







# **FLORIDA** GOVERNMENTAL UTILTIY AUTHORITY

### LEHIGH HOMESTEAD ROAD WATER AND WASTEWATER **UTILITY PROJECT**

FGUA Contract No. CON00963641

Project No. 250366

90% SUBMITTAL LEE COUNTY, FLORIDA 02/2016

## Pox Canal West Easy Canal West Baker Canal 21 LEHIGH ACRES LEHIGH ACRES DELIMITED AREA WEST AIRPORT George Çanal 28 Blvd. L ee PROJECT LOCATION 34 LEHIGH ACRES Halfway Pond- 7/W

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#### **GENERAL CONSTRUCTION NOTES:**

1. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS AND SERVE AS NOTICE TO THE CONTRACTOR THAT UNDERGROUND UTILITIES EXIST. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL PROBE AREAS SUSPECT OF HAVING EXISTING UTILITIES AND SHALL UNCOVER ALL UTILITIES VIA "POT HOLE" METHOD TO ENSURE THE EXACT LOCATION AND DEPTH OF EXISTING UTILITIES. CONTRACTOR SHALL OBTAIN OWNER'S PERMISSION TO PERFORM "POT HOLING", PRIOR TO THE COMMENCEMENT OF WORK IN THESE AREAS. THE OWNER WILL LOCATE, TO THE BEST OF THEIR KNOWLEDGE, WHEN REQUESTED AS STATED IN ITEM 2 BELOW, WITHIN 2'± OF EITHER SIDE OF THE CENTER LINE OF THE UTILITY. THE CONTRACTOR SHALL KEEP A RECORD OF THIS LOCATION FOR FUTURE WORK IN THE SAME AREA FOR HIMSELF OR HIS SUB CONTRACTORS. THE CONTRACTOR SHALL NOTIFY THE OWNER'S PROJECT MANAGER IMMEDIATELY WHEN CONFLICTS BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED.

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- 2. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS AND A MAXIMUM OF FIVE (5) DAYS NOTICE (EXCLUDING SATURDAY, SUNDAY, AND LEGAL HOLIDAYS) TO THE SUNSHINE STATE ONE CALL SYSTEMS AT 1-800-432-4770 OR (811) AND ALL AFFECTED UTILITY COMPANIES IN ORDER TO REQUEST MARKING OF THE LOCATION OF EXISTING UNDERGROUND UTILITIES IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE PARTICIPATING UTILITY COMPANIES BY CALLING THE UTILITY NOTIFICATION CENTER (1-800-432-4770) OR (811). NOT ALL UTILITY COMPANIES ARE MEMBERS OF SUNSHINE STATE ONE CALL. THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY ALL AFFECTED UTILITIES WHICH ARE NOT MEMBERS OF SUNSHINE STATE ONE CALL. ANY AND ALL DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- 3. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO PRESERVE ANY AND ALL EXISTING UTILITIES ON THIS PROJECT. (SEE NOTES 1 AND 2 ABOVE) FIELD CONDITIONS MAY NECESSITATE SLIGHT ALIGNMENT AND GRADE DEVIATION OF THE PROPOSED UTILITIES TO AVOID OBSTACLES, EXISTING UTILITIES & STORM FACILITIES, AS DIRECTED BY THE ENGINEER. ANY AND ALL DAMAGE TO EXISTING UTILITIES AS A RESULT OF THE CONTRACTOR'S ACTIVITIES, SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- 4. THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS 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.
- 5. LOCATIONS AND DIMENSIONS OF EXISTING RIGHTS-OF-WAY AND EASEMENTS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY ALL THE LIMITS OF RIGHTS-OF-WAY AND EASEMENTS IN ORDER TO AVOID ENCROACHMENTS.
- 6. CONTRACTOR TO NOTE LIMITS OF PROJECT AND/OR EASEMENTS SHOWN ON PLANS. THE CONTRACTOR IS REQUIRED TO STAKE LOCATION OF R/W AND EASEMENTS PRIOR TO ANY CONSTRUCTION ACTIVITIES TO ESTABLISH PROJECT LIMITS. STAKING MUST BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION ACTIVITIES TO CONFIRM THAT ALL WORK IS PERFORMED WITHIN THE SPECIFIED LIMITS. ALL WORK, INCLUDING MOBILIZATION OF EQUIPMENT WILL BE PERFORMED WITHIN LIMITS OF THE R/W AND EASEMENTS. CONTRACTOR WILL BE RESPONSIBLE FOR DAMAGES AND WILL RESTORE AND REPLACE ANY DAMAGED OR DISTURBED AREAS OUTSIDE THE LIMITS AT NO COST TO THE OWNER.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE STAKE—OUT OF THE PROJECT, I.E., LINE, GRADE, SLOPE STAKE, UTILITY RELOCATION'S OR ANY OTHER STAKE—OUT THAT MAY BE REQUIRED TO COMPLETE THE PROJECT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. ANY AND ALL EXPENSES INCURRED FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID ITEM MOBILIZATION, DEMOBILIZATION, BONDS AND PERMITS. NO ADDITIONAL PAYMENT SHALL BE MADE FOR THIS WORK.
- 8. ALL REFERENCE POINTS AND MONUMENTS ESTABLISHED FOR THIS PROJECT SHOWN ON PLANS OR FOUND, SHALL BE PRESERVED. THOSE SHOWN IN PROPOSED PAVEMENT SHALL BE PROTECTED WITH A CAST IRON VALVE BOX.
- 9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONSTRUCT HORIZONTAL AND VERTICAL TRANSITION OF PIPELINE BY DEFLECTION OF PIPE JOINTS USING NOT MORE THAN 75% OF THE MAXIMUM DEFLECTION RECOMMENDED BY THE MANUFACTURER. SHOP DRAWINGS SHALL BE FURNISHED TO THE ENGINEER FOR APPROVAL OF ALL PIPE CONNECTIONS, TRANSITIONS AND SPECIAL FITTINGS PRIOR TO FABRICATION AND DELIVERY TO JOB SITE.
- 10. UNLESS OTHERWISE NOTED ON THE DRAWINGS A MINIMUM OF 36" COVER SHALL BE MAINTAINED ABOVE ALL BURIED WATER AND SEWER PIPES. A MINIMUM OF 12" CLEARANCE SHALL BE MAINTAINED BETWEEN BURIED GAS LINES AND ALL OTHER UTILITIES.
- 11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY SUPPORT OF ADJACENT UTILITY POLES AND COORDINATION OF SUCH WITH UTILITY COMPANIES. DEFLECT PIPES, WITHIN LIMITS SPECIFIED IN THE CONTRACT DOCUMENTS, AROUND UTILITY POLES WHEN POSSIBLE.
- 12. TEES, CROSSES, BENDS (HORIZONTAL AND VERTICAL), PLUGS AND OTHER APPURTENANCES SHALL BE INSTALLED WITH RESTRAINED JOINTS UNLESS OTHERWISE NOTED.
- 13. THE CONTRACTOR WILL EXPOSE AND RESTRAIN EXISTING PIPE FACILITIES AND THEIR APPURTENANCES AT THOSE LOCATIONS WHERE MODIFICATIONS, CONNECTIONS, TAPS, ETC. ARE MADE TO EXISTING FACILITIES. RESTRAINED LENGTHS SHALL BE MADE AT THE VALUES INDICATED IN RESTRAINED LENGTH TABLE INCLUDED IN THESE PLANS.
- 14. CONTRACTOR SHALL PROVIDE TEMPORARY THRUST RESTRAINT, BRACING, TESTING PLUGS AND OTHER DEVICES NECESSARY TO SUCCESSFULLY COMPLETE PRESSURE TESTING OF PIPING SYSTEMS.
- 15. ALL TRENCH BACKFILL UNDER PAVEMENT BEGINNING ONE (1) FOOT ABOVE THE TOP OF PIPE AND UP TO THE STABILIZED SUBGRADE, SHALL BE COMPACTED AS INDICATED IN THE CONTRACT SPECIFICATIONS. IN THE EVENT THAT DEWATERING IS REQUIRED, THE MATERIALS AND EQUIPMENT REQUIRED FOR DEWATERING SHALL REMAIN IN PLACE AND FULLY OPERATIONAL UNTIL ALL DENSITY TESTS HAVE PASSED AND BEEN APPROVED BY THE OWNER. DEWATERING MATERIALS AND EQUIPMENT SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- 16. IF UNSATISFACTORY MATERIAL FOR ADEQUATE BEARING IS ENCOUNTERED AT THE NORMAL SUBGRADE, THE UNSATISFACTORY MATERIAL SHALL BE REMOVED, DISPOSED OF OFFSITE AND REPLACED WITH SUITABLE BACKFILL MATERIAL AS SPECIFIED.
- 17. ALL EXCAVATIONS SHALL BE REQUIRED TO CONFORM TO THE PROVISIONS OF PART IV OF CHAPTER 553.60, F.S. ALSO KNOWN AS THE 'TRENCH SAFETY ACT', TO PROTECT EXISTING PAVEMENT, STRUCTURES, FOUNDATIONS, AND CONSTRUCTION PERSONNEL DURING CONSTRUCTION OF THE PROJECT.
- 18. CONTRACTOR TO VERIFY LOCATION, DEPTH, AND TYPE OF PIPE AT ALL PROPOSED POTENTIAL CROSSING CONFLICTS AND CONNECTIONS TO EXISTING SYSTEMS BEFORE ORDERING MATERIAL.
- 19. ALL WORK SHALL CONFORM TO THE LATEST REVISION OF THE LEE COUNTY UTILITIES OPERATIONAL MANUAL WHICH IS ON FILE AT THE DIVISION OF LEE COUNTY UTILITIES OFFICE (1500 MONROE STREET, P.O. BOX 398, FORT MYERS, FLORIDA 33902).
- 20. CONTRACTOR TO COMPLY WITH ALL REQUIREMENTS OF LEE COUNTY, F.D.O.T., F.D.E.P., D.O.H., SBCC, NFPA, OSHA, SWFWMD, AND ALL OTHER REGULATORY AGENCIES.
- 21. CONTRACTOR IS TO MAINTAIN A SET OF PLANS WITH FIELD CHANGES MARKED THEREON IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS AND DELIVER THESE TO THE OWNER'S PROJECT MANAGER WITH THE AS—BUILT SURVEY. FINAL PAYMENT WILL NOT BE MADE UNTIL THIS REQUIREMENT IS SATISFIED. THE PLANS WILL BE UPDATED DAILY AND AVAILABLE FOR THE OWNER'S ENGINEER'S REVIEW.
- 22. CONTRACTOR TO INCLUDE COST FOR OBTAINING ALL PERMITS, LICENSES AND INSURANCE REQUIRED FOR THIS PROJECT IN HIS BID.

- 23. CONTRACTOR SHALL RESTORE/REPLACE ALL DISTURBED VEGETATED (i.e. SOD, GRASS, SHRUBS) AREAS TO ORIGINAL OR BETTER CONDITION USING MATERIALS OF LIKE KIND.
- 24. CONTRACTOR SHALL REPLACE ALL PAVING, STABILIZED EARTH, CURBS, DRIVEWAYS, SIDEWALKS, FENCES, ETC. WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED OR DISTURBED DURING CONSTRUCTION.
- 25. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL EXCESS DIRT, DEBRIS AND OTHER MATERIALS, AS DIRECTED BY THE ENGINEER, AT NO ADDITIONAL COST. DEBRIS AND OTHER MATERIAL SHALL BE DISPOSED OF OFF-SITE.
- 26. THE CONTRACTOR SHALL SUBMIT AN ADEQUATE EROSION CONTROL PLAN TO THE ENGINEER OF RECORD AND RECEIVE AN APPROVED PLAN FROM THE OWNER'S REPRESENTATIVE PRIOR TO PRE-CONSTRUCTION MEETING.
- 27. ALL PRACTICAL AND NECESSARY EFFORTS SHALL BE TAKEN DURING CONSTRUCTION TO CONTROL AND PREVENT EROSION AND THE TRANSPORT OF SEDIMENT TO SURFACE DRAINS AND DRAINAGE DITCHES. DISCHARGE OF STORM WATER CONTRIBUTING TO A VIOLATION OF WATER QUALITY STANDARDS IN THE WATERS OF THE STATE WILL NOT BE ALLOWED. IN THE EVENT THAT EROSION CONTROLS ARE NECESSARY, SILT BARRIERS OR OTHER APPROVED CONTROL DEVICES SHALL BE USED IN ACCORDANCE WITH APPLICABLE PERMITS (i.e. NPDES), PERMITTING AGENCIES (i.e. FDEP, SWFWMD), AND THE CONTRACT SPECIFICATIONS.
- 28. IN THE EVENT THAT THE EROSION PREVENTION AND CONTROL DEVICES SHOWN IN THE EROSION CONTROL PLAN, PROVIDED BY THE CONTRACTOR, PROVE NOT TO BE EFFECTIVE, ALTERNATE METHODS FOR MAINTAINING STATE WATER QUALITY STANDARDS FOR DISCHARGE FROM THE CONSTRUCTION SITE WILL BE REQUIRED. ALL ALTERNATE EROSION PREVENTION AND CONTROL DEVICES MUST BE APPROVED BY THE OWNER'S ENGINEER PRIOR TO PLACEMENT.
- 29. ALL SURFACE WATER DISCHARGE FROM THE CONSTRUCTION SITE, INCLUDING DEWATERING DISCHARGE, SHALL MEET STATE WATER QUALITY STANDARDS PRIOR TO REACHING ANY WATERS OF THE STATE INCLUDING WETLANDS.
- 30. CONTRACTOR SHALL MAINTAIN UNINTERRUPTED WATER AND WASTEWATER FLOW AT ALL TIMES DURING CONSTRUCTION WITH THE EXCEPTION OF RECONNECTING WATER SERVICES. CONTRACTOR SHALL COORDINATE BY-PASS PUMPING WITH THE OWNER IF CONTRACTOR INTENDS TO BY-PASS. OWNER'S REPRESENTATIVE WILL BE PRESENT AT BY-PASS PUMPING START-UP AND SHUT DOWN.
- 31. IF CONTRACTOR INTENDS TO BY-PASS, CONTRACTOR SHALL SUBMIT A BY-PASS PLAN TO THE ENGINEER AS REQUESTED BY THE OWNER AND PRIOR TO AWARD OF CONTRACT. BY-PASS PLAN SHALL BE SUBMITTED TO ENGINEER NO MORE THAN 10 DAYS AFTER NOTIFICATION OF INTENTION TO BY-PASS. PUMP INFORMATION, PIPE ALIGNMENT, FLOW, AND NAME AND RESUME OF CONTRACTOR PERSONNEL WORKING ON OR MONITORING BY-PASS PUMPING SHALL BE INCLUDED IN BY-PASS PLAN REPORT. ALL COST FOR BYPASS WILL BE BORNE BY THE CONTRACTOR AND SHALL INCLUDE TRANSPORT BY TANKER TRUCK IF REQUIRED. OWNER SHALL REJECT BIDS NOT IN CONJUNCTION WITH SPECIFICATIONS.
- 32. IF CONTRACTOR INTENDS TO BY-PASS, CONTRACTOR SHALL HAVE BACK-UP PUMP PRESENT ONSITE AND HOOKED UP (CONNECTED) TO BY-PASS SYSTEM WITH PRIMARY PUMPS.
- 33. CONTRACTOR SHALL NOTIFY THE OWNER 72 HOURS PRIOR TO START OF BY-PASS PUMPING.
- 34. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION IN ACCORDANCE WITH LEE COUNTY DEPARTMENT OF TRANSPORTATION (LCDOT) AND FDOT DESIGN STANDARDS INDEX 600 SERIES, FDOT STANDARD SPECIFICATIONS AND LEE COUNTY STANDARDS. CONSTRUCTION AND MOT PLAN SHALL PROVIDE CONDITIONS FOR HOLIDAYS. CONSTRUCTION THAT SHALL REQUIRE MORE THAN ONE LANE CLOSURE SHALL BE PERFORMED BETWEEN THE HOURS OF 7 PM AND 6 AM. THE CONTRACTOR SHALL SUBMIT TO THE OWNER THE FDOT CERTIFIED MOT PLAN AND CONSTRUCTION SCHEDULE AT THE PRE-CONSTRUCTION MEETING.
- 35. CONTRACTOR TO PROVIDE ALL WARNING SIGNALS, SIGNS, LIGHTS AND FLAG PERSONS AS REQUIRED BY THE FLORIDA D.O.T. IN THE MANUAL ON "TRAFFIC CONTROL AND SAFE PRACTICES".
- 36. ALL PIPE FITTINGS AND APPURTENANCES USED TO PROVIDE CONNECTIONS TO THE EXISTING SEWER SYSTEM OR USED TO PROVIDE DEAD END FUTURE CONNECTIONS SHALL BE RESTRAINED.
- 37. CONTRACTOR MUST MAINTAIN AT LEAST ONE OPEN ACCESS POINT TO EACH PARCEL AT ALL TIMES.
- 38. CONTRACTOR SHALL NOT LEAVE OPEN PITS OR TRENCHES EXPOSED AT END OF EACH CONSTRUCTION DAY. ANY PIT OR TRENCH MUST BE COVERED OR FILLED. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- 39. ALL EXISTING GATE VALVES, PLUG VALVES, METERS, PIPES, ETC. ARE TO REMAIN IN PLACE UNLESS OTHERWISE SPECIFIED IN PLANS. POST RESTRAIN PER GU012-0, SHEET D-3.
- 40. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY— OR PRESSURE—TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62—610, F.A.C. UNLESS OTHERWISE NOTED IN THE DRAWINGS AND OR SPECIFICATIONS. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY—TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY—TYPE OR VACUUM—TYPE SANITARY SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE—TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

AT THE UTILITY CROSSINGS DESCRIBED ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM—TYPE SANITARY SEWERS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62—610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY—OR PRESSURE—TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62—610, F.A.C.

41. PER FAC 62-555.314, (5), EXCEPTIONS. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THE REQUIREMENTS IN SUBSECTION (1) OR (2) ABOVE, THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THESE REQUIREMENTS IF SUPPLIERS OF WATER OR CONSTRUCTION PERMIT APPLICANTS PROVIDE TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH EXCEPTION AND PROVIDE ALTERNATIVE CONSTRUCTION FEATURES THAT AFFORD A SIMILAR LEVEL OF RELIABILITY AND PUBLIC HEALTH PROTECTION. ACCEPTABLE ALTERNATIVE CONSTRUCTION FEATURES INCLUDE THE FOLLOWING:

(A) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE BEING LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE:

1) USE OF PRESSURE—RATED PIPE CONFORMING TO THE AMERICAN WATER WORKS ASSOCIATION STANDARDS INCORPORATED INTO RULE 62-555.330, F.A.C., FOR THE OTHER PIPELINE IF IT IS A GRAVITY— OR VACUUM—TYPE PIPELINE;

- 2) USE OF WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE; OR
- 3) USE OF WATERTIGHT CASING PIPE OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE.

(B) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THREE FEET HORIZONTALLY FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND IS BEING LAID LESS THAN THE REQUIRED MINIMUM VERTICAL DISTANCE FROM THE OTHER PIPELINE:

1) USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25—INCH—THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE WATER MAIN; AND

2) USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25—INCH—THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE OTHER PIPELINE IF IT IS NEW AND IS CONVEYING WASTEWATER OR RECLAIMED WATER.

42. CONTRACTOR IS TO FOLLOW THE REQUIREMENTS OF THE LEE COUNTY UTILITIES DESIGN MANUAL AND LEE COUNTY UTILITIES APPROVED MATERALS LIST(S) WHICH CAN BE FOUND ONLINE AT WWW.LEEGOV.UTILITIES/DESIGN—MANUAL.

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ISSUE	DATE	DESCRIPTION	PROJECT NUMBER	250366
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FGUA
LEHIGH HOMESTEAD ROAD
WATER AND WASTEWATER UTILITY PROJECT

**GENERAL NOTES** 

0 1" 2" **FILENAME** G-102.DWG

SCALE AS NOTED

G-102

**ABBREVIATIONS** NOTE: 1. THESE ABBREVIATIONS APPLY TO THE ENTIRE SET MAINT MAINTENANCE ARCHITECT/ENGINEER ABANDON MAN OF CONTRACT DRAWINGS. ÁBAN MANUAL MATL ABT ABOUT MATERIAL ACK MAX MAXIMUM 2. LISTING OF ABBREVIATIONS DOES NOT IMPLY THAT ACKNOWLEDGE MBR ALL ABBREVIATIONS ARE USED IN THE CONTRACT AD ADDENDUM, AREA DRAIN MEMBER MECH DRAWINGS. ADDL MECHANICAL ADDITIONAL MED MEDIUM ALIGNMENT MFR 3. ABBREVIATIONS SHOWN ON THIS SHEET INCLUDE APRX APPROXIMATE MANUFACTURER APVD MIN MINIMUM APPROVED VARIATIONS OF A WORD. FOR EXAMPLE, "MOD" MISC AVERAGE MISCELLANEOUS AVG MAY MEAN MODIFY OR MODIFICATION; "INC" MAY MJ BAL MECHANICAL JOINT BALANCE MEAN INCLUDED OR INCLUDING AND "REINF" MAY MON BE MONUMENT BURIED ELECTRIC MEAN EITHER REINFORCE OR REINFORCING. MΤ BFO BURIED FIBER OPTIC MOUNT NORTH, NEUTRAL BASE LINE BL NA BLK NOT APPLICABLE BLOCK NAT BENCHMARK, BEAM NATURAL, NATIONAL ВМ BOC NORMALLY CLOSED BACK OF CURB NEG BRG BEARING NEGATIVE BT NIC NOT IN CONTRACT BURIED TELEPHONE NO BTV NORMALLY OPEN, NUMBER BURIED TELEVISION CABLE SYMBOLS LEGEND: NOM BTW NOMINAL BETWEEN NPS NOMINAL PIPE SIZE CUBIC FEET (FOOT) L = POWER POLE CBC NTS NOT TO SCALE CONCRETE BOX CULVERT NWL NORMAL WATER LEVEL CURB INLET = MITERED END SECTION OA OC OD OE CIP OUTSIDE AIR, OVERALL CAST-IN-PLACE CL ON CENTER CENTERLINE, CLASS, CLOSE CO OUTSIDE DIAMETER CLEANOUT, CONCRETE OPENING COM OVERHEAD ELECTRIC COMMON 🖶 = MAILBOX OFCI COMB OWNER FURNISHED CONTRACTOR INSTALLED COMBINATION OFOI COMM OWNER FURNISHED OWNER INSTALLED COMMUNICATION ОН CONC OVERHEAD CONCRETE **\***♡ = TREE OVERHEAD TELEVISION CABLE OHTV CONN CONNECTION OPNG CONST OPENING ื = REDUCING TEE CONSTRUCT OPP OPPOSITE CONT CONTINUOUS **二** = TEE OPT COOR OPTIONAL COORDINATE OR CORR OUTSIDE RADIUS CORROSION-RESISTANT LINING **D** = 90° BEND ORIG CT ORIGINAL CENTER **=** 22.5° BEND  $\mathsf{OT}$ CTR OVERHEAD TELEPHONE CONTROL CVT OVFL OVERFLOW CULVERT **>** = 45° BEND CU OUNCE COPPER, CUBIC M = GATE VALVE PΑ CW PUBLIC ADDRESS CLOCKWISE PC CY PERCENT CUBIC YARD **I** = PLUG D POINT OF INFLECTION DEEP, DIFFUSER, DRAIN **=** REDUCER DBL PLATE, PROPERTY LINE DOUBLE PP DEMO POLYPROPYLENE, POWER POLE DEMOLITION **IC** = BEND UP PRELIM DET PRELIMINARY DETAIL PREP **=** BEND DOWN DIA PREPARE DIAMETER DIM PRES PRESSURE DIMENSION **T** = FIRE HYDRANT DISCH PRI PRIMARY DISCHARGE PROP DIST PROPERTY, PROPOSED DISTANCE, DISTRIBUTION PT DUP POINT OF TANGENT DUPLICATE PV DWG PLUG VALVE DRAWING PVC POLYVINYL CHLORIDE EFF PVMT PAVEMENT EFFLUENT, EFFICIENCY QTY QUANTITY ELBOW, ELEVATION ENGR QUAL QUALITY ENGINEER EOP RADIUS, REGISTER, RISER EDGE OF PAVEMENT RCP EQ REINFORCED CONCRETE PIPE EQUAL EXIST RECD RECEIVED EXISTING RED EXT REDUCER EXTERIOR, EXTERNAL, EXTENSION REF FBO REFERENCE FURNISHED BY OWNER REQD REQUIRED FD FOUNDATION REV FG REVISION, REVERSE FINISHED GRADE FIN RJ RESTRAINED JOINT FINISH **LINETYPE LEGEND:** FL RIGHT FLOW, FLOW LINE FLG SOUTH, SINK FLANGE ----- EXISTING FORCE MAIN SECONDARY, SECONDS FΜ FORCE MAIN EXISTING BURIED ELECTRIC SECTION ----- EXISTING GAS MAIN FENCE FO SQUARE FOOT, SILT FENCE FACE OF CONCRETE, FACE OF CURB FT SHT SHEET FEET, FOOT BFO — EXISTING BURIED FIBER OPTIC FTG SPEC SPECIFICATION FOOTING, FITTING TELEPHONE FUR STA STATION FURNITURE, FURNISH - EXISTING OVERHEAD ELECTRIC FUT STANDARD EXISTING WATER MAIN FUTURE FW TEMPORARY CONSTRUCTION EASEMENT FORWARD ------ EXISTING STORM DRAIN TEMPORARY, TEMPERATURE GRILLE, GROUND RIGHT-OF-WAY GAL TOP OF BOLT, TOP OF BANK, GALLON PROPOSED CASING GEN TOP OF BEAM, TOP OF BERM GENERAL PROPOSED WM GND TOP OF CURB, TOP OF CONCRETE GROUND GR TYP TOPOGRAPHY GRADE GV UG TYPICAL GATE VALVE UNO UNDERGROUND UTIL UNLESS NOTED OTHERWISE UTILITY HORIZ HORIZONTAL VΒ VALVE BOX HEIGHT HWL VERT VERTICAL HIGH WATER LEVEL W/ WITH INSIDE DIAMETER, INTERIOR DIMENSION WITHOUT INC WATER LEVEL INCLUDE, INCANDESCENT INF WATER MAIN INFLUENT INT INTERIOR, INTERSECTION JOINT LENGTH LAD LADDER LATL LATERAL LCEC LDR LF LEE COUNTY ELECTRICAL COMPANY LEADER LINEAR FOOT LG LONG LIN LNG LOC LT LINEAR LONGITUDINAL LOCATION LEFT LTD LIMITED LWL LOW WATER LEVEL PROJECT MANAGER JEEF CRIGIER DE **GENERAL ABBREVIATIONS** 

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			PROJECT MANAGER	JEFF CRIGLER, PE.
			DESIGNER	JTT
			REVIEWER	TSH
			PROJ. ENGINEER	HLM
1	02/2016	90% SUBMITTAL		
ISSUE	DATE	DESCRIPTION	PROJECT NUMBER	250366

#### **FGUA LEHIGH HOMESTEAD ROAD WATER AND WASTEWATER UTILITY PROJECT**

& LEGEND



SHEET G-103 NOTE:

