

GATEWAY SERVICES DISTRICT
GATEWAY BLVD / GRIFFIN DRIVE
UTILITY RELOCATION

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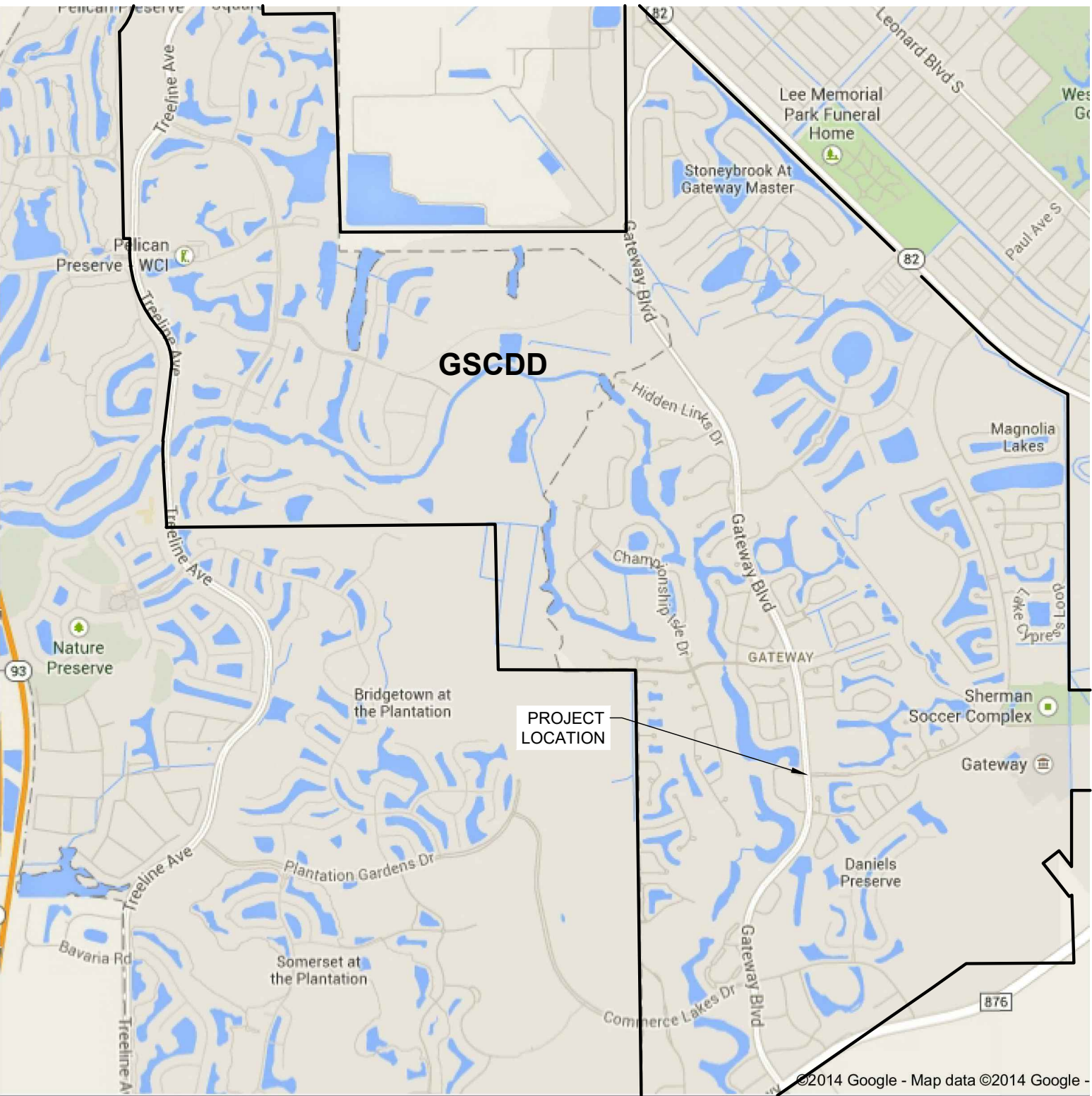


PROJECT LOCATION:	CLIENT INFORMATION:
	GATEWAY SERVICES DISTRICT
	13240 GRIFFIN DRIVE
	FORT MYERS, FLORIDA 33913
Tt PROJECT No.:	CLIENT PROJECT No.:
200-37678-20010	ITB-22-03-UT

PROJECT DESCRIPTION / NOTES:
THE WORK CONSISTS OF REPLACING POTABLE WATER, IRRIGATION WATER, AND WASTEWATER MAINS AT THE GATEWAY BOULEVARD AT GRIFFIN DRIVE INTERSECTION. THE WORK INCLUDES OPEN TRENCH CONSTRUCTION OF: 16-INCH DIP WATER MAIN; 16-INCH DIP WATER MAIN WITH 30-INCH STEEL CASING; 12-INCH PVC IRRIGATION MAIN; 12-INCH PVC IRRIGATION MAIN WITH 24-INCH STEEL CASING; 16-INCH PVC WASTEWATER FORCE MAIN; 16-INCH PVC WASTEWATER FORCE MAIN WITH 30-INCH STEEL CASING.

ISSUED:
AUGUST / 2022 - BIDDING PLANS

VICINITY MAP:



PREPARED FOR
GATEWAY SERVICES DISTRICT
13240 GRIFFIN DRIVE
FORT MYERS, FLORIDA 33913

PREPARED BY

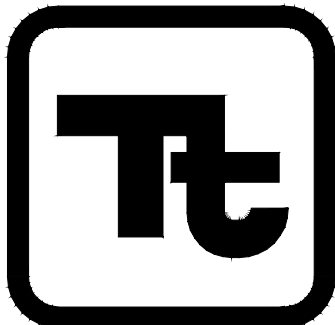
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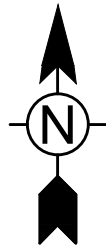
10600 CHEVROLET WAY - SUITE 102 - ESTERO - FL 33928
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Alfred J. Mittl, Professional Engineer, State of Florida, License No. 59913.

This item has been digitally signed and sealed by Alfred J. Mittl, PE, on 8/12/2022.

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LEE COUNTY

1. CONTRACTOR SHALL REPLACE ALL UTILITY BOXES/COVERS DAMAGED DURING CONSTRUCTION.
2. OFFSET MEASUREMENTS ARE TO CENTER OF STRUCTURE OR GRATE, UNLESS OTHERWISE NOTED.
3. EXISTING DRAINAGE STRUCTURES AND UTILITIES WITHIN THE CONSTRUCTION LIMITS SHALL REMAIN UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR, AND REPAIR, ALL DAMAGES TO BUILDINGS, TELEPHONE OR OTHER CABLES, SEWER AND WATER PIPES, PAVEMENT, DRIVEWAYS, WALLS, SPRINKLER SYSTEMS, SURVEY MARKERS, OR OTHER STRUCTURES WHICH MAY BE ENCOUNTERED WHETHER OR NOT SHOWN ON THE PLANS. CONTRACTOR TO REPORT ANY DAMAGES TO EXISTING ITEMS TO REMAIN PRIOR TO BEGINNING CONSTRUCTION.
5. PRIOR TO ANY CONSTRUCTION OR FABRICATION, THE CONTRACTOR SHALL SUBMIT FIVE (5) SETS OF SHOP DRAWINGS FOR ALL MATERIALS, PIPE AND APPURTENANCES. CONSTRUCTION MAY PROCEED ONCE THE SHOP DRAWINGS HAVE BEEN APPROVED BY THE ENGINEER.
6. AREAS AFFECTED BY THIS PROJECT SHALL BE REGRADED TO MATCH PROPOSED CONDITIONS AS DIRECTED BY THE ENGINEER. SOD WILL BE INSTALLED AT AREAS AS DIRECTED BY THE ENGINEER.
7. ANY DISCREPANCY BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO COMMENCING ANY CONSTRUCTION WORK.
8. NO FIELD CHANGES OR DEVIATIONS FROM THE DESIGN ARE TO BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
9. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE PUBLIC HEALTH AND ENSURE JOB SAFETY. THE CONTRACTOR SHALL CONFORM TO ALL APPLICABLE OCCUPATIONAL SAFETY & HEALTH AGENCY (OSHA) STANDARDS AND FEDERAL, STATE AND LOCAL GOVERNMENT SAFETY REQUIREMENTS.
10. ALL DEFECTIVE WORK NOT ACCEPTED BY THE ENGINEER, OR BY THE OWNERS REPRESENTATIVE SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
11. ANY PUBLIC LAND CORNER OR BENCHMARK WITHIN THE LIMITS OF THE CONSTRUCTION IS TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
12. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL EXISTING DRIVEWAYS UNLESS OTHERWISE APPROVED BY THE ENGINEER. WHENEVER CONSTRUCTION INTERFERES WITH AN EXISTING DRIVEWAY, THE CONTRACTOR SHALL PROVIDE AN ALTERNATE MEANS OF ACCESS TO THE PROPERTY.
13. CONTRACTOR SHALL PROVIDE SUFFICIENT PERSONNEL AND EQUIPMENT ON THE JOB AT ALL TIMES DURING CONSTRUCTION TO SATISFY THE SPECIFICATIONS AND TO COMPLETE WORK.
14. CONTRACTOR SHALL VERIFY ALL QUANTITIES SHOWN ON THE PLANS. IF ANY DISCREPANCY IN QUANTITIES IS FOUND, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND OWNER.
15. 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 THE WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED.
16. ALL FIELD LAYOUT SURVEYING FOR CONSTRUCTION AND LOCATING EASEMENTS, ROW, AND PROPERTY LINES FOR THIS PROJECT SHALL BE PROVIDED BY THE CONTRACTOR AT THEIR EXPENSE; UNDER THE DIRECTION OF A LICENSED PROFESSIONAL LAND SURVEYOR.
17. BENCH MARK DATUM IS NATIONAL GEODETIC VERTICAL DATUM OF 1988 (NAVD 88). COORDINATE SYSTEM FOR THIS PROJECT SHALL BE BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM, FLORIDA WEST; NORTH AMERICAN DATUM OF 1983 (2011 ADJUSTMENT).
18. THE COST OF SAW CUTTING SHALL BE INCIDENTAL TO THE WORK BEING PERFORMED.
19. ALL LANES MUST BE ABLE TO BE RE-OPENED IN 12 HOURS FOR TRAFFIC DURING AN EVACUATION NOTICE OF A HURRICANE OR OTHER EMERGENCY EVENTS AND SHALL REMAIN OPEN FOR THE DURATION OF THE EVACUATION OR EVENT AS DIRECTED BY THE PROJECT ENGINEER.
20. THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED. CONTRACTOR SHALL LOCATE AND VERIFY THE SIZE, LOCATION, AND DEPTH OF ALL EXISTING UTILITIES IN THE FIELD.
21. CONTRACTOR SHALL VERIFY ALL UTILITIES AND PROVIDE AT LEAST 48 HOURS NOTICE TO THE INDIVIDUAL UTILITY COMPANIES AND LCDOT PRIOR TO CONSTRUCTION
22. IN ANY EXCAVATION WORK IT SHOULD BE NOTED THAT THE WATER TABLE IS HIGH IN THIS AREA.
23. ALL CONSTRUCTION IN THE COUNTY RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE CURRENT LEE COUNTY DEPARTMENT OF TRANSPORTATION STANDARDS. ALL REQUIRED INSPECTIONS SHALL BE PERFORMED AS REQUIRED BY THESE STANDARDS. CONTRACTOR SHALL PROVIDE BOND AND PERMIT FEE AS REQUIRED.
24. ALL MATERIALS AND WORKMANSHIP UNDER THIS PROJECT SHALL BE IN ACCORDANCE WITH THE CURRENT CONSTRUCTION STANDARDS AND SPECIFICATIONS OF LEE COUNTY DEVELOPMENT STANDARDS, LEE COUNTY DEPARTMENT OF TRANSPORTATION (LCDOT) AND FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2019-20, UNLESS OTHERWISE NOTED.
25. ALL PVIOUS AREAS WITHIN THE PROJECT CONSTRUCTION LIMITS SHALL BE GRASSED, SODDED, MULCHED OR LANDSCAPED IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN IF INCLUDED WITH THIS PLAN SET OR PROVIDED SEPARATELY AS PART OF CONTRACT. EXISTING SOD IS MOSTLY SAINT AUGUSTINE.
26. ALL REGULATORY AND PERMITTING AGENCIES' REQUIREMENTS SHALL BE COMPLIED WITH.
27. APPROPRIATE TURBIDITY CONTROL DEVICES SUCH AS SILT FENCES WILL BE UTILIZED DURING ALL PHASES OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THE NPDES NOTICE OF INTENT, NOTICE OF TERMINATION, AND LEE COUNTY RIGHT-OF-WAY PERMITS. NOI MUST BE FILED WITH FDEP IN ACCORDANCE WITH DEP DOCUMENT NO. 62-621 AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR DEVELOPING AND MAINTAINING AN EFFECTIVE STORMWATER POLLUTION PREVENTION PLAN.
28. ALL EXISTING PIPES THAT ARE TO REMAIN IN SERVICE WITHIN THE RIGHT-OF-WAY CORRIDOR ARE TO REMAIN IN PLACE UNLESS OTHERWISE NOTED IN THE PLANS.
29. ALL EXISTING DRAINAGE STRUCTURES ARE TO REMAIN UNLESS NOTED ON THE ROADWAY PLANS.
30. BURIED PHONE LINES EXIST THROUGHOUT THE LIMITS OF WORK BUT MAY NOT BE IDENTIFIED ON THE DRAWINGS. PROCEED WITH CAUTION TO MAINTAIN THE PHONE SERVICES. DAMAGES TO, OR RELOCATION OF PHONE LINES DURING CONSTRUCTION SHALL BE REPORTED IMMEDIATELY TO AND/OR COORDINATED WITH CENTURYLINK TELEPHONE AND REPAIRED OR RELOCATED AT THE CONTRACTOR'S EXPENSE.
31. WATER, SEWER, AND IRRIGATION SERVICES MAY EXIST WITHIN THE LIMITS OF WORK BUT MAY NOT BE IDENTIFIED ON THE DRAWINGS. PROCEED WITH CAUTION TO MAINTAIN THE WATER SERVICES. DAMAGES TO, OR RELOCATION OF WATER SERVICES DURING CONSTRUCTION SHALL BE REPORTED IMMEDIATELY TO AND/OR COORDINATED WITH GSCDD AND REPAIRED OR RELOCATED AT THE CONTRACTOR'S EXPENSE.

32. OVERHEAD AND UNDERGROUND ELECTRIC LINES EXIST THROUGHOUT THE LIMITS OF WORK BUT MAY NOT BE SHOWN ON THE DRAWINGS. PROCEED WITH CAUTION TO PROTECT THE ELECTRIC LINES AND DAMAGES TO, OR RELOCATION OF ELECTRIC LINES OR POLES SHALL BE REPORTED IMMEDIATELY TO AND/OR COORDINATED WITH POWER COMPANY AND REPAIRED OR RELOCATED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL ARRANGE AND PAY FOR ALL UTILITY POLE BRACING REQUIRED BY HIS OPERATIONS.
33. BURIED CABLE AND FIBER OPTIC LINES EXIST THROUGHOUT THE LIMITS OF WORK BUT MAY NOT BE SHOWN ON THE DRAWINGS. PROCEED WITH CAUTION TO PROTECT THE BURIED CABLE AND FIBER OPTIC LINES. DAMAGES TO OR RELOCATION OF CABLE AND FIBER OPTIC LINES SHALL BE REPORTED IMMEDIATELY TO AND/OR COORDINATED WITH THE CABLE COMPANY AND REPAIRED OR RELOCATED AT THE CONTRACTOR'S EXPENSE.
34. DISRUPTION OR DAMAGE TO EXISTING UTILITY LINES SHALL BE REPORTED TO THE UTILITY OWNER, GSCDD AND ENGINEER IMMEDIATELY.
35. CONTRACTOR SHALL EXCAVATE TEST PITS FOR THE PURPOSE OF PROTECTING AND CONFIRMING LOCATION AND DEPTH OF EXISTING UTILITIES OR STRUCTURES IN ADVANCE OF CONSTRUCTION. TEST PITS SHALL BE DUG BY HAND AND BACKFILLED IMMEDIATELY AFTER THEIR PURPOSE HAS BEEN SATISFIED AND SHALL NOT REMAIN OPEN DURING NONWORKING HOURS.
36. HORIZONTAL AND VERTICAL SEPARATION OF WATER, SANITARY SEWER AND OTHER UTILITIES SHALL CONFORM TO THE CURRENT REQUIREMENTS OF THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND THE SPECIFIC REQUIREMENTS OF THE PROJECT PERMITS.
37. LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES EXPOSED DURING CONSTRUCTION SHALL BE ACCURATELY RECORDED ON THE CONSTRUCTION DRAWINGS. THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY CONFLICTS WITH THE PROPOSED CONSTRUCTION.
38. CONTRACTOR SHALL PROVIDE SUPPLEMENTAL PHYSICAL SUPPORT FOR EXISTING UTILITIES THAT ARE EXPOSED BY EXCAVATION AS DIRECTED BY THE ENGINEER. THERE SHALL BE NO VISIBLE DEFLECTION ON EXISTING UTILITIES AS THEY ARE UNDERMINED FOR TRENCHING.
39. ANY AND ALL AREAS DISTURBED DURING CONSTRUCTION ACTIVITIES SHALL BE COMPLETELY RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTING PRIOR TO CONSTRUCTION.
40. THE CONTRACTOR SHALL OBTAIN THE NECESSARY TESTING TO ASSURE THAT THE PROPER COMPACTION HAS BEEN ACHIEVED PER THE PLANS AND SPECS. THE CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH TESTING AND RETESTING OF THE AREAS AND SHALL PROVIDE THE OWNER AND THE ENGINEER WITH COPIES OF THE CERTIFICATION OF COMPACTION FROM THE TESTING COMPANY.
41. ALL EXCESS FILL FROM SITE SHALL BE STOCKPILED BY THE CONTRACTOR, IN A LOCATION DETERMINED BY THE OWNER OR THE OWNER'S REPRESENTATIVE AND THE ENGINEER.

