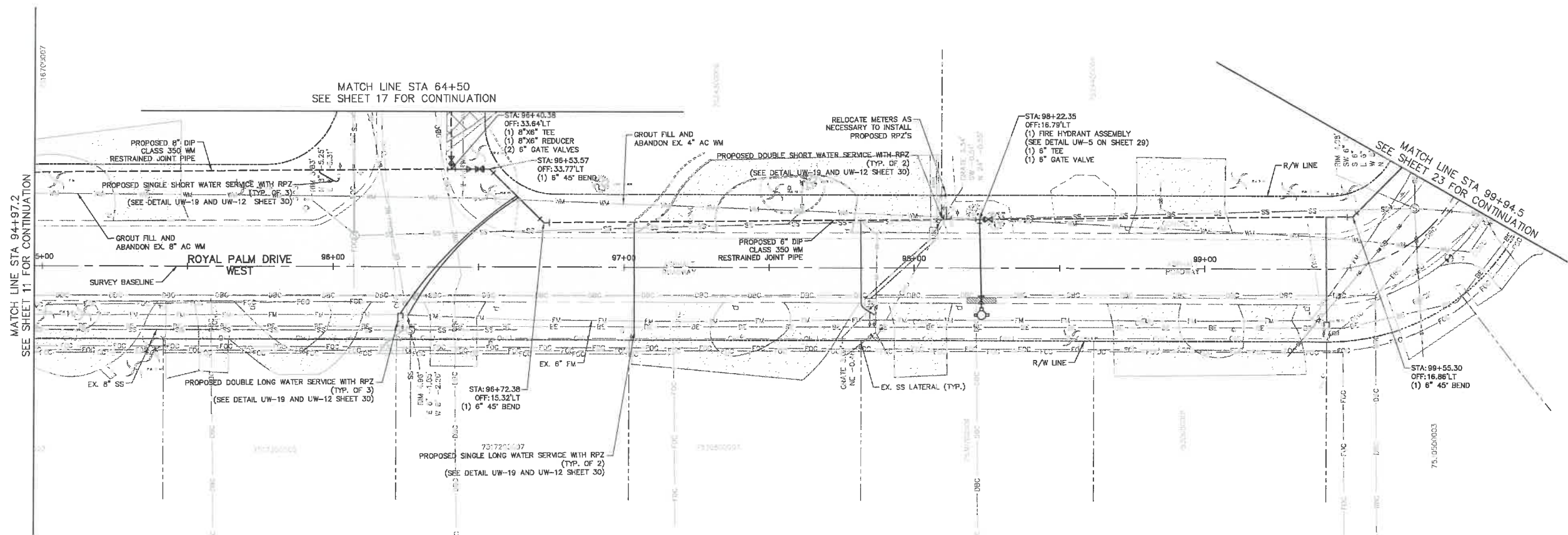
PLAN & PROFILE
COCONUT TERRACE

SHEET NUMBER

16

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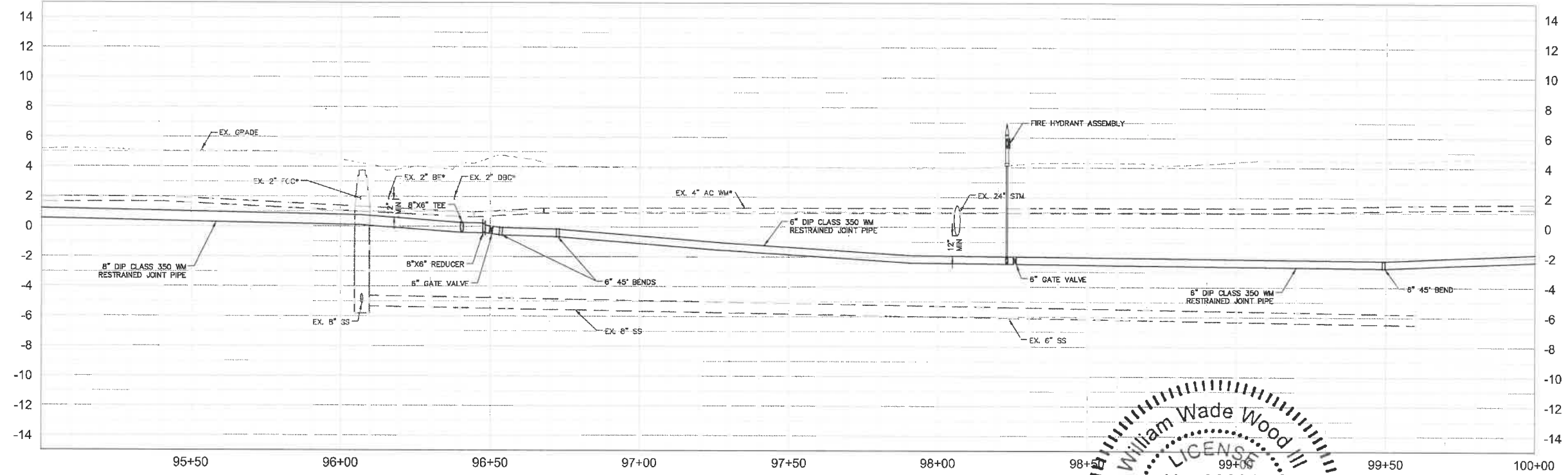


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KHA PROJECT 148400025
DATE 5/3/2019
SCALE AS SHOWN
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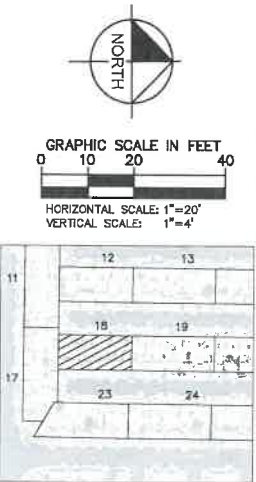
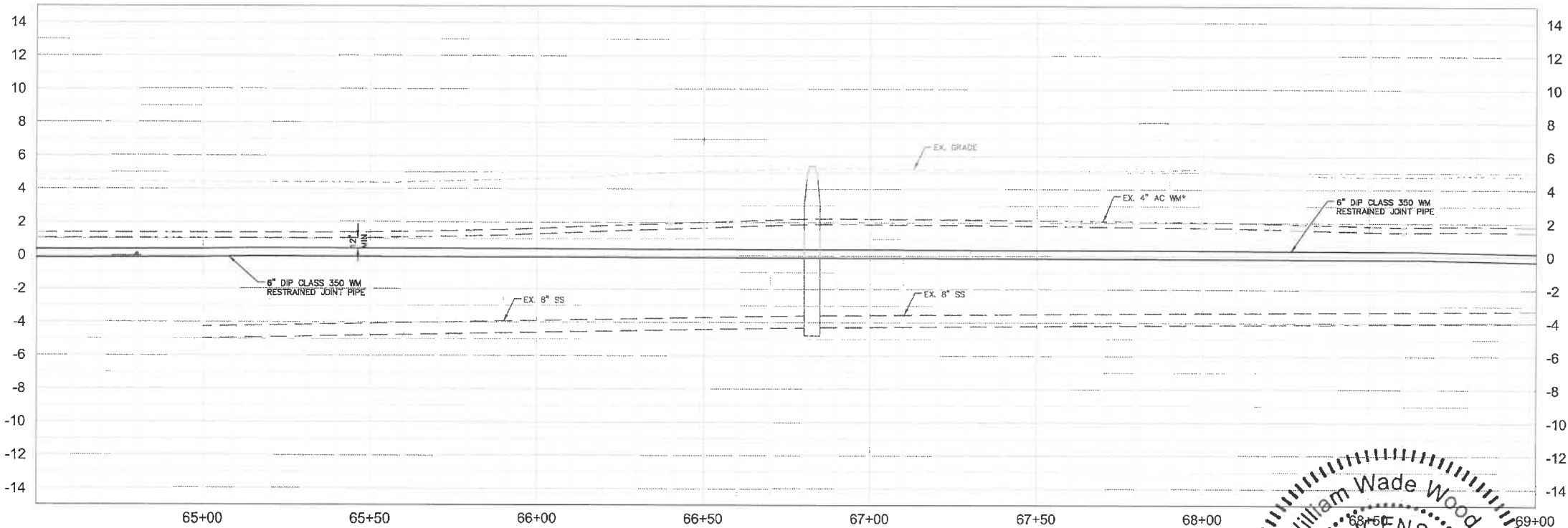
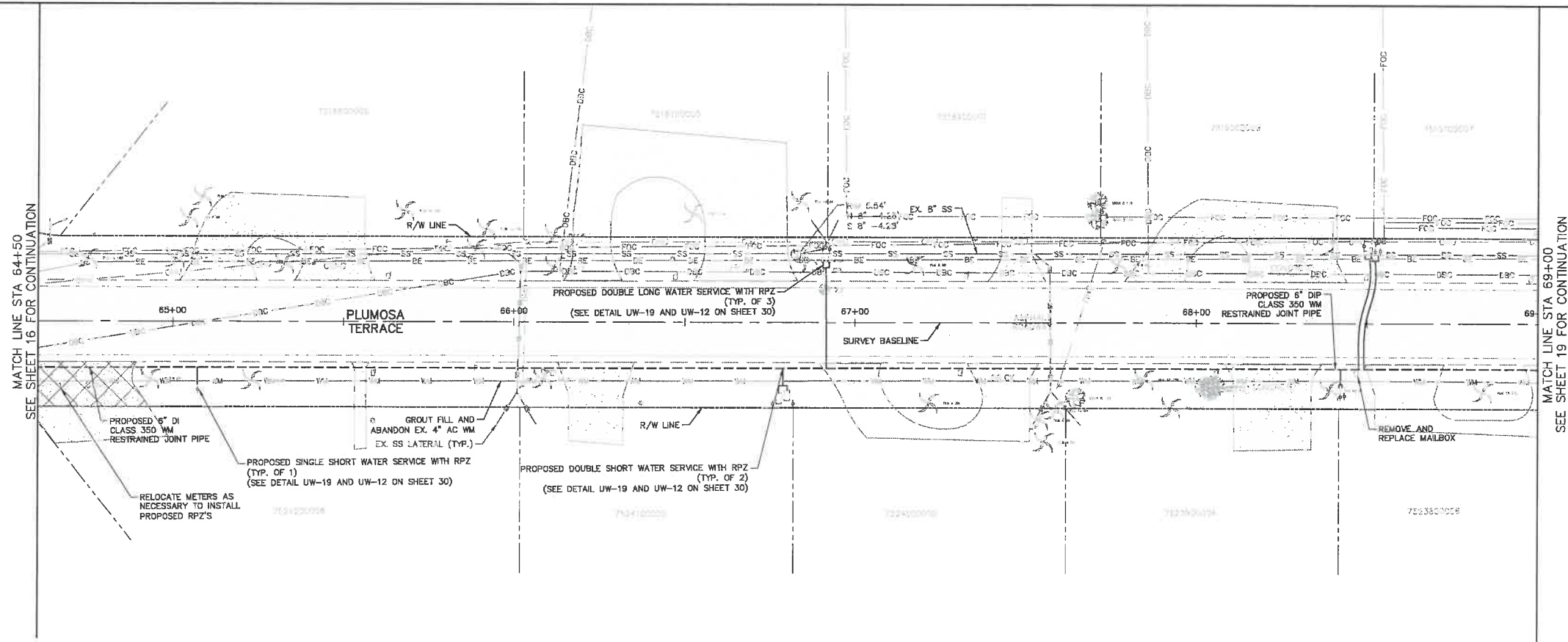
END OF SERVICE LIFE: FY-18
SAN REMO SHORES WM REPLACEMENT
MANATEE COUNTY

William Wade Wood III
LICENSED PROFESSIONAL ENGINEER
No. 69051
STATE OF FLORIDA
DATE: 5/18/19

PLAN & PROFILE ROYAL PALM DRIVE

SHEET NUMBER
17

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LEGEND

CTHDD	---
OPEN CUT	---
ASPHALT DRIVEWAY RESTORATION	[Pattern]
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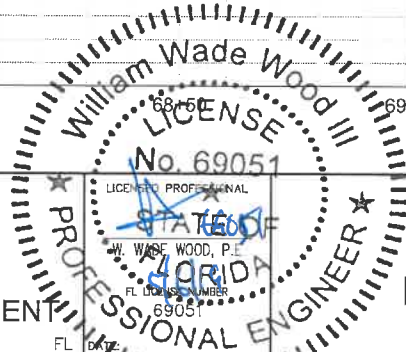


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KHA PROJECT 148400025
DATE 5/3/2019
SCALE AS SHOWN
DESIGNED BY WWW
DRAWN BY LMB
CHECKED BY SNR