1. COST ESTIMATE BASED ON FLORIDA DEPARTMENT OF TRANSPORTATION ITEM AVERAGE UNIT COST (FROM 2015/02/01 TO 2016/01/31).

ITEM NO.	DESC RIPTION	UNIT	QUANTITY
1	MOBILIZATION, DEMOBILIZATION, BONDS, AND PERMITS	LS	1
2 3	MAINTENANCE OF TRAFFIC AND PEDESTRIAN SAFETY  EROSION AND SEDIMENTATION CONTROL	LS LS	1
4	CLEARING AND GRUBBING	LS	1
5	PLUG AND FILL (PLACE OUT OF SERVICE) (4") PLUG AND FILL (PLACE OUT OF SERVICE) (6")	LF LF	220 320
7	PLUG AND FILL (PLACE OUT OF SERVICE) (8")	LF	974
8	PLUG AND FILL (PLACE OUT OF SERVICE) (12") PLUG AND FILL (PLACE OUT OF SERVICE) (16")	<u>LF</u> LF	13,838
10	4" PLUG VALVE (WITH BOX)	EA	2
11	6" PLUG VALVE (WITH BOX) 12" PLUG VALVE (WITH BOX)	EA EA	1
13	16" PLUG VALVE (WITH BOX)	EA	2
14	6" GATE VALVE (WITH BOX)	EΑ	11
15 16	8" GATE VALVE (WITH BOX) 12" GATE VALVE (WITH BOX)	EA EA	5 21
17	WATER SERVICE SADDLE AND CORPORATION STOP	EA	9
18 19	PE3408 SDR9 WATER SERVICE (SIZE UKNOWN) 2" PVC CASING (FOR WATER ROAD CROSSINGS)	LF LF	83 255
20	4" WATER MAIN (PVC C900, RESTRAINED JOINT/PLAIN END)	LF	146
21	6" WATER MAIN (PVC C900, RESTRAINED JOINT/PLAIN END) 8" WATER MAIN (PVC C900, RESTRAINED JOINT/PLAIN END)	LF LF	173 951
23	10" WATER MAIN (PVC C900, RESTRAINED JOINT/PLAIN END)	LF	10
24 25	12" WATER MAIN (PVC C 900, RESTRAINED JOINT/PLAIN END) 12" WATER MAIN (FPVC C 900, HDD)	LF LF	9,640
26	12" WATER MAIN (DIP, RESTRAINED JOINT)	LF	261
27	6" FORCE MAIN (PVC C900, RESTRAINED JOINT/PLAIN END) 6" FORCE MAIN (FPVC C900. HDD)	LF	230
28 29	6" FORCE MAIN (FPVC C900, HDD) 12" FORCE MAIN (PVC C900, RESTRAINED JOINT/PLAIN END)	LF LF	160 1,106
30	16" FORCE MAIN (PVC C900, RESTRAINED JOINT/PLAIN END)	LF	4,081
31 32	12" STEEL CASING 16" STEEL CASING	LF LF	71 288
33	24" STEEL CASING	LF	745
34 35	4" SANITARY 45° BEND (DI) (EPOXY LINED), (RJ) 6" SANITARY 45° BEND (DI) (EPOXY LINED), (RJ)	EA EA	2 2
36	6"X4" SANITARY REDUCER (DÌ) (EPOXY LINED), (RJ)	ĒΑ	2
37 38	6" SANITARY PLUG(DI) (EPOXY LINED), (RJ) 12" SANITARY 11.25° BEND (DI) (EPOXY LINED), (RJ)	EA EA	1 2
39	12" SANITARY 45° BEND (DI) (EPOXY LINED), (RJ)	EA	7
40	12"X12" SANITARY TEE (DI) (EPOXY LINED), (RJ)	ΕA	1
41	16" SANITARY 22.5° BEND (DI) (EPOXY LINED), (RJ) 16" SANITARY 45° BEND (DI) (EPOXY LINED), (RJ)	EA EA	18
43	16"X6" SANITARY WYE (DI) (EPOXY LINED), (RJ)	EA	2
44	16"X12" SANITARY REDUCER (DI) (EPOXY LINED), (RJ) 16" SANITARY SLEEVE (DI) (EPOXY LINED), (RJ)	EA EA	1
46	4" POTABLE WATER 45° BEND (DI) (CEMENT LINED), (RJ)	EA	2
47 48	6" POTABLE WATER 90° BEND (DI) (CEMENT LINED), (RJ) 8" POTABLE WATER 22.5° BEND (DI) (CEMENT LINED), (RJ)	EA EA	8 12
49	8" POTABLE WATER 45° BEND (DI) (CEMENT LINED), (RJ)	EΑ	19
50 51	8" POTABLE WATER 90° BEND (DI) (CEMENT LINED), (RJ) 8" X 8" POTABLE WATER TEE (DI) (CEMENT LINED), (RJ)	EA EA	2
52	8" POTABLE PLUG (DI) (CEMENT LINED), (RJ)	EA	1
53 54	8" POTABLE WATER SLEEVE (DI) (CEMENT LINED), (RJ) 10" POTABLE WATER 90° BEND (DI) (CEMENT LINED), (RJ)	EA EA	1 2
55	12" POTABLE WATER 90 BEND (DI) (CEMENT LINED), (RJ)	EA	2
56 57	12" POTABLE WATER 22.5° BEND (DI) (CEMENT LINED), (RJ)	EΑ	61
57 58	12" POTABLE WATER 45° BEND (DI) (CEMENT LINED), (RJ) 12" POTABLE WATER 90° BEND (DI) (CEMENT LINED), (RJ)	EA EA	18
59	12" X 6" POTABLE WATER TEE (DI) (CEMENT LINED), (RJ)	EA	10
60	12" X 8" POTABLE WATER TEE (DI) (CEMENT LINED), (RJ) 12" X 10" POTABLE WATER TEE (DI) (CEMENT LINED), (RJ)	EA EA	<u>3</u>
62	12" X 12" POTABLE WATER TEE (DI) (CEMENT LINED), (RJ)	EA	7
63 64	12" X 12" POTABLE WATER WYE (DI) (CEMENT LINED), (RJ) 12" X 6" POTABLE WATER REDUCER (DI) (CEMENT LINED), (RJ)	EA EA	1 1
65	12" X 8" POTABLE WATER REDUCER (DI) (CEMENT LINED), (RJ)	ΕA	2
66 67	12" POTABLE WATER PLUG (DI) (CEMENT LINED), (RJ) 12" POTABLE WATER SLEEVE (DI) (CEMENT LINED), (RJ)	EA EA	2
68	4"x4" TAPPING SLEEVE AND VALVE	EΑ	1
69 70	10"x10" TAPPING SLEEVE AND VALVE CONCRETE DRIVEWAY REMOVAL AND REPLACEMENT	EA SY	1 167
71	CONCRETE DRIVEWAY REMOVAL AND REPLACEMENT	LF	1,420
72	ASPHALT ROADWAY REMOVAL AND REPLACEMENT	SY	1,400
73 74	RELOCATE EXISTING FIRE HYDRANT ASSEMBLY RELOCATE EXISTING METER, BOX AND BFP	EA EA	3 4
75	CONTINGENCY (ALABAMA RD/ LEELAND HEIGHTS BLVD AND HOMESTEAD	LS	1

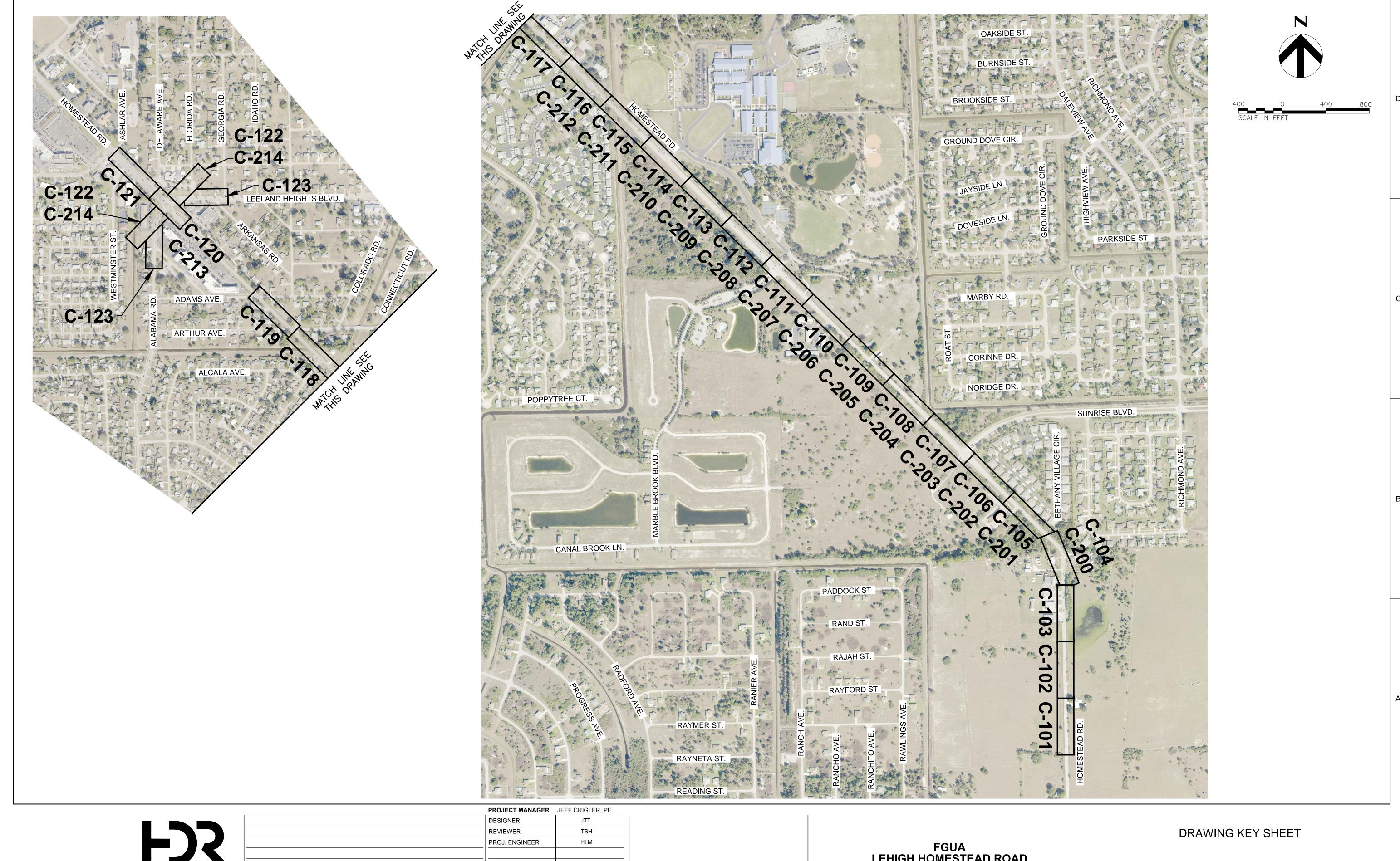
				PROJECT MANAGER	JEFF CRIGLER,
				DESIGNER	JTT
				REVIEWER	TSH
				PROJ. ENGINEER	HLM
R ENGINEERING, INC					
I CATTLEMEN ROAD, STE 400 ASOTA, FL 34232	1	02/2016	90% SUBMITTAL		
1213	ISSUE	DATE	DESCRIPTION	PROJECT NUMBER	250366

FGUA LEHIGH HOMESTEAD ROAD WATER AND WASTEWATER UTILITY PROJECT

SUMMARY OF QUANTITIES

G-104

FILENAME G-104.DWG



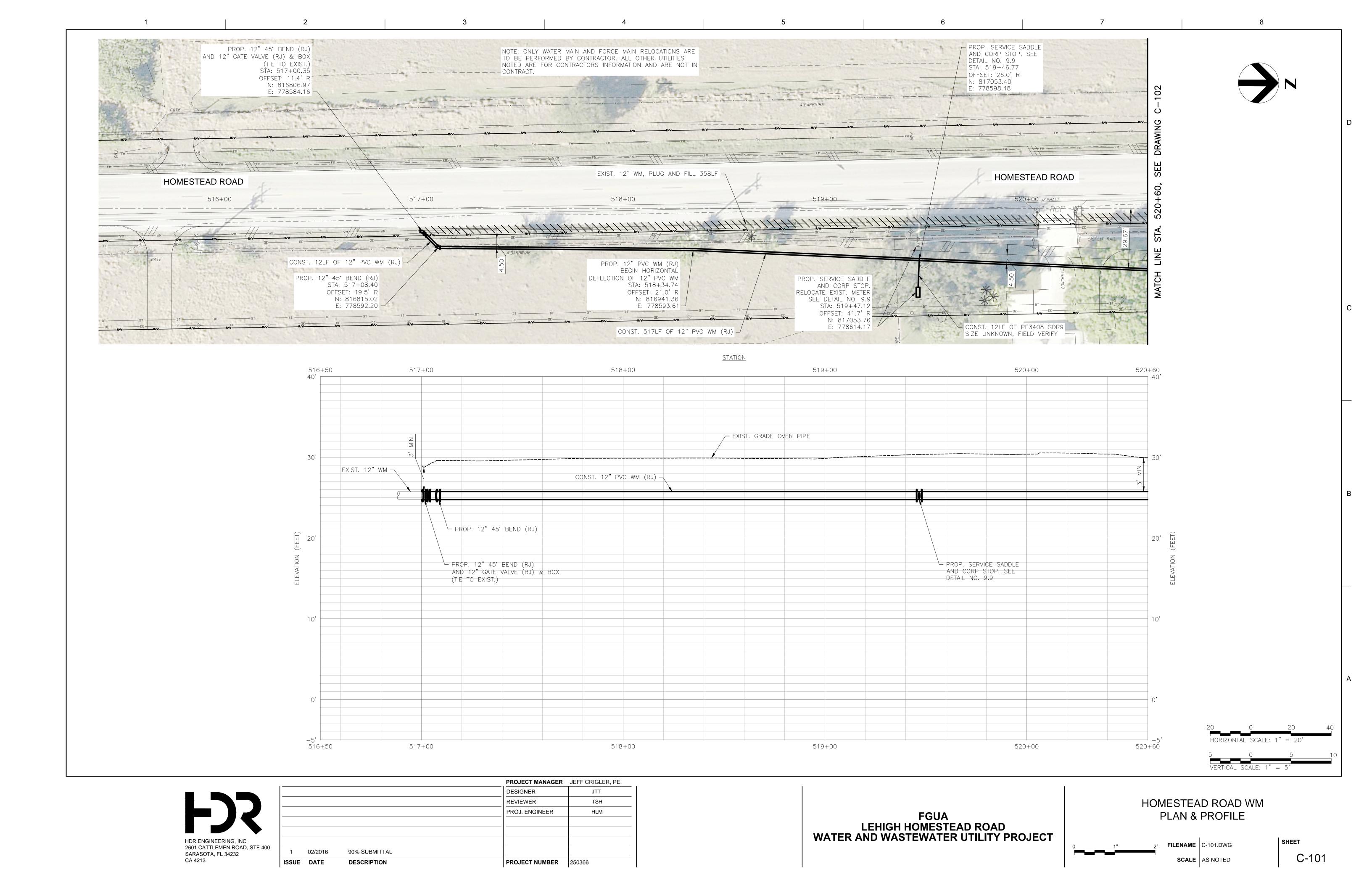
HDR ENGINEERING, INC 2601 CATTLEMEN ROAD, STE 400 SARASOTA, FL 34232 CA 4213

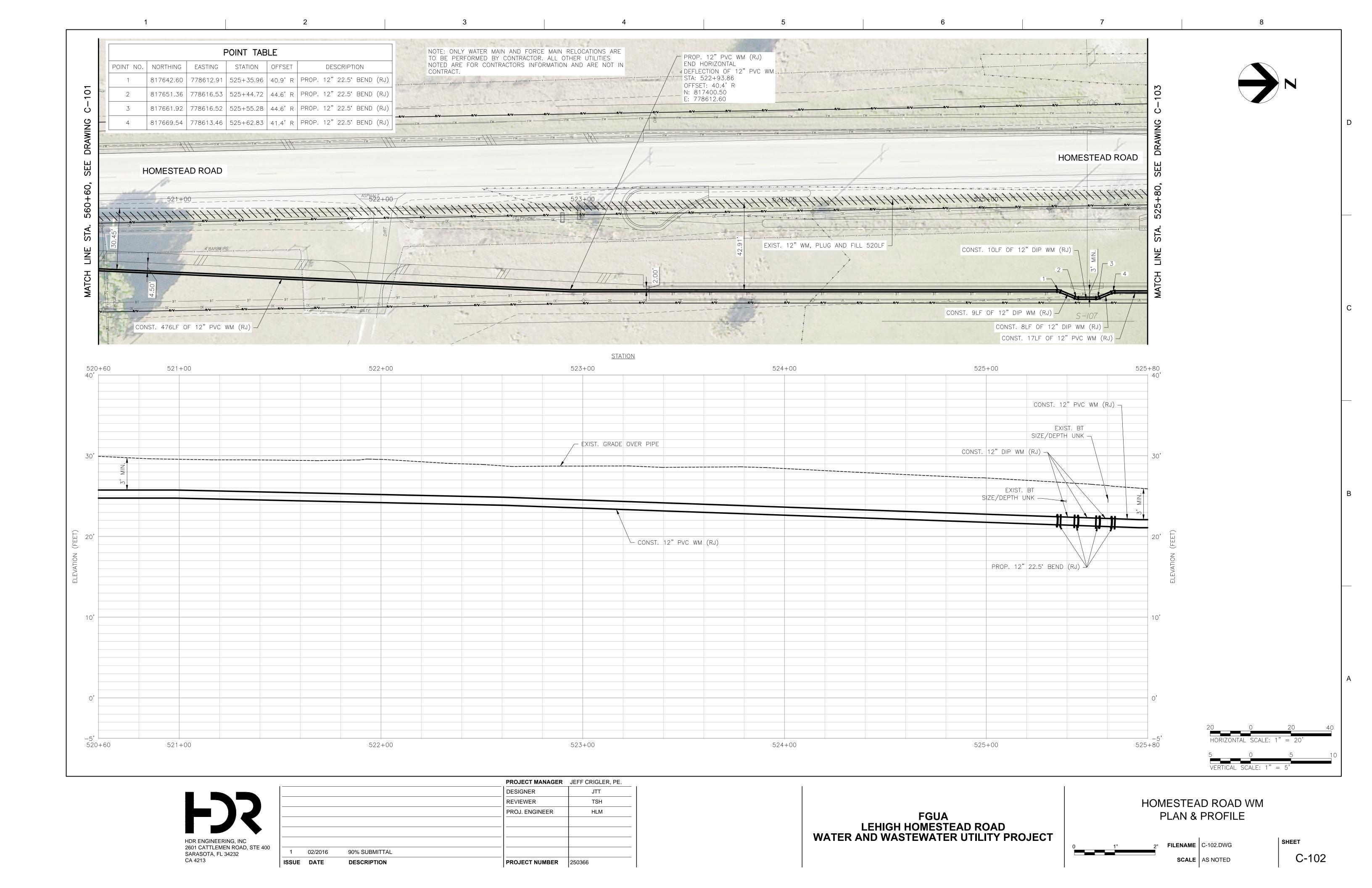
			DESIGNER	JTT
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	02/2016	90% SUBMITTAL		
UE	DATE	DESCRIPTION	PROJECT NUMBER	250366

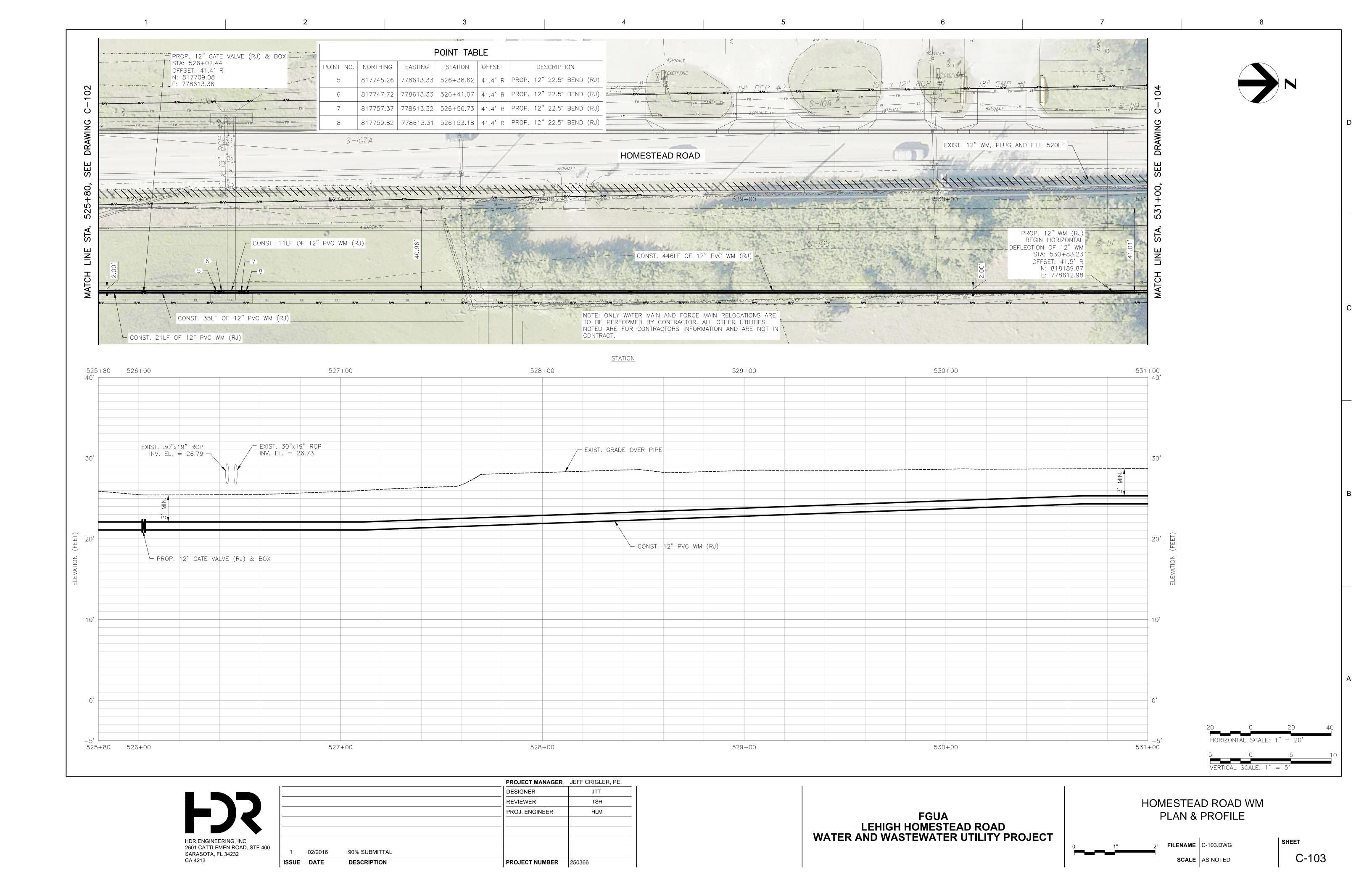
FGUA LEHIGH HOMESTEAD ROAD WATER AND WASTEWATER UTILITY PROJECT

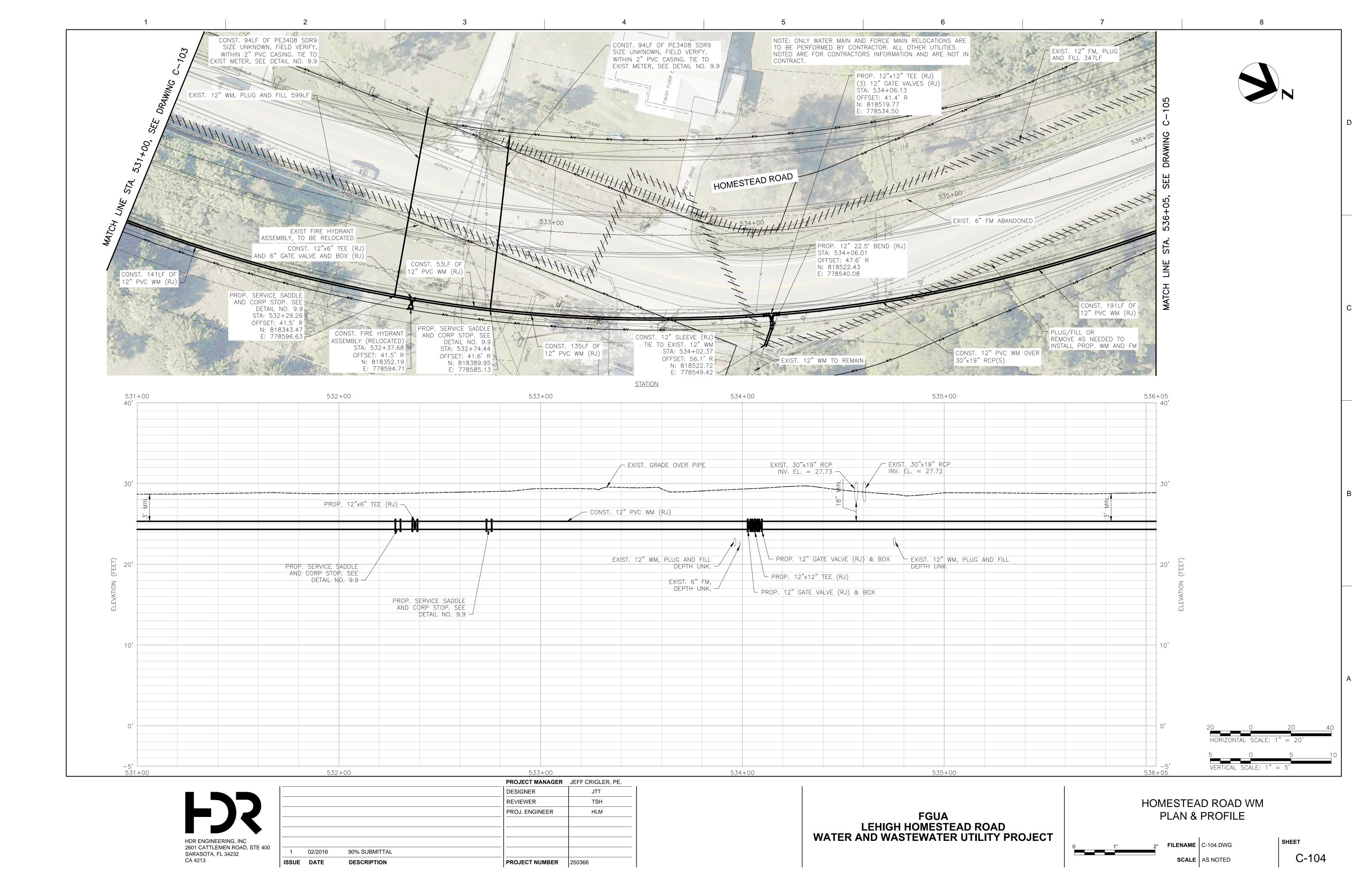
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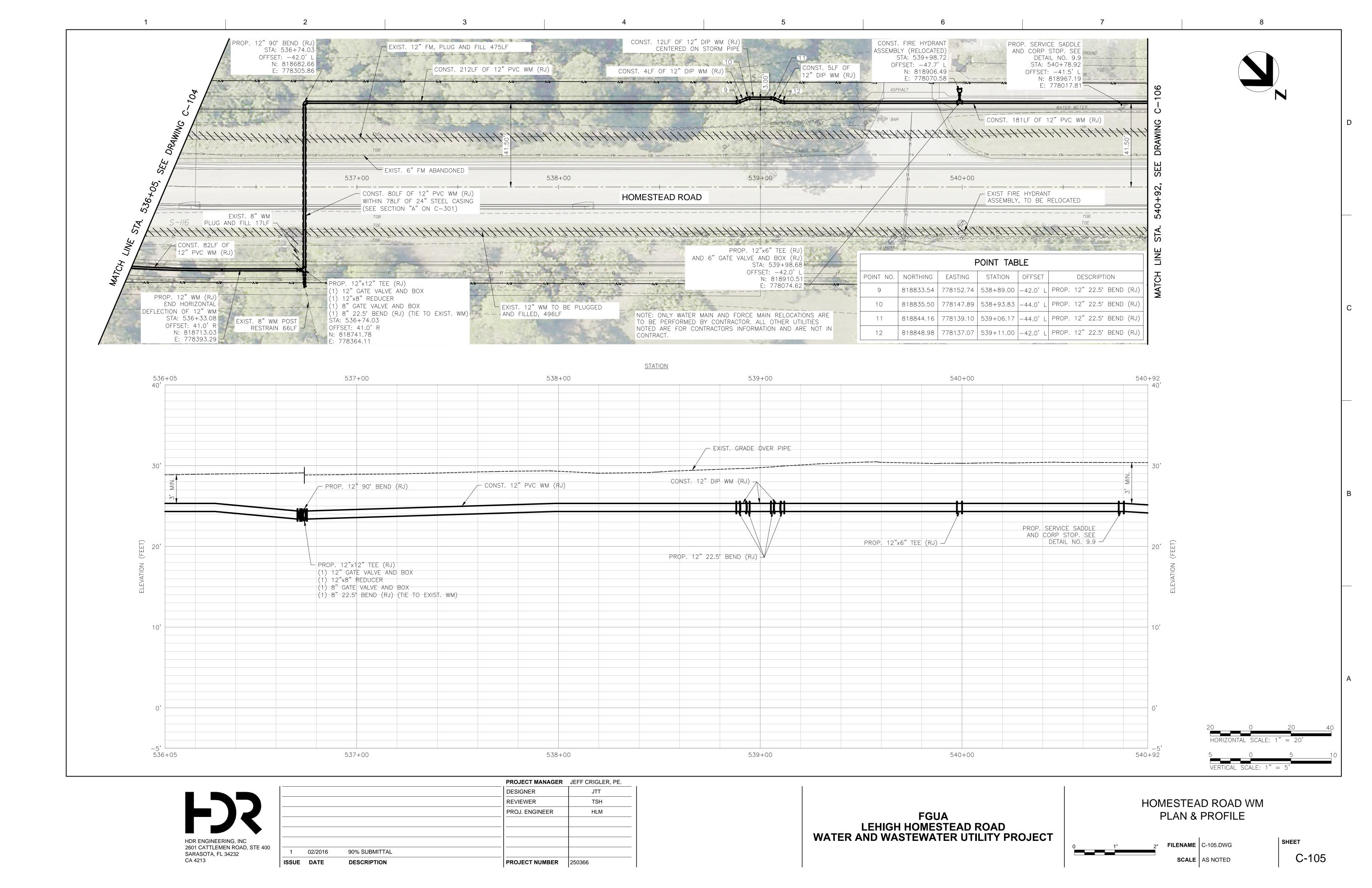
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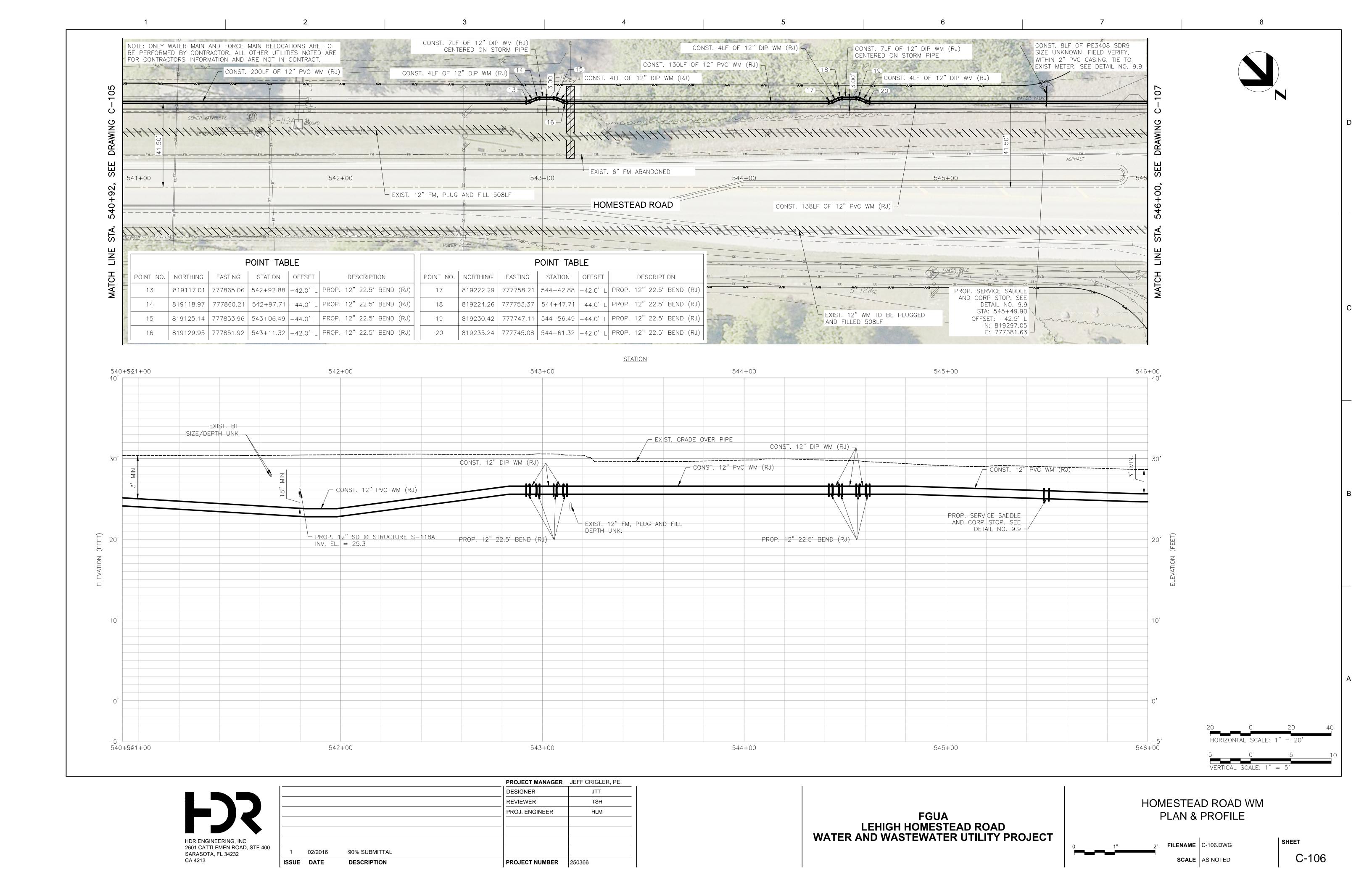