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C-100	GATEWAY BLVD & GRIFFIN LS SITE PLAN - WEST
C-101	GATEWAY BLVD & GRIFFIN LS SITE PLAN - EAST
C-102	OVERALL SITE PLAN - GATEWAY BLVD & GRIFFIN DR
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C-202	UTILITY PROFILES
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C-204	IRRIGATION AND WATER MAIN TABLES
C-205	FORCE MAIN TABLE
C-501	STANDARD DETAILS
C-502	STANDARD DETAILS

G-001 Project No.: 200-37678-20010 Designed By: TW Drawn By: GM Checked By: TW	GATEWAY SERVICES DISTRICT GATEWAY BLVD / GRIFFIN DRIVE UTILITY RELOCATION LOCATION MAP & GENERAL NOTES			MARK	DATE	DESCRIPTION	BY
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8/12/2022 1:55:58 PM - C:\PROJECTS\ORLANDO\IER37678\20010\CAD\SHEET\FILES\G-002 LEGENDS & ABBREVIATIONS.DWG - MARQUEZ, GERMAIN

LIST OF STANDARD ABBREVIATIONS

A AAP AARV AAV AB ABAN ABRSV ABS ABV AC ACOMP ACP ADDM ADH AFF AFG AFS AHD AL ALT AMP AMT APRX ARCH AS ASPH ASSY AVE A/C A/VV B BAF BCV BF BFV BHP BITUM B/L BLDG BLK BM BOC BOT BP BRG BSB BV BW BWW C CAP CA CAV CB CCC CE CFM CFC CIV CI CIP CISP CJ CIRCUIT CL CL2 CLF CLR CLVT CMP CMPA CMU CND CNR CO2 COAG COL COM CONC CONC CONSTR CONT CONTR COORD CP CPA CPLG CPVC CR CS CSG CTV CY CYL C&G C/C D DAT DBL DC DEMO DEPT DESC DET DF DIA DIFF DIM DIP DISCH DIR DMH DN DR DV DW DRAWING DWV	ALARM ANNUNCIATOR PANEL AUTOMATIC AIR RELEASE VALVE AUTOMATIC AIR VENT ANCHOR BOLT ABANDON(ED) ABRASIVE ACRYLONITRILE BUTADIENE STYRENE ABOVE ALTERNATING CURRENT ASPHALT-COATED CORRUGATED METAL PIPE ASBESTOS CEMENT PIPE ADDENDUM ADHESIVE ABOVE FINISHED FLOOR ABOVE FINISHED GRADE ABOVE FINISHED SLAB AHEAD ALUMINUM ALTERNATE AMPERE AMOUNT APPROXIMATE(LY) ARCHITECTURAL ALLUM SOLUTION ASPHALT ASSEMBLY AVENUE AIR CONDITIONING AIR/VACUUM AIR VALVE BAFFLE BALL CHECK VALVE BLIND FLANGE BUTTERFLY VALVE BRAKE HORSEPOWER BLACK IRON BITUMINOUS OR BITUMASTIC BASELINE BUILDING BLOCK BENCH MARK BACK OF CURB BOTTOM BASE PLATE BEARING BLACK STEEL PIPE BALL VALVE BOTH WAYS BACKWASH WATER CAPACITY COMPRESSED AIR COMBINATION AIR VALVE CATCH BASIN CHLORINE CONTACT CHAMBER CHLORINATED EFFLUENT CUBIC FEET PER MINUTE CUBIC FEET PER SECOND CHECK VALVE CAST IRON CAST IRON PIPE CAST IRON SOIL PIPE CONSTRUCTION JOINT CIRCUIT CENTER LINE CHLORINE GAS CHAIN LINK FENCE CLEAR OR CLEARANCE CULVERT CORRUGATED METAL PIPE CORRUGATED METAL PIPE ARCH CONCRETE MASONRY UNIT CONDUIT CORNER CLEAN OUT CARBON DIOXIDE COAGULANT COLUMN COMMON CONCRETE CONNECTION CONSTRUCT(ION) CONTINUOUS CONTRACT(OR) COORDINATE COMPANY CONCRETE PIPE CONCRETE PIPE ARCH COUPLING CHLORINATED POLYVINYL CHLORIDE CONCENTRIC REDUCER CHLORINE SOLUTION CASING CABLE TELEVISION CUBIC YARD CYLINDER CURB AND GUTTER CENTER TO CENTER DATUM DOUBLE DIRECT CURRENT DEMOLITION DEPARTMENT DESCRIPTION DETAIL DIESEL FUEL DUCTILE IRON DIAMETER DIFFUSER DIMENSION DUCTILE IRON PIPE DISCHARGE DIRECTION DROP MANHOLE DOWN DRAIN DIAPHRAGM VALVE DRIVEWAY DRAWING DRAIN, WASTE, AND VENT	E E EA ECC EF EFF E/L EL ELAST ELEC EMER EMC ENGR EP EPDM EPRF EQUIP ER ESTM EST EW EXC EXP EXST EXST GR EXT EXTN F FAB FCA FB FCV FD FDN FE FHY FIG FIN FIN FLR FIN GR FL FLG FLR FLTR FM FPM FPS FRP FT FUT FV FW FWP F/F G GA GAL GALV GIP GJ GND GPD GPH GPM GPS GR GRTG GS GSP GSR GST GT GV H HB HD HDPE HDR HFA HGR HGT HNDRL HOA HORIZ HP HPA HR HVAC HWL HWY HZ I ID IN INF INT INTR INV IP IPS IR IW J JB JT K K KPL KV KVA KW KWH L L L LAB LAM LATL LAV	EAST EACH ECCENTRIC EACH FACE EFFLUENT EASEMENT LINE ELEVATION ELASTOMERIC ELECTRICAL EMERGENCY ENCASE(MENT) ENGINEER EDGE OF PAVEMENT ETHYLENE PROPYLENE DIENE MONOMER EXPLOSION PROOF EQUIPMENT ECCENTRIC REDUCER EASEMENT ESTIMATE(D) EACH WAY EXCAVATE EXPANSION EXISTING EXISTING GRADE EXTERIOR EXTENSION FABRICATE(D) FLANGED COUPLING ADAPTER FLAT BAR FLOW-CONTROL VALVE FLOOR DRAIN FOUNDATION FILTER(ED) EFFLUENT FIRE HYDRANT FIGURE FINISHED FINISH FLOOR FINISH GRADE FLUORIDE FLANGE(D) FLOW LINE FILTER FORCE MAIN FEET PER MINUTE FEET PER SECOND FIBERGLASS REINFORCED FUTURE FOOT OR FEET FUTURE FOOT VALVE FINISHED WATER FACTORY WIRED PANEL FACE TO FACE GAUGE GALLON(S) GALVANIZED GALVANIZED IRON PIPE GROOVE JOINT GROUND GALLONS PER DAY GALLONS PER HOUR GALLONS PER MINUTE GALLONS PER SECOND GRADE GRATING GALVANIZED STEEL GSP GROUND STORAGE RESERVOIR GROUND STORAGE TANK GROUT GATE VALVE HOSE BIBB HEAVY DUTY HIGH-DENSITY POLYETHYLENE HYDRAULIC HYDROFLUOSILICIC ACID HANGER HEIGHT HAND RAIL HAND-OFF-AUTO HORIZONTAL HORSEPOWER HIGH PRESSURE AIR HOUR HEATING, VENTILATION, AND AIR CONDITIONING HIGH WATER LEVEL HIGHWAY HERTZ INSIDE DIAMETER INCH(ES) INFLUENT INTERSECTION INTERIOR INVERT IRON PIPE INTERNATIONAL PIPE STANDARD INTERNAL RECYCLE IRRIGATION WATER JUNCTION BOX JOINT KIP (1,000 LB) KICK PLATE KILOVOLT KILOWATT-AMPERE KILOWATT KILOWATT-HOUR LENGTH POUND(S) LINEAR FEET LIGHT POLE LINE SLURRY LIME STABILIZED SLUDGE LOUVER LOW WATER LEVEL METER MAINTAIN OR MAINTENANCE MANUAL(LY) MASONRY MATERIAL MAXIMUM MOTOR CONTROL CENTER MITERED END MECHANICAL MATCH EXISTING GRADE MANUFACTURE(R) MILLION GALLONS MILLION GALLONS PER DAY MANHOLE MILE(S) MINIMUM, MINUTE(S) MISCELLANEOUS MECHANICAL JOINT MIXED LIQUOR MASONRY OPENING MONUMENT MILES PER HOUR MALE PIPE THREAD MOTOR STARTER MOTOR STARTER PANEL MOUNTED MOTORIZED VALVE MANWAY MEAN WATER LEVEL MAXIMUM WORKING PRESSURE N N NaOCI NE NE NIC NO NOM NPT NPW NRS NTS NW N/A O O2 OC OD ODP OF OH OHW OPP OPT OR OSY O&M P PA PC PCM PE PG PI PL PL PNV POB POJ POL PP PPD PPM PREFAB PRESS PRV PRW PSF PSI PSIA PSIG PT PV PVC PVM PW PWR Q Q QTY R RAD RAS RC RCB RCP RCPA RD RDRC REBAR REF REINF REM REQ'D RF RJ RM RPBP RPM	RAILROAD RIGHT RIVETED RAW WATER RAW WASTEWATER RIGHT-OF-WAY S S SA SAN SCHED SD SE SECT SEFF SF SHT SIG SIM SL SLV SM SOLN SP SPEC SPRT SQ SS SSE SST ST STA STD STAKE STL STR STRUCT SURF SV SVCE SVW SW SWD SWSH SYM SYMM SW T TAN TB TBM TB-xx TD TDH TE TEFC TEL TENV THD THK TLM TOB TOC TOS TOT TP TS TV TYP T&B U UD UG ULT UN UON UGC UTC UTIL V V VAC VAR VC VCP VEL VERT VFD VOL W W W WCO WF WH WL WM WP WPR WS WSP WT WTP WW WWF WWM WWTP W/ W/O X XFER Y YD YH YR	RAILROAD RIGHT RIVETED RAW WATER RAW WASTEWATER RIGHT-OF-WAY SOUTH SAMPLE LINE SANITARY SCHEDULE STORM DRAIN SOUTHEAST SECTION SECONDARY EFFLUENT SQUARE FOOT OR FEET SHEET(ED)(ING) SLUDGE SLEEVE SHEET METAL SOLUTION SOIL PIPE, SPACE(ING) SPECIFICATION SUPPORT SQUARE SANITARY SEWER SUBSTANDARD EFFLUENT STAINLESS STEEL STREET STATION STANDARD STEEL STRAIGHT STRUCTURAL SURFACE SOLENOID VALVE SERVICE SERVICE WATER SOUTHWEST SIDEWATER DEPTH SURFACE WASH SYMBOL SYMMETRICAL SIDEWALK TANGENT TOP OF BEAM TEMPORARY BENCH MARK TEST BORING-xx (e.g. TB-1) TRENCH DRAIN TOTAL DYNAMIC HEAD TOTALLY ENCLOSED TOTALLY ENCLOSED FAN COOLED TELEPHONE TOTALLY ENCLOSED NON-VENTILATED THREADED THICKNESS TELEMETRY TOP OF BANK TOP OF CURB TOE OF SLOPE TOTAL TELEPHONE POLE THICKENED SLUDGE TELEVISION TYPICAL TOP AND BOTTOM UNDERDRAIN UNDERGROUND ULTIMATE UNION UNLESS OTHERWISE NOTED UNDERGROUND ELECTRIC CABLE UTILITY VOLT(S) VACUUM VARIES VERTICAL CURVE VITRIFIED CLAY PIPE VELOCITY VERTICAL VARIABLE FREQUENCY DRIVE VOLUME WATT, WEST WASTE ACTIVATED SLUDGE WALL CLEAN OUT WIDE FLANGE WALL HYDRANT WATER LINE WATER MAIN WATER PROOF(ING), WORKING POINT WORKING PRESSURE WATER SURFACE WELDED STEEL PIPE WEIGHT WATER TREATMENT PLANT WASH WATER WELDED WIRE FABRIC WELDED WIRE MESH WASTEWATER TREATMENT PLANT WITH WITHOUT TRANSFER YARD(S) YARD HYDRANT YEAR(S) YR
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CIVIL LEGEND

SITE SYMBOLS	UTILITY SYMBOLS	MISCELLANEOUS	TYPICAL LINETYPES
FEATURES EXISTING SIGN NEW SIGN MAIL BOX POWER METER FLAG RAIL ROAD SIGNAL DECIDUOUS TREE EVERGREEN TREE PALM TREE SURVEY BENCHMARK NAIL & DISK TRAVERSE POINT FOUND IRON (TYPE) SET IRON (TYPE) FOUND MONUMENT (TYPE) SET MONUMENT (TYPE) SECTION CORNER	UTILITY MARKER FIRE HYDRANT (AS SHOWN) SPRINKLER HEAD (AS SHOWN) WATER SPIGOT (AS SHOWN) CLEAN OUT (AS SHOWN) DUPLEX PUMP STATION PUMP STATION UTILITY MANHOLE (AS SHOWN) INLET BASIN (AS SHOWN) UTILITY METER (AS SHOWN) UTILITY RISER (AS SHOWN) UTILITY VALVE (AS SHOWN) UTILITY VALVE (AS SHOWN) UTILITY POLE GUY WIRE LIGHT POLE EXTERIOR BUILDING LIGHTING TRAFFIC POLE SATELLITE DISH WELL YARD DRAIN (AS SHOWN) ELECTRIC TRANSFORMER	??-?? HARD SPOT ELEVATION ??-? SOFT SPOT ELEVATION FLOW DIRECTION SLOPE ARROW HANDICAP MARKING EMBANKMENT REMOVE TREES TREE PROTECTION WRAP INLETS WITH FILTER FABRIC FLARED END - RCP MONUMENT EMBANKMENT	R/W RIGHT OF WAY LINE PROPERTY LINE UTILITY EASEMENTS EX. CONTOUR - MAJOR EX. CONTOUR - MINOR PROP. CONTOUR - MAJOR PROP. CONTOUR - MINOR WETLAND BOUNDARY SILT FENCE FENCE FENCE (STEEL) FLOW ARROW GUARD RAILING WATER EDGES/C.L'S TREE / BRUSH LINES SANITARY SEWER WATER MAIN IRRIGATION MAIN NATURAL GAS POWER UNDERGROUND POWER OVERHEAD STORM PIPES BASELINE

REFERENCE SYMBOLS

 DENOTES SECTION LETTER IDENTIFICATION DENOTES DRAWING NO WHERE SECTION IS LOCATED SECTION REFERENCE	 DENOTES SECTION LETTER IDENTIFICATION SCALE: SECTION DENOTES DRAWING NO WHERE SECTION IS LOCATED SECTION TITLE	 DENOTES DETAIL NUMBER IDENTIFICATION SCALE: DETAIL DENOTES DRAWING NO WHERE DETAIL IS LOCATED DETAIL TITLE
 DENOTES DETAIL NUMBER IDENTIFICATION DETAIL REFERENCE	 DENOTES SECTION NUMBER SECTION VIEW EVERY ±100'	

HATCHING LEGEND

	ASPHALT OR CONCRETE SURFACE (SIDEWALK OR ROADWAY)		PRECAST CONCRETE
	ROADWAY/SIDEWALK OPEN CUT RESURFACE		GROUT
	SODDED OR SEEDDED AND MULCHED AREA OR EXISTING WETLAND		CONCRETE UNIT MASONRY (PLAN)
	EARTH		STEEL
	EXISTING PIPES, STRUCTURES, EQUIPMENT TO BE REMOVED		ALUMINUM
	CAST-IN-PLACE CONCRETE		GRATING

MECHANICAL/DRAFTING LEGEND

	EXISTING	PROPOSED
VISIBLE LINE		
HIDDEN LINE		
CENTER LINE		
PHANTOM LINE		
MATCHLINE		
BREAK LINE		
DIMENSION LINES AND LEADERS		