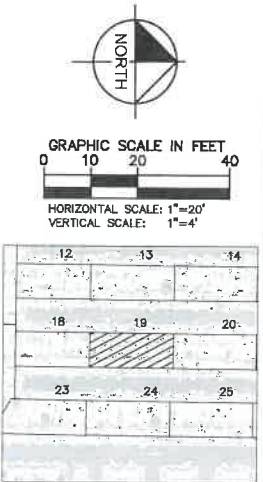
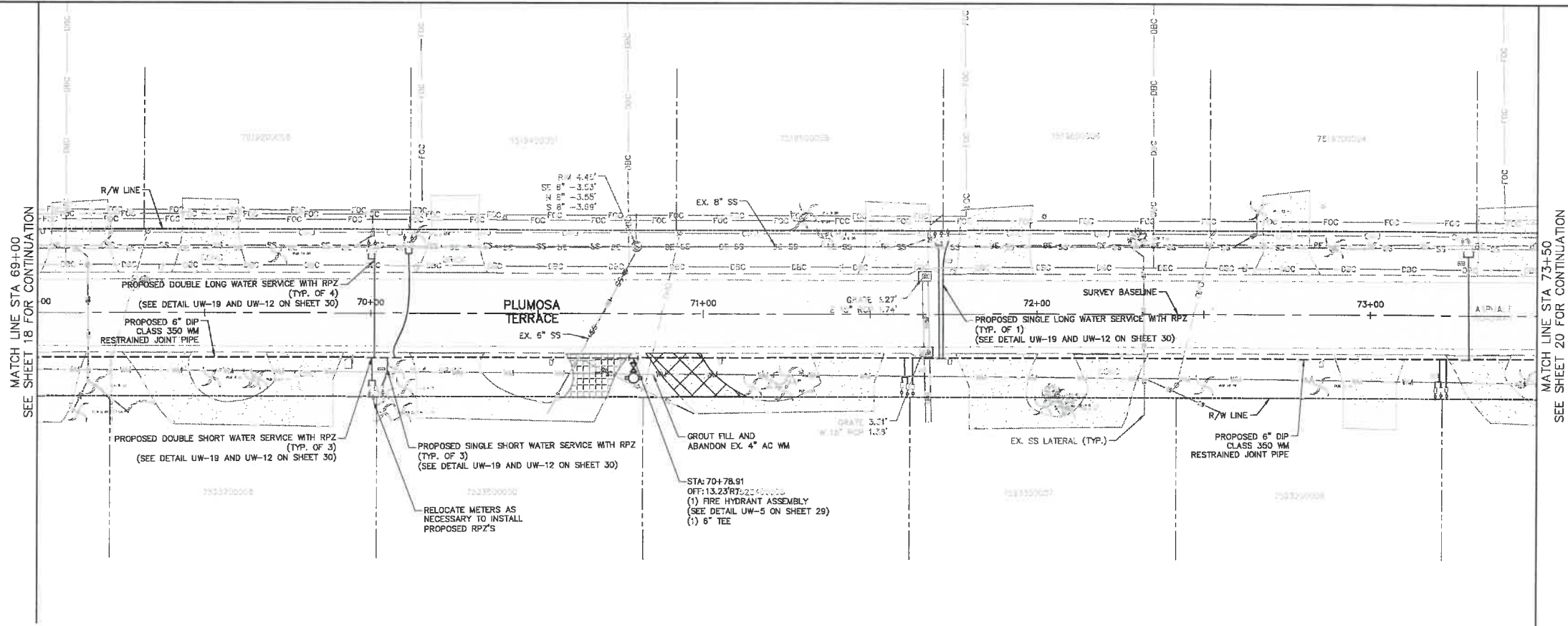
Manatee County
END OF SERVICE LIFE: FY-18
SAN REMO SHORES WM REPLACEMENT
MANATEE COUNTY



PLAN & PROFILE
PLUMOSA TERRACE

SHEET NUMBER
18

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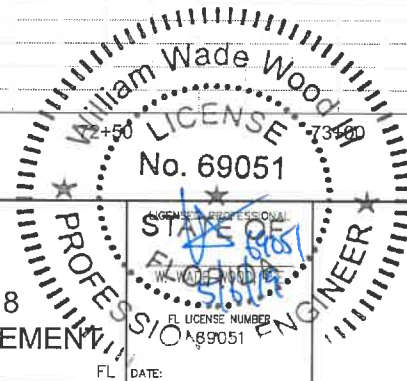
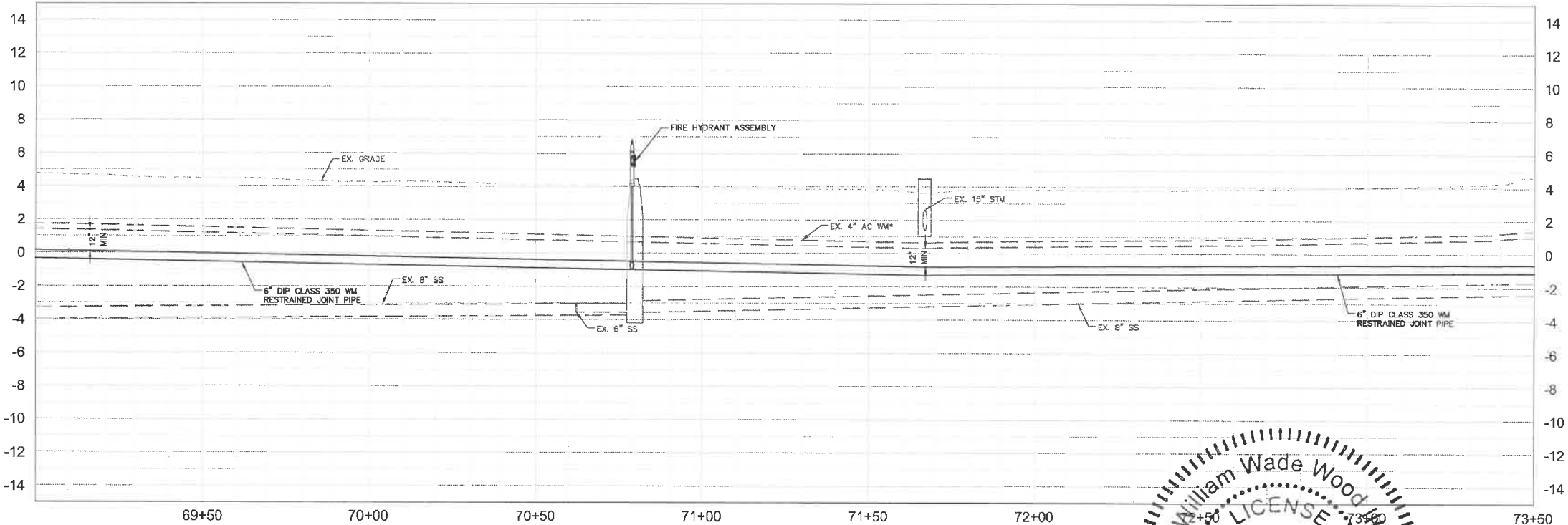
- LEGEND
- CTHDD
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KHA PROJECT
148400025
DATE
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SCALE AS SHOWN
DESIGNED BY WWW
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END OF SERVICE LIFE: FY-18
SAN REMO SHORES WM REPLACEMENT
MANATEE COUNTY

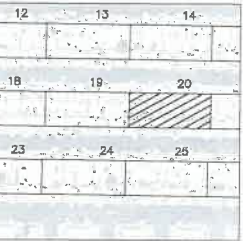
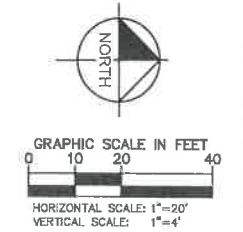
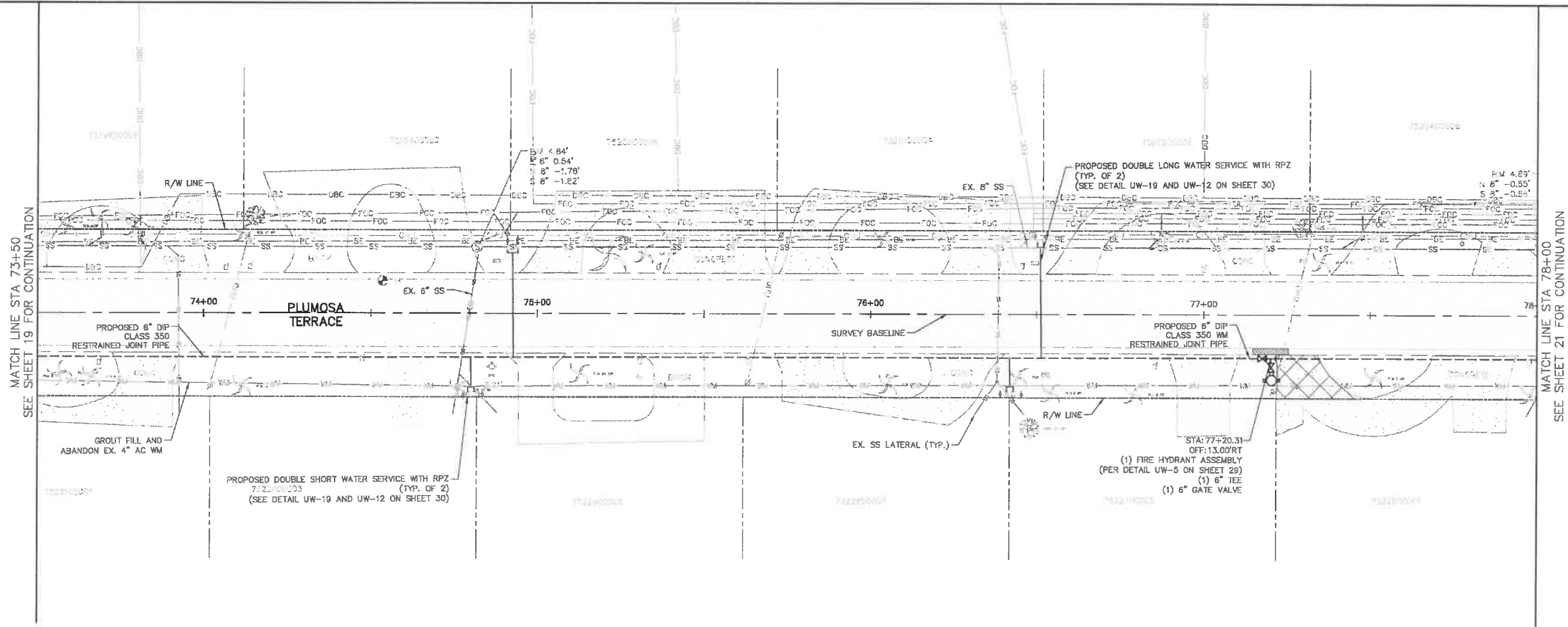
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PLUMOSA TERRACE