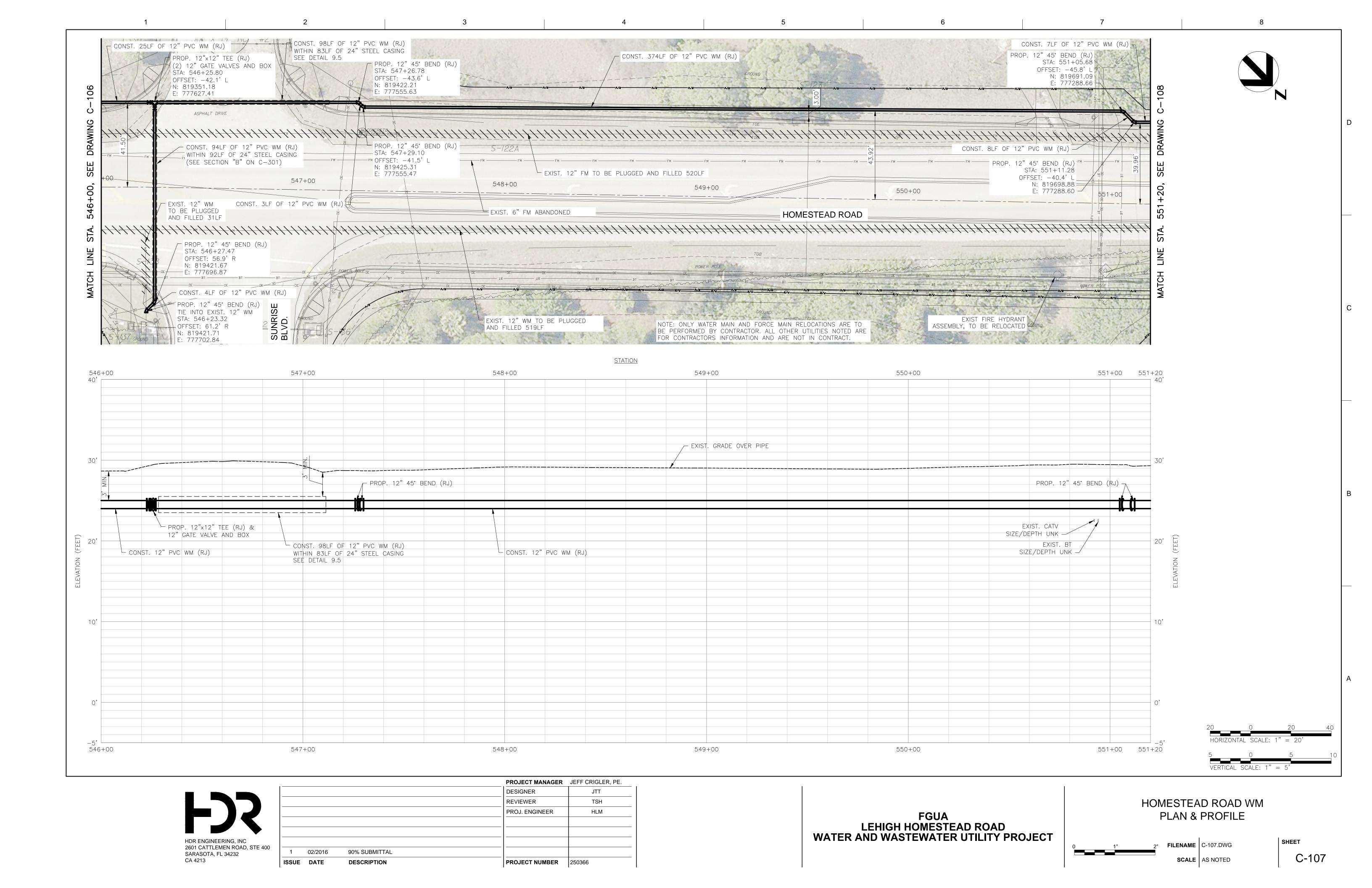


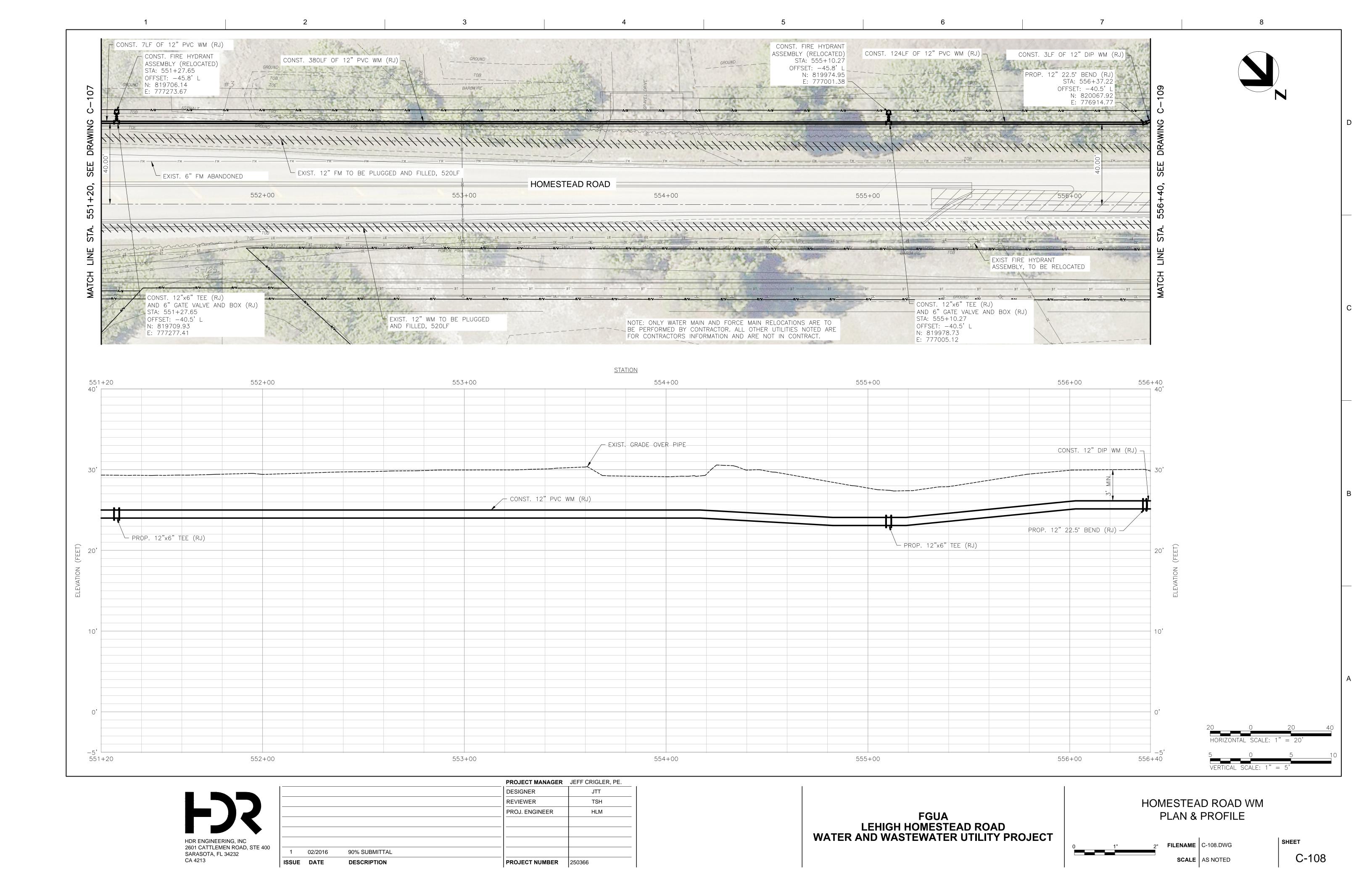


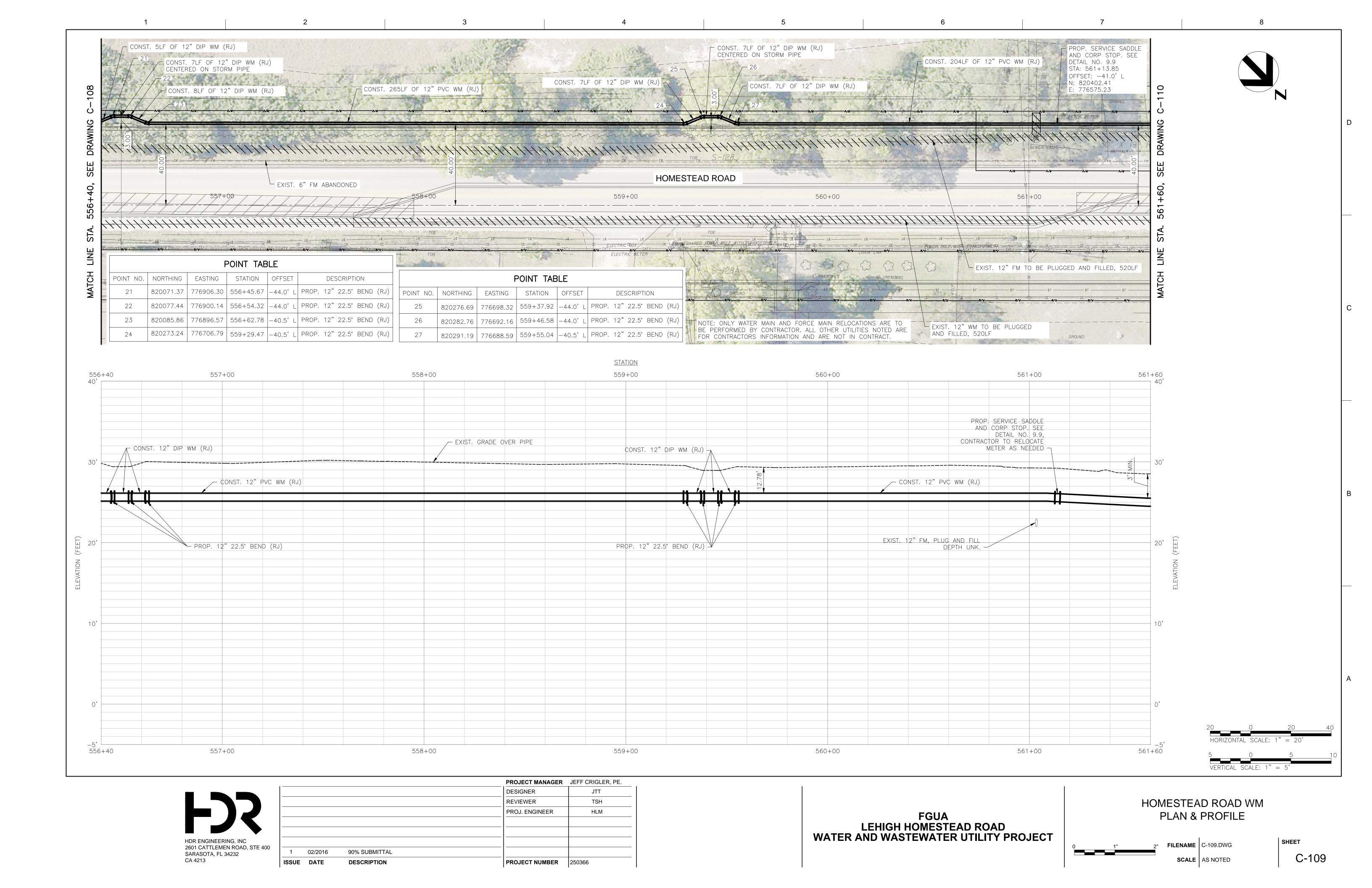


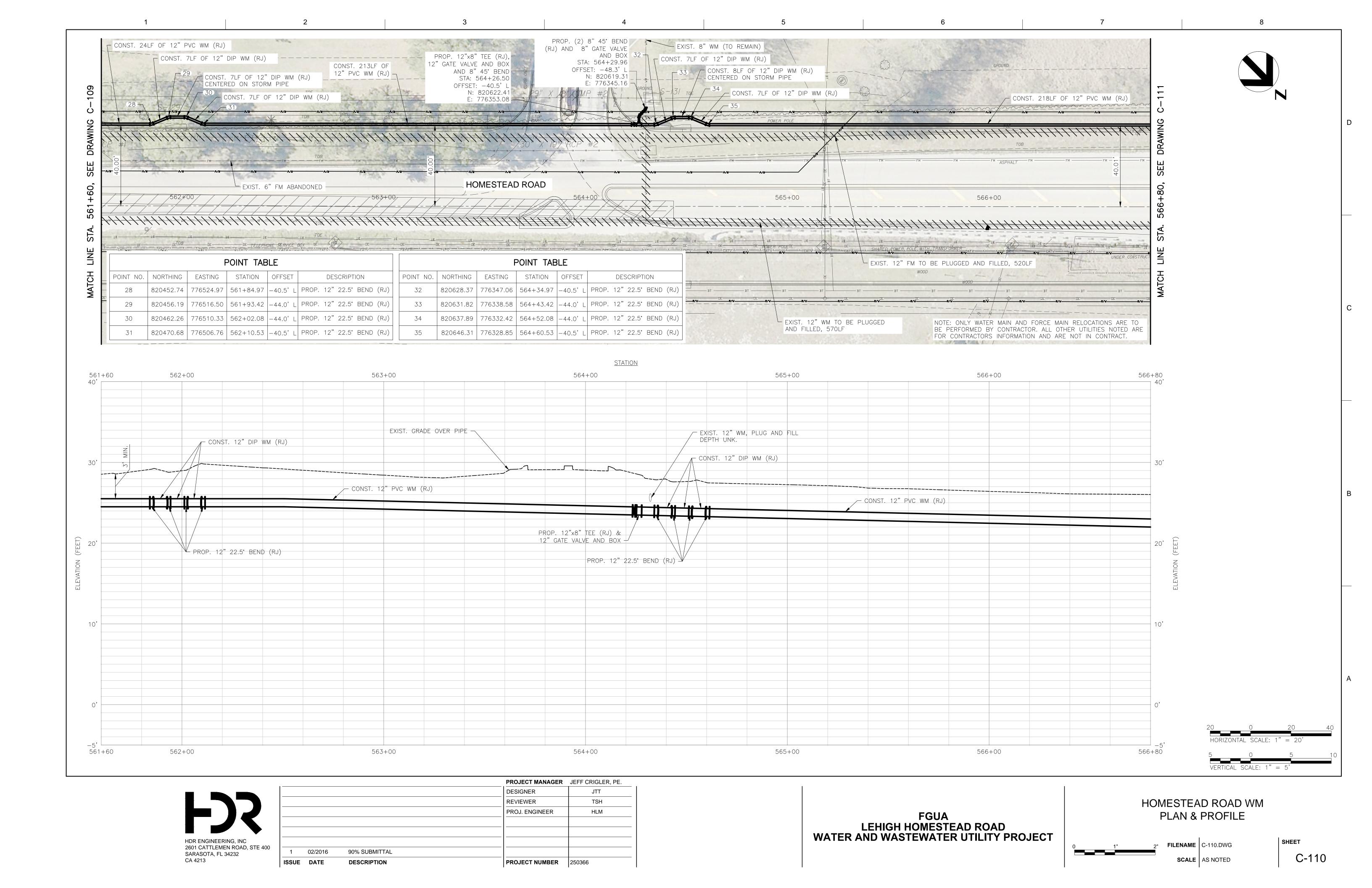


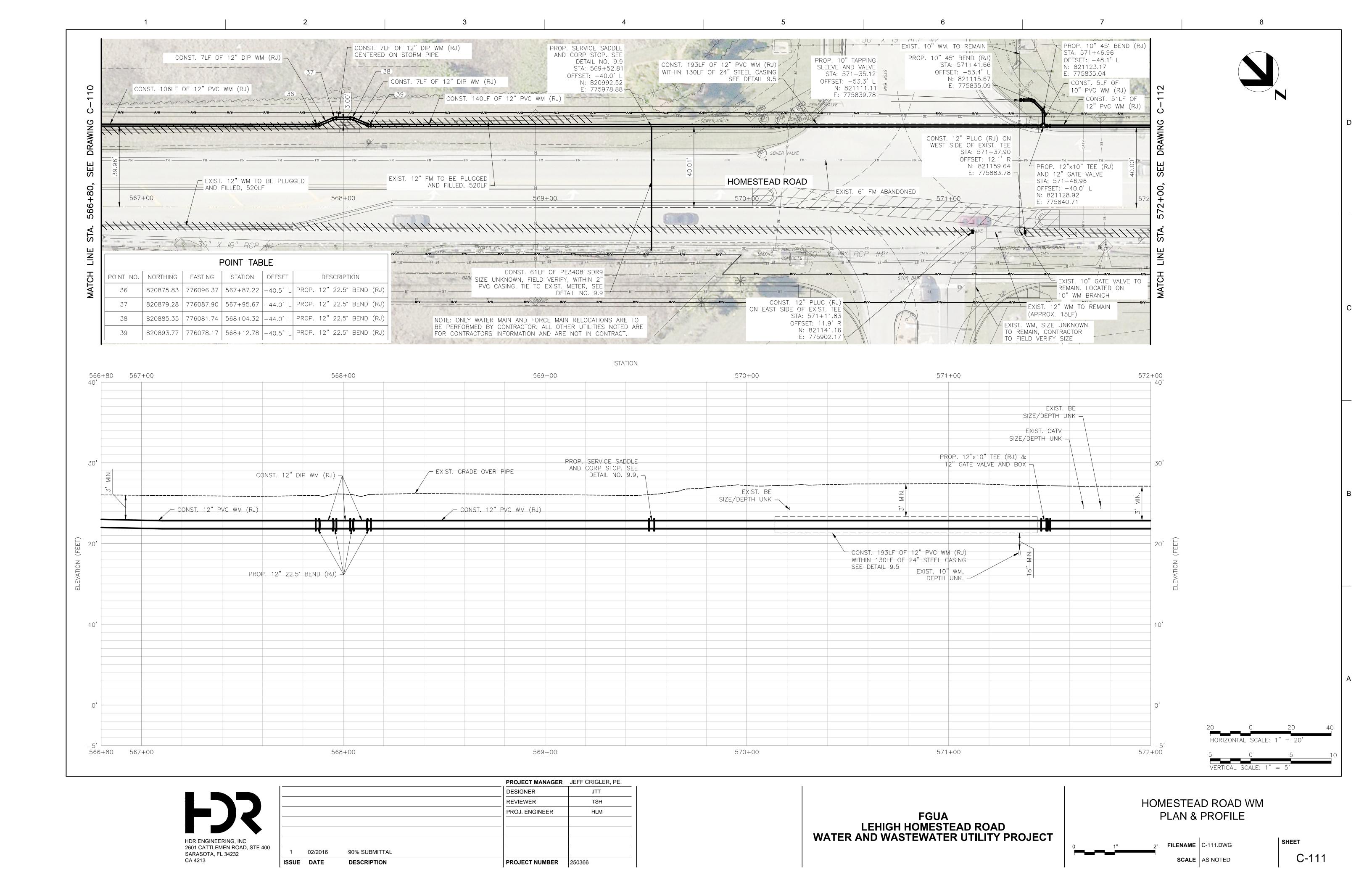


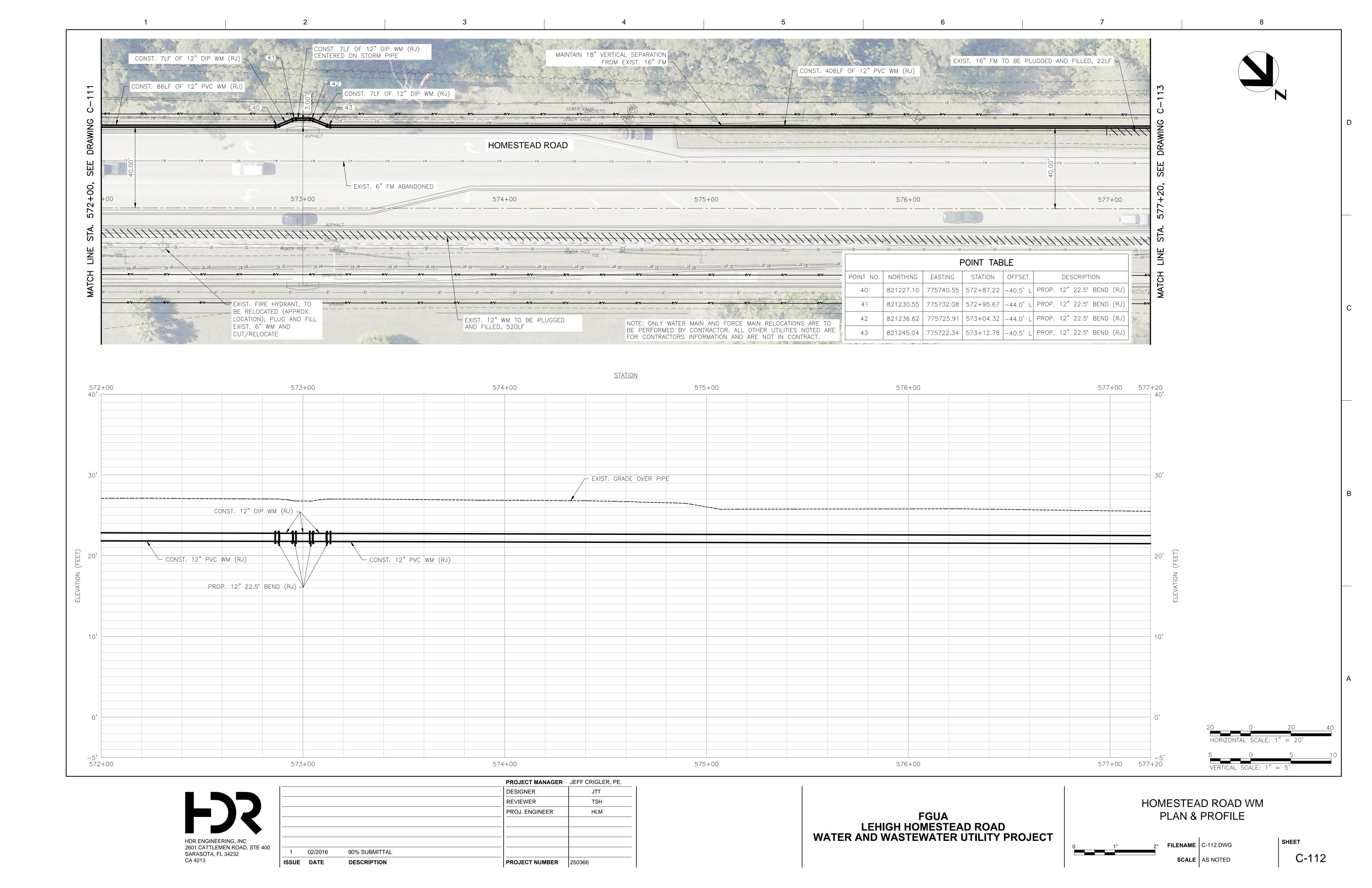


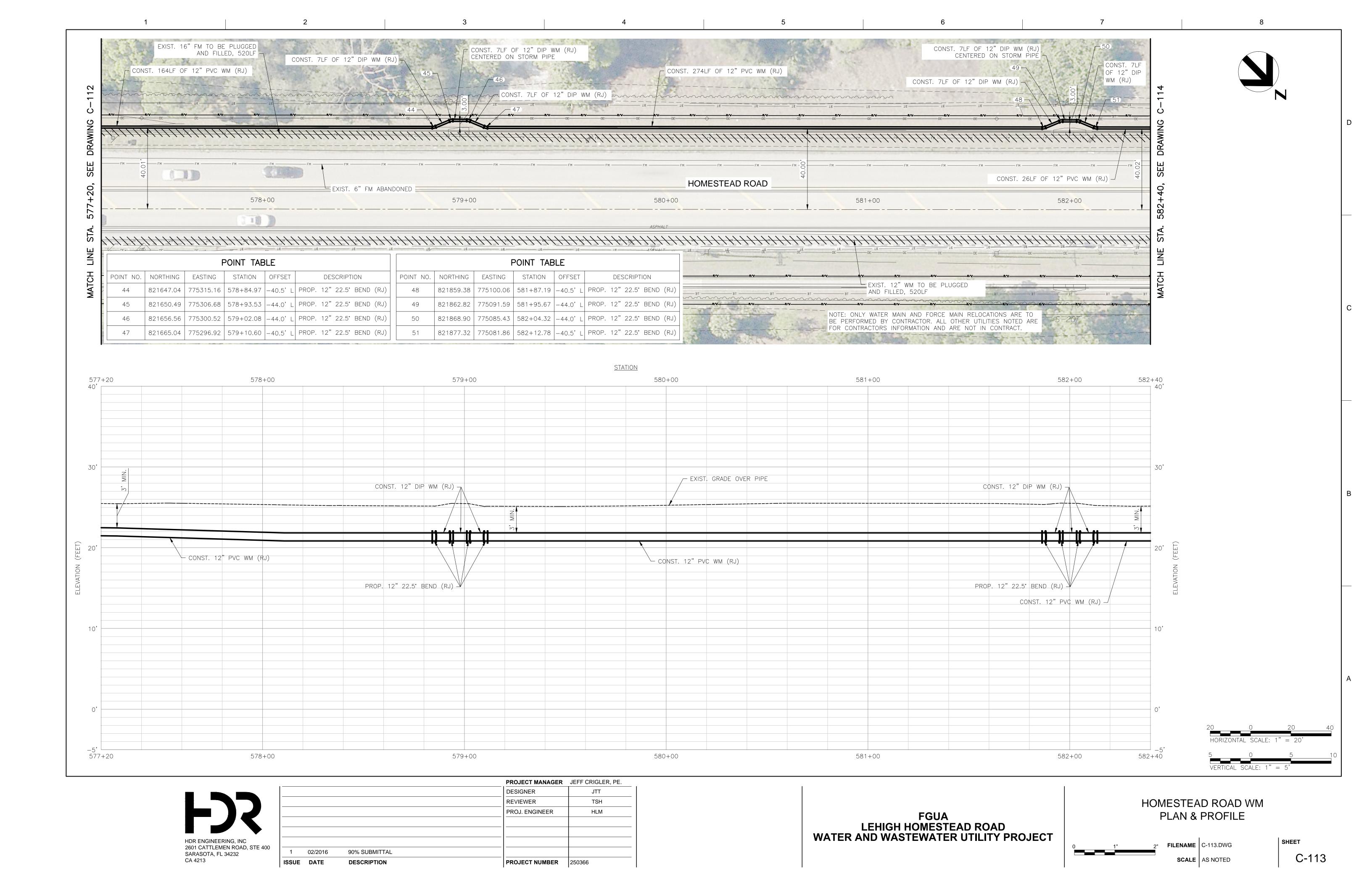


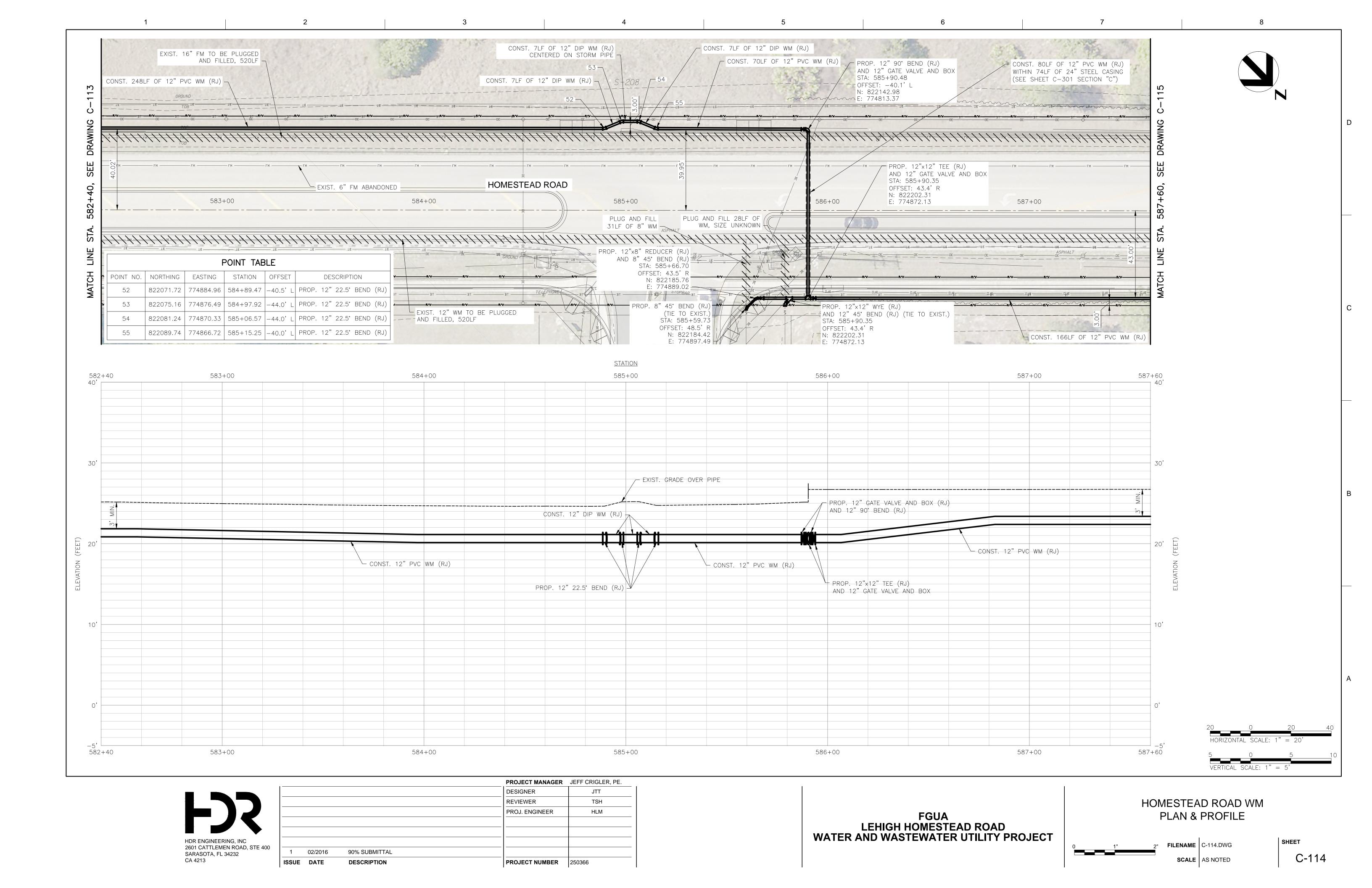


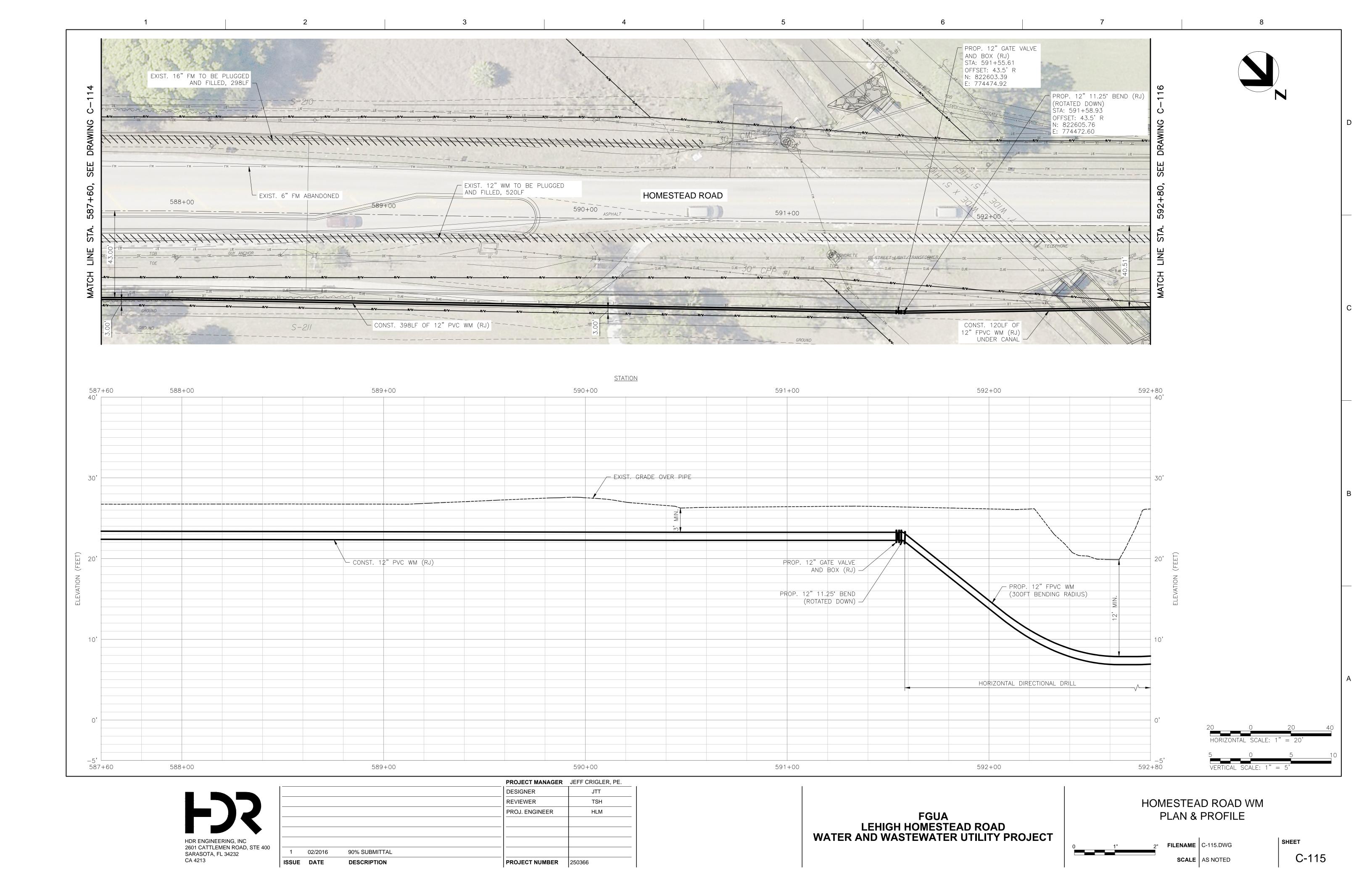


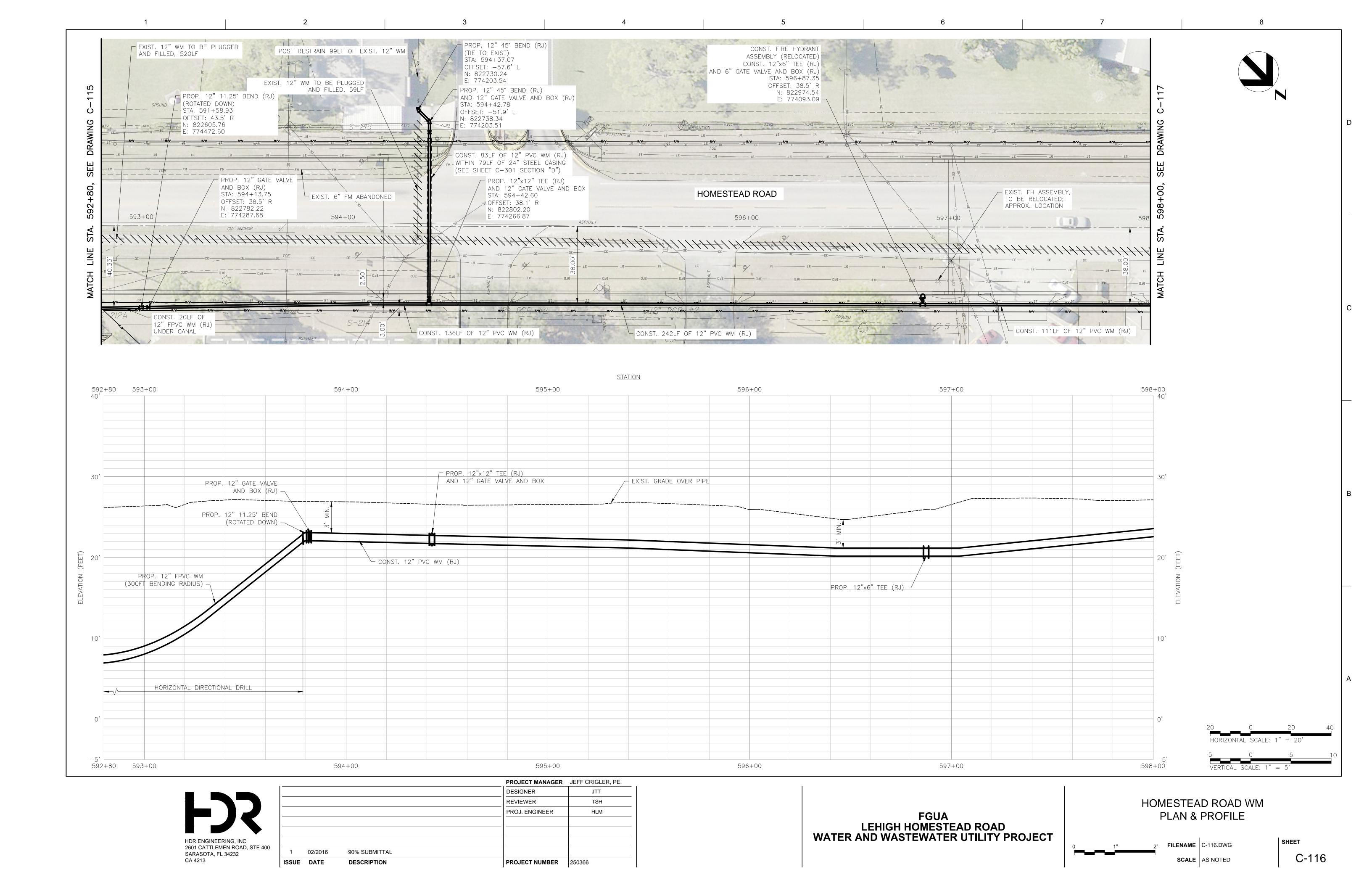


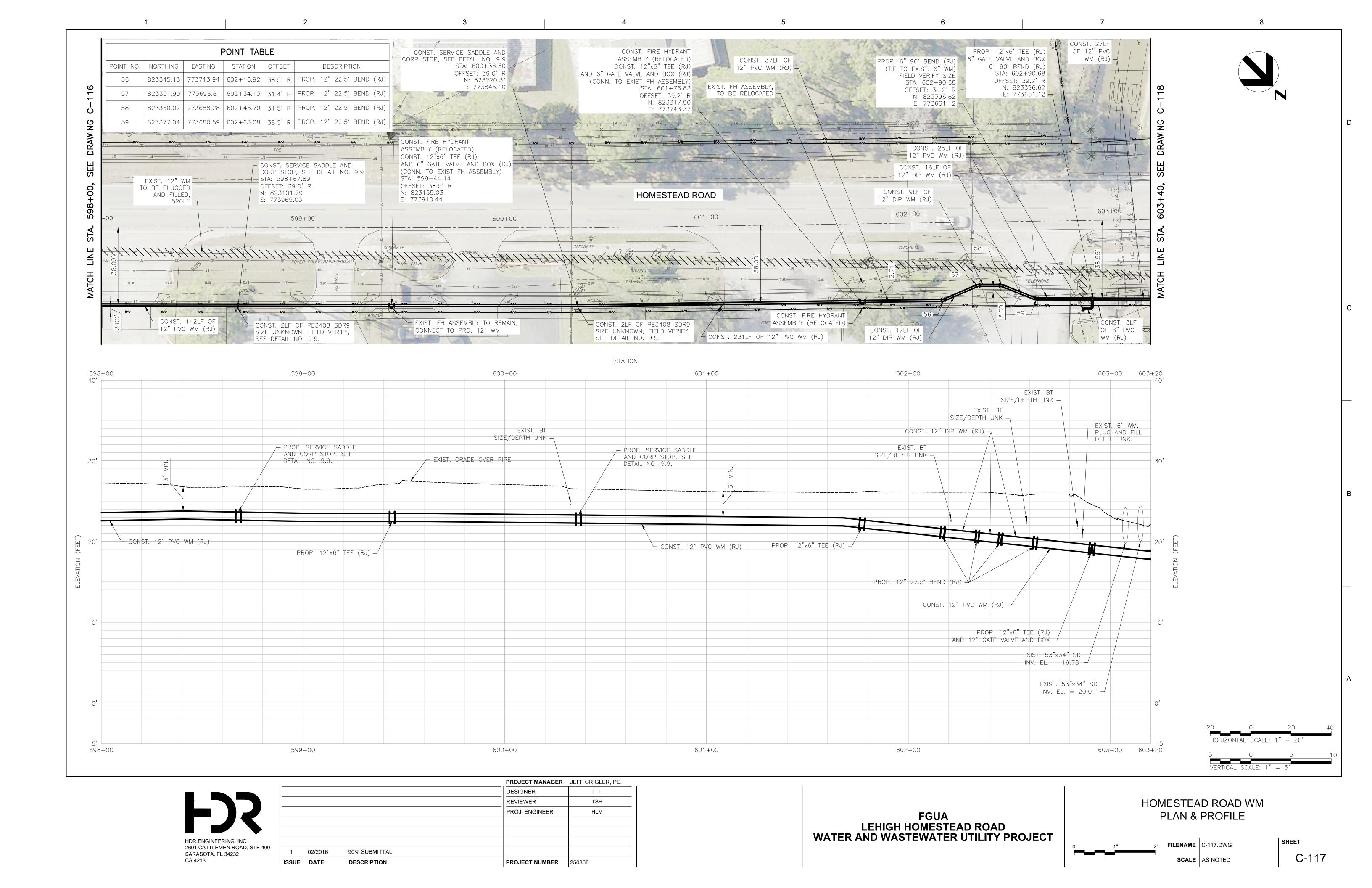


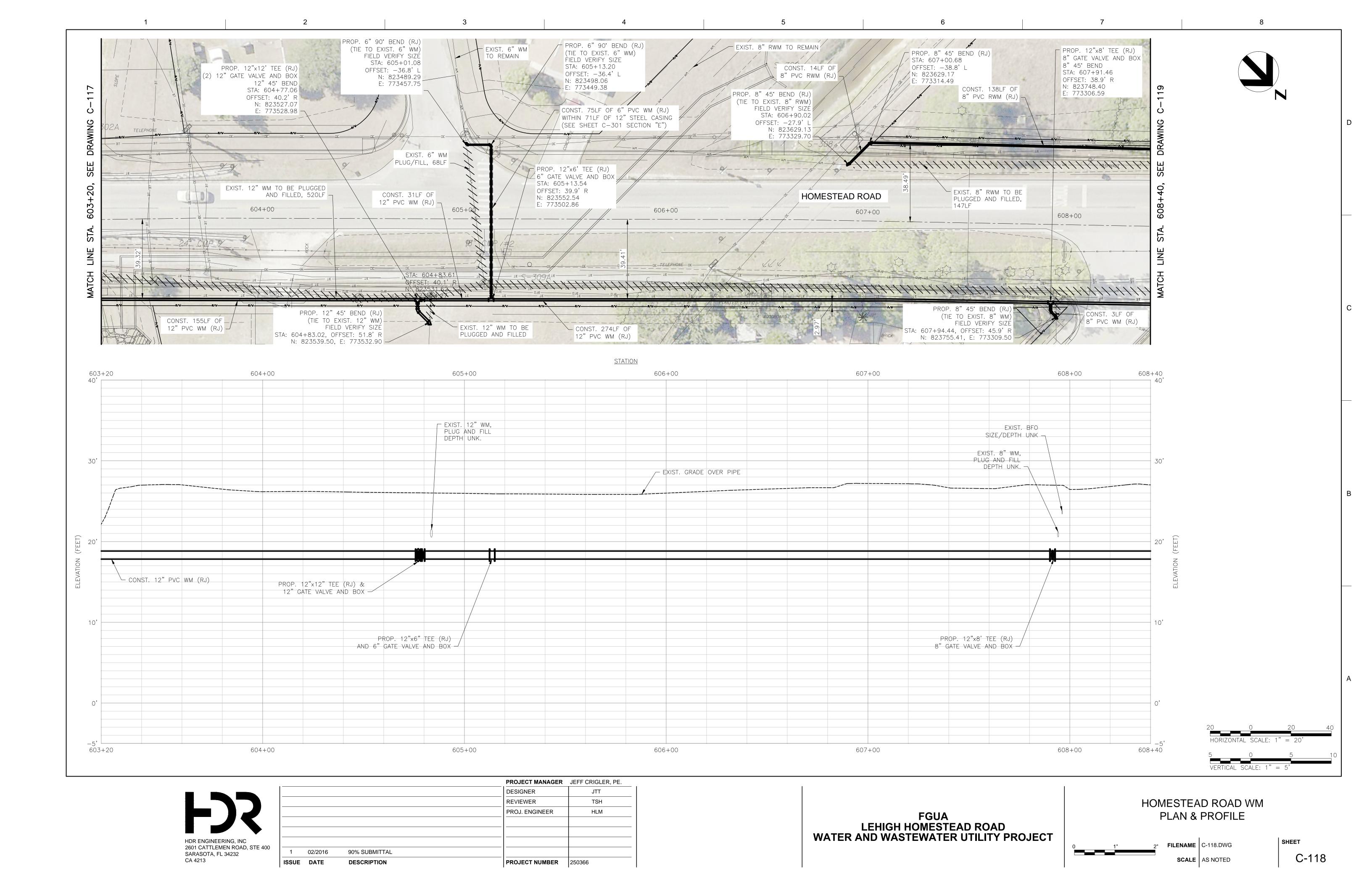


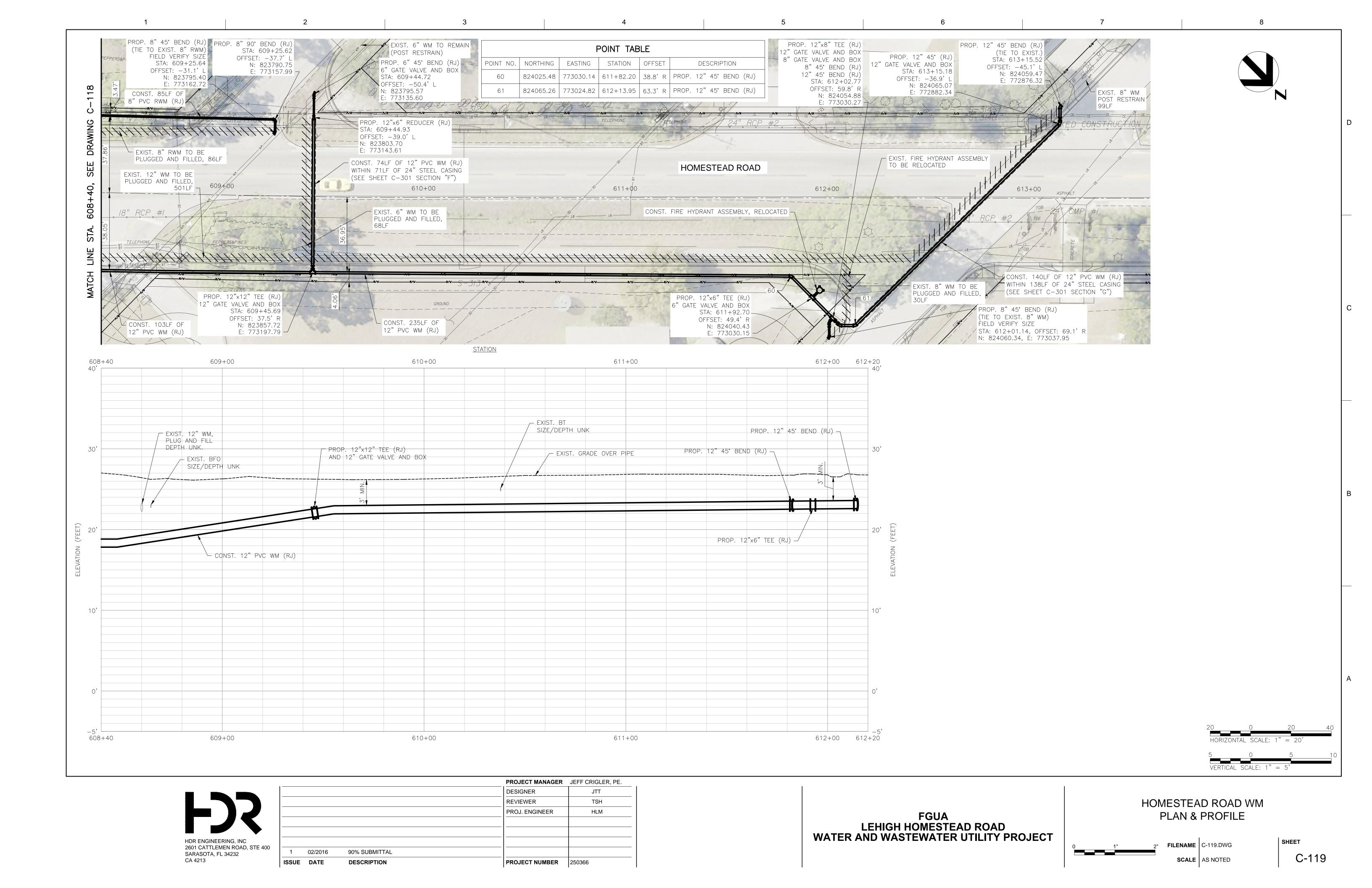


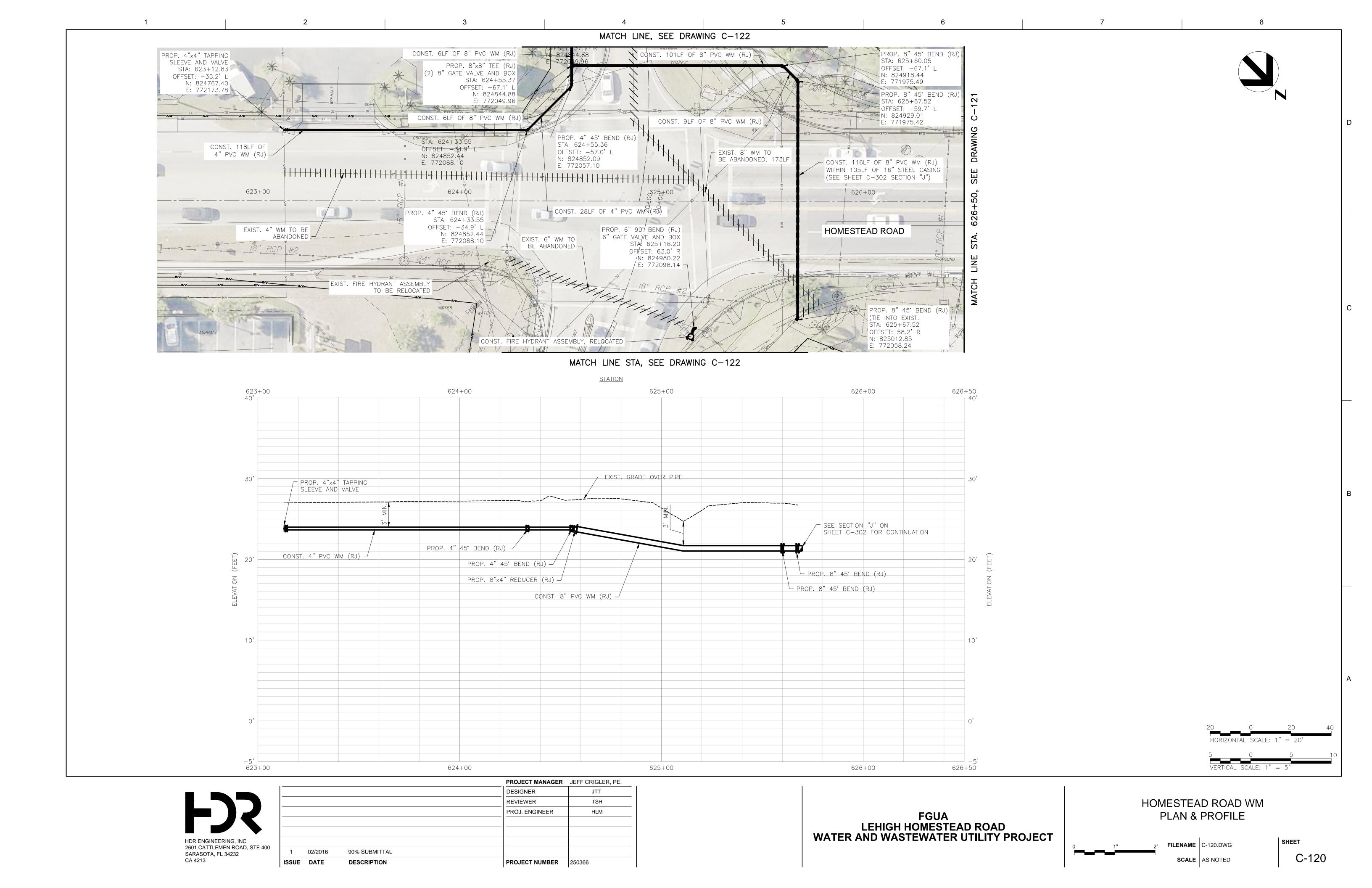


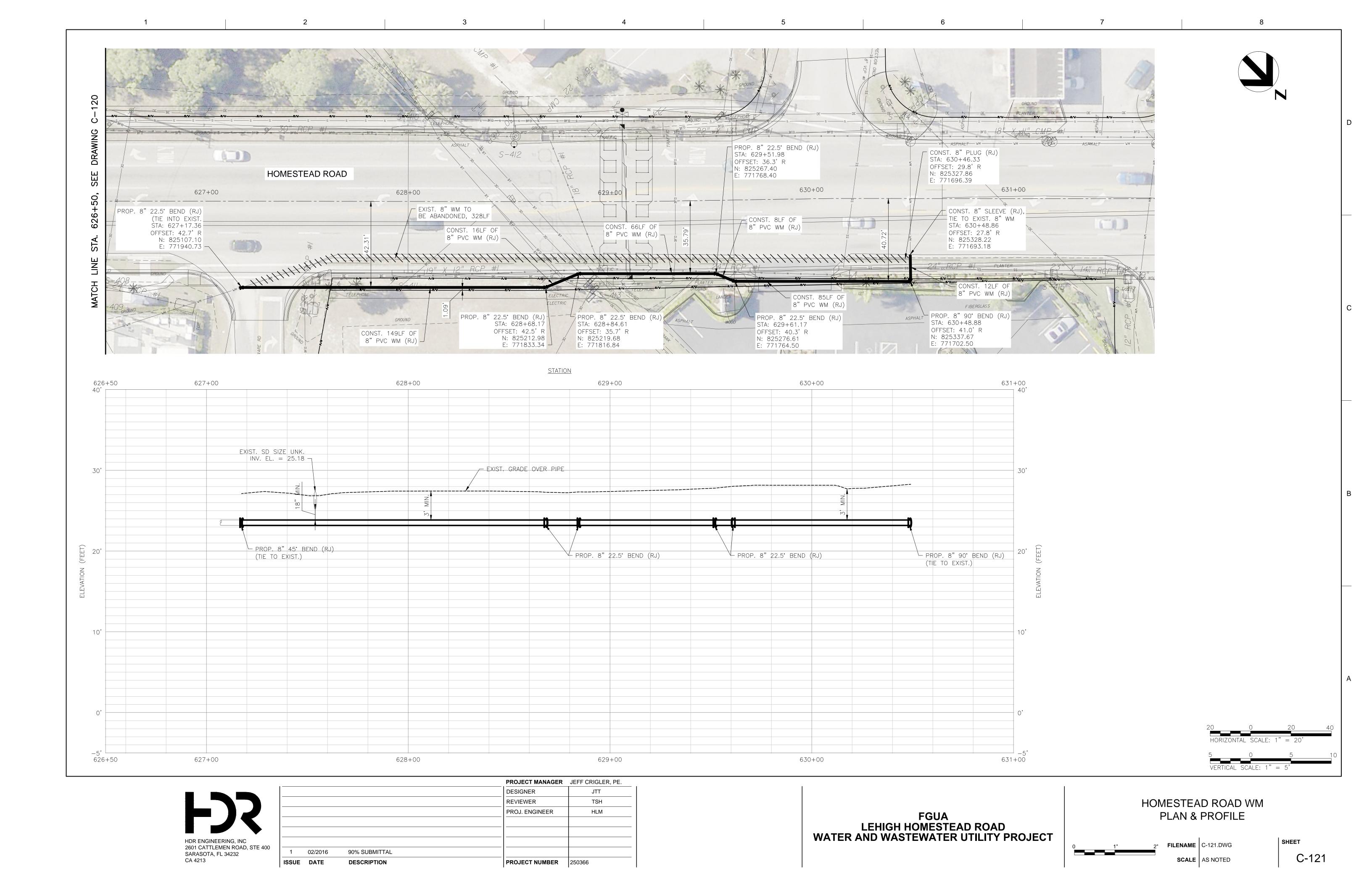


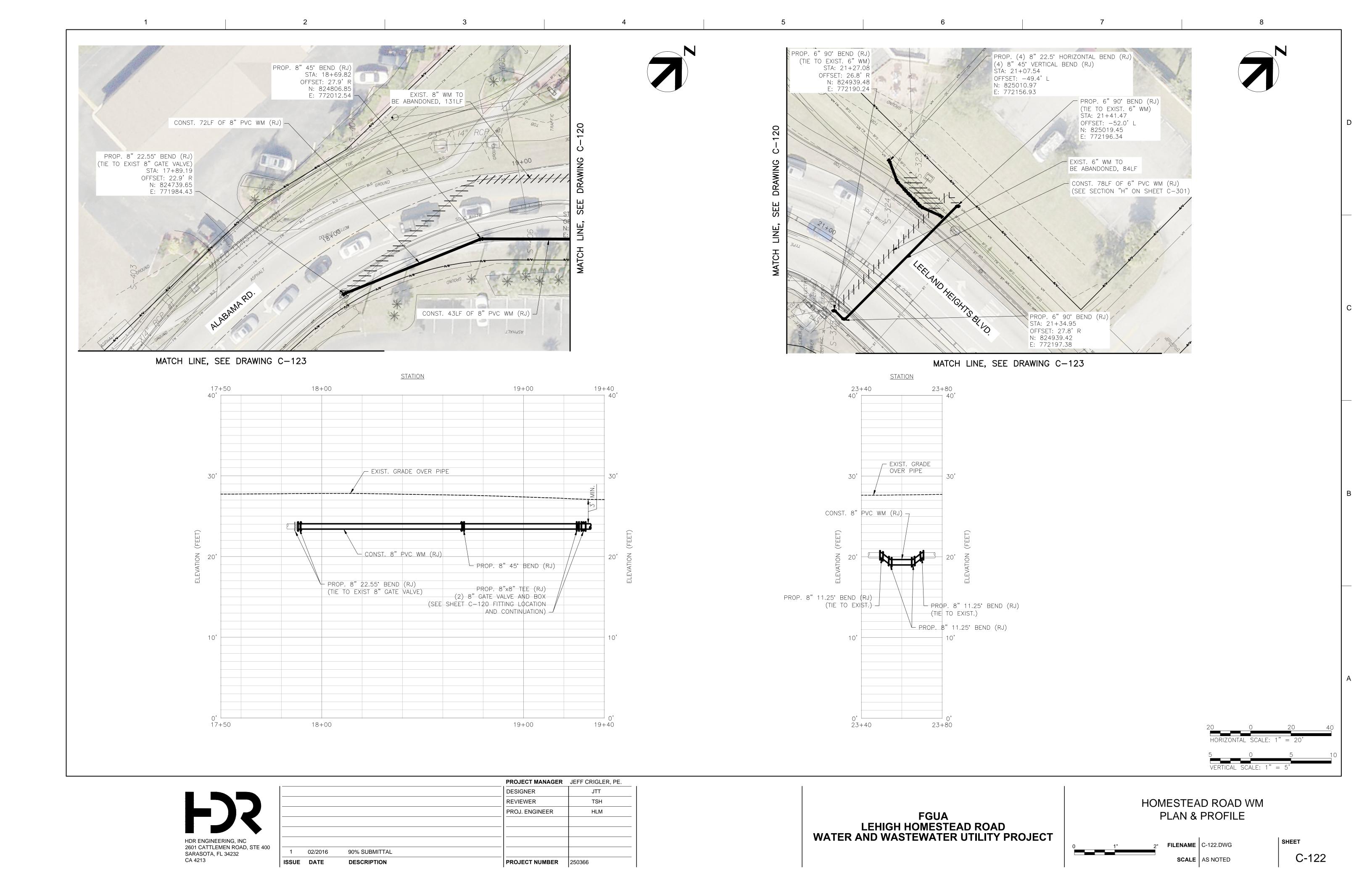


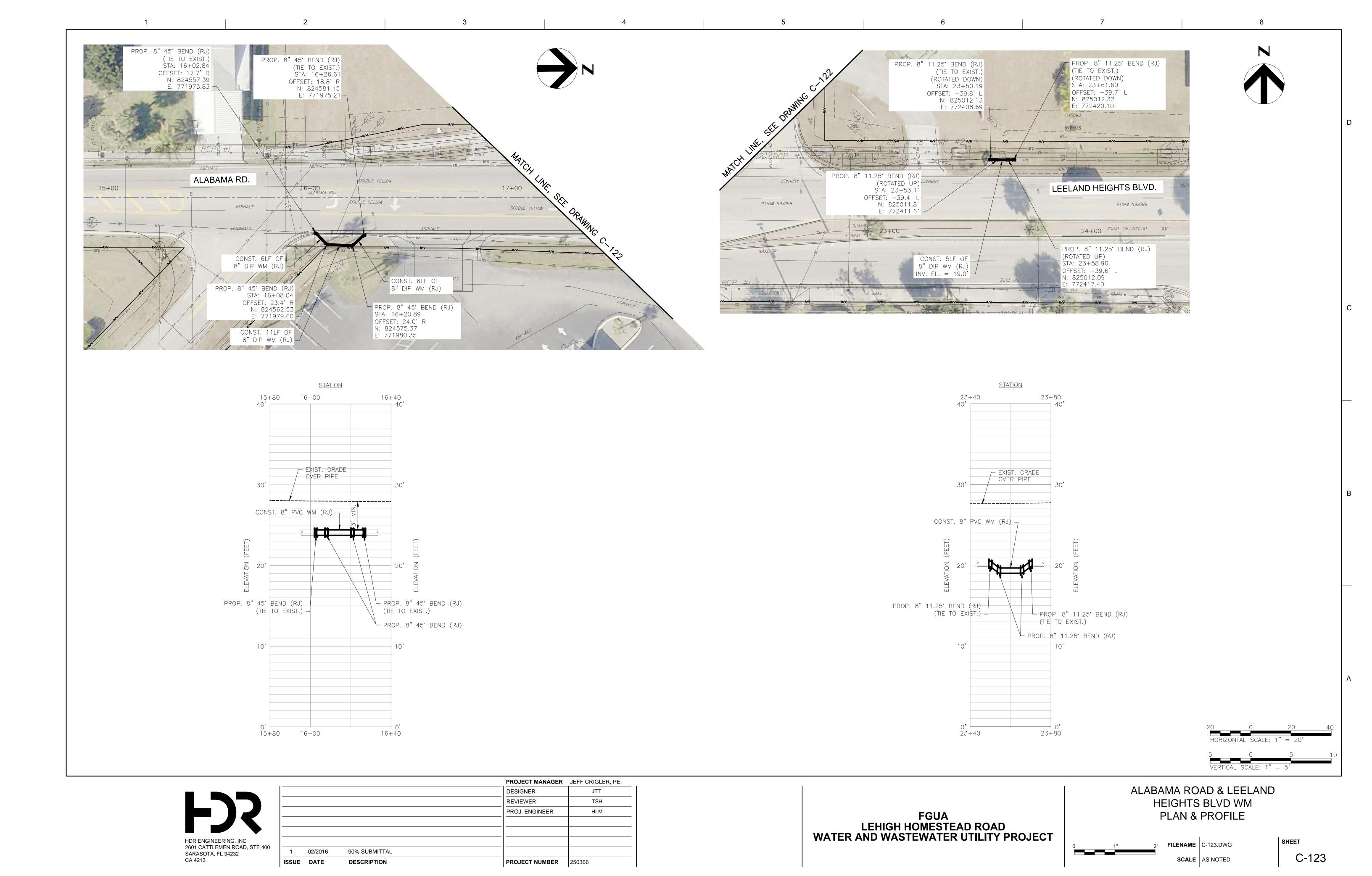


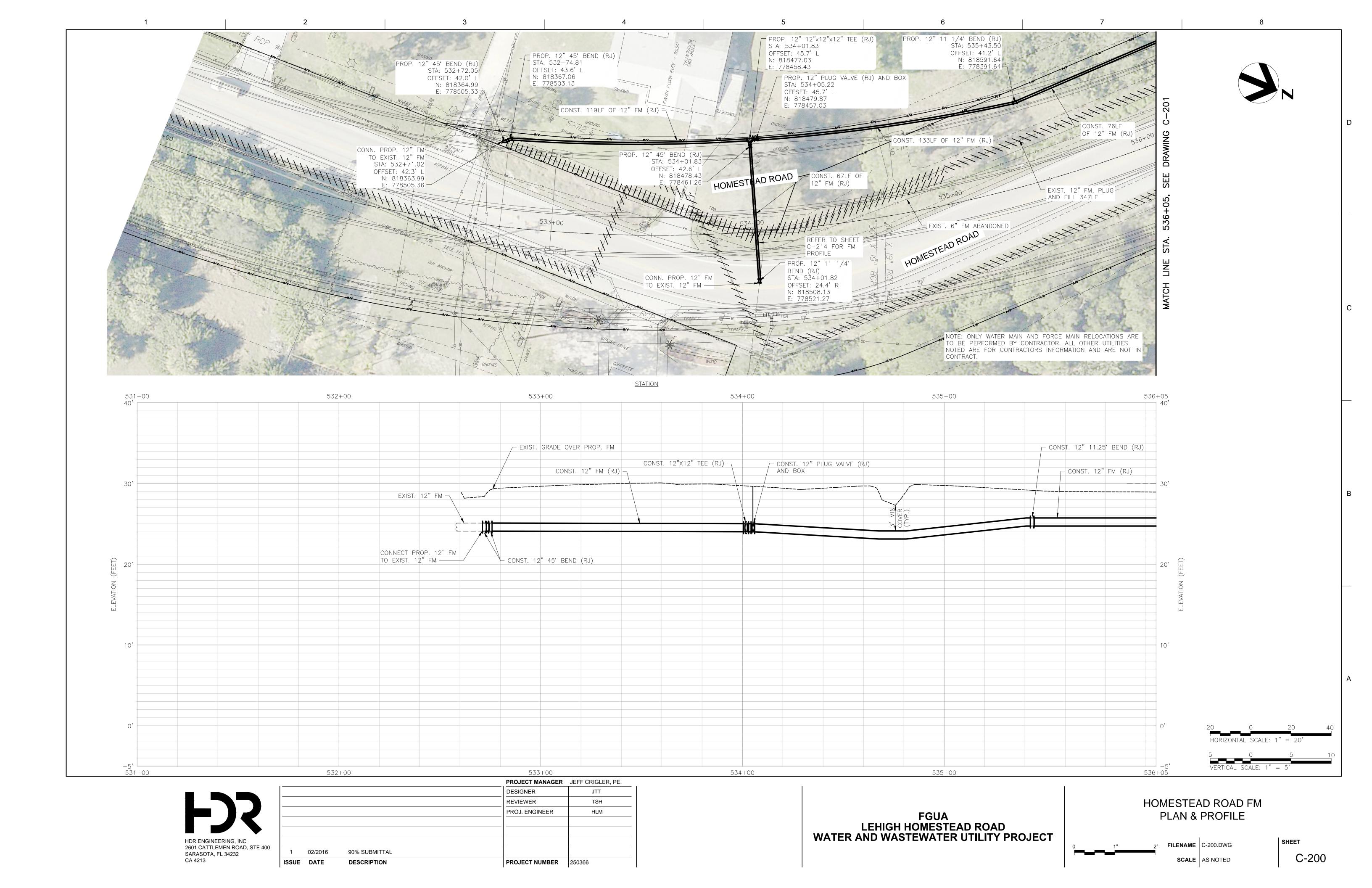


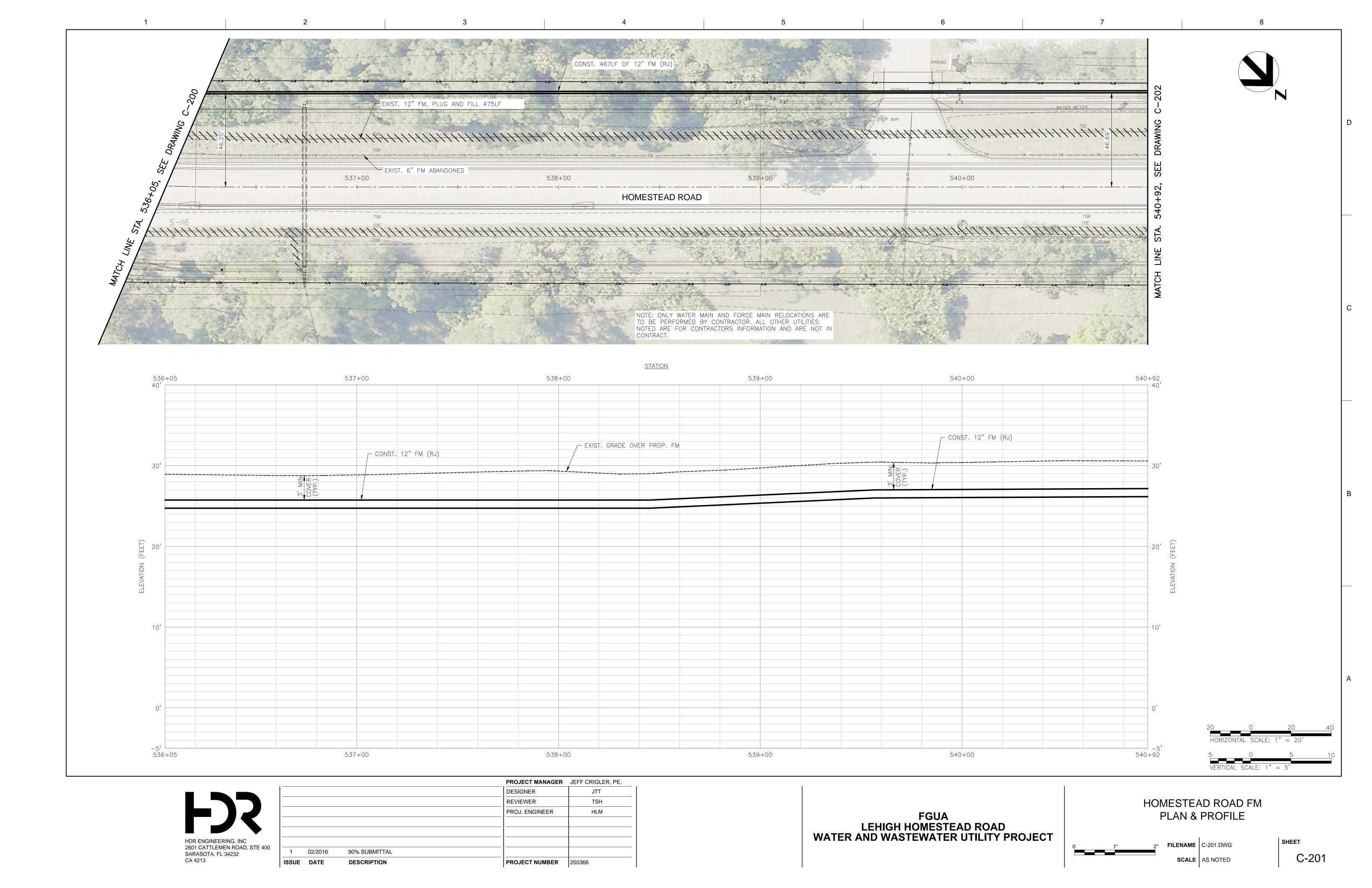


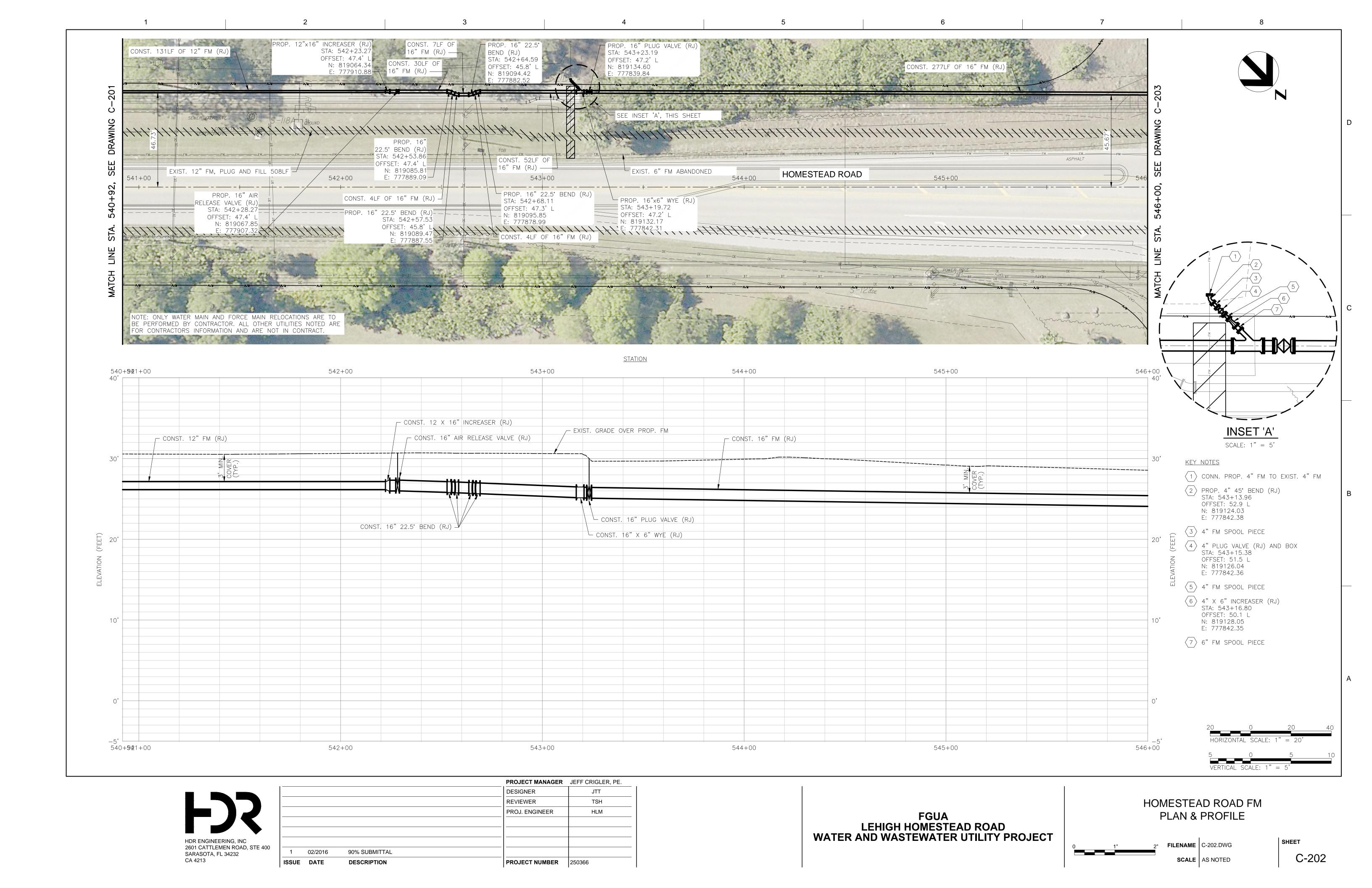


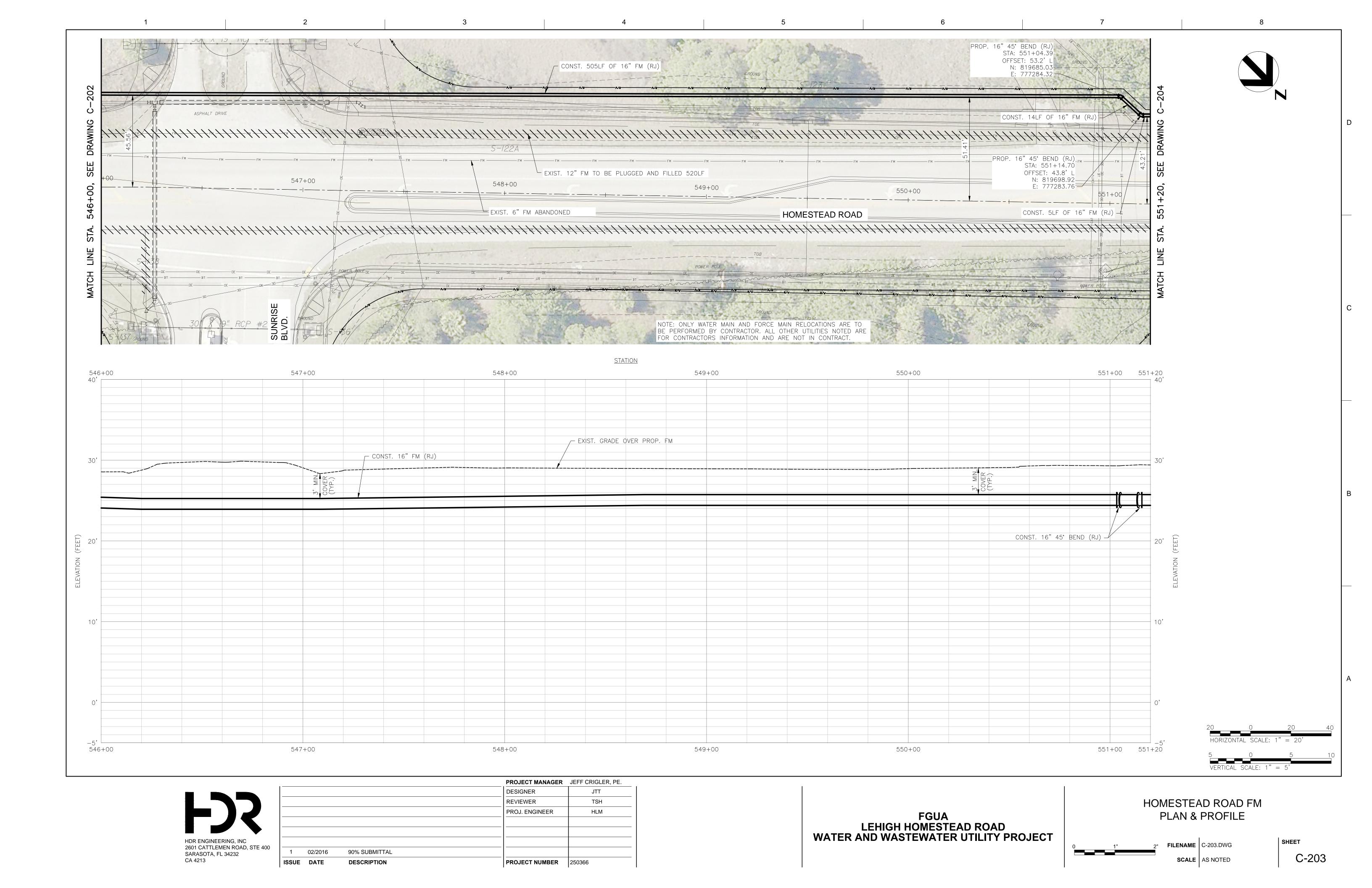