TETRA TECH



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DATE

MARK	DATE	DESCRIPTION	BY

GATEWAY SERVICES DISTRICT
GATEWAY BLVD / GRIFFIN DRIVE
UTILITY RELOCATION

LEGENDS AND ABBREVIATIONS

Project No.: 200-37678-20010
Designed By: FM
Drawn By: WV
Checked By: TW

G-002

Sheet

Bar Measures 1 inch

8/12/2022 1:59:37 PM - C:\PROJECTS\ORLANDO\IER37678\200-37678-20010\CAD\SHEETFILES\V-100 EXISTING CONDITIONS.DWG - MARQUEZ, GERMAN



LEGEND:

EXISTING	12" FM	FORCE MAIN
12" IRR	IRRIGATION	
16" W	WATER	

0 25' 50' 100'

FULL SIZE SCALE (22"x34"): 1" = 50'
HALF SIZE SCALE (11"x17"): 1" = 100'

GATEWAY SERVICES DISTRICT
GATEWAY BLVD / GRIFFIN DRIVE
UTILITY RELOCATION

Project No.: 200-37678-20010
Designed By: TW
Drawn By: GM
Checked By: TW

V-101

Bar Measures 1 inch

Alfred J. Mittl, P.E.
P.E. No. 58913, FL
10600 Gateway Blvd, Suite 102
Estero, Florida 33928
Engineering Business No. 2429

DATE



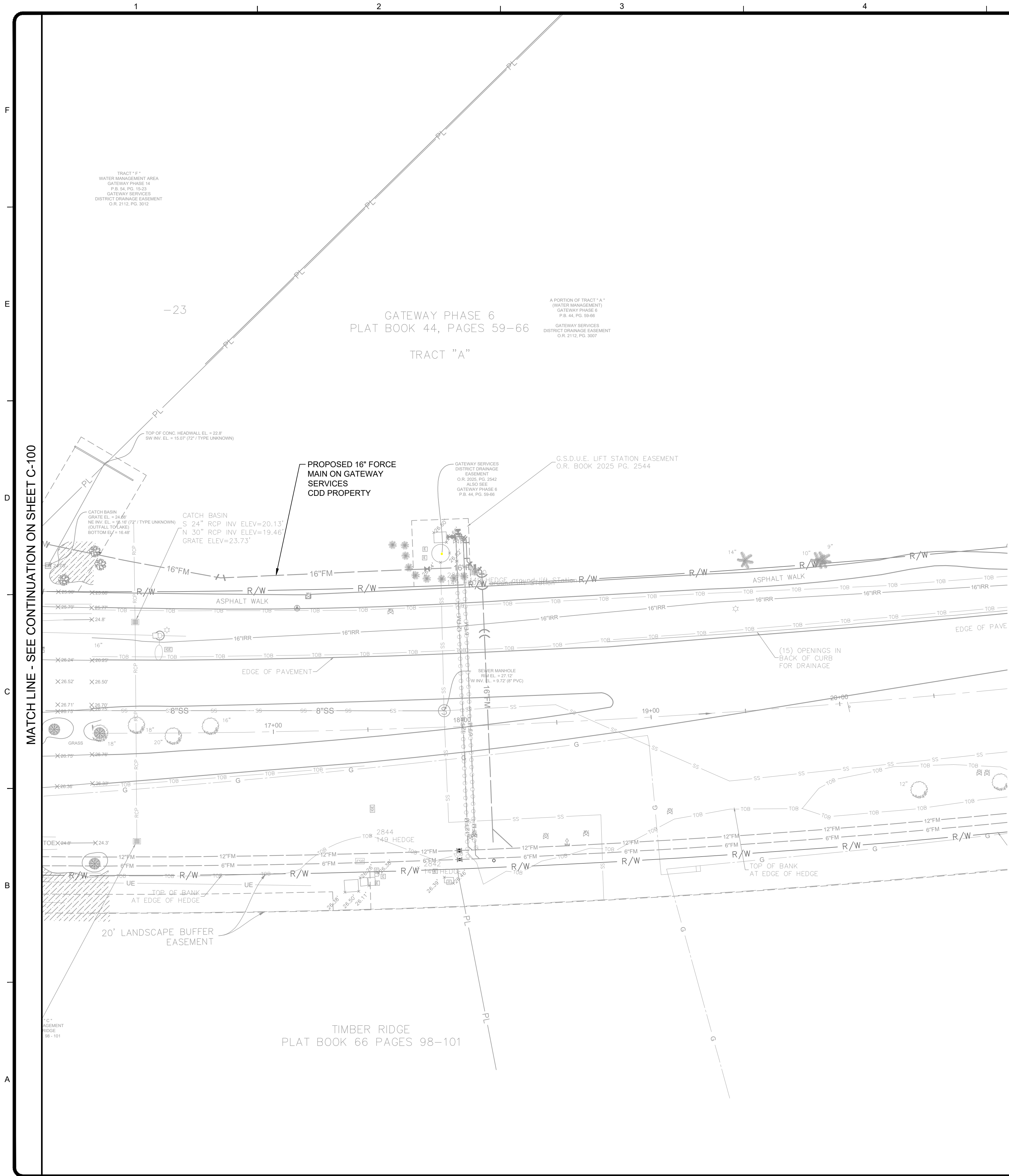
TETRA TECH

ENGINEERING BUSINESS No. 2429
www.tetratech.com
10600 CHEVROLET WAY, SUITE 102
ESTERO, FLORIDA 33928
Ph: (239) 390-1467 Fax: (239) 390-1769

C-100

Bar Measures 1 inch

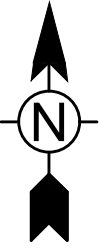
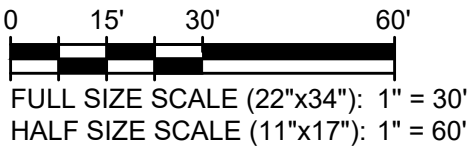
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LEGEND:

EXISTING	PROPOSED	
12" FM & 16" FM	12" FM & 12" FM	FORCEMAIN
12" IRR	12" IRR	IRRIGATION
16" W	10"W & 16"W	WATER
	ABANDON IN PLACE BY GROUTING	
	CASING	
	PIPE TO BE REMOVED	

- NOTES:**
- EXISTING VALVES TO BE OPERATED BY OWNER'S PERSONNEL ONLY.
 - OWNER WILL TEMPORARILY ISOLATE IRRIGATION MAIN FLOW AND SEWER FORCE MAIN FLOW IN WORK AREA FOR LIMITED PERIODS OF TIME. PLAN AND COORDINATE NECESSARY SHUTDOWNS OF THESE SYSTEMS WITH OWNER.
 - POTABLE WATER SERVICE SHALL BE MAINTAINED AT ALL TIMES.



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Engineering Business No. 2429

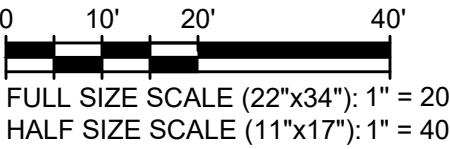
DATE

MARK	DATE	DESCRIPTION	BY

GATEWAY SERVICES DISTRICT
GATEWAY BLVD / GRIFFIN DRIVE
UTILITY RELOCATION
GATEWAY BLVD AND
GRIFFIN LS SITE PLAN
EAST

Project No.: 200-37678-20010
Designed By: TW
Drawn By: GM
Checked By: TW

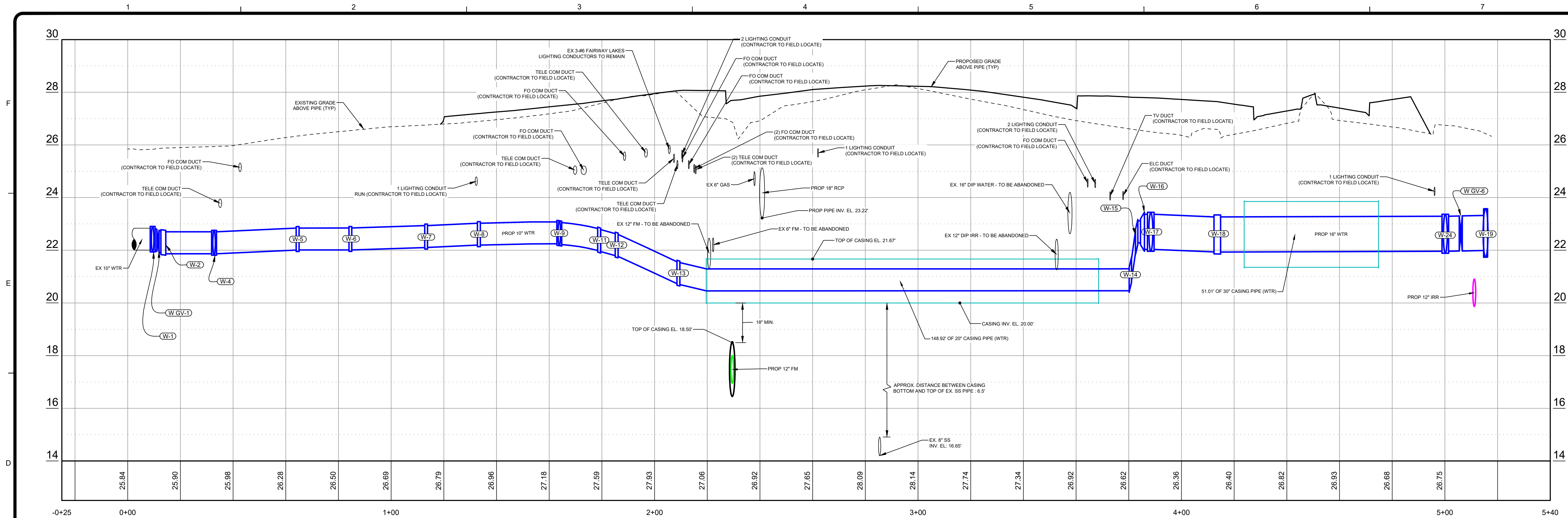
C-101



FULL SIZE SCALE (22"x34"): 1" = 20'
HALF SIZE SCALE (11"x17"): 1" = 40'

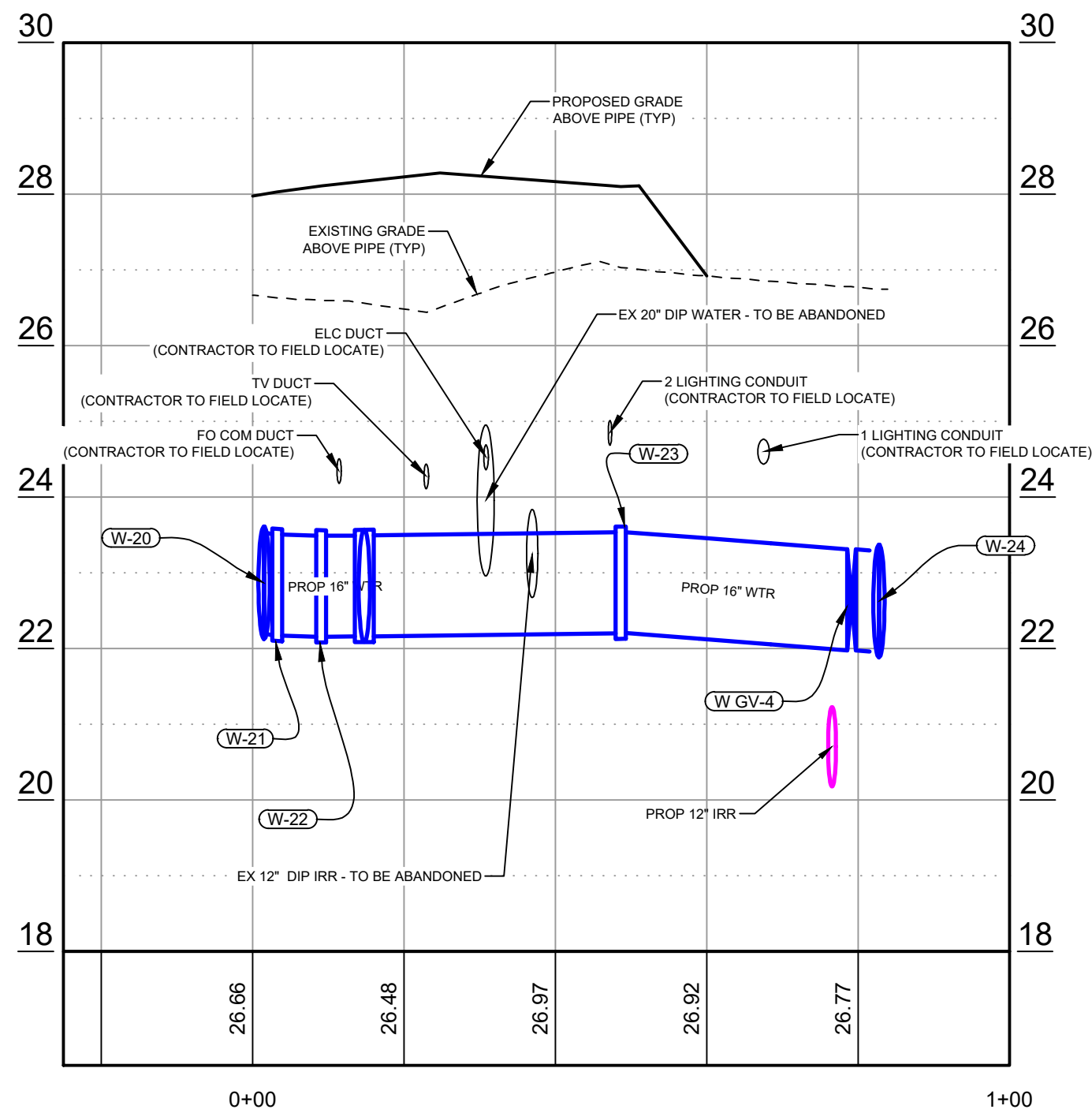
Project No.:	200-37678-20010
Designed By:	TW
Drawn By:	GM
Checked By:	TW

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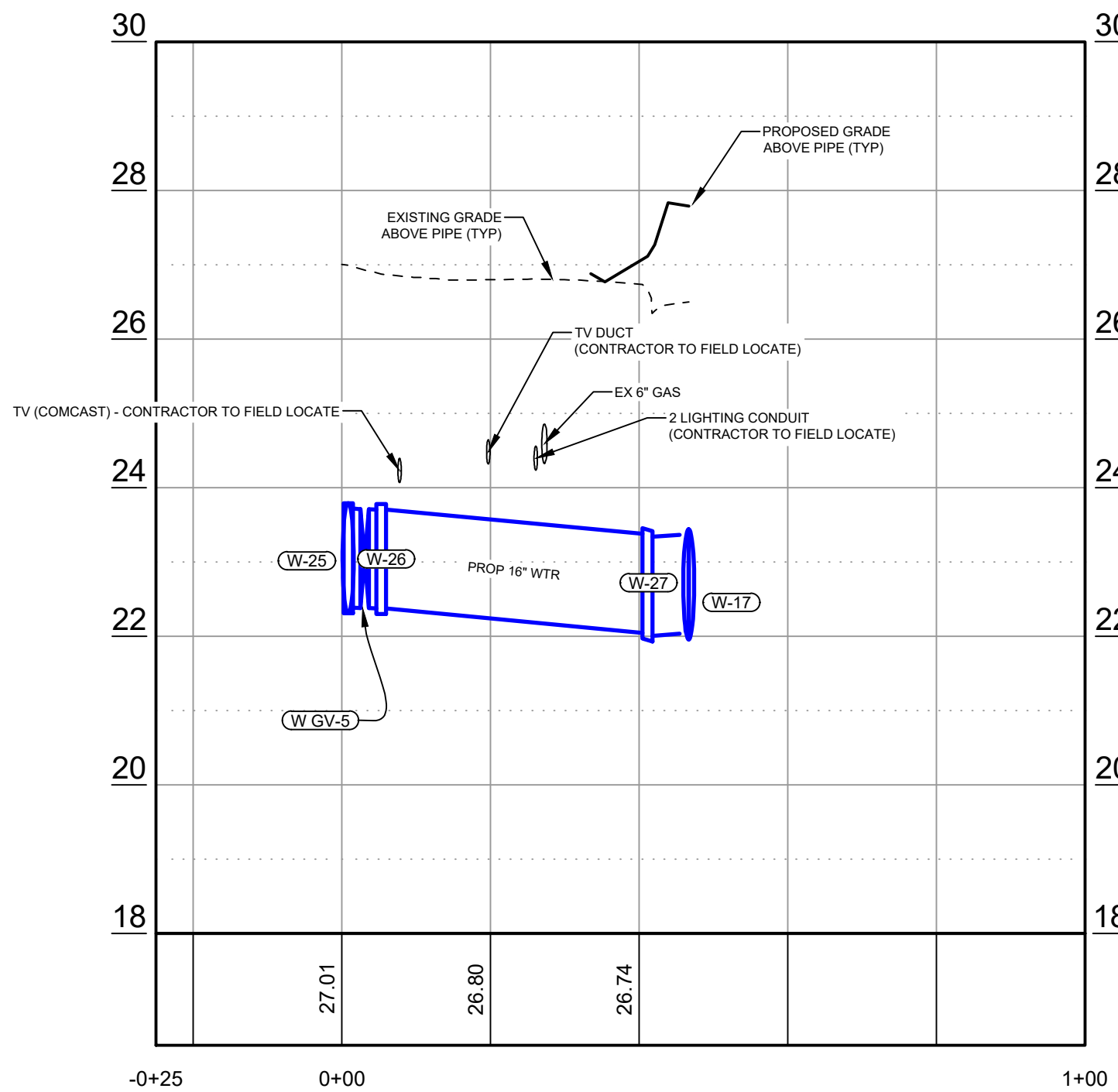
PROP 10 AND 16 WTR (ACROSS GATEWAY BOULEVARD) PROFILE