SHEET NUMBER

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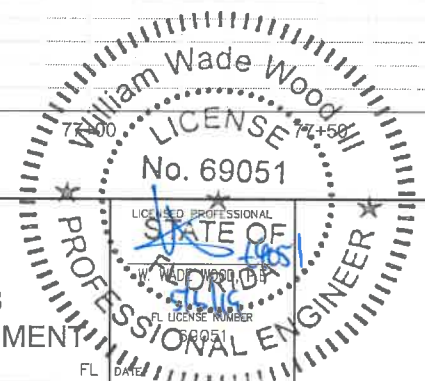
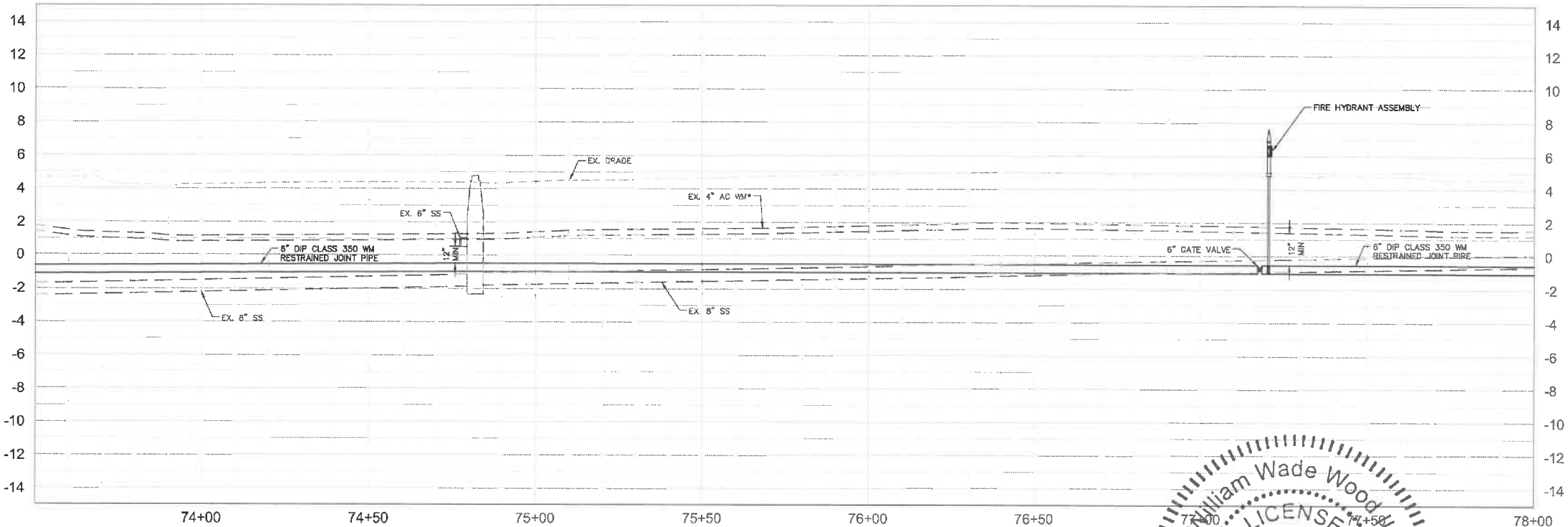
- LEGEND**
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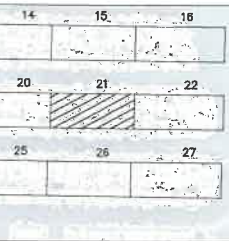
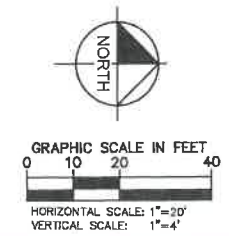
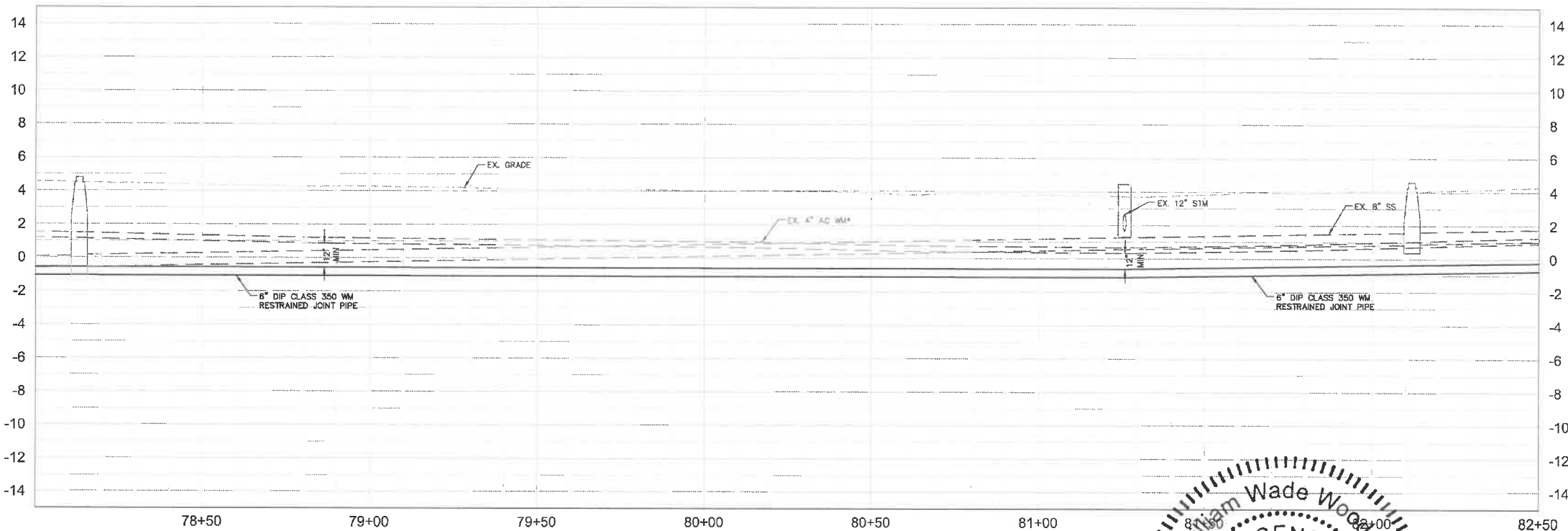
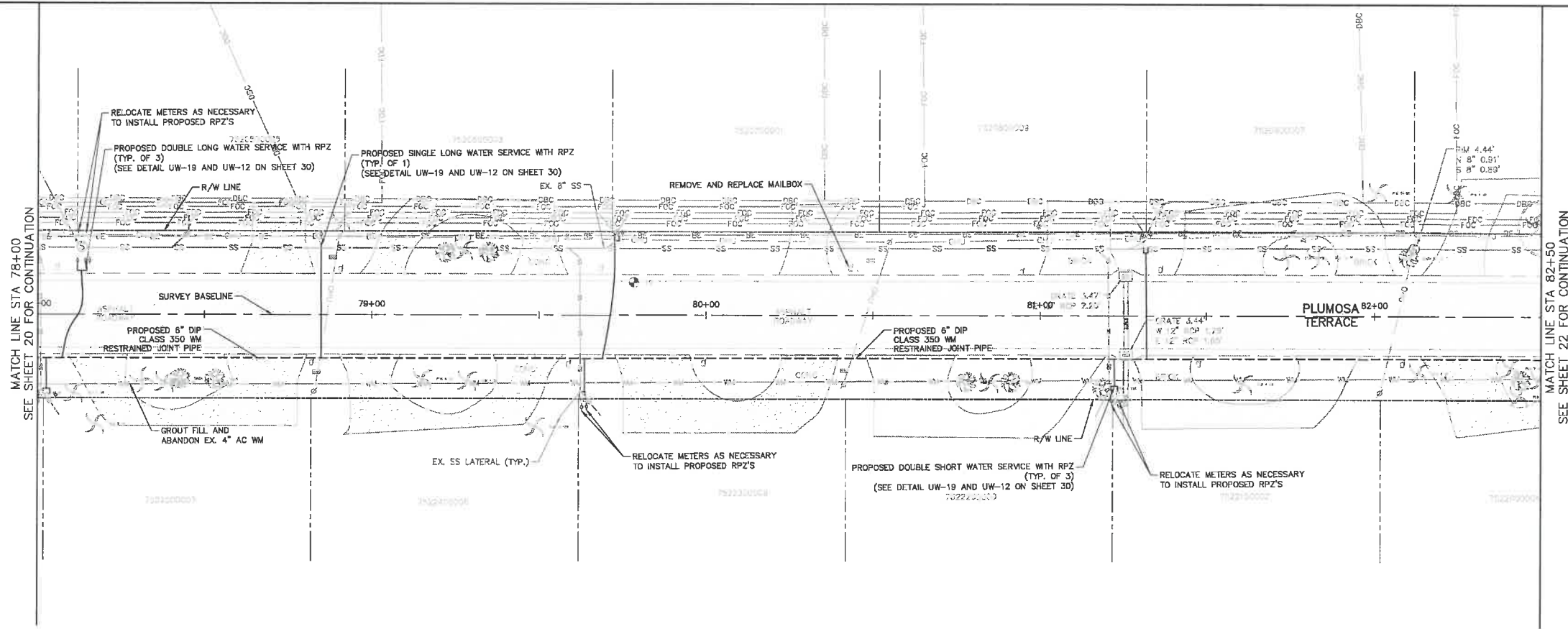
END OF SERVICE LIFE: FY-18
SAN REMO SHORES WM REPLACEMENT
MANATEE COUNTY

FLORIDA
PROFESSIONAL ENGINEER
WILLIAM WADE WOOD
LICENSE NO. 69051
DATE

PLAN & PROFILE
PLUMOSA TERRACE

SHEET NUMBER
20

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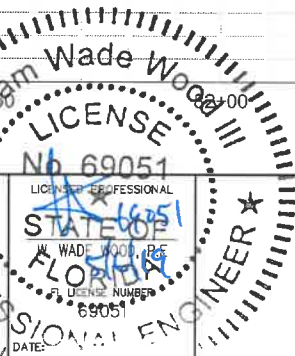
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Manatee County

END OF SERVICE LIFE: FY-18

SAN REMO SHORES WM REPLACEMENT

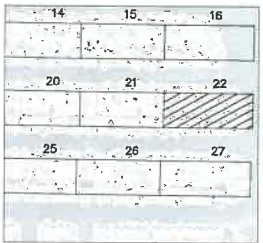
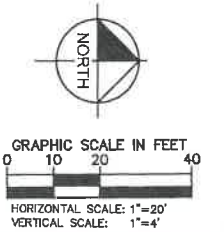
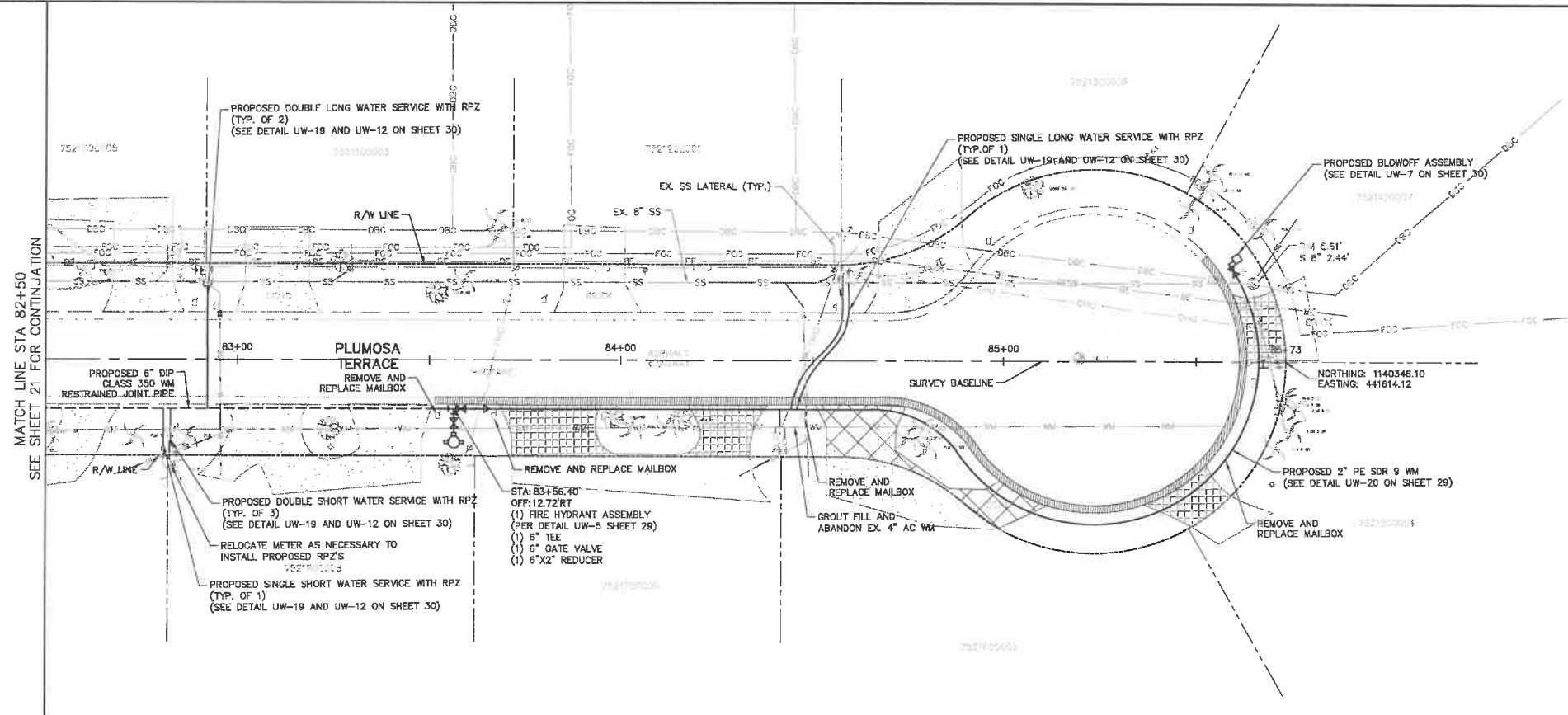
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LEGEND