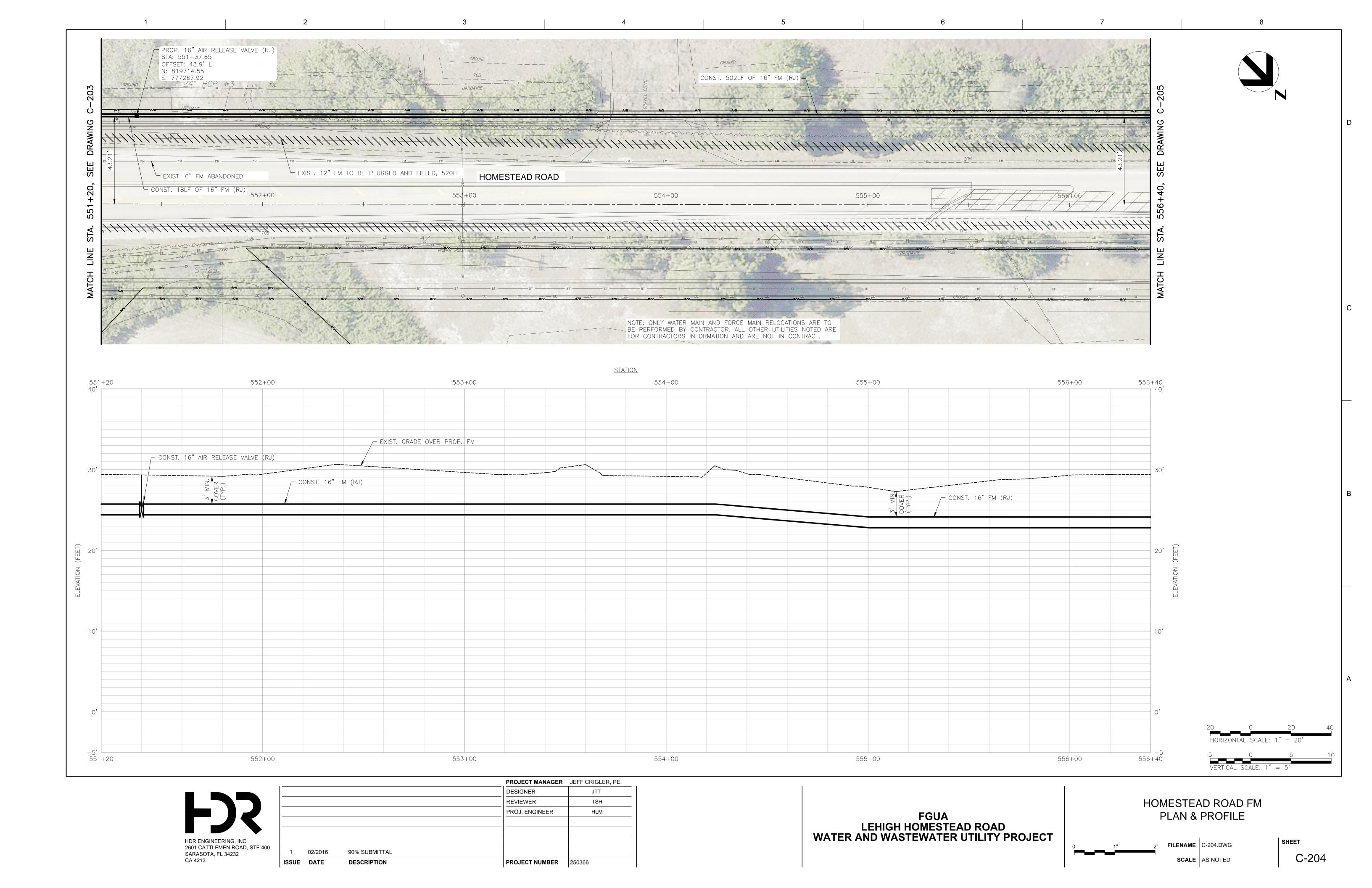


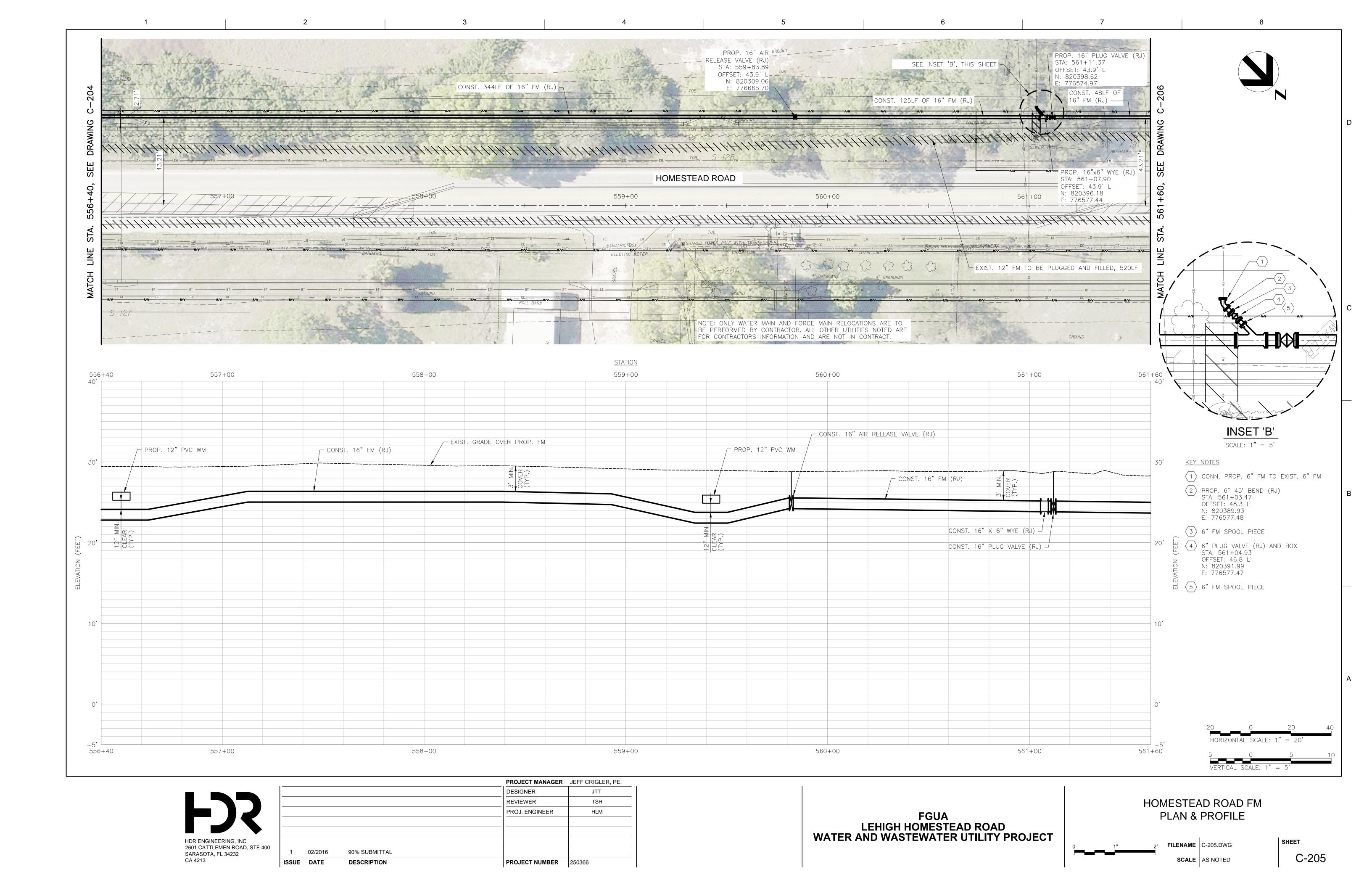


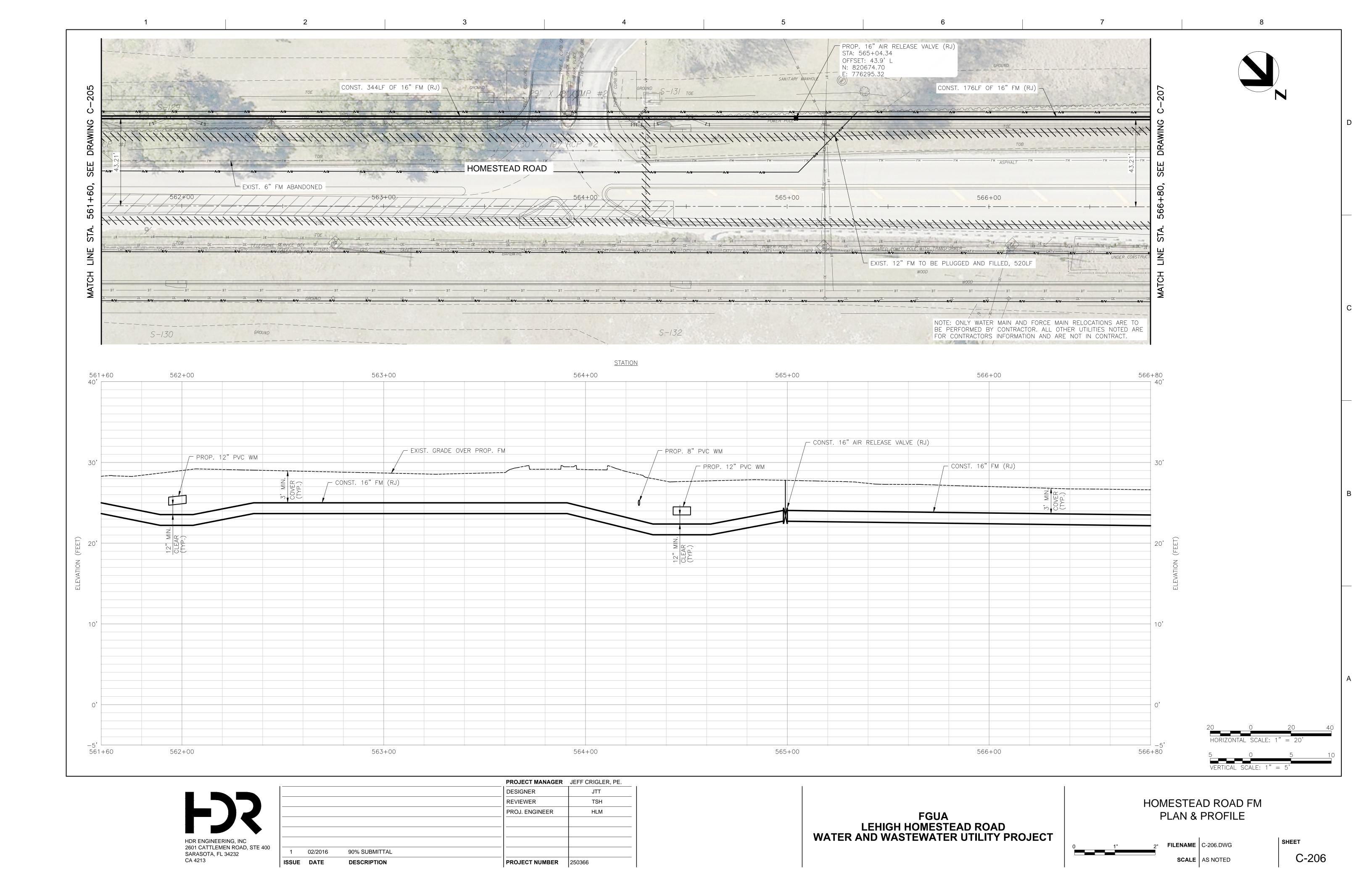


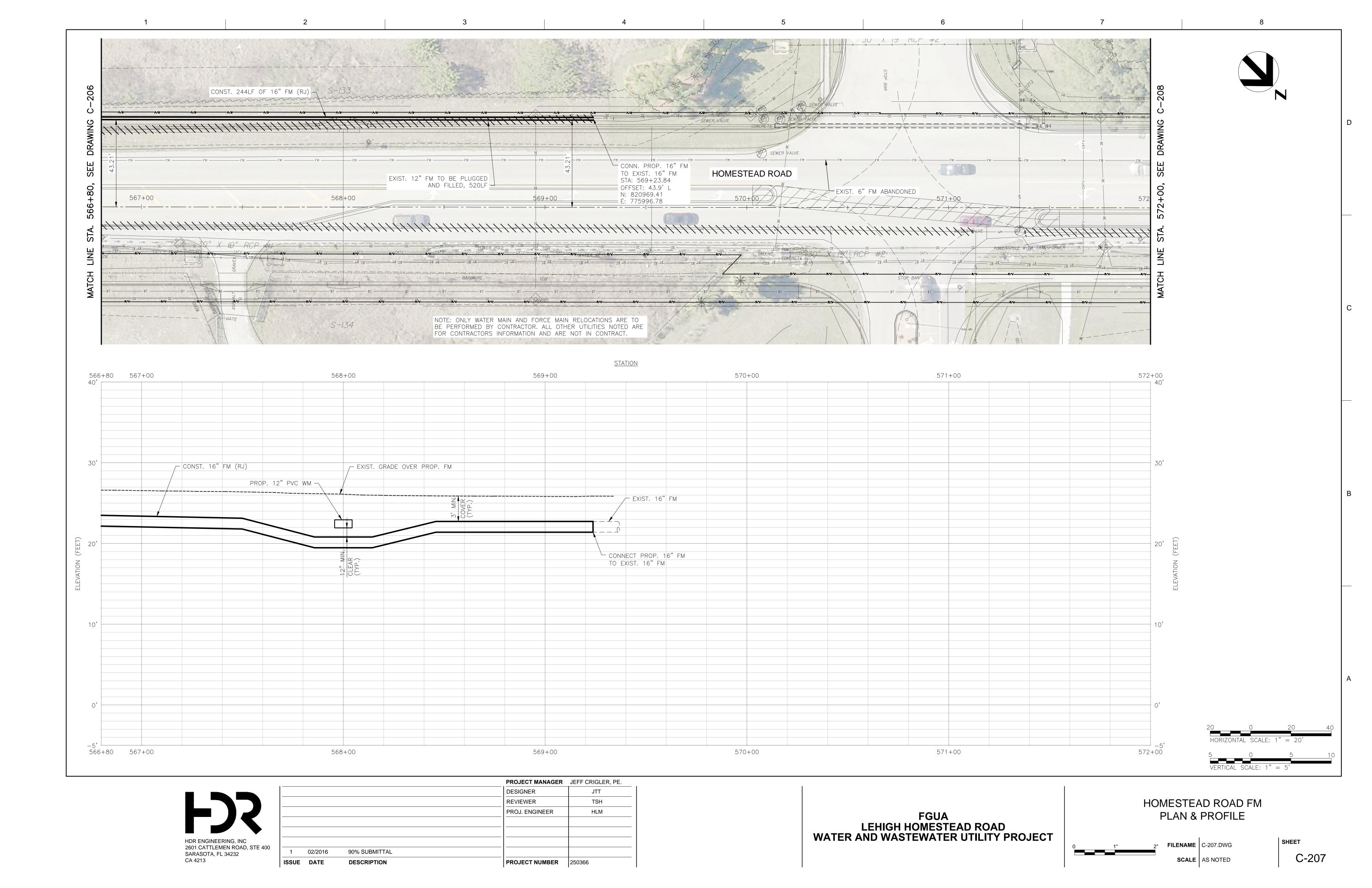


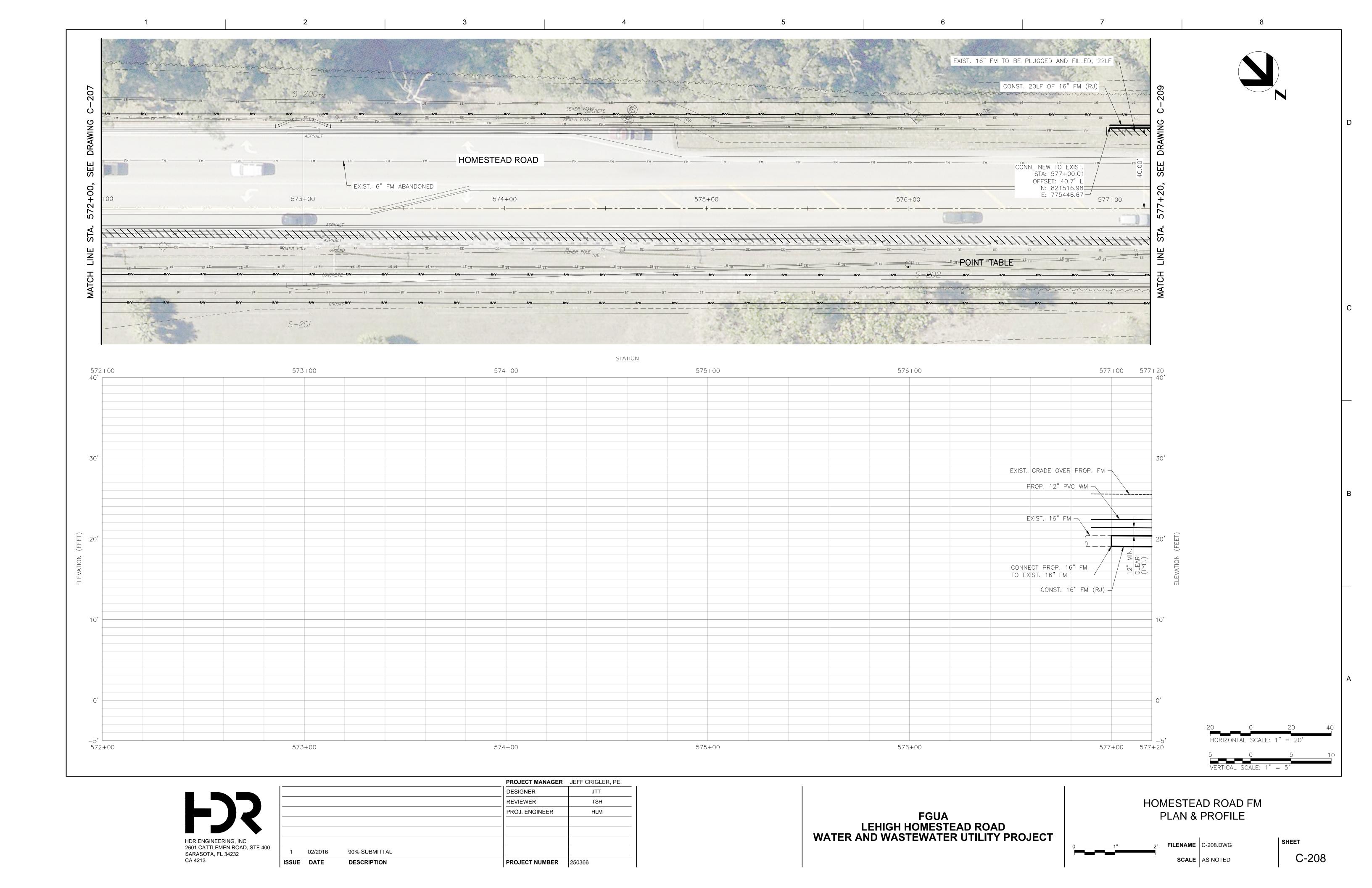


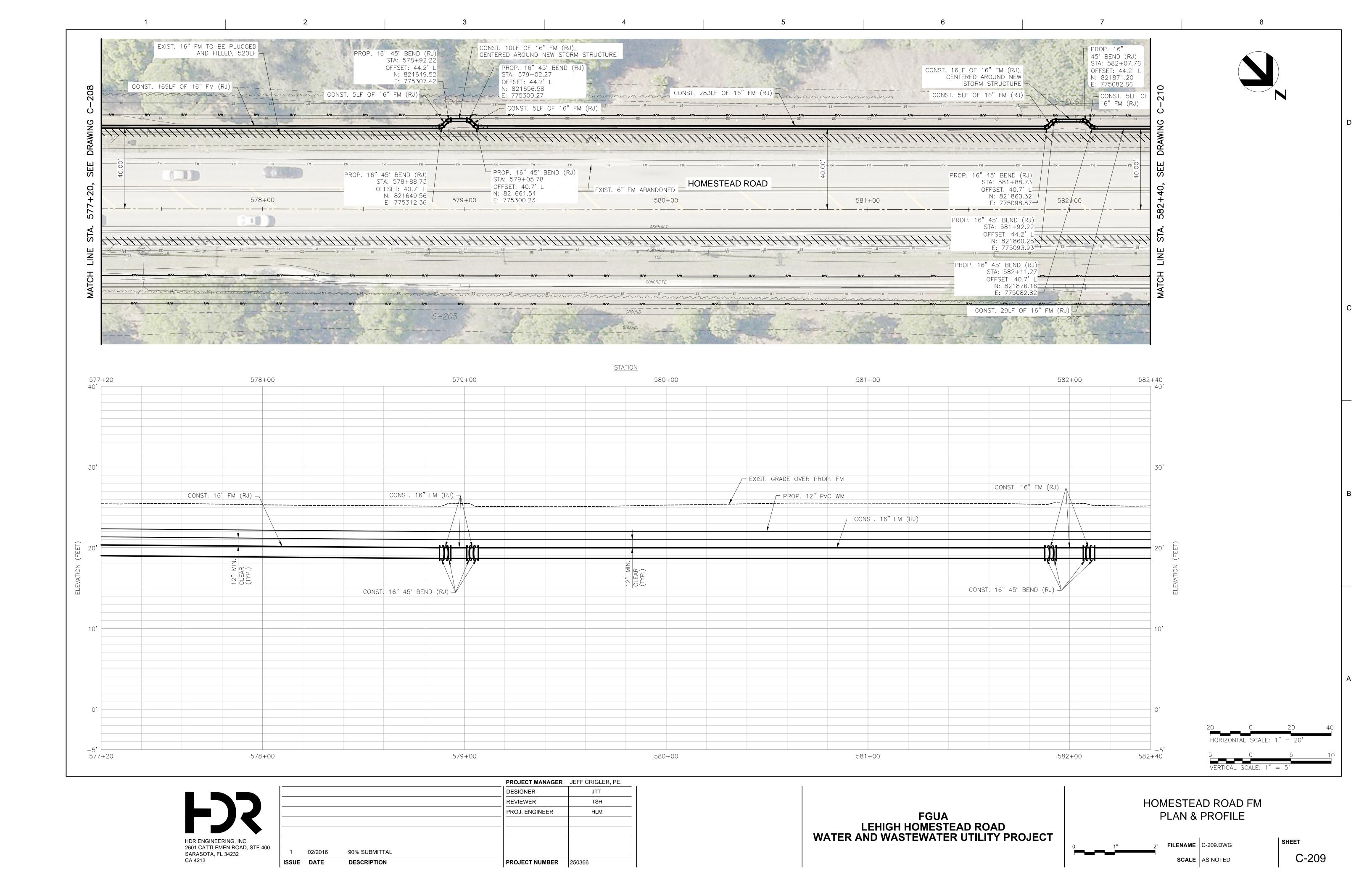


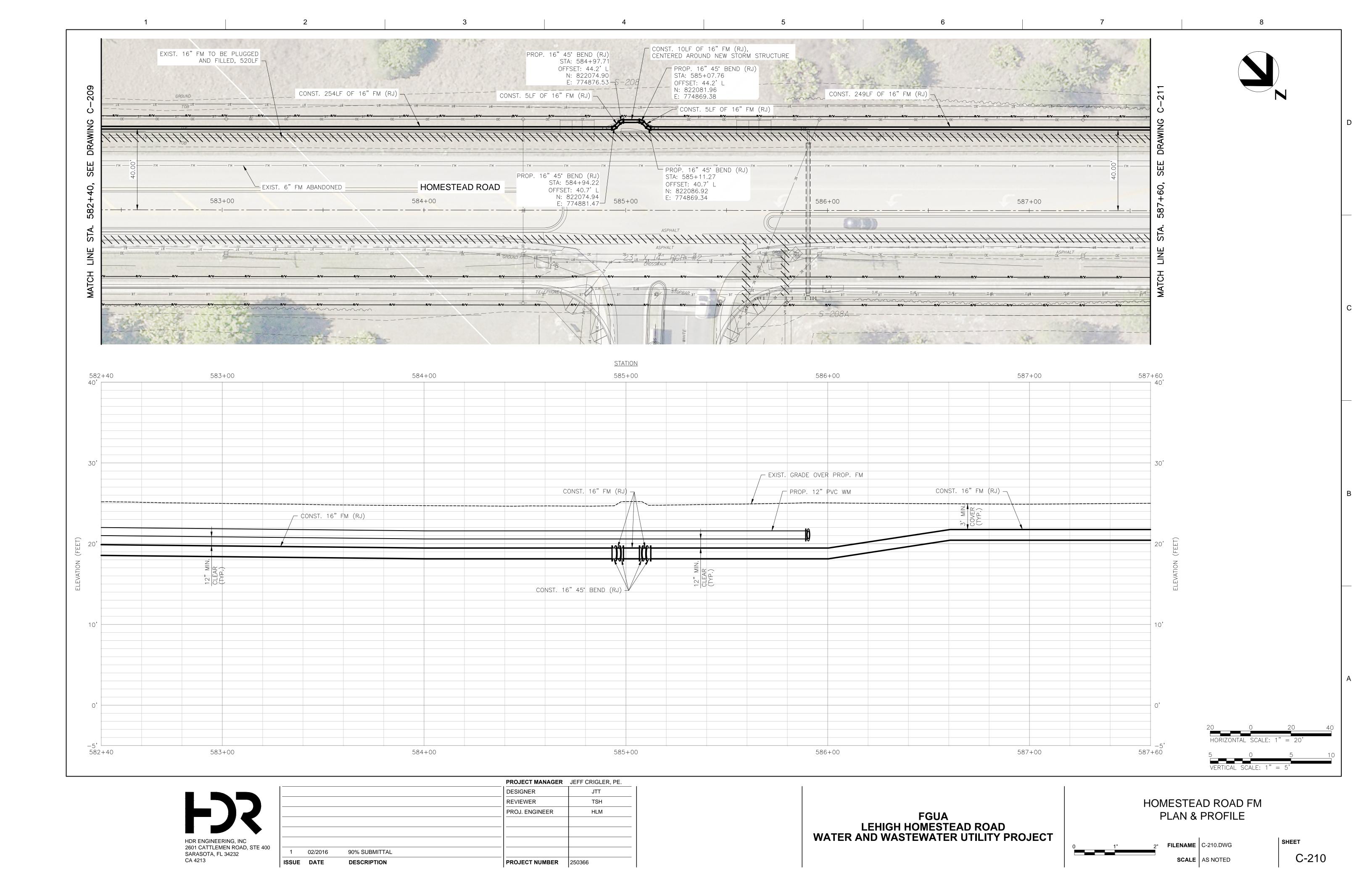


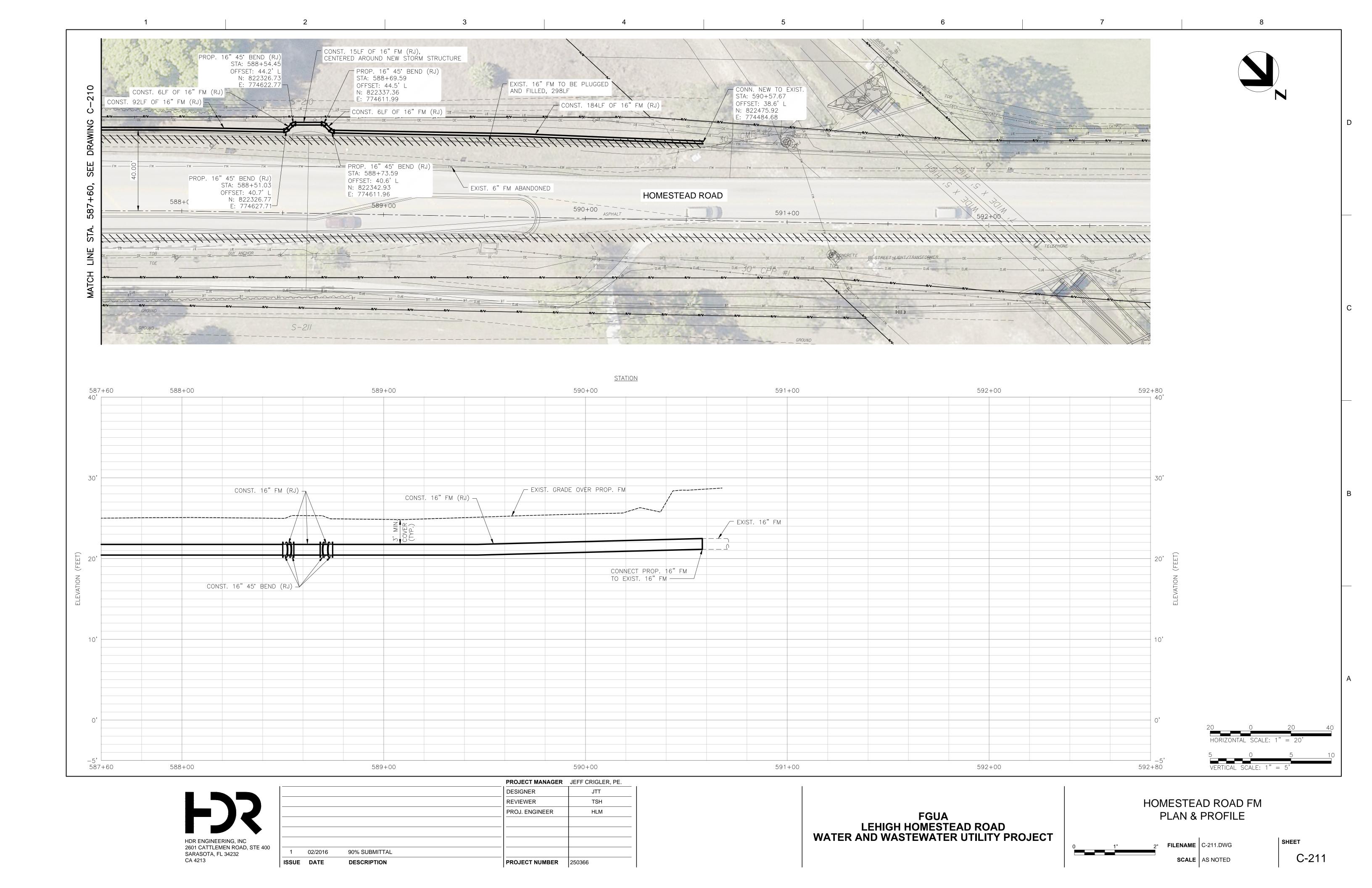


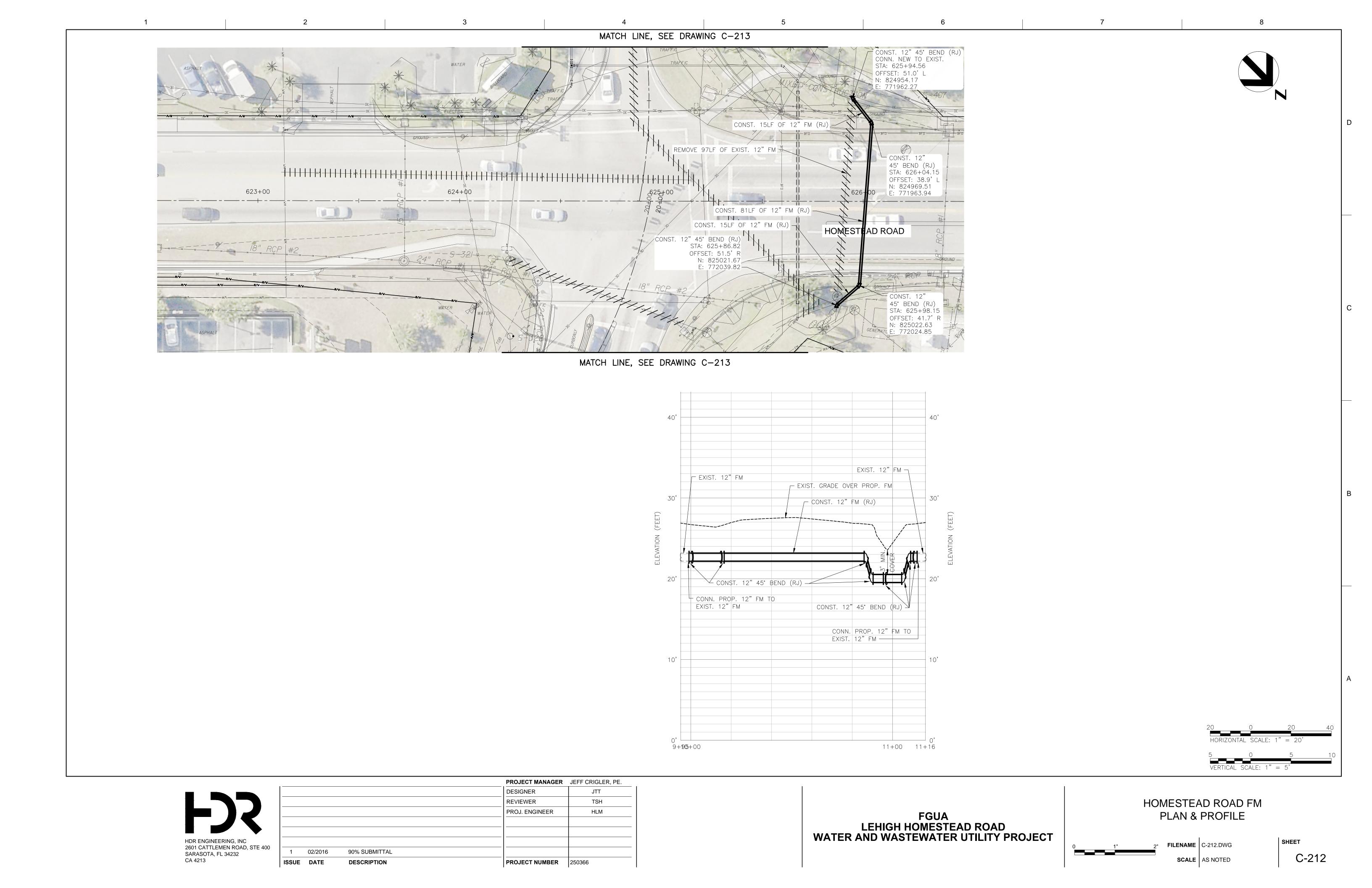


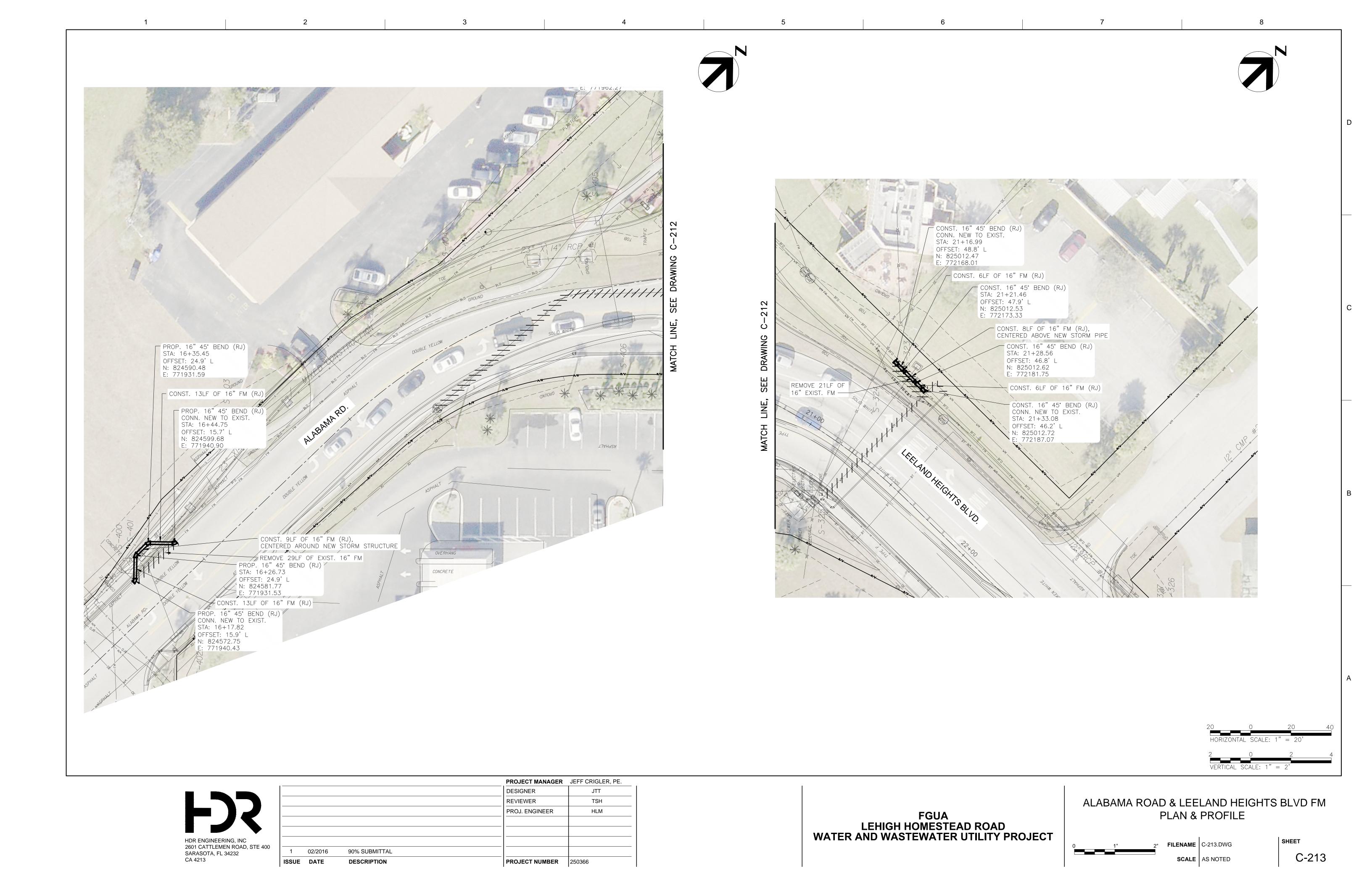


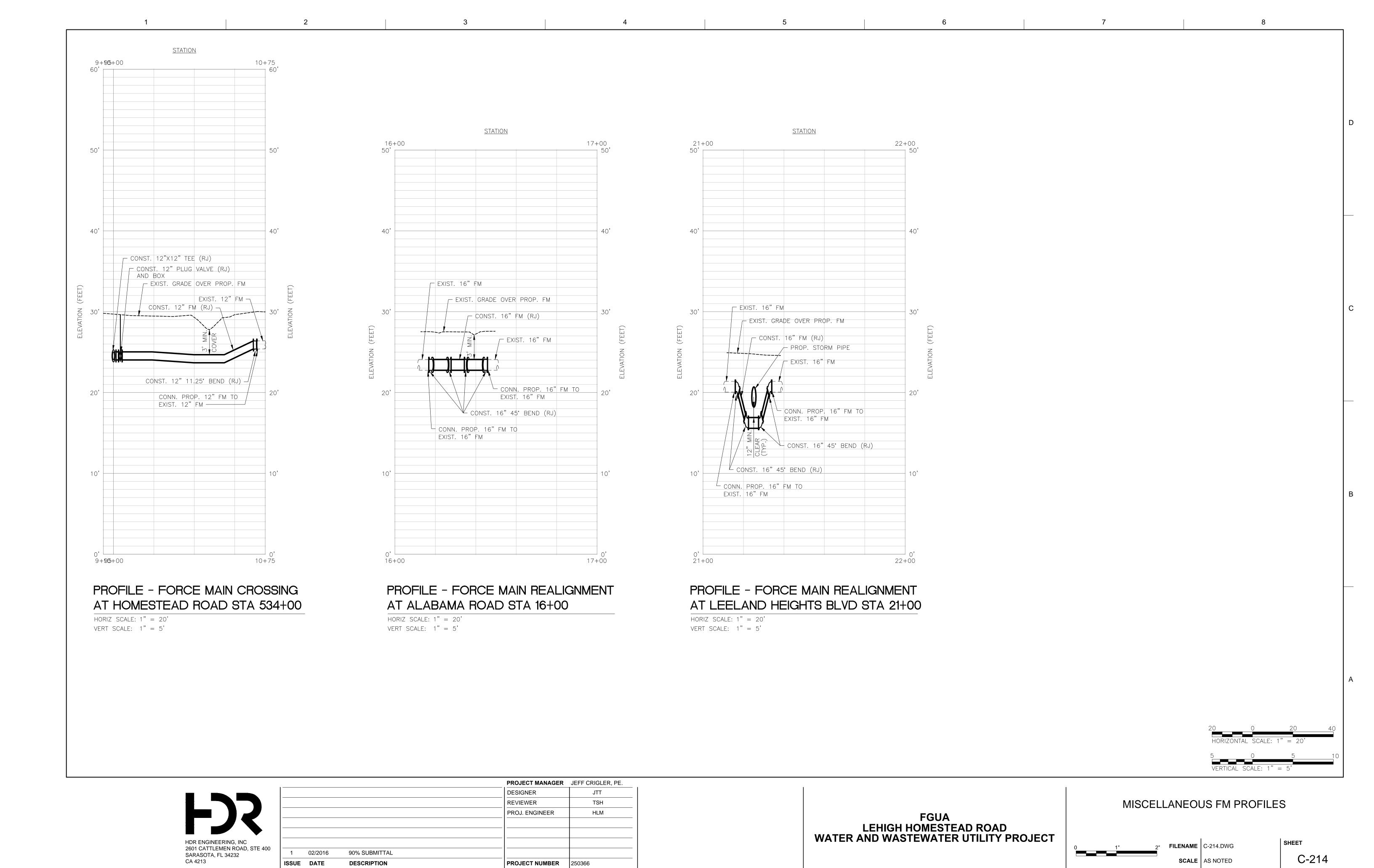


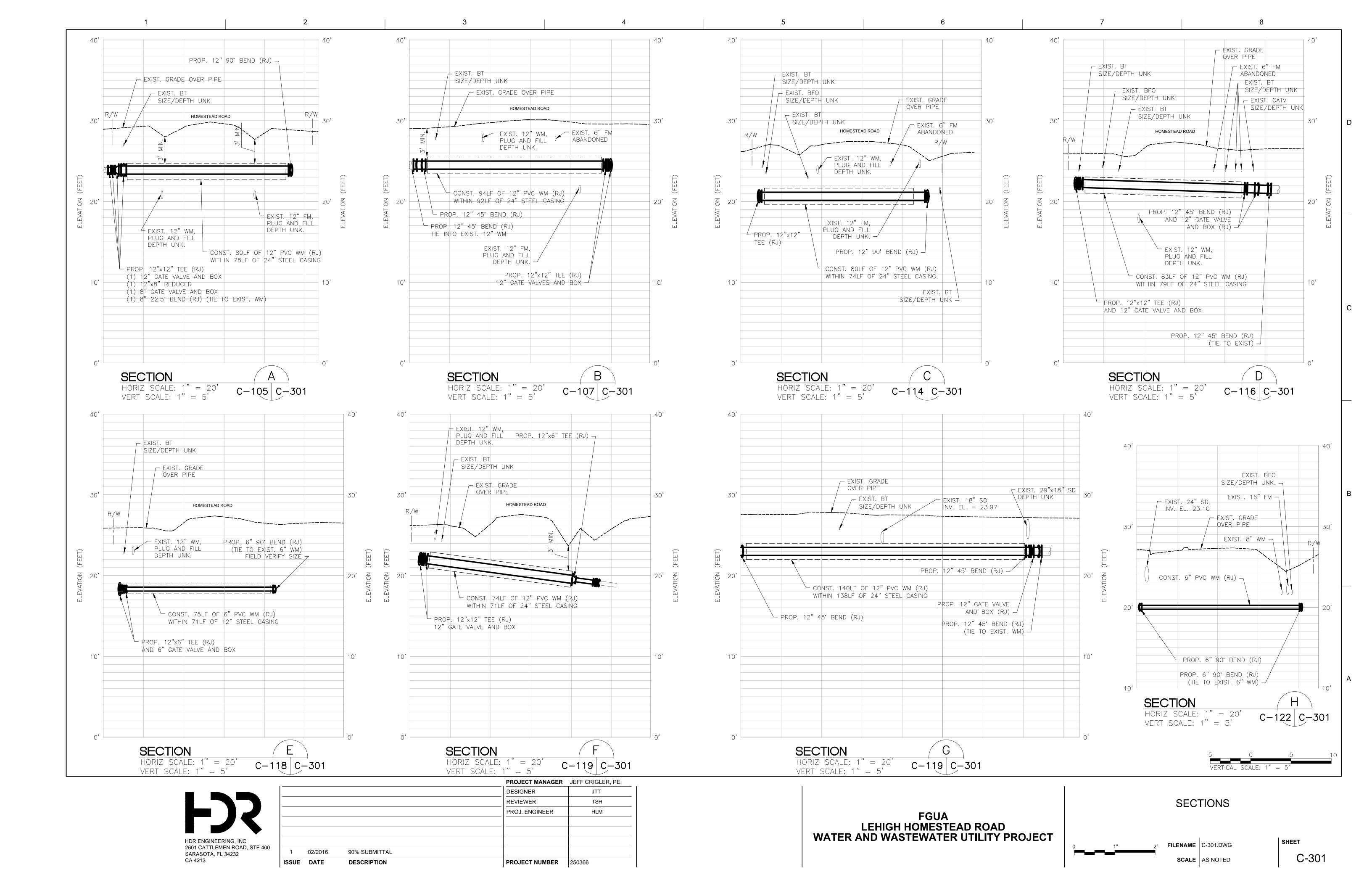


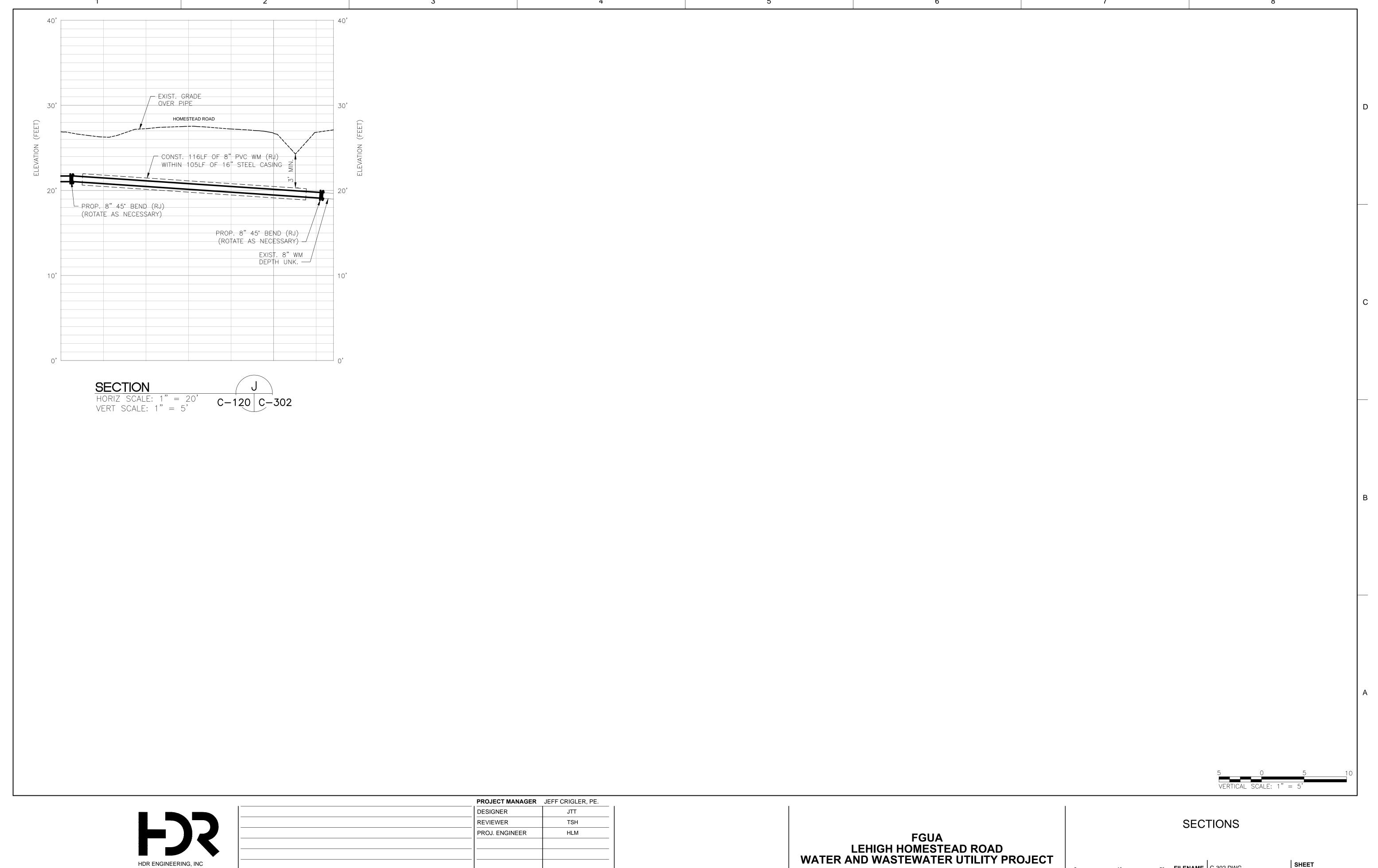












HDR ENGINEERING, INC 2601 CATTLEMEN ROAD, STE 400 SARASOTA, FL 34232 CA 4213

			1100201111111110211	
			DESIGNER	JTT
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			PROJ. ENGINEER	HLM
1	02/2016	90% SUBMITTAL		
SUE	DATE	DESCRIPTION	PROJECT NUMBER	250366

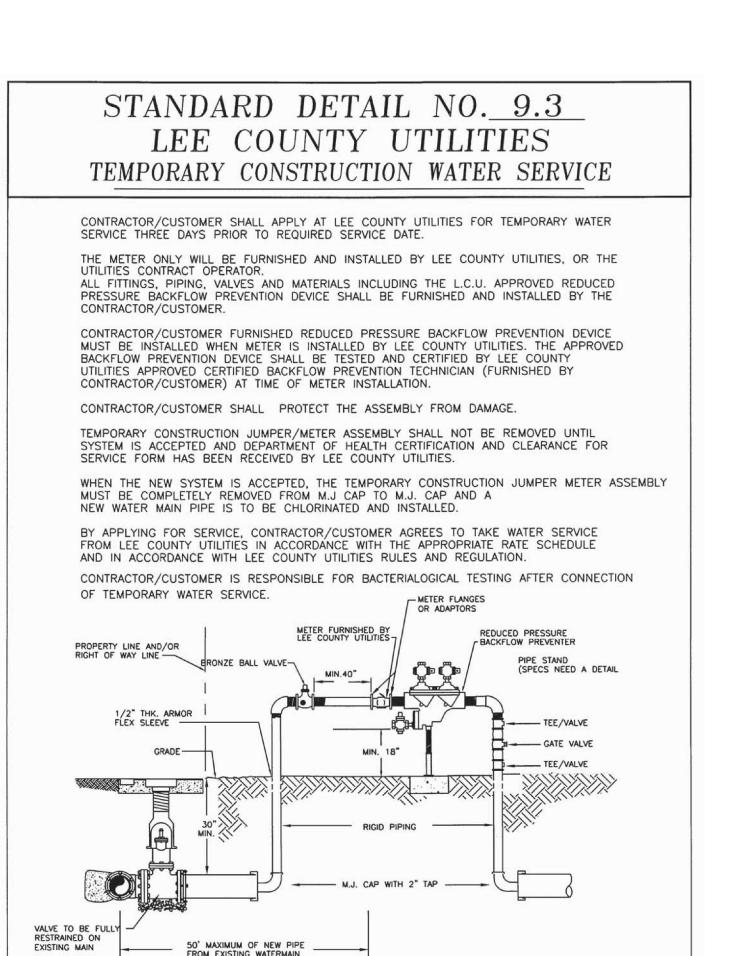