FULL SIZE SCALE (22"x34"): HORIZ: 1"= 20' VERT: 1"=2'
HALF SIZE SCALE (11"x17"): HORIZ: 1"=40' VERT: 1"=4'



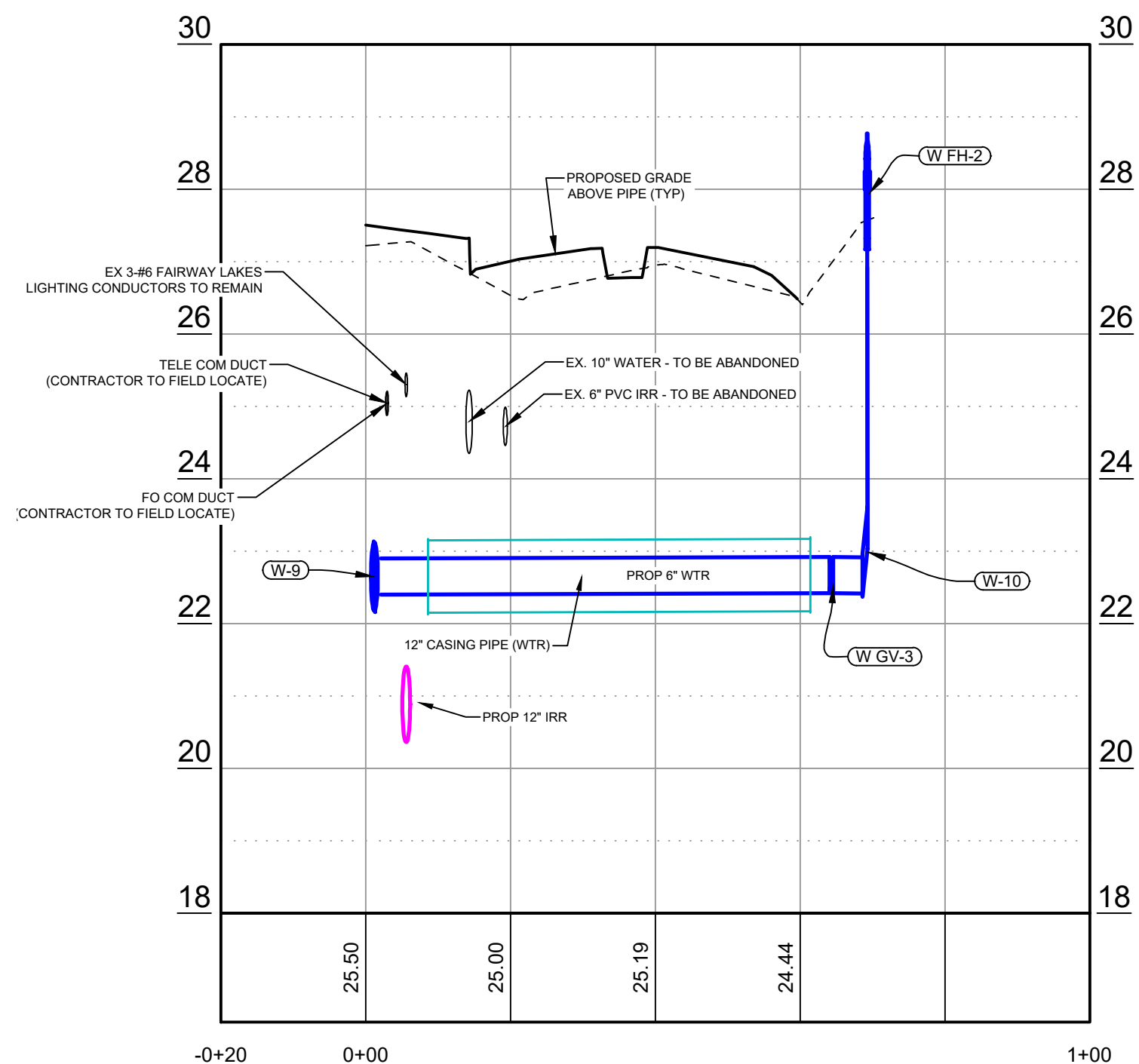
PROP 16 WTR (NE OF ROUNDABOUT) PROFILE

FULL SIZE SCALE (22"x34"): HORIZ: 1"= 20' VERT: 1"=2'
HALF SIZE SCALE (11"x17"): HORIZ: 1"=40' VERT: 1"=4'



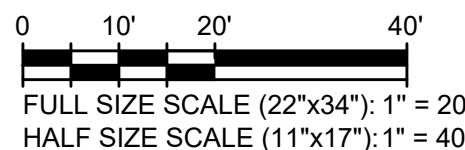
PROP 12 WTR (SE OF ROUNDABOUT) PROFILE

FULL SIZE SCALE (22"x34"): HORIZ: 1"= 20' VERT: 1"=2'
HALF SIZE SCALE (11"x17"): HORIZ: 1"=40' VERT: 1"=4'



PROP FH (ACROSS FAIRWAY LAKES) PROFILE

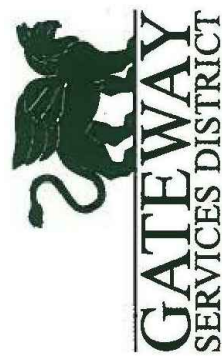
FULL SIZE SCALE (22"x34"): HORIZ: 1"= 20' VERT: 1"=2'
HALF SIZE SCALE (11"x17"): HORIZ: 1"=40' VERT: 1"=4'



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Tetra Tech Inc.

10600 Chevrolet Way, Suite 102

Estero, Florida 33928

Engineering Business No. 2429

DATE

BY

MARK

DATE

GATEWAY SERVICES DISTRICT

GATEWAY BLVD / GRIFFIN DRIVE

UTILITY RELOCATION

UTILITY PROFILES

Project No.: 200-37678-20010

Designed By: TW

Drawn By: GM

Checked By: TW

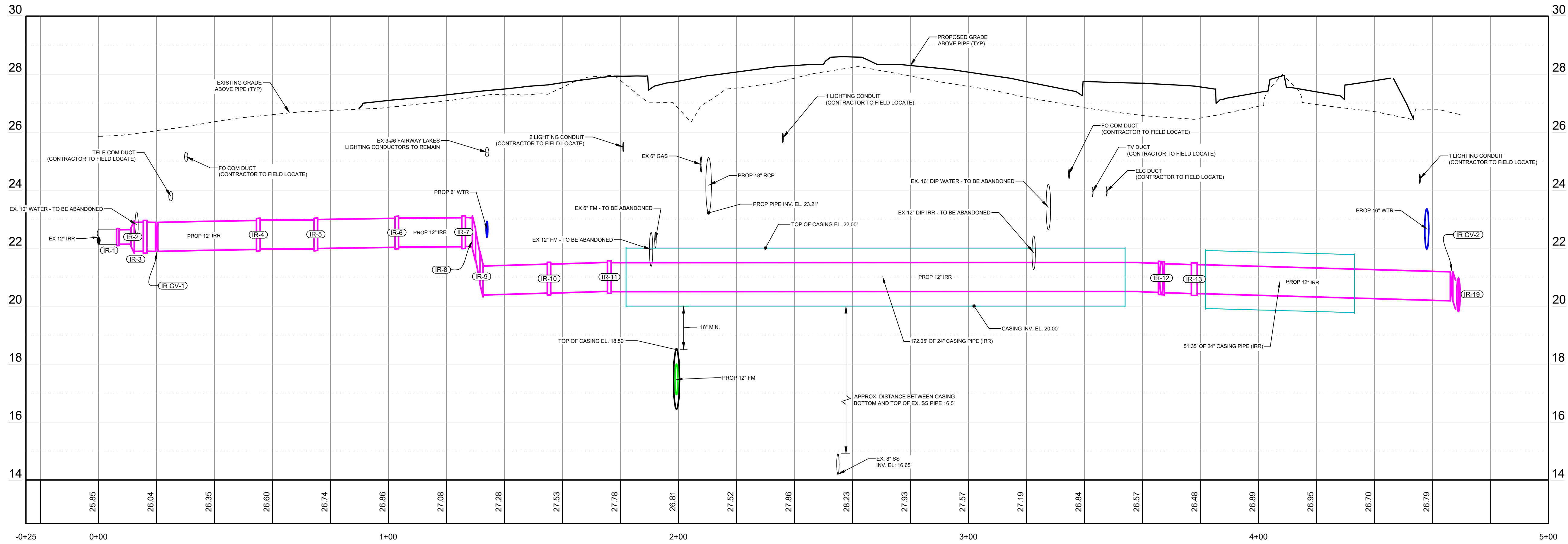
C-201

Bar Measures 1 inch

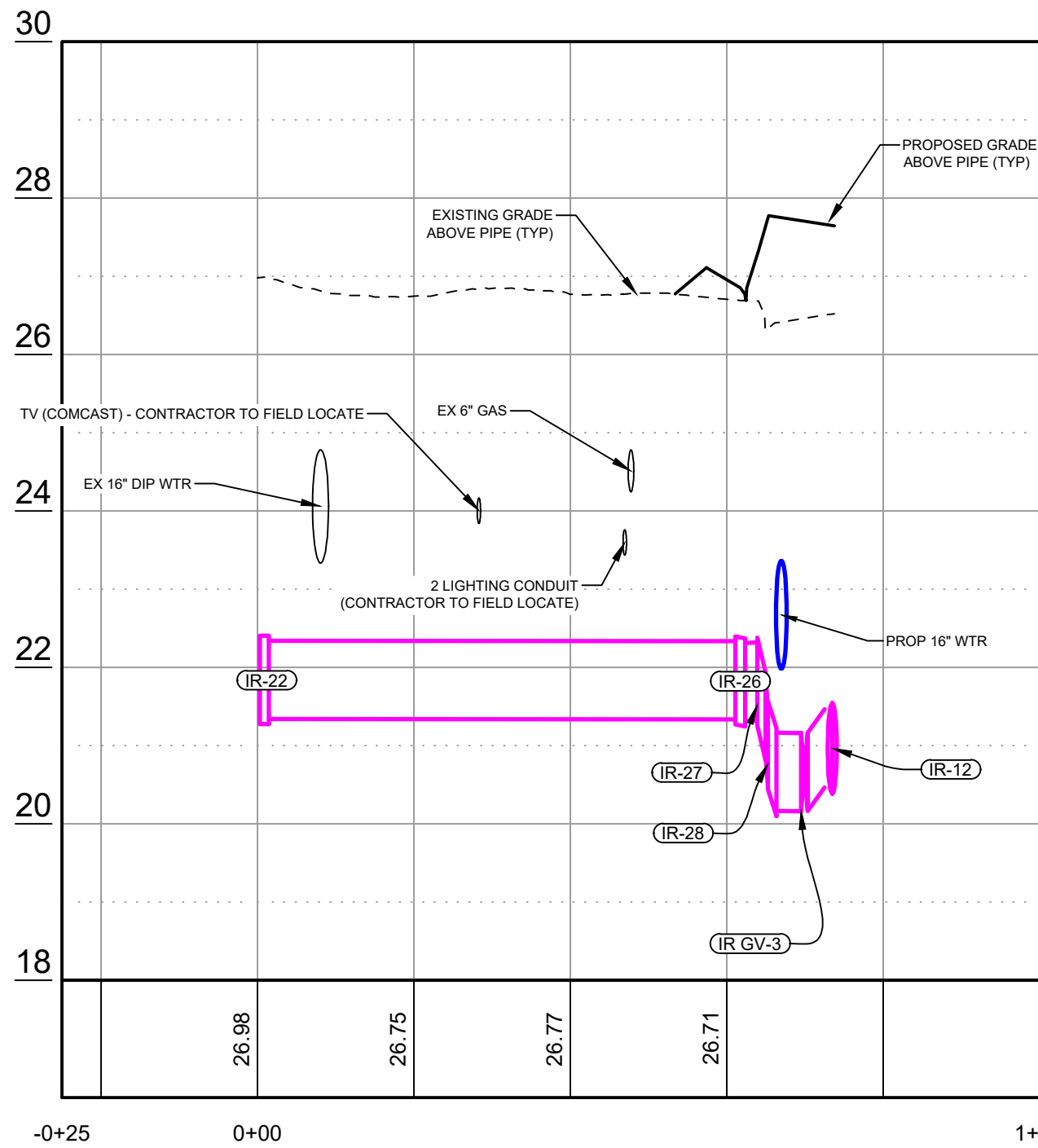
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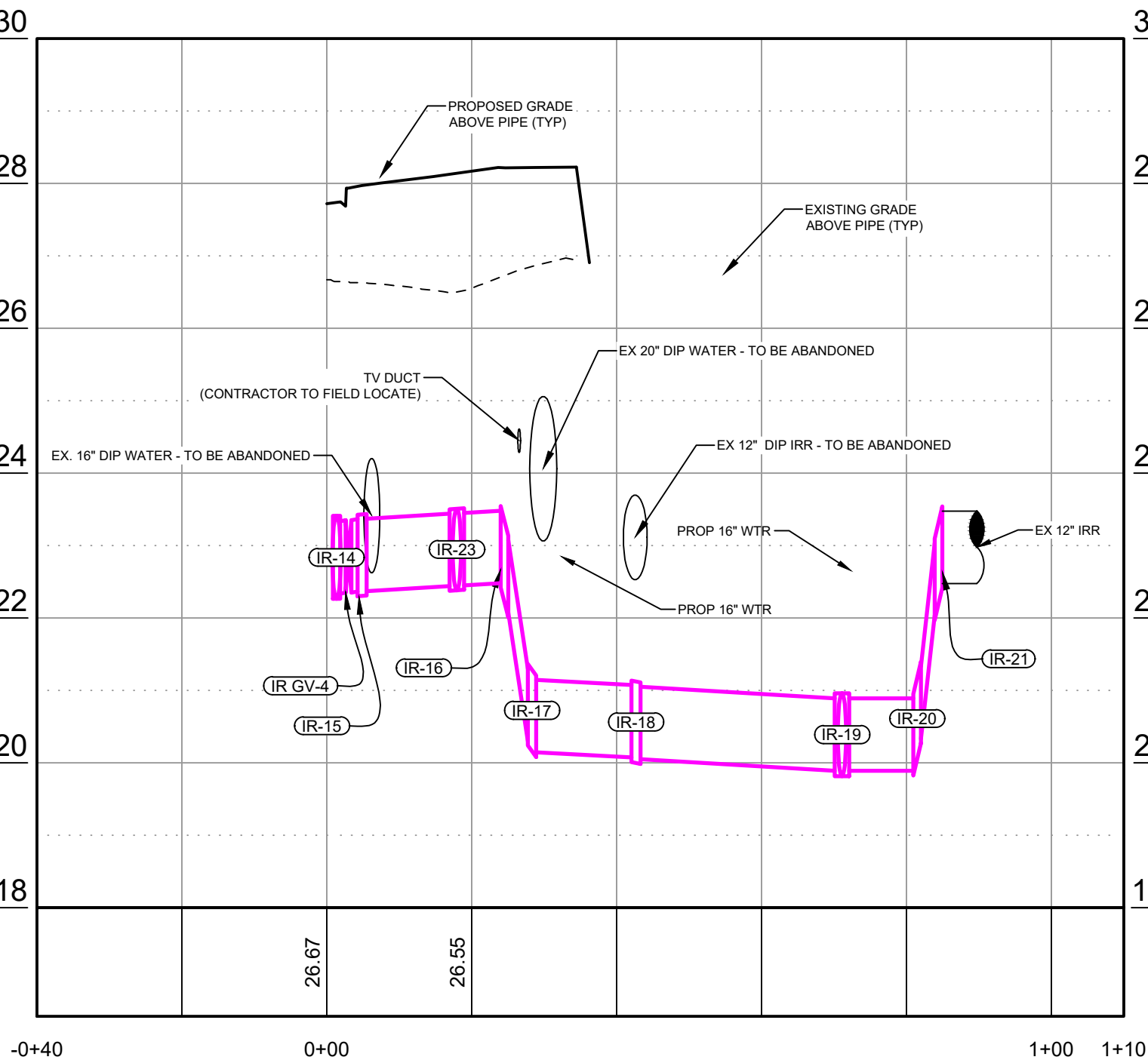
A B C D E F