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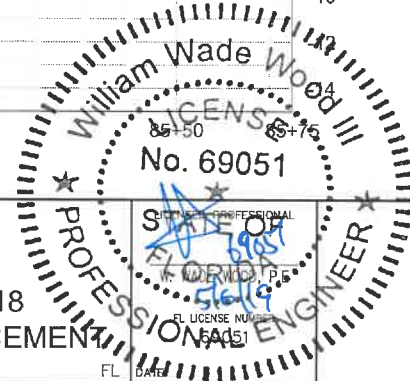
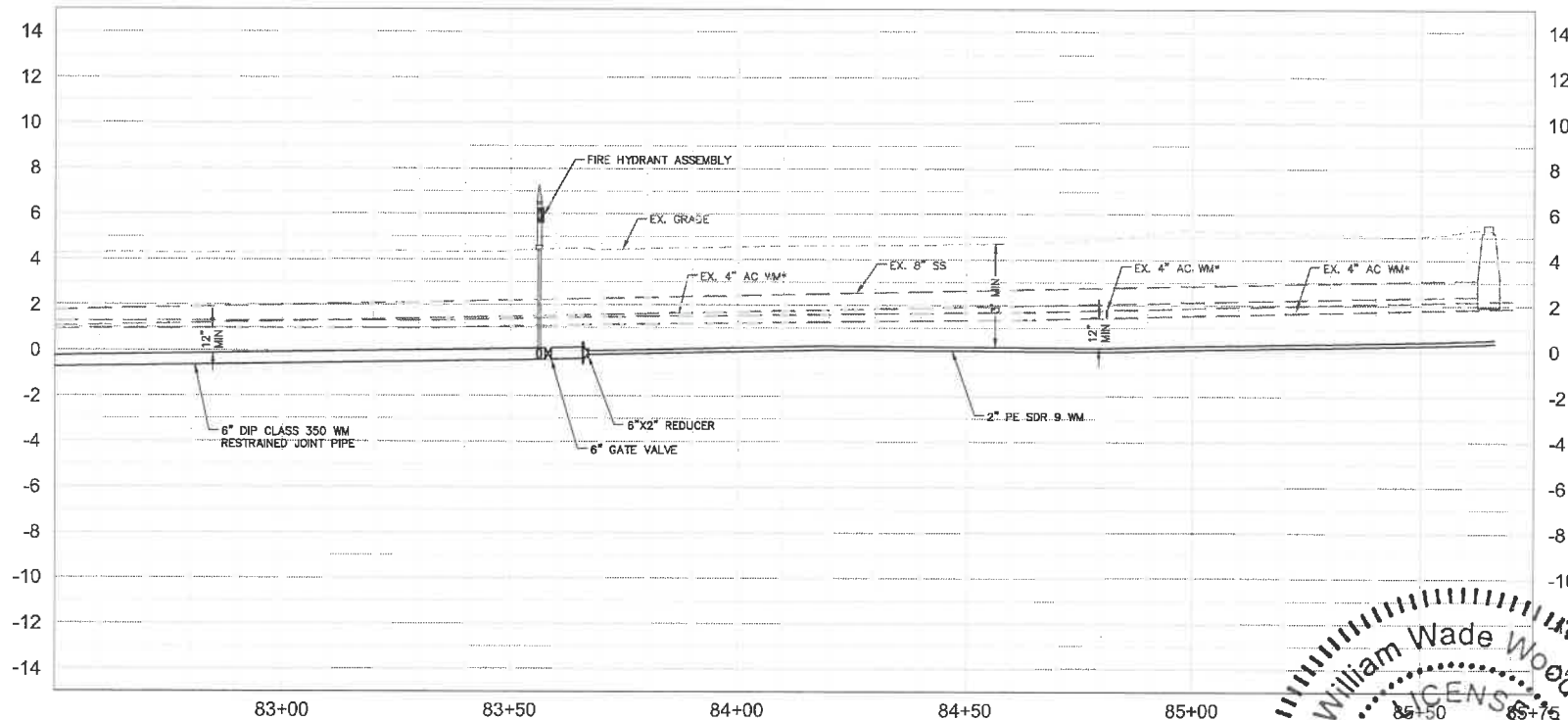
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KHA PROJECT
148400025
DATE
5/3/2019
SCALE AS SHOWN
DESIGNED BY WWW
DRAWN BY LMB
CHECKED BY SNR



END OF SERVICE LIFE: FY-18
SAN REMO SHORES WM REPLACEMENT

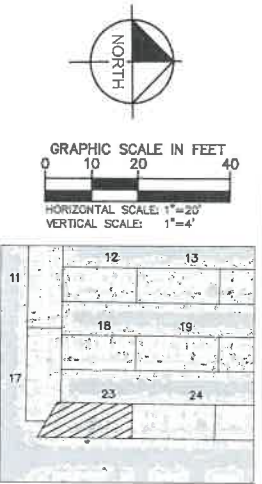
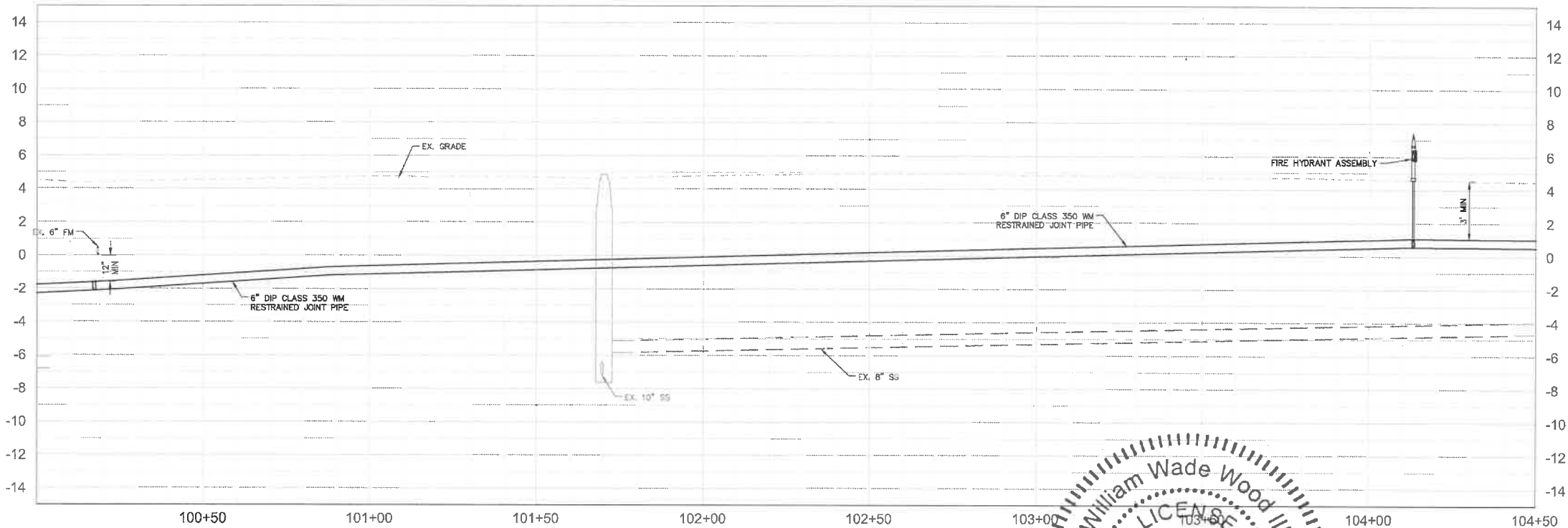
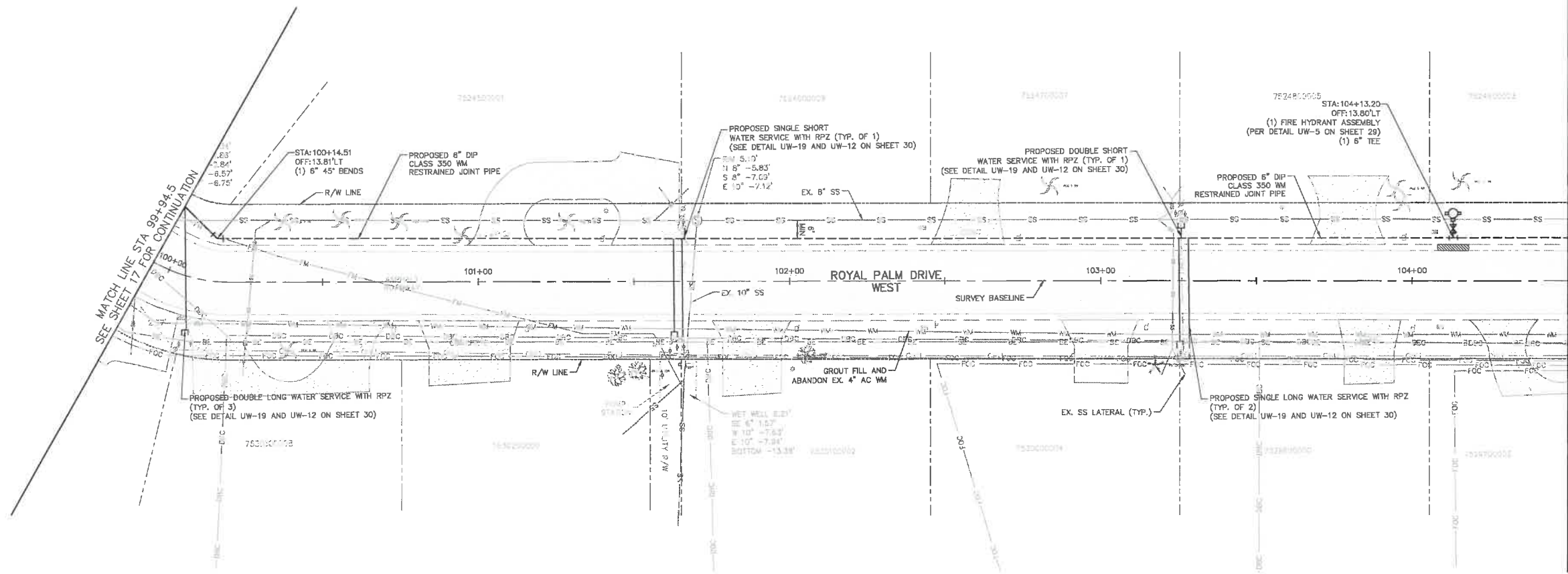
PLAN & PROFILE
PLUMOSA TERRACE

SHEET NUMBER

22

No.	REVISIONS	DATE	BY

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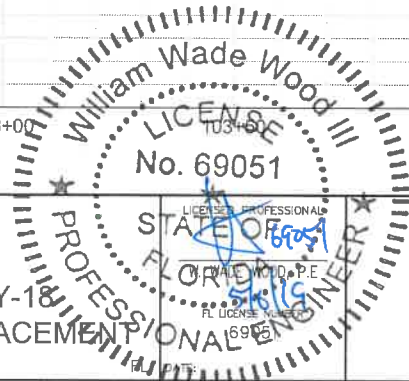
- LEGEND**
- CTHDD
 - OPEN CUT
 - ASPHALT DRIVEWAY RESTORATION
 - SIDEWALK/CONCRETE DRIVEWAY RESTORATION
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KHA PROJECT
148400025
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5/3/2019
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END OF SERVICE LIFE: FY-18
SAN REMO SHORES WM REPLACEMENT
MANATEE COUNTY