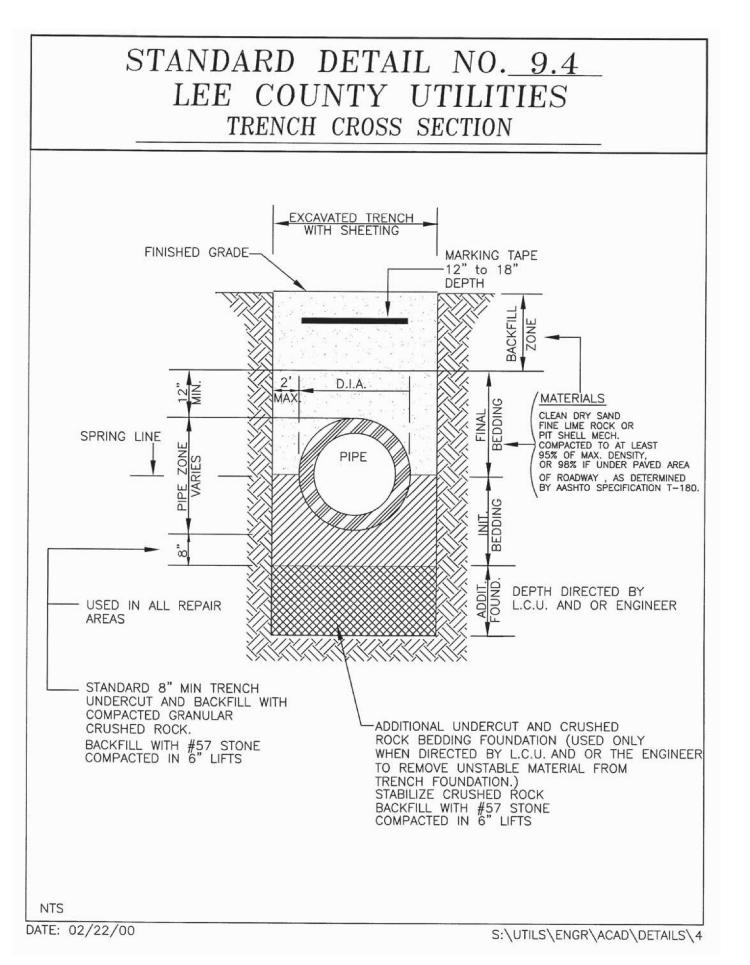
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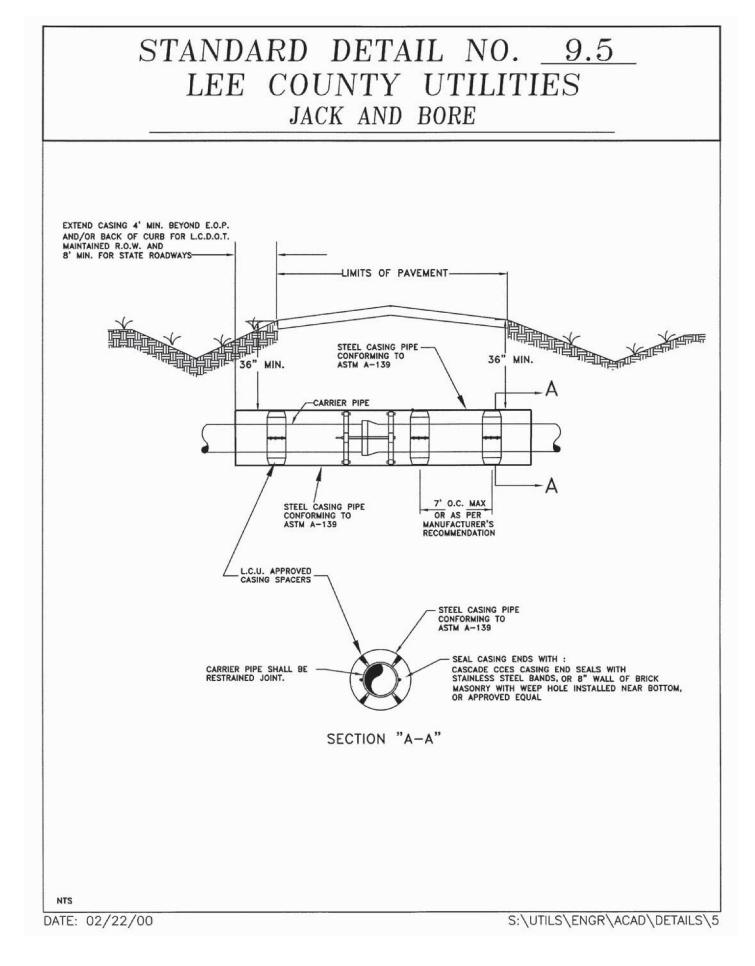
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S:\UTILS\ENGR\ACAD\DETAILS\3

## STANDARD DETAIL NO. 9.2 LEE COUNTY UTILITIES GATE VALVE INSTALLATION - BRASS PLATE NO. OF TURNS & DIRECTION TO OPEN. VALVE M.F.G. & YEAR INST. SYSTEM "WATER" "SEWER" OR "REUSE". EIGHT (8) 30 (WATER) #4 BARS 5" OVERLAP EA. CORNER. PLAN VIEW 30"SQ X 4" THK.CONC.PAD -(VALVE PAD) SUROUNDING BOX, MIN. 3,000 P.S.I. POURED IN CAST IRON DROP COVER MARKED "WATER" "SEWER" OR "REUSE" SET TOP OF BOX FLUSH-BRASS PLATE / FINISHED GRADE WITH FINISHED GRADE DEBRIS INFLOW PROTECTION HEAVY DUTY TRAFFIC BEARING (2) #4 BARS EA. SIDE CAST IRON VALVE BOX, OPELIKA FOUNDRY COMPANY, TYLER PIPE DIVISION OR APPROVED EQUAL - COMPACTED SUITABLE EARTH BACKFILL ONE CUBIC FOOT HAND COMPACTED