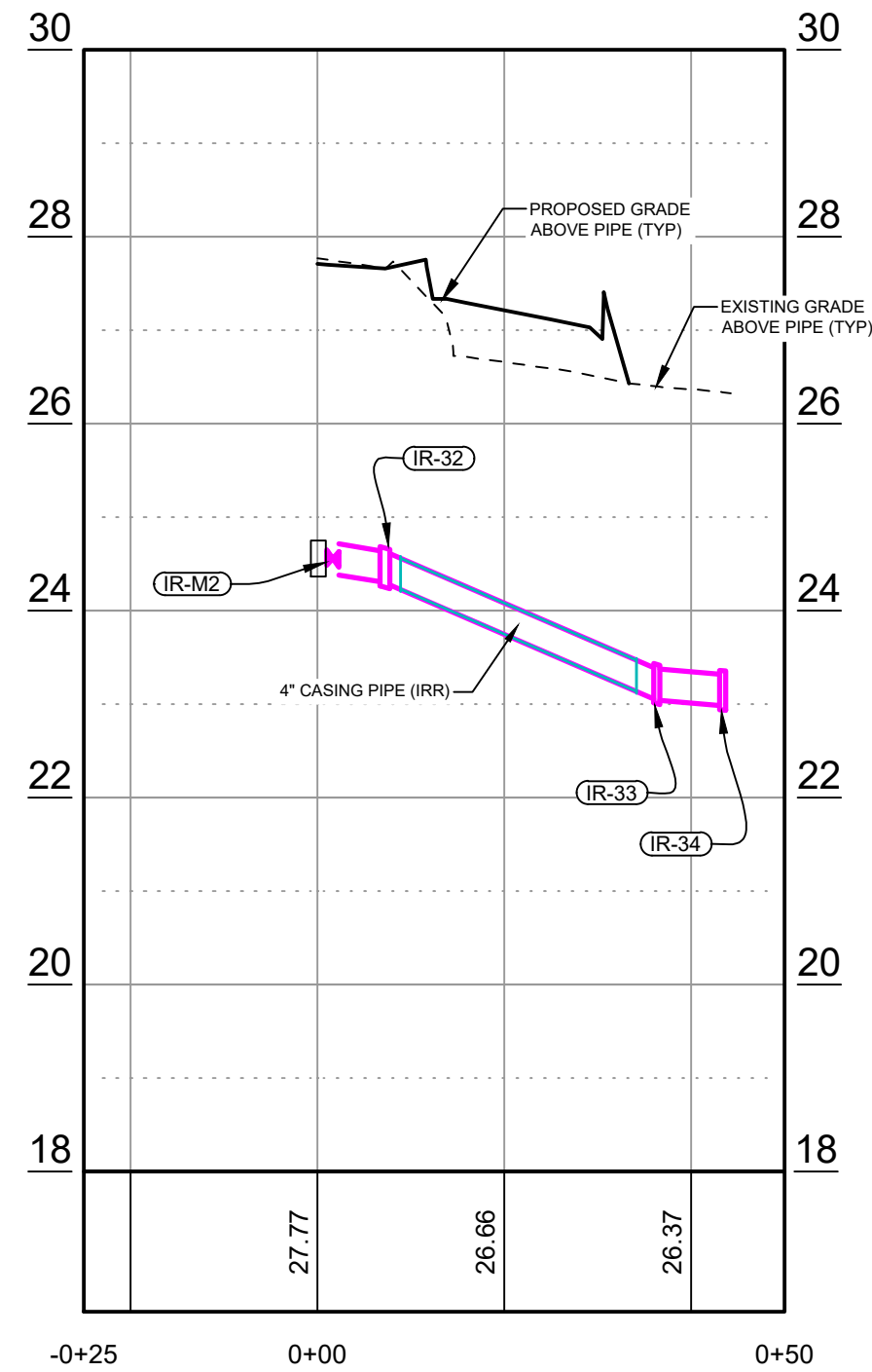
PROP 12 AND 6 IRR (ACROSS GATEWAY BOULEVARD) PROFILE
FULL SIZE SCALE (22"x34"): HORIZ: 1"= 20' VERT: 1"=2'
HALF SIZE SCALE (11"x17"): HORIZ: 1"=40' VERT: 1"=4'



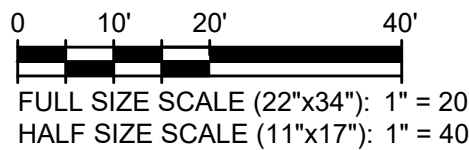
PROP 12 IRR (SE OF ROUNDABOUT) PROFILE
FULL SIZE SCALE (22"x34"): HORIZ: 1"= 20' VERT: 1"=2'
HALF SIZE SCALE (11"x17"): HORIZ: 1"=40' VERT: 1"=4'



PROP 12 IRR (NE OF ROUNDABOUT) PROFILE
FULL SIZE SCALE (22"x34"): HORIZ: 1"= 20' VERT: 1"=2'
HALF SIZE SCALE (11"x17"): HORIZ: 1"=40' VERT: 1"=4'



PROP 2 IRR SERVICE LINE - GRIFFIN CROSSING PROFILE
FULL SIZE SCALE (22"x34"): HORIZ: 1"= 20' VERT: 1"=2'
HALF SIZE SCALE (11"x17"): HORIZ: 1"=40' VERT: 1"=4'



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10600 Chevrolet Way, Suite 102
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Engineering Business No. 2429

DATE

BY	DATE	DESCRIPTION

GATEWAY SERVICES DISTRICT
GATEWAY BLVD / GRIFFIN DRIVE
UTILITY RELOCATION

UTILITY PROFILES

Project No.: 200-37678-20010
Designed By: TW
Drawn By: GM
Checked By: TW

C-202

Bar Measures 1 inch

Copyright: Tetra Tech

WATER TABLES

FITTING TABLE				
ID	DIAMETER	TYPE	COORDINATES	ELEV. (CENTER)
W-1	10 X 10	TEE	N:813596.4001 E:737967.7734	22.42
W-2	10	90° BEND	N:813593.0515 E:737965.4750	22.27
W-3	10	CAP	N:813594.6871 E:737970.3426	22.42
W-4	10 X 6	TEE	N:813582.1199 E:737981.3142	22.29
W-5	10	11.25° BEND	N:813563.8681 E:738007.2516	22.42
W-6	10	11.25° BEND	N:813554.6416 E:738025.0405	22.47
W-7	10	11.25° BEND	N:813546.2721 E:738052.5437	22.55
W-8	10	11.25° BEND	N:813544.2140 E:738072.4377	22.61
W-9	10 X 6	TEE	N:813547.4713 E:738102.8091	22.65
W-10	6	90° BEND	N:813615.5409 E:738100.5843	22.66
W-11	10	11.25° BEND	N:813550.0393 E:738117.7193	22.42
W-12	10	22.5° BEND	N:813550.1284 E:738124.3685	22.22
W-13	10	22.5° BEND	N:813541.3110 E:738146.0445	21.11
W-14	10	45° BEND	N:813541.6501 E:738317.6794	20.88
W-15	10	45° BEND	N:813541.6516 E:738319.9081	22.70
W-16	16 X 10	REDUCER	N:813541.6505 E:738322.1771	22.70
W-17	16 X 16	TEE	N:813541.6490 E:738325.3667	22.70
W-18	16	90° BEND	N:813541.6991 E:738350.6178	22.60
W-19	20 X 16	TEE	N:813644.2569 E:738350.6753	22.66
W-20	16 X 16	TEE	N:813664.4166 E:738294.2879	22.87
W-21	16	45° BEND	N:813664.6836 E:738287.2720	22.84
W-22	16	11.25° BEND	N:813660.9590 E:738291.7292	22.82
W-23	16	45° BEND	N:813630.1714 E:738316.6003	22.87
W-24	16 X 16	TEE	N:813628.2144 E:738350.6322	22.63
W-25	16 X 16	TEE	N:813508.3850 E:738297.4583	23.05
W-26	16	45° BEND	N:813508.7916 E:738302.5088	23.04
W-27	16	45° BEND	N:813536.0780 E:738325.7283	22.71
W-28	16	CAP	N:813512.8508 E:738297.0792	23.05
W-29	20	CAP	N:813644.2683 E:738345.8195	23.00
W-30	16	CAP	N:813659.9517 E:738284.6781	22.87
W-31	16 X 6	TEE	N:813656.5278 E:738295.3088	22.83
W-32	6 X 3	REDUCER	N:813654.2834 E:738292.5305	22.83

PIPE TABLE		
LENGTH	PIPE SIZE	DESCRIPTION
0.68'	10"	PROP 10" WTR"
0.73'	10"	PROP 10" WTR"
0.98'	10"	PROP 10" WTR"
0.99'	16"	PROP 16" WTR"
1.03'	16"	PROP 16" WTR"
1.08'	16"	PROP 16" WTR"
1.14'	6"	PROP 6" WTR"
1.19'	16"	PROP 16" WTR"
1.27'	6"	PROP 6" WTR"
1.46'	10"	PROP 10" WTR"
1.81'	16"	PROP 16" WTR"
1.95'	6"	PROP 6" WTR"
3.67'	16"	PROP 16" WTR"
3.78'	16"	PROP 16" WTR"
4.06'	16"	PROP 16" WTR"
4.06'	6"	PROP 6" WTR"
4.48'	16"	PROP 16" WTR"
5.57'	10"	PROP 10" WTR"
8.09'	16"	PROP 16" WTR"
9.51'	16"	PROP 16" WTR"
9.64'	16"	PROP 16" WTR"
9.64'	10"	PROP 10" WTR"
10.09'	16"	PROP 16" WTR"
10.13'	10"	PROP 10" WTR"
11.55'	10"	PROP 10" WTR"
13.67'	10"	PROP 10" WTR"
17.41'	10"	PROP 10" WTR"
18.92'	10"	PROP 10" WTR"
18.96'	10"	PROP 10" WTR"
19.46'	10"	PROP 10" WTR"
22.32'	10"	PROP 10" WTR"
22.75'	16"	PROP 16" WTR"
27.67'	10"	PROP 10" WTR"
30.26'	10"	PROP 10" WTR"
31.97'	16"	PROP 16" WTR"
34.50'	16"	PROP 16" WTR"
61.93'	6"	PROP 6" WTR"
64.67'	1.5"	PROP 1.5" WTR"
84.02'	16"	PROP 16" WTR"
148.88'	10"	PROP 10" WTR"

PIPE TABLE		
LENGTH	PIPE SIZE	DESCRIPTION
51.01'	30"	30" CASING PIPE (WTR)"
52.80'	12"	12" CASING PIPE (WTR)"
148.92'	20"	20" CASING PIPE (WTR)"

APPURTENANCE TABLE				
ID	DIAMETER	TYPE	COORDINATES	ELEV.(CENTER)
W-LS1	10"	PROP 10" WATER HOT TAP WITH LINE STOP AND CAP	N:813595.2630 E:737969.4638	22.42
W-LS2	16"	PROP 16" WATER HOT TAP WITH LINE STOP AND CAP	N:813511.2946 E:738297.2139	23.05
W-LS3	20"	PROP 20" WATER HOT TAP WITH LINE STOP AND CAP	N:813644.2569 E:738347.5101	22.66
W-LS4	16"	PROP 16" WATER HOT TAP WITH LINE STOP AND CAP	N:813661.5689 E:738284.5426	22.87
W FH-1	6"	FIRE HYDRANT	N:813585.3266 E:737983.4691	22.64
W FH-2	6"	RELOCATED EX FIRE HYDRANT	N:813615.5051 E:738100.5192	27.17
W GV-1	10"	GATE VALVE	N:813594.7449 E:737966.6420	22.36
W GV-2	6"	GATE VALVE	N:813584.1514 E:737982.6859	22.47
W GV-3	6"	GATE VALVE	N:813610.5500 E:738100.7406	22.67
W GV-4	16"	GATE VALVE	N:813628.2660 E:738347.0013	22.64
W GV-5	16"	GATE VALVE	N:813508.6131 E:738300.2920	23.05
W GV-6	16"	GATE VALVE	N:813634.0958 E:738350.6510	22.64
W GV-7	4"	GATE VALVE	N:813609.7513 E:738244.6343	22.83

IRRIGATION TABLES

PIPE TABLE		
LENGTH	PIPE SIZE	DESCRIPTION
0.27'	12"	PROP 12" IRR"
0.74'	12"	PROP 12" IRR"
0.86'	12"	PROP 12" IRR"
0.96'	12"	PROP 12" IRR"
1.51'	12"	PROP 12" IRR"
1.55'	12"	PROP 12" IRR"
1.61'	4"	PROP 4" IRR"
1.88'	12"	PROP 12" IRR"
2.14'	12"	PROP 12" IRR"
2.40'	12"	PROP 12" IRR"
2.68'	12"	PROP 12" IRR"
2.93'	12"	PROP 12" IRR"
3.08'	12"	PROP 12" IRR"
3.19'	12"	PROP 12" IRR"
4.10'	6"	PROP 6" IRR"
4.42'	2"	PROP 2" IRR SERVICE LINE"
5.03'	12"	PROP 12" IRR"
6.41'	2"	PROP 2" IRR SERVICE LINE"
7.53'	12"	PROP 12" IRR"
8.84'	12"	PROP 12" IRR"
9.32'	12"	PROP 12" IRR"
11.47'	12"	PROP 12" IRR"
13.16'	12"	PROP 12" IRR"
16.00'	12"	PROP 12" IRR"
18.02'	12"	PROP 12" IRR"
18.61'	12"	PROP 12" IRR"
19.57'	12"	PROP 12" IRR"
21.82'	12"	PROP 12" IRR"
22.20'	12"	PROP 12" IRR"
26.66'	12"	PROP 12" IRR"
26.81'	12"	PROP 12" IRR"
28.21'	2"	PROP 2" IRR SERVICE LINE"
59.36'	2"	PROP 2" IRR"
59.63'	12"	PROP 12" IRR"
87.31'	12"	PROP 12" IRR"
181.24'	12"	PROP 12" IRR"

PIPE TABLE		
LENGTH	PIPE SIZE	DESCRIPTION
25.23'	4"	4" CASING PIPE (IRR)"
51.35'	24"	24" CASING PIPE (IRR)"
172.05'	24"	24" CASING PIPE (IRR)"

FITTING TABLE				
ID	DIAMETER	TYPE	COORDINATES	ELEV. (CENTER)
IR-1	6	45° BEND	N:813589.0773 E:737990.0646	22.38
IR-2	12 X 6	REDUCER	N:813584.1177 E:737991.2520	22.38
IR-3	12	45° BEND	N:813579.9212 E:737992.1570	22.39
IR-4	12	11.25° BEND	N:813559.2852 E:738025.2700	22.45
IR-5	12	11.25° BEND	N:813552.7781 E:738044.0352	22.48
IR-6	12	11.25° BEND	N:813548.8907 E:738071.6759	22.53
IR-7	12	11.25° BEND	N:813550.1905 E:738094.7088	22.55
IR-8	12	45° BEND	N:813550.9689 E:738098.2741	22.54
IR-9	12	45° BEND	N:813551.4615 E:738100.6167	20.88
IR-10	12	45° BEND	N:813556.2869 E:738123.5673	20.95
IR-11	12	22.5° BEND	N:813548.1451 E:738142.7173	21.00
IR-12	12 X 12	TEE	N:813548.1689 E:738333.1111	20.96
IR-13	12	90° BEND	N:813548.1423 E:738344.4310	20.93
IR-14	12 X 12	TEE	N:813657.8613 E:738279.8533	22.84
IR-15	12	45° BEND	N:813658.2167 E:738283.8809	22.87
IR-16	12	45° BEND	N:813645.6081 E:738299.0804	22.98
IR-17	12	45° BEND	N:813644.3115 E:738302.5301	20.49
IR-18	12	22.5° BEND	N:813639.2483 E:738316.0010	20.57

FITTING TABLE				
ID	DIAMETER	TYPE	COORDINATES	ELEV. (CENTER)
IR-19	12 X 12	TEE	N:813639.2335 E:738344.4349	20.39
IR-20	12	45° BEND	N:813639.2364 E:738354.8989	20.39
IR-21	12	45° BEND	N:813639.2364 E:738357.6587	22.98
IR-22	12	45° BEND	N:813489.8985 E:738293.8517	21.84
IR-23	12 X 4	TEE	N:813649.8586 E:738293.9564	22.94
IR-26	12	45° BEND	N:813536.4109 E:738333.1242	21.83
IR-27	12	45° BEND	N:813539.2057 E:738333.1326	21.82
IR-28	12	45° BEND	N:813540.3963 E:738333.1361	20.61
IR-30	4 X 3	REDUCER	N:813647.6283 E:738292.1063	22.94
IR-32	4	90° BEND	N:813583.5570 E:738412.4228	24.47
IR-33	4	45° BEND	N:813612.6413 E:738412.4100	23.21
IR-34	4	45° BEND	N:813617.6430 E:738407.4083	23.15

APPURTENANCE TABLE				
ID	DIAMETER	TYPE	COORDINATES	ELEV.(CENTER)
IR-M1	2"	2" IRR METER	N:813604.2834 E:738251.1179	22.94
IR-M2	2"	2" IRR METER	N:813583.5583 E:738407.4597	24.55
IR GV-1	12"	GATE VALVE	N:813577.7716 E:737995.4887	22.38
IR GV-2	12"	GATE VALVE	N:813636.8660 E:738344.4348	20.68
IR GV-3	12"	GATE VALVE	N:813544.6184 E:738333.1148	20.66
IR GV-4	12"	GATE VALVE	N:813658.0436 E:738281.9929	22.85