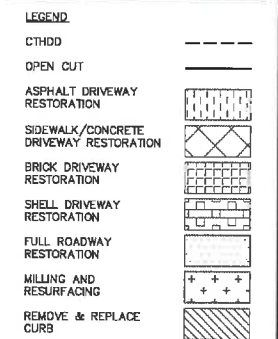
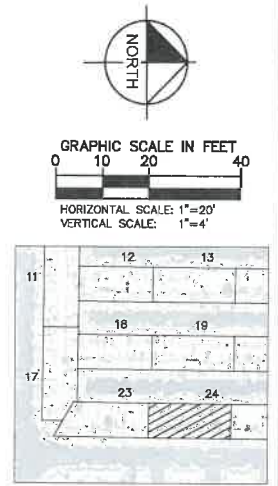
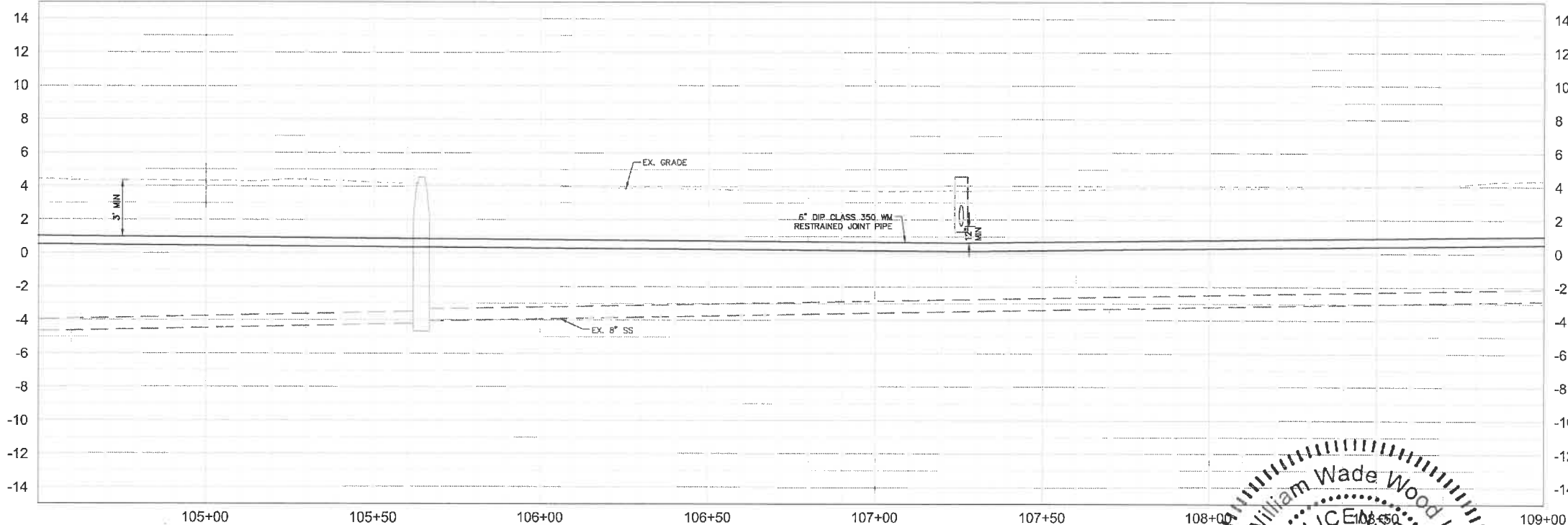
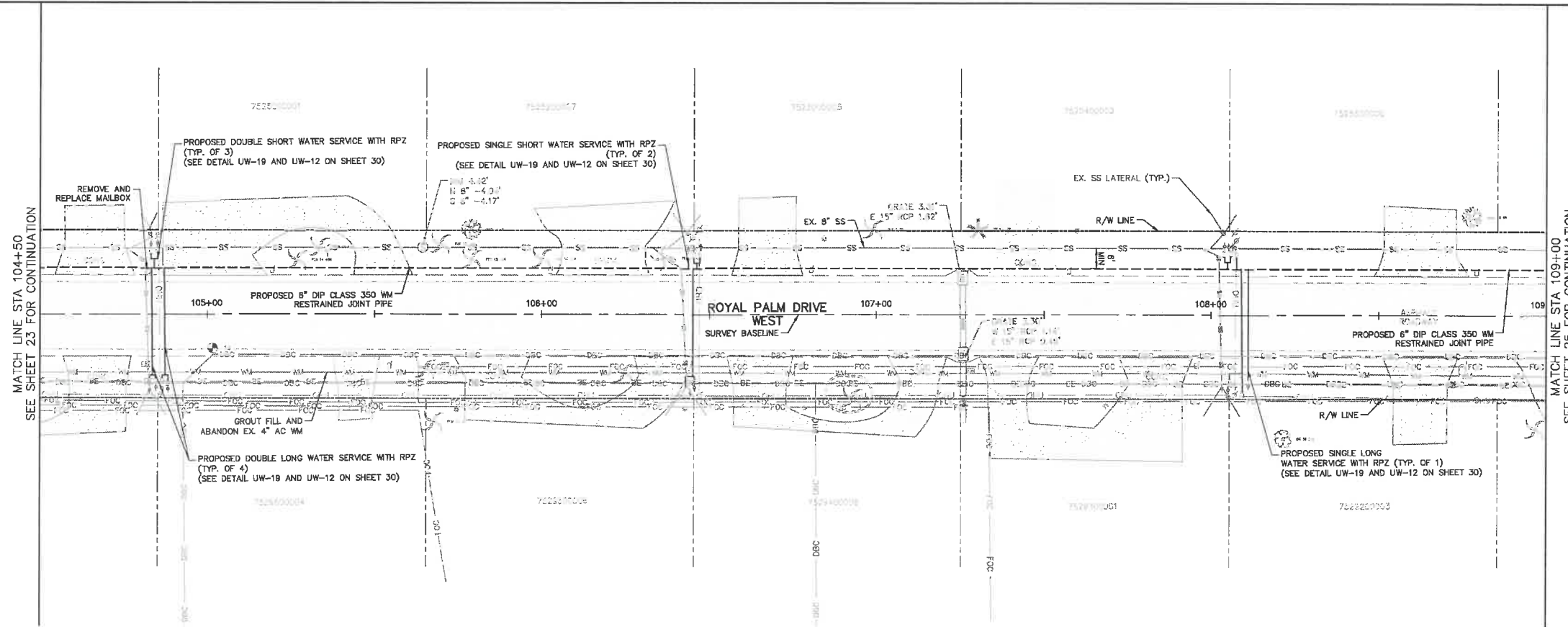
PLAN & PROFILE ROYAL PALM DRIVE

SHEET NUMBER

23

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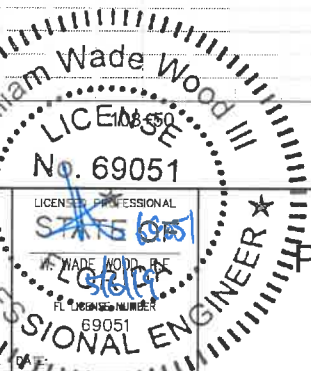
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KHA PROJECT 148400025
DATE 5/3/2019
SCALE AS SHOWN
DESIGNED BY WWW
DRAWN BY LMB
CHECKED BY SNR

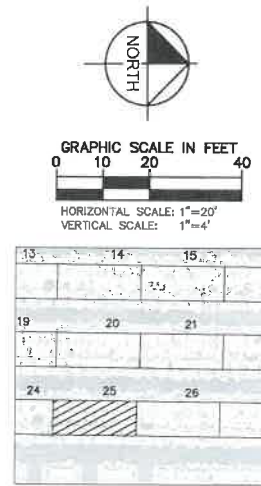
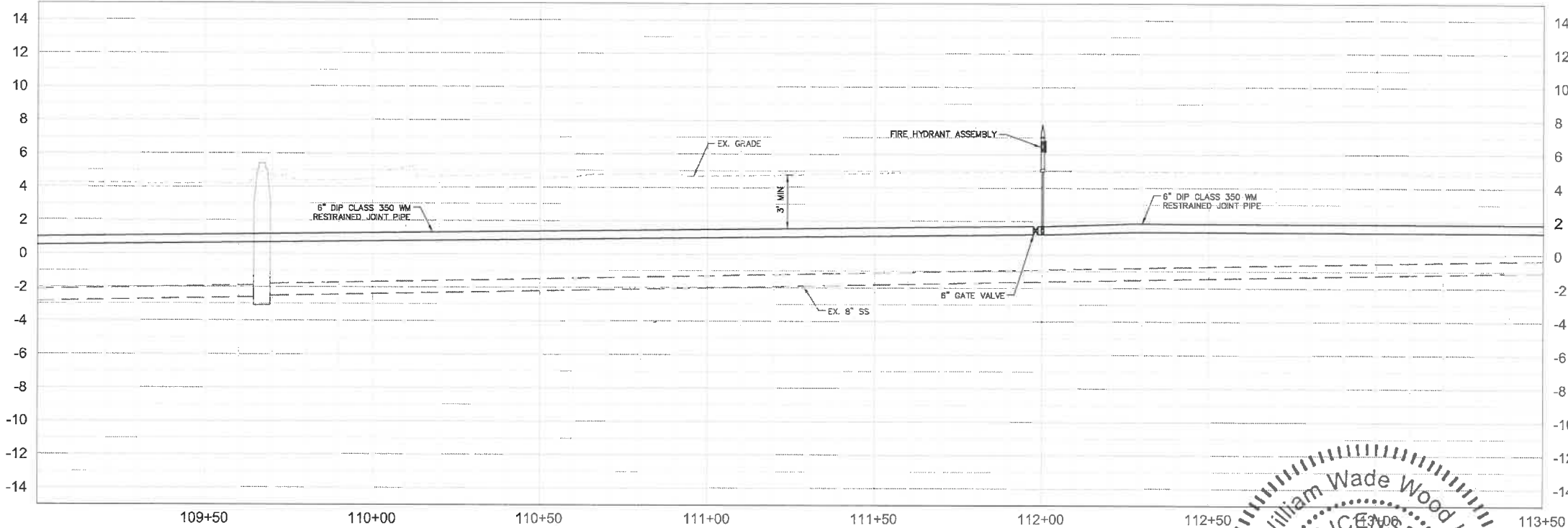
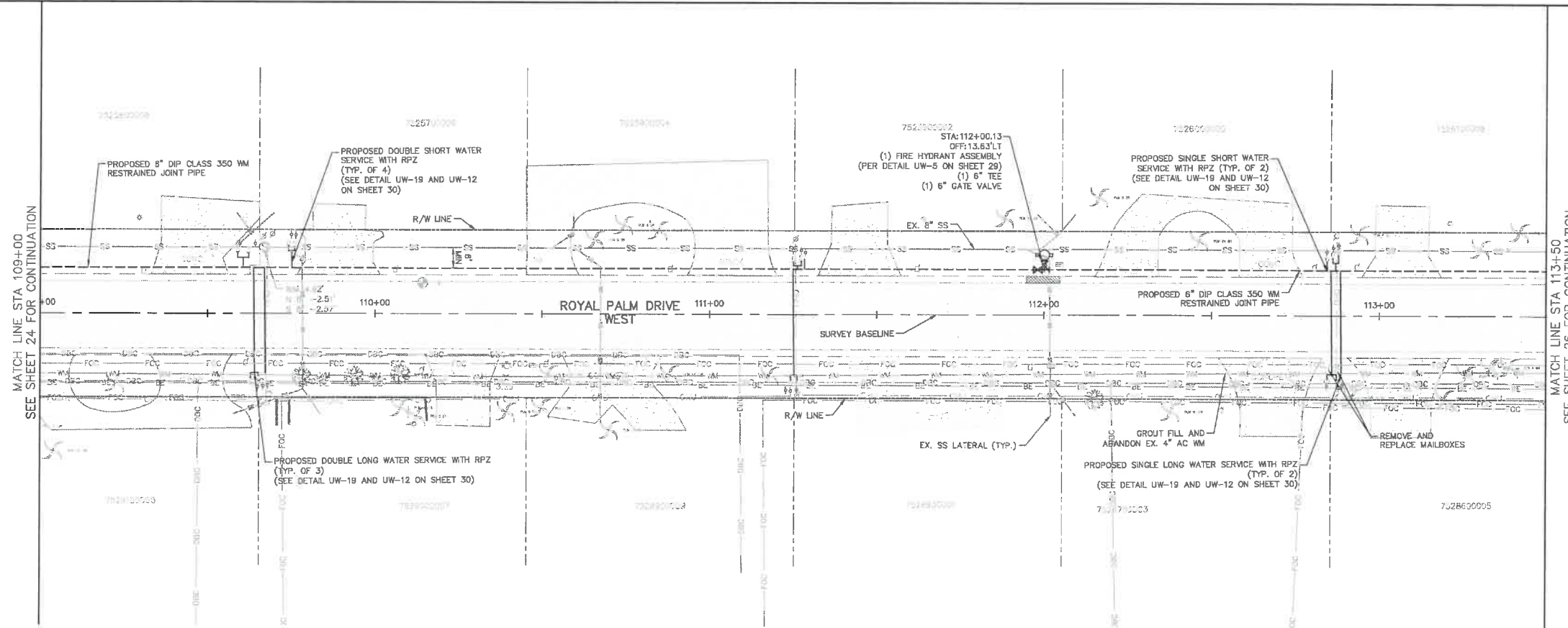
Manatee County
END OF SERVICE LIFE: FY-18
SAN REMO SHORES WM REPLACEMENT
MANATEE COUNTY