GRAVEL FOR DRAIN #57 STONE EXTENSION ROD W/2" -OPERATING NUT AS REQUIRED RISER NOT TO BEAR ON VALVE OR PIPE -\*EXISTING MAIN \*EXISTING MAIN-\* NOTE: WHEN INSTALLING A VALVE IN AN EXISTING MAIN, USE TWO REPAIR SLEEVES (MJ FOR DIP, OR PVC FOR PVC MAINS) ONE AT EACH END OF THE CUT. RESILIENT SEATED GATE VALVE -3/4" GRANULAR —— MATERIAL #57 STONE VALVE DATE: 02/22/00 S:\UTILS\ENGR\ACAD\DETAILS\2









			PROJECT MANAGER	JEFF CRIGLER, PE.
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ISSUE	DATE	DESCRIPTION	PROJECT NUMBER	250366

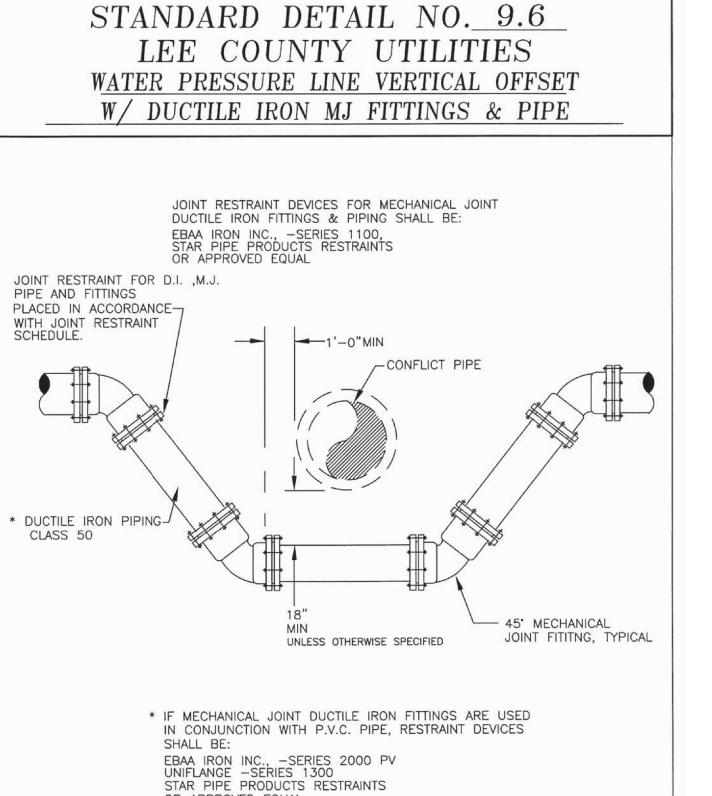
DATE: 02/22/00

FGUA
LEHIGH HOMESTEAD ROAD
WATER AND WASTEWATER UTILITY PROJECT



**DETAILS** 

с-501

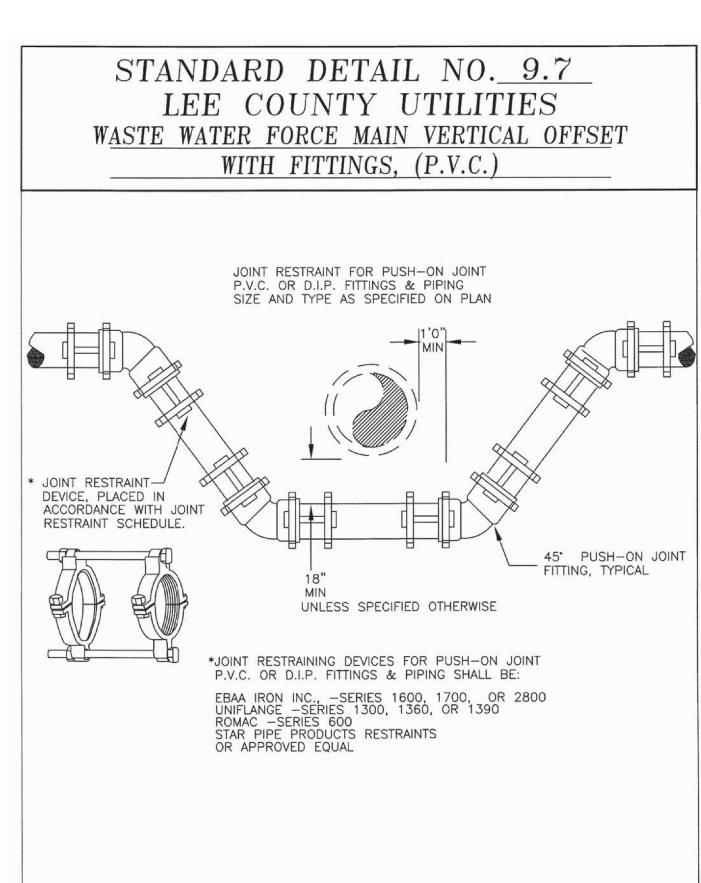


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OR APPROVED EQUAL

NTS

DATE: 02/22/00



# STANDARD DETAIL NO. 9.8 LEE COUNTY UTILITIES RESTRAINED LENGTH SCHEDULE

# DUCTILE IRON PIPE

PIPE		RESTRA	AINED PIPE	LENGTH	(FEET)	