Alfred J. Mittl, P.E.
P.E. No. 55913, FL
Tetra Tech Inc.
10600 Chevreol Way, Suite 102
Estero, Florida 33928
Engineering Business No. 2429

DATE _____

MARK	DATE	DESCRIPTION	BY

GATEWAY SERVICES DISTRICT
GATEWAY BLVD / GRIFFIN DRIVE
UTILITY RELOCATION

IRRIGATION AND
WATER MAIN TABLES

Project No.: 200-37678-20010
Designed By: TW
Drawn By: GM
Checked By: TW

C-204

4

FITTING TABLE				
ID	DIAMETER	TYPE	COORDINATES	ELEV. (CENTER)
FM-1	12	45° BEND	N+813673.0675 E:738146.6146	23.27
FM-2	12	45° BEND	N+813665.3243 E:738155.9935	23.27
FM-3	12	45° BEND	N+813645.1311 E:738157.7377	23.26
FM-4	12	45° BEND	N+813639.2224 E:738158.2343	17.44
FM-5	12	45° BEND	N+813521.2511 E:738168.1663	17.47
FM-6	12	45° BEND	N+813517.2556 E:738166.5021	21.62
FM-7	12	45° BEND	N+813459.5833 E:738173.3203	21.61
FM-8	12	45° BEND	N+813457.5750 E:738175.6079	21.61
FM-9	12 X 12	TEE	N+813457.7113 E:738181.5486	21.60
FM-10	12	45° BEND	N+813458.9627 E:738285.5149	21.60
FM-11	12	45° BEND	N+813462.8043 E:738289.4221	21.60
FM-12	12	45° BEND	N+813475.2995 E:738289.2610	21.60
FM-13	12	45° BEND	N+813476.8573 E:738290.7875	21.60
FM-14	12	45° BEND	N+813478.2450 E:738292.1421	19.75
FM-15	12	45° BEND	N+813488.4751 E:738302.1285	19.79
FM-16	12	45° BEND	N+813489.7233 E:738303.3470	21.60
FM-17	12	45° BEND	N+813521.2015 E:738334.0762	21.60
FM-18	12 X 6	WYE	N+813521.0296 E:738392.2264	23.16
FM-19	12	45° BEND	N+813521.0084 E:738398.0910	23.16
FM-20	12	45° BEND	N+813517.4832 E:738401.5128	23.16
FM-21	6	45° BEND	N+813512.6067 E:738399.7877	23.16
FM-22	12 X 12	WYE	N+813448.8906 E:738181.6483	21.32
FM-23	12 X 6	REDUCER	N+813445.4269 E:738181.6975	21.31
FM-24	6	45° BEND	N+813443.1473 E:738181.7163	21.31
FM-25	6	45° BEND	N+813429.9647 E:738169.4093	21.58
FM-26	6	45° BEND	N+813427.7231 E:738168.8527	23.54
FM-27	6	11.25° BEND	N+813426.8263 E:738168.7927	23.50
FM-28	12	45° BEND	N+813434.1456 E:738168.1240	21.32
FM-29	12	45° BEND	N+813432.2050 E:738167.1764	23.34
FM-30	12	11.25° BEND	N+813430.7006 E:738167.0367	23.36

6-inch PVC force main		
LENGTH	PIPE SIZE	DESCRIPTION
0.42'	6"	PROP 6" FM*
1.28'	6"	PROP 6" FM*
1.65'	6"	PROP 6" FM*
9.44'	6"	PROP 6" FM*
17.20'	6"	PROP 6" FM*

12-inch PVC force main		
LENGTH	PIPE SIZE	DESCRIPTION
0.42'	12"	PROP 12" FM"
0.86'	12"	PROP 12" FM"
0.93'	12"	PROP 12" FM"
1.02'	12"	PROP 12" FM"
1.25'	12"	PROP 12" FM"
1.79'	12"	PROP 12" FM"
2.38'	12"	PROP 12" FM"
2.93'	12"	PROP 12" FM"
3.11'	12"	PROP 12" FM"
3.22'	12"	PROP 12" FM"
3.66'	12"	PROP 12" FM"
3.94'	12"	PROP 12" FM"
4.09'	12"	PROP 12" FM"
4.23'	12"	PROP 12" FM"
4.32'	12"	PROP 12" FM"
4.57'	12"	PROP 12" FM"
5.02'	12"	PROP 12" FM"
5.07'	12"	PROP 12" FM"
5.62'	12"	PROP 12" FM"
5.62'	12"	PROP 12" FM"
5.84'	12"	PROP 12" FM"
6.43'	12"	PROP 12" FM"
9.27'	12"	PROP 12" FM"
9.42'	12"	PROP 12" FM"
10.61'	12"	PROP 12" FM"
10.91'	12"	PROP 12" FM"
13.05'	12"	PROP 12" FM"
14.49'	12"	PROP 12" FM"
15.21'	12"	PROP 12" FM"
15.21'	12"	EX 12" IRR"
18.04'	12"	PROP 12" FM"
20.17'	12"	PROP 12" FM"
31.05'	12"	PROP 12" FM"
36.19'	12"	PROP 12" FM"
42.74'	12"	PROP 12" FM"
77.67'	12"	PROP 12" FM"
109.14'	12"	PROP 12" FM"

24" steel casing		
LENGTH	PIPE SIZE	DESCRIPTION
77.70'	24"	24" CASING PIPE (FM)"
106.86'	24"	24" CASING PIPE (FM)"

APPURTENANCE TABLE				
ID	DIAMETER	TYPE	COORDINATES	ELEV (CENTER)
FM ARV1	2"	ARV	N813469.0524 E:738289.9433	27.00
FM PV1	12"	PLUG VALVE	N813660.8413 E:738156.3963	23.27
FM PV2	12"	PLUG VALVE	N813511.9022 E:738168.9535	21.60
FM PV3	12"	PLUG VALVE	N813457.7816 E:738169.0474	21.60
FM PV4	12"	PLUG VALVE	N813458.8326 E:738274.9686	21.60
FM PV5	12"	PLUG VALVE	N813517.4123 E:738405.8293	23.16
FM PV6	6"	PLUG VALVE	N813512.5521 E:738403.0249	23.16
FM PV7	6"	PLUG VALVE	N813424.5654 E:738169.0466	23.53
FM PV8	12"	PLUG VALVE	N813427.9297 E:738167.2837	23.37

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Alfred J. Mittl, P.E.
P.E. No. 59913, FL
Tetra Tech Inc.
10600 Chevrolet Way, Suite 102
Estero, Florida 33928
Engineering Business No. 2429

DATE _____

BY

DESCRIPTION

DATE _____

MARK

10

WAY SERVICES DISTRICT
WAY BLVD / GRIFFIN DRIVE

FORCE MAIN TABLES

Project No.: 200-37678-20010

Designed By: TW

Drawn By: GM

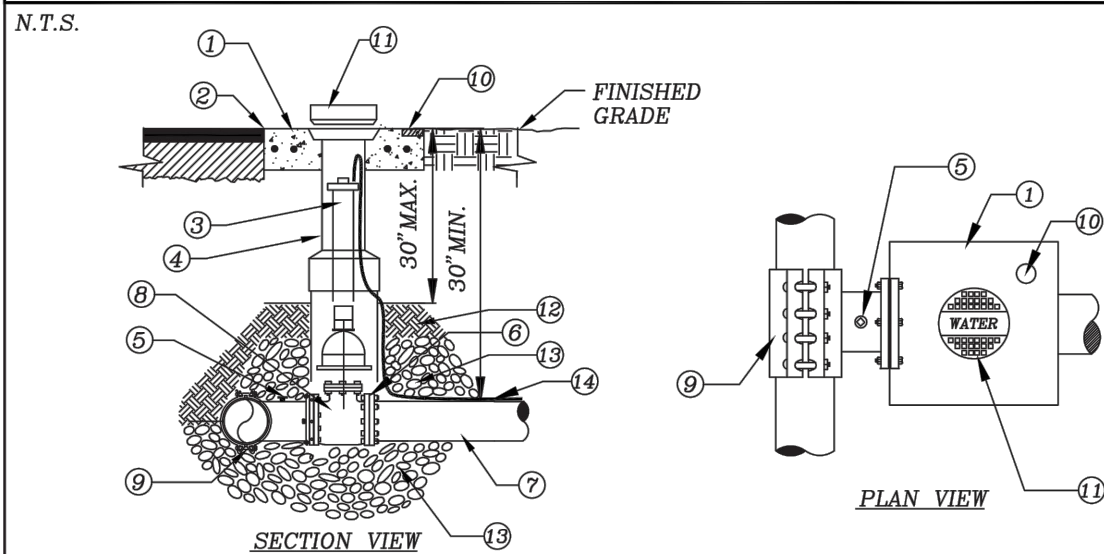
Checked By:	TW
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C-205

8/12/2022 2:11:04 PM - O:\PROJECTS\ORLANDO\IER37678\200-37678-200\10\CAD\SHEETFILES\SC-SX STANDARD DETAILS.DWG - MARQUEZ, GERMAIN

DETAIL

STANDARD DETAIL NO. 6.1
LEE COUNTY UTILITIES
TAPPING SLEEVE AND VALVE

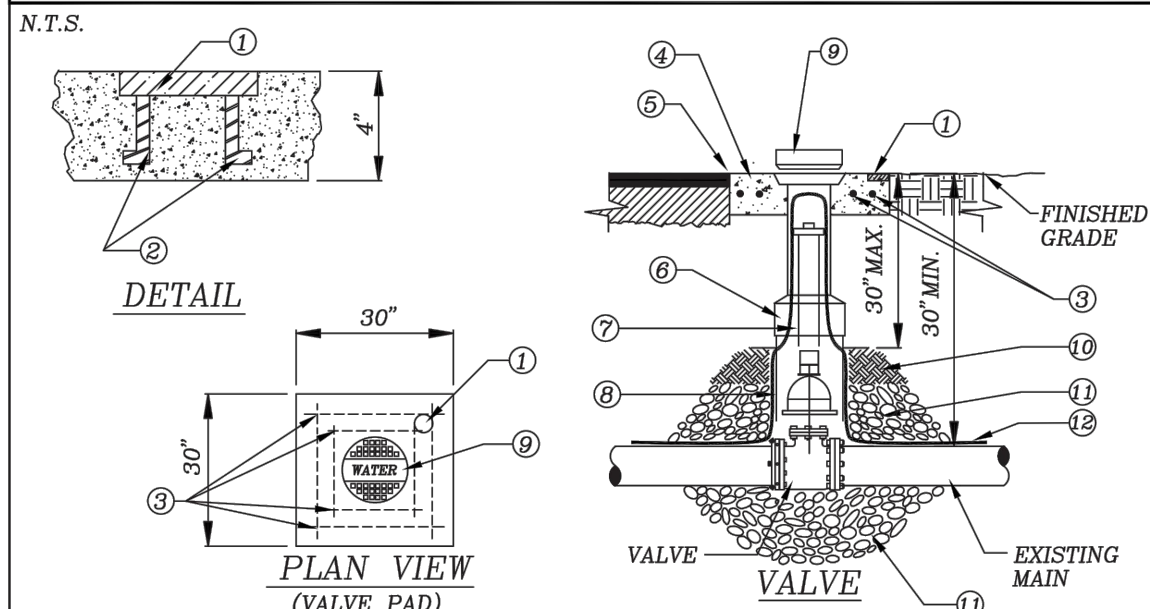


- 1 CONCRETE PAD (SEE VALVE INSTALLATION DETAIL)
- 2 SET TOP OF BOX FLUSH WITH FINISHED GRADE
- 3 EXTENSION STEM IF TOP OF OPERATING NUT IS MORE THAN 30" BELOW FINISH GRADE
- 4 VALVE BOX (SEE VALVE INSTALLATION DETAIL)
- 5 OUTLET FOR TESTING
- 6 MJ RESTRAINED
- 7 MAIN SIZE VARIES
- 8 TAPPING VALVE (SEE VALVE INSTALLATION DETAIL)
- 9 LCU APPROVED ALL STAINLESS STEEL PRESSURE RATED TAPPING SLEEVE. FOR SIZE ON SIZE TAPS A FLANGED TAPPING SLEEVE IS REQUIRED. SPRING LOADED TAPPING SLEEVE IS REQUIRED WHEN CONNECTING TO HDPE (SEE APPROVED MATERIAL LIST).
- 10 BRASS PLATE (SEE VALVE INSTALLATION DETAIL)
- 11 CAST IRON DROP COVER MARKED "WATER", "SEWER", OR "REUSE"
- 12 COMPACTED SUITABLE EARTH BACKFILL
- 13 3/4" GRANULAR MATERIAL #57 STONE
- 14 12 GAUGE DOUBLE INSULATED COPPER LOCATING WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

DETAIL

STANDARD DETAIL NO. 6.2
LEE COUNTY UTILITIES
VALVE INSTALLATION

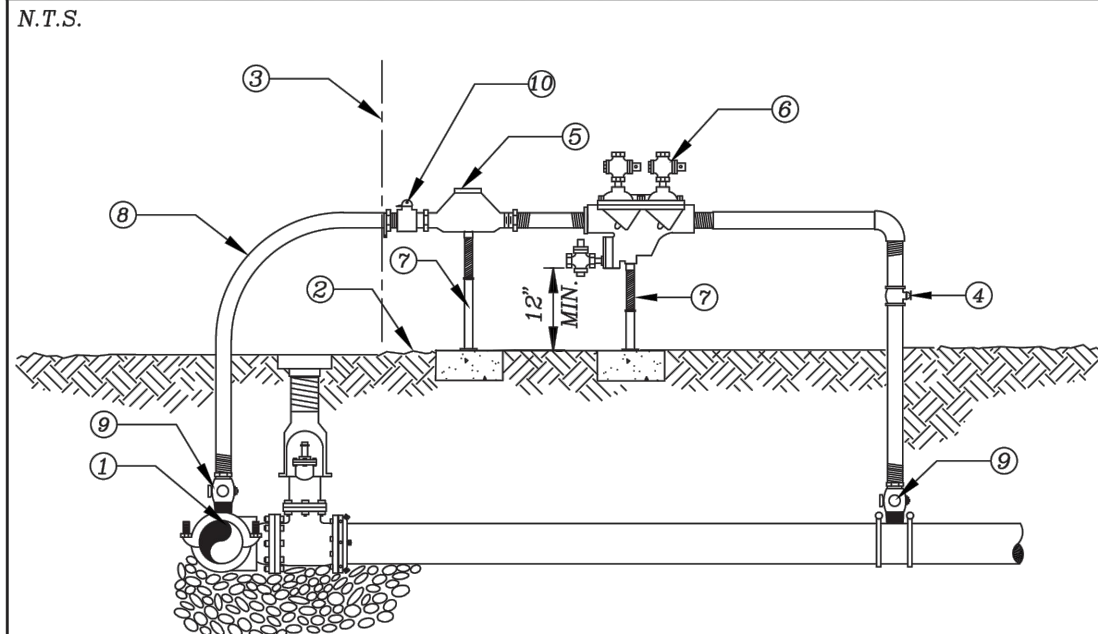


- 1 BRASS PLATE: SIZE OF VALVE, VALVE TYPE No. OF TURNS & DIRECTION TO OPEN VALVE M.F.G. & YEAR INSTALL SYSTEM "WATER" OR "SEWER" OR "REUSE" OR "FIRE"
- 2 ANCHOR
- 3 EIGHT (8) #4 BARS OVERLAP EACH CORNER BY 2'
- 4 30" SQ X 4" THK. CONC. PAD SURROUNDING BOX, MIN. 3,000 P.S.I. POURED IN PLACE
- 5 SET TOP OF BOX FLUSH WITH FINISHED GRADE
- 6 HEAVY DUTY TRAFFIC BEARING CAST IRON VALVE BOX, ADJUSTABLE SCREW TYPE, 5 1/4" DIAMETER SHAFT THAT IS LCU APPROVED
- 7 EXTENSION STEM WITH 2" OPERATING NUT AS REQUIRED, IF NUT IS MORE THAN 30" BELOW FINISH GRADE
- 8 RISER NOT TO BEAR ON VALVE OR PIPE
- 9 CAST IRON DROP COVER MARKED "WATER" OR "SEWER" OR "REUSE OR "FIRE"
- 10 COMPACTED SUITABLE EARTH BACKFILL
- 11 3/4" GRANULAR MATERIAL #57 STONE
- 12 12 GAUGE DOUBLE INSULATED COPPER LOCATING WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