PLAN & PROFILE ROYAL PALM DRIVE

SHEET NUMBER
24

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- LEGEND**
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KHA PROJECT
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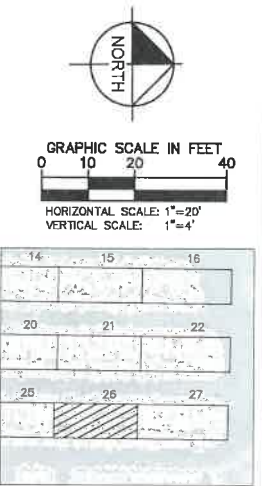
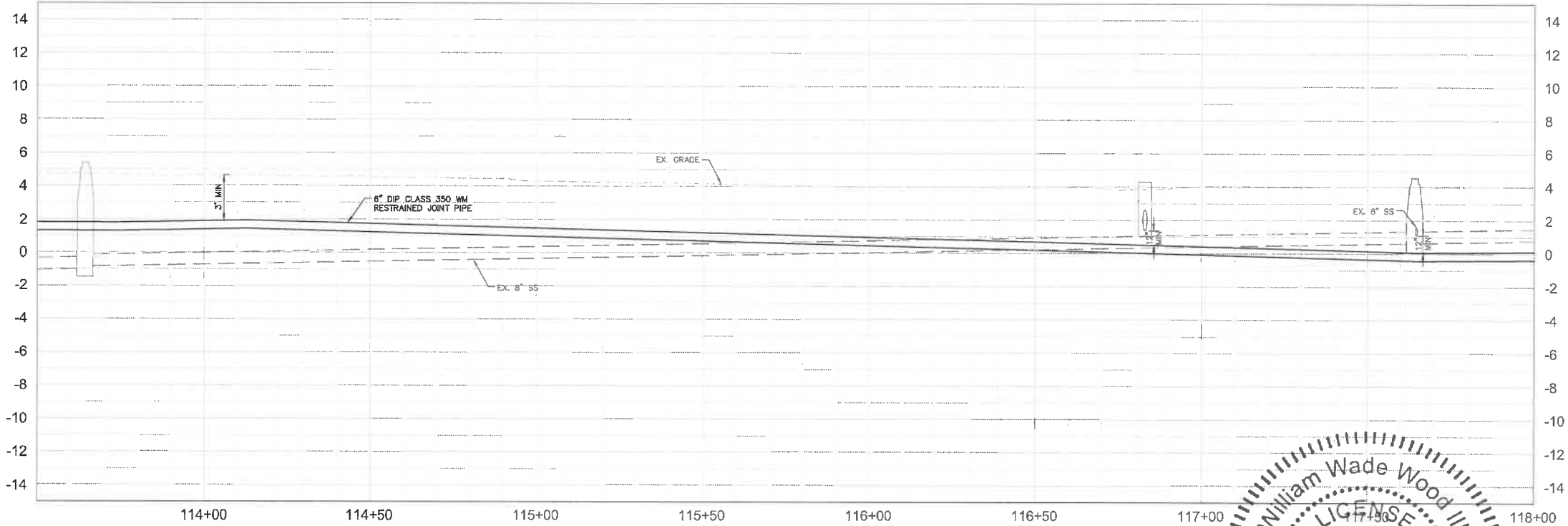
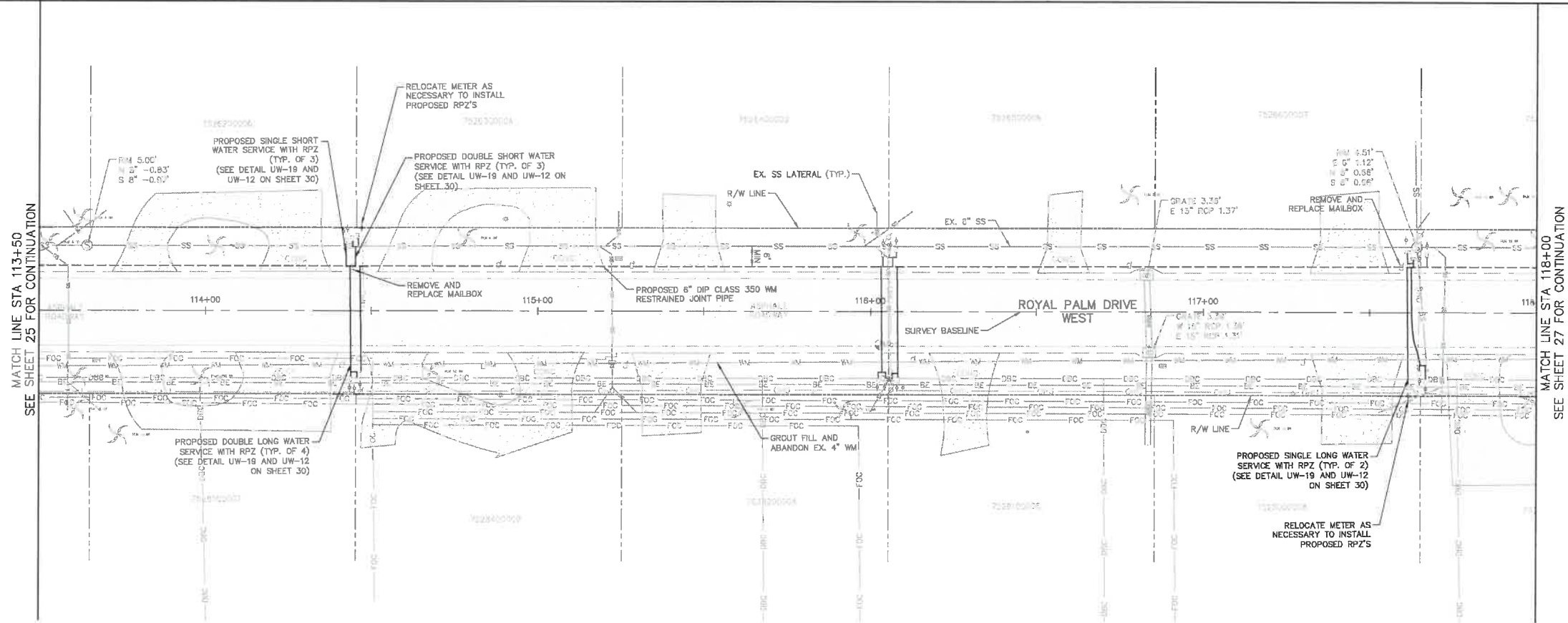
Manatee County
END OF SERVICE LIFE: FY-18
SAN REMO SHORES WM REPLACEMENT
MANATEE COUNTY

William Wade Wood III
LICENSE
No. 69051
STATE OF FLORIDA
PROFESSIONAL ENGINEER

PLAN & PROFILE ROYAL PALM DRIVE

SHEET NUMBER
25

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LEGEND	
CTHDD	---
OPEN CUT	---
ASPHALT DRIVEWAY RESTORATION	[Pattern]
SIDEWALK/CONCRETE DRIVEWAY RESTORATION	[Pattern]
BRICK DRIVEWAY RESTORATION	[Pattern]
SHELL DRIVEWAY RESTORATION	[Pattern]
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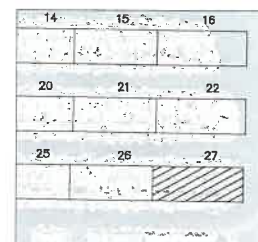
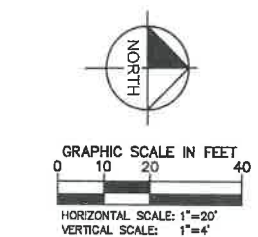
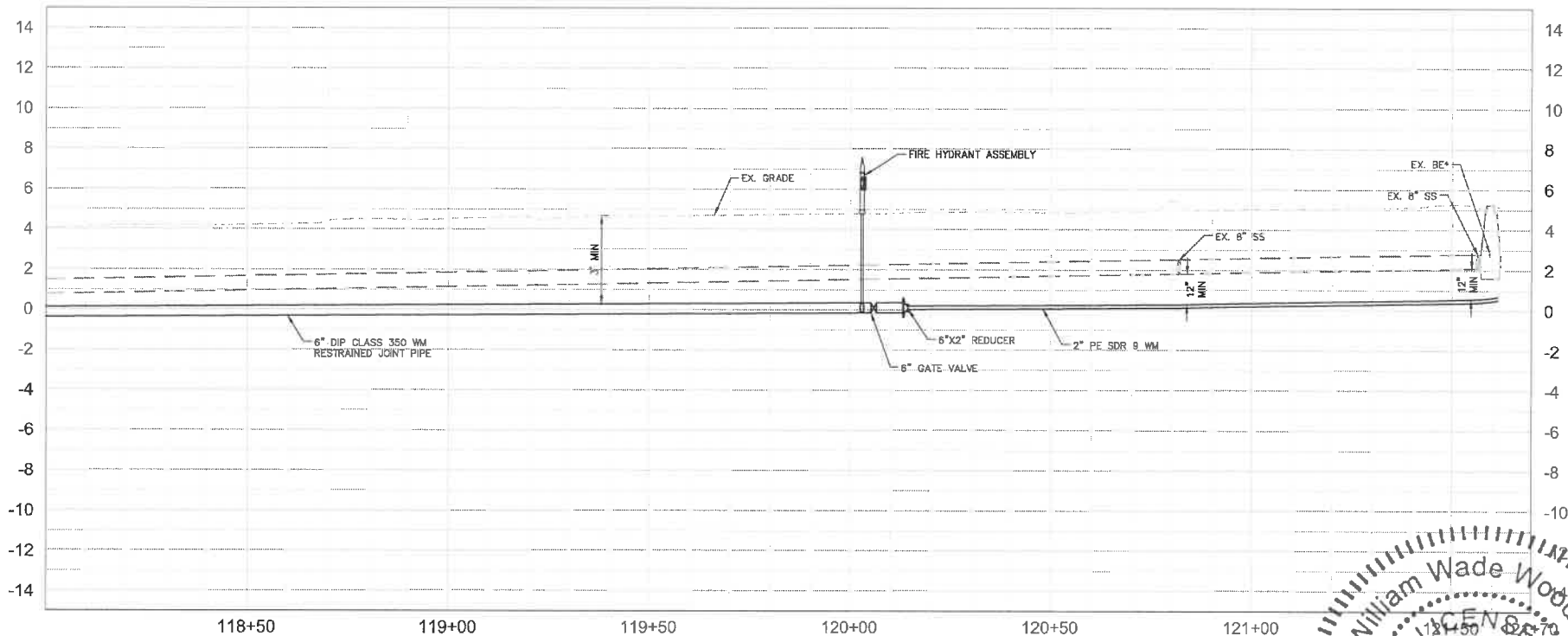
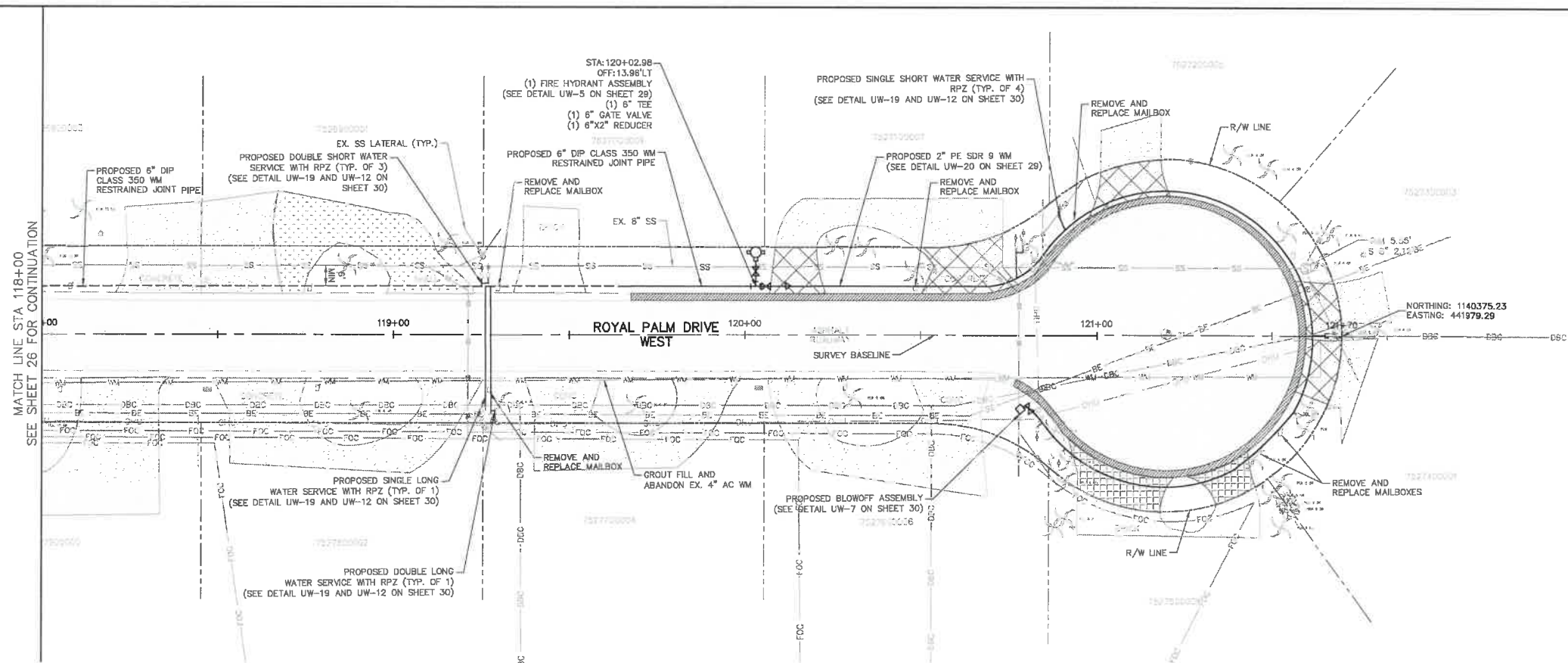
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