SIZE		ВІ	BENDS		DEAD	
(Inches)	90°	45°	22 1/2°	11 1/4°	END	TEE
4	17	7	4	2	21	0
6	23	10	5	2	32	2
8	29	12	6	3	42	6
10	35	14	7	4	53	17
12	41	17	8	4	62	26
16	51	21	11	5	81	44
24	69	29	14	7	114	75
30	81	34	17	8	140	99

## PVC PIPE

PIPE	7 17 20	RESTRA	AINED PIPE	LENGTH	(FEET)	
SIZE		ВІ	ENDS		DEAD	
(Inches)	90°	45°	22 1/2°	11 1/4°	END	TEE
4	20	8	4	2	33	2
6	29	12	6	3	50	6
8	36	15	8	4	66	9
10	44	18	9	5	83	24
12	51	21	11	5	99	39
16	63	26	13	7	130	68
24	87	36	18	9	183	120
30	102	42	21	10	222	158

LENGTH FIGURES BASED ON FOLLOWING:

Pressure = 150 psi, FS = 1.5, trench type = 3, 30" cover on Bare pipe, Soil type = GP & SP

DATE: 02/22/00

S:UTILS\ENGR\ACAD\DETAILS\

WATER MAIN ——

1. TUBING UNDER ROADWAY SHALL BE ENCASED IN 2" P.V.C. PIPE SCHEDULE 40 MINIMUM AND EXTEND 4 FEET BEYOND THE EDGES OF PAVEMENT OR BACK OF CURB.