DETAIL

STANDARD DETAIL NO. 6.15
LEE COUNTY UTILITIES
TEMPORARY CONSTRUCTION JUMPER WITH METER

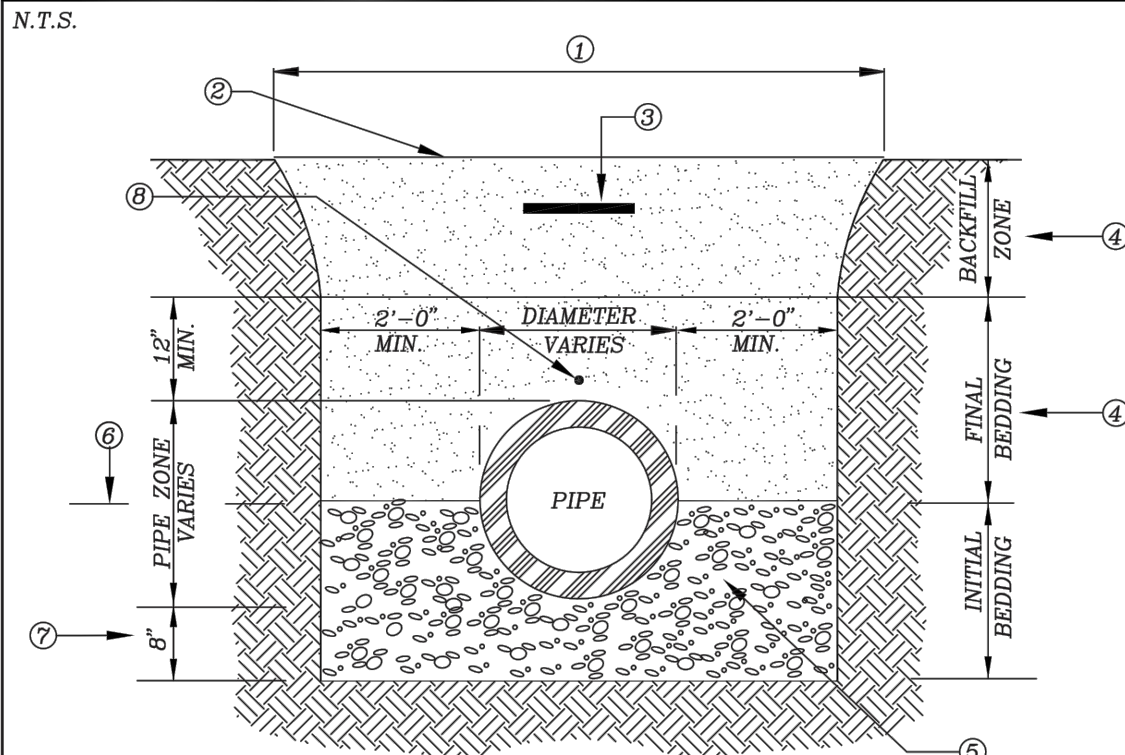


- NOTES:
- CONTRACTOR/CUSTOMER SHALL APPLY AT LEE COUNTY UTILITIES FOR TEMPORARY WATER SERVICE FIVE DAYS PRIOR TO REQUIRED SERVICE DATE. THE METER ONLY WILL BE FURNISHED BY LEE COUNTY UTILITIES. ALL FITTINGS, PIPING, VALVES AND MATERIALS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR/CUSTOMER. THE APPROVED BACKFLOW PREVENTION DEVICE SHALL BE TESTED AND CERTIFIED BY LEE COUNTY UTILITIES APPROVED CERTIFIED BACKFLOW PREVENTION TECHNICIAN (FURNISHED BY CONTRACTOR/CUSTOMER) AT TIME OF METER INSTALLATION. CONTRACTOR/CUSTOMER SHALL PROTECT THE ASSEMBLY FROM DAMAGE. TEMPORARY CONSTRUCTION JUMPER/METER ASSEMBLY SHALL NOT BE REMOVED UNTIL SYSTEM IS ACCEPTED AND DEPARTMENT OF HEALTH CERTIFICATION AND CLEARANCE FOR SERVICE FORM HAS BEEN RECEIVED BY LEE COUNTY UTILITIES. WHEN THE NEW SYSTEM IS ACCEPTED, THE TEMPORARY CONSTRUCTION JUMPER METER ASSEMBLY MUST BE COMPLETELY REMOVED DOWN TO CORP STOPS.
- 1 TAPPING SLEEVE AND VALVE TO BE FULLY RESTRAINED ON EXISTING MAIN (SEE LCU STANDARD DETAIL)
 - 2 GRADE
 - 3 PROPERTY LINE AND/OR RIGHT OF WAY LINE
 - 4 BRONZE BALL VALVE
 - 5 METER FURNISHED BY LEE COUNTY UTILITIES
 - 6 REDUCED PRESSURE BACKFLOW PREVENTER
 - 7 PIPE STAND (SEE LCU STANDARD DETAIL)
 - 8 2" DIA. HDPE DR9
 - 9 2" DIA. CORPORATION STOP
 - 10 2" DIA. CURB STOP

REV: 12/10/2015

DETAIL

STANDARD DETAIL NO. 6.5
LEE COUNTY UTILITIES
TRENCH CROSS SECTION

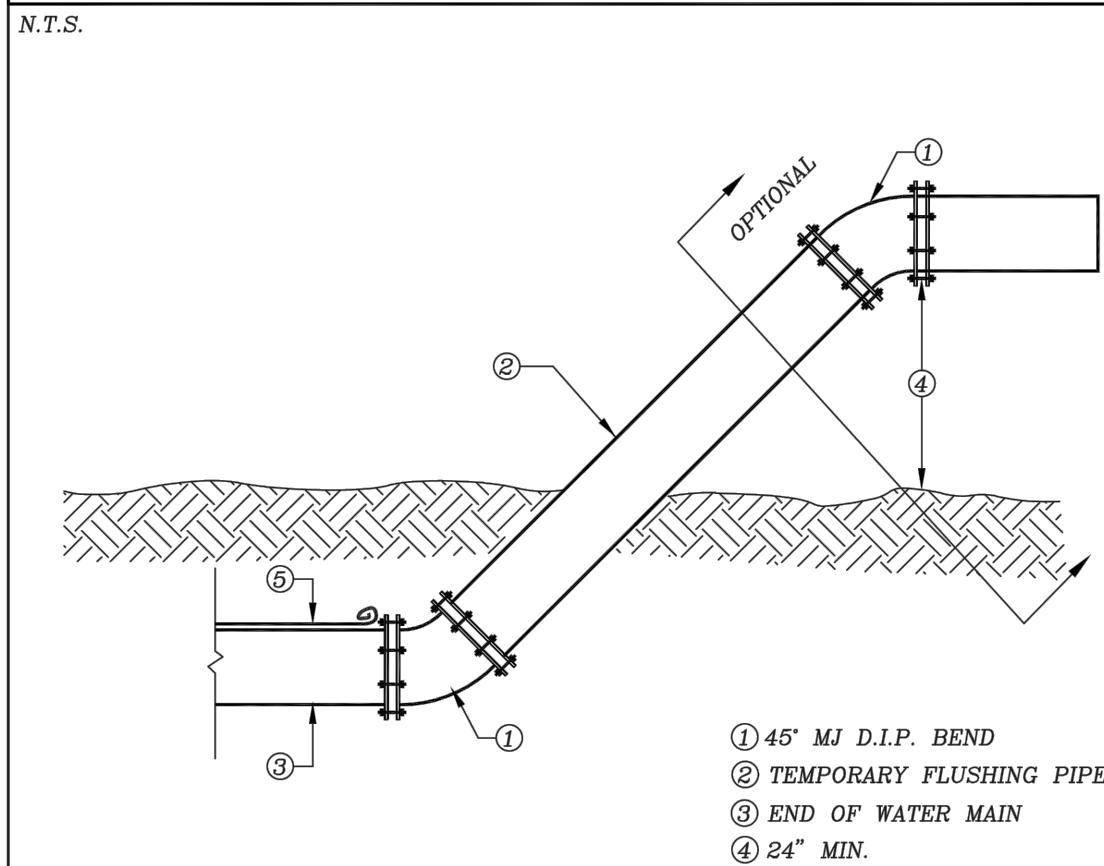


- 1 EXCAVATED TRENCH
- 2 FINISHED GRADE
- 3 MARKING TAPE 12" DEPTH MAX.
- 4 MATERIALS CLEAN DRY SAND, FINE LIME ROCK OR PIT SHELL MECHANICALLY COMPACTED IN 6" LIFTS TO AT LEAST 95% OF MAX. DENSITY, OR 98% IF UNDER PAVED AREA OF ROADWAY.
- 5 #57 STONE LOCATED UNDER PIPE OR EXISTING UNDISTURBED SUITABLE MATERIAL
- 6 SPRING LINE
- 7 STANDARD 6" MIN TRENCH UNDERCUT AND BACKFILL WITH #57 STONE COMPACTED IN 6" LIFTS ADDITIONAL UNDERCUT AND CRUSHED ROCK BEDDING FOUNDATION WHEN DIRECTED BY L.C.U. THE CONTRACTOR IS TO REMOVE UNSTABLE MATERIAL FROM THE TRENCH FOUNDATION. THEN INSTALL STABILIZED CRUSHED ROCK BACKFILL WITH #57 STONE COMPACTED IN 6" LIFTS
- 8 LOCATING WIRE IS REQUIRED FOR ALL PRESSURIZED PIPELINES.

REV: 12/10/2015

DETAIL

STANDARD DETAIL NO. 6.13
LEE COUNTY UTILITIES
WATER MAIN FLUSHING DETAIL

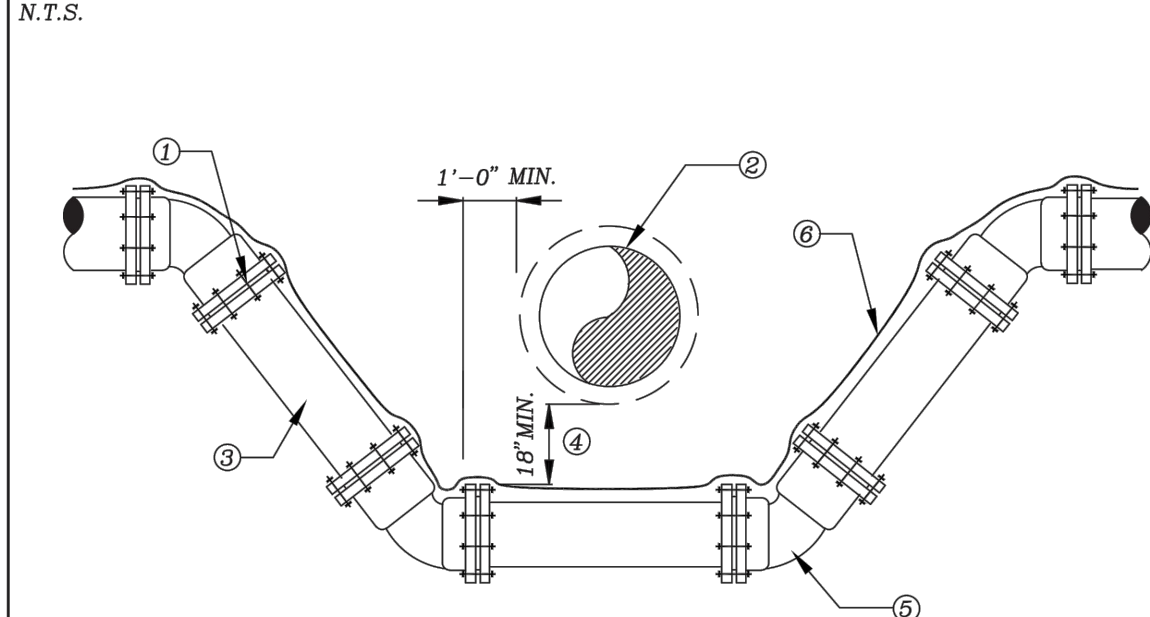


- NOTES:
1. FLUSHING DETAIL TO BE USED ON WATER LINES 6" DIAMETER OR GREATER.
 2. FLUSHING PIPE SHALL BE THE SAME DIAMETER AS WATER MAIN
 3. CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE FOR FLUSHED WATER.
 4. PROVIDE M.J. CAP IF ASSEMBLY IS LEFT IN PLACE UNATTENDED.
 5. 12 GAUGE DOUBLE INSULATED COPPER LOCATING WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

DETAIL

STANDARD DETAIL NO. 6.10
LEE COUNTY UTILITIES
WATER PRESSURE LINE VERTICAL OFFSET W/ DUCTILE IRON MJ FITTINGS & PIPE

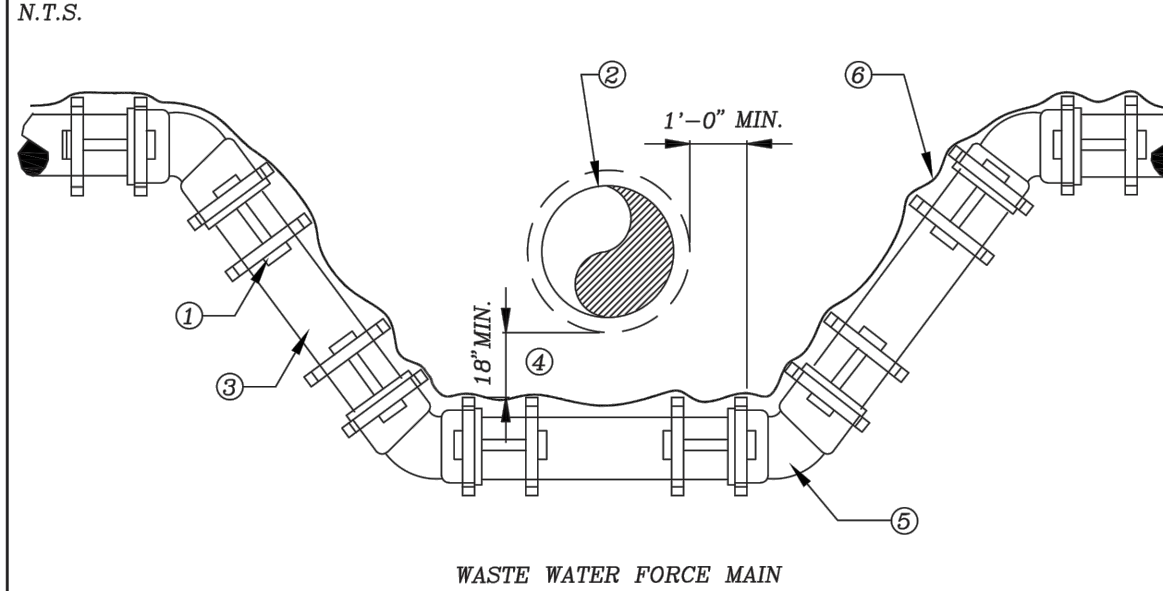


- 1 LCU APPROVED JOINT RESTRAINT FOR D.I., M.J. PIPE AND FITTINGS PLACED IN ACCORDANCE WITH JOINT RESTRAINT SCHEDULE. (SEE DETAIL 6.12)
- 2 CONFLICT PIPE
- 3 LCU APPROVED DUCTILE IRON PIPING PRESSURE CLASS 350
- 4 18" MIN. UNLESS OTHERWISE APPROVED BY LCU
- 5 45° MECHANICAL JOINT FITTING, TYPICAL
- 6 12 GAUGE DOUBLE INSULATED COPPER WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

DETAIL

STANDARD DETAIL NO. 6.11
LEE COUNTY UTILITIES
WASTE WATER FORCE MAIN VERTICAL OFFSET WITH FITTINGS. (P.V.C.)



- 1 LCU APPROVED JOINT RESTRAINT FOR P.V.C., M.J. PIPE AND FITTINGS PLACED IN ACCORDANCE WITH JOINT RESTRAINT SCHEDULE. (SEE DETAIL 6.12)
- 2 CONFLICT PIPE
- 3 LCU APPROVED C-900 PVC DR 14
- 4 18" MIN. UNLESS OTHERWISE APPROVED BY LCU
- 5 45° MECHANICAL JOINT FITTING, TYPICAL
- 6 12 GAUGE DOUBLE INSULATED COPPER WIRE (SEE LCU STANDARD DETAIL)

REV: 12/10/2015

DETAIL

STANDARD DETAIL NO. 6.12
LEE COUNTY UTILITIES
RESTRAINED LENGTH SCHEDULE

N.T.S.

PIPE SIZE (Inches)	DUCTILE IRON PIPE					
	MINIMUM RESTRAINED PIPE LENGTH (FEET)					HORIZONTAL TEE
	90°	45°	22-1/2'	11-1/4'	DEAD END	
4	17	7	4	2	29	6
6	23	10	5	2	40	17
8	29	12	6	3	53	29
10	35	14	7	4	63	38
12	41	17	8	4	74	49
16	51	21	11	5	94	68
24	69	29	14	7	131	105
30	81	34	17	8	156	129

PVC PIPE

PIPE SIZE (Inches)	MINIMUM RESTRAINED PIPE LENGTH (FEET)					HORIZONTAL TEE
	90°	45°	22-1/2'	11-1/4'	DEAD END	
	90°	45°	22-1/2'	11-1/4'	DEAD END	TEE
4	20	8	4	2	45	8
6	29	12	6	3	63	25
8	36	15	8	4	83	43
10	44	18	9	5	99	58
12	51	21	11	5	116	74
16	63	26	13	7	149	103
24	87	36	18	9	208	158
30	102	42	21	10	248	194

A COMPLETE JOINT RESTRAINING SCHEDULE FOR ALL ENCOUNTERED VERTICAL & HORIZONTAL BENDS, VERTICAL OFFSETS, TEES, AND DEAD ENDS SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER.