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END OF SERVICE LIFE: FY-18
SAN REMO SHORES WM REPLACEMENT
MANATEE COUNTY

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SHEET NUMBER
26



- | | |
|---|---|
| LEGEND | |
| CTHDD | ---- |
| OPEN CUT | ---- |
| ASPHALT DRIVEWAY
RESTORATION |  |
| SIDEWALK/CONCRETE
DRIVEWAY RESTORATION |  |
| BRICK DRIVEWAY
RESTORATION |  |
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SHEET NUMBER

27

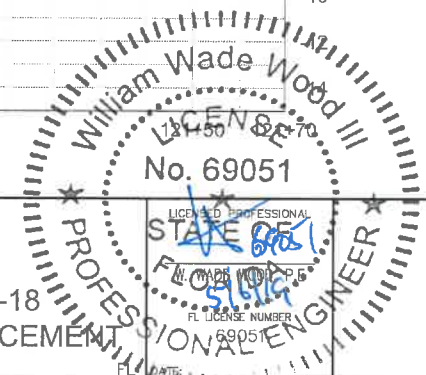
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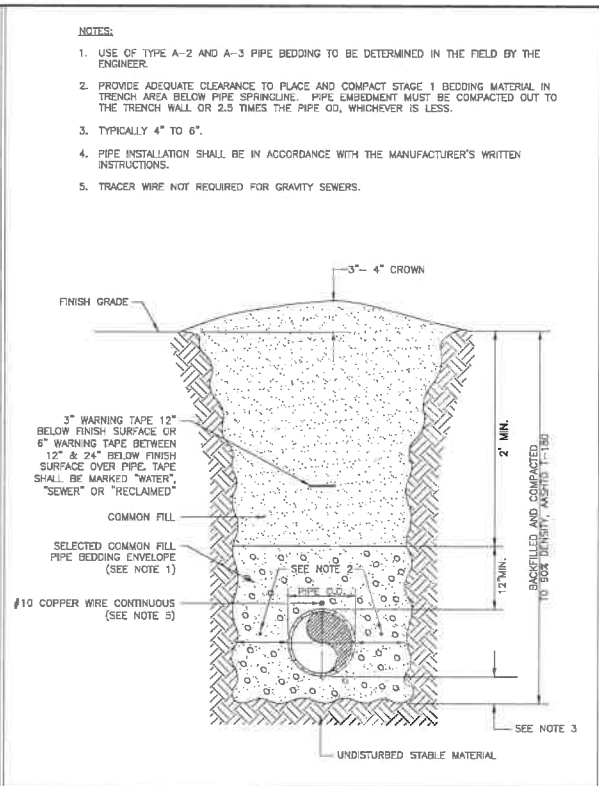
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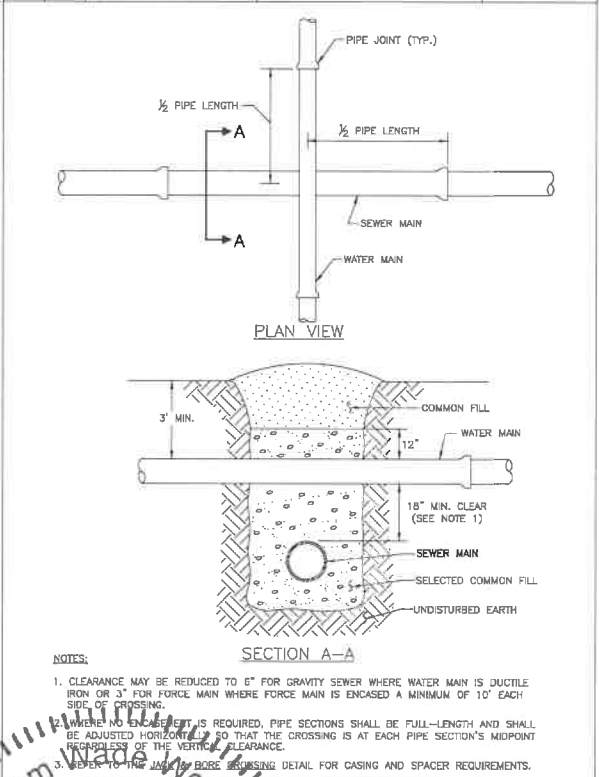
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SAN REMO SHORES WM REPLACEMENT
SANATEE COUNTY



PLAN & PROFILE ROYAL PALM DRIVE



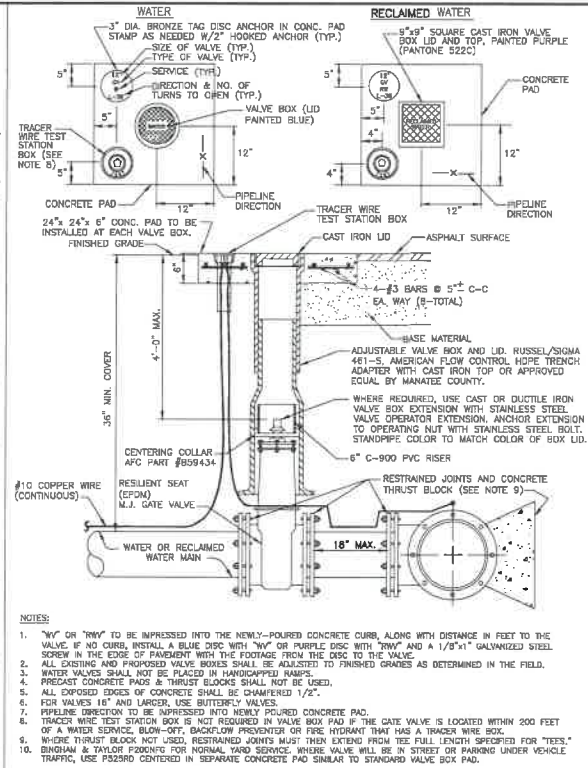
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REV. BY WRT/KE	DATE 03/11 MAY 10, 2011 DATE OF APPROVAL		



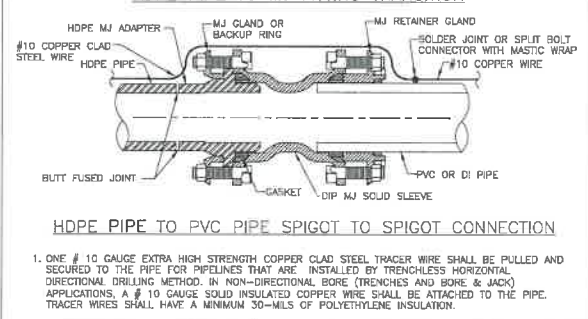
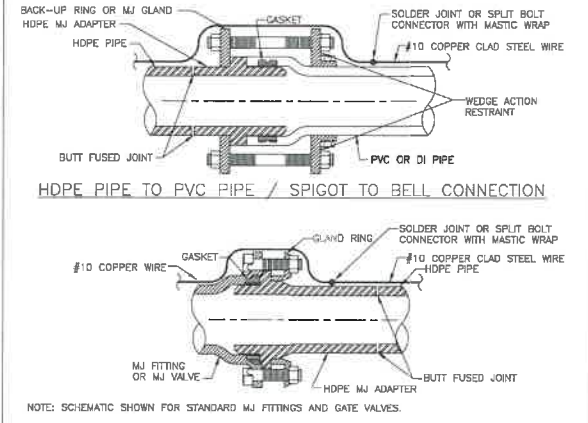
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MAY 10, 2011 MAY 10, 2011 MAY 10, 2011		TYPICAL NEW WATER & SEWER LINE CROSSING	UG-2

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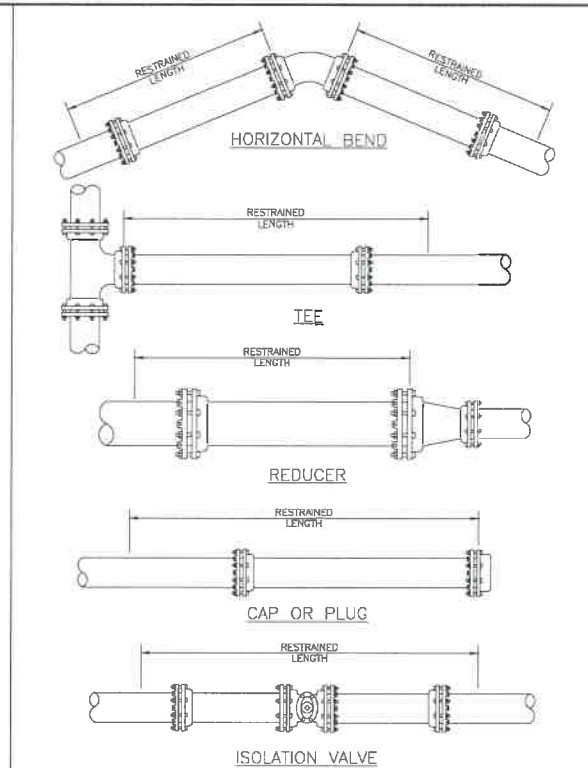
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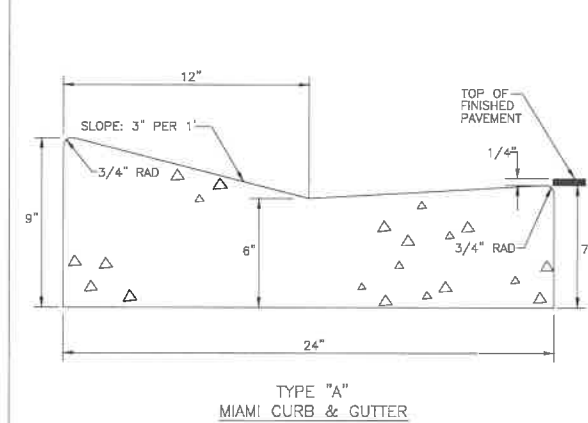
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		
REV. BY	DATE	
CLB/RE	11/7/10	
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MAY 10, 2011		
DATE OF APPROVAL		

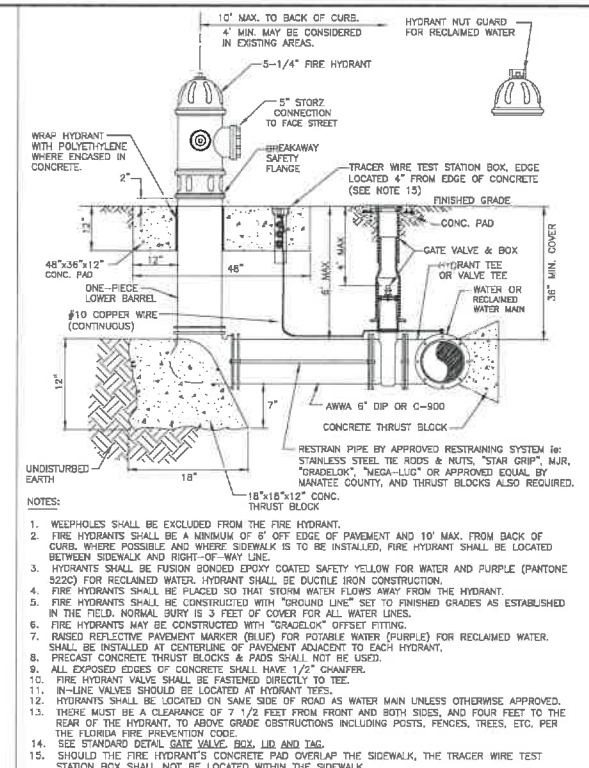


MANATEE COUNTY PUBLIC WORKS DEPARTMENT		
REV. BY	DATE	
CLB/RE	11/7/10	
MAY 10, 2011		
DATE OF APPROVAL		

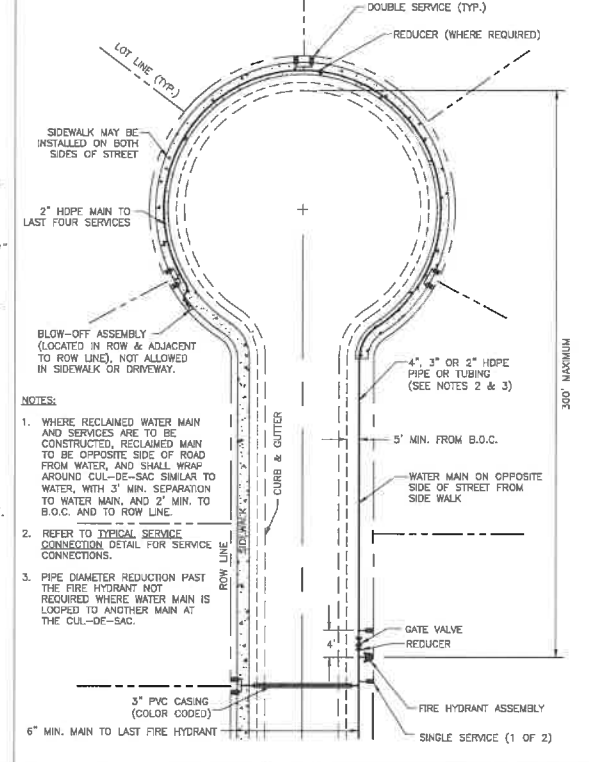


- A) CLASS 1 CONCRETE 3,000 P.S.I. AT 28 DAYS.
- B) CURB AND GUTTER SHALL MEET THE SPECIFICATIONS ESTABLISHED BY FLORIDA D.O.T. STANDARD SPECIFICATIONS PER F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS INDEX NO. 300, LATEST REVISION.