2. CURB STOP SHALL BE FORD TYPE KV43-332W FOR 3/4", KV43-342W FOR 1" X 3/4" OR KV43-444W FOR 1" OR APPROVED EQUAL

ALTERNATIVE:

24" MIN.

TYPE K COPPER TUBING

- "Y" OR "T" CONNECT

POLYETHYLENE, PE 3408 (200 PSI SDR 9, ASTM D3350), TUBING MAY BE SUBSTITUTED. TS COLOR FOR WATER SHALL BE BLUE.

STANDARD DETAIL NO. 9.9

LEE COUNTY UTILITIES

WATER SERVICE INSTALLATION

5/8" THROUGH 1"

FINISHED GRADE — N

3/4", 1" OR 3/4"X 1"
ANGLE CURB STOP
WITH PADLOCK WINGS

1" TYPE K COPPER TUBING

QUAZITE B001118501 METER BOX WITH QUAZITE C00111802P050 COVER OR CDR B001118501 METER BOX WITH CDR

C00111802P050X COVER TO BE |

LINE & CLEAR OF DRIVEWAYS.

MIN. 22 1/2° NOT TO EXCEED 45°

- SERVICE SADDLE SMITH BLAIR DOUBLE STRAP OR APPROVED

BALL CORPORATION STOP

FORD FB-1100 OR APPROVED EQUAL

LOCATED INSIDE R.O.W. @ PROPERTY

--- WATER METER BY

3/4" OR 1" TYPE K

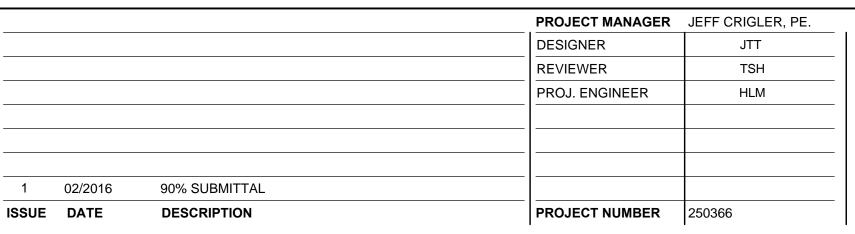
— COPPER TUBING

LEE COUNTY UTILITIES

DATE: 08/19/15 S:\UTILS\ENGR\ACAD\DETAILS\9R

HDR ENGINEERING, INC 2601 CATTLEMEN ROAD, STE 400 SARASOTA, FL 34232

CA 4213



DATE: 02/22/00

FGUA
LEHIGH HOMESTEAD ROAD
WATER AND WASTEWATER UTILITY PROJECT

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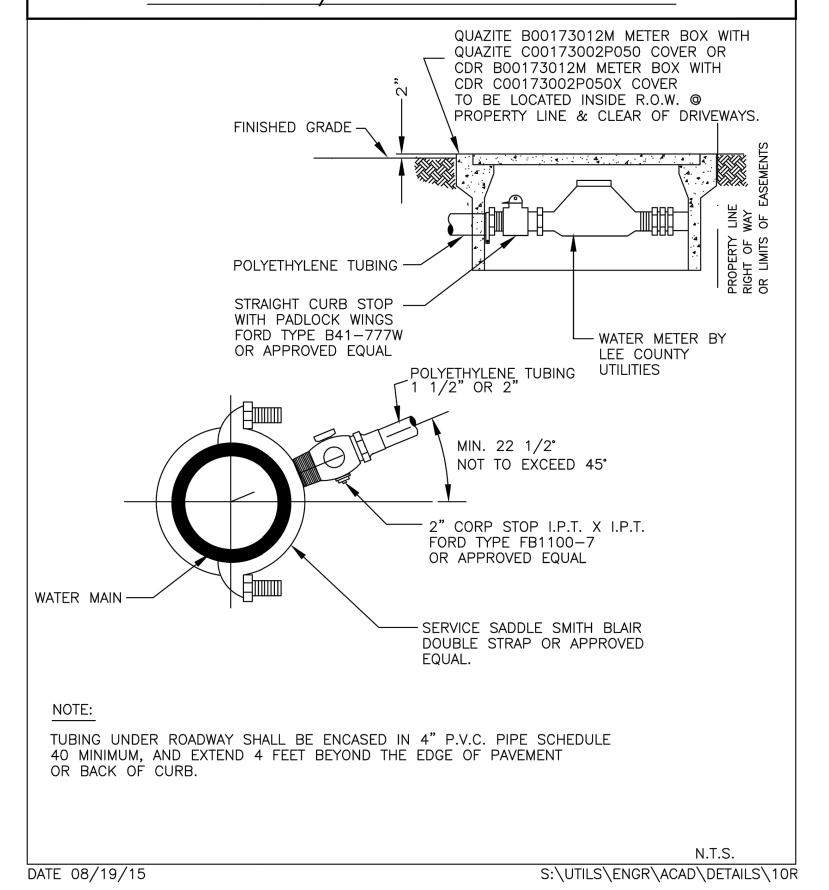
1" 2" **FILENAME** C-502.DWG

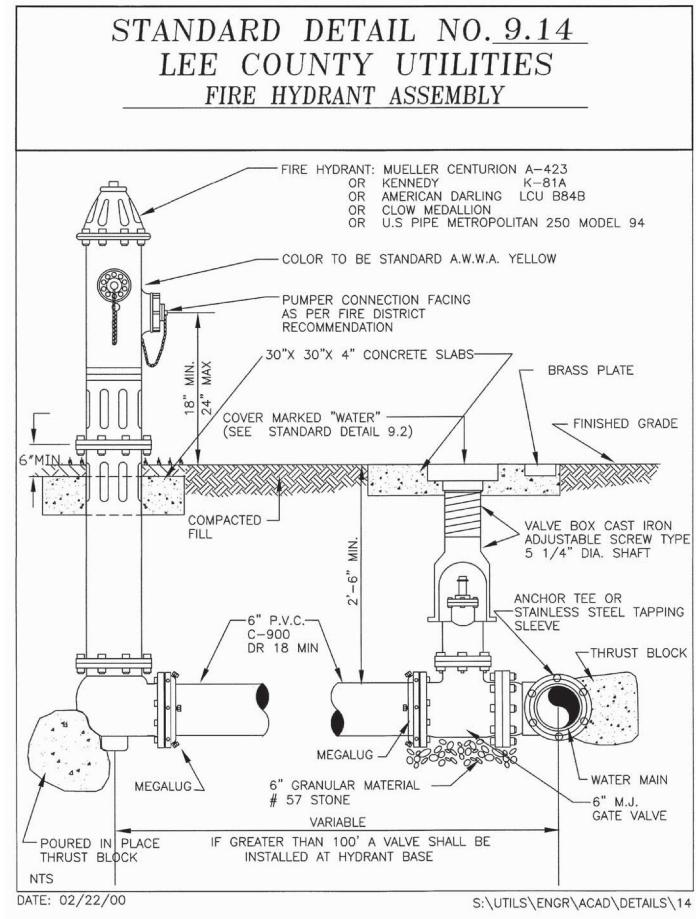
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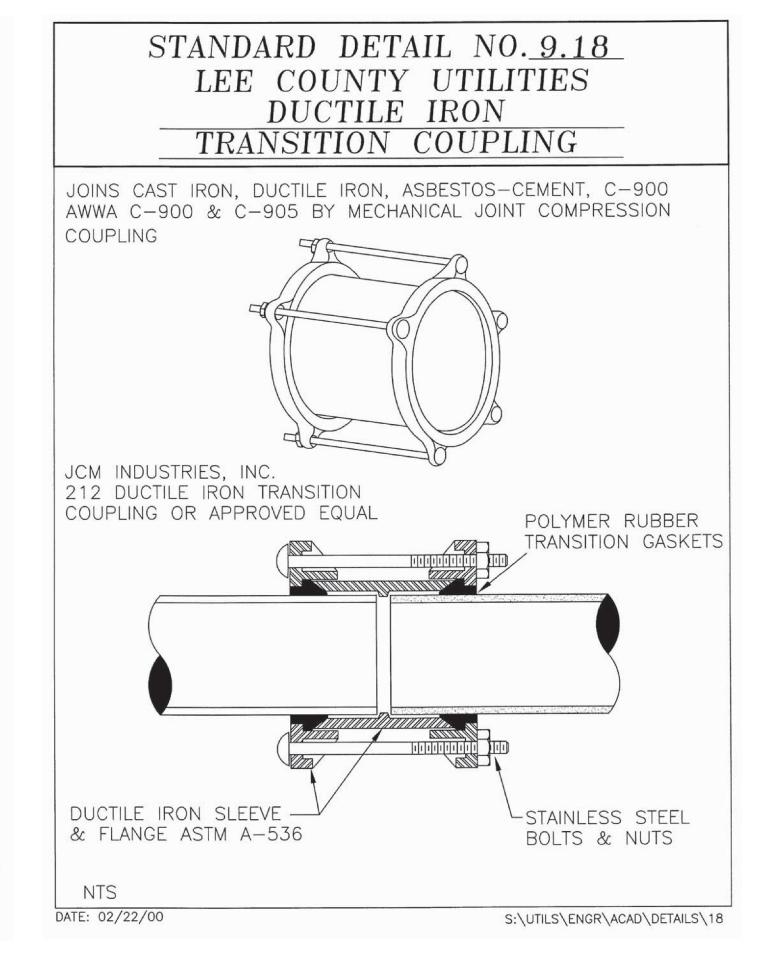
**DETAILS** 

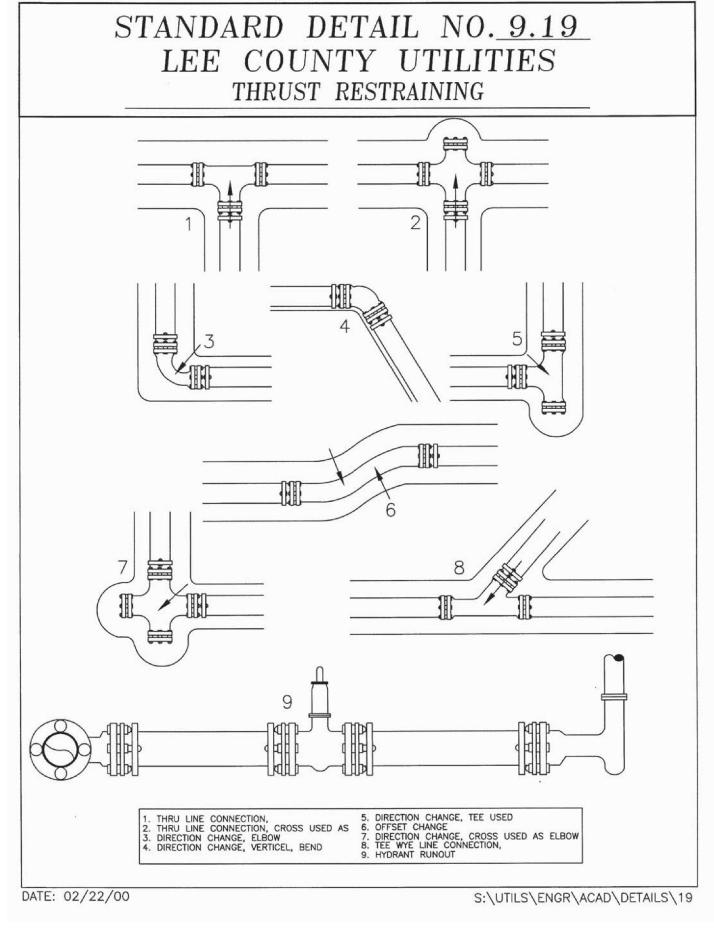
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# STANDARD DETAIL NO. 9.10 LEE COUNTY UTILITIES WATER SERVICE INSTALLATION 1 1/2" THROUGH 2"











			PROJECT MANAGER	JEFF CRIGLER, PE.
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FGUA
LEHIGH HOMESTEAD ROAD
WATER AND WASTEWATER UTILITY PROJECT

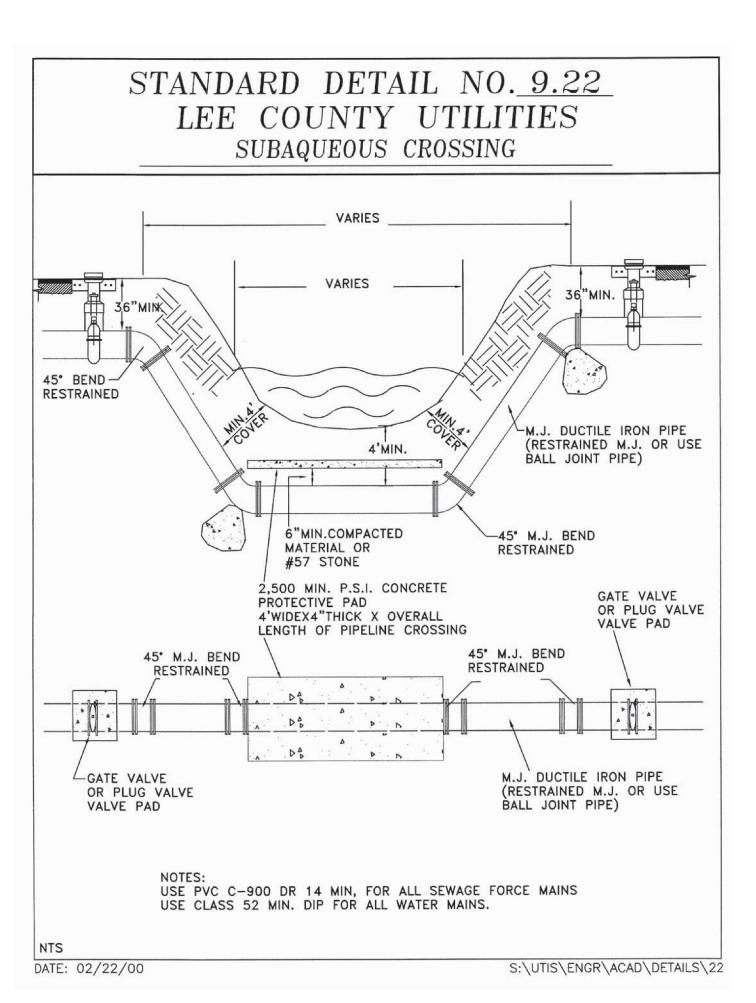
1" 2" **FILENAME** C-503.DWG

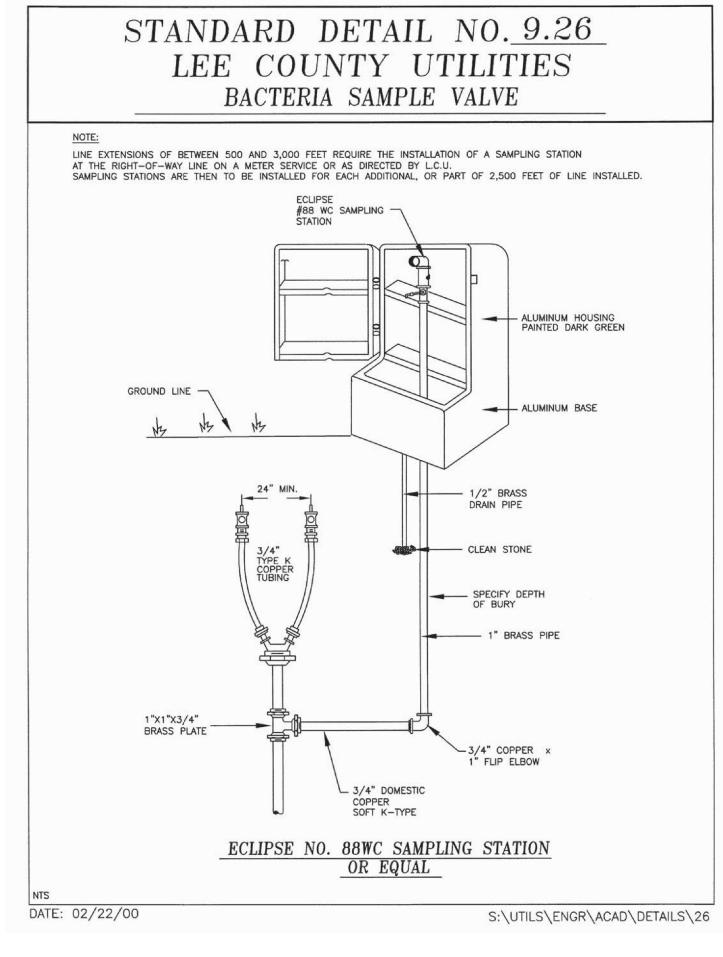
SCALE AS NOTED

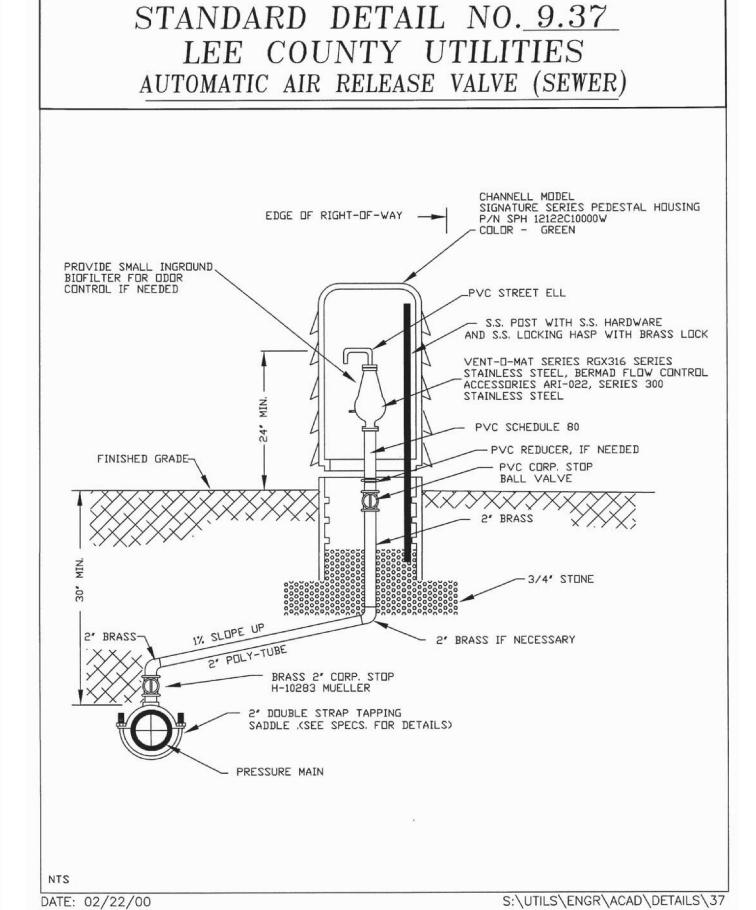
**DETAILS** 

с-503

STANDARD DETAIL NO. 9.21 LEE COUNTY UTILITIES WATER AND SEWER CROSSING DETAIL 10' MIN. | LESS THAN 18" SANITARY - SEWER MAIN WATER MAIN 6" OF CONCRETE CONCRETE OR STEEL CASING NOTE IF LESS THAN 18" CLEARANCE ENCASE <u>SEWER</u> MAIN IN CONCRETE OR STEEL CONCRETE OR STEEL ENCASED SEWER -**CROSSINGS** SIDE VIEW NTS SANITARY SEWER MAIN 10' 🚦 MIN WATER MAIN IF LESS THAN 10' CLEARANCE ENCASE SEWER MAIN IN CONCRETE OR STEEL WATER MAIN SANITARY SEWER MAIN PARALLEL PLAN VIEW S:\UTILS\ENGR\ACAD\DETAILS\21 DATE 02/22/00







HDR ENGINEERING, INC 2601 CATTLEMEN ROAD, STE 400 SARASOTA, FL 34232 CA 4213

			PROJECT MANAGER	JEFF CRIGLER, PE.
			DESIGNER	JTT
			REVIEWER	TSH
			PROJ. ENGINEER	HLM
1	02/2016	90% SUBMITTAL		
SSUE	DATE	DESCRIPTION	PROJECT NUMBER	250366

FGUA
LEHIGH HOMESTEAD ROAD
WATER AND WASTEWATER UTILITY PROJECT

1" 2" **FILENAME** C-504.DWG

SCALE AS NOTED

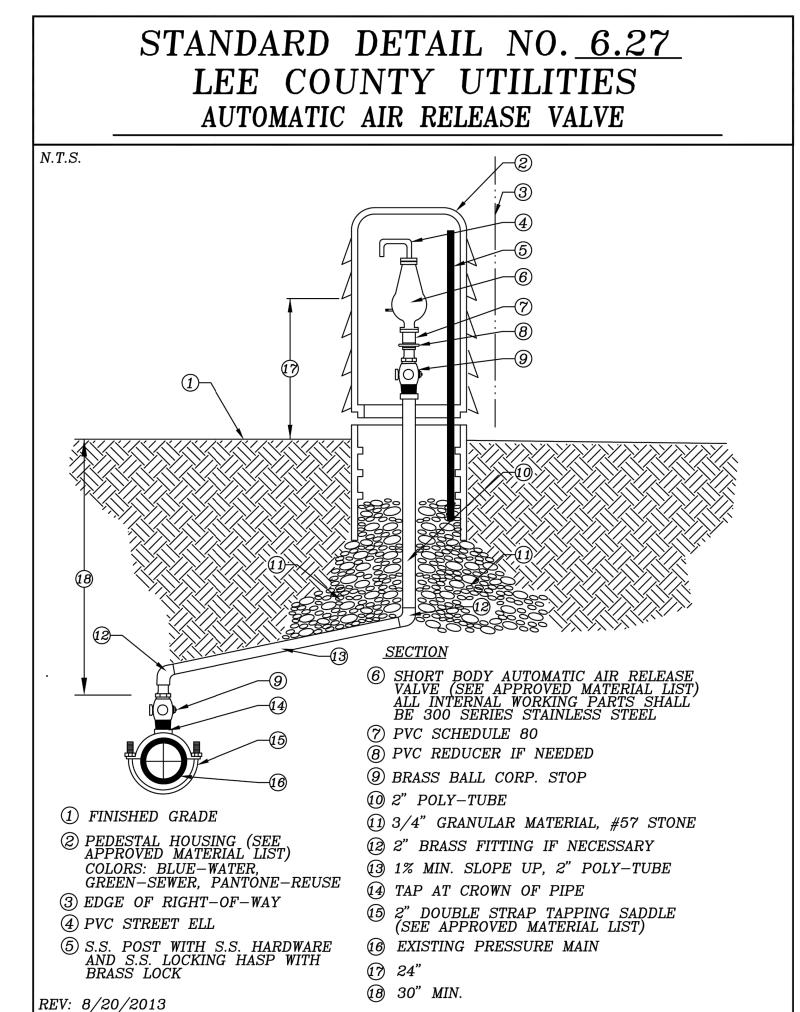
**DETAILS** 

с-504

STANDARD DETAIL NO. 6.19 LEE COUNTY UTILITIES FIRE HYDRANT LOCATIONS/CLEARANCE N.T.S. PARKWAY AREA WITH SIDEWALK (PLAN VIEW) 1 PREFERRED LOCATION ② F.H. TO BE LOCATED 2' MINIMUM FROM EDGE OF SIDEWALK ③ P.T. OR P.C. OF CURB RETURN 4 PROPERTY LINE RIGHT-OF-WAY OR LIMIT OF EASEMENT (5) ACCEPTABLE LOCATION WITH CURB RADIUS OF 20' OR MORE 6 BETWEEN 2'-0" MIN. AND 6'-0" MAX. ⑦ 6'−0" **⑧** 4'−0" PARKWAY AREA OR NO SIDEWALK (PLAN VIEW) REQUIRED HYDRANT CLEARANCE 1. OBSTRUCTIONS SUCH AS UTILITY POLES, STREET SIGNS, IRRIGATION BOXES, FENCES, ETC. SHALL NOT BE PLACED BETWEEN CURB AND HYDRANT. CURB2. SOME LOCATIONS APPLY AT EITHER END OF CURB RETURNS. PAVEMENT

3. DIMENSION SHOWN ON CONSTRUCTION DRAWINGS SUPERCEDE LOCATIONS SHOWN HERE.

REV: 8/20/2013



JTT

TSH

HLM

**PROJECT MANAGER** JEFF CRIGLER, PE. 1 02/2016 90% SUBMITTAL SARASOTA, FL 34232 CA 4213 PROJECT NUMBER 250366 ISSUE DATE DESCRIPTION

(PLAN VIEW)

**FGUA** LEHIGH HOMESTEAD ROAD WATER AND WASTEWATER UTILITY PROJECT

FILENAME C-505.DWG SCALE AS NOTED

**DETAILS** 

SHEET C-505

**DESIGNER** REVIEWER PROJ. ENGINEER HDR ENGINEERING, INC 2601 CATTLEMEN ROAD, STE 400