LENGTH FIGURES BASED ON FOLLOWING:

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

REV: 12/10/2015



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Alfred J. Mittl, P.E.
P.E. No. 55913, FL
10600 Chevrolet Way, Suite 102
Estero, FL 33928
Engineering Business No. 2429

DATE

BY	MARK	DATE	DESCRIPTION

GATEWAY SERVICES DISTRICT
GATEWAY BLVD / GRIFFIN DRIVE
UTILITY RELOCATION
STANDARD DETAILS

Project No.: 200-37678-20010
Designed By: ##
Drawn By: ##
Checked By: ##

C-501

Sheet

Bar Measures 1 inch

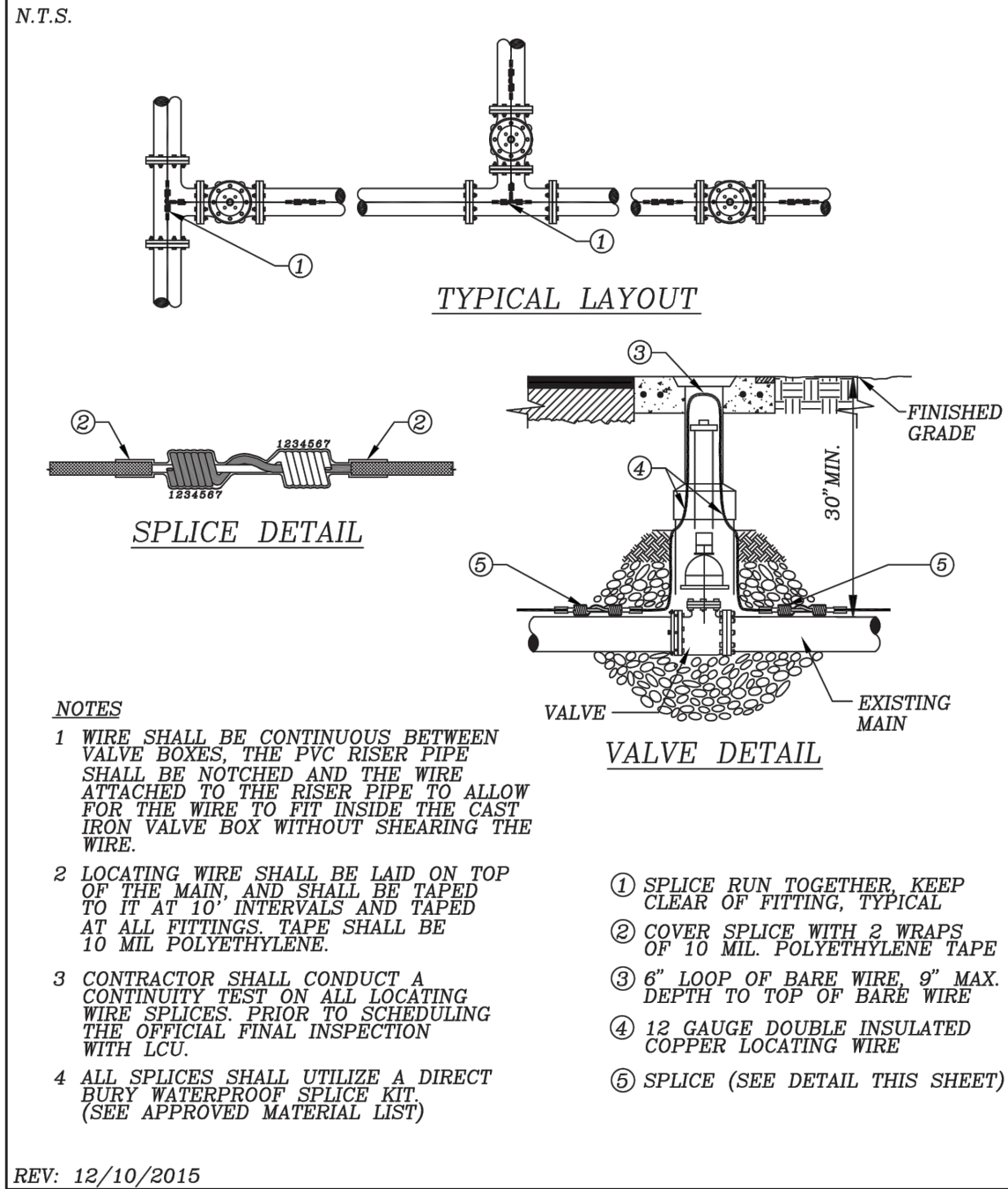
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DETAIL

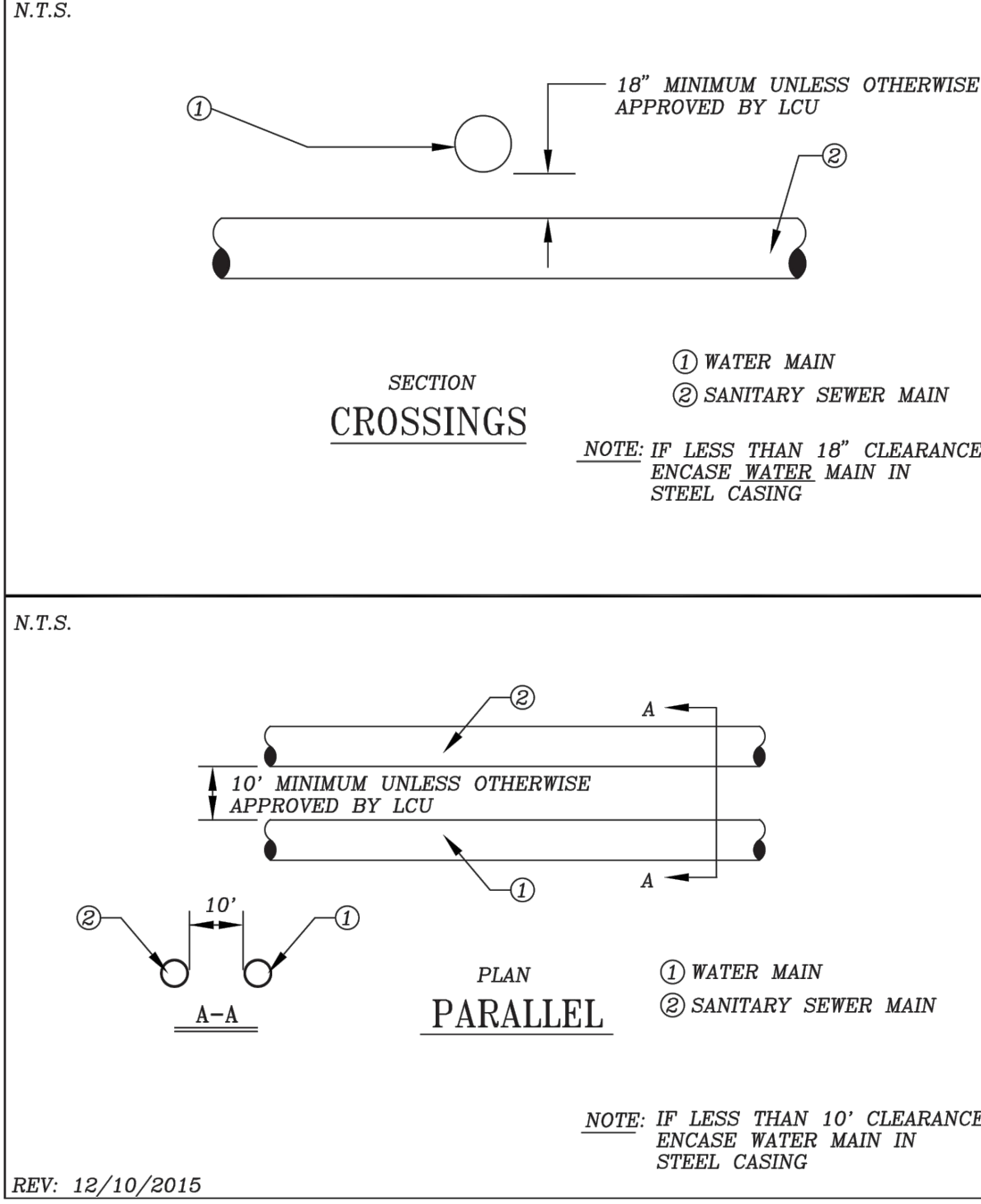
STANDARD DETAIL NO. 6.3
LEE COUNTY UTILITIES
LOCATING WIRE FOR PRESSURE MAINS



1
-
DETAIL
N.T.S.

DETAIL

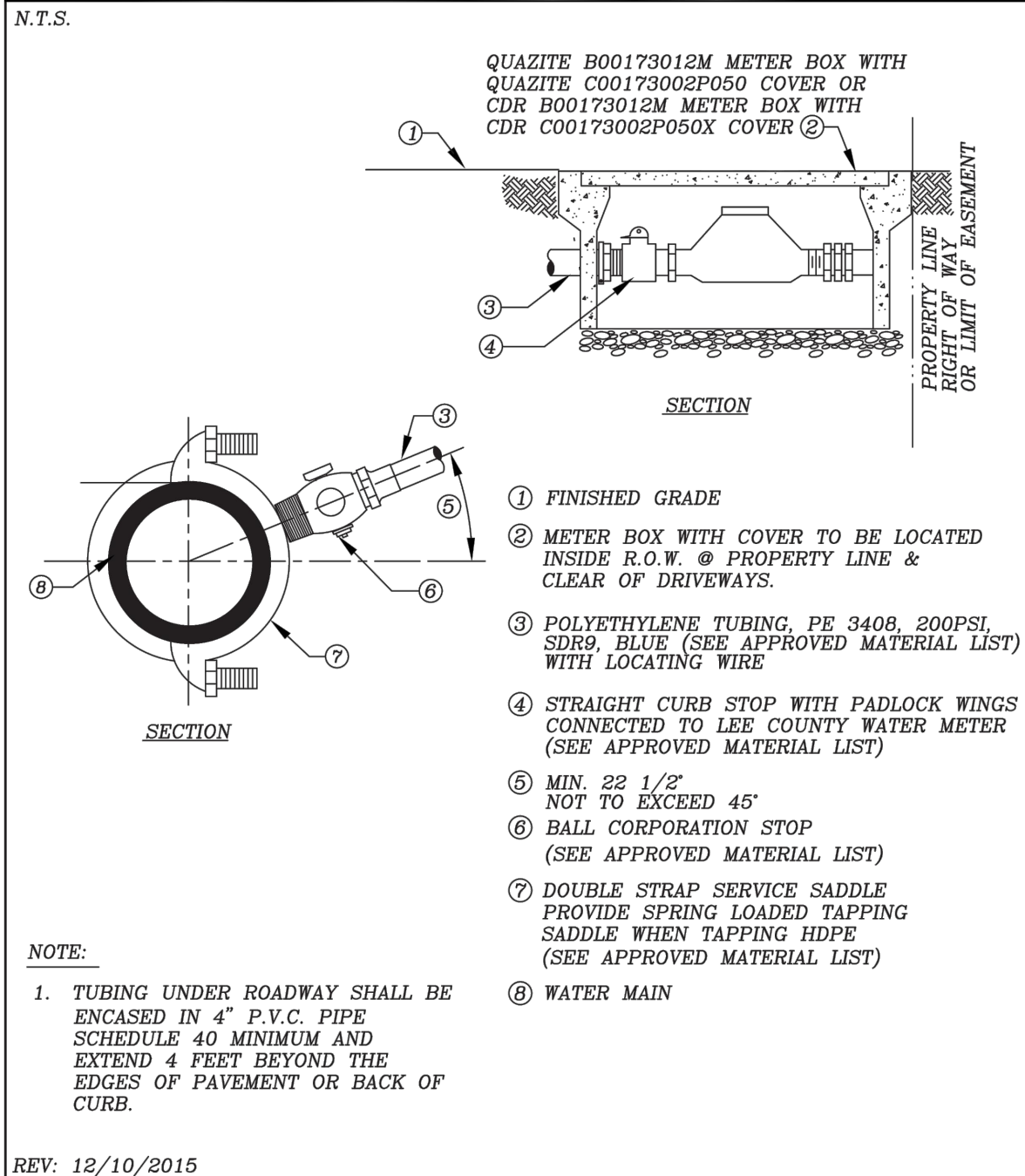
STANDARD DETAIL NO. 6.8
LEE COUNTY UTILITIES
WATER AND SEWER CROSSING DETAIL



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DETAIL
N.T.S.

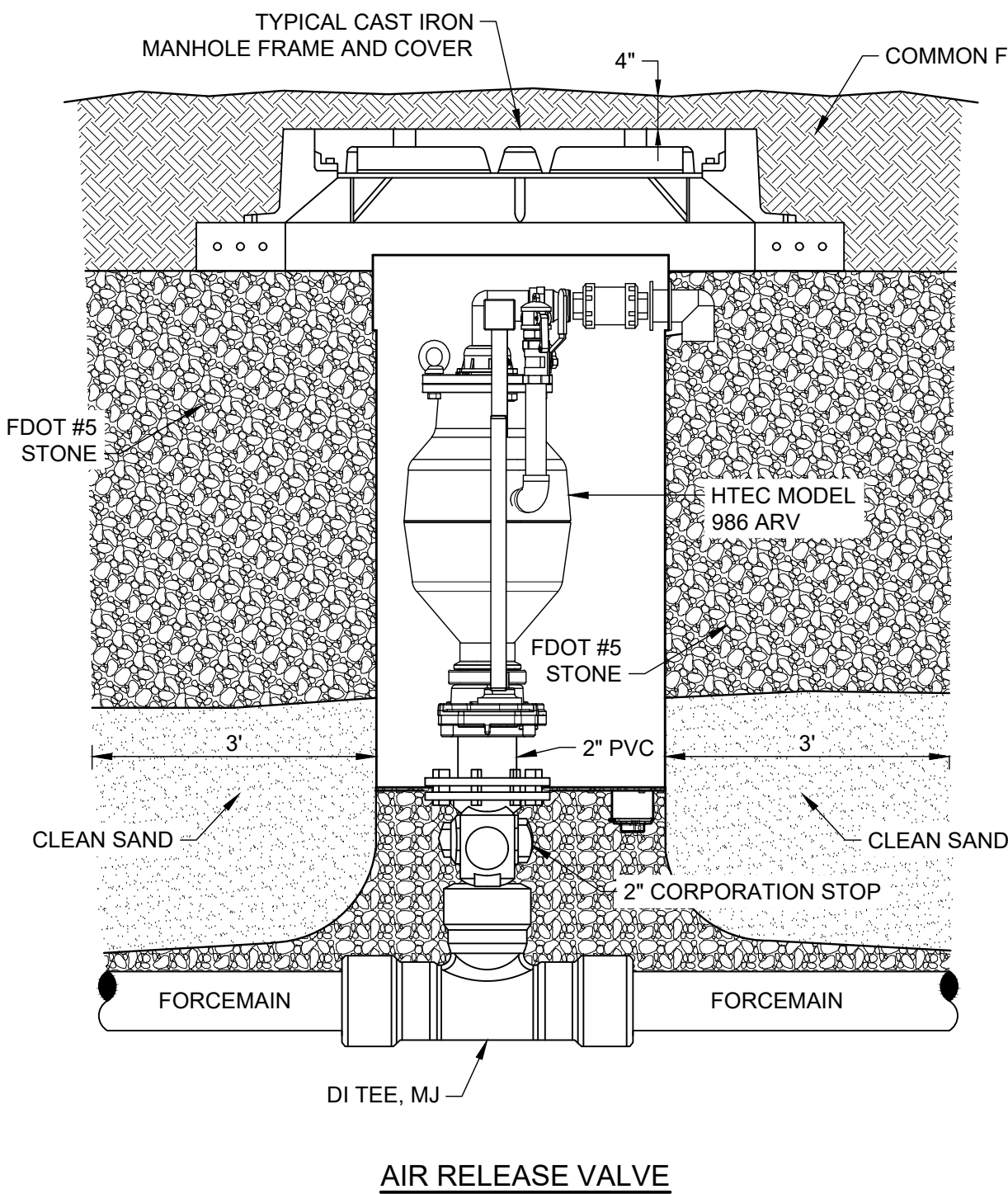
DETAIL

STANDARD DETAIL NO. 6.17
LEE COUNTY UTILITIES
WATER SERVICE INSTALLATION 1-1/2" THROUGH 2"



3
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DETAIL
N.T.S.

DETAIL



4
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DETAIL
SCALE: NTS

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TETRA TECH



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Estero, FL 33928
Engineering Business No. 2429

DATE

BY	DESCRIPTION	DATE	MARK

GATEWAY SERVICES DISTRICT
GATEWAY BLVD / GRIFFIN DRIVE
UTILITY RELOCATION
STANDARD DETAILS

Project No.: 200-37678-20010
Designed By: ##
Drawn By: ##
Checked By: ##

C-502
Sheet

Bar Measures 1 inch

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