MANATEE COUNTY TRANSPORTATION DEPARTMENT		
REV. BY	DATE	
CLB/RE	6/12/07	
DATE OF B.O.C.C. APPROVAL		



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		
REV. BY	DATE	
CLB/RE	11/7/10	
MAY 10, 2011		
DATE OF APPROVAL		



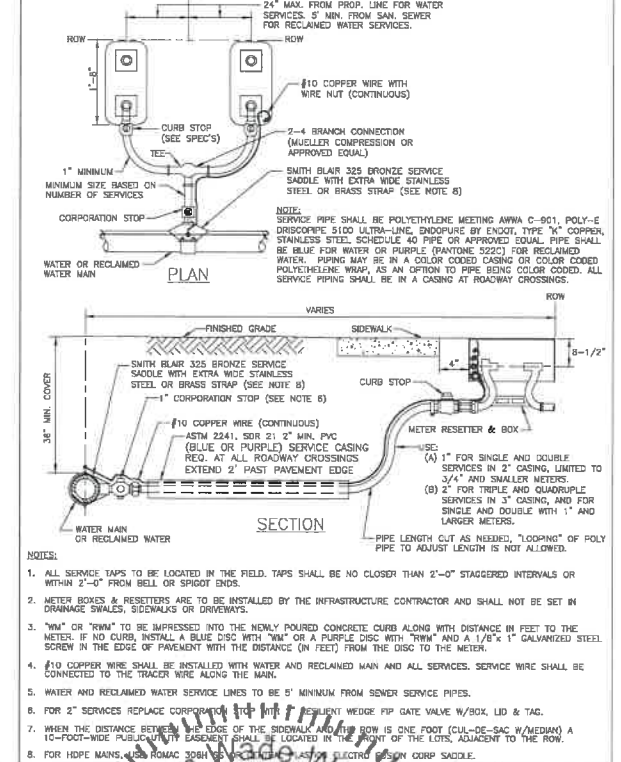
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		
REV. BY	DATE	
CLB/RE	11/7/10	
MAY 10, 2011		
DATE OF APPROVAL		

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (POLY-WRAPPED)									
MAIN PIPE SIZE	HORIZ. BENDS	TEES				REDUCERS			
		SIZE LENGTH				SIZE LENGTH			
36	142	58	26	38	133	131	232	163	116
30	124	51	25	30	124	120	189	116	116
24	105	44	21	24	105	101	151	116	116
20	92	38	18	20	92	88	131	116	116
18	77	32	15	18	77	74	107	116	116
12	61	25	12	12	61	58	88	116	116
10	52	22	10	10	52	49	74	116	116
8	44	18	8	8	44	38	61	116	116
6	34	14	7	6	34	29	49	116	116
4	24	10	5	4	24	19	38	116	116

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (NON-WRAPPED)									
MAIN PIPE SIZE	HORIZ. BENDS	TEES				REDUCERS			
		SIZE LENGTH				SIZE LENGTH			
36	100	42	20	36	100	96	130	103	138
30	88	37	18	30	88	84	116	90	124
24	75	31	15	24	75	71	101	76	110
20	65	27	13	20	65	61	88	66	100
16	54	22	11	16	54	51	74	56	88
12	43	18	8	12	43	41	61	46	74
10	37	15	7	10	37	34	51	39	61
8	30	13	6	8	30	29	41	32	51
6	24	10	5	6	24	19	34	26	41
4	17	7	3	4	17	14	24	19	29

- NOTE:
- SEE RESTRAINED LENGTHS FOR PVC PIPE DETAIL FOR NOTES 1 THROUGH 8 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR DIP.
 - FOR VERTICAL BENDS, SEE ADDITIONAL RESTRAIN LENGTHS DETAIL FOR DIP THIS PAGE.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		
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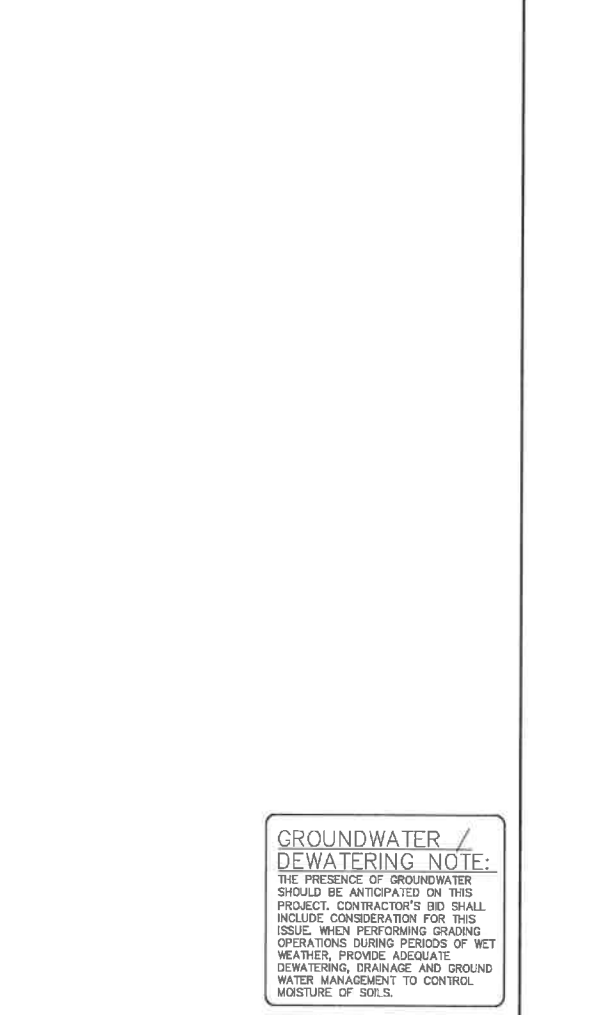


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MIN. LENGTH OF PIPE (FEET) TO BE RESTRAINED														
FITTING TYPE	PIPE SIZE													
	4"	6"	8"	10"	12"	16"	20"	24"	30"	36"	48"	60"	72"	90"
90° VERT. OFFSET	77	109	143	171	201	257	311	363	435	503				
45° VERT. OFFSET	32	45	59	71	83	107	129	151	180	209				
22.5° VERT. OFFSET	16	22	29	34	40	52	62	73	87	100				
11.25° VERT. OFFSET	8	11	14	17	20	26	28	31	36	43				

- (SOURCES: FBAA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR DIP, RELEASE 7.1.2)
- NOTES:
- THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:
SOIL TYPE-SP
TRENCH TYPE-3
MINIMUM PIPE LENGTH ALONG TEE RUN-5'
DEPTH OF BURY-3' VERTICAL OFFSET-3'
 - THE RESTRAINED PIPE LENGTHS APPLY TO POLYWRAPPED DI PIPE.
 - ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
 - RESTRAINED PIPE LENGTHS APPLY TO PIPE ON BOTH SIDES OF FITTINGS.
 - RESTRAINED JOINTS SHALL EXTEND ONE JOINT BEYOND MIN. LENGTH

ADDITIONAL RESTRAIN LENGTHS DETAIL FOR DIP



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GROUNDWATER / DEWATERING NOTE:
THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR THIS ISSUE. WHEN PERFORMING GRADING OPERATIONS DURING PERIODS OF WET WEATHER, PROVIDE ADEQUATE DEWATERING, DRAINAGE AND GROUND WATER MANAGEMENT TO CONTROL MOISTURE OF SOILS.

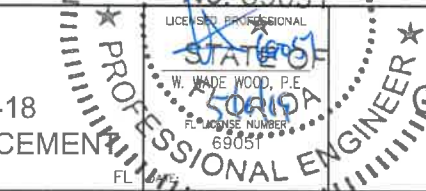


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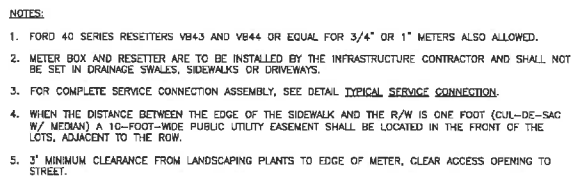
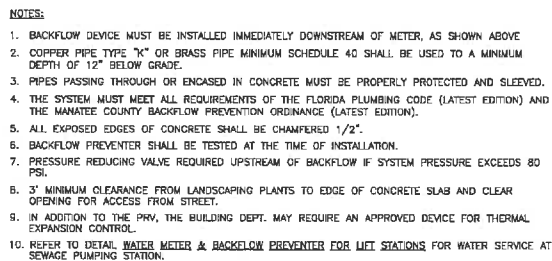
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100 2ND AVENUE SOUTH, SUITE 300S, ST. PETERSBURG, FL 33701
PHONE: 727-547-3999
WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT
148400025
DATE
5/3/2019
SCALE AS SHOWN
DESIGNED BY WWW
DRAWN BY LMB
CHECKED BY SNR

END OF SERVICE LIFE: FY-18
SAN REMO SHORES WM REPLACEMENT
MANATEE COUNTY



CONSTRUCTION DETAILS
SHEET NUMBER
29

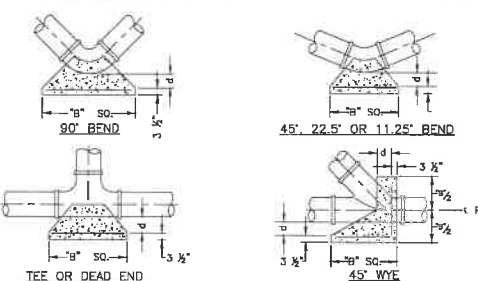


1. ALL THRUST BLOCKS SHALL BE CAST IN PLACE FITTINGS ADJACENT TO THRUST BLOCKS SHALL BE WRAPPED IN POLYETHYLENE.

2. THIS TABLE IS BASED ON WATER PRESSURE=180 PSI WITH AN ALLOWABLE SOIL BEARING PRESSURE=2000 PSF. CONCRETE STRENGTH = 3000 PSI. REINFORCEMENT f_y = 60,000 PSI. THRUST BLOCK SHALL BE CAST AGAINST FIRM UNWEATHERED SOIL.

3. FOR LARGER SIZE CIRCUMFERS IT IS NECESSARY TO CHECK THAT PIPE IS SUFFICIENTLY DEEP TO ALLOW 15" MIN. SOIL COVER OVER TOP EDGE OF THRUST BLOCK.

4. RESTRAINED JOINTS MAY BE USED IN CASES OF THRUST BLOCKS TO SAVE SPACE. THRUST BLOCKS SHALL BE USED IN SITUATIONS WHERE THRUST BLOCKS AND RESTRAINED JOINTS ARE BOTH REQUIRED.

[illegible]

ELEVATION

NOTES:

1. PRIOR TO TAPPING, CONTRACTOR TO DEMONSTRATE 60 MINUTE HYDROSTATIC TEST OF THE TAPPING SLEEVE AND VALVE WITH NO LOSS OF 180 PSI PRESSURE FOR WATER AND RECLAIMED WATER OR 150 PSI FOR FORCE MAIN.
2. ALL FITTINGS TO BE WRAPPED WITH 20 MIL VISQUEEN AT THRUST BLOCK.
3. ALL TAPS ON CONCRETE WATER MAINS AND LARGER THAN 12" ARE TO BE MADE BY A MANATEE COUNTY APPROVED TAPPING COMPANY. ALL MATERIALS TO BE SUPPLIED BY THE CONTRACTOR.
4. ALL TAPS MUST BE OF A SMALLER SIZE THAN THE MAIN BEING TAPPED & PLACED NO CLOSER THAN 30" OR A DISTANCE EQUAL TO (1) MAIN PIPE DIAMETER PLUS (2) TAP PIPE DIAMETERS (WHICHEVER IS GREATER) FROM A JOINT OR FITTING.
5. CONTRACTOR TO SUPPLY A DRY HOLE FOR TAPPING CREW TO WORK IN AND A BACK-HOE TO LOWER TAPPING MACHINE INTO THE HOLE.
6. WHERE THRUST BLOCK NOT USED, RESTRAINED JOINTS MUST THEN EXTEND FROM TEE FULL LENGTH SPECIFIED FOR TEES.
7. TRACER WIRE TEST STATION BOX IS REQUIRED AT CONNECTIONS TO EXISTING MAINS.

